

Building Division INFORMATION

CONSIDERATIONS FOR BUILDING ON A SITE WITH TREES



January 2012
BUILDING DIVISION

Tree Protection Bylaw, 2006 No. 16100

The bylaw is available in its entirety at the City of Surrey website at
www.surrey.ca/treeprotection

Purpose

ALL building or development sites require tree cutting permits for trees which require removal and tree protection barriers for trees which require retention. Awareness of tree issues and requirements is important at every stage from planning, design, engineering and construction, to landscaping.

Background

Trees present on-site, on adjacent properties or on City property must be considered prior to design.

On-site: Heritage trees, significant trees, specimen trees, protected trees and healthy groups of trees are candidates that must be considered for retention.

Off-site: Trees on neighbouring properties must be protected. Tree removals may be considered when the trees fall within the removal criteria of the bylaw and the owner agrees.

City trees: Boulevard and park trees (regardless of size) must be protected with tree protection barriers unless removal has been authorized by the Parks Department (604-501-5050).

Tree Survey

A legal survey must be stamped by a registered BC land surveyor or professional engineer. The City of Surrey has specific guidelines for what must be included in a survey (see City Bulletin: *Tree Survey Guidelines*). Errors in this information can slow the building or development permit process when an incorrect survey requires resubmission, or can result in delaying actual construction and require payment of fines for tree damage occurring during the development/construction process due to incorrect information.

Arborist Report

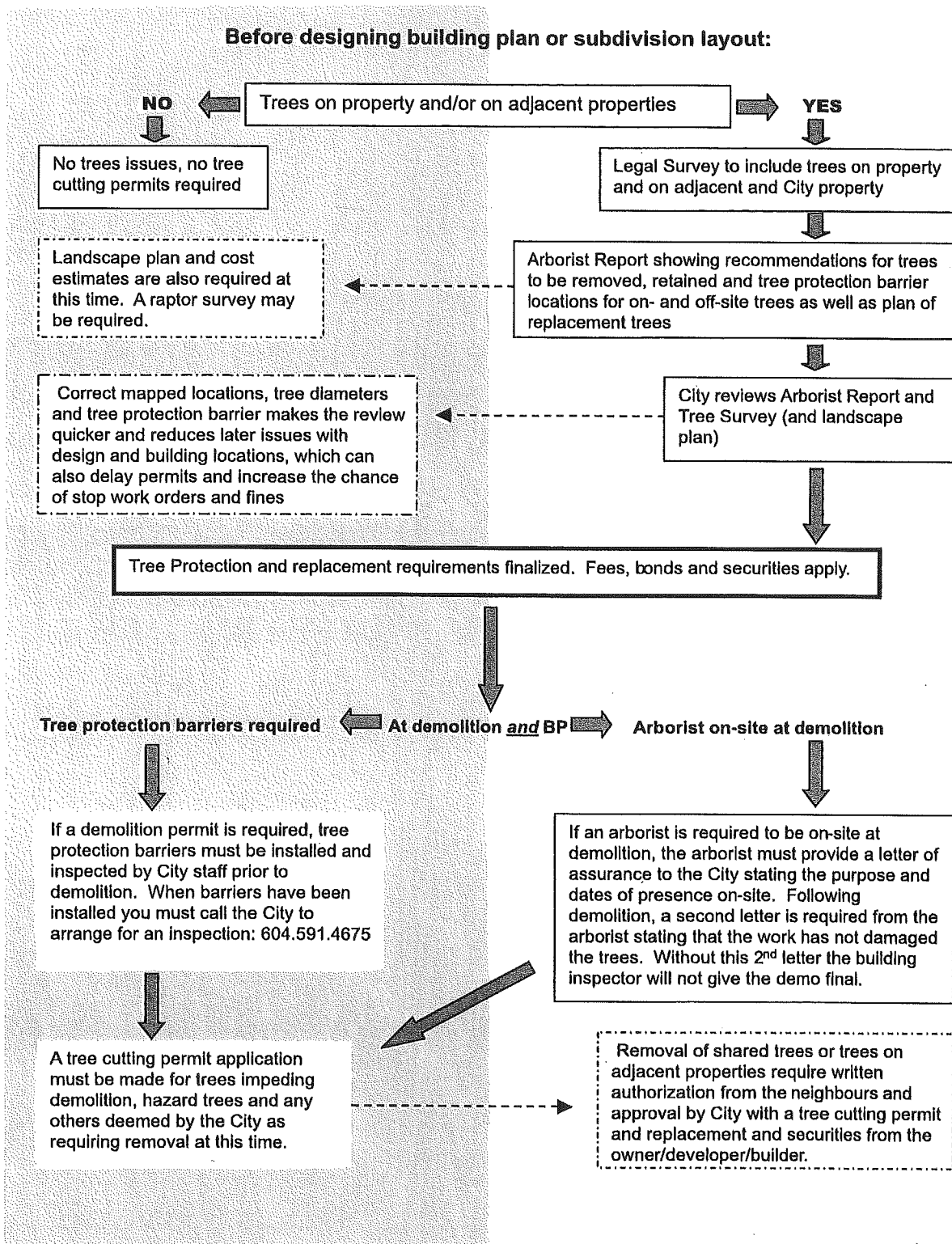
The Arborist Report is necessary to professionally assess the trees on the site. The City of Surrey has specific guidelines for what must be included in a report, including tables and maps. The requirements are listed in City Bulletin: *Arborist Report Specifications*. Errors or incomplete submissions of this information will also result in requests for resubmission. Missing trees and incorrect location of tree protection barriers can also result in delay of actual construction and require payment of fines for tree damage due to building design calculations based on incorrect information.

Any recommendations for retention must provide detailed descriptions of mitigation measures for the retained trees. These measures must include the tree protection barriers with the location and dimensions of the barriers shown on the site plan, as well as provide detailed descriptions of mitigation measures for the retained trees and other site-specific measures as deemed necessary by the arborist. This may include, but not be limited to: relocation of retaining walls and perimeter drainage; hand-digging; root pruning; construction of tree wells; relocation of utility installation or connections; tunneling; placement of gravel/structural soil/mulch/planking; require presence of an arborist during work in the vicinity of tree; other methods required to successfully retain a tree; or any maintenance such as watering; etc.

Building Plan

When designing for any site construction, including house, driveway, garage and deck additions, trees suitable for retention must be considered. Design amendments may be needed such as:

- Modifying building designs;
- Modifying sidewalk/driveway designs;
- Limiting size of excavations;
- Alternative shoring;
- Alternative excavation techniques;
- Trenchless technologies;
- Alternative site access; or
- Alternative location for utility location/connections.



Fees

- Tree Cutting Permit fees: depends on property but for in-fill sites: \$63 for the fee and \$24 for each tree
- Refundable tree replanting securities: \$300 for each regular-sized tree to be planted (5 cm caliper)
- Refundable tree retention bonds: typically \$3000/tree for trees on-site or on neighbouring properties

TREE SURVEY REQUIREMENTS



January 2012
BUILDING DIVISION

Tree Protection Bylaw, 2006 No. 16100

The bylaw is available in its entirety at the City of Surrey website at
www.surrey.ca/treeprotection

Purpose

Information to all applicants submitting development applications (i.e. rezoning, subdivisions, development, development variances, building permits) to also submit a site survey with the application.

Background

- *The tree survey must be completed by a registered BCLS surveyor or professional engineer.*
- All dimensions included on the tree survey must be metric.
- The scale of the drawing must permit detailed information to be legible. Information, especially tree identification numbers and information must be in a legible font that is readable when photocopied once onto 11"x17" paper.
- The tree survey must be a scaled drawing and include the following:
 1. The locations and type of all existing and proposed utilities entering or immediately adjacent to the subject site.
 2. Legal description; rights-of-way, easements, existing and proposed property lines; building footprints and excavation zones; walkways, patios, driveways and access; existing and proposed grades at each of the four corners of the subject site; water, storm and sanitary sewer lines; Hydro, telephone and gas lines; plus any proposed or existing service kiosks must also be shown.
 3. The location and diameter of:
 - (a) All trees on the subject site having a trunk diameter (DBH) of 30 cm (11³/₄") or greater, or a multiple-stemmed tree whose cumulative DBH for 3 largest stems added together is 30 cm (11³/₄") or greater.

- (b) A tree of any size which:
 - i. has been planted as a replacement tree;
 - ii. located within an Environmentally Sensitive Area (ESA) *;
 - iii. is specimen quality or is on the Significant Tree List;
 - iv. has evidence of nesting use by raptors, osprey or herons; and
 - v. is one of these species: arbutus, Garry oak, pacific dogwood, pacific yew, coast redwood, dawn redwood, giant redwood, ginkgo or monkey puzzle.
 - (c) All off-site trees or hedges within 4 m of the property line on adjacent lots.
 - (d) All off-site trees whose diameter would require tree protection barriers on the subject property or at the property line.
 - (e) All trees or hedges (regardless of size) on any City boulevard or lane allowance adjacent to the subject site to the same standards as described in items (c) and (d).
- 4. All surveyed trees identified in #3 must be consecutively numbered, including protected trees existing within a hedge. Non-permit-sized hedge trees can be numbered as a group with a single number.
 - 5. The type (i.e. coniferous or deciduous) of all trees identified in #3.
 - 6. The base elevations (tree grades) of all trees identified in #3.
 - 7. All power lines on or adjacent to surveyed property.
 - 8. A title block with north arrow, scale, date, surveyor or professional engineer's seal and company name. A legend to identify symbols is required. Revised plans must be dated.

* **If an Environmentally Sensitive Area is dedicated to the City as park, the trees in the area do not need to be surveyed. All trees within this area would be retained.**

ACCEPTABLE REPLACEMENT TREE LIST AND PLANTING REQUIREMENTS

Website: www.surrey.ca/treeprotection

Email: treebylaw@surrey.ca

Phone: 604-591-4675

ALL PLANT MATERIAL AND PLANTING TECHNIQUES MUST COMPLY WITH THE LATEST EDITION OF THE BCSLA/BCNTA "LANDSCAPE STANDARD" AS THIS WILL EFFECT REFUND OF SECURITY DEPOSITS

- Trees must be planted in accordance with the "Tree Planting Guidelines" in this brochure. All ball and burlap root ball strings must be severed before the tree replacement inspection.
- Western red cedars, Hemlock and Douglas fir trees will not be an acceptable species for planting in small back yards or small front yard areas.
- Upsized trees (8 cm. caliper for deciduous or 4 metres tall for conifers) must be staked or guyed when planted in locations where site conditions will result in excessive movement of the root ball.
- Trees with mature heights of more than 3 metres are not to be planted under BC Hydro lines. Taller trees must be planted a minimum of 5 metres from the wires.
- Small growing or medium growing trees (8 metres or less) are not to be planted within 2 metres of foundations or outbuildings and large growing trees (over 8 metres) are not to be planted closer than 3 metres from building foundations.
- Most trees are acceptable as replacement trees as long as they are not hedging material, weeping, grafted standards, dwarfs or shrubs. The attached list is to be used a guide for sizes and species.
- When the tree(s) have/has been planted as per the requirements set out in this information brochure, please call 604-591-4675 for a first inspection. The first 50% refundable security deposit will then be released, and the balance of the security will be refunded after 1 year if the tree is still viable. Please call the above noted phone number for the second inspection.

REPLACEMENT TREES

NOTES TO TABLE:

- (1) IN THE MINIMUM SIZE COLUMN, REFERENCE TO A FIGURE IN CENTIMETRES (cm) IS A MEASUREMENT OF TRUNK DIAMETER 15 cm ABOVE THE GROUND. REFERENCE TO A FIGURE IN METRES (m) IS A MEASUREMENT OF HEIGHT ABOVE THE GROUND.
- (2) THE COLUMN HEADING "TYPE", L = LARGE, M = MEDIUM, S = SMALL AND F = FASTIGIATE (OR COLUMNAR) AND REFERS TO THE SIZE OF TREE AT MATURITY, NOT THE SIZE WHEN PLANTED.

COMMON NAME	BOTANICAL NAME	PLANTING SIZE	TYPE
Hedge Maple	<i>Acer campestre</i> 'Queen Elizabeth'	5 cm caliper	S
Vine Maple	<i>Acer circinatum</i>	5 cm caliper	S
Amur Maple	<i>Acer Ginnala</i>	5 cm caliper	S
Bloodgood Japanese Maple	<i>Acer palmatum</i> 'Bloodgood'	5 cm caliper	S
Globe Maple	<i>Acer platanoides</i> 'Globosum'	5 cm caliper	S
Silk Tree	<i>Albizia julibrissin</i>	5 cm caliper	S
Young's Weeping Birch	<i>Betula pendula</i> 'Youngii'	5 cm caliper	S **
Eastern Redbud	<i>Cercis canadensis</i>	5 cm caliper	S
Eddie's White Wonder Dogwood	<i>Cornus</i> 'Eddie's White Wonder'	5 cm caliper	S
Chinese Dogwood	<i>Cornus chinensis</i>	5 cm caliper	S
Kousa Dogwood	<i>Cornus kousa</i>	3 cm height	S
Cornelian Cherry	<i>Cornus mas</i>	3 cm height	S
Cockspur Hawthorn	<i>Crataegus crus-galli inermis</i>	5 cm caliper	S
Washington Hawthorn	<i>Crataegus phaenopyrum</i> 'Treeform'	5 cm caliper	S
Lavalle Hawthorn	<i>Crataegus x lavalleyi</i>	5 cm caliper	S
Amur Maackia	<i>Maackia amurensis</i>	5 cm caliper	S
Caerhays Bell Magnolia	<i>Magnolia</i> 'Caerhays Bell'	5 cm caliper	S
Elizabeth Magnolia	<i>Magnolia</i> 'Elizabeth'	5 cm caliper	S
Galaxy Magnolia	<i>Magnolia</i> 'Galaxy'	5 cm caliper	S
Vulcan Magnolia	<i>Magnolia</i> 'Vulcan'	5 cm caliper	S
Waddas Memory Magnolia	<i>Magnolia</i> 'Waddas Memory'	5 cm caliper	S
Yellow Cucumber Tree	<i>Magnolia cordata</i>	3 m height	S
Oyama Magnolia	<i>Magnolia sieboldii</i>	3 m height	S
Saucer Magnolia	<i>Magnolia soulangiana</i>	3m height	S
Japanese Crabapple	<i>Malus florabunda</i>	5 cm caliper	S
Prairiefire Crabapple	<i>Malus x 'Prairiefire'</i>	5 cm caliper	S
Calocarpa Ornamental Crabapple	<i>Malus x Zumi</i> 'Calocarpa'	5 cm caliper	S
White Mulberry	<i>Morus alba</i>	5 cm caliper	S
Sourwood	<i>Oxydendrum arboreum</i>	5 cm caliper	S
Persian Ironwood	<i>Parrotia persica</i>	5 cm caliper	S
Shore Pine	<i>Pinus contorta</i>	3 m height	S **
Japanese Flowering Cherry	<i>Prunus serrulata</i>	5 cm caliper	S
Staghorn Sumac	<i>Rhus typhina</i>	3 m height	S
Japanese Stewartia	<i>Stewartia pseudocamellia</i>	5 cm caliper	S
Japanese Snowbell	<i>Styrax japonica</i>	5 cm caliper	S
Fragrant Snowbell	<i>Styrax obassia</i>	5 cm caliper	S

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COMMON NAME	BOTANICAL NAME	PLANTING SIZE	TYPE
Cappadocian Maple	<i>Acer cappadocicum</i>	5 cm caliper	M
David's Maple	<i>Acer davidii</i>	5 cm caliper	M
Rocky Mountain Maple	<i>Acer glabrum</i>	5 cm caliper	M
Paperbark Maple	<i>Acer griseum</i>	5 cm caliper	M
Manitoba Maple	<i>Acer negundo</i>	5 cm caliper	M
Striped Maple	<i>Acer pensylvanicum</i>	5 cm caliper	M
Norway Maple	<i>Acer platanoides</i>	5 cm caliper	M
Crimson King Maple	<i>Acer platanoides</i> 'Crimson King'	5 cm caliper	M
Crimson Sentry Maple	<i>Acer platanoides</i> 'Crimson Sentry'	5 cm caliper	M
Drummond Maple	<i>Acer platanoides</i> 'Drummondii'	5 cm caliper	M
Royal Red Maple	<i>Acer platanoides</i> 'Royal Red'	5 cm caliper	M
Schedler's Maple	<i>Acer platanoides</i> 'Schwedleri'	5 cm caliper	M
Pacific Sunset Maple	<i>Acer truncatum</i> x <i>A. platanoides</i> 'Warren Red'	5 cm caliper	M
Red Horsechestnut	<i>Aesculus x carnea</i>	5 cm caliper	M
Ruby Red Horsechestnut	<i>Aesculus x carnea</i> 'Birotti'	5 cm caliper	M
Tree-of-Heaven	<i>Alianthus altissima</i>	5 cm caliper	M
Japanese Angelica Tree	<i>Aralia elata</i>	5 cm caliper	M
Pacific Madrone	<i>Arbutus menziesii</i>	3 m height	M
Jacquemontii Birch	<i>Betula jacquemontii</i>	5 cm caliper	M
Weeping Birch	<i>Betula lanciniata</i>	5 cm caliper	M
River Birch	<i>Betula nigra</i>	5 cm caliper	M
Paper Birch	<i>Betula papyrifera</i>	5 cm caliper	M
European White Birch	<i>Betula pendula</i>	5 cm caliper	M
Asian White Birch	<i>Betula platyphylla</i>	5 cm caliper	M
Katsura Tree	<i>Cercidiphyllum japonicum</i>	5 cm caliper	M
Nootka Cypress	<i>Chamaecyparis nootkatensis</i>	3 m height	M
Drooping Nootka Cypress	<i>Chamaecyparis nootkatensis</i> 'Pendula'	3 m height	M
Finge Tree	<i>Chionanthus virginicus</i>	5 cm caliper	M
Giant Dogwood	<i>Cornus controversa</i>	5 cm caliper	M
Flowering Dogwood	<i>Cornus florida</i>	5 cm caliper	M
Pacific Dogwood	<i>Cornus nuttallia</i>	5 cm caliper	M
Handkerchief Tree	<i>Davidia involucrata</i>	5 cm caliper	M
Autumn Applause Ash	<i>Fraxinus americana</i> 'Autumn Applause'	5 cm caliper	M
Autumn Purple Ash	<i>Fraxinus americana</i> 'Autumn Purple'	5 cm caliper	M
Flowering Ash	<i>Fraxinus ornus</i>	5 cm caliper	M
Raywood Ash	<i>Fraxinus oxycarpa</i> 'Raywood'	5 cm caliper	M

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COMMON NAME	BOTANICAL NAME	PLANTING SIZE	TYPE
Patmore Ash	<i>Fraxinus pennsylvanica</i> 'Patmore'	5 cm caliper	M
Summit Ash	<i>Fraxinus pennsylvanica</i> 'Summit'	5 cm caliper	M
Urbanite Ash	<i>Fraxinus pennsylvanica</i> 'Urbanite'	5 cm caliper	M
Mountain Silverbell	<i>Halesia monticola</i>	5 cm caliper	M
Japanese Walnut	<i>Juglans ailantifolia</i>	5 cm caliper	M
Butternut	<i>Juglans cinera</i>	5 cm caliper	M
Golden Rain Tree	<i>Koelreuteria paniculata</i>	5 cm caliper	M
Goldenchain Tree	<i>Laburnum watereri</i> 'Vossii'	5 cm caliper	M
European Larch	<i>Larix decidua</i>	3 m height	M
Cucumber Tree	<i>Magnolia acuminata</i>	3 m height	M
Dawson Magnolia	<i>Magnolia dawsoniana</i>	3 m height	M
Southern Magnolia	<i>Magnolia grandiflora</i>	3 m height	M
Northern Japanese Magnolia	<i>Magnolia kobus</i>	3 m height	M
Antarctic Beech	<i>Nothofagus antarctica</i>	5 cm caliper	M
Sour Gum Tree	<i>Nyssa sylvatica</i>	5 cm caliper	M
Empress Tree	<i>Paulownia tomentosum</i>	5 cm caliper	M
Amur Cork Tree	<i>Phellodendron amurense</i>	5 cm caliper	M
Himalayan White Pine	<i>Pinus agriffithii wallichiana</i>	3 m height	M
Western White Pine	<i>Pinus monticola</i>	3 m height	M
Austrian Pine	<i>Pinus nigra</i>	3 m height	M
Purpleleaf Plum	<i>Prunus cerasifera pissardi</i> 'Nigra'	5 cm caliper	M
Sargent Flowering Cherry	<i>Prunus sargentii</i>	5 cm caliper	M
Black Cherry	<i>Prunus serotina</i>	5 cm caliper	M
Yoshino Cherry	<i>Prunus yedoensis</i>	5 cm caliper	M
Pink Locust	<i>Robinia ambigua</i> 'Idahoensis'	5 cm caliper	M
Corkscrew Willow	<i>Salix matsudana</i> 'Tortuosa'	5 cm caliper	M
Umbrella Pine	<i>Sciadopitys verticillata</i>	3 m height	M
Whitebeam	<i>Sorbus airia</i> 'Lutescens'	5 cm caliper	M
European Mountain Ash	<i>Sorbus aucuparia</i>	5 cm caliper	M
Pink Pagoda Mountain Ash	<i>Sorbus huphensis</i> 'Pink Pagoda'	5 cm caliper	M
Pacific Yew	<i>Taxus brevifolia</i>	3 m height	M
Redmond Linden	<i>Tilia americana</i> 'Redmond'	5 cm caliper	M
Little Leaf Linden	<i>Tilia cordata</i>	5 cm caliper	M
Chancellor Littleleaf Linden	<i>Tilia cordata</i> 'Chancellor'	5 cm caliper	M
Greenspire Littleleaf Linden	<i>Tilia cordata</i> 'Greenspire'	5 cm caliper	M
Crimean Linden	<i>Tilia euchlora</i>	5 cm caliper	M
Siberian Elm	<i>Ulmus pumila</i>	5 cm caliper	M

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COMMON NAME	BOTANICAL NAME	PLANTING SIZE	TYPE
Green Vase Japanese Zelkova	<i>Zelkova serrata</i> 'Green Vase'	5 cm caliper	M
Balsam Fir	<i>Abies balsamea</i>	3 m height	L
White Fir	<i>Abies consolor</i>	3 m height	L
Fraser's Fir	<i>Abies fraseri</i>	3 m height	L
Grand Fir	<i>Abies grandis</i>	3 m height	L
Alpine Fir	<i>Abies lasiocarpa</i>	3 m height	L
Noble Fir	<i>Abies procera</i>	3 m height	L
Bigleaf Maple	<i>Acer macrophyllum</i>	5 cm caliper	L
Deborah Maple	<i>Acer platinoides</i> 'Deborah'	5 cm caliper	L
Sycamore Maple	<i>Acer pseudoplatanus</i>	5 cm caliper	L
Red Maple	<i>Acer rubrum</i>	5 cm caliper	L
Morgan Maple	<i>Acer rubrum</i> 'Morgan'	5 cm caliper	L
Red Sunset Maple	<i>Acer rubrum</i> 'Red Sunset'	5 cm caliper	L
Silver Maple	<i>Acer saccharinum</i>	5 cm caliper	L
Sugar Maple	<i>Acer saccharum</i>	5 cm caliper	L
Common Horsechestnut	<i>Aesculus hippocastanum</i>	5 cm caliper	L
Monkey Puzzle Tree	<i>Araucaria araucana</i>	3 m height	L
California Incense Cedar	<i>Calocedrus decurrens</i>	3 m height	L
European Hornbeam	<i>Carpinus betulus</i>	5 cm caliper	L
Common Catalpa	<i>Catalpa bignoides</i>	5 cm caliper	L
Western Catalpa	<i>Catalpa speciosa</i>	5 cm caliper	L
Atlas Cedar	<i>Cedrus atlantica</i>	3 m height	L
Blue Atlas Cedar	<i>Cedrus atlantica</i> 'Gluca'	3 m height	L
Cedar of Lebanon	<i>Cedrus Libani</i>	3 m height	L
Hinoki False Cypress	<i>Chamaecyparis obtusa</i>	3 m height	L
Saware False Cypress	<i>Chamaecyparis pisifera</i>	3 m height	L
American Beech	<i>Fagus grandiflora</i>	5 cm caliper	L
European Beech	<i>Fagus sylvatica</i>	5 cm caliper	L
Copper Beech	<i>Fagus sylvatica</i> 'Autopurpurea'	5 cm caliper	L
White Ash	<i>Fraxinus americana</i>	5 cm caliper	L
Autumn Purple Ash	<i>Fraxinus americana</i> 'Autumn Purple'	5 cm caliper	L
European Ash	<i>Fraxinus excelsior</i>	5 cm caliper	L
Westhoff's Glory Ash	<i>Fraxinus excelsior</i> 'Westhoff's Glory'	5 cm caliper	L
Green Ash	<i>Fraxinus pennsylvanica</i>	5 cm caliper	L
Maidenhair Tree	<i>Ginkgo biloba</i>	5 cm caliper	L
Thornless Honeylocust	<i>Gleditsia tricanthos inermis</i>	5 cm caliper	L
Skyline Honeylocust	<i>Gleditsia tricanthos inermis</i> 'Skyline'	5 cm caliper	L

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COMMON NAME	BOTANICAL NAME	PLANTING SIZE	TYPE
Sunburst Honeylocust	<i>Gleditsia tricanthos intermis</i> 'Sunburst'	5 cm caliper	L
Shademaster Honeylocust	<i>Gleditsia tricanthos inermis</i> 'Shademaster'	5 cm caliper	L
Black Walnut	<i>Juglans nigra</i>	5 cm caliper	L
English Walnut	<i>Juglans regia</i>	5 cm caliper	L
Worplesdon Sweatgum	<i>Liquidambar styraciflua</i> 'Worpleston'	5 cm caliper	L
Tuliptree	<i>Liriodendron tulipifera</i>	5 cm caliper	L
Dawn Redwood	<i>Metasequoia glyptostroboides</i>	3 m height	L
Norway Spruce	<i>Picea abies</i>	3 m height	L
White Spruce	<i>Picea glauca</i>	3 m height	L
Serbian Spruce	<i>Picea omorika</i>	3 m height	L
Colorado Spruce	<i>Picea pungens</i>	3 m height	L
Colorado Blue Spruce	<i>Picea pungens</i> 'Glaucua'	3 m height	L
Hoop's Blue Spruce	<i>Picea pungens</i> 'Hoopsii'	3 m height	L
Koster Blue Spruce	<i>Picea pungens</i> 'Koster'	3 m height	L
Sitka Spruce	<i>Picea sitchensis</i>	3 m height	L
Ponderosa Pine	<i>Pinus ponderosa</i>	3 m height	L
Monterey Pine	<i>Pinus radiata</i>	3 m height	L
Red Pine	<i>Pinus resinosa</i>	3 m height	L
Eastern White Pine	<i>Pinus strobus</i>	3 m height	L
Scotch Pine	<i>Pinus sylvestris</i>	3 m height	L
Japanese Black Pine	<i>Pinus thunbergii</i>	3 m height	L
London Plane Tree	<i>Platanus acerifolia</i>	5 cm caliper	L
Oriental Plane Tree	<i>Platanus orientalis</i>	5 cm caliper	L
Douglas Fir	<i>Pseudotsuga menziesii</i>	3 m height	L
Oriental Chestnut Oak	<i>Quercus acutissima</i>	5 cm caliper	L
Scarlet Oak	<i>Quercus coccinea</i>	5 cm caliper	L
Garry Oak	<i>Quercus garryana</i>	5 cm caliper	L
Pin Oak	<i>Quercus palustris</i>	5 cm caliper	L
English Oak	<i>Quercus robur</i>	5 cm caliper	L
Red Oak	<i>Quercus rubra</i>	5 cm caliper	L
Shumard Oak	<i>Quercus shumardii</i>	5 cm caliper	L
Black Locust	<i>Robinia pseudoacacia</i>	5 cm caliper	L
Yellow Leaf Black Locust	<i>Robinia pseudoacacia</i> 'Frisia'	5 cm caliper	L
White Willow	<i>Salix alba</i>	5 cm caliper	L
Golden Weeping Willow	<i>Salix alba</i> 'Tristis'	5 cm caliper	L
Weeping Willow	<i>Salix babylonica</i>	5 cm caliper	L
Coast Redwood	<i>Sequoia sempervirens</i>	3 m height	L

REPLACEMENT TREES

NOTES TO TABLE:

- (1) IN THE MINIMUM SIZE COLUMN, REFERENCE TO A FIGURE IN CENTIMETRES (cm) IS A MEASUREMENT OF TRUNK DIAMETER 15 cm ABOVE THE GROUND. REFERENCE TO A FIGURE IN METRES (m) IS A MEASUREMENT OF HEIGHT ABOVE THE GROUND.
- (2) THE COLUMN HEADING "TYPE", L = LARGE, M = MEDIUM, S = SMALL AND F = FASTIGIATE (OR COLUMNAR) AND REFERS TO THE SIZE OF TREE AT MATURITY, NOT THE SIZE WHEN PLANTED.

COMMON NAME	BOTANICAL NAME	PLANTING SIZE	TYPE
Giant Redwood	<i>Sequoiadendron giganteum</i>	3 m height	L
Golden Cedar	<i>Thuja plicata</i> 'Aurea'	3 m height	L
Western Red Cedar	<i>Thuja plicata</i>	3m height	L
Basswood	<i>Tilia americana</i>	5 cm caliper	L
Canadian Hemlock	<i>Tsuga canadensis</i>	3 m height	L
Western Hemlock	<i>Tsuga heterophylla</i>	3 m height	L
Mountain Hemlock	<i>Tsuga mertensiana</i>	3 m height	L
American Elm	<i>Ulmus americana</i>	5 cm caliper	L
Scotch Elm	<i>Ulmus glabra</i>	5 cm caliper	L
Armstrong Maple	<i>Acer rubrum</i> 'Armstrong'	5 cm caliper	F
Bowhall Maple	<i>Acer rubrum</i> 'Bowhall'	5 cm caliper	F
Columnar Red Maple	<i>Acer rubrum</i> 'Columnaire'	5 cm caliper	F
Karpick Maple	<i>Acer rubrum</i> 'Karpick'	5 cm caliper	F
Scanlon Red Maple	<i>Acer rubrum</i> 'Scanlon'	5 cm caliper	F
Scarlet Sentinel Maple	<i>Acer rubrum</i> 'Scarlet Sentinel'	5 cm caliper	F
Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	5 cm caliper	F
Franz Fontaine Hornbeam	<i>Carpinus betulus</i> 'Franz Fontaine'	5 cm caliper	F
Purple Dawyck Beech	<i>Fagus sylvatica</i> 'Dawyckii Purple'	5 cm caliper	F
Dawyck Beech	<i>Fagus sylvatica</i> 'Dawyckii'	5 cm caliper	F
Princeton Sentry Maidenhair Tree	<i>Ginkgo biloba</i> 'Princeton Sentry'	5 cm caliper	F
Chanticleer Pear	<i>Pyrus calleryana</i> 'Chanticleer'	5 cm caliper	F
Upright English Oak	<i>Quercus robur</i> 'Fastigiata'	5 cm caliper	F
Upright Japanese Pagoda Tree	<i>Sophora japonica</i> 'Regent'	5 cm caliper	F

GENERAL TREE PLANTING GUIDELINES

The following tree planting guidelines are based on the most recent recommended practice in the British Columbia Landscape Standards. When considering tree selection and planting, it is recommended that you seek the advice of reputable landscape professionals, such as landscape architects, arborists, horticulturists and nursery representatives. A list of acceptable replacement trees and their sizes is available from the City.

1. Select the location of new trees to ensure that the trees will be able to develop their natural form and ultimate size without creating a negative impact on the tree, its surroundings or any overhead or underground utilities.
2. Ensure that the root ball is uniformly watered one day prior to planting, if possible. Water the newly planted tree once a week, soaking thoroughly the cultivated area.
3. Soil composition should generally be approximately 20% silt and clay combined, 70% sand and 10% decomposed organic matter. Soil testing kits are normally available through local nurseries. Private laboratories will also test soil samples.
4. Soil pH should be between 4.5 and 6.5.
5. The root ball should normally be set at the same level as it was growing in the nursery or tree farm. Where drainage is poor, plant the tree 2.5 cm to 5 cm higher than the surrounding ground. Under no circumstances should the top of the root ball be buried.
6. Soil should be compacted with a water sprinkler or hose. Heavy foot traffic around the planting area should be avoided.
7. A 5 to 7.5 cm layer of mulch (peat, bark mulch, leafmold, etc.) may be applied to the planting area, but must be kept 15 cm away from the tree trunk. Cedar mulch is not acceptable.
8. A tree should only be staked if it is unable to stand on its own, or when planted on a boulevard. When staking, the stake should be placed on the windward side of the tree avoiding damage to the trunk and root ball. The stake should not be driven through the root ball. The tree should be tied to the stake, allowing for natural movement of the trunk. The stake should be fastened to the tree with a figure-eight loop tie of a soft elasticized material, i.e., rubber tubing, or similar fastener, that is appropriate to the size, type and condition of the tree. The stake should be removed after one year or when the tree is established.
9. A regular maintenance program should be adopted for one year after planting to ensure survival and establishment, including pruning, watering, and cultivating the planting area. Do not fertilize until late spring of the second year following planting.

Note:

The accompanying tree detail illustrations characterize a generally flat site condition in an unrestricted area. Special planting considerations are required in sloped conditions, roof decks or other unique situations.

