COMMUNITY DEVELOPMENT DEPARTMENT

STREET TREES & SIDEWALK MAINTENANCE

GENERAL INFORMATION

This brochure is intended to help property and business owners understand the City's maintenance standards for street trees and sidewalks in order to ensure continued safety and access and circulation for pedestrians and vehicles. It is important to protect our valuable urban canopy . Trees add value to properties, enhance the City's appearance and character, as well as provide a multitude of environmental benefits. By promoting proper plant selection and providing for ongoing maintenance, the City's street trees can flourish and thrive in our urban environment for generations.

This handout serves as a brief overview on Street Tree and Sidewalk Maintenance. For more information on specific requirements, please contact the City of Liberty Lake.

MAINTENANCE STANDARDS

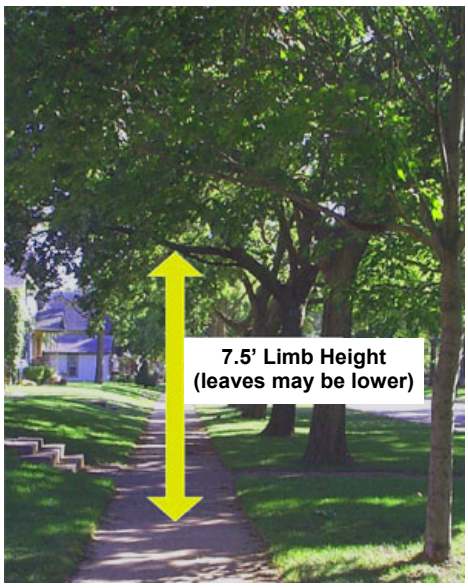
Obstructions to sidewalks, streets, and other rights-of-way.

It is the responsibility of the abutting property owner to keep the adjacent rights-of-way free of anything that obstructs or interferes with the normal flow of pedestrian or vehicular traffic. This responsibility includes, but is not limited to, removal of earth, rock, snow, and other debris, as well as projecting or overhanging bushes and limbs that may obstruct or render unsafe the passage of persons, vehicles and equipment.

- **Sidewalks** - Must be maintained in a safe condition at all times by removing snow and ice, or any accumulation of debris, materials or objects which endanger or interfere with the public convenience in the use of such sidewalks. All sidewalks must be kept clear of all obstructions from edge to edge and to an elevation of 7.5' feet above sidewalk level.

  Examples:

  - Bushes that encroach on or over any part of a sidewalk area must be cut back or removed.
  - Limbs of trees that project over the sidewalk area at an elevation of less than 7.5' feet above the sidewalk level must be removed or pruned accordingly.



- Sidewalk damage from heaving or cracks must be repaired if it creates a trip hazard.
  - For trip hazards less than two inches, please contact the City to participate in the sidewalk grinding program.



- **Streets** - All paved streets must be clear of obstructions to vehicle and equipment movement to an elevation of 13.5' above street level.

  Examples:

  - Bushes that encroach on or over any part of a street must be cut back or removed.
  - Limbs of trees that project over a street at an elevation of less than 13.5' above street level must be removed.
  - No wires or other obstructions shall be maintained over the street level at any elevation less than 13.5'.



- **Alleys and Unpaved Rights-of-Way** - All alleys, unpaved streets, and other public rights-of-way must be clear of obstructions that may hinder the normal flow of traffic or render the right of way unsafe for its current and necessary use.

Pruning Recommendation

If you are hiring someone to prune, treat, or remove a street tree, a Certified Arborist is recommended. Arborists have the experience and training necessary and follow standards to properly prune and shape street trees. Damage caused to street trees by inexperienced pruners can be irreparable and therefore it is recommended to utilize a Certified Arborist. Also, using a Certified Arborist will help ensure the continuity and consistency of trees along streets.

NOTE: TREES THAT HAVE NOT BEEN PRUNED REGULARLY MAY LOOK "CHOPPED" IF PRUNED UP TO 13.5' IN ONE PRUNING SESSION. IT IS ACCEPTABLE TO ACHIEVE THIS HEIGHT OVER A SERIES OF PRUNING SESSIONS WHICH CAN MINIMIZE STRESS TO THE TREE. A CERTIFIED ARBORIST WILL BE ABLE TO PROVIDE GUIDANCE AND MAKE WORKABLE RECOMMENDATIONS.

Tree Care

- **Soil Preparation, Planting, and Care -** The developer or abutting property owner, as applicable, is responsible for ensuring the planting of street trees, including soil preparation, ground cover material, staking, and irrigation (see guidelines on pages 6 and 7). The developer or abutting property owner is also responsible for the tree care (pruning, watering, fertilization, and replacement as necessary). Note: if at any time a street tree is substantially damaged by a vehicle or other means, it is generally the responsibility of the person causing the damage to replace the tree with one of similar species and size.

- **Fertilizing** - Trees should be fertilized in accordance with industry standards and specifications (ANSI 300). It is recommended to keep lawn fertilizers away from the drip line/edge of tree canopy.
- **Cabling and Bracing** - The installation of cabling and bracing tree support systems is a specialized practice and proper training and field experience are necessary to perform these treatments successfully and without damaging the tree. These treatments should be done by a Certified Arborist in accordance with industry standards and specifications (ANSI 300).

Example of professionally pruned City of Liberty Lake street trees.



Tree Care (cont.)

- **Pruning Techniques:**
  - Do not use products to seal cuts, the tree will naturally seal the cut area with its own sap.
  - Use clean, sharp pruning tools.
  - Light pruning and the removal of dead wood can be done in any season.
  - Heavy pruning is best done during dormancy (after leaves fall and before new growth appears).
  - If many lateral limbs must be removed, it is best to complete pruning in two or more sessions.
  - A Certified Arborist is recommended for major pruning, and to prune for strength, shape and structure.
  - Pruning activities may require a Right-of-Way Permit if traffic will be impacted (available on the City website or at City Hall).
  - It is the responsibility of the owner to remove all trimming debris.

- **Tree Topping:** Per the City Tree Ordinance, it is unlawful as a normal practice to top any street tree. Topping is defined as the severe cutting back of limbs to stubs larger than 3" in diameter within the tree's crown to such a degree as to remove the normal canopy and disfigure the tree. Street trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be exempted.

NOTE: THE TREE IN THE PHOTO ABOVE HAS BEEN PROFESSIONALLY PRUNED OVER THE YEARS. IT IS APPARENT THAT THE LOWER LIMBS THEMSELVES ARE LOWER THAN 13.5', HOWEVER, THE LIMBS HAVE BEEN TRAINED AND LIFTED UP OVER THE STREET TO THE NECESSARY HEIGHT WITH EACH PRUNE. THIS IS DONE OVER SEVERAL PRUNING SESSIONS TO TRAIN THE AND TREE ELIMINATING A "CHOPPED" APPEARANCE.

Tree Care, *continued*

- **Irrigation** - All street trees will require extra water at planting to become established. Deep, infrequent watering should be continued for any non-drought tolerant tree variety. Deep, infrequent watering is the preferred method to help drive tree roots down for moisture and will help avoid shallow rooting and sidewalk issues (see guidelines on page 8).
- **Protection** - It is damaging to trees when anything is tacked into the bark of the tree or the tree is hit by a string trimmer. If you must string trim grass around the tree, a trunk protector is inexpensive insurance for protection. If possible, a tree ring in the grass around the tree trunk can help protect the bark from physical damage of mowers and string trimmers.
- **Removal and Replacement** - A Certified Arborist can make the determination that a street tree must be removed due to death, disease or insects, a high risk of failure or hazard, or a tree that is classified as undesirable or currently prohibited as a street tree. Additionally, the City may schedule street tree replacement to upgrade the urban canopy. Per the City Tree Ordinance, if you are hiring someone to remove a street tree, a Certified Arborist is recommended. The application for removal of a street tree is located on the City web site, and is required prior to beginning work. The tree should be replaced, if reasonable, by an approved street tree as determined by the City. Refer to Page 10 of this brochure for a list of approved City street trees.

STREET TREE SELECTION AND PLANTING

Street trees are required in most residential developments. Street tree installation should be based on a landscape plan approved by the City as part of the development approval.

- **Growth Characteristics** - Trees should be selected based on growth characteristics and site conditions, including sidewalk location and available space, overhead clearance, soil conditions, exposure, and desired color and appearance. The following should guide tree selection:
  - Provide a broad canopy where shade is desired.
  - Use low-growing trees for spaces under utility wires.
  - Select trees which can be “limbed-up” where line of vision is a concern.
  - Use narrow or “columnar” trees where awnings or other building features limit growth, or where greater visibility is desired between buildings and the street.
  - Use species with similar growth characteristics on the same block for design continuity.
  - Avoid using trees that are susceptible to insect damage, and avoid using trees that produce excessive seeds or fruit.
  - Select trees that are well-adapted to the environment, including soil, wind, sun exposure, and exhaust. Drought-resistant trees are best in areas with sandy or rocky soil.
  - Select trees for their seasonal color, as desired.
  - Use deciduous trees for summer shade and winter sun.
  - Select trees that do not have invasive roots.

Caliper Size - The minimum caliper size at planting shall be 1¾ inches.

Location - Street trees should be planted within existing and proposed planting strips, and in sidewalk tree wells on streets without planting strips, where applicable. The use of grass in street tree planters is not desirable for trees, therefore a tree ring (36” minimum) around the tree is encouraged to ease turf grass competition.

- **Street Tree Spacing** - Street tree spacing should be based upon the type of tree selected and the canopy size at maturity, in accordance with the three species size classes listed below:
  - Class I Trees - Smaller trees, typical spacing 15-30 feet
  - Class II Trees - Medium sized trees, typical spacing 30-40 feet
  - Class III Trees - Larger trees, typical spacing 40-50 feet
  - Exceptions - special plantings designed or approved by a landscape professional and/the City of Liberty Lake.

- **Distance from Curb and Sidewalk** - The distance trees may be planted from curbs or curblines and sidewalks will be in accordance with the three species size classes listed below, where applicable, and no trees should be planted closer to any curb or sidewalk than the following:
  - Class I & Class II Trees - 3 feet (minimum planting strip width of 6 feet)
  - Class III Trees - 4 feet (minimum plating strip width of 8 feet)

  The City may require increased distances from curbs and/or sidewalks on arterial and collector streets to accommodate snow removal and vertical clearances.

- **Distance from Infrastructure** - Street trees should not be planted closer than:
  - 5 feet from a curb cut for drainage
  - 7 feet from a fire hydrant
  - 10 feet from a dry well
  - 15 feet from a street light, utility pole, or edge of a commercial driveway

- **Utilities** - No street trees other than small trees on Avista's approved list for powerline compatible may be planted under or within 15 lateral feet of any overhead utility wire. Street trees should not be planted over or within 5 lateral feet of any underground water line, sewer line, transmission line, or other utility. Call 811 to locate utilities (at least two days prior to digging).

- **Trees Planted in Proximity to a Street Corner -** Must comply with Clear View Triangle Standards (see page 11).

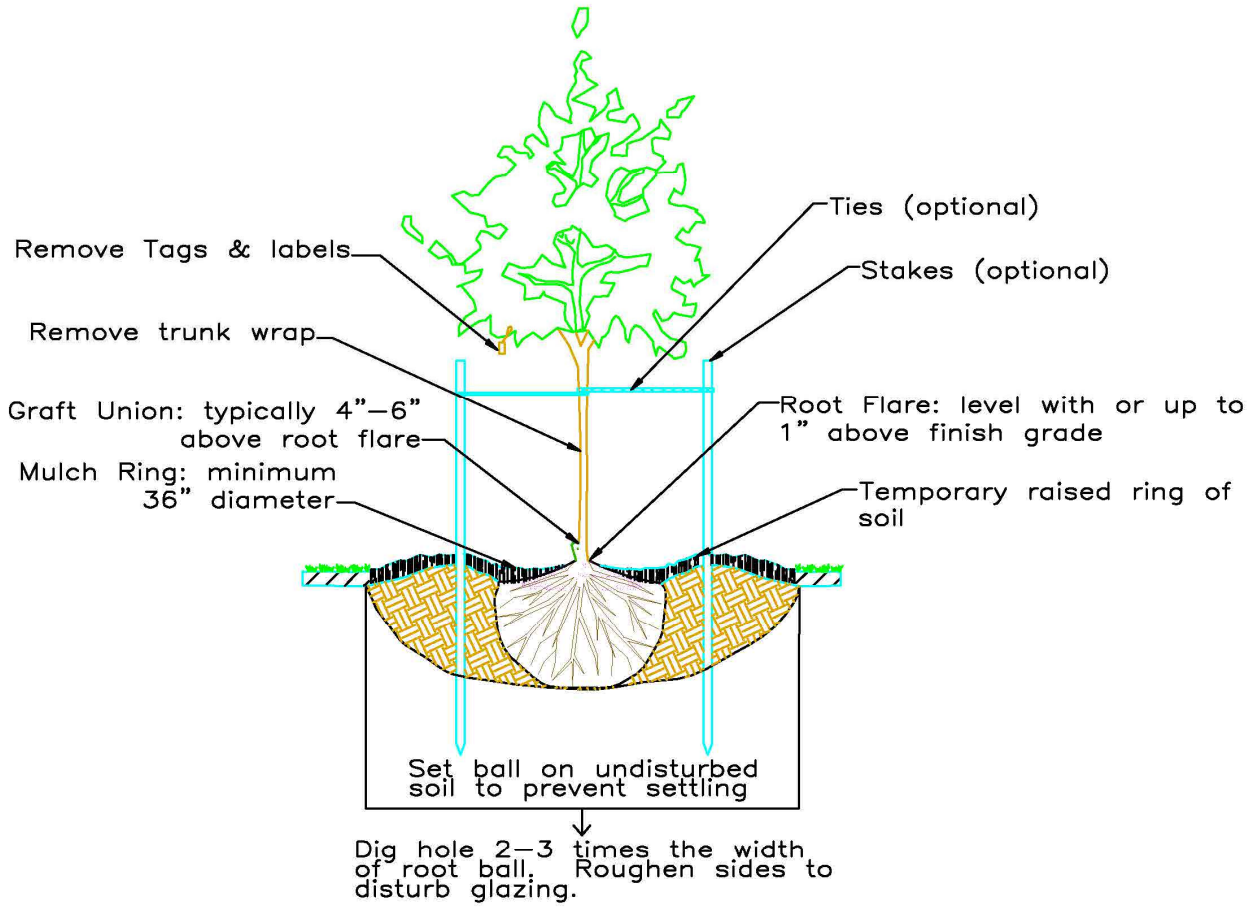
- **Irrigation Systems -** Irrigation systems, to include deep root irrigation, should be installed at the time of tree planting (see installation guidelines on page 8).

- **Root Barriers**- Linear root barriers may be installed in lieu of a deep root irrigation system when planting a street tree located 8 feet or less from hardscape (including, but not limited to pavement, curbing, sidewalks, and pedestrian ramps (see installation guidelines on page 9).



STREET TREE PLANTING GUIDELINES

Balled & Burlapped Trees:

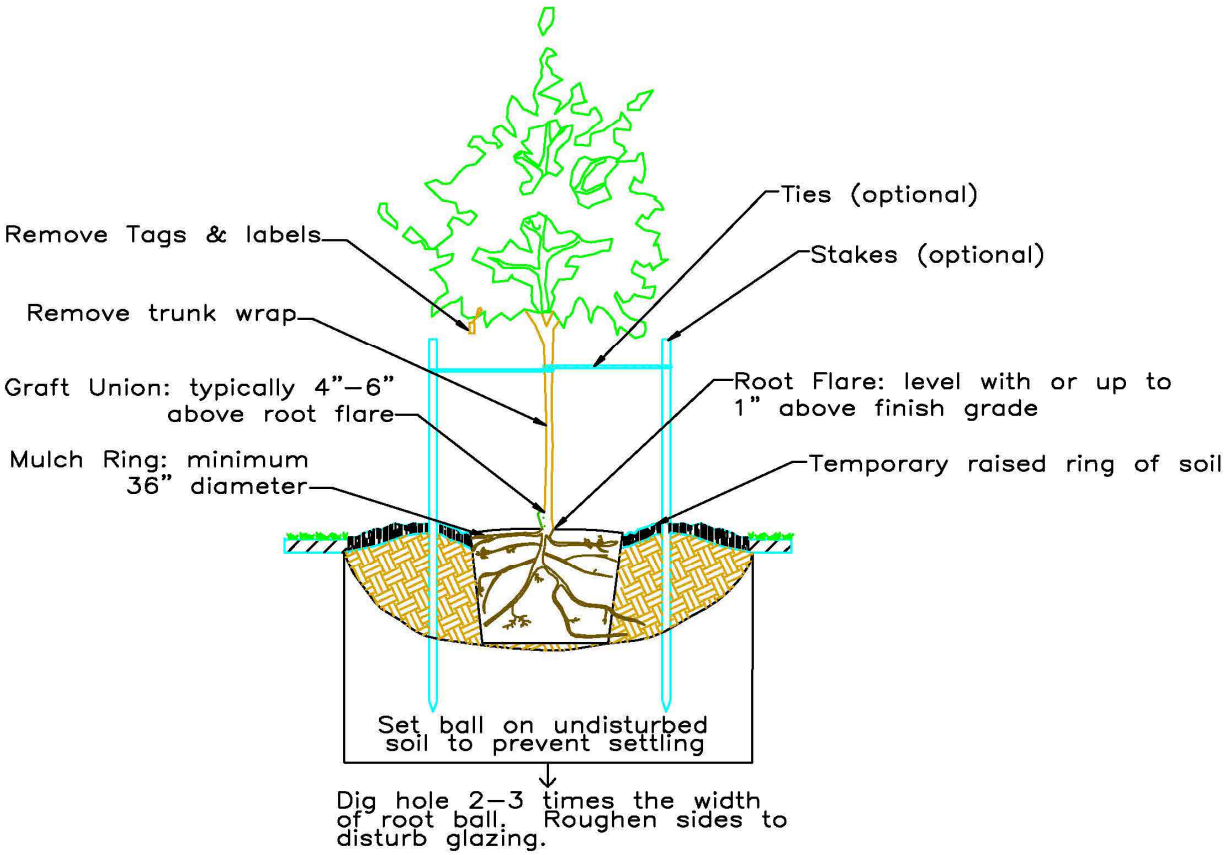


Planting Notes:

1. Plant materials must meet the minimum acceptable standard established within the American National Standard's Institute "ANSI Z60.1, American Standards for Nursery Stock".
2. Prune only broken or damaged branches.
3. Do not apply fertilizer at time of planting.
4. The root flare is the point where the topmost structural root emerges from the trunk. The depth of the root ball shall be measured from the root flare to the bottom of the ball.
5. Remove any excess soil from top of the root ball to expose the root flare. Plant root flare level with or 1" above the finished grade.
6. Remove all wire baskets and rope from root ball. Be careful to keep the root ball intact.
7. Remove burlap from upper 1/2 minimum of the root ball and remove from the planting hole.
8. Straighten or cut and remove any circling roots and scarify the edge of the root ball.
9. Backfill planting hole 2/3 full with existing soil, settle with water, continue to fill with soil, water again.
10. Construct a temporary raised ring of soil at edge of root ball to contain water. Remove or breach for winter.
11. Construct mulch ring with a minimum 36" diameter of aged woody material to a depth of 2 - 4"; leave 3" bare ground between mulch and tree trunk.
12. Stakes and ties are optional. Use only if needed for stability. Set stakes parallel to prevailing wind and outside of the root ball. Ties must be wide (minimum 1") flexible belt-like strapping. Do not use rope or wire. Ties should be tight enough to support the tree while allowing it to sway. Remove stakes and ties within within one year.
13. Trees benefit when irrigated separately from turf. Water new trees during the summer months to a depth of 12" - 18" once per week (about 5 gallons per caliper inch) for the first three seasons. During periods of drought, new trees may need more frequent watering.

STREET TREE PLANTING GUIDELINES

Container Trees:



Planting Notes:

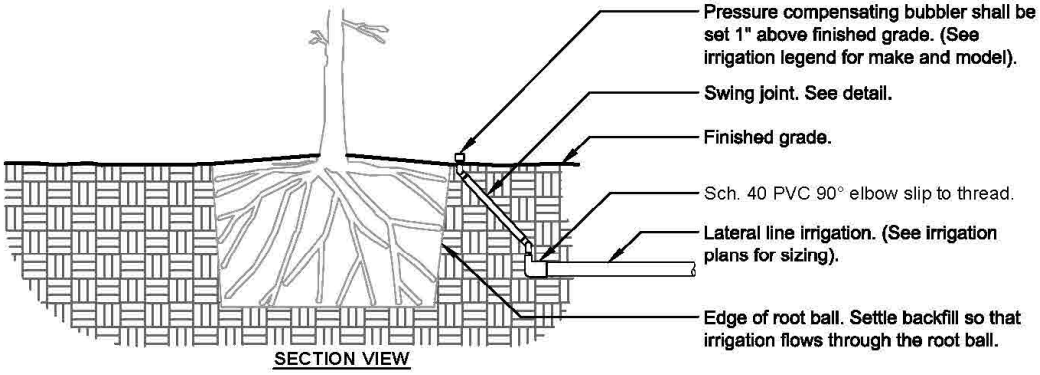
1. Plant materials must meet the minimum acceptable standard established within the American National Standard's Institute "ANSI Z60.1, American Standards for Nursery Stock".
2. Prune only broken or damaged branches.
3. Do not apply fertilizer at time of planting.
4. The root flare is the point where the topmost structural root emerges from the trunk. The depth of the root ball shall be measured from the root flare to the bottom of the ball.
5. Remove any excess soil from top of the root ball to expose the root flare. Plant root flare level with or 1" above the finished grade.
6. Remove container from root ball.
7. Straighten or cut and remove any circling roots and scarify the edge of the root ball.
8. Backfill planting hole 2/3 full with existing soil, settle with water, continue to fill with soil, water again.
9. Construct a temporary raised ring of soil at edge of root ball to contain water. Remove or breach for winter.
10. Construct mulch ring with a minimum 36" diameter of aged woody material to a depth of 2 - 4"; leave 3" bare ground between mulch and tree trunk.
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Deep Root Irrigation System:

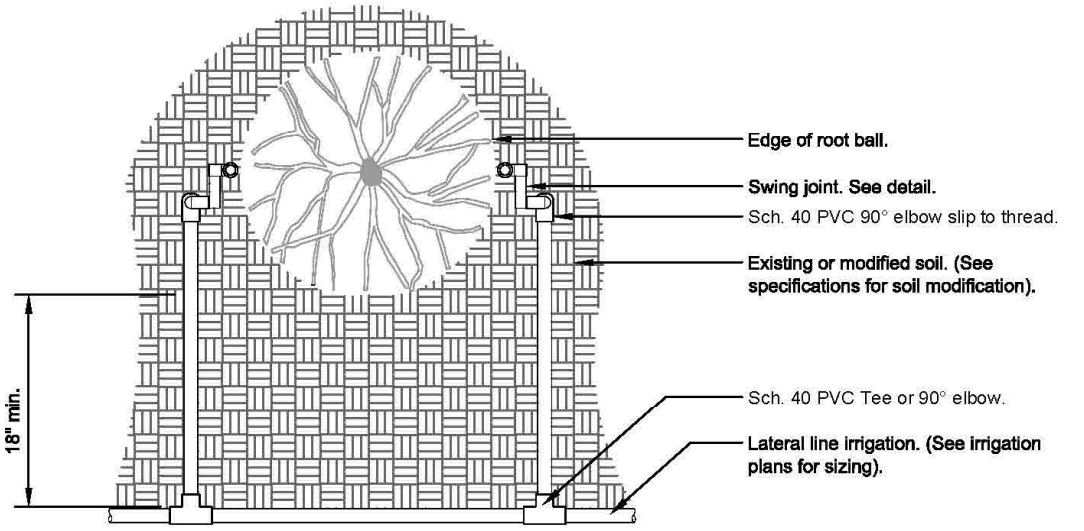
Notes:
1- All irrigation fittings shall be Sch. 40 PVC unless specified otherwise.

2- All threaded connections from Sch. 40 to Sch. 80 PVC shall be made using teflon tape.

3- Contractor shall settle the area around the bubbler and edge of the root ball so that all irrigation flows through the root ball.



SECTION VIEW

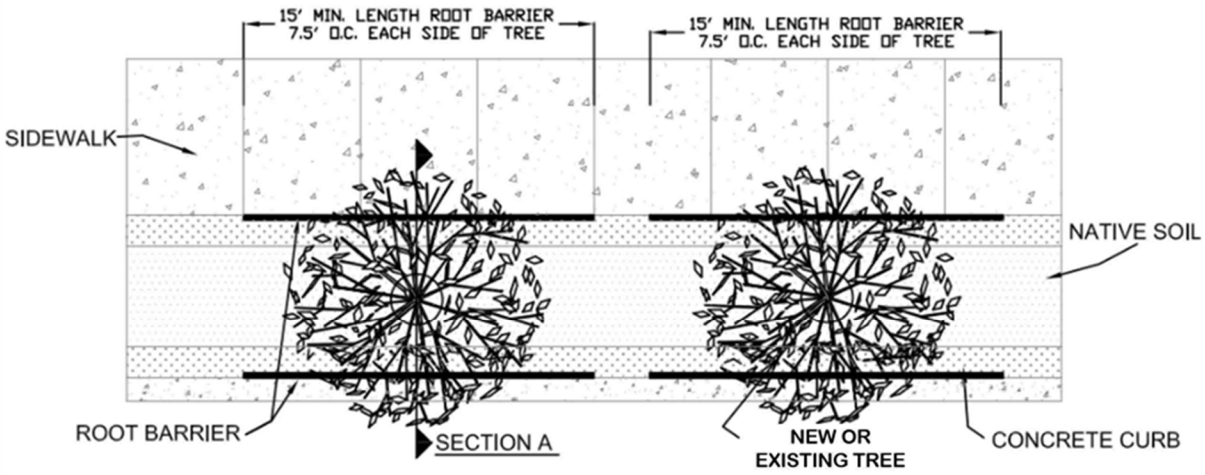


PLAN VIEW

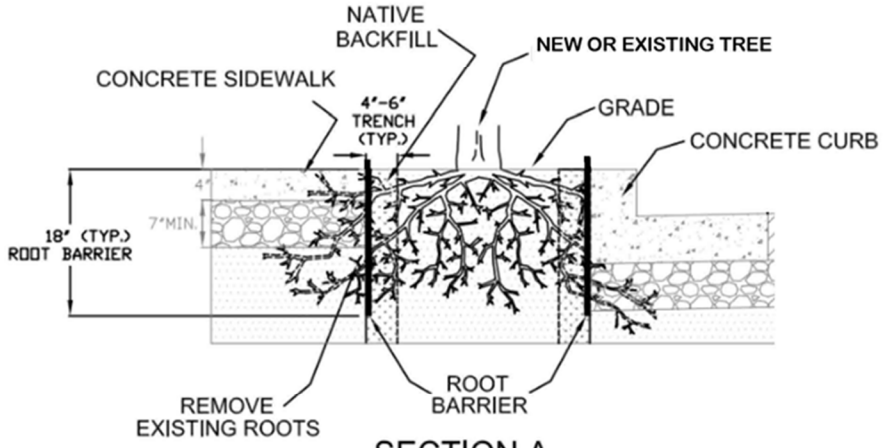
I-X IRRIGATION BUBBLER (2) W/ LAYOUT

URBAN TREE FOUNDATION © 2014
OPEN SOURCE FREE TO USE

Root Barrier System:



PLAN VIEW



SECTION A

NOTES:

1. ROOT BARRIER SHALL BE BLACK, INJECTION MOLDED PANELS OR LINEAR ROLL WITH 90 DEGREE DEFLECTING RIBS.
2. ROOT BARRIER SHALL BE MANUFACTURES WITH 50% POST CONSUMER POLYPROPYLENE PLASTICWITH ADDED ULTRAVIOLET INHIBITORS.
3. INSTALL MINIMUM 18" HIGH ROOT BARRIER.
4. ROOT BARRIERS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.06" (60 MIL) & RIB THICKNESS OF 0.08" (80 MIL).
5. THE VERTICAL ROOT DEFLECTION RIBS SHALL BE FACING INWARDS TO THE ROOT BALL.
6. ROOT BARRIER SHALL BE 15' LONG; 7.5' O.C.FROM TREE UNLESS APPROVED OTHERWISE BY THE CITY.
7. ROOT BARRIER TRENCH SHALL BE 4" WIDE TO 6" WIDE.
8. ROOT BARRIER SHALL BE INSTALLED VERTICAL IN TRENCH ADJACENT TO SIDE WALK AND CURB ABOVE THE SOIL LINE.
9. A CERTIFIED ARBORIST SHOULD BE CONSULTED BEFORE EXTENSIVE CUTTING OF ROOTS ON AN EXISTING STREET TREE.

Street Tree List - The following are examples of acceptable street tree species for each class of trees within the City of Liberty Lake, Washington. Other trees, with similar characteristics may be used with prior permission from the City.

Class I Trees (Small Trees, good for under utility lines) are 20'-30' tall at maturity. Examples include but are not limited to: :

Acer grandidendatum "Schmidt" - Rocky Mt. Glow Maple
Acer ginnala "Flame" - Flame Maple
Acer griseum - Paperbark Maple
Acer tataricum 'JFS-KW2', Rugged Charm Maple
Crataegus x lavallei - Lavalle Hawthorne
Crataegus viridis 'Winter King' - Winter King Hawthorn
Maackia amurensis - Amur Maackia
Malus x 'Spring Snow' – Spring Snow Crabapple (fruitless)
Parrotia persica - Persian Parrotia

Class II Trees (Medium Trees) are 30'-50' tall at maturity. Examples include but are not limited to:

Acer campestre - Hedge Maple
Acer platanoides 'Crimson King' - Crimson King Norway Maple
Acer platanoides 'Deborah' - Deborah Maple
Acer truncatum × *Acer platanoides* 'Shantung Maple' - (including: Crimson Sunset, Norwegian Sunset, Pacific Sunset, Urban Sunset)
Cercidiphyllum japonicum - Katsura Tree
G*leditsia triacanthos* 'Skycole' - Skyline Thornless Honeylocust
Celtis spp. - Hackberry Varieties
Tilia americana 'Redmond' – Redmond Linden
Tilia cordata – Littleleaf Linden
Tilia tomentosa 'Sterling' – Sterling Silver Linden

Class III Trees (Large Trees) are in excess of 50' tall at maturity. Examples include but are not limited to:

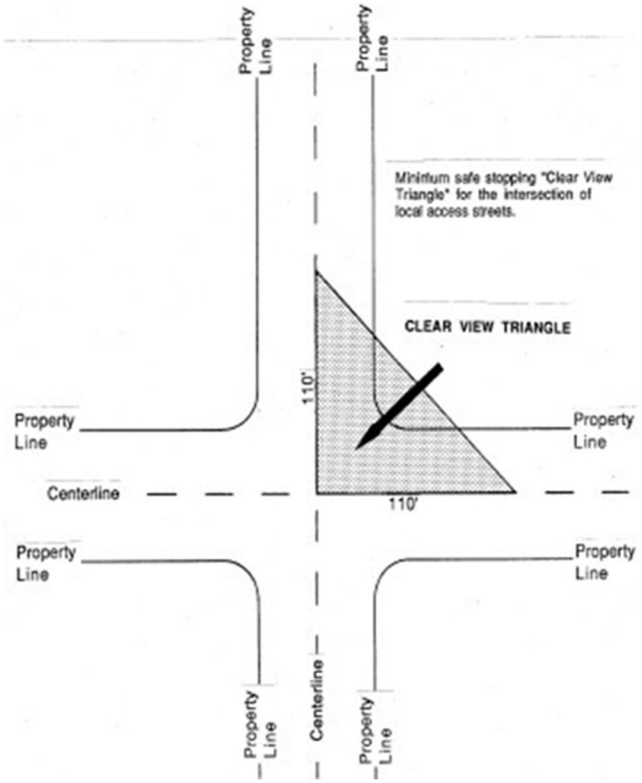
Acer x freemanii 'Autumn Blaze' - Autumn Blaze Maple
Acer saccharum spp. - Sugar Maple Varieties (including Commemoration, Apollo, Green Mountain Legacy
Ginkgo biloba - Maidenhair Tree
Liriodendron tulipifera - Tulip Tree
Liquidambar styraciflua - Sweetgum
Platanus x acerifolia 'Bloodgood' - London Plane Tree
Pyrus calleryana 'Aristocrat' - Aristocrat Pear

Not Recommended. The following tree species are generally not recommended for use as street trees:

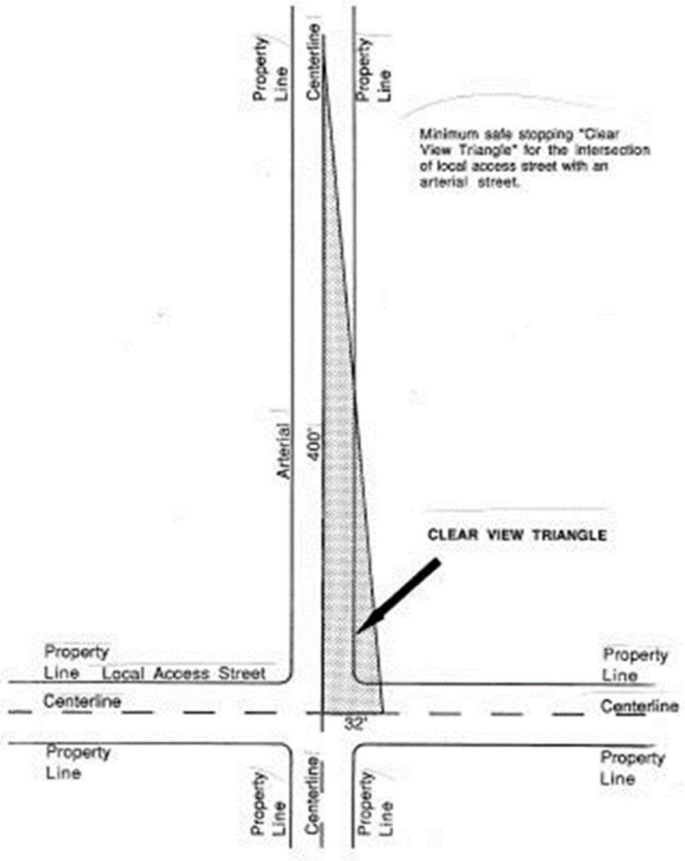
Ailanthus
Ash
Aspens/Cottonwood/Poplars
Birch
Elms
Dogwoods
Fruit trees of any kind (including ornamental fruit trees)
Silver Maple
Willows

CLEAR VIEW TRIANGLE

No signs, structures, or vegetation in excess of three feet in height shall be placed in “vision clearance areas” or "clear view triangle", as described and shown below. Vision clearance standards are based on the American Association of State Highway and Transportation Officials (AASHTO) standards. The following examples are based on a typical single family home situation.



Clear View Triangle for Local Access Streets



Clear View Triangle for Arterial Street









Please note that his document is not intended to address all aspects or regulatory requirements for a project, and should be considered as general guidance.

FOR MORE INFORMATION PLEASE CONTACT:

CITY OF LIBERTY LAKE
22710 E. COUNTRY VISTA DRIVE, LIBERTY LAKE, WA 99019
TELEPHONE: (509) 755-6700
WWW.LIBERTYLAKEWA.GOV

WSU Master Gardeners (www.spokane-county.wsu.edu) and Spokane County Conservation District (http://www.sccd.org) are additional resources for more information on proper tree care and planting.