

THE CORPORATION OF THE CITY OF BROCKVILLE
By-Law No. 055-2021

*A By-Law to Regulate the Planting, Care, Preservation and Protection
and Replacement of Trees on Public Areas in the City of Brockville*

WHEREAS the Municipal Act, 2001, S.O. 2001, Ch. 25, Section 135, as amended, enables the Council of local municipalities to enact By-Laws to prohibit or regulate the destruction or injuring of trees within the municipality, and;

WHEREAS the Municipal Act, Section 270(1)7, a municipality shall adopt and maintain a policy with respect to the way the municipality will protect and enhance the tree canopy and natural vegetation in the municipality, and;

WHEREAS Council deems it desirable to enact a "Tree Protection By-Law" for the purposes of;

- Regulating and controlling the removal, maintenance, and protection of trees.
- Supporting the City's Strategic Plan and Sustainability Plan.
- Achieving the objectives of the City's Official Plan by sustaining healthy, natural environment.
- Protecting and enhancing the biodiversity of wildlife habitat, and related ecological functions.
- Promoting Good Forestry Practices and Good Arboricultural Practices that sustain healthy tree coverage on City property.

NOW THEREFORE the Council of the Corporation of the City of Brockville hereby enacts as follows:

1.0 Definitions

In this By-Law,

- 1.1. "good arboricultural practices" means the practice as published by Landscape Ontario, International Society of Arboriculture (ISA) and Electrical Utilities Safety Association and the City of Brockville's Arboricultural Specifications Manual
- 1.2. "boulevard" means the land owned by the City and located along the sides of streets where trees, landscaping and sidewalks may be

located, bordered between the City right-of-way property line and the street curb or road shoulder.

- 1.3. "corporation" means the Corporation of the City of Brockville.
- 1.4. "parks supervisor" means the Supervisor of Cemetery and Parks, or their authorized designate.
- 1.5. park trees means trees that have been purposely planted in public parks, greenbelts and all other areas owned by the City.
- 1.6. "street" means a public highway which allows access to abutting lots.
- 1.7. "street trees" means trees that have been purposely planted on the City right of way.
- 1.8. "replaceable tree" means a City street tree or park tree designated for replacement.
- 1.9. "city trees" means any City owned trees that have been purposely planted on City property such as, street right of ways, parks, cemeteries, greenbelts, any other City owned lands.
- 1.10. "qualified competent person" means any person deemed competent by the Supervisor of Cemetery and Parks.
- 1.11. "manual" means the City of Brockville, Arboricultural Specification Manual as attached and forming part of By-law Number 055-2021.
- 1.12. "road allowance" means to the allowances originally laid out for roads by a Crown surveyor, including both road allowance show on an original survey and road allowances shown in a plan of subdivision. Road allowances are generally sixty-six feet in width.
- 1.13. "right-of-way" means the legal right, established by usage or grant, to pass along a specific route through grounds or property belonging to another.
- 1.14. "public area" means any outdoor area that is open to the public for public use, whether owned or operated by the City.
- 1.15. "private property" means any land owned by individuals or corporations other than the government.

1.16. "hydrovac excavation" means the process by which high pressure water is used to break up dirt and material.

2.0 **Responsibilities**

2.1. It shall be the responsibility of the Parks Supervisor to administer the requirements of the By-law including the planting, care, preservation, protection, pruning and removal of street trees and park trees.

2.2. The Parks Supervisor shall be required and empowered to develop and maintain arboricultural guidelines based on Good Arboricultural Practices, detailing the rules, regulations, standards, and specifications dealing with tree care in the municipality.

3.0 **Approvals and Permits**

3.1. No person shall without the express written permission of the Parks Supervisor:

- a) Plant, prune, remove, cut above ground, treat, or otherwise disturb any tree, shrub or other plant located on City property. This provision shall not be construed to prohibit owners of property adjacent to City property from watering any tree, shrub or other plant located on such City property.
- b) Trim, prune or remove any tree or portions thereof if such tree or portions thereof reasonably may be expected to fall on City owned property and thereby to cause damage to persons or property without the approval of the Parks Supervisor.
- c) Cut, tap, carve, transplant or in any other way damage any tree, shrub or any other plant located on City property without the approval of the Parks Supervisor.
- d) Attach any rope, wire, nail, sign, poster or any other man-made object to any tree, shrub or other plant located on City property.
- e) Dig a tunnel or trench within an offset as outlined in this document to any tree located on City property.

3.2. Section 3.1 above, shall not apply to the Parks Supervisor, an Agent of the Parks Supervisor, a Contractor hired by the Parks Supervisor or any person or Corporation who has obtained a permit or approval from the Parks Supervisor to perform any of the above acts, save and

except in an emergency. The person receiving the permit or approval shall abide by all requirements of Good Arboricultural Practices and Schedule A – Arboricultural Specification Manual attached to this by-law.

4.0 **Planting**

- 4.1. Any and all tree planting on City property shall abide by Good Arboricultural Practices.
- 4.2. Section 3.2 of the City of Brockville, Arboricultural Specification Manual specifies the acceptable plant species for planting as street trees and park trees and cemetery trees. All trees shall be in accordance with this list unless otherwise approved by the Parks Supervisor in writing.
- 4.3. The spacing of street trees will be in accordance with the species size:
 - a) small trees, approx. 6 m;
 - b) medium trees, approx. 8 m;
 - c) large trees, approx. 10 m,
 - d) except in special plantings approved by the Parks Supervisor, final tree spacing and placing will be approved by the Parks Supervisor.
- 4.4. Any street tree or park tree removed shall be replaced with a new tree selected from the acceptable plant species as list in Section 3.2 of the Manual. The tree shall be planted on the same street or in the same neighbourhood where the tree was removed, the final location shall be determined as outlined in this document, and the final decision shall be approved by the Parks Supervisor.
- 4.5. No person shall plan a street except in accordance with Section 3.3, Spacing and Location Requirements.
- 4.6. This section does not prohibit the planting of street trees on City boulevards by adjacent property owners, provided the planting standards and Good Arboricultural Practices are adhered to, and prior approval from the Parks Supervisor is obtained.

5.0 **Public Tree Care**

- 5.1. The Corporation shall have the right to plant, prune, maintain and remove trees, plants or shrubs on all boulevards, rights-of-way, public parks, and other City owned properties, as may be necessary to

ensure public safety or to preserve or enhance the symmetry and beauty of such public grounds.

- 5.2. The Corporation may remove or cause to be removed, any tree or part thereof which is in an unsafe condition or which by reason of its nature is injurious to sewers, electric power lines, gas lines, water lines, or other public improvements, or is affected with any injurious fungus, insect, or other pest. All tree care, removal and replacement activities will be carried out in accordance with Good Arboricultural Practices.
- 5.3. When it is determined that a tree growing on City property is a healthy and a desirable tree, but it must be removed because of a project or development, public or otherwise, public works or utility company repair or involvement. The follow charges shall be levied to the project or persons requesting such removal:
- i. The actual cost of the removal and replacement of the tree;
 - ii. the actual cost is to include all cost for the tree and stump removal;
 - iii. reinstatement of the existing ground cover, including topsoil and sodding, asphalt, concrete etc. to the satisfaction of the Parks Supervisor.
- 5.4. The removed tree shall be replaced in accordance with Section 3.2, Acceptable Plant Species of the Manual, and tree species shall be selected by the Parks Supervisor.

6.0 **Public Utilities**

- 6.1. Public Utilities shall review with the Parks Supervisor a Utility Tree Trimming Policy for the purpose of maintaining safe line clearance prior to pruning any trees located on City property and shall carry out all such work in accordance with the Standards and Practice as outlined in the Electrical Utilities Safety Association, and the International Society of Arboriculture (ISA)
- 6.2. Public Utilities shall be required to obtain a permit prior to the removal of any tree from City property. When it has been determined that the tree is a healthy and desirable tree that should be retained, the costs associated with the tree removal will be as outlined in Section 6.2 of the Manual.

7.0 Pruning of Trees on Private Property

- 7.1. The owner of any tree that overhangs any street or right-of-way shall prune the branches so that such branches shall not severely obstruct the light from any streetlight or obstruct the view of any street intersection so that there shall be clear space of 4.5 metres above the street surface or 3.0 metres above the sidewalk surface.
- 7.2. Said owner shall remove all dead, diseased, or dangerous trees, or broken or decayed limbs which constitute a menace to the safety of the public.
- 7.3. No person shall undertake any work on City property without obtaining approval from the Parks Supervisor.
- 7.4. The Corporation shall have the right to prune any tree or shrub on private property when it interferes with the proper spread of light along the street from a streetlight or interferes with visibility of any traffic control device, sign or visibility triangle at intersections. The costs associated with this work maybe charged to the property owner at the discretion of the Parks Supervisor.
- 7.5. Tree limbs that grow near high voltage electrical conductors shall be maintained clear of such conductors by the Electrical Public Utility Company.

8.0 Dead or Diseased Tree Removal on Private Property

- 8.1. The City shall have the right to cause the removal of any dead or diseased tree on private property within the City, when such tree constitutes a hazard to life and property, or harbors insects or disease which constitutes a potential threat to other trees within the City. Determination of such hazard will be by the Parks Supervisor, or his/her appointed designate, and an inspection maybe completed by a Certified Arborist.
- 8.2. The City will notify in writing the owners of hazardous trees that removal must be done by said owners at their own expense within ninety (90) days from the date the notice is served. In the event of an emergency or failure by any owner to comply with such provisions, the City shall have the authority to remove such trees and invoice the cost of removal to the property owner in accordance with Section 6.3 of the Manual. Unpaid invoices shall be added to the property owners tax account.

9.0 Protection of Trees

- 9.1. No person shall carry out any excavation or construction of any building, structure, or street work near any tree on any street or other publicly owned property without first obtaining the approval of the Parks Supervisor.
- 9.2. No person may carry out any work near any tree without protection methods which may include guarding the tree with a good substantial fence, not less than 1.2 m in height installed at the drip line of the tree to prevent material from being stockpiled or excavated within the drip line. If excavation work must be completed to the drip line, the Parks Supervisor may request hydro excavation at the owner's cost. Should the above not be followed and there is long term damage or death to the tree, the person shall pay for the cost of removing and replacing the tree at the Parks Supervisors discretion. All property owners are responsible for any contractors that are providing services to their property and cause damage or death to any City tree.
- 9.3. No person shall deposit, place, store or maintain upon any public place of the municipality any stone, brick, sand, concrete, or other material which may impede the free passage of water and air to the roots of any tree growing therein except by written approval of the Parks Supervisor.
- 9.4. Development constraints for trees located on City property for removal, replacement and or protection shall be determined at the time of the following: upon review of Plan of Subdivision or Building Permit or Site Plan Control, or Excavation Permit.
- 9.5. No trees on any City owned islands shall be altered in any way without approval of the Parks Supervisor.

10.0 Penalty and Remedies for Breach of Contravention of By-Law

- 10.1. Any person found to be in contravention of the provisions of this By-law shall, upon conviction, be liable to a penalty as provided under the Provincial Offences Act.
- 10.2. The costs imposed by this By-law constitute a debt of the owner to the City, may be added by the Treasurer to the tax roll for the owner's property and collected in the same manner as municipal taxes.

11.0 Severability

If any provision of this By-law or application thereof to any person or circumstance is held invalid by any Court, other provisions or applications of the By-law which can given effect without the invalid provision or application shall not be affected, and to this end the provisions of this By-law are declared to be severable.

12.0 Enforcement

This By-law may be enforced by Police Officers, Peace Officers and By-Law Enforcement Officers of the Corporation.


13.0 Short Title

This By-Law shall be known as the "Tree Protection By-Law".

14.0 Conflict Resolution

Any conflict resolution between the Parks Supervisor and any other party shall be solely decided by the Director of Operations.

Given under the Seal of the
Corporation of the City of Brockville
and passed this 22nd, day of June 2021



Mayor

City Clerk

Schedule A

Arboricultural Specification Manual
(pursuant to By-Law No. 055-2021)

*The following manuals shall be followed as
part of the specification manual:*

Ontario Landscape and Tree Planting Manual

International Society of Arboriculture (ISA)

Electrical Utilities Safety Association

Arboricultural Specification Manual
(pursuant to By-Law No. 055-2021)

Section 1 - Introduction

This Arboricultural Specification Manual has been authorized by the Council of the City of Brockville by By-law 055-2021 for the purpose of regulating the planting, care, preservation, protection and replacement of trees on public areas in the City of Brockville.

These specifications are to serve as a standard for the planting and maintenance of all public trees. They will apply regardless as to whether the actual work is performed contractually, by City forces or by private individuals. As with any standard applied on a large scale, there will be exceptions. So as to avoid unnecessary problems or damage to City trees, exceptions to these specifications must be approved in writing by the Parks Supervisor or their designate.

Section 2 - General Tree Guidelines and Specifications

- 2.0 A permit or approval must be obtained from the Parks Supervisor before any person, firm, or organization either, for themselves or another, plants, prunes, removes, or destroys any tree in or upon the public right-of-way of any street, alley, park, cemetery, or any other City owned land.
- 2.1 No permit shall be required of any Public Electrical Utility, their agents, and contractors, engaged in line clearance maintenance, or City employees doing such work in the pursuit of their public endeavors.
- 2.2 All utilities and City employees must receive a permit from the Parks Supervisor for the removal of any tree from public property.
- 2.3 All Public Utilities, their agents, contractors, and City employees must follow accepted Good Arboricultural Practices for maintenance, and as outlined in this document.
- 2.4 All personnel utilized for work on or with trees and shrubs on public property shall be trained to perform the work properly and safely in accordance with the requirements of the Occupational Health and Safety Act and amendments hereto.
- 2.5 Any work to City trees near or around electrical wires shall require that all personnel utilized for such work will have completed the required E.U.S.A. (Electrical Utilities Safety Association) training.

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- 2.6 Qualified competent persons shall be present when work is being performed. This could be city staff, or contractors which are deemed qualified by the Parks Supervisor.
 - 2.7 All such work shall be conducted in a manner so as to cause the least possible interference with or annoyance to others.
 - 2.8 Any injury to persons, or damages to any improvement, vehicle, tree, shrub, or structure while working with public trees shall be promptly reported to the Parks Supervisor.
 - 2.9 Any use of tools or equipment in unsafe condition or any application of techniques or methods deemed unsafe to life, limb or property is forbidden.
 - 2.10 Pedestrian and vehicular traffic shall be allowed to pass through the work areas only under conditions of safety and with as little inconvenience and delay as possible.
 - 2.11 Adequate barricades and warning devices shall be placed, and flagmen stationed as necessary for the safety of persons and vehicles.
 - 2.12 Proper street and sidewalk warning devices shall be in position as required at all times while work on City trees is being performed.
 - 2.13 No person shall dig any hole or trench without first obtaining locations of the buried services in the area, from the proper local Public Utilities.
 - 2.14 Whenever electric or telephone lines, gas lines, water lines or other improvements, public or private, on a public area will be implicated or jeopardized by any authorized tree activity, the proper authorities of the utilities involved shall be consulted prior to performing any work activity and all requested precautions by any such authority shall be complied with.

Section 3 - Tree Planting

3.0 Definitions

- a) street trees: street trees are herein defined as purposely planted trees on the public right-of-way between the curb or road surface and property line along the side of streets or in medians of all streets, avenues, boulevards, or roadways within the City.

- b) park trees: park trees are herein defined as purposely planted trees in public parks, greenbelts, cemeteries, and all other City lands.

3.1 Planting Standards

- a) Public projects and areas including parks, streets, medians, boulevards, sub-stations, the cemetery, treatment plants and public buildings shall provide for street and park tree planting as a part of the development process. The landscape plan for such projects shall be approved by the Parks Supervisor and adhere to the standards and specifications as outlined herein.
- b) Private projects shall provide for street tree planting as part of the development process. Street trees shall be located on the public right-of-way and adhere to the design objectives and spacing and location requirements of this document ie: large mature trees every 10 m, medium trees every 8 m and smaller trees every 6 m. Species selection shall be in accordance with Section 3.2, Acceptable Plant Species of this manual. All tree planting on the public right-of-way shall be approved by the Parks Supervisor.
- c) For Site Plan Control Agreements and Plans of Subdivision where the developer is not able to plant trees as required on City property due to conflicts, the developer may choose to plant the required trees on private property at the adjacent location. These trees are a requirement of the agreement with the City and shall be replanted by the private owner should they be removed for any reason.
- d) Existing public properties shall receive new infill planting on an ongoing basis. All removed City trees that were purposely planted, either from parks, public buildings or streets shall be replaced with a new tree in accordance with Section 3.2, Acceptable Plant Species of this manual.
- e) Site criteria to be evaluated in determining tree planting locations shall be:
 - i. Visibility of site.
 - ii. Probability of long-term tree survival.
 - iii. Likelihood of private participation and financing.
 - iv. Overall benefit to the community.

- f) Public tree planting must be accomplished by the balled and burlap covered, tree spade or container method. Bare root plantings are never permitted.
- g) The following are the minimum sizes for plant material. Larger sizes may be required to ensure survival or provide a landscape effect:
 - i. Shade trees 70 mm caliper
 - ii. Ornamental trees 70 mm caliper
 - iii. Evergreen trees 1.8 m height
 - iv. Shrubs 14.0 litre container
- h) No single species shall make up more than 15% of the total City tree population. This is to prevent uniform disease susceptibility and eventually uniform senescence. Therefore, the following represents the minimum tree species variation for a given site.

Number of trees on site	Maximum percentage of any one species at site
10 to 19	50%
20 to 39	33%
40 to 59	25%
60 or more	15%

- i) The following trees are not permissible as street tree plantings, however they may be used as park trees:
 - i. Acer Saccharinum - Silver Maple
 - ii. Populus species – Poplars
 - iii. Salix species – Willows
 - iv. Genus Fraxinus – Ash (Can be used if resistant to Emerald Ash Borer)
 - v. Linden
 - vi. Any species of Pine or Spruce
 - vii. Any species of Cedar

3.2 Acceptable Plant Species

- a) The following is the list of trees which are permissible for tree planting. The species to be planted shall be approved by the Parks Supervisor. Other tree species may be considered on an individual case basis and would be subject to the approval of the Parks Supervisor.

Preferred Tree Type

(based on criteria such as cost, availability from local nurseries, site suitability, and our geographical location)

	Street	Park	Cemetery
Sugar Maple	X	X	X
Autumn Blaze	X	X	X
Crimson King	X	X	X
Oak	X	X	X
Linden		X	X
Red Pine		X	X
White Pine		X	X
Colorado Green Spruce		X	X

Difficult Planting Sites

(areas with limited space such as boulevards, and street sides, with a higher exposure to salt, and possibly limited moisture)

	Street	Park	Cemetery
Ginkgo	X		
Honey Locust	X		
Ironwood	X		
Freeman Maple	X		
Bur Oak	X		

Tree Friendly Sites

(open spaces, lots of room to grow, limited, or no exposure to salt, with lots of unobstructed sun exposure)

	Street	Park	Cemetery
Striped Maple		X	X
White Spruce		X	X
Red Pine		X	X
Tamarack		X	X
Beech		X	X

Drought Tolerant Sites

(significantly dry, and significantly dry areas (Changing World Trees))

	Street	Park	Cemetery
Pin Oak	X	X	X
Tulip Tree	X	X	X
Shag Bark Hickory	X	X	X
White Oak	X	X	X

3.3 Spacing and Location Requirements

Standard Planting Setbacks – All species *

Minimum distances between trees/large shrubs and the following typical roadway elements:

street intersections	10.0 m
light standards / transformers	3.0 m
traffic signs (stop signs, yield signs etc.)	3.5 m
private approaches (driveways)	1.5 m
fire hydrants/transformers	3.0 m

hydro poles	3.0 m
bus stops	3.0 m
manholes	3.0 m
sidewalks / curbs	1.0 m
underground utilities	1.5 m
buildings	1.5 m

- *as per City of Brockville Road Allowance Typical Sections*

- 3.4 At the intersection of roadways or vehicular access points, no plant material with a mature height greater than 750 mm above the lowest adjacent pavement elevation shall be planted within the visibility triangle, measuring 10 m along the boundary and along each of the intersecting roadways, measured from the point of intersecting curb lines, except where engineering standards indicate and permit otherwise.
- 3.5 No tree planting is permitted where the distance between a curb and a detached sidewalk is less than 2.2 m. In addition, a planting area defined by two curbs, a curb and a fence, or sidewalk and fence must be a minimum of 2.2 m wide if street trees are to be planted.
- 3.6 All tree planting within the right-of-way for new subdivisions and along collector and arterial streets shall be placed in the locations as outlined in the current City of Brockville Road Allowance Typical cross-sectional drawings. In existing subdivisions, where utilities allow, trees shall be centered in the planting strip when the distance between the curb and sidewalk is 2.2 m or greater.
- 3.7 No street tree planting is to be made closer to the street than 1.2 m behind the back of the curb. The back of curb is the area closest to the boulevard.
- 3.8 Larger maturing trees should be spaced approximately 10 m apart, medium trees spaced approximately 8 m apart and smaller maturing trees spaced 6 m apart. The Parks Supervisor may require wider spacing if it is necessary for development of the tree or for safe use of the street or sidewalk. When space is limited or to achieve certain design effects, closer spacings may be considered.

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- 3.9 No tree shall be planted closer than 1.5 m from any driveway, private sidewalk, or alley, nor shall a tree or shrub be planted in such a manner that its eventual growth cannot be reasonably controlled so as to avoid interference with or obstruction to any improvements installed for public benefit.
- 3.10 Tree plantings made within the sidewalk must have a minimum of 2.0 m² of cut out area. The tree must be set back from the gutter line of the street a minimum of 1.2 m.
- 3.11 The cut-out area referred to Section 3.10 may be grated or otherwise surfaced with a material which allows uninhibited infiltration and exfiltration. The surfacing material must be approved for use by the Parks Supervisor prior to installation.
- 3.12 No tree shall be planted within 1.5 m of any building or structure.
- 3.13 No street trees, other than those low growing species that do not attain a mature height greater than 6 m, shall be planted under or within 3 m of any overhead power lines inclusive of streetlight or service lines.
- 3.14 With buried utilities, there is to be a minimum of 1.5 m between underground utilities and the trees edge of root ball. In cases where this is not possible the distance may be reduced to 0.75 m if approved root deflectors are installed between the root ball and the underground utility.
- 3.15 The root deflector shall be made from 6.5 mm rigid plastic, fiberglass, or non-degradable material. It should extend vertically to the bottom of the planting hole and extend horizontally 1.2 m from the center of the root ball in each direction parallel to the underground utility.
- 3.16 No trees shall be planted within 3 m of any pad mounted transformer.

Section 4 - Planting Specifications

4.1 Plant Material

- a) Plant material shall conform to the specifications as set out in the Ontario Landscape Tree Planting Guide. Material shall be of standard quality, true to name and type and a first-class representative of their species or variety.

- b) Plants shall have normal, well developed branches and vigorous root systems. They shall be healthy, vigorous plants free from defects, decay, scald injuries, abrasions of the bark, insects, pests and all forms of infestation or objectionable disfigurements.
- c) Balled and burlap covered plants shall be dug with solid balls of adequate size. The balls shall be securely wrapped with burlap or canvas, tightly bound with rope twine or wire basket. Allow 400 mm diameter root ball for every 25 mm of trunk diameter.
- d) The minimum sizes of plants are as specified in Subsection 3.1, Planting Standards. Variances must be approved by the Parks Supervisor.
- e) The Parks Supervisor may request to inspect any trees or shrubs before they are planted.

4.2 Planting Methods and Techniques

- a) The planting methods shall adhere to the Ontario Landscape Tree Planting Guide, or as stipulated below, for all planting on City property.
- b) Circular pits with sloping sides shall be excavated for all balled and burlap covered container plants. All pits should be at least 2 times wider than the ball and at least the depth of the soil ball.
- c) For all balled and burlap covered container plantings, the backfill shall be 25% peat and 75% soil of a desirable structure, texture, and PH for plant growth. The Parks Supervisor will decide if the existing soil at each location is adequate for use in the backfill or if soil will have to be brought in. Backfill shall be added and tamped firmly around the ball or root system at 150 mm increments until the pit is 2/3 full. Backfill soil to complete the tree installation, water as required.
- d) For all plants moved with a tree spade, all holes and cavities between the ball and surrounding soil should be filled. The ball should be thoroughly soaked with water after planting.
- e) All plants should be centered in the pit and set at the depth of the ball or slightly higher than they were when growing at the nursery.

- f) All evergreen trees greater than 1.8 m in height and any deciduous tree (under 70 mm), insecure in the ground shall be guyed. These methods will be approved by the Parks Supervisor.
- g) Prior to digging any planting pit, it is necessary to check with the utility companies for underground electric or telephone lines, gas lines, water lines or any other improvements, public or private.
- h) All tree and shrub planting shall be topped off with good quality screened topsoil, and approved grass seed.
- i) A 200 mm watering dike will be constructed around all new tree and shrub plantings when determined by the Parks Supervisor to be necessary to ensure adequate irrigation.
- j) When planting a tree that will be surrounded by a hard surface, there should be a minimum of 2.0 m² of porous surface for trees up to 100 mm in trunk diameter and 1.0 m² for each additional 50 mm of trunk diameter.

4.3 Planting Standards of Workmanship

- a) Trees and shrubs should not be dug, balled or burlap covered or moved with a tree spade during the active growth period, unless the ball is large enough to ensure survival.
- b) Plant material shall be handled in a manner so as to cause the least amount of damage during the planting process.
- c) Evergreen trees with an excessively bushy form of growth shall have the boughs tied up with rope or twine during transporting and planting to avoid damage to the foliage and branches. After planting the boughs should be released.
- d) Balled and burlap covered, and container plants shall always be handled by the soil ball. Under no circumstances should they be dragged, lifted or pulled by the trunk or foliage parts in a manner that will loosen the roots in the ball.
- e) In cases where trees or shrubs are loose in a soil ball, the ball shall be secured with twine or burlap before transporting to the planting site.

- f) On the job site, plants shall be handled, secured, or covered so as to prevent damage from wind or vibration. Plants should never be thrown or bounced off a truck or loader to the ground.
- g) Plant materials shall be planted the day it is taken to the planting site or it should be watered and covered and placed in a shade area to prevent dehydration.
- h) Any abrasions of the bark or broken limbs or branches caused in the planting operation should be treated or corrected immediately.
- i) In cases where trees are apt to have their trunks scarred during the planting operation the trunk should be protected with wrap or padding.
- j) Excavated plant pits that will be left open when work is not in progress or pose an immediate and considerable hazard to traffic shall be adequately barricaded with qualified warning devices.
- k) All twine, rope or wire and plant labels secured around the trunk shall be removed after planting is completed.
- l) Trees or shrubs that have their soil ball secured in a wire basket shall have the wire bent back and down around the ball and the top 1/3 cut off after the plant is placed and centered in the pit before backfilling occurs.
- m) Clean up of any soil, branches or other debris resulting from any tree or shrub planting shall be promptly completed, The work area shall be kept safe at all times until the clean up operation is complete. Under no conditions shall the accumulation of soil, branches or other debris be allowed upon the public property in such a manner as to result in a public hazard.

Section 5 - Tree Maintenance

5.1 Maintenance Standards – All maintenance guidelines shall follow the Ontario Horticultural Guide unless otherwise specified.

- a) All newly planted City street trees that are deciduous shall be inspected for pruning requirements on a rotational basis of not more than fifteen (15) years. Pruning specifications shall be

completed as per good arboriculture practices, as referenced in the International Society of Arboriculture (ISA) guidelines.

- b) City trees shall be managed in such a manner as to promote their general health by providing the necessary cultural practices which may include insect and disease control, fertilization, irrigation, staking, guying, wrapping, cabling, bracing, and pruning.
- c) City trees shall be maintained in such a manner as to not endanger, interfere, or otherwise conflict with requirements of safe public use of an area.
- d) Any City tree which because of habit of growth, age, condition, or disease becomes a hazard to public safety or obstructs a clear view of streets, signs, signals, or intersection, thus creating a hazard, shall be maintained to correct the problem. Hanging limb and branch growth shall be maintained 6 m above streets and 3.5 m above sidewalks.
- e) Every owner of any tree or shrub overhanging any street or right-of-way within the City shall prune the branches so that such branches shall not interfere with the safe use of the street or sidewalk or obstruct the view of any street intersection. The City shall have the right to prune any tree or shrub on private property when it interferes with the safe use of the street or sidewalk or when it interferes with the visibility of any traffic control device or sign. The cost for the above work may be charged to the property owner at the discretion of the Parks Supervisor.
- f) Any tree which, because of an epidemic disease or insect infestation, poses a threat to other trees or plants in the community shall be treated or removed and disposed of in an appropriate manner so as to control the spread of the problem organism.

5.2 Pruning and Removal Specifications

- a) No tree shall be cut back in such a manner that its health will be impaired. An exception to this may occur in tree removal or emergency relief of an immediate danger to persons or property. Any such emergency procedures must be reported promptly to

the Parks Supervisor with plans for completion or follow-up work submitted for approval.

- b) Authority to prune street trees does not include the cutting back of sound, healthy tree branches in excess of 150 mm in diameter (outside bark) unless specifically described and written into the permit form by the Parks Supervisor or if required by accepted arboricultural standards in the course of utility line clearance work.
- c) When tree pruning cuts are made to a side branch, such remaining branch must possess a basal thickness of at least 1/3 of the diameter of the wound so affected. Such cuts shall be considered proper only when the remaining branch is vigorous enough to maintain adequate foliage to produce woody growth capable of healing the cut within a reasonable period of time.
- d) All final tree pruning cuts shall be made in such a manner as to favor the earliest possible covering of the wound by natural callus growth. Excessively deep flush cuts which produce large wounds or weaken the tree at the cut shall not be made. Tree pruning cuts should be made just outside the branch collar.
- e) Tree branches shall be removed and controlled in such a manner as not to cause damage to other parts of the tree or to other plants or property.
- f) All tools used on a tree known to contain an infectious tree disease shall be properly disinfected immediately after completing work in such a tree.
- g) All cutting tools and saws used in making tree pruning cuts shall be kept sharpened adequately to result in final cuts with a smooth surface and secure bark remaining adjacent thereto.
- h) Whenever pruning cuts are to be made while removing branches too large to hold securely in one hand during the cutting operation, the branches shall be cut off first one to two feet beyond the intended final cut. Then the final cut shall be made in a manner to prevent unnecessary tearing back of the bark and wood.
- i) Any cutting of tree roots, other than when in the process of tree removal, shall give due consideration to the future welfare of the

tree. Proper action shall be taken, utilizing the latest scientific techniques, to treat resulting wounds to prevent entry of decay organisms.

5.3 Standards of Workmanship for Pruning and Removal

- a) Cleanup of branches, logs or any other debris resulting from any tree pruning or removal shall be promptly and properly completed. The work area shall be kept safe at all times until the cleanup operation is completed. Under no condition shall the accumulation of brush, branches, logs, or other debris be allowed upon a public property in such a manner as to result in a public hazard. All cleaning efforts must be immediately carried out, as soon as the tree work is completed. (Immediately means by end of that day, or next morning)
- b) The use of climbing spurs or spike shoes in the act of pruning trees is prohibited.
- c) Under no condition shall it be considered proper to leave any severed or partially cut branches in the upper portion of any tree being worked on after the tree workers leave the scene of the operation.
- d) Whenever large tree sections are being cut in a treetop that may endanger the public or property, such sections shall be secured by ropes and lowered safely in a controlled manner.
- e) Unless the tree work area is totally barricaded or otherwise kept safe while pruning or removing trees, at least one responsible tree worker shall serve to co-ordinate safe operations on the ground and in the immediate vicinity at all times when work operations are in progress.
- f) All removal of public trees shall be done in a manner so that the remaining stumps will be at least 200 mm below ground level unless special exemption is approved by the Parks Supervisor.
- g) Excavations resulting from tree or shrub removal must be promptly filled into normal ground level with a clean earth, the fill properly compacted, and free of debris.

- h) Public trees, utility poles, street signs, hydrants or any other City owned appurtenances shall not be used as an anchor to winch from in the process of removing other trees.
- i) When removing a tree, the act of cutting tree roots and then leaving the work scene with a standing tree or any part thereof having little, or no support is prohibited.

5.4 Tree Pruning

- a) "complete prune" - This operation of tree pruning shall consist of the total removal of those dead or living branches which may be considered a menace to the future health, strength, and attractiveness of the tree. Specifically:
 - i. Properly remove all dead and dying branches of 6 mm and over in diameter.
 - ii. Remove all broken branches or any loose branches lodged in the tree.
 - iii. Remove all dead and live stubs of previously broken or poorly cut branches.
 - iv. Remove any live branches which interfere with the tree's structural strength and healthful development, which will include the following:
 - Branches that will rub and abrade a more important branch.
 - Branches of weak structure that are not important to the framework of the tree.
 - Branches that, if allowed to grow, would wedge apart the junction of more important branches.
 - Branches with twigs and foliage obstructing the development of more important branches.
 - Branches forming multiple leaders in a single leader type tree.
 - Branches near the end of a limb which will produce more weight or offer more resistance to wind that the limb is likely to support.
 - Undesirable sucker and sprout growths.
 - Selective removal to one or more developing leaders where multiple branch growth exists near the end of broken or stubbed limbs.

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- Removal of branches that project too far outward beyond an otherwise symmetrical form.
 - Removal or severance of any exposed roots that restrict or act in a girdling manner and prevent proper expansion and growth of other major roots or restrict the base of the tree trunk.
- v. All final cuts shall be made just outside the branch collar. Extremely deep cuts which produce excessively wide wounds or weaken the tree shall not be made.
- b) Minimum or Safety Prune - This operation of tree trimming shall consist of the minimum performance necessary to correct one or more extremely and undesirable conditions existing within a tree which may be hazardous to persons or property. Specifically:
- i. Remove all dead and dying branches of 50 mm or more in diameter.
 - ii. Remove all broken or loose branches 50 mm or more in diameter.
 - iii. Reduce the length of branches which extend excessively beyond the perimeter of an otherwise symmetrical form.
 - iv. Cut back ends of branches and reduce weight where excessive overburden appears likely to result in breakage of supporting limbs. Such cutting back shall not include the removal of any live, healthy branches in excess of 150 mm in diameter unless specific approval is given by the Parks Supervisor.
- c) Head Back Prune - This operation shall consist of reducing the height and/or spread of a tree by not more than 1/3 and shall only be applied to trees when such work is necessary to control extended growth which may endanger overhead utility lines or interfere with adjacent structures.
- i. This form of pruning trees shall be done by means of a method called "drop crotching" which serves to shorten branch structure and thereby limits the extent of the foliage canopy to a natural appearing margin. This action consists of removing perimeter branches at the lower junction with shorter side branches.

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- ii. No cuts on living branches shall be made in excess of 150 mm in diameter without first securing specific consent of the Parks Supervisor (or his appointed designate).
 - iii. Extended perimeter branches shall be properly cut at their junction with lower branches having a basal diameter of at least 1/3 of the diameter of the cut so affected.
 - iv. The remaining lower branches shall be retained intact to form a reduced foliage perimeter at a specific height and/or spread.
 - v. This technique of tree pruning shall be applied only when larger growing trees endanger overhead utility lines or where excessive growth of trees interferes with adjacent structure or otherwise creates a specific hazard to persons or property.
 - vi. Head back prune should not be attempted or used if the metabolism of a tree would be seriously unbalanced by the use of this technique or where the structure of the tree would be weakened by such action. Trees not repairable shall be removed rather than pruned with this method.
- d) Spot Pruning - This operation of pruning shall consist of the removal of one or more branches localized in a particular area of the crown of a tree. Specifically:
- i. Trees shall be pruned in such a manner as to prevent branch and foliage interference with requirements of safe public passage. Over street clearance shall be kept to a minimum of 6 m above the paved surface of the street and 3.5 m over the surface of the public sidewalk or pedestrian way.
 - ii. Sucker growth shall be removed in its entirety to ground level. Exceptions are allowed for young trees which would be irreparably damaged by such trimming actions and wanted to be left as desirable trees.
 - iii. Individual or scattered dead or broken limbs shall be promptly and properly removed without the necessity of performing other work not immediately urgent for

protection of the public or property, or the health of the tree.

Section 6 - Tree Removal

6.1 Criteria

The City of Brockville shall make every attempt to preserve the existing tree population on boulevards, streets, cemetery's, and parks and ensure the future existence of the City's tree resource by the planting of as many or more trees than must be removed due to death, decay, infection, hazardous condition, act of God, or construction occurring in the area.

The following represents the tree removal criteria used to prevent indiscriminate removal of trees from City property. Wildlife habitat is considered as a factor in making tree management and removal decisions. City trees may be removed only when one or more of the following criteria is met:

- a) The tree is infected with an epidemic insect or disease where the recommended control is not applicable, and removal is the recommended practice to prevent transmission.
- b) The tree poses an extreme nuisance to public or private property due to its species, size, location, or decaying condition. The nuisance could be caused by excessive limb breakage, continuous sewer blockages, recurring sidewalk, or driveway damage. This would be investigated and approved on a case-by-case basis by the Parks Supervisor.
- c) The tree poses a severe safety hazard that cannot be corrected by pruning, transplanting, cabling, or other treatments.
- d) The tree severely interferes with the growth and development of a more desirable tree.
- e) The aesthetic values of the tree are so low or negative that the site is visually enhanced by the tree's removal.
- f) Work improvements including driveway installations, boulevard parking, street widening, sidewalk construction, utility installation, building construction, are required to be made

around the tree which will kill, severely debilitate, or render it a hazard.

- g) Preservation of the tree, when adjacent property is improved or developed, is not cost effective. When the decision to remove a tree has been made, a tree must be planted for the tree that was removed. The cost of the tree removal, and replacement will be at the cost of the constructor.

6.2 Costs for removal of healthy trees from City property

The City shall assume the cost for removal of all street and park trees which in its opinion require removal due to death, decay or deteriorating condition, or present a hazard or extreme nuisance to public or private property.

- a) In its determination of the removal of any nuisance tree, the City will investigate and consider all alternatives to alleviate the nuisance concern. This determination will weigh the costs of correcting the nuisance concern through other means than removal. In each of these cases, every effort shall be made to preserve the tree.
- b) When it is determined that a tree growing on City property is a healthy and a desirable tree that could be retained but it must be removed because of a public or private project or development, or emergency, and utility company work, there shall be the following charges to the project or persons requesting the removal:
 - i. The actual cost of the removal of both tree and stump, including backfill covering and sodding of the area where applicable.
 - ii. Costs for any inspections and reports from a Certified Arborist. The actual cost to purchase and plant a replacement tree selected in accordance with Section 3.2,

Acceptable Plant Species of this manual.

- iii. Monies received through the application of this policy shall be transferred to a Tree Maintenance Reserve Fund to be used solely for the purchase and installation of trees during the City's normal tree planting program.

6.3 Partial Ownership of Tree

When it is determined by means of a survey that a tree meeting one or more of the above criteria for removal is located with a portion of its trunk on City property, and a portion of its trunk on private property, the following procedure will apply:

- a) Where a tree has over one half of its trunk diameter located on City property (has grown to encroach on private property), the City will be responsible for the removal and/or maintenance to the tree.
- b) Where a tree has over one half of its trunk diameter located on private property (has grown to encroach on City property), the City will pay that portion of the cost of removal or maintenance to the tree, equal to the percentage of the tree located on city property, (ie: tree is 75% on private property and 25% on City property, the City will pay 25% of the removal or maintenance costs). All costs shall be submitted to the Parks Supervisor for approval prior to the work being completed.
- c) Where a tree or any part(s) thereof overhangs or undermines or creates root problems on any City lands, the City may remove, trim, excavate or take whatever measures are necessary to rectify the problem. The costs to complete the said works shall be determined based on the physical location of the trunk and as outlined under item a) and b).

6.4 Notification to Property Owners

Once it is determined that a tree located on City property needs be removed because it has been deemed "dead", "dying", or "diseased", no written notice shall be given to any adjacent property owners. A written notice is to be submitted to the adjacent property owners (in a 30 m radius of the tree in question) if the tree is of a healthy nature, and the removal is deemed required. The adjacent property owners will be given at least ten (10) days from the date of the written notice

to appeal the decision of the Parks Supervisor. Unresolved appeals between the Parks Supervisor and all other parties including property owners will be decided by the Director of Operations. For tree removal emergencies see Section 6.6, Emergency Situations of the manual.

6.5 Award of Contract

Once the removal of a specific tree or trees has been determined, the City procurement policy shall be followed. The removal will be awarded as per City policies.

6.6 Emergency Situations

If a tree located on City property is found to create an immediate danger to utilities, infrastructure, signs, buildings, monuments, shelters, other trees, any property or residents, the Parks Supervisor will have the right to authorize the immediate removal of the tree at its earliest convenience, eliminating the grace period for "Notification to Property Owners".

6.7 Stump Removal and Future Care

- a) Tree removals from City property will also include the removal of the tree stump to a depth of 200 mm below grade wherever possible.
- b) The resulting stump hole will have the wood chips created from stump grinding, removed. The hole shall be filled with a good quality topsoil, compacted and levelled to the surrounding grade. Sod will be applied and dressed with an appropriate covering of high quality grass seed. Should buried utilities prevent the removal of the stump by grinding methods, alternative arrangements will be determined by the Parks Supervisor.

6.8 Tree Replacement

- a) Any City tree removed from City property will be replaced with a new tree. The species to be planted must be selected in accordance with Section 3.2,

Acceptable Plant Species of this manual and planted in accordance with the specifications outlined herein.

- b) The replacement tree will be planted on the City boulevard, as near to the location of the removed tree as possible. If this location is not suitable, the trees will be planted somewhere on that street or within the immediate neighbourhood on City lands, or any appropriate lands within the City.

Section 7 - Tree Protection and Preservation Guidelines

The following specifications are intended to prevent unnecessary damage and destruction to City trees. The specifications describe protective measures required to safeguard trees from contractor operations, equipment, and vehicles where such trees are not designated for removal. The specifications also cover the installation of barriers.

7.1 Definitions

- a) Drip line - means the location on the ground surface directly beneath a theoretical line described by the tips of the outermost branches of the tree.
- b) Barrier - means fence consisting of approved material, supported by steel posts and being a minimum of 1.2 m high without breaks or unsupported sections.

7.2 Construction Constraints

- a) Written authorization must be granted by the Parks Supervisor prior to any of the following activities being undertaken, except in an emergency:
 - i. Excavating for any trench, tunnel, or ditch into the root zone within the drip line or a minimum 3 m of any City tree.
 - ii. Attaching or installing a metal material, signs, cables, nails, wire or other things foreign to the natural structure of the tree.
 - iii. Treating the soil within the root zone of any tree with a soil sterilant.

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- b) All trees on any street or other publicly owned property near any excavation or construction site of any building, structure, or street work, shall be guarded with a good substantial fence, not less than 1.2 m high and 2.5 m square and all building material, dirt or other debris shall be kept outside this barrier.
 - c) No person shall deposit, place, store or maintain upon any public lands of the municipality any stone, brick, sand, concrete, or other materials which may impede the free passage of water and air to the roots of any tree growing therein except by written approval of the Parks Supervisor.
 - d) Heavy equipment should use caution as to not compact the soil over the root zone of existing trees. Equipment or vehicles should not be parked, repaired, or refueled, within the drip line area of any tree not designated for removal. Restricted equipment access routes should be established.
 - e) Curb cuts should not be closer than 1.5 m from the trunk of a tree. New paving or asphaltting should not be done any closer than 1.5 m from any tree trunk.
 - f) New sidewalks, paving or asphaltting must allow breathing space for tree roots. The following should be used as a guideline:
 - i. trees up to 100 mm in trunk caliper, 2.0 m². of porous area is required.
 - ii. each additional 50 mm of tree caliper, 1.0 m² more is required.
 - g) Where grade change is required, the same area (2.0 m² for 100 mm caliper and 1.0 m² for each additional 50 mm of trunk caliper) must be provided either by construction of a dry well, where the level is to be raised or by building a retaining wall, where the level is to be lowered. Typically, a dry well or creating a wall around a tree, requires remedial watering. There is a limit to the height/depth of both approaches.
 - h) Avoid cutting surface roots wherever possible. Sidewalks and paving levels should be contoured sufficiently to avoid such cutting.
 - i) Excavation involving root cuts should be done rapidly. Make smooth, flush cuts on tree roots. Backfill before the roots have a

chance to dry out and water the tree immediately. Hydro-Vac Excavation may be directed by the Parks Supervisor, as a root friendly alternative.

- j) Where many roots have to be removed, prune branches out of the top of the tree to restore proper top to root balance.
- k) If trees are in full leaf during the construction phase, supply supplemental irrigation and nutrients.

7.3 Development Constraints

- a) Development proposals for public open space, plans of subdivision right of ways and private lot developments with trees on City property shall be required to include a complete landscape plan showing all existing trees. Trees to be saved and removed shall be indicated on the landscape plan and approved by the Parks Supervisor.
- b) No tree clearing or tree removal within the plan located on City property shall be undertaken unless such clearing or tree removal is a consequence of road, service construction, construction of a noise barrier, installation of infrastructure, installation of utilities or for a storm water management system.
- c) Any field work or inspections required by City staff as a consequence of development requirements shall be paid for by the property developer/owner.
- d) The developer/owner shall be required to supply and plant at their cost, one (1) tree for each tree removed. The new tree maybe planted on their lot or on City property as directed by the Park's Supervisor in accordance with Section 3.2, Acceptable Plant Species of this manual.

7.4 Barriers for Tree Protection

- a) Barriers for tree protection shall be erected prior to commencement of any development or construction activities so as to provide a continuous barricade between trees and the work area. The barricade shall be maintained erect and in good repair throughout the duration of construction operations and shall be removed upon completion of the work and disposed of outside the right of way.

- b) The barrier shall be placed at the drip line of trees or wood lot edges unless this is inadequate to provide a 1.5 m buffer zone between the barrier and the limit of grading. The barrier may be placed within the drip line if necessary, to provide a buffer zone of up to 1.5 m. Under no circumstances shall it be placed less than 0.5 m from the circumference of a tree trunk. When the trunks are less than 4.5 m apart, the tree shall be considered a group, and the barrier shall be placed to form a continuous barricade.

- c) The barrier shall consist of a good substantial fence, not less than 1.2 m high and all material, dirt and other debris, construction equipment or vehicles shall be kept outside of the barricaded area.

ADDENDUM "A"

GUIDE FOR PLANT APPRAISAL

All trees subject to removal shall be evaluated by a Certified Arborist and /
or the Parks Supervisor prior to removal.