CITY OPERATIONS DEPARTMENT

GUIDELINES FOR EVALUATION OF TREES

N.B. Applied only to Single–Stemmed trees

Updated June 2016

1. Basic Value Data

    a. The basic unit value of all shade and other ornamental trees is $71.94 per square inch unit of trunk cross sections at 4 feet above the ground (dbh) or $11.01 per square centimetre at 1.2 m.

    b. Different species of trees have different values. They are expressed as a percentage of the basic unit value (see 1 (a)).

    c. This expressed percentage is called Class %. The different class percentages are listed here under.

2. Tree Species Ratings for the City of Edmonton

BOTANICAL NAME	COMMON NAME
Class 1 — 110% (Special Class)	
Picea pungens 'Koster'	Kosters Blue Spruce
Picea spp. (Specialties)	All grafted types of Spruce
Pinus spp. (Specialties)	All grafted types of Pines
Quercus spp.	Oak species
Class 2 — 100%	
Abies spp.	All Firs
Aesculus glabra	Ohio buckeye
Aesculus hippocastanum	Chestnut/Horse Chestnut
Elaeagnus angustifolia	Russian olive
Betula pendula gracilis	Weeping birch
Fraxinus selections	Patmore/Summit/Fallgold/Manchurian
Larix sibirica	Siberian Larch
Larix spp.	Larch Species
Picea spp.	All types of Spruce
Pinus spp.	All types of Pines
Populus tremula 'Erecta'	Swedish Columnar Aspen
Pseudotsuga menziesii	Douglas fir
Syringa reticulata	Japanese lilac tree
Tilia americana	American basswood
Tilia cordata	Little Linden Leaf, Lime (Hybrids)
Ulmus americana 'Brandon'	American elm "Brandon"
Ulmus americana	American elm

BOTANICAL NAME	COMMON NAME
Class 3 — 80%	
Acer ginnala	Amur maple
Acer saccharinum	Silver maple
Betula spp.	All other types of Birch
Crataegus spp.	Hawthorns
Fraxinus spp.	Common Green Ash & Black Ash
Juniperus scopulorum	Rocky Mountain Juniper & Cultivars
Malus baccata	Siberian flowering crab
Malus "Rosybloom Hybrids"	Rosybloom Crabs
Malus spp. Hybrids	Hybrid Apple/Crab
Populus x canescens 'Tower'	Tower Poplar
Populus x jackii 'Northwest'	Northwest poplar – cultivar
Prunus padus commutata	Mayday tree
Prunus spp.	Plums and Cherries
Prunus spp. Hybrids	Hybrid Cherries & plums
Pyrus ussuriensis	Ussurian Pear
Sorbus spp.	Mountain Ash Species
Class 4 — 60%	
Acer negundo (upright var. or form)	Manitoba maple (specialty upright forms)
Alnus spp.	Alder
Caragana arborescens	Standard Pea tree
Caragana arborescens vars.	Standard Pea tree — forms
Populus Hybrids	Hybrid Poplars
Salix acutifolia	Sharp leaf willow
Salix pentandra	Laurel leaved willow
Ulmus pumila	Siberian/Manchurian elm
Class 5 — 40%	
Acer negundo	Manitoba maple
Populus X 'Brooks #6'	Brooks #6 Poplar
Populus X 'Griffin'	Griffin Poplar (Non–fluff)
Populus spp.	Native poplars
Salix spp.	Native Willows

3. Method of Determining Value

a. Determine Class % to which species belongs, e.g. Spruce – Class 2 – 100% and has a diameter of 4'' (this gives the spruce a basic value of $71.94 per square inch).

b. Determine area of cross section at 4.0 feet (1.2 m) above ground in square inches. For example the dbh (diameter at breast height) is 4 in. equals 12.57 sq. inches of area.

c. Determine condition of tree. An Urban Forester from City Operations Department, appraise the condition on the following scale carries out this evaluation.

Condition:

Tree's Condition:	Percent:
1. Perfect tree or specimen quality	100%
2. Excellent tree	90%
3. Very Good tree	80%
4. Above Average tree	70%
5. Good or Average tree	60%
6. Below Average tree	50%
7. Fair tree	40%
8. Poor tree	30%
9. Very poor tree	20%

The **Location** of a tree is considered during the tree's **Condition** calculation. **Location** can influence the **Condition** calculation as a 10% premium or a 10% penalty.

Using the above data the value of trees may be calculated as:

- In this example, a 4'' diameter the area of cross section is 12.57 in^2
- The basic unit value or $71.94 per $inch^2$
- The Class % is Class 2 or 100%. Therefore:$ 904.02
- 12.57 inch2 x $71.94 = $904.02. Therefore, the Basic Value of Tree = $ 904
- This figure is then multiplied by the Condition % (Say 80%) $ 904.02 x 80% condition is $ 723.22
- Therefore, the value of this example Spruce with dbh of 4'' in is $ 723 22 (round to nearest dollar)

OR

- In this example, 10 cm diameter, the area of the
- 78.54 cm^2 x $11.01 x 100% = $ 864.72. Therefore, the Basic Value of a Tree = $865
- This figure is then multiplied by the Condition % (Say 80%) $864.72 x 80% condition is $ 691.78.
- Therefore, the value of this example Spruce with dbh of 10 cm is $692. (round to nearest dollar)

d. Examples of determining tree value are outlined in the table below

*Species % Varieties	Diameter of trunk	Cross Section	Class and %	Basic Value in $'s (approx.)	Condition %	Rounded Value ($'s)
OAK	4''	12.57 in^2	1–110%	$ 994	80%	$ 796
SPRUCE	8''	50.27 in^2	2–100%	$ 3616	70%	$ 2531
ELM	10 cm	78.54 cm^2	2–100%	$ 865	80%	$ 692
Green ASH	20 cm	314.16 cm^2	3–80%	$ 2767	50%	$ 1729