

ORDINANCE NO. 2020-03

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF WINTER SPRINGS, FLORIDA; AMENDING CHAPTER 5 OF THE CITY CODE REGARDING TREE PROTECTION AND PRESERVATION; PROVIDING CONFORMING AMENDMENTS TO OTHER PROVISIONS OF THE CITY CODE CONSISTENT WITH CHAPTER 5; PROVIDING FOR THE REPEAL OF PRIOR INCONSISTENT ORDINANCES AND RESOLUTIONS; INCORPORATION INTO THE CODE; SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the City is granted the authority, under Section 2(b), Article VIII, of the State Constitution, to exercise any power for municipal purposes, except when expressly prohibited by law; and

WHEREAS, the City Commission finds that trees benefit the City by decreasing urban noise and air pollution, conserving energy, minimizing flooding, providing food and cover for beneficial urban wildlife and providing value and stability to business and residential neighborhoods; and

WHEREAS, the establishment of policies, regulations and standards are necessary to ensure that the City continues to realize the benefits provided by its urban forest as recognized as "Tree City USA" by the Florida Department of Urban Forestry; and

WHEREAS, on June 3, 2020, the City's Land Planning Agency considered and recommended the amendments to the Tree Protection and Preservation Ordinance which will update and improve said Ordinance; and

WHEREAS, the City Commission of the City of Winter Springs, Florida, hereby finds this Ordinance to be in the best interests of the public health, safety, and welfare of the citizens of Winter Springs

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF WINTER SPRINGS, SEMINOLE COUNTY, FLORIDA, AS FOLLOWS:

Section 1. Recitals. The foregoing recitals are hereby fully incorporated herein by this reference as legislative findings and the intent and purpose of the City Commission of the City of Winter Springs.

Section 2. Code Amendment. Chapter 5, Tree Protection and Preservation, of the City Code is hereby amended to read as follows: (underlined type indicates additions to the City Code and strikeout type indicates deletions, while asterisks (* * *) indicate a deletion from this Ordinance of text existing in Chapter 5. It is intended that the text in Chapter 5 denoted by the asterisks and set forth in this Ordinance shall remain unchanged from the language existing prior to adoption of this Ordinance):

CHAPTER 5 – TREE PROTECTION AND PRESERVATION

Sec. 5-1. - Applicability.

This chapter shall be applicable to all land lying in the incorporated area of the City of Winter Springs, Florida and within all zoning districts. To the extent that any provision of this chapter conflicts with any other provision of the city code related expressly to the protection and management of trees, the conflicting provisions of this chapter shall prevail and be given effect over the other conflicting provision.

Sec. 5-2. - Intent and purpose.

- (a) *Intent and Purpose.* The intent and purpose of this chapter is to establish uniform protective and management regulations for trees and land clearing within the city in order to maintain and protect the environment including the city forest.; Trees are a valuable community resource that serve to better control problems of flooding, promote soil conservation, improve air and water quality, pollution and reduce noise and glare, provide habitat for wildlife, moderate the climate, and to make the city a healthier, more attractive and safer place in which to live. Additionally,
- (b) ~~*Intent.* The intent of this chapter is intended to encourage the protection of the maximum number of trees within the primary tree protection zone and of large specimen trees within the secondary tree protection zone. It is further the intent of this chapter to encourage the protection of desirable trees native to Central Florida and to encourage proper removal of exotic, pest trees.~~

To this end, it shall be unlawful to cut down, damage, poison, or in any other manner destroy or cause to be destroyed any tree or other vegetation or engage in unpermitted land clearing as covered by the provisions of this chapter except in accordance with the provisions set forth herein. Notwithstanding, in case of emergencies involving natural disaster such as, but not limited to, flood, freeze or other natural disasters, the requirements of this chapter may be temporarily waived by the city commission by resolution.

Sec. 5-3. - Definitions.

As used in this chapter, the following terms shall have the meanings indicated unless the context clearly indicates otherwise:

- (a) *Caliper.* Measurement of tree twelve (12) inches from soil level.

City Manager. The city manager or designee.

Canopy Tree. A species of tree that naturally develops with an elevated shade crown and which normally grows to a mature height of approximately forty (40) feet or more and/or a shade crown of approximately 30 feet in diameter or more. Such species shall be listed on the Desirable Species list in Appendix B or Appendix C for Approved Streetscape Canopy Tree Types for streetscape trees along S.R. 434 and Tuskawilla Road, and include, but are not limited to, bald

cypress, Chinese elm, Florida elm, live oak, pignut hickory, red maple, sand live oak, southern magnolia, sweetbay, sweetgum, sycamore, water oak and winged elm.

(b) *City*. The City of Winter Springs, Florida.

City trees shall mean all street trees located along a public right-of-way; streetscape trees under chapter 20, article VII of the city code; park and Cross Seminole Trail trees; and trees required to be preserved for the public benefit by development agreement, conservation easement or landscape easement in favor of the city and approved by the city commission.

(c) *City forest*. The aggregate of all city trees which are planted in public places authorized and required to be managed by the City street trees and all park trees.

(d) *Crown*. The mass of branches, twigs and leaves at the top of a tree, with particular reference to its shape.

Destroy or Destroyed. To cause, suffer, allow or permit any act that will effectively cause a tree to die or go into a period of unnatural decline within one year from the date of the act. Acts that may effectively destroy a tree include, but are not limited to, excessive pruning, changing the natural grade above the root system or around the trunk, damage inflicted on the tree permitting infection or pest infestation, application of herbicides or other chemical agents, intentional fire damage to the tree permitting infection or pest infestation, the infliction of a trunk wound or wounds that cumulatively are 20 percent or greater of the circumference of the trunk, or the removal of sufficient canopy to cause the unnatural decline of the tree.

(e) *DBH*. Diameter at breast height measured four and one-half (4½) feet from ground level at the base of tree. If a tree has co-dominant stems at or below four and one-half (4½) feet from ground level, it shall be measured as two (2) separate trees.

(f) *Desirable trees*. Trees that are preferred by the city and particularly adaptive to Central Florida identified as "desirable trees" in Appendix B of this chapter, as may be amended by the city manager or city commission.

(g) *Dripline*. The vertical line running through the outermost portion of the tree crown extending to the ground.

(h) *Encroachment*. The protrusion into a vehicular ~~accessway~~ access way, pedestrian-way, or required landscape area.

(i) *Heavy machinery*. Mechanical land clearing, earth-moving, or earth-working equipment with a gross weight in excess of five thousand (5,000) pounds. For purposes of this chapter, all machinery which utilizes steel tracks for traction shall be considered to be heavy machinery, regardless of weight.

(j) *Historic tree*. A specimen tree which has been found by the city commission to be of notable historic interest to the city based on its age, species, size, historic association, ecological value (such as a tree regularly and historically used as an eagles nest) or unique characteristics. A historic tree may also be known as an heirloom tree or heritage tree.

- (k) *Land clearing (grubbing)*. ~~The disturbance or removal of vegetation using backhoes, bulldozers, root rakes, or similar mechanical means which may kill trees or damage their roots, branches, or trunks. The act of removing or destroying trees, ground cover, and other vegetation by manual, mechanical, or chemical means.~~ Routine lawn mowing, sod replacement, planting of landscape material, shrub pruning, and shrub removal shall not be considered land clearing and grubbing provided no grade change occurs. Removal of understory by bush hog, forestry mulcher, or other means shall not be considered routine mowing when preparing a property for construction or results in trees being removed, destroyed or severely damaged.
- (l) *Person*. Any individual, firm, corporation, partnership, joint venture association, principal, trustee, municipal corporation, political subdivision, or special district, or any agent or representative thereof.
- (m) *Preferred Plant/Tree*. ~~Preferred plants shall mean the plant materials listed in Appendix B: Desirable Trees and shall be of the size specified in the column labeled "Preferred Plant Size/Minimum Height," which may be amended from time to time by the city manager in writing.~~
- (n) *Primary tree protection zone*. This shall mean the front, side and rear yard areas as established and required by the Land Development Code of the city as the same may, from time to time, be amended.
- (o) *Protected area*. An area surrounding a protected, historic, or specimen tree within which physical intrusion is prohibited in order to prevent damage to the tree, roots and soil around the tree base, the dimensions of which shall be established by the city and set forth in the tree removal permit, in accordance with section 5-14.
- (p) *Protective barrier*. Shall be a polygon of 2" × 4" wide stakes spaced a maximum of eight (8) feet from each other at the perimeter of the tree protection zone and which extend out of the ground at least thirty-six (36) inches, with the top four (4) inches marked by ~~fluorescent~~ fluorescent orange paint or tape or such other appropriate barrier to protect protected trees and landscape areas on a site specific basis which is authorized by development permit.
- (q) *Replacement trees*. Replacement trees shall at a minimum comply with the provisions of subsection 5-9.
- (r) *Secondary tree protection zone*. This shall mean all areas not included in the primary tree protection zone. Subdivision street rights-of-way and easements are also defined as being within the secondary tree protection zone.
- (s) *Silviculture*. A process, following acceptable forest management principles, whereby the crops constituting forests are tended, harvested and reproduced.
- (t) *Specimen tree*. A canopy tree, other than an undesirable tree, a structurally unsound tree that cannot be recovered by pruning, dead tree, or diseased tree, that has a DBH of twenty-four (24) inches or more. Specimen trees shall not include laurel oak (Quercus laurifolia), sand pine (Pinus clausa), cherry laurel (Prunus caroliniana) or any tree found on the Florida Exotic Pest Plant Council's Invasive Plant Species List.

- (u) *Stem*. The main trunk of a plant; its primary axis that develops buds and shoots instead of roots.
- (v) *Structure*. Anything constructed, erected or placed, the use of which requires more or less permanent location on or in the ground or attached to something having a permanent location on or in the ground. This definition shall not include sidewalks, walkways, driveways or similar type improvements.
- (w) *Transplant*. The act of relocating an existing tree upon the same lot or such other appropriate location approved by the city.
- (x) *Tree*. Self-supporting woody, perennial plants which have a trunk with a DBH of at least four (4) inches and normally grow to an overall crown height of a minimum of fifteen (15) feet. Cabbage palm greater than fifteen (15) feet tall.
- (y) *Tree protection zone*. Shall mean that area located around the perimeter of the tree in which no activity such as clearing, filling, excavating, storage of materials, parking of vehicles, or any other activity that in the opinion of the city arborist may damage the tree may occur. The tree protection zone shall extend from the trunk of the tree to the dripline. ~~This zone is calculated according to Appendix C to this chapter.~~
- (z) *Tree removal*. Shall mean any act which will cause a tree situated on real property to die within a period of two (2) years from the time of the act including, but not limited to, by cutting, girdling, relocating, interfering with the water supply, applying chemicals, regrading around the base of the tree trunk.
- (aa) *Tree replacement assessment*. Tree replacement assessment shall mean the total amount of monetary compensation owed to the City of Winter Springs may be required by this chapter for the replacement of trees cut, destroyed, or removed as a result of development or redevelopment.
- (bb) *Tree replacement credit*. The tree replacement credit shall be established by the city commission and set forth in Appendix B: Desirable Trees.
- (cc) *Tree trunk*. The main stem of a tree apart from limbs and roots.
- (dd) *Undesirable trees*. All types of trees identified as "undesirable trees" in Appendix A of this chapter as amended from time to time by the city manager in writing.

Windowing. Removing several branches symmetrically within the area of the tree to provide a fully framed view of the scenery that lies beyond the tree.

Sec. 5-4. - Permit required for tree removal and land clearing; separate violations; criteria; contractor permit required.

- (a) *Permit required*. Except as provided in Section 5-4.5 herein, ~~No~~ no person shall engage in tree removal or engage in land clearing located within the city, without first obtaining a permit as provided in this chapter. If a property owner has retained a contractor to perform the land clearing or tree removal, the contractor must have a valid City issued arbor license required by section 5-4(e) and shall ~~be responsible for obtaining~~ obtain the permit required

by this chapter prior to the land clearing or tree removal. If no permit is obtained prior to tree removal or land clearing, the property owner and the contractor (if retained) shall have violated this section. It shall be a separate violation of this chapter for each tree removed and each day a person is engaged in land clearing without a permit.

- (b) Trees that can be removed by permit. Criteria. Upon receipt of a completed application and verification on-site by the city arborist, a permit may be issued for tree removal if it is first determined by the city arborist that under any one of the following limited conditions exists to lawfully justify the tree removal:
- (1) Trees located on building and construction sites or projects as shown on city approved plans, provided said trees are replaced elsewhere on the property in accordance with section 5-9 of this chapter, except that city trees as defined in section 5-3 and historic and specimen trees under section 5-8 shall be preserved to the extent required by this chapter.
 - (2) Trees with a trunk(s) located within ten (10) feet of a structure and that pose a clear hazard or that have caused significant damage to said structure as determined by the city arborist.
 - (3) Trees severely diseased, severely injured or dead.
 - (4) Trees that interfere with the construction or repair of public infrastructure and facilities including utilities.
 - (5) Undesirable trees, per Appendix A.
 - (6) Trees required to be removed by the city or other governmental agency to facilitate necessary public utilities and infrastructure or remove visibility obstructions to vehicle drivers within a intersection visibility triangle and which are located within a public road, drainage rights-of-way, or permanent utilities and drainage easements.
 - (7) ~~Trees that pose a serious threat to persons or property have been approved by the city arborist and which shall be replaced elsewhere on the property.~~
 - (8) Trees that prohibit or have the effect of prohibiting the installation or operation of a solar collector, clothesline, or other energy device based on a renewable resource.
 - (9) All trees and plants, within a licensed tree nursery, planted for harvest shall be exempt from the terms and provisions of this chapter only if trees are planted and growing on the premises of the licensee and are for sale or intended for sale in its ordinary course of business.
 - (10) One tree located on an existing single-family home lot within a 10-year period pursuant to section 5-9(e).
 - (11) Trees that unreasonably interfere with a property owner's established riparian or littoral rights or substantially interfere with and obstruct a substantial portion of a property owner's visibility to a natural water body such as a lake, but only to the extent such right or visibility cannot be secured by tree trimming, pruning or windowing.
- (c) Review guidance standards. To help guide the city in making decisions under this chapter, including identifying which trees listed under section 5-4(b) may be removed, the city shall

consider that the spirit and intent of this chapter is to mitigate against the removal of trees and weigh the following nonexclusive list of factors to the extent relevant and necessary: When making a determination on whether a tree meets one of the conditions set forth in section 5-4(b) and therefore, whether to approve or deny an application under this chapter, the city shall apply one (1) or more of the following standards of review deemed relevant:

- (1) Necessity to remove trees which pose a clear and obvious safety hazard to pedestrian or vehicular traffic or threaten to cause disruption to public services or a significant obstacle to accessing and utilizing public easements and rights-of-way.
- (2) Necessity to remove trees which pose a clear and obvious safety hazard to buildings and other improvements on a lot or parcel of land. Ordinary small cracks or uplifts in pavement, sidewalks, and non-occupied structures that are typically caused by settling and small roots shall not be considered a safety hazard.
- (3) Necessity to remove diseased trees or trees weakened by age, storm, fire or other injury or trees with severe structural defects that pose a clear and obvious safety hazard to people, buildings or other improvements on lot or parcel of land.
- (4) Necessity to remove trees which prohibit or have the effect of prohibiting the installation or operation of a solar collector, clothesline, or other energy device based on a renewable resource. The applicant shall submit operating instructions or other manufacturer guidance setting forth the amount of sunlight exposure required for proper operation of the energy device or other such evidence of the necessity to remove trees.
- (5) The extent to which tree removal is likely to result in damage to the property of other owners, public or private, including damage to lakes, ponds, streams, or rivers through runoff or erosion.
- (6) Any proposed landscaping including plans whereby the applicant has planted or will plant trees to replace those that are proposed to be cleared.
- (7) Topography of the land and the effect of tree removal on erosion, soil retention and the diversion or increased flow of surface water.
- (8) Good forestry practices, such as the number of healthy trees that a given parcel of land will reasonably support and the proven techniques that sustain healthy trees.
- (9) After first exploring whether reasonable alternative design plans are feasible, N
necessity to remove trees in order to construct, approved and permitted improvements to allow economic enjoyment of the property, including:
 - a. Need for access circulation around the proposed structure which are necessary to allow workers to safely utilize for construction equipment (maximum of ten (10) feet).
 - b. Need for providing ingress and egress access to the construction site for use by construction equipment and short term storage of construction equipment and supplies. This ingress and egress should coincide with the ingress and egress approved by the final development permit. access to the building site for construction equipment.

- c. Essential grade changes that otherwise cannot be designed around to avoid tree removal.
 - d. Need for locating street or road rights-of-way, utilities, drainage ways, as well as the need to provide reasonable use and property access.
 - e. Need to gain reasonable vehicle or utility access when no other reasonable alternative exists.
- (10) The extent of any damage or demonstrated hardship which would result to the applicant from a denial of the requested permit.
- (11) The species and size of the trees proposed for removal.
- (12) The following factors shall also be considered:
- a. Trees forming the current canopy.
 - b. Preservation of the next generation of trees.
- (13) Necessity to protect active nests of migratory birds, bird species listed as species of special concern, rare, threatened, or endangered by the Florida Fish and Wildlife Commission, or which a known breeding area for a colony of birds.
- (14) Whenever necessity is a relevant factor in support of removing a tree, the following factors shall also be considered:
- a. The number of trees being preserved on the subject property.
 - b. The extent that the proposed removal causes the least amount of damage to existing trees.
 - c. The extent that the proposed removal results in the maximum amount of mitigation or replacement trees for each tree removed.
- (15) This chapter shall be interpreted so as not to cause a taking or an inordinate burden on a landowner in accordance with law.

The factors listed in this subsection (c) are for guidance purposes only, and do not constitute an independent basis for the granting of a tree removal or land clearing permit.

- (d) *Silviculture exemption.* All trees planted specifically for silvicultural purposes shall be exempt from the provisions of this chapter provided the property owner can provide documentation to the city evidencing that:
- (1) The property is registered as a silvicultural site with the division of forestry; and
 - (2) Trees of typical harvestable size and type exist on the property which are capable of being harvested for income and that the property owner has, or intends to, generate income from the harvested trees.
- (e) *Contractor City issued license required; contractor obtaining permits.* Any person or entity engaged in the business of tree removal or pruning shall be licensed by the city on an annual basis. Licenses may be obtained from the city by completing an application prepared by the city and paying the required license fee. The license application shall contain at a minimum the name, address, and telephone number of the contractor and a copy of the

contractor's local business tax receipt, state license if required and proof of liability and workers' compensation insurance. As a condition of obtaining a license under this subsection, any previously unpaid penalties imposed by the City under section 5-18 shall be paid in full. It shall be unlawful for any person or entity to engage in the business of tree removal or pruning within the City of Winter Springs without a license required under this subsection. It shall also be unlawful for any such person or entity to fail to obtain a permit on behalf of a property owner pursuant to section 5-4(a) of this chapter.

Sec. 5-4.5 – Exemption for tree removal activities authorized and preempted by state or federal law.

Land clearing and tree removal activities authorized and preempted by state or federal law shall be exempt from Section 5-4, Permit Required. Land clearing and tree removal activities authorized and preempted by state or federal law include, but are not limited to:

(a) removal of trees on residential property which pose danger to persons or property in accordance with Section 163.045, Florida Statutes, for which no replacement trees will be required. Property owners removing trees pursuant to Section 163.045, Florida Statutes, shall obtain documentation from an arborist certified by the International Society of Arboriculture or a Florida licensed landscape architect prior to removal of the tree, which demonstrates that the tree is a danger to persons or property and which conforms to industry standards applicable to certified arborists and licensed landscaped architects. For purposes of this section, “residential property” shall be defined as property with a fully constructed single-family home or duplex used for residential purposes, except as provided in this section. The term “residential property” for purposes of this subsection does not include multi-family property; common areas owned by a homeowners or condominium association; vacant land zoned or designated residential or mixed use (e.g., mixed use, town center, and GID) on the City’s official zoning map or future land use map; public rights-of-way; or land subject to particular landscaping, tree planting or preservation requirements pursuant to an executed development agreement, landscape easement granted to the City, or conservation easement.

(b) a right and responsibility granted to an electric utility to clear vegetation away from power lines in order to ensure the safe transmission of electricity to customers, as provided by Florida Statutes and Electric Tariff Rules including the preemption under Section 163.3209, Florida Statutes.

Sec. 5-5. - City arbor division.

(a) *Establishment of office.* ~~There is hereby created within the department of community development, the arbor division. The community development director shall head this office and the city manager shall appoint one (1) or more employees of the department to act in the capacity of arborist for the city.~~

- (b) *Scope of authority.* The city arborist shall be charged with the responsibility and authority to review and oversee all activities within the city limits which involve tree removal, land clearing, or danger to and by any tree. Notwithstanding, the city arborist shall have absolutely no authority to vary any plans, permits, or agreements approved by the city commission.
- (c) *Responsibilities.* The role of the city arborist shall include, but not necessarily be limited to:
- (1) Receiving and processing applications for tree removal, land clearing and other permits under this chapter.
 - (2) Inspection of all property subject to an application.
 - (3) Confirming all information provided by the applicant is correct and accurate.
 - (4) To approve or deny all permit applications required by this chapter unless otherwise expressly stated under this chapter.
 - (5) To issue cease and desist work orders upon persons in violations of this chapter for a maximum of two working days. Upon review of the violation by the city manager, the city manager may extend the cease and desist work order until the violation is brought into compliance and all resulting fines incurred as a result of the violation have been paid. The city manager's decision may be appealed to the city commission pursuant to section 5-16(b) of this chapter.
 - (6) To bring violators of this chapter before the code enforcement board or special magistrate.
 - (7) To issue code enforcement citations for any violation of this chapter.
 - (8) To augment the city's forest by the planting or approval of planting of additional trees on public property.
 - (9) To keep a permanent record of all historic or specimen trees designated by the city commission.
 - (10) To educate the public regarding this chapter and the importance of maintaining a city forest.
 - (11) Provide professional guidance to the city manager regarding the maintenance of city trees under section 5-11, and ~~To~~ handle other related job duties assigned by the city manager.
 - (12) To serve as a member of the staff development review committee.
 - (13) To educate city personnel responsible for tree removal, planting, pruning and landscape maintenance.
 - (14) To assist in implementing, and issue permits in furtherance of, any development agreement, plan, or permit approved by the city commission relating to landscaping and trees.

- (15) To provide professional guidance to the city manager and city commission regarding their respective decision making under this chapter including, but not limited to, historic and specimen trees under section 5-8 of this chapter.

Sec. 5-6. - Permit application.

- (a) *Filing application and payment of fees.* An application for tree removal and land clearing shall be filed on official forms provided by the city's arborist. The applicant shall be required to pay a fee as may be established by resolution of the city commission, except that no fee shall be required for the removal of trees that (i) are dead, diseased, or suffer from severe structural defects, (ii) pose a clear and obvious safety hazard to structures and people, (iii) are removed for a public project sponsored and paid for by the city, or (iv) any tree found on the Florida Exotic Pest Plant Council's Invasive Plant Species List. If the applicant is not the property owner, then the applicant shall attach the written permission of the property owner to the application. All completed applications shall be returned to the arborist, along with the following:
- (1) A tree inventory, for the tree(s) to be removed or the portion of the site to be developed, consisting of a scaled drawing of a scale of one (1) inch equals fifty (50) feet or less for undeveloped land or for developed single family residential land, a sketch approximately one (1) inch equals fifty (50) feet or less indicating:
 - a. Property boundaries.
 - b. The location of all individual trees including the tree's common or scientific name, and DBH of trees.
 - c. An indication of all trees proposed for removal.
 - d. Within the primary tree protection zone, a plan shall designate the trees to be retained and those proposed to be removed, relocated or replaced. Those trees proposed for removal, relocation or replacement shall also be identified by common or botanical name.
 - e. Within the secondary tree protection zone, a plan shall designate the trees to be retained, and those proposed to be removed.
 - f. The location of existing and proposed improvements, if any, including proposed additions to existing buildings, existing and proposed buildings, structures, impervious surfaces (e.g. pool decks, drives, parking areas), stormwater retention areas, utilities, and other such improvements.
 - g. A replacement plan indicating the means of compensating for the tree(s) to be removed including the species and size of any replacement tree(s).
 - h. Location of trees preserved for replacement credit.
 - i. If grade changes are proposed on the site, a grading plan drawn to scale shall be provided. In addition, a written statement shall be provided by a landscape architect or other competent professional indicating the probability of whether the grade

change will result in the death of tree(s) intended to be preserved. Said statement shall immediately be brought to the attention of the city arborist at the time the application is filed and prominently attached to the front of the application.

- j. A protection plan describing how preserved tree(s) shall be preserved on the site and adjacent properties during construction, tree removal, and grading. If encroachments into a specimen tree, historic tree, or city tree required to be preserved, a plan, prepared by an ISA certified arborist, must be submitted with the permit application specifying the methods to be utilized to protect and preserve the tree(s). This plan must address protection of the root system, crown, and stems of the trees, a means of supplying water and essential elements to the root system, and the proposed location of the tree protection barriers.
 - k. An aerial photograph showing the boundaries of the subject property and adjacent properties.
 - (2) Valid reasons for the removal of trees.
 - (3) The appropriate permit fees.
 - (4) A copy of any recorded development agreement, conservation easement or city landscape easement recorded against the subject property.
- (b) *Time for application.* Applications for a tree removal or land clearing permit shall be made prior to removal or clearing; except that in the following cases, application shall be filed when indicated:
- (1) All new subdivisions shall be required to submit an application for a tree removal or land clearing permit, at the time of initial submittal of the subdivision plan, to the city so that due consideration may be given to protection of trees during the subdivision design process. Each application for a tree removal permit shall be subject to review under the staff development review committee process.
 - (2) Any commercial, industrial, multi-family, mixed use or other use requiring final engineering and site plan approval under the city land development regulations shall be required to submit an application for a tree removal and land clearing permit at the time of site plan submittal so that due consideration may be given to the protection of trees during the site plan design process. Each application for a tree removal permit shall be subject to review under the staff development review committee process.
 - (3) All new single-family and duplex dwelling units shall be required to submit an application for a tree removal and land clearing permit at the time of application for a building permit; the tree inventory may be shown on the building permit plot plan.
- (c) *Exempting portion of the tree survey.* Upon request, the city arborist may permit an applicant to omit certain portions of the tree inventory required by section 5-6(a)(1) where compliance with the requirements set forth herein would be unnecessarily burdensome and the exempted portions are not needed for the city to evaluate the application such as in applications unrelated to the new development of buildings, structures or infrastructure on

the subject land, limited only to the removal of one or more isolated and specific trees on already developed land and have no impact on protected city trees.

- (d) *Permit fee.* A nonreturnable permit fee to be established by resolution of the city commission shall be paid for purposes of processing the application, enforcing the provisions of this chapter, and inspecting the real property subject to the application.
- (e) *Posting of permit.* The permit must be posted upon the property and visible from the street to be valid.
- (f) *City commission approved plans, permits, and agreements.* All permits issued by the city arborist under this chapter shall be required to be consistent, and not in conflict, with any plans, permits, or development agreements approved by the city commission. All permits or portions thereof issued by the city arborist in conflict with any approval of the city commission shall be deemed null and void and the approval of the city commission shall remain in full force and effect.

Sec. 5-7. - Tree pruning standards.

- (a) *Standards adopted.* Trees intended for shade purposes shall be allowed to reach mature canopy spread and shall be pruned in accordance with the ANSI A 300 Part I Pruning standard and ANSI Z133.1 safety standard. Pruning should be performed with defined pruning objectives and according to a specific pruning plan to accomplish the objective including the minimum and/or maximum branch size to be removed.
- (b) *Unlawful pruning.* The pruning techniques described in section 5-10(i) of this chapter shall be deemed unlawful.

Sec. 5-8. - Specimen or historic trees.

- (a) *Designation.* Certain trees, herein referred to as "specimen" or "historic" trees, are of especially great concern to the public because of ecological value, of indigenous character, size, age or historic association. Determination that a tree is a historic tree shall be made by resolution of the city commission after a recommendation of the city's arborist, and the city arborist shall keep a permanent record of all trees so designated by the city commission. Specimen trees are all canopy trees (other than trees that are structurally defective or unsound that cannot be recovered by pruning, "~~undesirable trees~~" identified in Appendix A, dead trees or diseased trees) which have a DBH of twenty-four (24) inches or more. Designation as an historic tree may occur in any one of the following ways:
 - (1) An applicant property owner may request designation of an historic tree as part of any master plan, preliminary subdivision plat, or site plan application. To do so, the applicant property owner shall submit an expert evaluation by a landscape architect, horticulturalist, city forester, or other horticultural expert as part of the application.
 - (2) A property owner may request such designation at any time. To do so, the property owner shall submit an expert written evaluation by a landscape architect,

horticulturalist, city arborist or other horticultural expert, or alternatively, request that the city arborist conduct an expert evaluation at no cost to the property owner.

- (3) The city's arborist may recommend such designation at any time including as part of their review of any application for development, stating in writing their reasons for such designation, or may make such designation as part of an overall tree protection planning program for the city or portion thereof.
 - (4) The City Commission may designate, at its sole discretion, a city tree, as defined in section 5-3, a historic tree *sua sponte*, or upon request of a Winter Springs resident, business owner or civic group.
 - (45) Historic tree designations shall be subject to approval by resolution of the city commission and the city commission may grant double tree replacement credits, upon granting an historic tree designation.
- (b) *Removal.* Notwithstanding any other provision of this chapter, specimen or historic trees (hereinafter under this subsection "specimen tree") shall not be removed except for extraordinary circumstances and hardships and only by final permit approved by the ~~city manager~~ city commission pursuant to section 5-6(b) after consideration of a written recommendation by the city arborist and department director and only after the applicant has provided such documentation, as may be required by the city, demonstrating that the applicant has engaged in good faith in the following sequence of actions, in the order shown below, to attempt to preserve, modify, and relocate the specimen tree:
- (1) *Preserve the existing specimen tree on site.* The applicant shall make reasonable efforts to design proposed or existing improvements, including but not limited to the structure, driveway and utilities to accommodate the natural growth of the tree. The applicant shall be required to submit multiple alternate development plans, demonstrating that reasonable efforts to preserve the specimen tree have been made, prior to removal of the specimen tree being approved. The design may include and justify the consideration of any necessary variances or waivers under chapter 20 of the city code. The city may require root barriers as a mitigation measure to address future potential root damage concerns.
 - (2) *Modify the existing specimen tree.* The applicant shall make reasonable efforts to design proposed or existing improvements, including but not limited to, the structure, driveway, and utilities, to accommodate the existing specimen tree with modifications by root pruning or tree pruning that would not cause significant harm to the tree, as determined by an arborist certified by the International Society of Arboriculture, and preserve its well-being as determined under this chapter. The applicant shall be required to submit an opinion of a certified arborist and/or multiple alternate development plans, demonstrating that reasonable efforts to modify the specimen tree have been made, prior to removal of the specimen tree being approved. The design may include and justify the consideration of any necessary variances or waivers under chapter 20 of the city code. The city may require root barriers as a mitigation measure to address future potential root damage concerns.
 - (3) *Relocate the existing specimen tree on-site.* The applicant shall submit documentation from an arborist certified by the International Society of Arboriculture, which conforms to industry standards and which includes an opinion regarding whether the specimen tree may be relocated on-site to a location that can accommodate the natural growth of the tree

without significant harm to the tree. The relocation may include and justify the consideration of any necessary variances or waivers under chapter 20 of the city code. The city may require root barriers as a mitigation measure to address future potential root damage concerns.

(4) *Alternative Design and Removal.* Before removal of the specimen tree may be approved, the applicant shall provide documentation that actions (1)(2) and (3) have been reasonably explored and are not feasible to preserve, modify, or relocate the existing specimen tree(s). Feasibility shall be determined by the city commission after evaluating the prepared alternate development plans and opinion of the certified arborist that the specimen tree(s) cannot reasonably be preserved, modified, or relocated. The alternative development plans shall depict site constraints and design limitations due to the specimen tree(s). The alternate development plans shall also depict possible adjustments of building orientations and other proposed improvements; requests for variances and waivers to accommodate the specimen tree(s); reduction of developable area; and such other design alternatives for the site. The applicant bears the burden of proving it has exhausted feasible development plans to preserve existing specimen tree(s) in order to justify the removal of any existing specimen tree.

(5) *Extraordinary Circumstances and Hardships.* The applicant bears the burden of demonstrating that an extraordinary circumstance and hardship exists to justify the removal of a specimen tree is necessary and can not be preserved in its current location pursuant to the sequence of actions set forth in this subsection (b) and by utilizing the tree removal conditions set forth in section 5-4(b) of this chapter.

(6) *Waiver or Variance Permit Fees.* City permit fees related to any waiver or variance application(s) submitted by an applicant under chapter 20 of the City Code, which are required to preserve the specimen tree(s) under this section, shall be waived by the City.

(7) *Tree Replacement Requirements.* Notwithstanding any other provision of this chapter, for each specimen tree permitted to be removed under this section, replacement of the lost tree canopy resulting from the removal of a specimen tree is imperative. The city may require up to twice the amount of canopy replacement trees or tree bank contribution required for replacement of each DBH protected tree in the category of 16” inches up to 24” inches. Location of the replacement trees shall be on-site and determined by the applicant. If the replacement trees cannot be accommodated on-site because of insufficient planting area as determined by the city arborist, then the applicant shall be required by the city to either plant the replacement trees off-site at a location determined by the city or provide the replacement trees to the city so the city can plant the replacement trees off-site, or, as an alternative, shall provide the tree bank contribution to compensate for those replacement trees that cannot be accommodated on-site.

(8) *Appeal of City manager Decisions.* Final permit decisions made by the city manager are subject to appeal to the city commission pursuant to subsection 5-16(b) of this chapter.

(c) *Historic tree incentives.* Property owners shall receive the following incentives if their property contains one or more designated historic tree(s):

(1) Each historic tree will be placed on the city’s register of historic trees which will contain any historical information about the tree, property owner(s) and its designation. A

legal instrument will be prepared by the city attorney to be executed by the city and property owner and recorded against the land on which the tree is located for purposes of denoting the historic tree designation and protections afforded hereunder and to provide the city ingress and egress to conduct the inspections authorized by this section. Further, the property owner will be provided a small weather resistant ground emblem denoting the historic designation.

(2) With permission of the property owner, the city arborist will conduct a periodic inspection approximately every two (2) years of each historic tree in order to evaluate the health and well-being of each historic tree. Such inspection will be at no cost to the property owner.

(3) To the extent that a permit is required under this chapter to trim or maintain a historic tree, the fee shall be waived.

(4) Upon request of and with the permission of the property owner, the city arborist will conduct an inspection of the historic tree after a storm or other catastrophic event in which a historic tree has suffered significant damage.

Sec. 5-9. - Tree replacement guidelines.

- (a) *Tree replacement.* All trees that are removed or destroyed and subject to replacement by this chapter shall be replaced by a species of tree cited in Appendix B, ~~desirable trees~~ Desirable Trees, or cited in Appendix C for Approved Streetscape Canopy Tree Types for streetscape trees along S.R. 434 and Tuskawilla Road, or such other trees properly approved by the city arborist provided the replacement satisfies the minimum guidelines set forth in this chapter including, but not limited, size, not an invasive species, and Florida Grades and Standard One (1) or better plant. Replacement shall occur prior to the issuance of a certificate of occupancy (if approval is pending) or within sixty (60) days of removal or destruction, whichever date is earlier, unless a greater replacement period is provided for good cause by permit.
- (b) Criteria for replacement trees is as follows:
- (1) *Characteristics of replacement trees.* Canopy trees are preferred replacement trees under this chapter. The replacement tree(s) shall have the maximum amount of potential shade canopy feasible and sustainable on the site as required by the city, but no less than at least equal shade canopy potential, screening properties, and/or other characteristics comparable to that of the tree(s) requested to be removed.
 - (2) *Size of replacement trees.* Replacement tree(s) are to be made according to the tree replacement standards set forth in Table 1 [at the end of this section]; or (2) otherwise agreed upon by the city commission and applicant.
 - (3) *Tree species.* Relocated or replacement trees shall include only species and sizes defined as desirable trees (Appendix B) under this chapter.
 - (4) *Transplanting and maintenance requirements.* All trees transplanted pursuant to this chapter shall be maintained in a healthy, living condition. Any such trees which die shall be replaced and maintained by the property owner. The city shall retain jurisdiction for one (1) year to ensure compliance with this chapter.

(5) *Waivers of replacement tree(s) specifications.*

- a. *General waivers.* The number of required replacement trees may be waived by the city commission, if the city commission determines that the remaining number of trees to be preserved on site are of sufficient number and quality to substantially comply with the purpose and intent of this chapter and a tree replacement fee is paid to the city's "tree bank," which is hereby established. Monies collected in the tree bank shall be used for enhancement and maintenance of city trees on public lands. The contribution to the tree bank may be waived by the city commission for individual homeowners, on a case-by-case basis, if the homeowner can demonstrate that the payment of the fee will cause the homeowner an undue economic hardship. Substitute tree(s) allowed under this waiver provision must have the approval of the city commission. The amount to be paid into the tree bank shall be set forth in Table 1 and should be based upon wholesale market value of the trees being replaced, plus installation and maintenance costs to establish the tree.
- b. *Renewable resource waivers.* The tree replacement and tree bank requirements of this section shall not apply if a permit based on sections 5-4(b)(8) and 5-4(c)(4) is issued. If the permittee does not maintain and operate the permitted energy device for at least three (3) years, the permittee must replace the removed trees or pay a tree replacement fee to the city's tree bank as required by this section.

(6) *Replacement guidelines.* The following tree replacement guidelines shall apply:

- a. All plant material specified shall be Florida Grades and Standard One (1) or better.
- b. For each tree located within a public conservation area (excluding jurisdictional wetlands determined by the St. John's River Water Management District or the U.S. Army Corp of Engineers, or as depicted on Map V-3: Existing Wetlands in the City of Winter Springs Comprehensive Plan) dedicated to the city as part of a development project, three (3) replacement tree credits may be applied to the total number of trees required to be replaced by this chapter. However, the minimum tree requirement set forth in section 5-13 shall still apply. Such public conservation area must be at least one (1) acre with widths not less than one hundred twenty-five (125) feet, unless otherwise approved by the city commission. In addition, trees approved by the city arborist to reforest such conservation area shall also be applied to the replacement requirement on a one-for-one basis.
- c. If the city commission determines, due to site conditions or configuration, it is impossible or impracticable for the applicant/developer to meet the requirements for tree replacement, under this subsection, the city commission may allow the applicant/developer to pay into the city's "tree bank" the amount it would have spent on replacement trees.
- d. Tree replacement credit above the 1:1 standard replacement requirement shall be allowed for the installation of preferred canopy trees and plants that are specifically listed in accordance with the provisions set forth in Appendix B: Desirable Trees and Appendix C: Approved Streetscape Canopy Tree Types for streetscape trees along S.R. 434 and Tuskawilla Road, provided the desirable tree is listed with an additional replacement credit score of above 1:1.

- e. In addition, for new development projects, tree replacement credit shall be allowed for the preservation of existing Desirable Trees on the development site, excluding wetland areas and existing conservation areas, as follows:

DBH of Preserved Tree	Reduction in Replacement Trees
4" up to but not including 9"	1 credit
9" up to but not including 12"	2 credits
12" up to but not including 16"	3 credits
16" up to but not including 24"	4 credits
Specimen and Historic Trees	0 credits, <u>unless otherwise agreed by the city for extraordinary efforts and commitments made to preserve a specimen or historic tree up to a maximum of 5 credits per tree</u>

- ef. Trees planted under a ~~powerline~~ power line shall not exceed a mature height of twenty-five (25) feet unless otherwise prohibited by the electric utility or law.
- fg. Diversity of species shall be required for replacement trees and not more than twenty (20) percent of the replacement trees shall be of a single species unless an alternative landscape plan is approved by the city commission.
- gh. All landscape plans shall be prepared by a landscape architect licensed by the State of Florida, unless the city determines the proposed landscaping or tree removal has a ~~de minimus~~ de minimis impact on the property.
- (c) *Replacement cost.* The property owner shall be responsible for the cost of replacing the trees removed from their property.
- (d) *Elimination of undesirable trees and shrubs.* The natural vegetative communities existing within the city shall be protected by the control and elimination of invasive, nonnative species. To that end, the following guidelines shall apply:
- (1) Planting of trees and shrubs listed in Appendix A, Undesirable Trees, is prohibited.

- (2) Removal of trees and shrubs listed on Appendix A, Undesirable Trees, from commercial, office, industrial, or multifamily sites (excluding jurisdictional wetlands) shall be completed, whenever practicable, as a requirement for approval of any development permit issued by the city or the issuance of a certificate of occupancy if applicable.
- (3) Control and elimination procedures shall in no way promote the proliferation of the species through the dispersal of seed or other vegetatively reproducing parts.
- (4) Control and elimination procedures shall in no way harm or cause the decline of preserved or planted trees and landscaping.
- (e) *Limited exception for existing single-family lots.* Notwithstanding any other tree replacement standard set forth in this section, a tree removal permit for a single tree shall be granted, as a matter of right without replacements required, for each existing single family home lot, provided the city arborist determines that:
 - (1) The tree is not a specimen or historic tree;
 - (2) The tree canopy covering the pervious portion of the lot after removal of the tree will be greater than fifty (50) percent; and
 - (3) A permit under this subsection (e) had not been granted during the preceding ten-year period.

TABLE 1. TREE REPLACEMENT STANDARDS

DBH of Protected Tree	Number of Replacement Canopy Trees Required for Each Tree Removed		Number of Replacement Small Trees or Palms Required for Each Tree Removed		Preferred Desirable Plant		Contribution to Tree Bank*
4' up to but not including 9"	1	or	1	or	Preferred Desirable Plant(s) w/Credits	or	\$150.00 <u>300.00</u>
9" up to but not including 12"	2	or	2	or	Preferred Desirable Plant(s) w/Credits	or	\$300.00 <u>600.00</u>

12" up to but not including 16"	3		Not allowed	<u>or</u>	Preferred Desirable Plant(s) w/Credits	<u>or</u>	\$450.00 900.00
16" up to but not including 24"	4		Not allowed	<u>or</u>	Preferred Desirable Plant(s) w/Credits	<u>or</u>	\$600.00 1,200.00
< ≥24"	To Be Preserved <u>See Section 5-8</u>		To Be Preserved Not allowed		To Be Preserved See Section 5-8		To Be Preserved See Section 5-8
<p>*These amounts may be adjusted biannually to compensate for increases to costs of plants as well as to costs of installation and establishment.</p>							

Sec. 5-10. - Prohibitions.

- (a) *Placement of materials, machinery, or temporary soil deposits.* It shall be unlawful to place material, machinery, or temporary soil deposits within the tree protection zone, ~~as calculated according to Appendix C: Calculating Tree Protection Zone~~, before or during construction. Before or during construction the builder shall erect and maintain suitable protective barriers around all trees to be preserved. Upon written request, the city arborist, on a case by case basis, may allow material or temporary soil deposits to be stored within the protective barrier if no other storage is available.
- (b) *Climbing spurs.* It shall be unlawful to use climbing spurs or other similar device to aid in the climbing of a live tree, where such device causes the puncture or tears the bark of the tree.
- (c) *Tree spiking.* It shall be unlawful to introduce any type of poison or reactive material to a tree for the purpose of causing it to die or become diseased.
- (d) *Structure and pavement location.* It shall be unlawful to place any structure or impervious paving within eight-foot radius of any tree trunk or stem having a DBH of four (4) inches or more at caliper.

- (e) *City trees.* It shall be unlawful to trim, prune, or remove any city tree ~~which is within the city's rights of way or upon any other city property~~ without the permission of the city evidenced by the appropriate permit.
- (f) *Attachment.* It shall be unlawful to attach anything to a tree or stem, including nails or spikes, having a DBH of four (4) inches or more, other than protective wires, braces or other similar noninjurious materials.
- (g) *Cut and fill guidelines.* It shall be unlawful to remove or add any material or ground within the tree protection zone unless otherwise permitted by the arborist.
- (h) *Encroachment of the dripline.* During the construction stage of development, the developer or property owner shall not cause or allow land clearing, the use of heavy equipment or material within the dripline of any tree or groups of trees to be retained. Neither shall the developer cause or allow the disposal of waste material such as paint, oil, solvents, asphalt, concrete, mortar or any other material harmful to the life of a tree within the dripline of any tree or groups of trees, or where planting beds are to be situated.
- (i) *Girdling, Shearing, hat racking, topping or poodle trimming of trees (lollipop), lions-tailing, pollarding of Trees.* Trees intended for shade purposes shall be allowed to reach their mature canopy spread. It shall be unlawful to engage in excessive pruning techniques on trees intended for shade purposes. Excessive shearing, pruning or shaping shall only be allowed with a permit by demonstrating necessity or without a permit in times of emergency only. The following are deemed unlawful excessive pruning techniques which are prohibited on shade trees:
 - (1) *Lions tailing:* The improper practice of removing most secondary and tertiary branches from the interior portion of the canopy leaving most live foliage at the edge of the canopy.
 - (2) *Topping, hatracking, stag heading, de-horning, lopping, and rounding over:* the improper practice of reducing tree size by making heading cuts through a stem more than two (2) years old; a pruning practice that destroys tree architecture and serves to initiate discoloration and perhaps decay in the cut stem.
 - (3) *Pollarding:* The pruning technique that removes sprouts back to the same location annually or biannually maintaining a tree to a specific height.
 - (4) *Shearing:* A pruning technique which is typically accomplished with cuts made through wood less than a year old at the sides of the canopy to create uniform dense canopies.
 - (5) *Poodle trimming:* Combines shearing and removing lower limbs to create tree forms that look like a "lollipop."
- (j) *Construction near adjacent property.* Walls, structures, and pavement shall not be constructed in any way which will result in damage to roots within the tree protection zones of trees located on adjacent properties.
- (k) *Destruction.* It shall be unlawful to destroy a tree unless authorized under this chapter.

Sec. 5-11. – ~~Reserved~~ City trees; Care and maintenance.

(a) The city manager in consultation with the city’s arborist is responsible for the care, maintenance and protection of city trees. The city manager will make reports and requests for funds for the maintenance and protection of city trees to the city commission as necessary to comply with the spirit and intent of this chapter.

(b) Property owners must submit a complete permit application to the city arborist to request written permission by the city manager or city commission to remove, alter or trim any city tree. Any approved removal, alteration or trimming will be determined at the city’s sole discretion, and if the requested activity is permitted by the city, it must be performed by a contractor licensed under this chapter. Property owners failing to obtain the permission required hereunder for removing, altering or trimming city trees shall be deemed a violation of this chapter under Section 5-10(e). In addition, property owner may also be liable to the city for any city tree removed or damaged in violation of any applicable terms and conditions set forth in any easement or development agreement.

Sec. 5-12. - Permit contents; expiration; removal after expiration of permit.

(a) *Permit contents.* The tree removal permit, when issued, shall specifically identify which trees shall be permitted to be removed. The removal permits merely authorize the removal of the trees specified therein. Nothing in this chapter shall be construed to require the removal of such trees by the permittee.

(b) *Permit expiration.* ~~Any permit issued under this chapter shall automatically expire six (6) months after issuance, except for permits issued in conjunction with a building permit which shall automatically expire six (6) months after issuance or at such time the building permit expires, whichever is later. (g) *Time limitation and Expiration.* Permits issued under this chapter shall expire and become null and void if work authorized by such permit is not commenced within 180 days from the date of the permit, or if work is commenced and suspended or abandoned at any time for a period of 180 days. However, if the permit is issued in conjunction with and in furtherance of a development permit approved by the city commission or building permit issued by the building official, the permit will expire at such time the development permit or building permit expires.~~

(c) *Restrictions on tree removal after permit expiration.* Trees not removed during the life of the permit may not be removed without the issuance of a new permit based upon a new application.

(d) *Permit display.* The permit shall be located and maintained upon the site at all time until final inspection or until issuance of a certificate of occupancy if applicable. For new developments, the permit shall be attached to the "posting board" with other permits. For existing developments and existing single-family residences, the permit shall be displayed so as to be easily visible from the street.

Sec. 5-13. - Minimum tree requirement.

No certificate of occupancy shall be issued on the types of construction indicated below unless the underlying parcel has at least the required minimum number of approved trees:

- (a) Any new single-family or duplex dwelling unit on a lot of less than six thousand (6,000) square feet or greater: not fewer than two (2) trees.
- (b) Any new single-family or duplex dwelling unit on a lot equal to six thousand (6,000) square feet: not fewer than two (2) trees plus one (1) additional tree for each four thousand(4,000) square feet over six thousand (6,000) square feet.
- (c) Any commercial, industrial, multi-family or other structure requiring site plan approval under the city land development regulations: no fewer than six (6) trees or four (4) trees per acre, whichever is greater.

Sec. 5-14. - Tree protection during development and construction; periodic inspection.

- (a) *Restrictions during construction.* It shall be unlawful for any person, during the construction of any structures or other improvements, to place solvents, petroleum products, paint or masonry materials, construction machinery or temporary soil deposits within the dripline of any tree for which a tree removal permit is required but has not been obtained. This provision includes soil that is placed in the dripline permanently for the purpose of a grade change, unless the grade is changed according to the guidelines described in the *Florida Division of Forestry, Department of Agriculture and Consumer Services Publication, Tree Protection Manual for Buildings and Developers.*
- (b) *Burden of tree protection on property owner.* It shall be the responsibility of a property owner and their agents to ensure that any tree shown on the tree inventory for which a tree removal permit has not been obtained is to be protected. The property owner shall guarantee survival of retained trees and replacement trees for one (1) year from completion of permitted construction, unless a greater time period is required by development agreement. If a retained or replacement tree dies during that time period, the property owner shall replace the tree in accordance with a remedial action approved under section 5-17 of this chapter.
- (c) *Protective barriers and signage required.* Protective barriers shall be installed prior to construction (~~as determined using Appendix C: Calculating Tree Protection Zone~~) around every tree or group of trees to be preserved. Waterproof, rigid "Protection Zone Area" signs, as shown on Appendix D: Tree Protection Area Signage and not smaller than two (2) feet by three (3) feet shall be posted at 100-foot increments along the protective barriers. Should a private party fail to install the required tree protection barrier, the city reserves the right to install the required tree protection barrier and charge the private party conducting the work for the city's materials and labor associated with the installing of the barricade. A sample tree protection barricade is set out below.
- (d) *Site inspections.* The city arborist may conduct periodic inspections of the site. It is the responsibility of the property owner and their agents to ensure that all provisions of this chapter are met.

- (e) *Adjacent properties.* The property owner and their agents shall ensure that the tree protection zones of trees located on adjacent properties are protected as required by this chapter for trees located on the site being developed.

Sec. 5-15. - Voluntary tree planting.

This chapter shall not be interpreted to restrict, regulate or limit the voluntary planting of any tree within the city. The provisions of this chapter govern only the planting of trees which are required to be planted or retained under this chapter. Trees or plants planted in the city's rights-of-way are subject to removal or trimming by the city at any time.

Sec. 5-16. - Waivers; incentive program and appeals.

- (a) *Waivers.* The city commission may grant a waiver to provisions of this chapter where the applicant demonstrates that the literal interpretation of the chapter will deny the applicant reasonable use of the property or where such waiver can be demonstrated to be consistent with the purpose and intent of the chapter. The preservation of any approved tree over four (4) inches in DBH may be considered as the basis for the granting of a waiver from the literal application of the provisions of the city's land development regulations. If, in the determination of the city commission, the sole basis for the request for waiver is to preserve such tree which would otherwise have to be removed, it may direct any required waiver fee to be waived.
- (b) *Appeals.* ~~Any person adversely affected by an~~ Appeals of an administrative interpretation of this chapter by the city arborist may ~~first appeal that interpretation be made~~ to the city manager by filing a written notice of appeal of said interpretation within ten (10) calendar days of said interpretation. Only the property owner where the interpretation is specifically applicable or affected contractor may file such an appeal. The city manager shall decide said appeal within five (5) business days. Any such property owner or contractor person ~~person~~ adversely affected by an administrative decision of the city manager under this chapter may appeal that interpretation to the city commission by filing a written notice of appeal of said interpretation within thirty (30) calendar days of said interpretation. Failure to file an appeal within the time periods required by this subsection shall result in the administrative interpretation to be declared final and shall be deemed a waiver of the person's right to further appellate review and proceedings. The city commission shall decide said appeal within thirty (30) days of the city's receipt of said notice of appeal and the city commission's decision shall be final. Except for the mandatory time periods required for the notice of appeal, the time periods required for a decision may be extended by mutual agreement between the city and the property owner person ~~person~~ filing the notice of appeal. Notwithstanding the aforesaid, the city manager and city commission may review any decision regarding trees and land clearing on public property or city trees sua sponte, and such decisions are not a quasi-judicial decision and not appealable. The city retains sovereign immunity in all decisions related to trees and land clearing on public property and as otherwise provided by law.

- (c) *Incentive program.* The city commission reserves the right to offer and approve incentives for purposes of protecting and preserving mature trees and planting enhanced landscaping. Such incentives shall have a public benefit and may include, but are not limited to, varying provisions of the city's land development regulations (e.g. reduced parking; modified setbacks) and providing credits to city development fees. Any incentives granted under this subsection shall be consistent with the comprehensive plan and shall be by development agreement or other formal approval.

Sec. 5-17. - Remedial action.

- (a) *Violations require remedial action.* Where violations of this chapter have occurred, remedial action shall be taken to restore the property consistent with a restoration plan approved by the city arborist or the city commission if the violation is inconsistent with plans, permits, or agreements approved by the city commission. The restoration plan may require mitigation of any other damage to the property, as well as tree replacements.
- (b) *Tree replacement remediation requirements.* Each tree destroyed or receiving major damage during construction must be replaced by either a comparable size and desirable type of tree as listed within Appendix B or providing a contribution to the tree bank equal to four (4) times the contribution listed on Table 1. Tree Replacement Standards [following section 5-9] or planting four (4) ~~preferred~~ desirable trees or plants listed within Appendix B before issuance of a certificate of occupancy or certificate of completion.
- (c) *Property owner to guarantee survival of replaced trees.* The property owner shall guarantee the survival of the trees required to be placed under subsection (b) above for a period of two (2) years from the date the certificate of occupancy or certificate of completion is issued, unless a greater time period is required by development agreement. Such guarantee shall include maintaining regular and appropriate irrigation or water source such as watering bags necessary to adequately sustain the well-being and survival of the replacement trees. If the replacement tree dies, the tree shall be replaced in accordance with this section.

Sec. 5-18. - Enforcement; penalties.

- (a) *Enforcement.* The city may enforce the provisions of this chapter by any lawful means including, but not limited to, issuing a civil citation, bringing charges before the city's code enforcement board or special magistrate, and seeking injunctive and equitable relief. For purposes of determining the penalties provided under this chapter, the removal or death of a tree in violation of this chapter shall be deemed irreparable or irreversible.
- (b) *Penalties.* In addition to all other remedies set forth in this chapter or any applicable agreement between the city and a property owner, one or more of the following civil fines shall apply to violations of this chapter:

- (1) *Failure to obtain a permit under section 5-4(a):* Fine of two hundred fifty dollars (\$250.00) per tree or five hundred dollars (\$500.00) per specimen or historic tree removed, or five hundred dollars (\$500.00) per quarter acre of land cleared, whichever is greater, not to exceed five thousand dollars (\$5,000.00). The fine under this subsection is in addition to the fine provided in subsection (2) or (3) for removal of tree without a permit.
 - (2) *Removal of a tree without a permit:* Fine of fifty dollars (\$50.00) per caliper inch, not to exceed five thousand dollars (\$5,000.00) per tree.
 - (3) *Removal of a specimen or historic tree without a permit:* Fine of one hundred dollars (\$100.00) per caliper inch, not to exceed five thousand dollars (\$5,000.00) per tree.
 - (4) *Failure to abide by a cease and desist order issued under this Chapter:* Fine of five hundred dollars (\$500.00) per day.
 - (5) *Failure to obtain a contractor's license under section 5-4(e):* Fine of two hundred fifty dollars (\$250.00) (1st offense); five hundred dollars (\$500.00) (2nd and each subsequent offense). In addition, if a contractor continues to engage in work without a contractor's license under this chapter in violation of a written cease and desist issued by the city, the penalty for failure to obtain a contractor's license under this subsection shall be increased \$250.00 per day for continued activity without a license after the cease and desist was issued.
 - (6) *Failure to abide by the requirements of section 5-10 of this Chapter:* Fine of two hundred fifty dollars (\$250.00) per occurrence.
 - (7) *Any other violation of this chapter:* Fine as provided by law and this chapter.
- (c) *Civil fine determination.* In determining the amount of the civil fine under subsection (6) above, the following factors shall be considered:
- (1) The gravity of the violation.
 - (2) Any actions taken by the violator to correct the violation.
 - (3) Any previous violations of this chapter committed by the violator.
 - (4) The number and size of the trees removed, if any.
 - (5) The historical significance of any tree removed if the tree was deemed historic.
 - (6) Whether the violation is irreparable or irreversible in nature.
 - (7) The remedial actions offered by the violator to restore the property consistent with this chapter.
 - (8) Whether the violation was willful and intentional or in violation of an express provision of an agreement in which applicable rights were provided to the city.

Sec. 5-19. - Authorization to adopt rules and regulations and fees for implementation.

The city commission is hereby authorized to adopt, by resolution, such rules and regulations and fees as are necessary or proper to implement this chapter.

APPENDIX A UNDESIRABLE TREES

Common Name	Botanical Name
Mimosa, silk tree	<i>Albizia julibrissin</i>
Woman's tongue	<i>Albizia lebbek</i>
Orchid tree	<i>Bauhinia variegata</i>
Bischofia	<i>Bischofia javanica</i>
Carrotwood	<i>Cupaniopsis anacardioides</i>
Australian pine	<i>Casuarina litorea</i> (= <i>C. equisetifolia</i>)
Suckering Australian pine	<i>Casuarina glauca</i>
Camphor tree	<i>Cinnamomum camphora</i>
Laurel fig	<i>Ficus microcarpa</i>
Glossy privet	<i>Ligustrum lucidum</i>
Chinese privet, hedge privet	<i>Ligustrum sinense</i>
Melaleuca, paper bark	<i>Melaleuca quinquenervia</i>
Chinaberry	<i>Melia azedarach</i>
Catclaw mimosa	<i>Mimosa pigra</i>
Strawberry guava	<i>Psidium guajava</i>

Guava	<i>Psidium Montana (=P. littorale)</i>
Downy rose-myrtle	<i>Rhodomyrtus tomentosa</i>
Popcom tree, Chinese tallow tree	<i>Sapium sebiferum</i>
Schefflera, Queensland umbrella tree	<i>Schefflere actinophylla (=Brassaia actinophylla)</i>
Brazilian pepper, Florida holly	<i>Schinus terebinthefolius</i>
Tung-oil tree	<i>Aleurites fordii</i>
Paper mulberry	<i>Broussonctia papyrifera</i>
Australian pine	<i>Casuarina cunninghamiana</i>
Indian rosewood, sissoo	<i>Dalbergia sissoo</i>
Ear-pod tree	<i>Enterolobium contortisilquum</i>
Goldenrain tree	<i>Koelreuteria elegans</i>
Lead tree	<i>Leucaena leucocephala</i>
Senegal date palm	<i>Phoenix reclinata</i>
Castor bean	<i>Castor bean</i>
Rose-apple	<i>Syzygium jambos</i>

APPENDIX B DESIRABLE TREES

Common Name	Botanical Name	Replacement Tree Size/Minimum Height	Preferred Replacement Plant and Tree Size/Minimum Height	Replacement Credits Preferred Plant	Notes
Canopy Trees					
Bald cypress	<i>Taxodium distichum</i>	15 gal.; 6' min. hgt.	25 gal.; 10' min. hgt.	2:1	30—70' mature height, deciduous, bronze fall color, chartreuse spring color
Bald cypress	<i>Taxodium distichum</i>		65 gal.; 14' min. hgt.	3:1	
Black gum, swamp tupelo	<i>Nyssa sylvatica var. biflora</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	2:1	50—75' mature height, orange-red fall color, deciduous, prefers wet soils
Carolina cherry laurel	<i>Prunus caroliniana</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	2:1	40' mature height, evergreen, glossy leaves, black fruits
Chinese elm (Drake)	<i>Ulmus parviflora</i>	15 gal.; 9' min. hgt.	30 gal.; 10' min. hgt.	1:1	Medium tree, evergreen, attractive bark, fine texture
Dahoon	<i>Hex cassinia</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	2:1	40' mature height, evergreen, red fruits of female trees
Dahoon	<i>Hex cassinia</i>	15 gal.; 6' min. hgt.	65 gal.; 10' min. hgt.	3:1	
Florida elm	<i>Ulmus americana</i>	15 gal.; 6' min. hgt.	30 gal.; 7' min. hgt.	3:1	60—70' mature height, deciduous, long living

	<i>floridana</i>				shade tree
Laurel oak	<i>Quercus laurifolia</i>	15 gal.; 6' min. hgt.	N/A		100' mature height, begins to deteriorate about 50 years
Live oak	<i>Quercus virginiana</i>	15 gal.; 7' min. hgt.	30 gal.; 10' min. hgt.	2:1	100—150' mature height, majestic spread, evergreen, long-lived
Live oak	<i>Quercus virginiana</i>	—	65 gal.; 12' min. hgt.	4:1	
Live oak	<i>Quercus virginiana</i>		FG; 4.5" min. caliper	5:1	
Longleaf pine	<i>Pinus palustris</i>	15 gal.; 6' min. hgt.	30 gal.; 9' min. hgt.	3:1	80—125' mature height, high branching
Pignut hickory	<i>Carya glabra</i>	15 gal.; 6' min. hgt.	30 gal.; 9' min. hgt.	2:1	40—80' mature height kernel <u>kernel</u> inside nut is edible, shade tolerant
Red maple	<i>Acer rubrum</i>	15 gal.; 8' min. hgt.	30 gal.; 10' min. hgt.	2:1	50—120' mature height, red spring flowers, orange-red fall color
Red maple	<i>Acer rubrum</i>	—	65 gal.; 12' min. hgt.; 3" caliper	4:1	
Red maple	<i>Acer rubrum</i>	—	FG; 4" caliper	4:1	
Sand live oak	<i>Quercus geminata</i>	15 gal.; 6' min. hgt.	FG; 3" min. caliper	5:1	Small to medium size tree, dark green leaves, asymmetric form

Slash pine	<i>Pinus elliottii</i>	15 gal.; 6' min. hgt.	30 gal.; 9' min. hgt.	3:1	80—125' mature height, high branching
Southern magnolia	<i>Magnolia grandiflora</i>	15 gal.; 6' min. hgt.	30 gal.; 8' min. hgt.	3:1	60' mature height, large glossy leaves, showy white flowers
Southern magnolia	<i>Magnolia grandiflora</i>	—	65 gal.; 10' min. hgt.	4:1	
Southern magnolia	<i>Magnolia grandiflora</i>	—	FG; 12' min. hgt.; 2.5" cal	5:1	
Sugarberry, hackberry	<i>Celtis laevigata</i>	15 gal.; 6' min. hgt.	30 gal.; 8' min. hgt.	2:1	60—80' mature height, fruit attracts birds, large graceful form, prefers moist soils, soft wood
Sweetbay	<i>Magnolia virginiana</i>	15 gal.; 6' min. hgt.	FG; 10' min. hgt.	3:1	60' mature height, creamy white flowers, seed cone with bright red seeds, evergreen leaves with whitish undersides, prefers wet soils
Sweetgum	<i>Liquidambar styraciflua</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	3:1	60—120' mature height, yellow fall color, deciduous, seeds in spiny burs
Sycamore	<i>Platanus occidentalis</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	3:1	80—100' mature height, varicolor bark, golden fall color, deciduous
Water ash, Carolina ash	<i>Fraxinus caroliniana</i>	15 gal.; 6' min. hgt.	N/A		30—40' mature height, soft wood, bright green compound leaves,

					prefers moist areas
Water oak	<i>Quercus nigra</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	2:1	95' mature height; du bluish green foliage shade tree
Winged elm	<i>Ulmus alata</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	3:1	50—80 feet mature height, corky winged bark; rusty fall color

Small Understory Trees

Camelia	<i>Camelia spp.</i>	FG; 8' min height	FG; 8' min height	2:1	Showy spring flower
Carolina willow	<i>Salix caroliniana</i>	15 gal.; 6' min. hgt.	N/A <u>15 gal.; 6' min. hgt.</u>		20—30' mature height good for erosion control, soft green foliage, black ridged bark, prefer's <u>prefer's</u> moist to wet soils
Chapman oak	<i>Quercus chapmanii</i>	15 gal.; 4' min. hgt.	N/A <u>15 gal.; 4' min. hgt.</u>		Small tree, evergreen prefers well-drained soils
Chickasaw plum	<i>Prunus angustifolia</i>	15 gal.; 6' min. hgt.	30 gal.; 6' min. hgt.	3:1	Small spreading tree armed, white flower before leaves emerge in spring
Crape myrtle	<i>Lagerstroemia</i>	15 gal.; 6' min. hgt.	30 gal.; 8' min. hgt.; standard	1:1	Showy flowers, evergreen
Devils-walking-stick	<i>Aralia spinosa</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		15-20' mature height umbrella-like crown large white flower clusters, spines,

					spreads freely
Festive holly	<i>Hex X Festive™</i>	15 gal.; 4' min. hgt.	30 gal.; 6' min. hgt.	1:1	Pyramidal evergreen spiny foliage, 10' mature height
Florida anise tree	<i>Illicium floridanum</i>	15 gal.; 40" min. hgt.	N/A <u>15 gal.; 40" min. hgt.</u>		20' mature height, maroon-red flowers prefers moist soils, compact and dense form
Flowering dogwood	<i>Comus florida</i>	15 gal.; 6' min. hgt.	FG; 3.5" min. caliper	3:1	20—30' mature height showy white spring bracts, red autumn color
Fringe tree	<i>Chionanthus virginicus</i>	15 gal.; 5' min. hgt.	30 gal.; 6' min. hgt.		20—30' mature height upright branches forming dome shape white delicate flowers golden fall color
Hercules-club, pricklyash	<i>Zanthoxylum clava-herculis</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		Small armed tree, deciduous
Japanese privet	<i>Ligustrum japonicum</i>	15 gal.; 5' min. hgt.	30 gal.; 6' min. hgt.	2:1	15' mature height, evergreen, upright spreading form
Little Gem magnolia	<i>Magnolia grandiflora 'Little Gem'</i>	15 gal.; 6' min. hgt.	30 gal.; 7' min. hgt.	3:1	20—25' mature height showy white flowers dark green glossy leaves
Little Gem magnolia	<i>Magnolia grandiflora 'Little Gem'</i>	—	65 gal.; 10' min. hgt.	4:1	

Loquat	<i>Eriobotrya japonica</i>	15 gal.; 6' min. hgt.	30 gal.; 8' min. hgt.	2:1	Medium tree, evergreen, dark green foliage, dark yellow fruits, fruits edible
Musclewood, American hornbeam	<i>Carpinus caroliniana</i>	15 gal.; 6' min. hgt.	15 gal.; 6' min. hgt.	2:1	Small tree, deciduous, prefers moist to occasionally wet soil, prefers shade to partial shade, trunks "musclewood-like"
Myrtle oak	<i>Quercus myrtifolia</i>	15 gal.; 5' min. hgt.	15 gal.; 5' min. hgt.	2:1	Small, scrubby tree, evergreen, prefers dry soils
Oakleaf holly	<i>Hex X 'Oakleaf'</i>	15 gal.; 6' min. hgt.	30 gal.; 8' min. hgt.	1:1	14—20' mature height, upright to pyramidal form, evergreen, red berries, oak-shaped leaves
Podocarpus, Nagi	<i>Podocarpus nagi</i>	15 gal.; 6' min. hgt.	N/A <u>15 gal.; 6' min. hgt.</u>		40' mature height, strongly upright, symmetrical branching, evergreen, dark green foliage
Podocarpus, Yew	<i>Podocarpus macrophyllus</i>	15 gal.; 6' min. hgt.	N/A <u>15 gal.; 6' min. hgt.</u>		50' mature height, evergreen, compact, foliated to ground, dark green foliage
Red mulberry	<i>Morus rubra</i>	15 gal.; 6' min. hgt.	N/A <u>15 gal.; 6' min. hgt.</u>		Small tree, large leaves, edible fruits, attracts birds
Redbud	<i>Cercis canadensis var.</i>	15 gal.; 6' min. hgt.	15 gal.; 6' min. hgt.	2:1	20—35' mature height, rosy purple spring flowers, deciduous,

	<i>canadensis</i>				high branching, sensitive to auto pollutants
Redbud	<i>Cercis canadensis var. canadensis</i>	—	30 gal.; 8' min. hgt.	3:1	
Rusty Lyonia, staggerbush	<i>Lyonia ferruginea</i>	15 gal.; 6' min. hgt.	N/A 15 gal.; 6' min. hgt.		20—25' mature height; rusty colored new growth, evergreen, crooked and asymmetric form
Silverthorn	<i>Elaeagnus pungens</i>	15 gal.; 6' min. hgt.	N/A 15 gal.; 6' min. hgt.		20' mature height; sprawling, weeping form; leaves with silvery undersides
Southern red cedar	<i>Juniperus silicicola</i>	15 gal.; 6' min. hgt.	30 gal.; 7' min. hgt.	3:1	25' mature height, evergreen with reddish-brown bark. prefers neutral soils. symmetrical when young, often asymmetric and windswept with age
Sparkleberry	<i>Vaccinium arboreum</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		20—30' mature height; red fall color, deciduous
Sweet/Tea Olive	<i>Osmanthus fragrans</i>	15 gal.; 5' min. hgt.	15 gal.; 5' min. hgt.	1:1	20' mature height, evergreen, open, foliage restricted to branch tips
Tabebuia	<i>Tabebuia spp.</i>	15 gal.; 6' min. hgt.	30 gal.; 10' min. hgt.	1:1	Height variable, not strongly frost hardy

Titi	<i>Cyrilla racemiflora</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		15—30' mature height; prefers acid to very acid soils, prefers moist to wet soils, wide spreading branches, white racemes of flowers in early summer
Tortulosa juniper	<i>Juniperus chinensis 'Tortulosa'</i>	15 gal.; 5' min. hgt.	25 gal.; 7' min. hgt.	1:1	
Tough bumelia	<i>Bumelia tenax</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		Small tree, coppery leaf undersides, scrubby form
Turkey oak	<i>Quercus laevis</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		20—30' mature height; copper fall color; deeply lobed leaves; prefers sandy, well-drained soils
Walter's viburnum	<i>Viburnum obovatum</i>	15 gal.; 5' min. hgt.	25 gal.; 7' min. hgt.; standard	2:1	12—20' mature height; white spring flower clusters, prefers moist to wet soils
Wax myrtle	<i>Myrica cerifera</i>	15 gal.; 5' min. hgt.	25 gal.; 7' min. hgt.	2:1	15—20' mature height; dark blue, chalky fruits; olive green foliage, evergreen, low maintenance
Wax myrtle	<i>Myrica cerifera</i>	—	FG; 12' min. hgt.	3:1	
Weeping willow	<i>Salix babylonica</i>	15 gal.; 8' min. hgt.	30 gal.; 10' min. hgt.	1:1	15—25' mature height; draping linear leaves

Wild olive	<i>Osmanthus americanus</i>	15 gal.; 5' min. hgt.	N/A <u>15 gal.; 5' min. hgt.</u>		15—25' mature height olive-green foliage, beautiful shape in light shade to sun
Yaupon	<i>Hlex vomitoria</i>	15 gal.; 5' min. hgt.	25 gal.; 7' min. hgt., standard	3:1	20—25' mature height red-orange translucent fruits, evergreen, often multi-trunked
Yaupon	<i>Hlex vomitoria</i>		65 gal.; 10' min. hgt., standard	4:1	
Palms					
Cabbage palm	<i>Sabal palmetto</i>	10' min. hgt.	15' min. hgt.; clear trunk	2:1	50—80' mature height, long lived
Cabbage palm	<i>Sabal palmetto</i>	—	18' min. hgt.; clear trunk	3:1	
Canary Island date palm	<i>Phoenix canariensis</i>	15 gal.; 40" min. hgt.	30 gal.; 7' min. hgt.	1:1	60' mature height, diamond patterned trunk, evergreen, feather-like fronds
Date palm	<i>Phoenix dactylifera</i>	15 gal.; 3' min. hgt.	FG; 10' min. hgt.; clear trunk	1:1	80' mature height, pinnate

					leaves to 10' long, grey-green color
European fan palm	<i>Chamaerops humilis</i>	15 gal.; 3' min. hgt.	15 gal.; 3' min. hgt.; multiple	1:1	15' mature height, palmate fronds, gray-green color
Needle palm	<i>Rhapidothymum hystrix</i>	15 gal.; 3' min. hgt.	25 gal.; 4' min. hgt.; triple	5:1	3-8' mature height, prefers moist soil, evergreen, palmate fronds, declining native species
Pindo palm	<i>Butia capitata</i>	15 gal.; 3' min. hgt.	25 gal.; 6' min. hgt.	1:1	20' mature height, pinnate fronds fine texture, blue-green color
Pygmy date	<i>Phoenix</i>	15 gal.; 3' min.	25 gal.; 5' min. hgt.;	1:1	8' mature

palm	<i>roebelenij</i>	hgt.	triple		height
Sago palm, King	<i>Cycas revoluta</i>	15 gal.; 3' min. hgt.	30 gal.; 4' min. hgt.	1:1	20' mature height, dark green feather- like leaves
Sago palm, Queen	<i>Cycas circinalis</i>	15 gal.; 3' min. hgt.	30 gal.; 4' min. hgt.	1:1	20' mature height, dark green feather- like leaves
Washington palm	<i>Washingtonia robusta</i>	15 gal.; 3' min. hgt.	25 gal.; 7' min. hgt.	1:1	60' mature height, palmate leaves, rapid growth, develops "shag" of hanging dead fronds, good as avenue tree
Washington palm	<i>Washingtonia robusta</i>	15 gal.; 4' min. hgt.	65 gal.; 10' min. hgt.	1:1	

Windmill Palm	<i>Trachycarpus fortunei</i>	15 gal.; 3' min. hgt.	25 gal.; 5' min. hgt.	1:1	20' mature height, palmate fronds, gray-green color
min. hgt. = minimum height					
min. calliper <u>caliper</u> = minimum calliper <u>caliper</u>					
gal. = gallon					
FG = field grown					

APPENDIX C: APPROVED STREETSCAPE CANOPY TREE TYPES FOR STREETSCAPES ALONG S.R. 434 AND TUSKAWILLA ROAD

<u>Canopy Trees</u>		
<u>Common Name</u>	<u>Botanical Name</u>	<u>Required Specs</u>
<u>Live Oak</u>	<u>Quercus Virginiana</u>	<u>4 inch caliper at dbh</u>
<u>Sycamore</u>	<u>Plantanus Occidentalis</u>	<u>3.5 inch caliper at dbh</u>
<u>Red Maple</u>	<u>Acer Rubrum</u>	<u>3 inch caliper at dbh</u>
<u>Southern Magnolia</u>	<u>Magnolia Grandiflora</u>	<u>3 inch caliper at dbh</u>
<u>Drake Elm</u>	<u>Ulmus Parvifolia</u> <u>Sempervirons "Drake"</u>	<u>3 inch caliper at dbh</u>
<u>Winged Elm</u>	<u>Ulmus Alata</u>	<u>3 inch caliper at dbh</u>

<u>Understory Trees</u>		
<u>Common Name</u>	<u>Botanical Name</u>	<u>Required Specs</u>
<u>Tree Ligustrum</u>	<u>Ligustrum Japonicum</u>	<u>8 ft. x 8 ft. spread</u>
<u>Crape Myrtle</u>	<u>Lagerstoremia Indicia</u>	<u>12 ft. multi or standard</u>
<u>Redbud</u>	<u>Cercis Canadensis</u>	<u>12 ft. height</u>
<u>Tabebuia</u>	<u>Tabebuia Spp.</u>	<u>12 ft. height</u>

The City Manager or designee reserves the right to approve or deny a proposed tree selection from the approved streetscape tree listings, pursuant to Section 20-605 of the City Code.

APPENDIX C CALCULATING TREE PROTECTION ZONE

The following guidelines shall be applied to determine the Tree Protection Zone:

1. Evaluate the species tolerance of the tree: good, moderate, or poor (See list on next page)
2. Identify tree age: young (<20% of the tree's life expectancy), mature (20% – 80% of the tree's life expectancy), or overmature (>80% of the tree's life expectancy)
3. Using the table below, find the distance from the trunk that should be protected per inch of trunk diameter.
4. Multiply the distance by the trunk diameter to calculate the optimum radius (in feet) for the tree protection zone.

Example:

A healthy 60-year-old, 30" diameter California black walnut (poor tolerance, mature age)

$1.25' \times 30" = 37.5'$ radius tree protection zone.

Species Tolerance	Tree Age	Distance from trunk feet (per inch trunk diameter)
Good	Young	0.5'
	Mature	0.75'
	Overmature	1.0'
Moderate	Young	0.75'
	Mature	1.0'
	Overmature	1.25'
Poor	Young	1.0'
	Mature	1.25'
	Overmature	1.5'

Source: *Trees and Development, a Technical Guide to Preservation of Trees During Land Development*, Nelda Matheny and James Clark, 1998, International Society of Arboriculture, Champaign, IL

		Relative Tolerance—Assigned either by source or by Matheny		
Common Name	Scientific Name	and Clark	Comments	Source
Balsam fir	<i>Abies balsamea</i>	Good	Tolerant of root loss and saturated soils.	Hightshoe
White fir	<i>Abies concolor</i>	Moderate	Tolerant of root loss. Intolerant of saturated and high salt soils.	Day, Hightshoe
Acacia	<i>Acacia</i> spp.	Poor	Intolerant of root injury.	Matheny & Clark
Florida maple	<i>Acer barbatum</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Vine maple	<i>Acer circinatum</i>	Good	Best retained as clumps.	Peepke
Chalk maple	<i>Acer leucoderme</i>	Poor	Response is site dependent.	Coder
Bigleaf maple	<i>Acer macrophyllum</i>	Good	Select specimens with good crown structure.	
			Tolerant of root pruning and injury but not of fill.	Beck
Bigleaf maple	<i>Acer macrophyllum</i>	Poor	Declines following addition of fill.	Dunster

Box-elder	<i>Acer negundo</i>	Good	Tolerant of root loss and saturated soils. May tolerate some fill. Select superior individuals for preservation.	Coder, Hightshoe, Sydnor
Striped maple	<i>Acer pensylvanicum</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Norway maple	<i>Acer platanoides</i>	Moderate-good	Moderately tolerant of root pruning.	S. Clark, Fraedrich
Sycamore maple	<i>Acer pseudoplatanus</i>	Moderate	—	Gilbert
Red maple	<i>Acer rubrum</i>	Moderate-good	Response probably associated with geographic location. Tolerant of root pruning and saturated soils.	Coder, Fraedrich, Hightshoe
Silver maple	<i>Acer saccharinum</i>	Poor-moderate	Likely to slowly die back following root injury (Day). May tolerate some root pruning (Praedrich) or loss (Hightshoe). Some tolerance for crown reduction pruning, fill soils and saturated soils. Response variable within species (Coder)	Coder, Day, Fraedrich, Hightshoe, Sydnor
Sugar maple	<i>Acer saccharum</i>	Poor-moderate	Tolerant of root loss. Intolerant of saturated and fill soils.	S. Clark, Hightshoe, Sydnor
Mountain maple	<i>Acer spicatum</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder

California buckeye	<i>Aesculus californica</i>	Good	—	Matheny & Clark
Red horse-chestnut	<i>Aesculus x camea</i>	Good	Shows good resistance to "contractor pressures."	Gilbert
Yellow buckeye	<i>Aesculus flava</i>	Poor	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Ohio buckeye	<i>Aesculus glabra</i>	Poor	Intermediate tolerance to root loss and saturated soils. Poor acclimation response. Tolerant of some fill.	Hightshoe, Sydnor
Red buckeye	<i>Aesculus pavia</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Tree of heaven	<i>Ailanthus altissima</i>	Good	Tolerant of root pruning. Generally good acclimation response following disturbance.	Day, Fraedrich, Sydnor
Alders	<i>Alnus</i> spp.	Good	Show considerable resistance to "contractor pressures."	Gilbert
Red alder	<i>Alnus rubra</i>	Poor-moderate	Retain only in groups or as individuals with strong taper and structure. Relatively short lived. Intolerant to root injury.	Beck, Dunster, Peepre
Hazel alder	<i>Alnus serrulata</i>	Good	—	Coder
Serviceberry	<i>Amelanchier</i> spp.	Good	Intermediate tolerance to root loss. Tolerant of saturated soils. Generally good acclimation response to site change.	Hightshoe, Sydnor
Downy	<i>Amelanchier</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder

serviceberry	<i>arbores</i>		Response constrained by soil aeration and water availability.	
Devil's-walkingstick	<i>Aralia spinosa</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Madrone	<i>Arbutus menziesii</i>	Poor	Intolerant of site disturbance.	Matheny & Clark
Pawpaw	<i>Asimina triloba</i>	Good	—	Coder
Eastern baccharis	<i>Baccharis halimifolia</i>	Good	—	Coder
Birch	<i>Betula spp.</i>	Poor-moderate	Intolerant of root pruning. Mature trees particularly sensitive to development impacts.	Gilbert, Fraedrich
Yellow birch	<i>Betula alleghaniensis</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate change. Tolerance greatest within native range. Response varies due to soil and water availability.	Coder
Sweet birch	<i>Betula lenta</i>	Moderate	Intermediate tolerance to root loss. Intolerant of saturated soils. Intolerant of mechanical injury. Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder, Hightshoe
River birch	<i>Betula nigra</i>	Moderate-good	Variable tolerance of root loss and saturated soils. Tolerant of minor amounts of fill.	S. Clark, Coder, Hightshoe, Sydnor
Paper birch	<i>Betula papyrifera</i>	Poor-moderate	Intolerant of construction impacts outside of native range; moderate within. Prone to sunscald. Low	S. Clark, Day, Peepre,

			tolerance to root injury. Bronze birch borer much more severe under stress. Best retained in groups or as select individuals.	Sydnor
Gray birch	<i>Betula populifolia</i>	Moderate-good	Tolerant of construction impacts within native range; moderate response outside. Construction impacts/injury increases susceptibility to bronze birch borer.	S. Clark, Sydnor
Gum bumelia	<i>Bumelia lanuginosa</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Buckthorn bumelia	<i>Bumelia lycioides</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Incense cedar	<i>Calocedrus decurrens</i>	Moderate	—	Matheny & Clark
Blue beech; hombeam	<i>Carpinus caroliniana</i>	Moderate	Intolerant of root loss and saturated soils. Susceptible to two-lined chestnut borer, particularly under conditions of environmental stress. Limited tolerance to climatic change. Tolerance greatest within native range.	Coder, Hightshoe, Sydnor
Water hickory	<i>Carya aquatica</i>	Good	—	Coder
Bitternut hickory	<i>Carya cordiformis</i>	Good	Intermediate tolerance to root loss and saturated soils. Will tolerate some fill.	Hightshoe, Sydnor

Bitternut hickory	<i>Carya cordiformis</i>	Poor	Response constrained by soil aeration and water availability.	Coder
Pignut hickory	<i>Carya glabra</i>	Moderate-good	Moderately tolerant of construction damage. Tolerant of some fill. Windfirm. Response constrained by soil and water availability.	S. Clark, Coder, Sydnor
Pecan	<i>Carya illinoensis</i>	Moderate-good	Moderately tolerant of construction damage. Tolerant of some fill.	S. Clark, Sydnor
Shagbark hickory	<i>Carya ovata</i>	Moderate-good	Moderately tolerant of construction damage. Tolerant of some fill. Windfirm.	S. Clark, Sydnor
Shagbark hickory	<i>Carya ovata</i>	Poor	Response constrained by soil aeration and water availability.	Coder
Sand hickory	<i>Carya pallida</i>	Moderate	—	Coder
Mockemut hickory	<i>Carya tomentosa</i>	Moderate-good	Moderately tolerant of construction damage. Tolerant of some fill. Windfirm.	S. Clark, Sydnor
Mockemut hickory	<i>Carya tomentosa</i>	Poor-moderate	Response constrained by soil aeration and water availability.	Coder
Florida chinkapin	<i>Castanea alnifolia</i>	Moderate	Pest problems associated with development impacts.	Coder
Allegheny chinkapin	<i>Castanea pumila</i>	Poor	Pest problems associated with development impacts.	Coder
Catalpa	<i>Catalpa spp.</i>	Moderate	Tolerant of saturated soils. Intermediate in tolerance to root loss.	Hightshoe

Southern catalpa	<i>Catalpa bignonioides</i>	Good	—	Coder
Northern catalpa	<i>Catalpa speciosa</i>	Good	Generally tolerant of disturbance including root injury. Prone to basal decay.	Day, Sydnor
Deodar cedar	<i>Cedrus deodara</i>	Good	Tolerant of root and crown pruning. Intolerant of excessive soil moisture; leads to <i>Armillaria</i> and <i>Phytophthora</i> .	Ellis
Sugarberry	<i>Celtis laevigata</i>	Good	Intolerant of mechanical injury (poor compartmentalization).	Coder
Georgia hackberry	<i>Celtis tenuifolia</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Hackberry	<i>Celtis occidentalis</i>	Good	Tolerant of root loss. Intermediate (Hightshoe) or low (Day) in tolerance to saturated soils.	Day, Hightshoe, Sydnor
Common buttonbush	<i>Cephalanthus occidentalis</i>	Good	Intolerant of mechanical injury (poor compartmentalization).	Coder
Katsura tree	<i>Cercidiphyllum japonicum</i>	Poor-moderate	Sensitive to fill and root disturbance. Requires tree protection zone at the dripline. Requires postconstruction care, particularly supplemental irrigation.	Cullen
Redbud	<i>Cercis canadensis</i>	Moderate	Response constrained by soil aeration and water availability.	Coder
Alaska yellow-	<i>Chamaecyparis nootkatensis</i>	Good	Relatively windfirm. Intolerant of changes in water table/soil	Peepre

cedar			moisture-	
False cypress	<i>Chamaecyparis</i> spp.	Good	Show considerable resistance to "contractor pressures."	Gilbert
Fringetree	<i>Chionanthus</i> <i>virginicus</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Yellow wood	<i>Cladrastis lutea</i>	Poor	Response is site dependent.	Coder
Cinnamon elethra	<i>Clethra</i> <i>acuminata</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Buckwheat tree	<i>Cliftonia</i> <i>monophylla</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Pagoda dogwood	<i>Conius</i> <i>alternifolia</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Flowering dogwood	<i>Conius florida</i>	Poor	Intolerant of site disturbance.	Sydnor
Flowering dogwood	<i>Cornus florida</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Pest problems associated with development impacts.	Coder
Pacific dogwood	<i>Conius nuttallii</i>	Good	—	Peepre
Swamp dogwood	<i>Conius stricta</i>	Good	Intolerant of mechanical injury (poor compartmentalization).	Coder

Beaked hazel	<i>Corylus conuita</i>	Good	—	Coder
Hawthorn	<i>Crataegus</i> spp.	Moderate	Intermediate tolerance to root loss and saturated soils.	Hightshoe
Cockspur hawthorn	<i>Crataegus crus-galli</i>	Good	Sensitive to windthrow if canopy raised. Some tolerance to disturbance.	Sydnor
Washington hawthorn	<i>Crataegus phaenopyrum</i>	Good	Susceptible to windthrow. Tolerates some disturbance.	Sydnor
Dotted hawthorn	<i>Crataegus punctata</i>	Good	Susceptible to windthrow. Tolerates some disturbance.	Sydnor
Cypresses	<i>Cupressus</i> spp.	Good	Show considerable resistance to "contractor pressures."	Gilbert
Monteccey eypress	<i>Cupressus macrocarpa</i>	Poor	Intolerant of site disturbance.	Matheny & Clark
Swamp-cyrilla	<i>Cyrilla racemiflora</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Persimmon	<i>Diospyros virginiana</i>	Good	Tolerant of saturated soils. Pest problems associated with development impacts.	Sydnor
Eastern coralbean	<i>Erythrina berbacen</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Eucalyptus	<i>Eucalyptus</i> spp.	Moderate	Moderately tolerant of root loss. Intolerant of fill.	Matheny & Clark
Eastern wahoo	<i>Euonymus atropurpureus</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Beech	<i>Fagus</i> spp.	Poor	Intolerant of root pruning. Poor response to injury. Intolerant of fill	Fraedrich, Sydnor

			soil.	
American beech	<i>Fagus grandifolia</i>	Poor	Response is site dependent.	Coder
European beech	<i>Fagus sylvatica</i>	Poor	Mature trees particularly susceptible.	Gilbert
Swamp privet	<i>Forestea accuminata</i>	Good	—	Coder
Ash	<i>Fraxinus</i> spp.	Moderate	Moderately tolerant of root pruning.	S. Clark, Fraedrich
White ash	<i>Fraxinus americana</i>	Moderate-good	Tolerant of root loss. Intermediate in tolerance to saturated soils. Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil and water availability.	S. Clark, Coder, Hightshoe, Sydnor
Carolina ash	<i>Fraxinus caroliniana</i>	Good	—	Coder
European ash	<i>Fraxinus excelsior</i>	Moderate	—	Gilbert
Black ash	<i>Fraxinus nigra</i>	Good	Tolerant of root loss and saturated soils.	Hightshoe
Green ash	<i>Fraxinus pennsylvanica</i>	Good	Tolerant of root pruning and loss. Benefits from supplemental Irrigation following injury. Tolerant of saturated soils and fill.	Coder, Day, Hightshoe, Sydnor
Blue ash	<i>Fraxinus quadrangulata</i>	Good	—	Sydnor
Shamel ash	<i>Fraxinus uhdei</i>	Good	Tolerant of root pruning. Best with	Bills

			irrigation following disturbance.	
Modesto-ash	<i>Fraxinus velutina</i> 'Modesto'	Good	Tolerant of root pruning. Requires supplemental irrigation following root loss/injury.	Matheny & Clark
Ginkgo	<i>Ginkgo biloba</i>	Good	Tolerant of root pruning.	Fraedrich, Sydnor
Water locust	<i>Gleditsia aquatica</i>	Good	—	Coder
Honey locust	<i>Gleditsia triacanthos f. Inermis</i>	Good	Tolerant of root pruning and site disturbance. Intermediate tolerance to saturated soils.	Coder, Fraedrich, Hightshoe, Sydnor
Loblolly bay	<i>Gordonia lasianthus</i>	Good	—	Coder
Kentucky coffee tree	<i>Gymnocladus dioica</i>	Good	Intermediate tolerance to root loss and saturated soils. Tolerant of site disturbance.	Hightshoe, Sydnor
Carolina silverbell	<i>Halesia carolina</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability. Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Two-winged silverbell	<i>Halesia diptera</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Little silverbell	<i>Halesia parviflora</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil	Coder

			aeration and water availability.	
Witch hazel	<i>Hamamelis virginiana</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Carolina holly	<i>Hlex ambigua</i>	Good	—	Coder
Dahoon	<i>Hlex cassine</i>	Good	—	Coder
Large gallberry	<i>Hlex coriacea</i>	Good	—	Coder
Possumhaw	<i>Hlex decidua</i>	Good	—	Coder
Mountain winterberry	<i>Hlex montana</i>	Moderate-good	Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Myrtle dahoon	<i>Hlex myrtifolia</i>	Good	—	Coder
American holly	<i>Hlex opaca</i>	Good	Tolerates some fill.	Coder, Sydnor
Common winterberry	<i>Hlex verticillata</i>	Good	—	Coder
Yaupon holly	<i>Hlex vomitoria</i>	Good	—	Coder
California black walnut	<i>Juglans hindsii</i>	Poor	Dies slowly following even minor root injury or changes to water table. Crown reduction pruning may be fatal. Requires tree protection zone at or beyond the dripline.	Matheny & Clark
Black walnut	<i>Juglans nigra</i>	Poor	Intolerant of root loss. Intermediate tolerance to saturated	Hightshoe,

		moderate	soils. Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Sydnor
English walnut	<i>Juglans regia</i>	Poor	Usually grafted onto California black walnut stock.	Matheny & Clark
Rocky Mountain juniper	<i>Juniperus scopulorum</i>	Poor	Sensitive to root pruning and fill soil. Likely to decline following grade change and loss of roots. Very susceptible to borers when stressed.	Day
Eastern red cedar	<i>Juniperus virginiana</i>	Good	Tolerant of root loss. Intolerant of saturated soils. Intolerant of mechanical injury.	Coder, Hightshoe, Sydnor
Mountain laurel	<i>Kalmia latifolia</i>	Good	—	Coder
Tamarack	<i>Larix laricina</i>	Moderate	Tolerant of root loss and saturated soils.	Hightshoe
Sweetgum	<i>Liquidambar styraciflua</i>	Poor-good	Intermediate response to fill and root injury. Breadth of tolerance may be due to pre-existing site conditions and within species variation.	S. Clark, Coder, Matheny & Clark, Sydnor
Tuliptree	<i>Liriodendron tulipifera</i>	Moderate	Intolerant of root pruning. Sensitive to wounding.	Fraedrich, Sydnor
Tuliptree	<i>Liriodendron tulipifera</i>	Poor	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder

Cucumbertree	<i>Magnolia acuminata</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Fraser magnolia	<i>Magnolia fraseri</i>	Poor	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Southern magnolia	<i>Magnolia grandiflora</i>	Poor or good	Response dependent upon location; good within native range; poor outside it. In California, it declines following root injury and site disturbance.	Matheny & Clark, Sydnor
Southern magnolia	<i>Magnolia grandiflora</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Pyramid magnolia	<i>Magnolia pyramidata</i>	Poor	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Sweet bay	<i>Magnolia virginiana</i>	Good	Tolerant of saturated soils.	Coder, Sydnor
Apples	<i>Malus spp.</i>	Moderate	—	Gilbert
Southern crabapple	<i>Malus angustifolia</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate change. Tolerance greatest within native range. Pest problems associated with development impacts.	Coder
Sweet crabapple	<i>Malus coronaria</i>	Moderate-good	Intolerant of mechanical injury (poor compartmentalization). Limited tolerance to microclimate	Coder, Sydnor

			change. Tolerance greatest within native range. Pest problems associated with development impacts.	
Apple	<i>Malus domestica</i>	Good	Tolerant of some fill.	Sydnor
Ptairie crabapple	<i>Malus ioensis</i>	Good	—	Sydnor
White mulberry	<i>Morus alba</i>	Moderate	—	Matheny & Clark
White mulberry	<i>Morus alba</i>	Good	Tolerant of disturbance and fill.	Sydnor
Red mulberry	<i>Morus rubra</i>	Good	Tolerant of disturbance and fill.	Coder, Sydnor
Southern bayberry	<i>Myrica cerifera</i>	Good	—	Coder
Evergreen bayberry	<i>Myrica heterophylla</i>	Good	—	Coder
Water tupelo	<i>Nyssa aquatica</i>	Good	—	Coder
Ogeechee tupelo	<i>Nyssa ogeche</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Black gum	<i>Nyssa sylvatica</i>	Good	Response constrained by soil aeration and water availability.	Coder, Sydnor
Devilwood	<i>Osmanthus americanus</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
American	<i>Ostrya</i>	Moderate	Intolerant of root loss and saturated soils. Two-lined chestnut	Coder, Highishoe,

hophornbeam	<i>virginiana</i>		borer will attack following disturbance. Response is site dependent.	Sydnor
Sourwood	<i>Oxydendrum arboreum</i>	Moderate	Windfirm.	Sydnor
Sourwood	<i>Oxydendrum arboreum</i>	Poor	—	Coder
Empress tree	<i>Paulownia tomentosa</i>	Good	Tolerant of site disturbance.	Sydnor
Redbay	<i>Persea borbonia</i>	Good	—	Coder
Norway spruce	<i>Picea abies</i>	Moderate	Often windthrows. Intolerant of root loss.	Sydnor.
White spruce	<i>Picea glauca</i>	Moderate	Tolerant of root loss. Intermediate in tolerance to saturated soils.	Hightshoe
Black spruce	<i>Picea mariana</i>	Good	Tolerant of root loss and saturated soils.	Hightshoe
Colorado spruce	<i>Picea pungens</i>	Moderate	Intolerant of saturated soils. Intermediate in tolerance to root loss. Often windthrows.	Day, Hightshoe, Sydnor
Pinckneya	<i>Pinckneya pubens</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Jack pine	<i>Pinus banksiana</i>	Good	Tolerant of root loss. Intolerant of saturated soils.	Hightshoe, Sydnor
Canary Island pine	<i>Pinus canariensis</i>	Good	Tends to have sinker roots close to trunk.	Ellis
Shortleaf pine	<i>Pinus echinata</i>	Moderate-good	Pest problems associated with development impacts. Tolerant of	Coder, Sydnor

			some fill soil.	
Plinyon pine	<i>Pinus edulis</i>	Moderate	Tolerant of root pruning. Intolerant of saturated and poorly drained soils.	Day
Slash pine	<i>Pinus elliottii</i>	Good	—	Coder
Spruce pine	<i>Pinus glabra</i>	Good	—	Coder
Austrian pine	<i>Pinus nigra</i>	Good	Tolerant of some fill and root pruning/injury.	Day, Sydnor
Longleaf pine	<i>Pinus palustris</i>	Moderate-good	Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Ponderosa pine	<i>Pinus ponderosa</i>	Good	Tolerant of fill within dripline and root pruning. Intolerant of poor drainage, overwatering, and high-soluble salts.	Day
Table mountain pine	<i>Pinus pungens</i>	Moderate-good	Limited tolerance to microclimate change. Tolerance greatest within native range.	Coder
Monterey pine	<i>Pinus radiata</i>	Moderate	Requires supplemental irrigation following disturbance.	Ellis
Red pine	<i>Pinus resinosa</i>	Good	Tolerant of root loss. Intolerant of saturated soils.	Hightshoe, Sydnor
Pitch pine	<i>Pinus rigida</i>	Good	—	Coder, Sydnor
Digger pine	<i>Pinus sabiniana</i>	Moderate	—	Matheny & Clark
Pond pine	<i>Pinus serotina</i>	Good	—	Coder

White pine	<i>Pinus strobus</i>	Moderate	Tolerant of root loss. Intolerant of saturated soils or changes in soil moisture. Response often site dependent.	Coder, Hightshoe, Sydnor
Scots pine	<i>Pinus sylvestris</i>	Good	Tolerant of root loss. Intolerant of saturated soils.	Hightshoe, Sydnor
Loblolly pine	<i>Pinus taeda</i>	Moderate-good	Moderate tolerance to root loss. Intolerant of saturated soils. Injury increases susceptibility to southern pine beetle.	S. Clark, Coder, Sydnor
Virginia pine	<i>Pinus virginiana</i>	Poor-moderate	Prone to windthrow and root decay.	Matheny & Clark, Sydnor
Virginia pine	<i>Pinus virginiana</i>	Good	—	Coder
Planer tree	<i>Planera aquatica</i>	Good	—	Coder
London plane	<i>Platanus x acerifolia</i>	Poor or good	Response appears to be location dependent. In eastern U.S., stress intolerant in northern part of range. In California, very tolerant. Benefits from supplemental irrigation.	Matheny & Clark, Sydnor
Eastern sycamore	<i>Platanus occidentalis</i>	Moderate	Intermediate tolerance to construction damage. Moderate tolerance of fill soil.	S. Clark, Sydnor
Eastern sycamore	<i>Platanus occidentalis</i>	Good	—	Coder
Western sycamore	<i>Platanus racemosa</i>	Moderate	—	Matheny & Clark
Poplars	<i>Populus spp.</i>	Good	Show considerable resistance to	Gilbert

			"contractor pressures."	
Eastern cottonwood	<i>Populus deltoides</i>	Moderate-good	Intermediate to good tolerance of root loss, fill soil, and saturated soils.	S. Clark, Coder, Hightshoe, Sydnor
Western cottonwood	<i>Populus fremoutii</i>	Poor	Prone to windthrow and decay.	Matheny & Clark
Bigtooth aspen	<i>Populus grandidentata</i>	Poor-moderate	Tolerant of root loss. Intolerant of saturated soils.	Hightshoe, Sydnor
Lombardy poplar	<i>Populus nigra</i> 'Italica'	Moderate-good	Tolerant of minor amounts of fill. Intolerant of changes in soil moisture. Decays rapidly. Susceptible to windthrow.	Beck
Plains cottonwood	<i>Populus sargentii</i>	Moderate	Defoliation and dieback may follow excessive root loss. Intolerant of crown reduction pruning. Supplemental irrigation required following root injury. Tolerant of some grade change.	Day
Quaking aspen	<i>Populus tremuloides</i>	Moderate	Tolerant of root loss. Intolerant of saturated soils.	Day, Hightshoe
Black cottonwood	<i>Populus trichocarpa</i>	Poor	Mature trees prone to windthrow and trunk failure.	Peepre
American plum	<i>Prunus americana</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Chickasaw plum	<i>Prunus angustifolia</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil	Coder

			aeration and water availability.	
Carolina laurelcherry	<i>Prunus caroliniana</i>	Good	—	Coder
Canada plum	<i>Prunus nigra</i>	Moderate	Tolerant of root loss. Intolerant of saturated soils.	Hightshoe
Fire cherry	<i>Prunus pensylvanica</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Black cherry	<i>Prunus serotina</i>	Poor	Intermediate tolerance to root loss. Intolerant of saturated soils. Select young, vigorous individuals for preservation.	Hightshoe, Sydnor
Black cherry	<i>Prunus serotina</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Flatwoods plum	<i>Prunus umbellata</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Douglas fir	<i>Pseudotsuga menziesii</i>	Poor-good	Tolerant of fill soil if limited to one-quarter of root zone. However, may decline slowly following addition of fill. Tolerates root pruning. Intolerant of poor drainage. Susceptible to bark beetles following injury.	Beck, Dunster
Hoptree	<i>Ptelea trifoliata</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Callery pear	<i>Pyrus calleryana</i>	Moderate	Intolerant of root pruning.	Fraedrich
Oaks	<i>Quercus</i> spp.	Moderate	—	Gilbert
Coast live oak	<i>Quercus agrifolia</i>	Good	Sensitive to addition of fill soil around base of trunk. Intolerant of frequent summer irrigation. Bark	Matheny & Clark

			is sensitive to sunburn following pruning.	
White oak	<i>Quercus alba</i>	Poor	Intolerant of root loss and saturated soils.	Hightshoe
White oak	<i>Quercus alba</i>	Moderate	—	S. Clark
White oak	<i>Quercus alba</i>	Good	A common survivor of construction activity. Moderate tolerance to fill soil. Response constrained by soil aeration and water availability.	Coder, Sydnor
Swamp white oak	<i>Quercus bicolor</i>	Good	Tolerant of some fill.	Day, Sydnor
Scarlet oak	<i>Quercus coccinea</i>	Poor-moderate	Intolerant of construction injury.	S. Clark, Sydnor
Scarlet oak	<i>Quercus coccinea</i>	Good	—	Coder
Durand oak	<i>Quercus durandii</i>	Good	—	Coder
Southern red oak	<i>Quercus falcata</i>	Moderate-good	Largely intolerant of construction injury.	S. Clark, Coder, Sydnor
Cherrybark oak	<i>Quercus falcata</i> var. <i>pagodaefolia</i>	Good	—	Coder
Oregon white oak	<i>Quercus garryana</i>	Good	—	Bell, Matheny & Clark
Shingle oak	<i>Quercus imbricaria</i>	Good	—	Sydnor

Bluejack oak	<i>Quercus incana</i>	Good	—	Coder
California black oak	<i>Quercus kelloggii</i>	Moderate	—	Matheny & Clark
Turkey oak	<i>Quercus laevis</i>	Good	—	Coder
Laurel oak	<i>Quercus laurifolia</i>	Moderate	Subject to nutritional problems when alkaline subbase is used. Intolerant of extreme variation in moisture. Poor compartmentalization response.	Siebenthaler
Valley oak	<i>Quercus lobata</i>	Moderate	Intolerant of summer irrigation and fill soil.	Matheny & Clark
Overcup oak	<i>Quercus lyrata</i>	Good	—	Coder
Bur oak	<i>Quercus macrocarpa</i>	Moderate	Relatively tolerant of root injury, although may be associated with crown dieback. Supplemental irrigation required following root injury. Intermediate tolerance to saturated soils (prairie areas, U.S.).	Day, Hightshoe
Bur oak	<i>Quercus macrocarpa</i>	Good	Tolerant of fill and compacted soils (eastern U.S.)	Sydnor
Blackjack oak	<i>Quercus marilandica</i>	Good	—	Coder
Swamp chestnut oak	<i>Quercus michauxii</i>	Good	—	Coder
Chinquapin oak	<i>Quercus muehlenbergii</i>	Good	Tolerant of site disturbance.	Coder, Sydnor
Water oak	<i>Quercus nigra</i>	Good	Tolerant of saturated soils.	Coder, Sydnor

Pin oak	<i>Quercus palustris</i>	Moderate-good	Intermediate tolerance of root loss and saturated soils.	S. Clark, Hightshoe, Sydnor
Willow oak	<i>Quercus phellos</i>	Moderate-good	Response constrained by soil aeration and water availability.	Coder, Sydnor
Chestnut oak	<i>Quercus prinus</i>	Moderate-good	Response constrained by soil aeration and water availability. Tolerant under good growing conditions.	Coder, Sydnor
Northern red oak	<i>Quercus rubra</i>	Moderate-good	Response constrained by soil aeration and water availability. Limited tolerance to microclimate change. Tolerance greatest within native range. Tolerant of root loss.	Coder, Hightshoe, Sydnor
Shumard oak	<i>Quercus shumardii</i>	Good	—	Coder, Sydnor
Post oak	<i>Quercus stellata</i>	Poor-good	Variation may be geographic in origin; poor in south, good in mideastern U.S. (Ohio).	S. Clark, Coder, Sydnor
Black oak	<i>Quercus velotina</i>	Moderate	Intolerant of root loss and saturated soils.	Hightshoe, Sydnor
Black oak	<i>Quercus velutina</i>	Good	—	Coder
Live oak	<i>Quercus virginiana</i>	Good	High tolerance for various soil types as well as trenching, compaction, and drought. Good compartmentalization response. Limited tolerance to site change. Tolerance greatest within native range.	Coder, Siebenthaler, Sydnor
Carolina	<i>Rhamnus</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder

buckthorn	<i>caroliniana</i>		Response constrained by soil aeration and water availability.	
Catawba rhododendron	<i>Rhododendron catawbiense</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Rosebay rhododendron	<i>Rhododendron maximum</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Shining sumac	<i>Rhus copallina</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Smooth sumac	<i>Rhus glabra</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Staghorn sumac	<i>Rhus typhina</i>	Good	Regenerates quickly from root sprouts following disturbance.	Sydnor
Black locust	<i>Robinia pseudoacacia</i>	Good	Tolerant of root loss and fill soil. Intolerant of saturated soils. Sensitive to borers when stressed.	Hightshoe, Sydnor
Willow	<i>Salix</i> spp.	Moderate-good	Moderately tolerant of root pruning and fill soil. Show considerable resistance to "contractor pressures."	Day, Fraedrich, Gilbert
Weeping willow	<i>Salix babylonica</i>	Moderate-good	Disturbance may lead to cankering. Tolerant of some fill. Increased likelihood of windthrow with saturated soils.	S. Clark, Sydnor
Coastal plain willow	<i>Salix caroliniana</i>	Good	—	Coder
Black willow	<i>Salix nigra</i>	Good	Tolerant of root loss and saturated soils. Tolerant of some fill.	Coder, Hightshoe, Sydnor

Silky willow	<i>Salix sericea</i>	Good	—	Coder
American elder	<i>Sambucus canadensis</i>	Poor	Response is site dependent.	Coder
Sassafras	<i>Sassafras albidum</i>	Good	Regenerates from root suckers following disturbance.	Coder, Sydnor
California peppertree		<i>Schinus molle</i>	Moderate	Ellis
Coast redwood	<i>Sequoia sempervirens</i>	Good	Supplemental irrigation required if located out of native range, as well as during construction and following injury.	Matheny & Clark
Giant redwood	<i>Sequoiadendron giganteum</i>	Moderate	Intolerant of summer irrigation and fill soil.	Matheny & Clark
Mountain ash	<i>Sorbus aucuparia</i>	Moderate	Tolerant of root loss. Intermediate in tolerance to saturated soils.	Hightshoe
American bladdernut	<i>Staphylea trifolia</i>	Good	—	Coder
Virginia stewartia	<i>Stewartia malacodendron</i>	Good	—	Coder
Mountain stewartia	<i>Stewartia ovata</i>	Good	—	Coder
American snowbell	<i>Styrax americana</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil aeration and water availability.	Coder
Bigleaf snowbell	<i>Styrax grandifolia</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization). Response constrained by soil	Coder

			aeration and water availability.	
Common sweetleaf	<i>Symplocos tinctoria</i>	Good	Intolerant of mechanical injury (poor compartmentalization).	Coder
Bald-cypress	<i>Taxodium distichum</i>	Good	Adapts readily to wide range of soils, wet to dry, sandy to heavy. Tolerant of alkaline soils. Trunk does not disturb pavement but knees may emerge in yards.	S. Clark, Coder, Slebenthaler
Pond-cypress	<i>Taxodium distichum</i> var. <i>nutans</i>	Good	—	Coder
Northern white cedar	<i>Thuja occidentalis</i>	Good	Tolerant of root loss, some fill, and saturated soils.	Hightshoe, Sydnor
Western red cedar	<i>Thuja plicata</i>	Good	Relatively windfirm. Intolerant of changes in water table/soil moisture.	Peepre
Western red cedar	<i>Thuja plicata</i>	Poor-moderate	Response is very site dependent, probably related to soil moisture. Intolerant of fill.	Beck, Dunster
Linden	<i>Tilia</i> spp.	Moderate-good	Moderately tolerant of root pruning. Considerable resistance to "contractor pressures."	S. Clark, Gilbert, Fraedrich
Basswood	<i>Tilia americana</i>	Poor	Tolerant of root loss. Intolerant of saturated soils. Intolerant of site disturbance and fill.	Hightshoe, Sydnor
Carolina basswood	<i>Tilia caroliniana</i>	Poor	Response is site dependent.	Coder
White basswood	<i>Tilia heterophylla</i>	Poor	Response is site dependent.	Coder

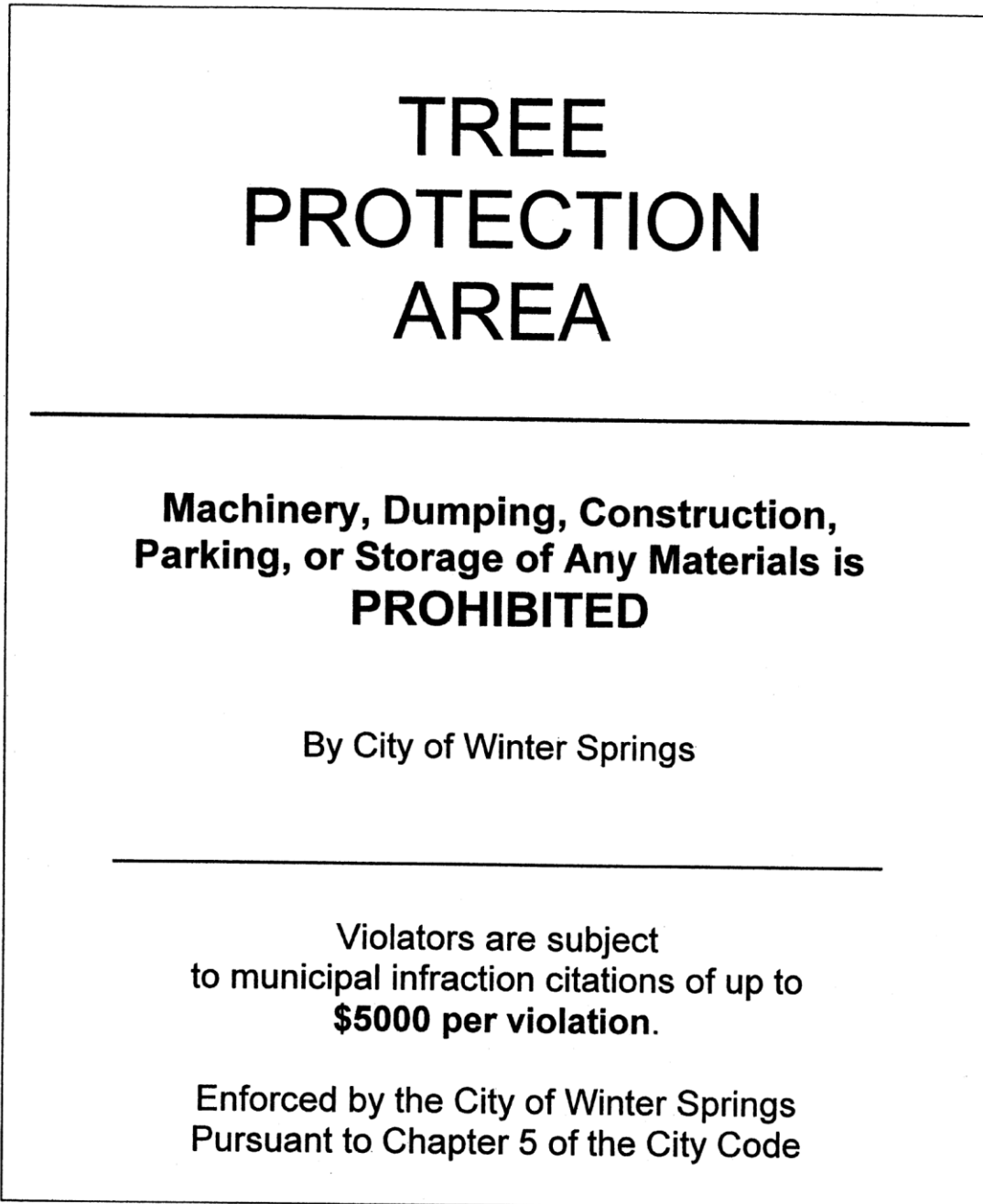
Poison sumac	<i>Toxicodendron vemix</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder
Eastern hemlock	<i>Tsuga canadensis</i>	Poor	Intolerant of fill and saturated soils.	Coder, Sydnor
Western hemlock	<i>Tsuga heterophylla</i>	Poor- moderate	Prone to windthrow, decay, and dwarf mistletoe. Intolerant of grade change. Poor compartmentalization.	Beck, Dunster, Peepre
Elm	<i>Ulmus spp.</i>	Good	Tolerant of root pruning.	Fraedrich
Winged elm	<i>Ulmus alata</i>	Good	—	Coder
American elm	<i>Ulmus americana</i>	Good	Tolerant of root loss and site disturbance. Intermediate in tolerance to saturated soils.	Day, Hightshoe, Sydnor
American elm	<i>Ulmus americana</i>	Moderate	Pest problems associated with development impacts (southeastern U.S.).	Coder
Siberian elm	<i>Ulmus pumila</i>	Good	Tolerant of fill soil, root pruning, injury, a wide range of soil moisture conditions, and high- soluble salts.	Day
Slippery elm	<i>Ulmus rubra</i>	Good	Tolerant of root loss. Intermediate in tolerance to saturated soils.	Hightshoe
Slippery elm	<i>Ulmus rubra</i>	Moderate	Pest problems associated with development impacts (southeastern U.S.).	Coder
California bay	<i>Umbellularia californica</i>	Moderate	Intolerant of fill soil.	Matheny & Clark
Sparkleberry	<i>Vaccinium</i>	Moderate	Response is site dependent.	Coder

	<i>arboreum</i>			
Possumhaw viburnum	<i>Viburnum nudum</i>	Good	—	Coder
Walter's viburnum	<i>Viburnum obovatum</i>	Good	—	Coder
Rusty black haw	<i>Viburnum rufidulum</i>	Good	—	Coder
Hereules club	<i>Zanthoxylum clava-herculis</i>	Moderate	Intolerant of mechanical injury (poor compartmentalization).	Coder

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APPENDIX D TREE PROTECTION AREA SIGNAGE



Tree Protection Area Signage

The sign shall be made of rigid material such as wood, metal or durable plastic. Non-rigid materials such as paper, cardboard, cellophane or foil are not acceptable. The sign shall be two (2) feet wide by three (3) feet long.

Section 3. Conforming Code Amendment. The following conforming amendments are hereby by expressly made to other applicable provisions of the City Code:

1. Chapter 20, Zoning, Article VI S.R. 434 Corridor Vision Plan, Table 1 (Recommended Shrub Pallet) and Table 2 (Recommended Tree Pallet) are hereby repealed and deleted for the City Code in their entirety.

2. Section 11-4. – Injuring city owned shade trees is hereby repealed and deleted from the City Code in its entirety.

Section 4. Repeal of Prior Inconsistent Ordinances and Resolutions. All prior inconsistent ordinances and resolutions adopted by the City Commission, or parts or ordinances and resolutions in conflict herewith, are hereby repealed to the extent of the conflict.

Section 5. Incorporation into Code. This Ordinance shall be incorporated into the Winter Springs City Code and any section or paragraph, number or letter, and any heading may be changed or modified as necessary to effectuate the foregoing. Grammatical, typographical, and like errors may be corrected and additions, alterations, and omissions, not affecting the construction or meaning of this ordinance and the City Code may be freely made.

Section 6. Severability. If any section, subsection, sentence, clause, phrase, word, or provision of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, whether for substantive, procedural, or any other reason, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions of this ordinance.

Section 7. Effective Date. This Ordinance shall become effective upon adoption by the City Commission of the City of Winter Springs, Florida, and pursuant to City Charter.

[Adoption page Follows]

ADOPTED by the City Commission of the City of Winter Springs, Florida, in a regular meeting assembled on the 13th day of July, 2020.

Charles Lacey, Mayor

ATTEST:

Christian Gowan, Interim City Clerk

**APPROVED AS TO LEGAL FORM
AND SUFFICIENCY FOR THE CITY
OF WINTER SPRINGS ONLY:**

Anthony A. Garganese, City Attorney

Legal Ad: _____
First Reading: May 11, 2020
Second Reading: July 13, 2020