

City of Victoria
Tree Protection Bylaw
Implementation Manual
V5

2022-02-10

Document Change Control

Version	Date	Description of Change	Editor Name / Title
4	October 4, 2021	<ul style="list-style-type: none"> - Soil Volume requirements – Depth to 600 mm given that volume is reached will count for replacement trees on slab - We will accept the Robinia as replacement trees - “walls” are considered vertical impediments to root or crown growth are what we are concerned about. Anything that can block the natural growth habit of the species selected. 	MG / TPC
5	February 09, 2021	<ul style="list-style-type: none"> - Tree Minimum and Planting in Native soils and Addressing different DPAs - Talking about planting on ground as opposed to actual native soil - How many % of trees are required to be planted in the ground - Downtown is being defined as DCAP map and the zones exterior to that will be assessed as such - Whenever possible trees will be put in the ground but we will accept all on structure within DPA1 - AREA 2 - Hybrid areas that might have been sfd and they want to densify we will accept ~75% will be desired in the ground and 25% on structure. Still working on details - AREA 3 SFDs – We can achieve the tree minimum but not if the BE is being used and tree min cant be met. Then CIL will be accepted - DCAP 	

Table of Contents

PURPOSE OF THE MANUAL	1
Key Definitions	1
1.0 WHEN A TREE PERMIT IS REQUIRED	4
2.0 TREE BYLAW PROCESSES	7
2.1 Flowchart 1: Tree Pruning, Cutting, Removal, or Work in PRZ Permit	8
2.2 Flowchart 2: Building Permit Applications	9
2.3 Flowchart 3: Other Development Related Applications (no site disturbance)	10
2.4 Flowchart 4: Release of Securities – Replacement Trees	11
2.5 Flowchart 5: Release of Securities – Retained Trees	12
3.0 INFORMATION REQUIRED BY THE TREE BYLAW	13
4.0 REASONS TO ISSUE OR REFUSE A TREE PERMIT	16
4.1 General Reasons to Refuse a Tree Permit	16
4.2 Specific Reasons to Issue or Refuse a Tree Permit	17
4.3 Hedges	24
5.0 CALCULATING REPLACEMENT TREE REQUIREMENTS	25
5.1 Replacing Trees Removed (ensuring successional replacement of trees)	25
5.2 Achieving Tree Minimum (ensuring canopy gain)	26
5.3 Determining how many Replacement trees can be Accommodated:	27
5.4 Planting Requirements for Replacement Trees	33
6.0 DETERMINING TREE PROTECTION REQUIREMENTS	34
6.1 Determining the PRZ	34
6.2 Tree Protection Barriers or Alternative Protection Measures	34
6.3 Tree Protection Confirmation	35
6.4 Letter of Assurance	35
7.0 CALCULATING SECURITIES	36
7.1 Securities for Replacement Trees	36
7.2 Securities for Retained Trees	36
8.0 PERMIT PREPARATION AND ISSUANCE	37
8.1 Permit Preparation	37
8.2 Fees and Charges	37
8.3 Conditions that Must be Met to Issue the Permit	38
8.4 Issuing and Posting Tree Permits	38

Tree Protection Bylaw No. 21-035 – Implementation Manual

8.5	Permit Validity, Amendment and Renewal.....	39
8.6	Cancelling or Suspending a Tree Permit	39
8.7	Applications for Reconsideration.....	40
9.0	EMERGENCY CUTTING, PRUNING OR REMOVAL	41
10.0	RELEASING SECURITIES	41
10.1	Release of Security for Replacement Trees	41
10.2	Release of Security for Retained Trees	42
10.3	Drawing Upon Securities.....	43
11.0	REQUIRING THE REMOVAL OF HAZARDOUS TREES	44
12.0	BYLAW ENFORCEMENT	45
12.1	Stop Work Orders	47
12.2	Penalties.....	47
13.0	TRANSITION PROVISION	48
APPENDIX 1: RECOMMENDED PUBLIC COMMUNICATIONS MATERIAL.....		49
APPENDIX 2: FORMS, TEMPLATES AND CHECKLISTS		49
13.1	Forms	49
13.2	Templates.....	50

List of Tables

Table 1: When a Tree Permit is Required.....	4
Table 2: Tree Protection Bylaw Application Types	7
Table 3: Information Required by the Tree Protection Bylaw	13
Table 4: General Reasons to Refuse a Tree Permit.....	16
Table 5: Specific Reasons to Issue or Refuse a Tree Permit	17
Table 6: Acceptable Replacement Trees for Trees Removed	25
Table 7: Counting Trees for Tree Minimum	26
Table 8: Replacement Trees Required (Not Development Related)	28
Table 9: Nominating Undersized Trees as Replacement Trees	28
Table 10: Replacement Trees Required	29
Table 11: Calculating Minimum Soil Volume	30
Table 12: Securities for Replacement Trees.....	36
Table 13: Securities for Retained Trees.	36
Table 14: Tree Permit Fees	37

Tree Protection Bylaw No. 21-035 – Implementation Manual

Table 15: Permit Validity	39
Table 16: Reasons to Suspend, Cancel, Refuse to Amend or Refuse to Extend Tree Permits.....	39
Table 17: Conditions for Drawing upon Replacement and Retention Securities.....	43
Table 18: Reasons to Compel the Pruning, Cutting or Removal of Trees or Shrubs	44
Table 19: Schedule LL. Tree Protection Bylaw Offences and Fines	45
Table 20: Applicable Bylaw for Applications Received Before or During the Transition period.	48

List of Figures

Figure 1: Spacing Requirements for Replacement Trees.....	27
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Purpose of the Manual

This document is intended for City staff use to complement Tree Protection Bylaw No. 21-035 by referencing specific sections, explaining processes, and supporting interpretation. It is intended to be used to:

- Clarify process steps, roles, and responsibilities in the bylaw implementation process.
- Inform, and justify reasoning for, the interpretation of the bylaw.
- Provide background information about the bylaw's technical content.

This manual is meant to complement the Tree Protection Bylaw, but it does not replace the Bylaw. If there is any discrepancy between this Manual and the Tree Protection Bylaw, the Bylaw prevails. It is intended that this manual be periodically updated.

Key Definitions

Definitions are from the Tree Protection Bylaw, except as indicated with a star and italicized or with italicized text within square brackets in the quoted definition.

Arboricultural Best Practice: means practices in accordance with the most current version of the American National Standards Institute (ANSI) Publication, “American National Standard for Tree Care Operations – Tree, Shrub, and Other Woody Plant Management – Standard Practices” and the companion “Best Management Practices” Series of the International Society of Arboriculture;

**All current ANSI A300 standards and associated ISA BMPs will be considered best practices.*

Cut or Cutting: means knocking down, dismantling, or piercing, any or all parts, of any tree including its roots, but does not include shearing or trimming of branches less than 10 cm in diameter.

DBH: stands for “diameter at breast height” and means:

- (a) for a tree having a single trunk at 1.4 metres above the existing grade, the diameter of the trunk measured at 1.4 metres above the existing grade,
- (b) for a tree having two or more stems at 1.4 metres above the existing grade, the cumulative total of the diameter of the three largest stems measured at 1.4 metres above the existing grade [or two largest if only two stems], and
- (c) for a hedge, the diameter of the largest stem measured at 1.4 metres above the existing grade.

** Glossary of Arboricultural Terms (ISA, 2020):*

- **Trunk:** *stem of a tree.*
- **Stem:** *woody structure bearing foliage and buds that gives rise to other stems (branches).*
- **Branches:** *stem arising from a larger stem. A subdominant stem. Pith in true branches has no connection to the parent stem.*

Development Related: means any of the following applications:

- (a) rezoning,
- (b) sub-division
- (c) development permits or temporary use permits associated with a new building or an addition to an existing building, or

(d) development variance permits, heritage alteration permits, or building permits associated with:

- (i) demolition [*of a principal building*], blasting, or construction of a principal building, or
- (ii) construction of an accessory building or an addition to an existing building that is greater than 10 square metres, excluding deck, patio and balcony areas,

but does not include any application related to only change of use, interior works, plumbing or electrical permits, or exterior material replacement.

** Note: Parks does not currently review blasting permits (they are not building permits), so the development related application would be the building permit after blasting.*

Hedge: A row of five or more trees of consistent size and form planted less than 1.25 metres apart from one another on centre.

** Note: per the Protected Tree definition, to be considered protected, a hedge must include at least one stem with a DBH over 30 cm.*

** The measurement of DBH should follow standard criteria as follows: ¹*

- *For a 'typical' single trunk, DBH is found by measuring the diameter at 1.4 m above natural grade. Trees on slopes should be measured at 1.4 m above natural grade on the uphill side.*
- *For a multi-stemmed tree that branches below 1.4 m, measure the diameter of the three largest stems and sum the result.*
- *For a multi-stemmed tree that branches at approximately 1.4 m, measure the following and use the lower value:*
 - *The smallest point below the fork² or*
 - *Measure the three largest stems at 30 cm above the branching point and sum the result.*

Protected Tree: means any of the following:

- (a) a hedge that contains any single stem with a DBH over 30 cm,
- (b) a tree with a DBH over 30 cm,
- (c) Garry Oak (*Quercus garryana*), Arbutus (*Arbutus menziesii*), Pacific Yew (*Taxus brevifolia*) or Pacific Dogwood (*Cornus nuttallii*) over 50 cm in height [*measure from grade to top of woody portion*],
- (d) a replacement tree,
- (e) a tree that is protected by a restrictive covenant in favour of the City,
- (f) a tree that is on a slope where the slope grade is greater than 33% over 10 metres [*> 3.3 m elevation change*], or
- (g) a tree that is within 15 metres of the natural boundary of a watercourse [*a natural or artificial channel through which water flows. Does not include the Ocean*].

Prune, Pruning, or Pruned: The selective shearing or trimming of living or dead branches equal to or larger than 10 cm in diameter.

¹ Bond, J. 2013. Best Management Practices - Tree Inventories Second Edition. International Society of Arboriculture

² Magarik, Roman, & Henning, 2020. How should we measure the DBH of multi-stemmed urban trees? https://www.fs.fed.us/nrs/pubs/jrnl/2020/nrs_2020_magarik_001.pdf

Remove, Removing, or Removed: To saw or chop down, kill or otherwise withdraw a tree by any means.

Replacement tree: a tree that will or has been planted on a lot to:

- (a) replace trees removed or irreparably cut, pruned or damaged on the same lot pursuant to this Bylaw, or
- (b) achieve the tree minimum on a lot.

** Undersized trees nominated as replacement trees are also replacement trees.*

1.0 When a Tree Permit is Required

The following table outlines when a tree permit is required. Definitions relevant to this section are provided on the following page.

Table 1: When a Tree Permit is Required

Activity Type	Tree Permit Required	Exception
Cut, prune or remove a protected tree or work within the protected root zone	Yes	<p>Utility Permits – Pruning</p> <ul style="list-style-type: none"> A tree permit is not required for communication companies if only pruning is proposed on the lot and a utility permit has been approved by the City that addresses the protection and mitigation requirements for protected trees on the lot. BC Hydro does not need permits because of Hydro Act. <p>Fortis</p> <ul style="list-style-type: none"> The requirement for a tree permit for work in PRZ will be waived for Fortis. If homeowner is doing excavation, they will be required to get a tree permit. Put stock comment in utility permits to say that permit approves Fortis to do work on public and private. Otherwise, owner needs to apply for PRZ tree permit. <p>Emergency Cutting, Pruning or Removal</p> <ul style="list-style-type: none"> A person may cut, prune, or remove a protected tree or the limb of a protected tree before applying for a tree permit if the tree or limb is in such imminent danger of failing that there is not time to obtain a tree permit prior to the failure. The owner must do the following: <ul style="list-style-type: none"> Apply for a tree permit the next business day, Provide photo or video evidence of the state of the tree prior to cutting, pruning or removal, Leave the remains of the tree or limb onsite until a City arborist has visited the site and the Director has determined the emergency cutting was justified, Take all action necessary to obtain tree permit, and Follow the conditions of the tree permit.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Activity Type	Tree Permit Required	Exception
Cut, prune or remove a non-protected tree	No	N/A
Building permit application - development related (including blasting and demo permits for principal building). Tree permit required for tree pruning, cutting, removal, work in PRZ, and to achieve the tree minimum on a lot.	Yes	<p>Wait until the BP for construction to issue the tree permit to achieve tree minimum.</p> <p>A tree permit may be waived if:</p> <ul style="list-style-type: none"> The only work proposed on the lot is site servicing, blasting or demolition, and no construction or site disturbance will occur within 5 metres of a protected root zone, as determined by the plans submitted and the arborist report if one was required. <p>Information requirements may be waived if:</p> <ul style="list-style-type: none"> The demolition or blasting is for a subsequent phase of a project that is unchanged³ besides the new requirement for demolition or blasting.

³ Unchanged means that: (1) the information was provided within the previous 2 years, (2) the known conditions of the site are unchanged, (3) the plants for the site and trees on site are unchanged, and (4) the ownership of the site is unchanged.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Activity Type	Tree Permit Required	Exception
Rezoning, subdivision, development permit or temporary use permit application (i.e., development related permit that does not authorize site disturbance).	No	<p>Subdivision: If required frontage improvements to be installed by applicant, such as sidewalk, curb and gutter, or driveway crossing will occur in PRZ, they will need a tree permit prior to work.</p> <p>Information requirements outlined in the Tree Bylaw must be provided to support these applications, but the tree permit for achieving tree minimum does not need to be applied for and issued until the Building Permit stage.</p> <p>Information requirements may be waived if the development related application is for a subsequent phase of a project that is unchanged⁴.</p>

⁴ Unchanged means that: (1) the information was provided within the previous 2 years, (2) the known conditions of the site are unchanged, (3) the plans for the site and trees on site are unchanged, and (4) the ownership of the site is unchanged.

2.0 Tree Bylaw Processes

This section provides process flowcharts to identify tasks, responsibilities, and decision points.

The Tree Protection Bylaw is relevant to several application types that trigger the tree bylaw review process and may culminate in tree permit application decisions. These activities, their owners and the role of Parks are defined in the following table.

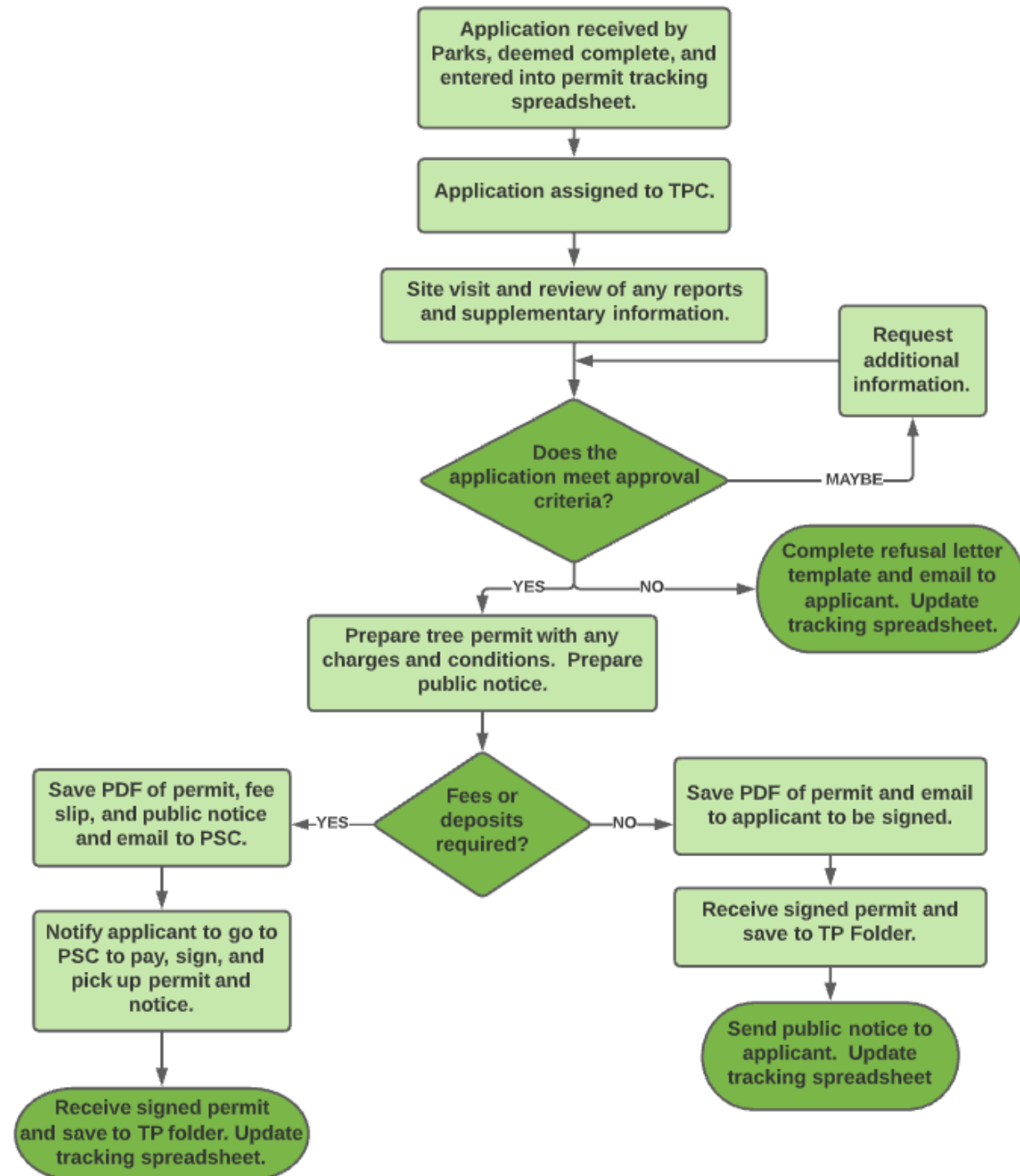
Table 2: Tree Protection Bylaw Application Types

Application Type	Process Owner	Parks Role
Tree pruning, cutting, removal, or work PRZ (not development related).	Parks	Review applications and issue tree permits.
Building permit applications (not development related).	Permits & Inspections	Review applications and issue tree permits for PRZ, pruning, or removal that may be required. No tree minimum permits required.
Building permit applications (development related).	Permits & Inspections	Review application and issue tree permits as required after BP issuance, including tree permits for achieving tree minimum. Issue tree permits prior to them getting BP-Blasting permit. Tree permit to achieve tree minimum not required until BP construction.
Other development related applications that authorize site disturbance.	Permits & Inspections	Issue tree permits if required. Tree minimum not required until BP construction.
Other development related applications (that do not authorize site disturbance).	Development Services OR Engineering	Review land use change or other application. If required frontage improvements on City land for SUB will occur in the PRZ, they will need a tree permit prior to starting the work. Tree minimum not required until BP construction.
Application for return of securities for replacement or retained trees.	Parks	Review applications and notify Finance to release securities when appropriate.

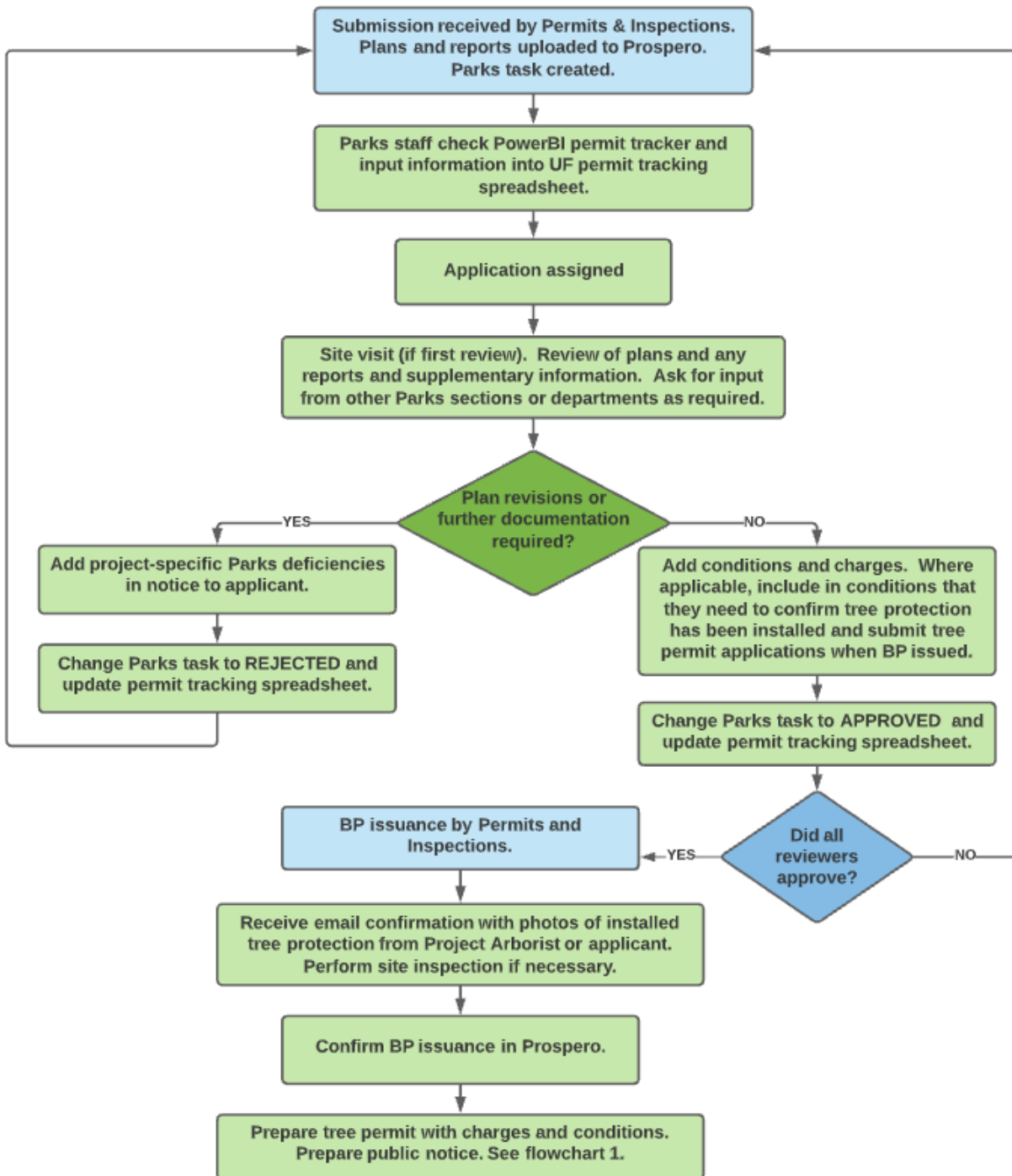
The following flowcharts are intended to be a general overview of tree bylaw processes.

2.1 Flowchart 1: Tree Pruning, Cutting, Removal, or Work in PRZ Permit

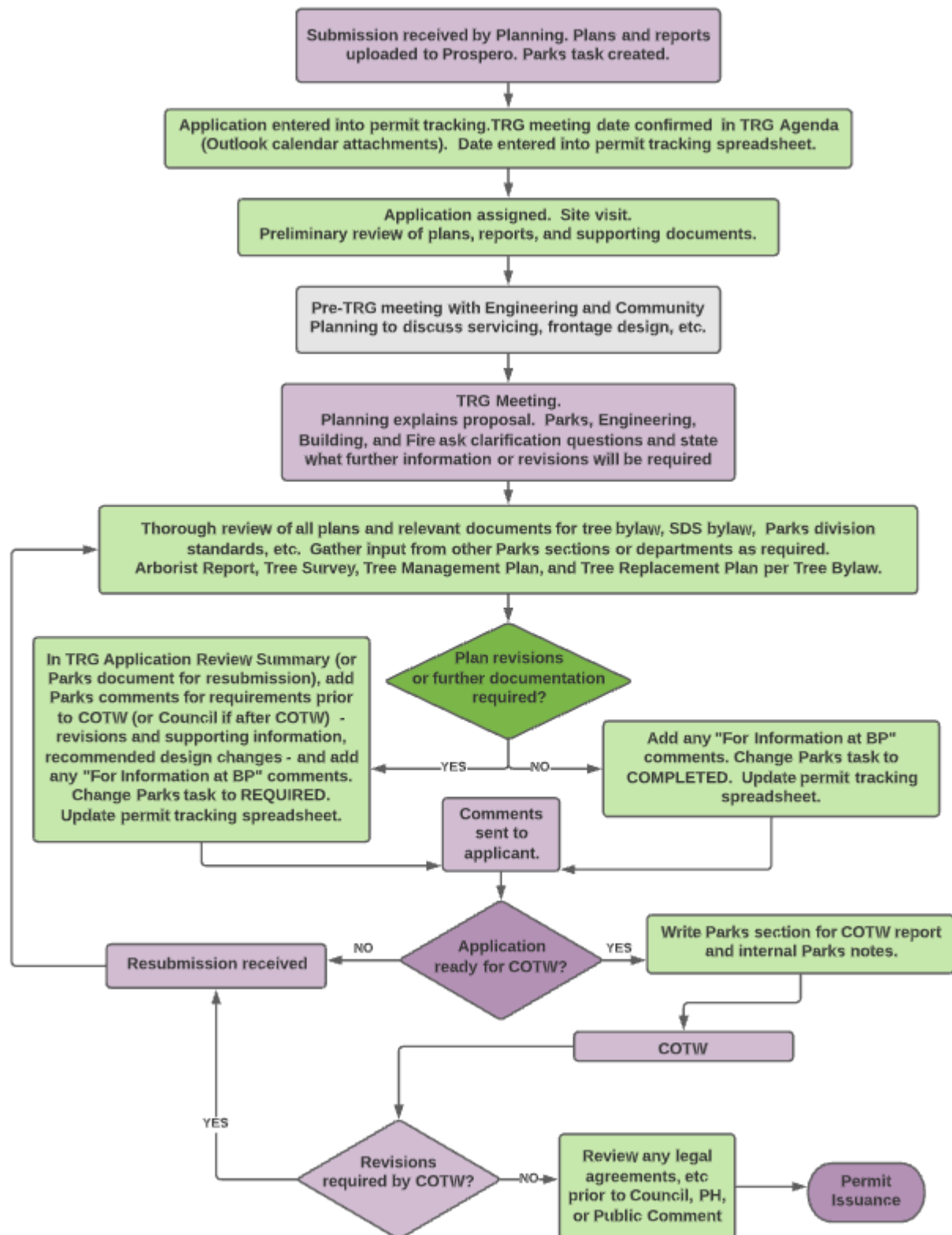
The tree permit preparation and issuance processes are further described in Section 8.



2.2 Flowchart 2: Building Permit Applications

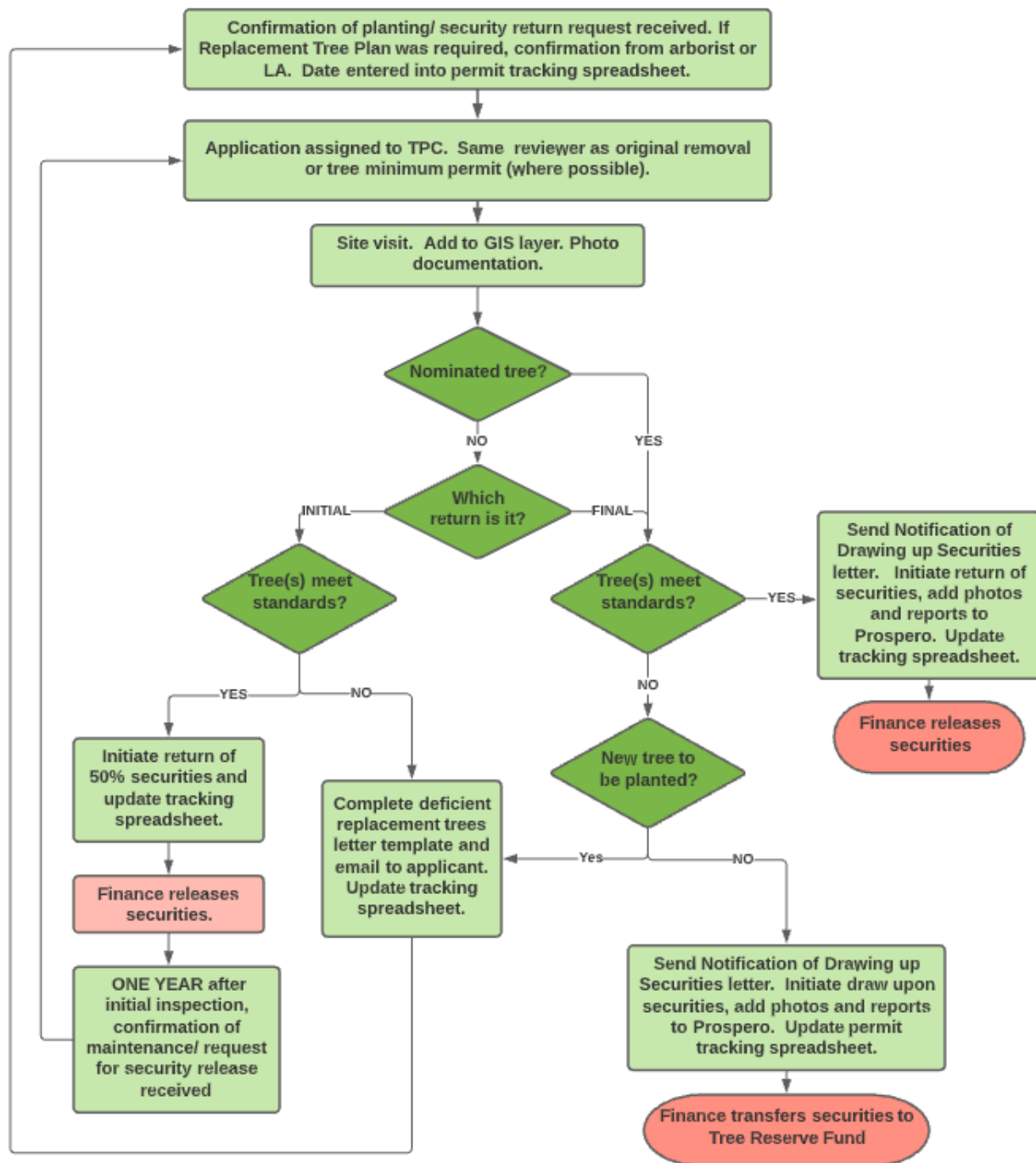


2.3 Flowchart 3: Other Development Related Applications (no site disturbance)



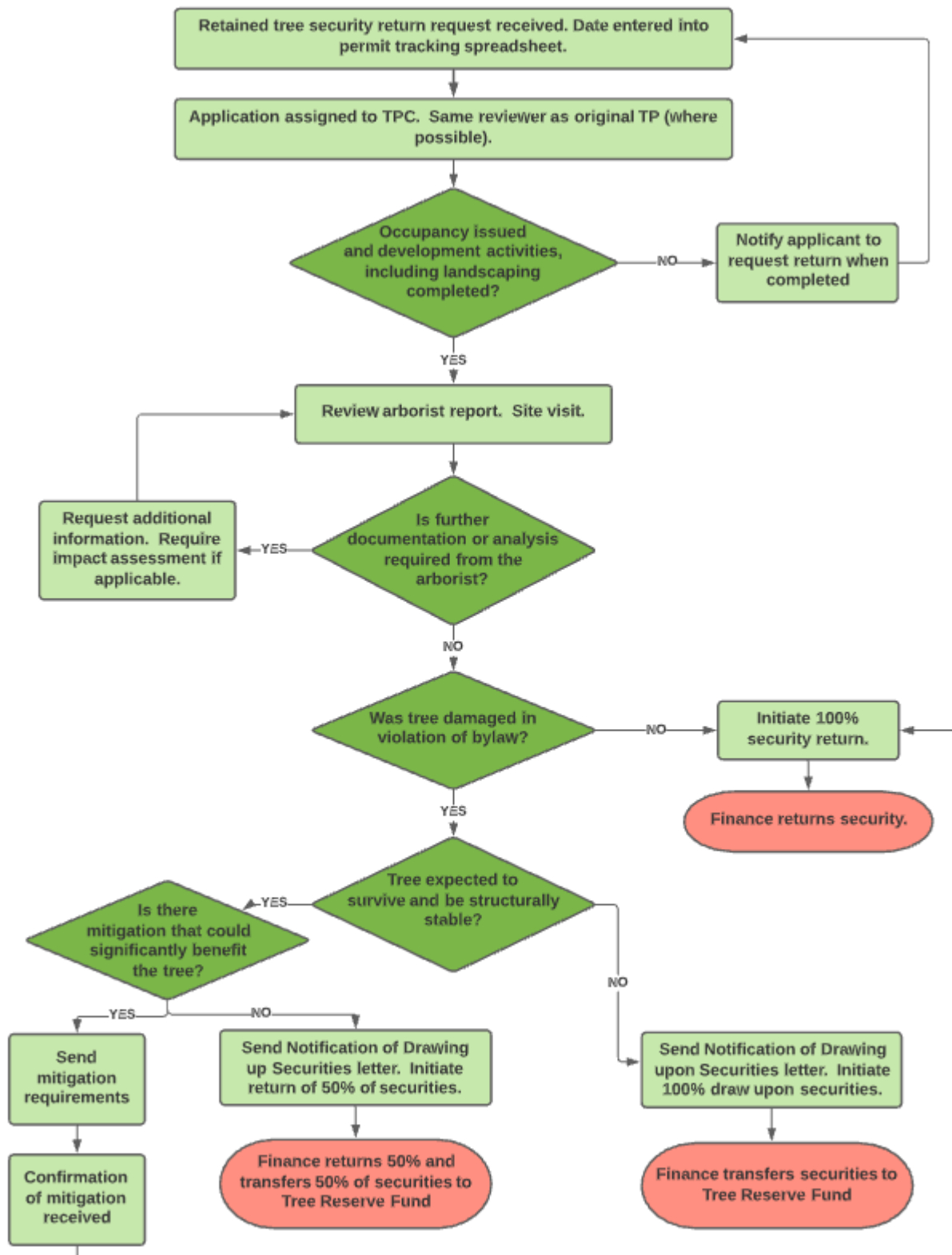
2.4 Flowchart 4: Release of Securities – Replacement Trees

The approval criteria and process for releasing securities is further described in Section 10.1.



2.5 Flowchart 5: Release of Securities – Retained Trees

The approval criteria and process for releasing full securities is also described in Section 10.2.



3.0 Information Required by the Tree Bylaw

The following table outlines the information required to enable review of applications. This information must be assessed as complete and confirmed with a site visit for application review to be completed. The Director may waive the requirements to provide a Tree Management Plan, Tree Survey, and Arborist Report if there are no protected trees on the site or adjacent to the site that may be impacted by the proposed work.

Table 3: Information Required by the Tree Protection Bylaw

Documentation	Application Type, Timing, and Thresholds			Professional Designation Required
	Tree Pruning, Cutting, Removal, or Work in PRZ Permit	Building Permit Applications	Other Development Related Permit Applications	
Tree Permit application form	✓	After BP issuance, the owner/applicant must apply for required tree permits. If development related, tree minimum permit required.	If site disturbance will be authorized, they need to apply for and obtain TP prior to work. ⁵	None
Neighbour written consent for tree removal	If the tree is shared, both owners need to sign application form. If tree is off site, then the tree owner needs to sign the permit application form.	If tree removal is proposed for off site or shared tree, alert applicant of TP application requirements in deficiency comments/BP conditions.	State in TRG application review summary that it is a condition to be met prior to COTW. If tree removal is proposed for off site or shared tree, alert applicant of TP application requirements.	None
Arborist report	Upon staff request	Submit with permit application. Not required if there are no protected trees that may be impacted by the proposed work.	Submit with initial permit application. Not required if there are no protected trees that may be impacted by the proposed work.	TRAQ Arborist

⁵ For example, a driveway or miscellaneous permit where lot servicing is being installed before building permit application.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Documentation	Application Type, Timing, and Thresholds			Professional Designation Required
	Tree Pruning, Cutting, Removal, or Work in PRZ Permit	Building Permit Applications	Other Development Related Permit Applications	
Tree Risk Assessment report	Only if staff request	Only if staff request	Only if staff request	TRAQ Arborist
Tree Management Plan & Tree Survey (per Schedule B) ⁶	Only if staff request	Always* with initial development related permit application.	Always* with initial development related permit application	BCLS land surveyor & TRAQ Arborist
Replacement Tree Plan (per Schedule “E”)	Only if staff request	If BP is development related and the result of a lands use change application that required a Landscape Plan. Otherwise, replacement tree planting needs to be shown on Site Plan along with soil volume table and tree minimum table.	Always* with initial development related permit application	Arborist or Landscape Architect
Survey identifying geotechnical setbacks		If slope > 33% over 10 m.	If slope > 33% over 10 m	BC land surveyor
Survey identifying top-of-bank		If within 15 m of watercourse.	If within 15 m of watercourse	BC land surveyor

⁶ Surveying Undersized Trees: If an applicant wants to nominate non-protected trees as replacements, then they should be included in the Tree Survey. Applicants may nominate undersized trees to replace protected trees removed on the same lot when: 1) It is not possible to plant another tree elsewhere on the lot, as confirmed by the City; 2) The nominated tree grows on the same lot and is not a protected tree; and 3) The tree is in good health, is of a species specifically described in Schedule “E” Part 1 or another species acceptable to the Director, that is likely to have a height at maturity of greater than 10 metres, and is growing in a location that does not conflict with any existing or proposed building, underground utility service, driveway, off-street parking, or construction access. Note that the Bylaw states a nominated tree can be from Part 2; however, trees in that part do not reach 10 m at maturity, so do not meet height criteria.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Documentation	Application Type, Timing, and Thresholds			Professional Designation Required
	Tree Pruning, Cutting, Removal, or Work in PRZ Permit	Building Permit Applications	Other Development Related Permit Applications	
Confirmation of tree protection installation	Prior to issuance of tree permits if tree protection measures are required.	Prior to issuance of tree permits if tree protection measures are required.	Prior to issuance of tree permits if tree protection measures are required.	Arborist (ideal) or applicant.
Site servicing plan		Submit with application if there are new services to be installed.	if necessary, based on the grade, topography, tree location, or other requirements of the site	As specified by Engineering department
Lot Grading Plan		if necessary, based on the grade, topography, tree location, or other requirements of the site	if necessary, based on the grade, topography, tree location, or other requirements of the site	Architect, Landscape Architect, Engineer
Letter of Assurance		If required by Director for site preparation or construction activities that will occur in the PRZ	If required by Director & only if site disturbance will be authorized & activities will occur in the PRZ	Arborist

* The Director may **waive some or all of the requirement for this information when:**

- 1) The development related application is for a subsequent phase of a project that is **unchanged**, meaning that all information was provided within the last 2 years, the known conditions of the site and the trees on site are unchanged, and the ownership of the site is unchanged; or,
- 2) The development related application is for **demolition or blasting only** on a subsequent phase of a project that is unchanged beside the new requirement for demolition or blasting; or,
- 3) There are no protected trees on the site or adjacent to the site that may be impacted by the proposed work. To meet this requirement, no PRZ would be located within 5 metres of construction, development related activities or site disturbance.

4.0 Reasons to Issue or Refuse a Tree Permit

4.1 General Reasons to Refuse a Tree Permit

The Director may refuse to issue a tree permit for the general reasons listed in the following table.

Table 4: General Reasons to Refuse a Tree Permit

Reasons to Refuse a Tree permit	Examples
Failure to comply with the requirements of the bylaw.	Did not provide required documentation such as arborist report.
The activity would endanger the health or life of a tree.	Proposed work not in accordance with BMPs.
The action would create a hazard to an adjacent property	A neighbour's bylaw-protected tree would become destabilized from root loss associated with proposed work.
The permit would contravene another City bylaw or a provincial or federal enactment.	Applicants and arborists are responsible to follow enactments such as the provincial Wildlife Act and the Migratory Birds Convention Act (MBCA). For example, a permit could be refused if staff observe an active bird nest during a site visit; however, since the permits are valid for a year, the permit may be issued and contractor can wait to perform work when legal.
Failure from the applicant to prove that the standards and requirements of the bylaw can be effectively met.	Arborist Report recommendations not accordance with BMPs.
The permit would be in conflict with a restrictive covenant in favour of the City.	There is a covenant that states removal is not allowed.

If a permit is refused, staff should fill out the "Cancellation or Refusal to Issue TP" form letter, detailing the reasons why the permit was refused, as well as any recourse for reconsideration, and email to the applicant. The process to apply for reconsideration is described in Part 8.7, Applications for Reconsideration.

4.2 Specific Reasons to Issue or Refuse a Tree Permit

The Director may issue or refuse a tree permit for the specific reasons listed in the following table.

Table 5: Specific Reasons to Issue or Refuse a Tree Permit

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Pruning a protected tree	Pruning will not cause significant negative impacts to health or structural integrity or, if a hedge, pruning is necessary to maintain clearance or uniform shape, and the negative impacts to the health or structural integrity of the hedge are minimized.	Pruning will cause significant negative impacts to the health or structural integrity of the tree, or for a hedge, the negative impacts to the health or structural integrity are excessive.	<p>Pruning needs to be in accordance with the current “American National Standard for Tree Care Operations - Tree, Shrub, and Other Woody Plant Management - Standard Practices” and ISA BMPs for Pruning.</p> <p>Pruning specifications are guided by the objectives of the pruning and the tolerance of tree to loss of foliage. Objectives include the following:</p> <ul style="list-style-type: none"> • For trees: improve structural integrity, risk mitigation, clearance, maintain health, restoration, reduction (re-topping, species dependant). • For hedges: improve structure, risk mitigation, clearance, maintain health, restoration, size management, reduce density, boundary encroachment (e.g. neighbour or ROW). <p>Threshold for negative impacts to be determined by Parks. Criteria to consider:</p> <ul style="list-style-type: none"> • Excessive pruning beyond the tolerance of the tree (its photosynthetic capacity will be reduced to the extent that energy reserves will be depleted and may not recover) • Topping, lions tailing, removal of too much of the lower crown such that it could create greater forces in the crown.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Removing a hazard tree	The tree either has a high or extreme TRAQ risk rating or imminent likelihood of failure according to a TRAQ arborist, and the risk cannot be mitigated other than by cutting or removing the tree.	Tree does not meet high or extreme TRAQ risk rating nor an imminent likelihood of failure, or reasonable mitigation is an option to reduce risk.	Guided by the ISA Tree Risk Assessment Manual as updated from time to time. If cabling and bracing is the only possible mitigation to reduce risk, we will issue a tree removal permit (since it goes beyond reasonable maintenance expectations).
Removing a dead tree or tree with more than 50% of crown dead	The tree has no live foliage or bud bearing branches/limbs, or more than 50% of its branches/limbs have no live foliage or bud bearing branches/limbs.	More than 50% of the tree's branches/limbs have live foliage or bud bearing branches/limbs	Staff will use this 50% of crown criteria as a guideline to be interpreted in relation to the species and on a case-by-case basis.
Removing a tree that is an invasive plant species.	The species is a regulated invasive plant or unregulated invasive plant of concern as declared by the Province or the Invasive Species Council of BC: English holly, Russian olive, tree of heaven, black locust, cherry laurel, Portuguese laurel, Siberian elm, tamarisk.	The species has NOT been listed as invasive by either the Province or the Invasive Species Council of BC	The species is identified on the Invasive Species Council of BC website or the BC government website, Invasive Terrestrial Plants - Province of British Columbia (gov.bc.ca) website, or in the Province's Field Guide to Noxious Weeds and Other Selected Invasive Plants of BC , as updated from time to time.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Removing a tree in the building envelope	The trunk is located within the building envelope (including trunks only partially located within the building envelope) and cutting or removal is <u>necessary</u> for the purpose of constructing a building, an addition to a building or construction of an accessory building.	The building, addition to a building or accessory building could be modified to avoid the cutting or removal of the tree, or construction techniques could be adapted to retain the tree.	<p>The size, species and unique traits of the tree should be considered to determine that it is a good candidate for retention.</p> <p>What is “necessary” would be determined by Parks with input from Planning.</p> <p>Criteria to consider:</p> <ul style="list-style-type: none"> • The species, size and unique traits of the tree make it a great candidate to retain, • The construction would critically impact the tree’s protected root zone or the tree would not survive the construction impact AND • Tree retention would prevent permitted use or density OR • Tree retention would prevent other planning objectives from being achieved. • The tree could be replaced with a tree of similar size.

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Removing a tree outside building envelope but critically impacted by building	The tree will be critically impacted by the footprint of the construction of a building (principal or accessory) or addition to a building within the building envelope, and it is <u>not possible to modify or relocate</u> the construction on the lot to retain the tree.	The building, addition to a building or accessory building could be modified to avoid the cutting or removal of the tree, or construction techniques could be adapted to retain the tree.	<p>What is “possible” would be determined by Parks with input from Planning.</p> <p>Criteria to consider:</p> <ul style="list-style-type: none"> • The construction would impact the tree’s structural root zone or the tree would not survive the construction impact AND • Tree retention would prevent permitted use or density OR • Tree retention would prevent other planning objectives from being achieved OR • Tree retention would increase project construction costs by more than 10%, or more than the appraised value of the tree, whichever is greater. Estimate for alternative construction cost would be required from builder, Architect, or Engineer. • The tree could be replaced with a tree of similar size.

Tree Protection Bylaw No. 21-035 – Implementation Manual

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Removing a tree that will be critically impacted by utility service, driveway, off-street parking	The tree will be critically impacted by the footprint of a (1) utility service, (2) driveway or (3) off-street parking area that is required under a City zoning bylaw.	The utility service, driveway or parking could be modified to avoid the cutting or removal of the tree, or construction techniques could be adapted to retain the tree. Or the utility service, driveway or parking is NOT required under a City zoning bylaw.	<p>What is “possible” would be determined by Engineering, with input from Parks.</p> <p>Criteria to consider:</p> <ul style="list-style-type: none"> • The construction would impact the tree’s protected root zone or the tree would not survive the construction impact AND • Tree retention would prevent other planning objectives related from being achieved OR • Tree retention would increase project construction costs by more than 10%, or more than the appraised value of the tree, whichever is greater. Estimate for alternative construction cost would be required from builder, Architect, or Engineer. • The tree could be replaced with a tree of similar size.
Removing a tree within construction access	The tree is located within the construction access, and it cannot be modified to retain or avoid cutting the tree	The construction access could be modified to avoid the cutting or removal of the tree, or construction techniques or equipment could be adapted to retain the tree.	<p>What “cannot” be modified would be determined by Parks and Engineering.</p> <p>Criteria to consider:</p> <ul style="list-style-type: none"> • The construction would impact the tree’s protected root zone or the tree would not survive the construction impact, AND • Tree retention would increase project construction costs by more than 10%, or more than the appraised value of the tree, whichever is greater. Estimate for alternative construction cost would be required from builder, Architect, or Engineer, OR • The tree could be replaced with a tree of similar size.

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Removing a tree causing structure or infrastructure damage	The tree is causing or will in the near future cause structure or infrastructure damage that cannot be mitigated other than by cutting or removing.	The damage can be mitigated other than by cutting or removing the tree.	<p>Near future is to be interpreted as within the next 5 years the tree will grow to cause structure or infrastructure damage with the infrastructure and mitigation is not possible.</p> <p>What “cannot” be modified would be determined by Parks.</p> <p>Criteria to consider:</p> <ul style="list-style-type: none"> • Repair would result in a high risk tree from root removal or too severely impact health due to root loss AND • Damage to the infrastructure would be irreparable OR • Tree retention would increase project construction costs by more than 10%, or more than the appraised value of the tree, whichever is greater. Estimate for alternative construction cost would be required from builder, Architect, or Engineer. OR • The tree could be relocated or replaced with a tree of equivalent size in a location that meets the requirements of the bylaw..
Removing a tree for substructure repair	The tree is growing above a built substructure, patio or rooftop and it is necessary to remove to carry out repairs to the structure over which it is located.	The repair can be made without removing the tree.	<p>What is “necessary” would be determined by Parks.</p> <p>Criteria to consider:</p> <ul style="list-style-type: none"> • Applicant’s Engineer confirms that repair is necessary AND • Repair would result in a high risk tree from root removal or too severely impact health due to root loss

Tree Protection Bylaw No. 21-035 – Implementation Manual

Reason for Application	Reasons to Issue	Reasons to Refuse	Recommended Interpretation
Streets and Traffic Bylaw or Trees and Insect Control Bylaw	<p>Cutting or removing the tree is required or permitted under the following provisions:</p> <p>Streets and Traffic Bylaw section 112 (2)): “The owner or occupier of land adjacent to a street must:</p> <p>(a) trim and cut back a tree, hedge, bush, or shrub on the owner’s land to prevent injury to a roadbed, sidewalk or other works or obstruction to or interference with the free use of the street by persons or vehicles; and</p> <p>(b) trim, remove, or cut down a tree, hedge, shrub, or bush (collectively “tree”) on the owner’s land within 5 days of receiving notice from the Director of Parks, Recreation and Community Development (the “Director”) to do so and that the Director considers the tree to be injurious to a roadbed, sidewalk or other works or an obstruction to or interference with the free use of the street by persons or vehicles.”</p> <p>Trees and Insect Control Bylaw - similar to above.</p>	<p>Damage can be reasonably mitigated without tree cutting or removal.</p>	<p>When Bylaw services notifies people to prune or remove to comply with the Streets and Traffic Bylaw, we will review associated tree permit applications.</p>

4.3 Hedges

- **A protected hedge can be removed for the same reasons as any protected tree**, as listed in Section 4.2 (Specific reasons why a permit may be issued).
- **A protected hedge is a row of five or more trees, including at least one stem greater than 30 cm, of consistent size and form planted less than 1.25 metres apart from one another on centre.**
- **Can a protected hedge be cut (pruned) without a permit?**
 - Yes, if branches cut are less than 10 cm diameter and no more than 25% of tree's total live foliage or bud bearing branches/limbs will be removed.
- **Can a permit be issued to cut/prune more than 25% of a protected hedge's live foliage?**
 - Yes, if it is to maintain clearance or uniform shape and the negative impacts to the health or structural integrity of the hedge are minimized.
- **Can one stem or part of a hedge be removed? Consider the following approach:**
 - Partial removal could be permitted under a pruning permit if it is to maintain clearance or uniform shape and the negative impacts to the health or structural integrity of the hedge are minimized.
 - A partial removal could be permitted under a removal permit if the portion of the hedge meets a reason for removal. Replacement requirements would be based on 4 metres of hedge length or part thereof removed (i.e. if 5 m are removed, it counts as two 4 m portions). If the remaining stems are undersized or now separated by more than 1.25 m from a 30 cm stem, the remaining hedge would become unprotected.

5.0 Calculating Replacement Tree Requirements

5.1 Replacing Trees Removed (ensuring successional replacement of trees)

Owners must plant **replacement trees for every protected tree removed** as detailed in the following table. Replacement trees must be planted on the same lots from which the protected tree was removed.

Table 6: Acceptable Replacement Trees for Trees Removed

Type of Protected Tree Removed	Preferred Replacement for Trees Removed ⁷	Alternative when Preferred is not Possible
Protected hedge	<ul style="list-style-type: none"> One Schedule “E” Part 1 replacement tree per 4 m of hedge length, or Another hedge of the same hedge length likely to flourish on site and acceptable to Director 	<ul style="list-style-type: none"> Two Part 2 replacement trees per 4m of hedge length, Nominate an undersized tree (only if replacements cannot be accommodated on lot, as determined by Parks based on available planting area), or Cash-in-lieu (must provide evidence that replacements cannot be accommodated on site. i.e., plans or photos showing rationale that, based on spacing and soil volume, planting area is unavailable on site.)
Protected tree growing in <1m soil depth above a built structure	<ul style="list-style-type: none"> One Schedule “E” Part 3 replacement tree (in accordance with the specifications regarding soil volume) 	<ul style="list-style-type: none"> Cash-in-lieu (must provide evidence that replacements cannot be accommodated on site)
All other protected trees	<ul style="list-style-type: none"> One replacement tree of any species described in Schedule “E” Part 1 (large or medium species) 	<ul style="list-style-type: none"> Two Part 2 replacement trees Nominate an undersized tree (only if replacements cannot be accommodated on lot) Cash-in-lieu (must provide evidence that replacements cannot be accommodated on site)

⁷ Schedule “E” enables staff to approve other species acceptable to the Director for all types of replacement trees.

5.2 Achieving Tree Minimum (ensuring canopy gain)

At the Building Permit stage (excluding BP-demolition and BP-blasting permits), all development related applications must achieve the tree minimum. The following table outlines how the tree minimum may be met with trees retained on site, replacement trees for trees removed, and, if necessary, additional replacement trees to achieve the tree minimum.

Table 7: Counting Trees for Tree Minimum

Trees counted towards the tree minimum	Credit towards meeting tree minimum	Rationale
Specimen tree	3	Applicants are encouraged to retain large trees with good health and structure by getting extra credit for keeping those trees on site.
Protected tree that is not a specimen tree or Schedule “E”, Part 1 replacement trees	1	Protected trees, or replacement trees that will be large canopy trees at maturity are counted as 1 tree towards the tree minimum
Schedule “E”, Part 2 replacement trees	0.5	Replacement trees that will be small canopy trees at maturity are counted as 0.5 trees towards the tree minimum
Excluded from Count		
Tree that forms part of a hedge	0 (<u>not</u> counted)	Hedges will not contribute to canopy gain due to their annual maintenance and clearance requirements. Hedges are only accepted as replacements for an existing hedge.
Tree that is a hazard tree, or has >50% of its crown dead	0 (<u>not</u> counted)	These trees have a short life expectancy and would be permitted for removal under the bylaw.
Replacement trees planted under Schedule “E”, Part 3 (above a built structure)	0 (<u>not</u> counted)	Trees planted on structure often have a short life expectancy due to podium waterproofing replacements and do not contribute to long term canopy gain. Cash-in-lieu would be provided for replacements that cannot be planted elsewhere on lot.

5.3 Determining how many Replacement trees can be Accommodated:

Applicants who are required to plant replacement trees must plant them in accordance with Part 4 of Schedule “E”, or else must provide cash-in-lieu. For non-development related applications where replacements are required for trees removed, staff would perform the following steps either using aerial maps or site visits, or both. For development related applications, the project arborist or landscape architect would perform the following steps.

Step 1: Confirm that there are suitable planting sites for replacement trees

Replacement trees must be planted, on centre:

- (a) At least 2.0 m away from a building foundation wall,
- (b) At least 1.0 m away from any property line of a lot, above and underground utility, driveway or other paved surface,
- (c) At least 2.0 m from small trees,
- (d) At least 4.0 m from medium trees,
- (e) At least 6.0 m from large trees, or
- (f) In a location approved by the Director.

Identify suitable planting sites on your property:

■ Suitable planting sites

▨ Non-suitable planting sites

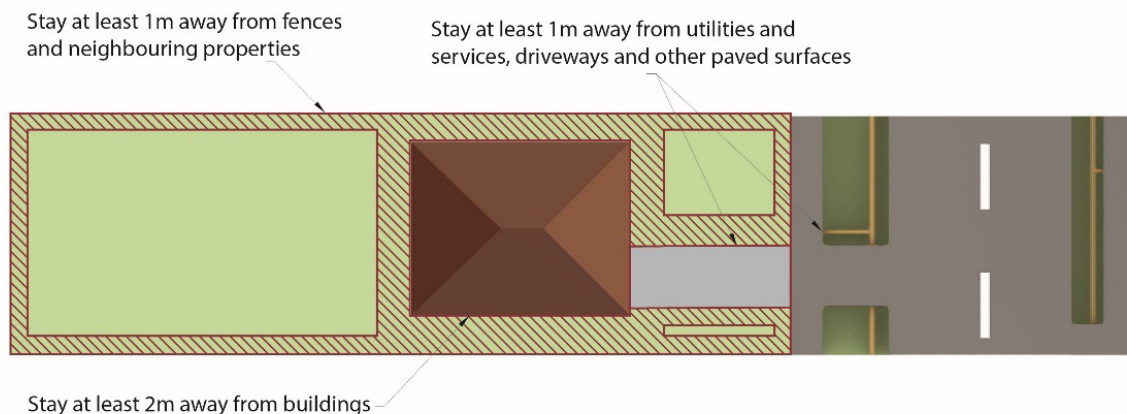


Figure 1: Spacing Requirements for Replacement Trees

If there are no suitable planting sites (existing or planned), then existing undersized trees may be nominated as replacement trees if they meet the replacement tree standards. If the replacement tree requirements cannot be met on the site, cash-in-lieu is required.

Step 2: Calculate the required replacement trees

A. For applications that are not development related, use the table below to calculate the replacements required.

Table 8: Replacement Trees Required (Not Development Related)

	Count	Multiplier	Total
ONSITE Minimum replacement tree requirement			
A. Protected trees removed	10	X 1	A.10
B. Replacement trees proposed per Schedule “E”, Part 1	10	X 1	B.10
C. Replacement trees proposed from Schedule “E”, Part 2		X 0.5	C.
D. Replacement trees proposed per Schedule “E”, Part 3		X 1	D.
E. Total replacement trees proposed (B+C+D) <i>Round down to nearest whole number</i>			E.
F. Onsite replacement tree deficit (A-E) <i>Record 0 if negative number</i>			F.
Cash-in-lieu requirement			
G. Cash-in-lieu proposed (F X \$2,000)			G.

Applicants may nominate undersized trees to become protected replacement trees under the conditions listed in the table below.

Table 9: Nominating Undersized Trees as Replacement Trees

Conditions for Nomination Per Section 20(5) of Tree Bylaw	Recommended Interpretation
It is not possible to plant another tree elsewhere on the lot	Staff may consider it impossible to plant another tree when: <ul style="list-style-type: none"> Spacing or soil volume requirements cannot be met. Other current uses prevent the planting of new trees.
Nominated tree is in good health	
Of a species specifically described in Part 1 of Schedule “E” or a species approved by Director, likely to have a height at maturity of greater than 10 metres	Note that the Bylaw states a nominated tree can be from Schedule “E” Part 2; however, trees in that part do not reach 10 m at maturity, so do not meet height criteria.)
Growing in a location that does not conflict with any existing or proposed building, addition to a building, underground utility service, driveway, off-street parking on construction access	Staff may consider it a conflict if: <ul style="list-style-type: none"> It is a foreseeable conflict

The nominated trees become protected as replacement trees and should be recorded to the City’s geospatial replacement tree layer.

Tree Protection Bylaw No. 21-035 – Implementation Manual

- B. For development related applications, use the table below to calculate the replacements required. *Double-click on the table below to open it in Excel and enter values.*

Table 10: Replacement Trees Required

	Count	Multiplier	Total
ONSITE Minimum replacement tree requirement			
A. Protected trees removed	2	X 1	A. 2
B. Replacement trees proposed per Schedule "E", Part 1	0	X 1	B. 0
C. Replacement trees proposed from Schedule "E", Part 2	1	X 0.5	C. 0.5
D. Replacement trees proposed per Schedule "E", Part 3		X 1	D. 0
E. Total replacement trees proposed (B+C+D) <i>Round down to nearest whole number</i>			E. 0.5
F. Onsite replacement tree deficit (A-E) <i>Record 0 if negative number</i>			F. 1.5
ONSITE Minimum trees per lot requirement (onsite trees)			
G. Tree minimum on lot*			G.
H. Protected trees retained (other than specimen trees)	1	X 1	H. 1
I. Specimen trees retained		X 3	I. 0
J. Trees per lot deficit (G-(B+C+H+I)) <i>Record 0 if negative number</i>			J. 0
OFFSITE Minimum replacement tree requirement (offsite trees)			
K. Protected trees removed		X 1	K. 0
L. Replacement trees proposed per Schedule "E", Part 1 or Part 3		X 1	L. 0
M. Replacement trees proposed from Schedule "E", Part 2		X 0.5	M. 0
N. Total replacement trees proposed (L+M) <i>Round down to nearest whole number</i>			N. 0
O. Offsite replacement tree deficit (K-N) <i>Record 0 if negative number</i>			O. 0
Cash-in-lieu requirement			
P. Onsite trees proposed for cash-in-lieu <i>Enter F. or J., whichever is the greater number</i>			P. 1.5
Q. Offsite trees proposed for cash-in-lieu <i>Enter O.</i>			Q. 0
R. Cash-in-lieu proposed ((P+Q) X \$2,000)			R. 3000

* Refer to Schedule "F"

Fill in the green cells

Applicants may nominate undersized trees where it is not possible to plant another tree elsewhere on the lot (see Table 9 above for details).

Step 3: Estimate the soil volume required for the planned replacements

Soil depth on ground is assumed to be 1 metre other than exposed bedrock.

- A. First, use the table below to calculate the minimum soil volume required by entering the number of replacement trees proposed (B, C or D) for a given planting area⁸ (Double-click to open in Excel and enter values).
- B. Then, estimate the planting area's surface area (m²) onsite and offsite by adding up the total area of connected soil (existing or planned). Note that:
 - a. Soil extending offsite can be counted towards the planting area. It is not necessary to keep estimating planting area size offsite if the soil volume required for replacement trees has been met. Exceptions could be applied; for example, if the adjacent site is under a development application and a row of large trees is proposed 1 m from the boundary line.
 - b. Planting areas that include existing trees can still count towards the total area. Obstructions such as pathways to a home or brick, tile or permeable pavement areas could be excluded from planting areas, and underground services should be excluded.
- C. If there is insufficient soil volume (Total exceeds A) then reduce the replacement trees proposed and provide cash-in-lieu, or redesign to increase the volume of soil provided for replacement trees.

Table 11: Calculating Minimum Soil Volume

Calculate this second				Calculate this first						
				Replacement Trees Proposed			Soil Volume Required (m3)			
Planting Area ID	Area (m2)	Soil volume multiplier*	A. Estimated soil volume	B. #Small	C. # Medium	D. #Large	E. Small	F. Medium	G. Large	Total **
Onsite										
Planting Area X	15	1	15	0	2	0	FALSE	30	FALSE	30
Offsite (excluding City property)										
Planting Area OSA X	15	1	15		2		FALSE	30	FALSE	30
Calculation Instructions									G	Total
Calculation						If B=1, Bx8	If C=1, Cx20	If D=1, Dx35	E+F+G	
						If B>1, Bx6	If C>1, Cx15	If D>1, Dx30		

Fill in the green cells

* On ground (excluding exposed bedrock): us

** Total must not exceed A. If Total exceeds A, then the number or size of proposed replacement trees must be reduced.

⁸ A planting area is defined by the area connected soil volume where a tree's roots could grow unobstructed.

Origin of Soil Volume Requirements in the Bylaw

Row #	Tree Size	Min soil volume (m ³)	Shared or irrigated soil volume (m ³)
1	Small tree (Schedule “E”, Part 2)	8.0	6.0
2	Medium tree (Schedule “E”, Part 1)	20.0	15.0
3	Large tree (Schedule “E”, Part 1)	35.0	30.0

The minimum volume of soil recommended per tree is 0.3 cubic metres per square metre of crown projection (predicted at 40 years for trees 6 to 12 m canopy spread). The minimum value was chosen based on the median soil volume requirement calculated from the water use requirements of trees with a standard Leaf Area Index (LAI) of 4 - 5, growing in a sandy loam soil and using an average 10-day rain-free period. This calculation also assumes that the sites are mulched. Based on Lindsey, P. and Bassuk, N.L. 1992. [Redesigning the Urban Forest from the Ground Below: A New Approach to Specifying Adequate Soil Volumes for Street Trees](#). Arboricultural Journal. 16(1) 25-39. The minimum area required was reduced slightly for trees sharing soil volume because it is assumed there are space and resource use efficiencies for trees growing together.

- Historical average evapotranspiration from Farmwest website (July 120 mm)
<http://farmwest.com/climate/et>
- LAI value of 4 to 5 informed by averages for North American deciduous and coniferous trees in Iio, A., and A. Ito. 2014. A Global Database of Field-observed Leaf Area Index in Woody Plant Species, 1932-2011. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, USA.
<http://dx.doi.org/10.3334/ORNLDAAAC/1231>

The Tree Minimum Target and its Relationship to Canopy Cover

The tree minimum target in the Tree Protection Bylaw is 50 stems per hectare. This stocking density was selected because it results in a reasonable number of trees and canopy cover on typical residential lots, applies a consistent standard to all properties according to their size, and is simpler to administer than a canopy based or zoning specific density approach.

The tree minimum is expected to yield an increase in canopy cover in low canopy areas over time. To explore what canopy cover 50 stems per hectare might yield, consultants used i-Tree Eco (v6) to generate canopy extents for a large canopy tree (scarlet oak) planted in this region with the following assumptions:

- Mortality rate of 1% (low because of the planting requirements and warranty period)
- Growth rate of approximately 1 cm DBH per year

The results yielded the following canopy cover estimates (rounded to the nearest 5%) for 50 trees per hectare planted at the same time:

- 5% at 10 years
- 10% at 20 years
- 15% at 30 years
- 20% at 40 years
- 25% at 50 years
- 30% at 60 years
- 30% at 70 years (stabilizing at roughly 30% then declining after 90 years)

These results are a coarse estimate of potential canopy gain from planting 50 stems per hectare. In reality, trees will be planted at different rates and densities, grow to variable sizes and experience variable mortality rates therefore we do not consider these estimates to be adequate to predict future canopy cover for the city.

5.4 Planting Requirements for Replacement Trees

Owners must plant the replacement tree by:

- For development related application, the first of:
 - One year from the date of that the final occupancy permit is issue, and
 - Five years from the date of tree permit issuance; or
- For any other tree permit application: one year from the date of permit issuance.

Replacement trees must be **planted and maintained in accordance with:**

- Arboricultural best practices,
- The tree permit and any replacement plan that was required,
- The requirements of Part 4 of Schedule “E”, including that:
 - Replacement trees must be planted during the suitable local planting seasons generally defined as fall (September – November) and spring (February – April).
 - Where planting must occur outside of the prescribed time periods, then a strategy for ensuring the trees are watered (in the summer) and appropriately cared for must be included as part of the tree permit application.
- The latest edition of the CNLA/CSLA “Canadian Landscape Standard” and the CNLA “Canadian Nursery Stock Standard”.

6.0 Determining Tree Protection Requirements

For development related tree permit applications with retained trees on-site, tree protection measures must be established before the tree permit can be issued.

6.1 Determining the PRZ

The protected root zone around protected trees can be determined either based on:

- A plan prepared by an arborist, approved by the Director, showing the area of land surrounding the trunk of a protected tree that contains the bulk of the critical root system of the tree, or
- The area of land surrounding the trunk of a protected tree contained within a circle having a radius which is calculated by multiplying the DBH of the tree by 18.

This approach provides some flexibility to adjust the PRZ based on the tree tolerance and site conditions. The process for determining the PRZ should follow arboricultural best practice, and that should be the standard for accepting arborist plans. Currently, the ISA BMPs on Managing Trees During Construction (Fite & Smiley, 2016) refer to acceptable methods and considerations including:

- Dripline or trunk diameter multiplied by a factor of 6 to 18 based on tree tolerance to determine the PRZ.
- Reducing the size of the PRZ on one or more sides of the tree may be necessary, in these cases, increasing the PRZ on the opposite side of the tree may be beneficial.
- Pre-existing structures or infrastructure may have created an asymmetrical root zone; therefore, disturbance may be acceptable in areas where roots are unlikely to be present, and that could be reflected in the shape of the PRZ.
- The PRZ may need to be temporarily reduced to enable a specific activity but should then be restored to full size, but the activity should never damage roots essential for tree health and stability.
- In general, the PRZ should protect as much soil area as possible.
- Areas for future tree planting, if possible.

6.2 Tree Protection Barriers or Alternative Protection Measures

Tree protection barriers must typically be installed around the PRZ per schedule D. However, when it is not possible to have the preferred PRZ fenced due to site constraints, alternative protection measures may be required to enable access or activities. Alternative measures should be guided by arboricultural best practice (Fite & Smiley, 2016) and may include:

- Layer of wood chips (15-30 cm).
- Double layer of $\frac{3}{4}$ inch (2 cm) plywood, beams, or steel plates.
- Layer of gravel (10 – 15 cm) over a taut, staked, geotextile fabric.
- Gravel within geocell.
- Trunk protection with wood planks on a closed-cell foam pad bound with straps or wire, not fastened into tree (only for rare cases where other options not feasible).

*The PRZ applies only to protected trees. Protection measures are required for protected trees as well as trees on the street frontage; **this may include undersized trees that were nominated as replacement trees** as approved by the City.

6.3 Tree Protection Confirmation

A letter from the project arborist confirming the installation of tree protection is required prior to the issuance of the tree permit if barriers or other protective measures were required per section 18 of the Bylaw.

6.4 Letter of Assurance

The purpose of the Letter of Assurance is to list and describe the specific areas or activities requiring arborist supervision as prescribed in the arborist report and confirm that the arborist and owner agree that the arborist will be onsite to supervise these specific areas or activities. An arborist must be onsite for activities described in the arborist report, whenever work occurs in or around the protected root zone and when a tree protection barrier is removed. Schedule G defines the requirements for the Letter of Assurance.

The Letter of Assurance requires a post-construction arborist report upon completion of all construction that confirms all supervision visits, impact assessments and mitigation works were completed in accordance with the approved arborist report, letter of assurance, or impact assessment, certified correct by the arborist. The project arborist must provide a report, including photographs, monitoring dates and activities as evidence, to the satisfaction of the Director confirming that the retained trees have not been damaged in violation of this Bylaw and have been properly protected and maintained in accordance with this Bylaw and the tree permit.

7.0 Calculating Securities

The total amount of security provided for any tree permit **shall not exceed \$50,000 per development site**. Securities may be provided as cash or a letter of credit.

7.1 Securities for Replacement Trees

Security amounts required for replacement trees are detailed in the following table.

Table 12: Securities for Replacement Trees.

Type of application	Security for Tree Replacement	Amount
For any type of application	Per replacement tree when cash-in-lieu is provided	\$0
	Per tree when the removed tree or hedge is not being replaced per S. 20(7)(a), i.e., the tree removed is a hazard tree and a replacement tree cannot be accommodated	\$0
Development related applications	Per replacement tree of a species described in Part 1 or Part 3 of Schedule “E” OR Per 4 metres of hedge length when the replacement tree is a hedge	\$2,000
	Per replacement tree of a species described in Part 2 of Schedule “E” OR per undersized tree nominated as a replacement tree	\$1,000
For all other tree permits	Per replacement tree or 4 metres of hedge length being provided as replacement	\$350
	Per undersized tree nominated as a replacement tree	\$175

Undersized **trees nominated as a replacement** are charged at 50% of the applicable security amount but the entire security is held until the end of the 1-year establishment period.

7.2 Securities for Retained Trees

Retained tree securities are only required for development related tree permits. They can be taken for any retained protected tree, on- or off-site. Security amounts required for the protection of retained trees are detailed in the following table.

Table 13: Securities for Retained Trees.

Type of Permit	Security for the Protection of Retained Trees	Amount
Development related tree permits	Per retained specimen tree	\$10,000
	Per retained protected tree that is not a specimen tree	\$2,500
	Per 4 metres of retained hedge length	\$2,500

If a retained tree has no risk of being damaged by the proposed site disturbance, construction, or other action, and the Director is satisfied of the same, the amount of security required for that tree is \$0. For example, if there is no disturbance within 5 m of the tree protection zone, or there is a protection factor, such as a permanent fence or building in front of the tree, there is no risk of

being damaged. If a new project phase requires site disturbance that may impact protected trees, securities will be considered at that time.

8.0 Permit Preparation and Issuance

8.1 Permit Preparation

To be determined in a standard form and with standard permit conditions as developed with staff and including:

- If it is a development related permit, require that no tree removals occur until a building permit is issued for building construction.
- All relevant conditions regarding the cutting, work in PRZ, removal, replacement or retention of a tree in a tree permit.

8.2 Fees and Charges

Securities, cash-in-lieu and fees are charged at the time of permit issuance. Fees are listed in the following table.

Table 14: Tree Permit Fees

Tree Permit	Fee
To only cut or remove any of the following trees: <ul style="list-style-type: none"> i. a hazard trees ii. a tree that is dead or has more than 50% of its crown dead iii. a tree that is a regulated invasive plant or unregulated plant of concern 	No fee
For emergency cutting or removal only	No fee
To prune a tree only	No fee
To plant any replacement trees to meet tree minimum only	No fee
To undertake exploratory digging for the purposes of an arborist report only	No fee
To cut or remove as required by Streets and Traffic Bylaw or Trees and Insect Control Bylaw	No fee
To extend or modify a permit only	\$50
To work in the protected root zone of the tree only, including excavation for development, utility installation, irrigation installation and landscape installation	\$50
For any other tree permit, the fee is determined as follows:	
i. For a lot that is less than or equal to 2,000m ² in size	\$50
ii. For a lot that is between 2000m ² and 4000m ² in size	\$100
iii. For a lot that is equal to or larger than 4,000m ²	\$250 per 4,000m ²

8.3 Conditions that Must be Met to Issue the Permit

A tree permit may only be issued if all conditions listed below have been met:

- The Director has approved any document or information that was required as part of the application,
- If there are retained trees on the lot, tree protection has been installed and approved by the Director,
- Permit fees are paid (at the time of retrieving the permit),
- Securities are provided (at the time of retrieving the permit), and
- All other conditions of the bylaw have been met.

8.4 Issuing and Posting Tree Permits

When the applicant picks up the tree permit at the front counter, the following actions should take place:

- The applicant must do the following:
 - Pay permit fees, and
 - Provide security deposits or cash in lieu as applicable.
- Parks staff must provide the following documents to the Public Service Counter staff:
 - The tree permit, fee slip, and
 - The public notice.

Where fees are not required, staff may send the permit electronically for signature.

All tree permit holders must:

- Clearly identify each protected tree to be removed with a mark of paint or tape.
- Post a public notice of the tree permit in the form prescribed by the Director (use the public notification page template). The notice must be posted:
 - On the lot for which the permit was issued, in a location visible to the public and facing the street,
 - At least 24 hours prior to the commencement of any of the permitted work, and
 - Remain posted until the completion of all work permitted by the tree permit on that lot.

A fine can be issued for failing to post the public notice if staff were to come across this situation.

8.5 Permit Validity, Amendment and Renewal

Tree permits will remain valid for a set period as described in the following table.

Table 15: Permit Validity.

Type of permit	Time valid
Tree permit on a development related application	First of: (i) one year from the date that the final occupancy permit is issued for the lot, and (ii) five years from the date of issuance
All other tree permits	One year from the date of issuance

Applicants can apply to amend or renew their tree permit **before** the date that it expires if:

- Additional information required by the Director was provided and approved,
- The applicant has paid the permit fee (paid at the time of issuing the amended or renewed permit), and
- All other conditions of the bylaw have been met.

Conditions and terms from the original permit will apply to each extension or modification, except where expressly amended or modified by the extension or modification form.

The Director may require the permit holder to apply for a new permit where conditions on site or requirements have changes significantly, or it is impractical to extend or modify the permit.

8.6 Cancelling or Suspending a Tree Permit

The Director may cancel, suspend, refuse to amend or refuse to extend permits for the reasons listed in the following table.

Table 16: Reasons to Suspend, Cancel, Refuse to Amend or Refuse to Extend Tree Permits.

Action	Justification
Suspend or cancel a tree permit	If the permit holder or owner failed to comply with a term or condition of the permit, or with the Bylaw
Refuse to amend or extend a tree permit or permit subject to conditions	If a proposed activity would endanger the health or life of a tree

If a permit is cancelled, suspended, or the Director refused to amend or extend it, staff should provide the applicant with a letter detailing the reasons why the permit was cancelled or the application denied as well as any recourse for consideration (use the letter template for the refusal to issue a permit or permit cancellation).

8.7 Applications for Reconsideration

Applicants are entitled to apply to Council to have a decision reconsidered to grant, refuse, suspend or cancel a tree permit or impose conditions for the granting of the permit. For that purpose, applicants **must apply for reconsideration in writing within 30 days of being notified in writing of the decision.**

There is no charge for an application for reconsideration. Such reconsideration will be limited to the most recent decision and will not extend the time limit to reconsider earlier permit decisions.

9.0 Emergency Cutting, Pruning or Removal

Property owners can cut, prune, or remove a protected tree or a limb on a protected tree before applying for a permit if **the tree or limb is in such imminent danger of failing that there is no time to obtain the tree permit prior to the failure.**

Where a person does the above, they must do the following:

- Apply for a tree permit on the next business day from the day of cutting, pruning or removing it,
- Provide a photograph or video depicting the state of the tree prior to the cutting, pruning or removal, and
- Promptly take all actions necessary to obtain a tree permit.

The trunk, limbs, roots or other remains must not be removed **until a City arborist has visited the site and the Director determined whether the emergency work was justified.** If a tree permit is issued, replacement requirements for trees removed will apply. If the work was found to be unjustified, applicants will be found to be in violation of the bylaw and penalties will be applied.

10.0 Releasing Securities

Process flowcharts for the release of securities for replacement trees or retained trees are provided in Part 2.

10.1 Release of Security for Replacement Trees

Step 1: The applicant must notify the City once trees have been planted and request 50% of securities be returned (form to confirm the planting of replacement requirements). City staff will confirm that the trees are planted to the required standard. Existing undersized trees nominated as replacement trees do not have any security returned at this point. Staff add GIS point and initial data to replacement tree layer.

Step 2: One year after confirmation of planting date, or one year after final occupancy for nominated trees, the applicant must notify the City that trees have been maintained (form to confirm the maintenance of replacement trees):

- For non-development related tree permits, City staff will confirm that the trees are planted to the required standard in a final inspection.
- For development related tree permits, the project arborist or landscape architect must provide written confirmation and photos confirming the trees are planted and provide coordinates for the replacement trees planted. Staff add final data to replacement tree layer.

Where a change in ownership occurs before replacement securities have been released, the obligation will stay with the original owner unless they get the new owner to come in and pay the security.

Step 3: Remaining security will be released if trees meet standard. Parks staff will notify Finance that securities can be released. If not satisfactory, proceed to next step.

Step 4: The following scenarios may resolve replacement trees that are not satisfactorily planted:

- **If any replacement tree is deficient**, the applicant will have to resolve deficiencies before securities can be released. In such a case, staff must provide a notification in writing (use the letter template for deficient replacement trees).
- **If any replacement tree does not survive** for one year from the date of planting, the Director may take one of these actions:
 - Require the owner to replace the tree within 6 months and maintain it for a further period of one year, or
 - If the tree was required in a Tree Replacement Plan, the Director may plant a new tree on the lot in accordance with the plan within 6 months and require the owner to maintain it for a further period of one year.
- Or, where **the owner has failed to plant or maintain a replacement tree** when required to do so by the bylaw or tree permit, the City may choose to do so at the owner's expense.

10.2 Release of Security for Retained Trees

Step 1: The applicant must notify the City once they satisfy all the following conditions:

- All construction on site is completed, including landscaping and irrigation.
- A final occupancy permit for the lot has been issued by the City (if applicable), and
- The applicant's arborist provided a report confirming supervision activities and that retained trees have not been damaged in violation of the bylaw and have been properly maintained in accordance with the bylaw and tree permit.
 - The report should include photographs, monitoring dates and description of activities as evidence.

Step 2: If the report is to the satisfaction of the Director, Parks staff will notify Finance that securities can be released. If not satisfactory, proceed to next step.

Step 3: The following scenarios may resolve retained trees that are/were not satisfactorily protected **if the tree will survive and be safe to retain**:

- **If mitigation work may improve the health and structure of the tree**, require that the owner get an arborist to complete mitigation work, or
- **If there is suspected damage but further information is needed** (e.g., investigative work is required to assess protected root zone damage), require the owner to submit an impact assessment report by an arborist to detail observed and suspected damage, discuss potential impacts to health and structural integrity, and recommend mitigation options about whether:
 - A protected tree was significantly damaged in violation to the bylaw,
 - A protected tree that was damaged will survive and be stable to retain,
 - Mitigation of the damage can improve the health or structure of the protected tree.

Where changing circumstances result in a protected tree identified for retention needing to be removed despite the applicant having committed to its retention in good faith, staff can cancel the existing permit, and return the tree protection securities to the applicant. A permit for removal could then be issued with replacement securities or cash-in-lieu taken with the new permit.

10.3 Drawing Upon Securities

The City may draw upon replacement or retention securities in the conditions described in the following table. In such a case, staff will provide a notification in writing (use the letter template for drawing upon securities).

Table 17: Conditions for Drawing upon Replacement and Retention Securities.

Security	Violation	Options for drawing securities	Recommended interpretation
Replacement security	The replacement tree(s) did not survive from one year from the date of planting (and other actions to address this have not been taken)	Retain 100% of security held for that replacement tree, which shall then be used to plant a tree on another site to replace the canopy lost	
Retention security	A protected tree was significantly damaged, and the Director is <u>not</u> satisfied that mitigation of the damage can improve the health or structure of the tree	Retain 50% of the retention security held for that protected tree	Physical damage has occurred but the tree will not require removal.
	A protected tree was removed or damaged in violation to the bylaw and the tree will not survive or be stable to retain	Retain 100% of the retention security held for that protected tree (fines could also be issued)	Tree requires removal
Either	The owner failed to comply with provision(s) of the Bylaw or tree permit	Recover the cost from securities to take any action required or plant any replacement tree on the applicant's behalf. Where the cost is higher than the securities held, the City may recover the outstanding amount otherwise, OR Draw upon the security and transfer to the Tree Reserve for the purpose of planting a tree on another site to replace the canopy loss	E.g. Actions resulted in a hazardous tree that they refuse to remove

Timing of the transfer: The City may transfer any remaining securities to the Tree Reserve if all the requirements for the release of those securities have not been satisfied within the lesser of:

- Two years from the date that all construction on the site is completed,
- Two years from the date that a final occupancy permit has been issued, and
- Five years from the date of issuance of the tree permit.

Once one of the lesser conditions described above has been met, Parks should request that Finance transfer the securities to the Tree Reserve. The letter template “Notification of Drawing Upon Securities” is sent to the applicant.

Parks staff will continue to be responsible to manage the deposits and decide when they can be returned to applicants or moved to the reserve fund, with Finance staff being responsible to draw or return the securities per the instructions provided.

Note: Finance is working to establish a process in Prospero for when someone requests a refund of cash-in-lieu because they are able to plant replacement trees (of particular importance for when it has already rolled into the reserve fund).

A few additional process steps to be reviewed with Parks/Finance:

- Consider Finance’s suggestion for the establishment of a quarterly or annual process whereby Parks could inform Finance on status of securities to confirm which ones meet the requirements to be moved to the Tree Reserve Fund
- Process to transfer securities to the Tree Reserve Fund: Confirm with Finance whether securities are automatically transferred to the reserve fund when reconciled annually, or whether they need an explicit request from Parks.

11.0 Requiring the Removal of Hazardous Trees

Step 1: Confirm that the tree or shrub meets the reasons to compel an owner or occupier to take action as outlined in the table below.

Table 18: Reasons to Compel the Pruning, Cutting or Removal of Trees or Shrubs

Reasons to cause pruning, cutting or removal of <u>trees or shrubs</u>	Recommended interpretation
Is a hazard to the safety of persons	High or extreme risk tree.
Is likely to damage public property	Tree failure onto public property. Secure area.
Is seriously inconveniencing the public	Initiated thorough public complaint.

Step 2: Notify the owner or occupier that the City may take the required actions at the owner’s or occupier’s expense if not addressed within five days of receiving the notification. Work with Bylaw Services to prepare letter to be sent to owner.

Step 3: After five days of issuing the notification, the City can enter the lot and undertake the work at the owner’s or occupier’s expense.

12.0 Bylaw Enforcement

Penalties imposed in this Bylaw, the Ticket Bylaw or the Offence Act can be imposed to a person for reasons listed in the table below, Schedule LL below from the Tree Bylaw.

Table 19: Schedule LL. Tree Protection Bylaw Offences and Fines

Item #	Column 1 – Offence	Column 2 – Section	Column 3 – Set Fine	Column 4 – Fine if paid within 30 days
1	Cut/damage/prune/remove tree in conflict with Bylaw	4(1)	\$1,000.00	\$850.00
2	Cut/damage/prune/remove tree in conflict with tree permit	4(1)(b)	\$1,000.00	\$850.00
3	Not comply with Bylaw	4(2)	\$1,000.00	\$850.00
4	Not comply with tree permit	4(3)	\$1,000.00	\$850.00
5	Alter/falsify/misrepresent information on tree permit/application	4(4)	\$300.00	\$250.00
6	Fail to obtain tree permit to cut/prune/remove	5(1)	\$300.00	\$250.00
7	Fail to obtain tree permit for replacement	5(2)	\$300.00	\$250.00
8	Fail to provide information to Director	6(1)	\$300.00	\$250.00
9	Fail to apply for tree permit for construction or disturbing site	6(2)	\$300.00	\$250.00
10	Fail to comply with tree permit conditions	9(2)	\$1,000.00	\$1,000.00
11	Fail to provide evidence of emergency	15(2)(a)	\$1,000.00	\$850.00
12	Fail to take action to obtain tree permit	15(2)(b)	\$300.00	\$250.00
13	Removal of tree remains before Director's determination	15(3)	\$175.00	\$125.00
14	Fail to replace tree removed in emergency	15(4)	\$750.00	\$750.00
15	Cut/prune/remove when tree is not failing	15(5)	\$1,000.00	\$1,000.00
16	Fail to prune/cut/remove when required by Director	16(1)	\$175.00	\$125.00
17	Fail to identify trees for removal	17(1)	\$250.00	\$200.00
18	Fail to post public	17(2)	\$150.00	\$125.00

Tree Protection Bylaw No. 21-035 – Implementation Manual

	notice as required			
19	Fail to dispose of tree parts as required	17(3)	\$125.00	\$75.00
20	Fail to cut/prune/remove/retain/replace tree in best practice	18(1)	\$750.00	\$650.00
21	Construction/site disturbance without tree protection	18(2)(a)	\$750.00	\$650.00
22	Construction/site disturbance without Director approval	18(2)(b)	\$750.00	\$650.00
23	Construction/site disturbance without tree permit	18(2)(c)	\$750.00	\$650.00
24	Fail to leave tree protection in place	18(3)	\$750.00	\$650.00
25	Fail to restore tree protection	18(4)	\$750.00	\$650.00
26	Fail to do mitigation work when required	19(1)(a)	\$1,000.00	\$850.00
27	Removal of tree remains without authorization	19(3)	\$400.00	\$350.00
28	Fail to plant replacement	20(1)	\$750.00	\$750.00
29	Fail to plant replacement on same lot	20(6)	\$750.00	\$750.00
30	Fail to achieve tree minimum	21(1)	\$750.00	\$750.00
31	Fail to plant replacement in time	22(1)	\$300.00	\$250.00
32	Fail to plant/maintain in accordance with requirements	22(2)	\$750.00	\$750.00
33	Fail to replace/maintain as required	22(3)(a)	\$750.00	\$750.00
34	Prevent/obstruct inspection	28(2)	\$500.00	\$500.00
35	Fail to comply with order/notice/Bylaw	29(1)	\$500.00	\$450.00
36	Activity when Stop Work notice effective	29(3)	\$500.00	\$450.00

Every day that a contravention to a provision of the Bylaw continues will be treated as a separate offence.

12.1 Stop Work Orders

Stop Work Orders may be posted by a Bylaw Officer or the Manager of Urban Forest Services to order the cessation of:

- The pruning, cutting or damaging work, and
- Any work within the PRZ of the affected tree.

The owner of the lot on which the order has been posted must immediately cease all work described in the order. They shall not resume until all applicable provisions have been complied with and the notice has been rescinded.

12.2 Penalties

Except as prescribed by the ticket bylaw, penalties for offences must be:

- No less than \$500 and no more than \$50,000
- For offences resulting in the loss of a tree:
 - Protected tree: no less than \$5,000 and no more than \$50,000 per tree
 - Specimen tree: no less than \$10,000 and no more than \$50,000 per tree

13.0 Transition Provision

The Tree Protection Bylaw's transition provision will limit the impact of bylaw changes for in-stream land use change applications as outlined in the following table.

Table 20: Applicable Bylaw for Applications Received Before or During the Transition Period.

Applicable Bylaw	Types of applications	Conditions
Tree Preservation Bylaw No. 05-106 (consolidated June 1, 2015)	Applications for a land use change received <u>before</u> October 24, 2019 that include a tree plan	In-stream applications must be completed before July 1, 2026, after which they will need to comply with the new Tree Protection Bylaw
Tree Preservation Bylaw No. 05-106 (consolidated November 22, 2019)	Applications for a land use change received <u>after</u> October 24, 2019 and <u>before</u> July 1, 2021 that include a tree plan	In-stream applications must be completed before July 1, 2026, after which they will need to comply with the new Tree Protection Bylaw
Tree Protection Bylaw No. 21-035	In-stream applications that make changes to a tree plan after July 1, 2021	Only applied to trees impacted by the proposed change; NOT intended to apply to the entire site
	Request from applicant to have their application processed under the new bylaw on or after July 1, 2021	Applicants must notify the Director in writing of that intention. This change will be final and irrevocable.

The transition provision will lapse on July 1st, 2026, at which date all in-stream applications will have to comply with the Tree Protection Bylaw No. 21-035.

Appendix 1: Recommended Public Communications Material

- **Website information:**
 - 'Do I need a tree permit?' (see [Surrey's info sheet](#) and [webpage](#) as a reference, as well as [Squamish's tree minimum calculator](#)) for:
 - Residential tree cutting requirements.
 - Development related tree requirements.
 - Expected standards/BMPs for pruning.
 - How to measure DBH.
 - How to measure planting areas – this could include examples of plans with each area delineated.
 - How to apply for reconsideration on permit decision.
 - Fallen trees or branches – what should I do? Steps to apply for a permit, conditions to follow if removing a tree or branches under the emergency removal provisions.
 - Replacement trees – specs for tree planting and maintenance in accordance with arboricultural best practices.
- **Applicant templates:**
 - Letter of assurance
 - Letter confirming tree barriers were installed
- **Replacement tree tracker map** – to make the location of replacement trees publicly available and their protection enforceable.
- **Trees and Insect Control Bylaw** – ensure with Legislative Services that it is available on City website.

Appendix 2: Forms, Templates and Checklists

This section lists the available forms, templates and checklists for activities related to the bylaw implementation.

13.1 Forms

- **GIS layer for replacement trees** to record the location of replacement trees for internal tracking and to be made available to the public to make the protection of replacement trees enforceable.
 - *Parks should investigate the existence of a replacement tree GIS layer to be reactivated or created a new one.*
 - *The use of the Collector (soon to be replaced by Field) App for TPCs to collect the replacement tree data on cellphones or tablets in the field.*
- **Tree permit application/record form** for applicants to provide to Parks. It should include:
 - A neighbour consent form, to be submitted with applications when relevant
 - The form could include (as recommended by Lisa):
 - Name, address and other basic information required on the current form

- Box A: Tree Removal – *in this box, staff would insert information about the trees permitted to be removed pursuant to the plan attached, or what have you. Or there'd be a box to tick "N/A".*
- Box B: Tree Retention – *in this box, staff would insert info about the trees to be retained pursuant to the plan attached. Or there'd be the option to tick a box "N/A".*
- Box C: Tree Replacement – *in this box, staff would insert info about the trees to be replaced pursuant to the plan attached. Again, there'd be the option to tick a box "N/A".*
- A box for payment in lieu amounts.
- Space for all the usual special requirements and instructions on a tree permit.
- A field where the release of the securities is approved.
- **Extension or modification form** for applicants requesting a permit renewal or modification.
- **Public form: submitting a proof of planting for replacement trees** for the return of 50% replacement security.
 - The form could require the invoice of tree purchase or planting, if desired by staff.
- **Public form: submitting a confirmation of maintenance for replacement trees** for the return of remained of replacement security after one year of maintenance.

13.2 Templates

- **Updated tree permit template.** It should include:
 - A City staff signature.
 - An agreement with applicants to transfer securities as cash-in-lieu if applicants do not fulfill permit conditions (as requested by Finance). This should be included as a permit condition and may be relevant to include as information on the application form.
 - Standard permit conditions for TPCs to select applicable ones, including for pruning, securities, removal, etc.
- **Public notice**, colour-coded by permit type (pruning, cutting, removal, work in PRZ).
- **Letter template for the refusal to issue a tree permit or permit cancellation.** It should include:
 - The reason why the application was declined. Wording for common reasons for refusal could be included in the template, e.g., infrastructure damage that can be mitigated without removing a tree.
 - Recourse steps if the applicant wants to apply for reconsideration.
- **Letter template for deficient replacement trees** at the time of returning the last 50% of replacement security. It should include:
 - Comments to notify applicant of the deficiencies observed.
 - Steps required to resolve them and recover the remaining security.
- **Letter template for notifying applicants when drawing upon securities**

[illegible]