

**Suggested Tree List**

**For**

**Washington, Missouri**

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Recommended by the

**Parks and Recreation Department**

in cooperation with the

**Washington Urban Forestry Council**

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**Spring 2013**

## **I. INTRODUCTION**

The City of Washington is pleased to present these updated lists of recommended trees for enhancing Washington's streets, avenues, boulevards, parking lots, parks, public facilities, businesses and private properties. Development of this composite list is the result of significant research, incorporating the advice from professionals including arborists, urban foresters, nurserymen, horticulturalists, professors, park planners and landscape architects. The intention of this effort is to provide urban planners, architects, landscape architects, city employees, developers, and Washington businesses and residents with a list of trees appropriate for planting in specific areas, tailored to the Washington environment. Since the world of living plants is quite dynamic, these lists will be reviewed periodically by the Community Forestry Manager and updated if deemed necessary after reviewing the results of current urban forestry research.

The Community Forestry Manager completed the most recent review and update of the City's current list of recommended trees as of spring 2013. The Community Forestry Manager's primary intention associated with development of this researched document is to provide Washington citizens and staff with state-of-the-art tree recommendations as the community continues to enhance Washington's urban forest.

## **II. STREET TREES**

These trees require the greatest level of maintenance and have the highest level of tree/people interaction. Because of the constrained and difficult growing conditions, these trees are most likely to suffer from mechanical damage, biotic and abiotic disorders and vandalism. The management of the street tree population directly affects the adjacent property owners and the character of the community.

While many tree species are quite applicable and adaptable for Washington's challenging urban streetscape, there are a variety of trees not appropriate for use within the streetscape environment. Primary reasons for discouraging the use of these undesirable tree species include:

- Size (height, and width) and shape.
- Root system.
- Soil type.
- Heat and/or cold tolerance.
- Drought tolerance.
- Salt tolerance.
- Weak branching habit, resulting in frequent release of fallen branches.

- Producer of messy fruit, seeds, acorns etc.
- Prone to damage by insects, diseases and nutrient deficiencies.
- Leaf scorch and mildew.
- Poor transplantation

Tree selection when planting near a sidewalk, trail or parking lot, etc. is critical to having long term success. The amount of space available should be used to determine the size of the tree being planted. The following chart illustrates this information:

<u>Tree Lawn Width</u>	<u>Mature Tree Height</u>	<u>Mature Tee Width</u>
0-3 feet	10-30 feet	10-20 feet
3-5 feet	10-30 feet	10-20 feet
5-7 feet	30-40 feet	10-20 feet
7-9 feet	40-50 feet	10-20 feet
9-11feet	50 feet or taller	20-25 feet
12 feet or wider	50 feet or taller	25 feet or wider

Another source indicates that the walk should be further away than three times the trunk diameter at maturity. Trees that have shallow roots should be avoided near sidewalks, trails and parking lots.

#### **A. SMALL COLUMNAR STREET TREES (Less than 20' Width)**

The following list of small columnar street trees are acceptable for planting in bump outs, small and/or narrow islands and medians, close to sidewalks and buildings.

1. **Pyramidal European Hornbeam** – *Carpinus betulus* "Fastigiata"
2. **Ginko biloba** – *Princeton Sentry Maidenhair* "Princeton Sentry"
3. **Thornless Honeylocust** – *Gleditsia tricanthos var. inermis* "Skycole"
4. **Crimson Spire Oak** – *Quercus alba x Q robur* "Crimschmidt"
5. **Regal Prince Oak** – *Quercus x* "Regal Prince"
6. **Magnolia Star** – *Magnolia stellate* "Magnolia Star"

7. **Maple, Tatarian** – *Acer tataricum*
8. **Redbud** - *Cercis* “\*Eastern Redbud”, “Forest Pansy”, “Oklahoma”, “Plena”, and “Rubye Atkinson”.

**B. MEDIUM TO LARGE COLUMNAR STREET TREES (21’ Width or greater)**

The following list of medium to large columnar street trees are acceptable for planting in medium to large islands and medians.

1. **Red Maple** – *Acer rubrum* “Bowhall”, and “Scarlet Sentinel”
2. **Sugar Maple** – *Acer saccharum* “Steeple”
3. **European Beech** – *Fagus sylvatica* “Dawyck Purple”

**C. NON-COLUMNAR AND MEDIUM TO LARGE STREET TREES (30’ or greater in height and greater than 25’ in width)**

The following list of non-columnar and medium to large street trees are acceptable for planting in large lawn and/or wide islands/medians.

1. **Hedge Maple** – *Acer Campestre* “Queen Elizabeth”
2. **\*Bur Oak** – *Quercus macrocarpa*
3. **\*Baldcypress** – *Taxodium distichum* “Shawnee Brave”
4. **Littleleaf Linden** – *Tilia Cordata*
5. **Japanese Zelkova** – *Zelkova serrate*
6. **Red Oak** – *Acer x freemanii* “Jeffersred”, “Autumn Blaze”
7. **Greencolumn Black Maple** – *Acer nigrum* “Greencolumn”
8. **Macho Amur Cork** – *Phellodendron amurense* “Macho”
9. **\*American Beech** – *Fagus grandifolia*

10. **\*White Ash** – *Fraxinus Americana* “Autumn Applause”, “Autumn Purple”, Champaign County”, “Rosehill” and “Skyline”.
11. **American Linden** – *Tilia Americana* “Redmond”, and “Legend”.
12. **Black Maple** – *Acer nigrum* “Greencolumn”
13. **Maple** – *Acer buergeranum* “Trident”

### III. FORMAL TREES

These trees require frequent maintenance and have a high likelihood of tree/people interaction. These trees also have a potential for mechanical injury and demand a high level of care and consideration during design and construction activities. These trees generally, do not produce nuts, fruits, etc.

#### CONIFERS

1. **\*Baldcypress** – *Taxodium distichum* “Shawnee Brave”
2. **White Fir, Concolor Fir** – *Abies concolor*
3. **\*American Holly** – *ilex opaca*
4. **\*Eastern Red Cedar** – *Juniperus virginiana*
5. **Colorado Spruce, Blue Spruce** – *Picea pungens*
6. **Norway Spruce** – *Picea abies*
7. **White Spruce** – *Picea glauca*
8. **Douglas Fir** – *Pseudotsuga menziesii*
9. **Canadian Hemlock** – *Tsuga Canadensis*
10. **Chinese Juniper** – *Juniperus chinensis*
11. **Japanese Black Pine** – *Pinus thunbergiana*

12. **Japanese Red Pine** – *Pinus densiflora*
13. **Limber Pine** – *Pinus flexilis*
14. **Red Pine** – *Pinus resinosa*
15. **Eastern White Pine** – *Pinus strobus*

#### **SMALL TREES & FLOWERING TREES (under 30' in height)**

1. **Yellowwood**- *Cladrastis kentuckea*
2. **\*Flowering Dogwood** – *Cornus florida*
3. **Magnolias** – *Magnolia x soulangiana* “Saucer magnolia”
4. **Magnolia Star** – *Magnolia stellate* “Magnolia Star”
5. **\*Eastern Redbud** – *Cercis Canadensis*
6. **Japanese Snowbell** – *Styrax japonicas*
7. **Maple** – *Acer tataricum* “Tatarian”
8. **Redbud** - *Cercis* “\*Eastern Redbud”, “Forest Pansy”, “Oklahoma”, “Plena”, and “Ruby Atkinson”.

#### **MEDIUM TREES (30' to 60' in height)**

1. **Ginko biloba** – *Princeton Sentry Maidenhair* “Princeton Sentry”
2. **Thornless Honeylocust** – *Gleditsia tricanthos var. inermis* “Shademaster” or “Skycole”
3. **Crimson Spire Oak** – *Quercus alba x Q robur* “Crimschmidt”
4. **Regal Prince Oak** – *Quercus x* “Regal Prince”

5. **Pyramidal European Hornbeam** – *Carpinus betulus* “Fastigiata”
6. **\*American Hornbeam** – *Carpinus caroliniana*
7. **Maple** – *Acer buergeranum* “Trident”
8. **\*River Birch** – *Betula nigra* “Heritage”
9. **\*Paper Birch, Canoe Birch** – *Betula papyrifera*

### **LARGE TREES** (over 60’ in height)

1. **\*American Basswood** – *Tilia Americana* “Redmond Linden”
2. **\*American Beech** – *Fagus gandifolia*
3. **European Beech** – *Fagus sylvatica*
4. **Chinese Elm, Lacebark Elm** – *Ulmus parvifolia*
5. **Littleleaf Linden** – *Tilia Cordata*
6. **Norway Maple** – *Acer platanoides* “Summershade”, “Emerald Queen”, and “Cleveland”
7. **\*Red Maple** – *Acer rubum* “Red Sunset”, “Autumn Flame”, “October Glory”
8. **\*Sugar Maple** – *Acer saccharum*
9. **\*Northern Red Oak** – *Quercus rubra*
10. **\*Scarlet Oak** – *Quercus coccinea*
11. **\*Shumard Oak** – *Quercus shumardii*
12. **\*Swamp White Oak** – *Quercus bicolor*
13. **Tuliptree** – *Liriodendron tulipifera*

14. **Japanese Zelkova** – *Zelkova serrate*
15. **Hedge Maple** – *Acer Campestre* “Queen Elizabeth”
16. **\*Baldcypress** – *Taxodium distichum* “Shawnee Brave”
17. **Red Oak** – *Acer x freemanii* “Jeffersred” “Autumn Blaze”
18. **Macho Amur Cork** – *Phellodendron amurense* “Macho”
19. **Ginko biloba** – *Ginko* “Magyar”, “Autumn Gold”, “Lakeview”, “Golden Colenade”, or “Shangrila”.
20. **American Linden** – *Tilia Americana* “Redmond”, and “Legend”.
21. **Black Maple** – *Acer nigrum* “Greencolumn”
22. **\*Sycamore** – *Platanus occidentalis*

#### **IV. PERIPHERY/NATURAL AREA TREES**

These trees require the least amount of maintenance because of their often remote and sheltered locations. The trees in these areas are managed not as individual trees, but rather as stands of trees linked to the associated plants and sites on which they reside. These trees can come in conflict with people when they occur along property lines, adjacent to man-made structures or near gathering places. These trees generally produce some fruit and/or nuts.

#### **SMALL TREES & FLOWERING TREES (under 30' in height)**

1. **Ohio Buckeye** – *Aesculus glabra*
2. **Red Buckeye** – *Aesculus pavia*
3. **\*Hophornbeam** – *Ostrya virginiana*
4. **Pawpaw** – *Asimina triloba*
5. **Hardy Rubbertree** – *Eucommia ulmoides*

6. **\*Sassafras** – *Sassafras albidum*
7. **Yellowwood** – *Cladrastis kentukea*
8. **Flowering Crabapple** – *Malus spp.* “Centurion”, “Harvest Gold”, “Prairie Fire”, “Profesor Sprenger”, “Snowdrift”, and “Sugar Tyme”
9. **Japanese Pagodatree** – *Sphora japonica*
10. **\*Downey Serviceberry** – *Amelanchier arborea*
11. **Serviceberry** – *Amelanchier x grandiflora* “Autumn Brilliance”, “Autumn Sunset”, Cumulus”, “Princess Diana”, “Snowcloud”, and “Tradition”
12. **Goldenrain Tree** – *Koelreutria paniculata*
13. **Lilac, Japanese Tree** – *Syringa reticulate* “Ivory Silk”, “Regent Japanese”, and “Summer Snow”.
14. **American Witch Hazel** – *Hamamelis virginiana*
15. **Sweetbay Magnolia** - *M. virginiana*
16. **Viburnum** – *prunifolium* “Black Haw”
17. **Viburnum** – *rufidulum* “Rusty Black Haw”

**MEDIUM - LARGE TREES (30’ to over 60’ in height)**

1. **\*Cucumbertree** – *Magnolia acuminata*
2. **Hickory** – *Carya laciniosa* “Shellbark”
3. **\*Hickory** – *Carya ovate* “Shagbark”
4. **\*Chestnut Oaks** – *Quercus michauxii* “Swamp Chesnut Oak”
5. **Chestnut Oaks** – *Quercus prinus* “Chesnut Oak”

6. **\*Pecan** – *Carya illinoensis* “Hardy Giant”, and “Major, Colby”
7. **European Alder** – *Alnus glutinosa*
8. **\*Blackgum** – *Nyssa sylvatica*
9. **\*Kentucky Coffeetree** – *Cymnocladus dioicus*
10. **\*Common Hackberry** – *Celtis occidentalis* “All Seasons Sugar”, and “Prairie Pride”
11. **\*Bur Oak** – *Quercus macrocarpa*
12. **\*White Oak** – *Quercus alba*
13. **\*Overcup Oak** – *Quercus lyrata*
14. **\*Post Oak** – *Quercus stellate*
15. **Black Walnut** – *Juglans nigra*
16. **Catalpa** – *Catalpa*
17. **Tuliptree** – *Liriodendron tulipifera*
18. **Swamp White Oak** – *Quercus. bicolor*

## **V. TREES UNDESIRABLE FOR PLANTING IN THE CITY OF WASHINGTON**

While many tree species are quite applicable and adaptable for most environments, the following variety of trees are not recommended for use within the City of Washington. Primary reasons for discouraging the use of these undesirable tree species include:

- Root system.
- Soil type.
- Heat and/or cold tolerance.
- Drought tolerance.
- Weak branching habit, resulting in frequent release of fallen branches.
- Prone to damage by insects, diseases and nutrient deficiencies.

- Leaf scorch and mildew.
- Poor Transplantation.

## **CONIFERS**

1. **Austrian Pine** – *Pinus nigra*
2. **Scotch Pine** – *Pinus sylvestris*

## **SMALL TREES & FLOWERING TREES (under 30' in height)**

1. **Mimosa** – *Albizia julibrissin*
2. **Mountainash** - *Sorbus aucuparia*
3. **Russian Olive** – *Elaeagnus angustifolia*
4. **Callery Pear** – *Pyrus calleryana* – “Bradford”, “Aristocrat”, “Capital”, “Redspire”, and “Cleveland Select”
5. **Apple** – *Malus*
6. **Crabapple** – *Malus x hybrids*
7. **Mulberry** – *Morus*
8. **Cherry** – Plum – *Prunus*
9. **Pear** – *Pyrus Calleryana*

## **MEDIUM TO LARGE TREES (30' to over 60' in height)**

1. **European White Birch** – *Betula pendula*
2. **Boxelder** – *Acer negundo*
3. **Black Cherry** – *Prunus serotina*
4. **Siberian Elm** – *Ulmus pumila*

5. **Black Locust** – *Robinia pseudoacacia*
6. **\*Silver Maple** – *Acer saccharinum*
7. **White Mulberry** – *Morus alba*
8. **Red Mulberry** – *Morus rubra*
9. **Osage-orange** – *Maclura pumifera*
10. **\*Persimmon** – *Diospyros virginiana*
11. **Eastern Cottonwood Poplar** – *Populus deltoids*
12. **Lombardy Poplar** – *Populus nigra* “Italica”
13. **Tree-of-Heaven** – *Ailanthus altissima*
14. **Willow** – *Salix spp.*
15. **\*Green Ash** – *Fraxinus pennsylvanica*
16. **Horsechestnut** – *Aesculus*
17. **\*Washington Hawthorne** – *Crataegus phaenopyrum*
18. **\*White Ash-** *Fraxinus Americana*
19. **Ginko biloba** – *Ginko* “Maidenhair Tree” (Female)
20. **Honeylocust** – *Gleditsia triacanthos*
21. **\*Sweet Gum** – *Liquidambar styraciflua*
22. **\*Poplar; Cottonwood** – *Populus*
23. **Sawtooth Oak** – *Quercus acutissima*
24. **\*Shingle Oak** – *Quercus imbricaria*

25. \***Pin Oak** – *Quercus palustis*

26. \***Willow** – *Salix*

Underlined Species = Plants of Merit

\* = Trees native to Missouri