

AGENDA

MEETING OF THE BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS
Government Center Commission Room, Building C
2725 Judge Fran Jamieson Way
Viera, Florida

October 24, 2006

IF YOU WISH TO SPEAK TO ANY ITEM ON THE AGENDA, PLEASE FILL OUT A SPEAKER CARD. PERSONS ADDRESSING THE BOARD SHALL HAVE FIVE MINUTES TO COMPLETE HIS/HER COMMENTS ON EACH AGENDA ITEM FOR WHICH HE/SHE HAS FILLED OUT A CARD.

THE BOARD OF COUNTY COMMISSIONERS REQUESTS THAT SPEAKERS APPEARING UNDER THE PUBLIC COMMENT SECTION OF THE AGENDA LIMIT THEIR COMMENTS AND/OR PRESENTATIONS TO THREE MINUTES, AND TO MATTERS UNDER THE BOARD'S JURISDICTION.

IT IS THE RESPONSIBILITY OF THE CHAIRMAN TO DETERMINE THE AMOUNT OF TIME THAT WILL BE ALLOTTED TO SPEAKERS ON ANY AGENDA ITEM FOR WHICH A TIME LIMIT HAS NOT BEEN ESTABLISHED BY THE COUNTY COMMISSION, INCLUDING AGENDA ITEMS REMOVED FROM THE CONSENT AGENDA FOR DISCUSSION BY A MEMBER OF THE PUBLIC.

IT IS THE OBJECTIVE OF THE BOARD TO CONDUCT BUSINESS IN A MANNER THAT FACILITATES AND ENCOURAGES THE PRESENTATION OF DIVERSE VIEWS WHILE MAINTAINING CIVILITY DURING ALL BOARD PROCEEDINGS.

5:30 PM. CALL TO ORDER

INVOCATION BY:

PLEDGE OF ALLEGIANCE:

- I. **CONSENT AGENDA (The entire Consent Agenda will be passed in one motion to include everything under Section I.)**
- II. **REPORTS/PRESENTATIONS (Longer than 5 Minutes)**
 - A. Peggy Busacca, County Manager
 - B. Scott Knox, County Attorney
 - C. Truman Scarborough, District 1 Commissioner
 - D. Ron Pritchard, D.P.A., District 2 Commissioner
 - E. Susan Carlson, District 4 Commissioner

- F. Jackie Colon, District 5 Commissioner
- G. Helen Voltz, Chair of the Board
- III. **RESOLUTIONS, AWARDS AND PRESENTATIONS (Less than 5 Minutes)**
- IV. **ITEMS REMOVED FROM CONSENT AGENDA**
- V. **PUBLIC COMMENTS (Comments may not address subsequent Agenda items.)**
- VI. **PUBLIC HEARINGS**
 - A. Landscaping, Land Clearing and Tree Protection Ordinance
- VII. **UNFINISHED BUSINESS**
- VIII. **NEW BUSINESS**

In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons needing special accommodations or an interpreter to participate in the proceedings, please notify the County Manager's Office no later than 48 hours prior to the meeting at (321) 633-2010.

Assisted listening system receivers are available for the hearing impaired and can be obtained from the Sound Technician at the meeting.

We respectfully request that ALL ELECTRONIC ITEMS and CELL PHONES REMAIN OFF while the County Commission is in session. Thank you.

This meeting will be broadcast live on Space Coast Government Television (SCGTV) on Bright House Networks Cable Channel 1 or 99, Adelphia Cable Channel 51, and Comcast Cable Channel 26. SCGTV will also replay this meeting during the coming month on its 24-hour video server nights, weekends, and holidays. Check the SCGTV website for daily program updates at <http://www.scgtv.org>.

The Advanced Agenda may be viewed at: www.brevardclerk.us

Meeting Date
10/24/06



AGENDA	
Section	Public Hearing
Item No.	

AGENDA REPORT
 BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS

SUBJECT: Proposed Amendments to the Landscaping, Land Clearing and Tree Protection (LLTP) Ordinances
DEPT. / OFFICE: Natural Resources Management Office (NRMO)

Requested Action:

Request that the Board of County Commissioners consider approval of the revisions to Chapter 62, Article XIII, Division 2, Landscaping, and Division 3, Land Clearing and Tree Protection.

Summary

On August 29, 2006, the Board held the first public hearing for the proposed LLTP ordinance. Since that meeting, staff has met with Commissioners and collected their feedback relative to the draft ordinance. Action items were developed based on this input and the comments from the LLTP Task Force, the Building Construction Advisory Committee (BCAC), the Local Planning Agency (LPA) and the first BOCC public hearing. **Exhibit 3 contains the aforementioned action items for the Board's consideration.**

Background

On March 16, 2004, the Board authorized staff to proceed with developing draft legislative intents to address agricultural exemptions, tree removal permits and the use of betterment plans for canopy preservation when there are adverse site conditions. On May 25, 2004, the Board directed staff to conduct public meetings in the community and gather public comment on the proposed legislative intents. Three public meetings were held in Titusville, Palm Bay and Merritt Island with an additional meeting in Scottsmeer. A meeting with agricultural interests was also coordinated through the Agricultural Extension Office. Based upon the public comments received, staff revised the legislative intents. On October 12, 2004, the Board tabled the approval of the proposed Legislative Intents to a workshop in January. On January 20, 2005, the Commission held the workshop and subsequently directed that a task force be formed.

On February 22, 2005, the Board of County Commissioners approved the formation of a task force to evaluate and make recommendations on the Brevard County landscaping, land clearing and tree protection codes. Per Board direction, the task force was comprised of representatives from organizations representing a wide variety of interests as well as citizen representatives from the Commission Districts. The group, using an independent facilitator, successfully reached consensus on major issues, including agricultural exemptions, tree removal, betterment plans and canopy preservation. NRMO staff provided a support role as needed. A subcommittee of the Task Force successfully tested the revised regulations on sample project sites to ensure that the regulations work as intended. The Task Force meetings were conducted as an open, public process consistent with applicable law. Exhibit 1 is a draft of the task force's proposed amendments to the code. The Task Force performed a complete "line by line" amendment process of both existing ordinances which resulted in a complete strike through of the old codes and a comprehensive re-write into one new code. Exhibit 2 is a draft resolution that is referenced in the Mitigation section of the ordinance. It establishes compensation costs for trees and vegetation removed from lands within Brevard County. The proposed revised ordinance and the related resolution were presented to and accepted by the Local Planning Agency and the Building Construction Advisory Committee.

Contact: Ernie Brown or Amanda Elmore ext. 5-2016

Cost/Benefit Analysis: This proposal has no impact on the General Revenue Fund. The amendments may reduce costs for new developments by providing flexibility in landscape and tree protection design standards for difficult sites. The landscaping, land clearing and tree protection provisions provide standards for preservation of trees, canopy, heat island mitigation, and landscape buffers.

Exhibits Attached:

- Exhibit 1, Proposed Ordinance with Appendices
- Exhibit 2, Resolution Establishing Compensation Costs for Trees and Vegetation Removed From Lands Within Brevard County
- Exhibit 3, Additional Actions and Ordinance Modifications for Board Consideration

Contract /Agreement (If attached): Reviewed by County Attorney Yes No

County Manager's Office

Department: Natural Resources Management Office

Peggy Busacca, County Manager

Ernie Brown, Director

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

ORDINANCE 06 -

AN ORDINANCE OF BREVARD COUNTY, FLORIDA, AMENDING CHAPTER 62, ARTICLE XIII, DIVISION 2 AND 3 CODE OF ORDINANCES OF BREVARD COUNTY, FLORIDA, RELATING TO LANDSCAPING, LAND CLEARING AND TREE PROTECTION SPECIFICALLY REPEALING DIVISIONS 2 AND 3; CREATING DIVISION 2 LANDSCAPING, LAND CLEARING AND TREE PROTECTION; RESERVING DIVISION 3; CREATING SECTION 62-4331 PURPOSE AND INTENT, SECTION 62-4332 DEFINITIONS, SECTION 62-4333 APPLICABILITY, SECTION 62-4334 EXEMPTIONS, SECTION 62-4335 NON-BONA FIDE AGRICULTURAL LAND CLEARING ACTIVITIES, SECTION 62-4336 PENALTIES AND REMEDIES, SECTION 62-4337 PERMIT APPLICATION REQUIREMENTS AND REVIEW PROCESS, SECTION 62-4338 LAND CLEARING PERFORMANCE STANDARDS, SECTION 62-4339 CANOPY AND TREE PRESERVATION PERFORMANCE STANDARDS, SECTION 62-4340 LANDSCAPING PERFORMANCE STANDARDS, SECTION 62-4341 LANDSCAPE BUFFERS, SECTION 62-4342 MAINTENANCE AND INSPECTIONS, SECTION 62-4343 INCENTIVES FOR INCREASED CANOPY AND TREE PRESERVATION AND INCREASED LANDSCAPING, SECTION 62-4344 ALTERNATIVE LANDSCAPE ENHANCEMENT PLANS, MITIGATION, COMPENSATION AND WAIVERS, SECTION 62-4345 APPEALS; PROVIDING FOR CONFLICTING PROVISIONS; PROVIDING FOR SEVERABILITY; PROVIDING FOR AREA ENCOMPASSED; PROVIDING FOR INCLUSION IN CODE AND AN EFFECTIVE DATE.

WHEREAS, the Brevard County Code of Ordinances contains land development regulations relating to landscaping, land clearing and tree protection which are intended to protect and replenish trees and vegetation; prevent erosion; improve water quality and promote water conservation; buffer incompatible land uses; promote energy conservation; minimize negative impacts which can be created by large expanses of impervious surfaces; encourage preservation of native vegetation, reduce air pollution; reduce the premature and indiscriminate clearing of land; and enhance the aesthetic quality of life in Brevard County; and

WHEREAS, the Brevard County Board of County Commissioners desires to modify the existing land development regulations related to landscaping, land clearing and tree protection to enhance implementation of sections on agricultural exemptions, tree removal, betterment plans and canopy preservation; and

WHEREAS, on March 25, 2004, the Brevard County Board of County Commissioners directed staff to gather public comment and include it in the legislative intent; and

WHEREAS, after review of public comment, on February 22, 2005, the Brevard County Board of County Commissioners directed a landscape and land clearing taskforce be formed comprised of representatives from organizations representing a

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

wide variety of interests as well as citizen representatives from each Commission District to review the landscape and land clearing and tree protection codes; and

WHEREAS, that Taskforce reached consensus on major issues including agricultural exemptions, tree removal, betterment plans and canopy preservation and recommends the following revisions to the landscaping and land clearing and tree protection codes; and

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA that:

SECTION 1. Article XIII, Divisions 2 Landscaping and 3 Land Clearing and Tree Protection, Code of Ordinances of Brevard County, Florida, are hereby repealed.

SECTION 2. Article XIII, Division 2 Land Clearing, Landscaping and Tree Protection is hereby created. Article XIII, Division 3 is hereby reserved.

SECTION 3. Sec. 62-4331. Purpose and Intent. is created as follows:

Sec. 62-4331. Purpose and Intent.

The Brevard County Board of County Commissioners finds that the health, safety and welfare of its citizens can best be protected by land use regulations that support and enforce the following community goals:

- (1) Promote the establishment, management and conservation of native vegetative communities.
- (2) Promote visual and aesthetic buffers between land uses.
- (3) Encourage the protection of Heritage or Specimen Trees.
- (4) Promote water conservation and aquifer recharge.
- (5) Encourage creative landscape designs.
- (6) Protect life and property by appropriately planting trees and vegetation.
- (7) Preserve property values.
- (8) Control soil erosion and mitigate heat, air and water pollution.
- (9) Provide regulations that are user-friendly, flexible and minimize conflicts with other land development regulations while protecting property rights.

SECTION 4. Sec. 62-4332. Definitions. is created as follows:

Sec. 62-4332. Definitions.

Active Development Order means an action by the County approving a site development plan, final development plan or subdivision plat, or the issuance of a permit pursuant to Chapter 22, Brevard County Code.

Adverse Site Conditions means existing site conditions that adversely affect the implementation of the provisions of this Division and that hinder plant viability and growth. Examples include, but are not limited to:

- (1) Existing topographic elevation changes that would result in the likelihood that preserved or planted materials would not survive.
- (2) Existing areas of buried solid waste at a depth that would affect viability of preserved or planted materials.
- (3) Existing electrical lines or utility easements that prevent or restrict the preservation or planting of landscape materials.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- (4) Barrier island planting conditions that cannot support certain hardwood species.
- (5) Existing, expansive water bodies or preserved natural areas where their location might prohibit the installation of required landscaping or buffers or that conflict with preservation.
- (6) Redevelopment sites where existing landscaping does not meet current standards and where existing site conditions, such as but not limited to, impervious surfaces, access locations, or building locations, prevent the site from meeting the current landscaping requirements.
- (7) Sites where type or distribution of existing canopy or other Protected Trees are such that preservation requirements would prohibit site development or conflict with required development standards, such as stormwater or roadway designs.

Adverse Site Conditions do not include plan designs that do not avoid preservation areas or trees to the Greatest Extent Feasible.

After-The-Fact Permit means a permit issued after a violation has occurred for the primary purpose of correcting the violation (if the activity would have been permissible) or for bringing the violator into compliance with existing regulations.

Agricultural Activity means any use or action commonly associated with the raising of crops, livestock, silviculture, forestry, groves, pasture, nurseries, or combinations of such activities.

Alternate Landscape Enhancement Plan means a plan that provides property owners with adverse conditions the flexibility to design a landscape plan to manage the specific, Adverse Site Conditions.

Bona Fide Agricultural Use means the commercial agricultural use of a site, parcel, or lot that has been classified as "Green Belt" pursuant to Section 193.461, Florida Statute.

Buildable Area means the gross area of a site, parcel or lot excluding any area of a site, parcel or lot which is not eligible for the issuance of a building permit by the County, such as building setback areas, shoreline protection buffers, coastal construction setback areas, wetlands and other similar areas required pursuant to the applicable provisions of Articles II, VI, X, XII and XIII of this Chapter. If any of the excluded areas will be credited towards the required landscaping, then the area(s) is considered Buildable Area for the purposes of landscaping and preservation requirements calculation. Areas that may be potentially cleared in the future cannot be credited towards landscaping and preservation and plantings are discouraged in these areas.

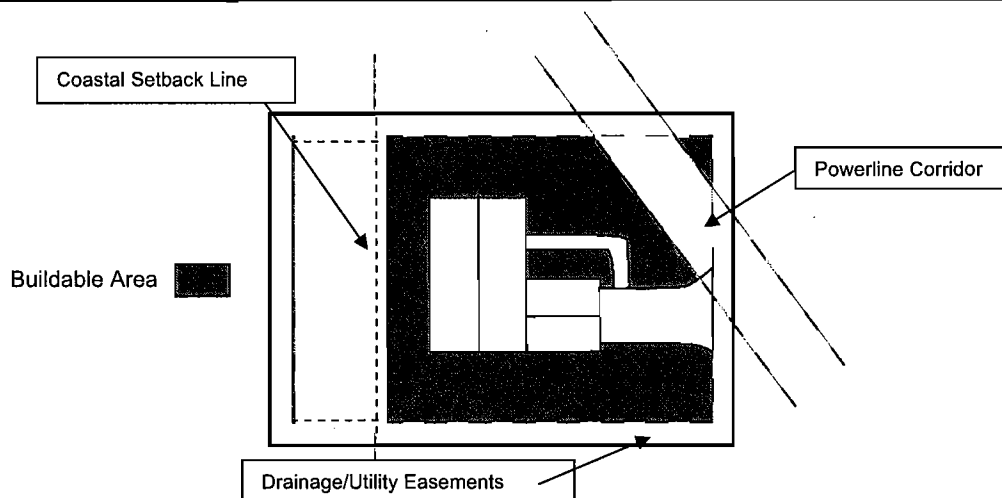
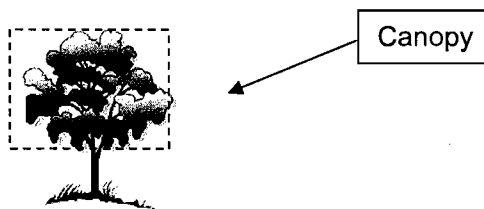
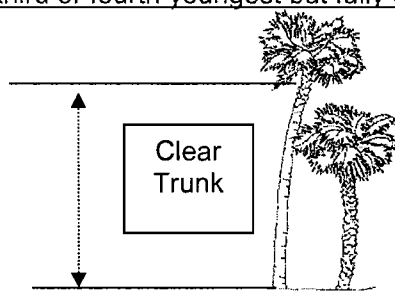


EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Canopy means the area consisting of a tree's branches in all directions from its trunk, the outer edge of which is the Dripline.

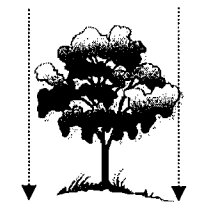


Canopy Coverage means the aerial extent of ground within the drip line of the tree.
Clear Trunk means a measurement from the soil line to the point in the canopy where the trunk caliper begins to taper abruptly. On many palms, this point will lie at the base of the petiole of the third or fourth youngest but fully expanded leaf.



Diameter at Breast Height (dbh) means the diameter of the trunk of a tree, or the sum of the stems of a multi-stemmed tree, measured 4.5 feet above natural or development grade.

Dripline means an imaginary vertical plumb line that extends downward from the tips of the outermost tree branches and intersects the ground.



Florida Friendly Landscaping means the utilization of nine principles in landscape design. These nine principles are: 1) Right Plant, Right Place; 2) Drought Tolerant Plantings; 3) Fertilize Appropriately; 4) Mulch; 5) Attract Wildlife; 6) Control Yard Pests Responsibly; 7) Recycle; 8) Reduce Stormwater Runoff; and 9) Protect the Waterfront.

Greatest Extent Feasible shall include, but not be limited to, relocation of roads, buildings, ponds, increasing building height to reduce building footprints or reducing Vehicular Use Areas.

Heat Island Effect means the increase in temperature in urban areas compared to the surrounding rural lands usually because of reduced vegetative cover or excessive use of impervious surfaces.

Heritage Tree means any tree that is listed in the American Forest Association's Big Tree list or any tree that is listed in the Florida Big Trees List as determined by the Florida Dept. of Forestry or that would measure eighty percent (80%) of the points of a tree on the Florida Big Trees List.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Hydrozone means the grouping of plant species with similar watering needs in landscaped areas having appropriate microclimate, soil, and water conditions so that all plants in that area thrive.

Improper Pruning means the following:

- (1) Pruning that reduces the height or Spread of a tree that has not attained maturity, by altering the dominant stem(s) within the tree crown to such a degree as to remove the natural canopy of the tree; or
- (2) Pruning that leaves stubs or results in a flush cut (a cut too close to the main branch or trunk that does not allow for proper healing); or splitting of limb ends; or
- (3) Peeling or stripping of bark; or the removal of bark to the extent that, if a line is drawn at any height around the circumference of the tree, over one-third (1/3) of the length of the line falls on portions of the tree where bark no longer remains; or
- (4) Using climbing spikes and hooks, except for purposes of total tree removal or as specifically permitted by the Florida Urban Forestry Council or American National Standards Institute (ANSI A-300); or
- (5) Destroying the natural habit of growth which causes irreparable damage and permanent disfigurement to a tree such that, even with re-growth, the tree will never regain the original characteristics of its tree species, or is a danger to the public or property; or
- (6) Pruning that results in flat-cutting the top or sides of a tree, to sever the leader or leaders or to prune a tree by stubbing off mature wood, except where removal of a branch is necessary to protect public safety.
- (7) Exception: The removal of diseased or dead portions of a tree or the removal of an interfering, obstructing or weak branch shall not constitute improper tree pruning under this section. Interference with or obstruction of streetlights, stop signs or traffic signals is an example of pruning which, if accomplished by the International Society of Arboriculture's pruning standards, American National Standards Institute (ANSI A-300), the Florida Urban Forestry Council, or the University of Florida Cooperative Extension Service's circular publication No. 853 entitled *Pruning Landscape Trees and Shrubs*, is not a violation of this Division.
- (8) All Non-Native Noxious Invasive Plants as defined in this section are exempt from improper tree pruning standards.

Land Clearing means the removal or cutting down of vegetation from any site, parcel or lot including root-raking, improper tree pruning or any other activity that affects the survivability of a Protected Tree, except mowing, trimming or pruning so as to maintain vegetation in a healthy, viable condition.

Landscaped Earth Berm means an earthen mound which is not greater than four feet in height and which is sodded and planted with additional vegetation to meet the specifications of the required vegetative buffer classification.

Landscape Plan means a plan drawn to an appropriate engineering scale depicting existing and proposed vegetation and prepared by a Recognized Knowledgeable Person.

Landscaping means the preservation or planting of vegetation to enhance the natural or built environment pursuant to the provisions of this Division.

Mangrove means any specimen of the species *Avicennia germinans* (Black Mangrove), *Laguncularia racemosa* (White Mangrove) or *Rhizophora mangle* (Red Mangrove).

Mature means the plant has reached eighty percent (80%) of the expected ultimate size.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Native Species means those species indigenous to Brevard County as determined by the best available scientific and historical documentation. The Atlas of Florida Native Plants maintained by the Institute for Systemic Botany, University of South Florida shall be used as a reference.

NRMO means the Brevard County Natural Resources Management Office or its successor agency.

Non-Native Noxious Invasive Plant, for the purposes of this ordinance, means the following: All plant species listed in Appendix A (i.e., the Florida Department of Agriculture and Consumer Services rule 5B57.007, Florida Administrative Code, as may be amended and the Florida Department of Environmental Protection Prohibited Aquatic Plants List, FAC 62C-52, as may be amended).

Pervious Area means an area that permits water and air to permeate or penetrate to the roots of existing or planted vegetation. Pervious Areas do not include materials such as compacted marl or clay, pavement, concrete, or pavers.

Protected Tree means, with the exception of Non-Native Noxious Invasive Plants, a hardwood tree having dbh of ten (10) inches or greater located on the mainland or Merritt Island or having a dbh of one and a half (1.5) inches on the barrier island; or a softwood tree, such as a pine, having a dbh of 14 inches or greater or one and a half (1.5) inches on the barrier island; or scrub oaks (*Quercus myrtifolia*, *Q. chapmanii*, *Q. inopina*, *Q. virginiana var. maritima*) on the mainland, Merritt Island or barrier island having a dbh of one and a half (1.5) inches.

Recognized Knowledgeable Person means an individual knowledgeable in the identification and evaluation of vegetative resources, such as a forester, biologist, ecologist, horticulturist, Florida registered landscape architect, licensed landscape contractor, certified ISA arborist, certified nurseryman or person having similar recognized skills and experience.

Re-growth Control means removal or trimming of individual plants before the plants reach the onset of flowering.

Roll Back provisions (as specified in Section 62-4335) apply only to land clearing activities on lands that are not classified as Green Belt as of the effective date of Division or that are engaged in agricultural pursuits not classified as bona fide as defined in Section 193.461, Florida Statute. For these properties, no new development order or rezoning request may be submitted which would enjoy the current cleared state for a minimum of three years from the date of Agricultural Exemption approval. Specifically, if a new development order or rezoning request is submitted within three years of the date of the approval, the submittal shall reflect the pre-cleared conditions of the site and apply the current ordinance to the pre-cleared conditions.

Root Protection Zone means the area beneath a tree centered on the trunk with a radius equal to five times the projected mature trunk's dbh.

Soil Amendment means a replacement or improvement to the soil providing for optimum root and plant growth of vegetative materials.

Specimen Tree means a tree or group of trees considered an important community asset due to its unique or noteworthy characteristics or values. A tree or a group of trees may be considered a Specimen Tree based on its size, age, rarity or special historical or ecological significance. Examples include large hardwoods (oaks, maples, etc.) or softwoods (pines, cypress, cedars, etc.) in good condition as determined by a Recognized Knowledgeable Person, with a dbh of 24 inches or greater and smaller understory trees (stoppers, hollies, etc.) in good or better condition with a dbh of ten inches or greater.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Spread means the crown diameter measured by taking the average of the widest branch Spread and the branch Spread perpendicular to it.



Fig. 1 Add A and B together and divide by 2 to get the Spread.

Tree is a perennial, woody plant that is generally characterized by having a self-supporting trunk with secondary branches. Trees shall be classified as follows:

- (1) Large trees: Average mature height of a minimum of 40 feet.
- (2) Medium trees: Average mature height of a minimum of 25 feet to less than 40 feet.
- (3) Small trees: Average mature height of a minimum of ten feet to less than 25 feet.

Tree Removal includes any act that physically removes the tree or its root system from the earth or causes a tree to die, changing the natural grade above or below the root system or around the trunk or improper pruning where the natural form of the tree is permanently changed and results in tree death or decline.

Understory means an underlying layer of low native vegetation usually associated with trees.

Vegetative Buffer Area means an area of undisturbed native vegetation or vegetation established consistent with the surrounding vegetation and soil types. This area shall be located along the perimeter of properties where required by the County.

Vegetation means any plant material, including but not limited to trees, shrubs, vines, herbs and grasses. Vegetation shall be classified as follows:

- (1) Large trees: Average mature height of a minimum of 40 feet.
- (2) Medium trees: Average mature height of a minimum of 25 feet to less than 40 feet.
- (3) Small trees: Average mature height of a minimum of ten feet to less than 25 feet.
- (4) Shrubs, ground cover and vines: Average mature height of less than ten feet, which completely covers the ground at maturity.
- (5) Palm trees: All heights.

Vegetative Communities means a natural association of vegetative plants, including but not limited to both trees and understory.

Vehicular Use Area means any area used for the purpose of driving, maneuvering, parking, storing, loading or unloading or displaying of motor vehicles and boats, excluding rivers, lagoons, streams, public rights-of-way, and permitted driveways and parking areas for single-family residences. Motor vehicles shall include, but are not limited to, automobiles, trucks, vans, campers and motorcycles.

Viable means plant material exhibiting a healthy and vigorous condition having live foliage out to the tips of all branches and stems. Palms shall have no dead spots or yellowing.

Xeriscaping™ or Water-Wise Landscaping means the utilization of seven principles to conserve water in the landscape. These seven principles are 1) plan and design 2) soil analysis and amendment 3) appropriate plant selection 4) reduction of turf areas 5) efficient irrigation 6) mulching, and 7) proper maintenance.

SECTION 5. Sec. 62-4333. Applicability. is created as follows:

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Sec. 62-4333. Applicability.

The provisions of this Division shall apply to the unincorporated areas of Brevard County. The requirements to remove Non-Native Noxious Invasive Plants at the time of development and control re-growth of such plants in the required area within the site shall apply countywide and prospectively to property after the effective date of this ordinance.

SECTION 6. Sec. 62-4334. Exemptions. is created as follows:

Sec. 62-4334. Exemptions.

The following land uses and activities shall be exempt from the requirements of this Division:

- (1) Pursuant to the Florida Agricultural Lands and Practices Act (Chapter 163.3162(4), Florida Statutes), any activity of a Bona Fide Agricultural Use on land classified as agricultural land ("Green Belt") pursuant to Section 193.461, Florida Statute.
- (2) Single family lots that are 1.25 acres or less are exempt from the canopy and preservation requirements of this Division as long as minimum landscaping requirements as may be required by this Division are met and maintained.
- (3) Single family lots that are more than 1.25 acres but less than or equal to 2.5 acres are exempt from the canopy and preservation requirements of this Division as long as Heritage Tree, Specimen Tree and minimum landscaping requirements as may be required by this Division are met and maintained.
- (4) Single-family properties 2.5 acres or less that have a Certificate of Occupancy are exempt from the requirements of this Division as long as minimum landscaping and tree preservation requirements as may be required by this Division are met and maintained.
- (5) The removal of any plant that is a Non-Native Noxious Invasive Plant as specified in Section 62-4332 of this Division except within shoreline protection buffers as defined by Article X, the Brevard County Coastal Construction Setback Line as defined by Article XII, and wetlands as defined by Article X. Within these areas, Non-Native Noxious, Invasive Plant removal is exempt if:
 - a. No mechanical equipment is used.
 - b. Roots shall not be removed below ground. Above ground foliage may be cut and stumps treated appropriately.
 - c. Herbicides are used to treat the invasive species as approved for aquatic use.Other methods may be considered pursuant to the waiver provisions set forth in Section 62-4344.
- (6) Linear Projects that are public or privately constructed except when part of a site plan or subdivision. Linear projects include federal, state and county roadways, such as arterial and collector roads, sidewalks, trails and paths.
- (7) Emergency removal of a dead or seriously damaged tree that adversely affects the health, safety and welfare of the property owners or the general public.
- (8) When the proposed land clearing activity is regulated by another state or federal agency and such regulations may pre-empt local regulations..
- (9) The removal of vegetation that has been ordered by the County, pursuant to the provisions of Chapter 114, Article II. Prior to issuing the order for removal of vegetation pursuant to the provisions of chapter 114, Article II, Code Enforcement shall consult NRMO. If the removal conflicts with the requirements

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- or intent of this Division, the County manager or designee shall negotiate a resolution of the conflict.
- (11) All lands that have an existing land clearing permit, approved site plan or building permit shall be exempt from requirements of this Division that are inconsistent with the previous ordinance.

SECTION 7. Sec. 62-4335. Non-Bona Fide Agricultural Land Clearing Activities. is created as follows:

Sec. 62-4335. Non-Bona Fide Agricultural Land Clearing Activities.

- (1) To the extent provided by law, any activity of a Bona Fide Agricultural Use on land classified as agricultural land ("Green Belt") pursuant to Section 193.461, Florida Statute is exempt from the requirements of this Division (see Section 62-4334, Exemptions). However, land clearing activities on lands not classified as "Green Belt" pursuant to Section 193.461, Florida Statute shall meet the following requirements:
- a. NRMO shall be provided with a completed Non-Bona Fide Agricultural Land Clearing Application.
 - b. NRMO shall be provided one (1) copy of a completed and signed Conservation Plan from USDA.
 - c. The proposed Agricultural Activity shall be a use or activity permitted by the existing zoning of the property.
 - d. Abutting properties shall be notified by the applicant of the proposed land clearing activity. Written verification of the notification shall be required by NRMO.
 - e. Properties where the proposed Agricultural Activity is not a Bona Fide Agricultural Use, shall be subject to the roll-back requirements in this Division as defined in Section 62-4332, Definitions.
- (2) Proposed Bona Fide Agricultural Use land clearing activities on lands that are proposed, but not yet classified as "Green Belt" pursuant to Section 193.461, Florida Statute shall be subject to the Roll Back requirements in this Division as defined in Section 62-4332, Definitions.

SECTION 8. Sec. 62-4336. Penalties and Remedies. is created as follows:

Sec. 62-4336. Penalties and Remedies.

- (1) General Penalties
Unless permitted through an After-The-Fact Permit, violations of this Division shall be punished pursuant to Section 62-5 and Section 1-7, Brevard County Code, as amended. Violations of this Division are considered irreparable and irreversible in nature.
- (2) Special Provisions
- a. Each quarter acre, or fraction thereof, of land clearing in violation of this Division shall constitute a separate violation.
 - b. If Protected Trees are cut down on or removed from the site, each tree shall constitute a separate violation.
 - c. The Board of County Commissioners may establish a schedule of fines to be assessed pursuant to Section 2-176 by resolution.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- d. The Board of County Commissioners may establish by resolution both mitigating and aggravating factors to be considered in assessment of a fine imposed pursuant to Section 2-176, Brevard County Code.
- (3) Additional Remedies
In addition to any fines imposed one or more of the following remedies shall apply:
- a. Stop-work orders
- i. Properties that are in violation of this Division shall not have permits approved nor certificate of occupancy or completion issued pursuant to this Division until the violation has been resolved to the satisfaction of the County.
- ii. The NRMO Director or designee may issue a stop-work order immediately on verification of the violation by the County. A property owner may request a hearing pursuant to the applicable County Code.
- b. Restoration and Replacement
- i. If one or more specimen or heritage trees are cut down on or removed from the site, restoration and replacement shall be required.
- ii. Restoration and replacement is preferred for all other violations.
- iii. The NRMO Director or designee shall be responsible for reviewing and approving all restoration plans.
- c. Mitigation as provided for in Section 62-4344 of this Division.
- (4) Fines assessed pursuant to Section 2-176, Brevard County Code, that are collected will be deposited into a trust fund to be utilized for re-vegetation, restoration and management of public conservation lands or for the purchase of environmentally sensitive lands. It is expected that collected funds will be utilized – not accrued for future use. All acquisitions made through this program shall be voluntary.

SECTION 9. Sec. 62-4337. Permit Application Requirements and Review Process. is created as follows:

Sec. 62-4337. Permit Application Requirements and Review Process.

Unless specifically exempted by Section 62-4334, a permit shall be required prior to any land clearing activities.. NRMO shall provide application forms for those properties not part of an application for a building permit, subdivision or site plan. If a property is the subject of a building permit, subdivision or site plan permit, the information required in this section shall be provided in the appropriate application. Prior to submittal of the plans required in this section, the applicant is strongly encouraged to meet with the County to discuss the requirements of this Division. All landscape and land clearing plans shall be prepared by a Recognized Knowledgeable Person. All plans submitted for landscaping and land clearing permits that are part of a subdivision or site plan application, shall be approved in writing by a professional civil engineer, professional architect or landscape architect, registered in the State of Florida and proficient in site design.

(1) Application Requirements:

- a. Name, address and phone number. If the applicant is not the property owner of record, written authorization from the property owner is required.
- b. Legal description of the property.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- c. Location map showing the property's relationship to nearby roads and landmarks.
 - d. Boundary survey drawn to scale not to exceed one inch to 100 feet, depicting all existing and proposed structures, lot dimensions, and location and amount of clearing proposed.
 - e. Survey of all existing Protected Trees and Canopy Coverage, and identified to species and dbh. For properties greater than five (5) acres, an alternative methodology of locating individual trees may be used if the methodology is approved by NRMO. The tree survey shall be prepared by a professional land surveyor registered in the State of Florida.
 - f. Depiction of existing and proposed tree canopy boundaries.
 - g. The zoning classification and land uses for the property and abutting properties.
 - h. Wetlands and their boundaries that have been delineated pursuant to Chapter 62-340, Florida Administrative Code, as amended.
 - i. Proposed use of the property.
 - j. Aerial photograph depicting location of proposed activities on the property.
 - k. If the application is for approval of a landscape plan as part of a building permit, subdivision or site plan application, the following additional information is required on the plans.
 - i. All parking areas.
 - ii. All other Vehicular Use Areas, access aisles and drives.
 - iii. Natural and man-made water bodies.
 - iv. On-site sewage disposal systems or central sewer lines.
 - v. Location of proposed source of irrigation supply.
 - vi. Size, number and species of all required landscape materials.
 - vii. Description and location of all existing trees and native vegetation and vegetative communities to be preserved.
 - viii. All existing and proposed utility and drainage easements, poles or structures.
 - ix. All applicable setback and buffers as may be required by Article X and XII of this Chapter.
 - x. Limits of fill, excavation, and clearing with applicable square footages.
 - l. Any other information that is necessary to determine compliance with the County's land development regulations.
- (2) Review Process for applications other than building permits:
- a. Upon receipt of the application and fee, NRMO shall review the application within fifteen calendar (15) days to determine that all required information has been submitted and is sufficient for review purposes. This review period may be extended by NRMO due to unusual circumstances, including but not limited to, natural disasters resulting in an increased workload. The applicant shall be notified of the deficient items. Upon submittal of the deficient or missing information by the applicant, NRMO shall review the application to determine that the requested information has been provided. If the requested information has not been provided or is insufficient, the applicant shall be notified that no further review will be performed by NRMO until the requested information is provided or sufficient.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- b. Once the application has been deemed complete or the applicant has notified NRMO in writing that no further information will be provided, NRMO shall review the application within fifteen calendar (15) days to determine its compliance with the performance standards contained in this Division and shall either approve or deny the permit application. This review period may be extended by NRMO due to unusual circumstances, including but not limited to, natural disasters resulting in an increased work load.
- (3) Building Permit Applications shall be processed and reviewed through the Building Code Office procedures.

SECTION 10. Sec. 62-4338. Land Clearing Performance Standards. is created as follows:

Sec. 62-4338. Land Clearing Performance Standards.

Unless specifically exempted by Section 62-4334, all land clearing activities shall meet the performance standards for the applicable activity listed in this section. Land clearing activities for lands with existing Certificates of Occupancy or Completion shall meet the minimum standards in Sections 62-4338 and 62-4339 in perpetuity except as allowed by this Division and as approved by NRMO. Any land clearing activities shall be in compliance with Chapter 62, Articles II, X, XII, and XIII of the County Code. All land clearing activities shall comply with the following performance standards.

- (1) A land clearing permit shall expire 90 days from the date of issuance for single-family lots and shall expire concurrently with the construction permit for subdivisions and multifamily, commercial, institutional, public and industrial projects. Two, thirty (30)-day extensions may be authorized by the County Manager or designee for single-family residential provided appropriate justification warrants, such as unusual weather, seasonal situations or inability to obtain permits from other agencies.
- (2) The applicant shall post the land clearing permit on the affected property in such a manner as to be visible from an abutting road. The land clearing permit shall remain posted on the affected property during all applicable land clearing activity. It is the responsibility of the applicant to maintain the land clearing permit in a clearly visible manner at all times.
- (3) The trimming, pruning, maintenance or removal of Mangroves shall be consistent with applicable federal or state regulations. Permits from appropriate agencies shall be provided for verification prior to the issuance of a land clearing permit by the County.
- (4) Vegetative buffers or other ground covers that retard erosion must be established or installed within seven (7) days after final grade of a subdivision, commercial, industrial or multi-family project has been obtained or within fourteen (14) days after the last construction activity has occurred. Erosion and sedimentation control measures shall be in compliance with the Best Management Practices as outlined in the *Florida Stormwater, Erosion, and Sedimentation Control Inspectors Manual*. 2005. Florida Department of Environmental Protection and Florida Department of Transportation, as may be amended and as required by Chapter 62-25, Florida Administrative Code, as may be amended.
- (5) The Buildable Area of a single-family residential lot or parcel, including lots or parcels in the AU zoning category, in excess of one-half acre which has been designated on a landscape plan as an area on which no alterations shall occur

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- shall be considered for the purposes of this Division to be one-half acre. Where clearing takes place on more than one-half acre, the Buildable Area shall be considered to be that amount of land that has been or is being cleared or altered.
- (6) Survey permit. A survey permit is required for clearing for surveys, soils testing and engineering testing. Protected Trees may not be cleared for survey or soil and engineering testing purposes.
- a. The owner of the property proposed to be cleared, or the authorized agent, shall submit an application for the proposed land clearing activity to the County, on such form as provided by the County. The survey permit shall expire 30 days from the date of issuance. The County Manager or designee may grant an administrative waiver for an additional 30 days for hardship beyond the owner's control, including adverse weather, size of property and inability to obtain permits from other agencies.
- b. The applicant shall post the survey permit on the affected property in such a manner as to be visible from an abutting road. The survey permit shall remain posted on the affected property during all applicable land clearing activity. It is the responsibility of the applicant to maintain the survey permit form in a clearly visible manner at all times.
- c. The survey permit shall be limited to the minimum amount required by the activity and shall not exceed ten (10) feet.
- (7) If the project is not completed prior to the expiration date of the Active Development Order, the cleared areas shall be vegetated to the minimum canopy preservation, tree preservation and landscaping standards.
- (8) No land clearing permit shall be issued prior to approval of a site plan, subdivision, building permit, land alteration permit or private lake permit. No land clearing shall take place prior to the issuance of the required land clearing permit.

SECTION 11. Sec. 62-4339. Canopy and Tree Preservation Performance Standards. is created as follows:

Sec. 62-4339. Canopy and Tree Preservation Performance Standards.

Unless specifically exempted by Section 62-4334, all development shall meet the performance standards listed in this section.

- (1) The amount of Canopy Coverage preservation on each property shall be determined using the following standards based on the property's Buildable Area:

<u>Land Use</u>	<u>Minimum Canopy Preservation of the Buildable Area</u>	<u>Canopy Achieved by Planted Trees of the Buildable Area</u>	<u>Total Canopy Percentage of the Buildable Area</u>
Single-Family Residential	20%	10%	30%
Multi-Family Residential	15%	10%	25%
Commercial, Institutional, Public	10%	10%	20%
Industrial	10%	5%	15%

- a. No more than fifty percent (50%) of planted trees shall be of any one genus (i.e. *Quercus*, *Pinus*, *Acer*, etc.) to encourage biodiversity and decrease impacts from disease.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- b. Preserved trees shall have protective barriers during construction which encompass the root protection zone.
 - c. Credits for canopy preservation greater than the minimum required shall be given in accordance with the provisions in Section 62-4343.
 - d. Canopy preservation areas in new subdivisions, industrial or commercial developments shall be within separate tracts or conservation easements with sufficient protective language to prohibit activities that are detrimental to the perpetual preservation of the area.
 - e. Activities permitted within canopy preservation areas include landscaping, passive recreation areas, fences, boardwalks, trails, common use decks and paths as long as these areas are pervious and not within the root protection zone of any tree, except as permitted herein, and do not necessitate the removal of vegetation, except as approved by NRMO. Boardwalks and trails may not exceed six (6) feet in width. Decks may not exceed twenty-five percent (25%) of the total root protection zone. Habitat management practices, such as prescribed fire, may occur within the root protection zone.
 - f. Credit for canopy preservation shall not be given for areas excluded from the Buildable Area.
 - g. Canopy Coverage achieved through the use of planted trees shall be credited at twenty-five percent (25%) of the projected canopy at maturity of the species as specified in Appendix C. If the actual canopy of the planted tree is larger than twenty-five percent (25%) of the mature canopy size, actual Canopy Coverage of the particular tree shall be credited.
 - h. Existing trees that are successfully relocated elsewhere on the property can be credited towards the Canopy Coverage requirements but shall not be credited towards preservation requirements.
- (2) All development subject to this Division shall preserve Protected Trees unless specifically exempted herein.
 - (3) Where on-site canopy and tree preservation performance standards cannot be met due to Adverse Site Conditions, the process and standards in Section 62-4344 shall be applied.

SECTION 12. Sec. 62-4340. Landscaping Performance Standards. is created as follows:

Sec. 62-4340. Landscaping Performance Standards.

Unless specifically exempted by Section 62-4334, all development shall meet the performance standards listed in this section.

- (1) No Certificate of Occupancy or Certificate of Completion shall be issued by the County without full satisfaction of the following landscaping requirements by the applicant in accordance with the approved Development Order.
- (2) Satisfaction of the landscaping standards shall be achieved through the preservation of existing native vegetation to the Greatest Extent Feasible. When the minimum landscaping standards cannot be achieved through preservation, plantings of new vegetation shall be required to meet the standards.
- (3) All development shall meet the following standards through preservation, plantings, or a combination thereof:

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

<u>Minimum Trees Per Acre of Buildable Area</u> <u>Minimum size specifications shall be as outlined in Section 62-4340 (8)</u> <u>Lots containing less than one acre of Buildable Area shall provide no less than five (5) trees.</u>	<u>5</u>
<u>Minimum Inches of dbh per acre of Buildable Area</u> <u>No less than fifteen (15) inches dbh per ¼ acre or fraction thereof.</u>	<u>60</u>
<u>Minimum Number of Shrubs and Groundcovers, Not Including Sod, per Acre of Buildable Area (or fraction thereof)</u> <u>Minimum standard is a three-gallon fully rooted 15-18 inches in height shrub or equivalent.</u> <u>Preservation of 25 square feet of native understory is equal to one three gallon fully rooted 15-18 inches in height planted shrub.</u>	<u>250</u>

- All plantings shall be at least Florida No. 1 grade as defined by the *Grades & Standards for Nursery Plants*, 1998. Division of Plant Industry, Florida Department Agriculture and Consumer Services, as may be amended.
- (4) At least fifty percent (50%) of trees required for preservation and planting shall be of native species. At least fifty percent (50%) of shrubs and groundcovers shall be native species or recommended by "Waterwise Florida Landscapes, 2004. Florida Water Management Districts, as may be amended.
- (5) Road frontage and Vehicular Use Areas.
- This section does not apply to single-family lots, parcels or lots platted as part of an approved subdivision. For residential subdivisions and commercial, public, institutional, or industrial projects, the following specific locational landscape requirements shall be satisfied:
- a. Type B, roadway buffer in accordance with the vegetative buffering requirements of this Division.
 - b. Street Plantings. A continuous landscaped buffer shall be constructed along sidewalks and public or private roads internal to the project except for safety requirements at points of ingress and egress into the property and intersections. Such landscape buffers shall be a minimum of eight (8) feet in width and shall contain trees planted a maximum of forty (40) feet on center along the entire length. There shall be no parking or structures other than permitted signage located within this vegetated area. All landscaped areas, including trees located in public rights-of-way that are counted towards the fulfillment of this requirement, shall be properly maintained in accordance with the approved landscape plans. Appropriate tree selection shall be approved by NRMO. If a tree or any plant material dies, it shall be replaced so as to meet all requirements of this Division.
 - c. To mitigate the Heat Island Effect, Vehicular Use Areas shall have appropriate shading.
 - i. For each ten parking spaces, one landscape island and tree shall be provided. For all Vehicular Use Areas, fifty percent (50%) of the required trees shall be large species of minimum size. Medium size tree species shall also meet minimum size requirements. Small species trees may be planted but shall not be credited towards the fulfillment of these requirements.

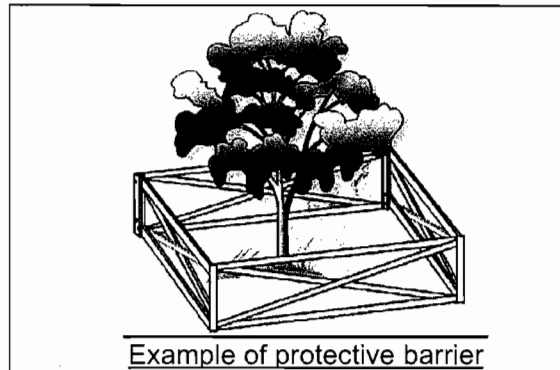
EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- ii. Parking spaces immediately abutting a landscape buffer required pursuant to Section 62-4341 or vegetated lands of comparable quality subject to a perpetual conservation easement shall be exempted from this subsection.
 - iii. Where bus, recreational vehicle, boat, motorcycle, golf cart, or any other non-standard spaces are provided, a landscape island twice the size of each non-standard space shall be provided for each ten non-standard spaces. There shall be one planted or preserved tree (minimum three (3) inches dbh) for every 300 square feet contained within the landscape island.
 - iv. Vehicular Use Area landscaping shall be evenly distributed throughout the parking area.
 - v. For all sites, there shall be no more than fifteen (15) consecutive spaces permitted without a required landscape island.
 - vi. For all Vehicular Use Areas, islands shall not be less than twelve (12) feet in width for medium size tree species or fifteen (15) feet in width for large size tree species. Length will be determined by the length of the adjacent parking space.
 - d. For commercial and industrial uses, for each 400 square feet of Vehicular Use Area other than parking, there shall be an additional ten (10) square feet of landscaping. The placement of this must be in association with the Vehicular Use Area and shall be integrated within the Vehicular Use Area in a manner compatible with vehicular movement.
- (6) Additions or modifications to existing structures.
Any applicant for an Active Development Order for an external expansion, modification or addition to structures existing on the property, where the expansion or addition shall increase the applicable floor area of the structure at least twenty-five percent (25%) shall comply with all landscaping requirements specified in this Division. Where demolition of existing buildings or creation of separate buildings is being proposed or has occurred, these areas shall meet current performance standards. Where Vehicular Use Areas are being expanded or replaced, such areas shall be required to meet the standards in Section 62-4340(5) as applicable.
- (7) Standards for plant materials. Whether preserved or newly planted, all plant materials utilized to satisfy the landscaping requirements in this Division shall conform to the standards for Florida No. 1 grade as defined by the *Grades & Standards for Nursery Plants*, 1998, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, as may be amended.
- (8) Minimum size of newly planted trees. Trees used to fulfill the landscaping requirements in this Division, shall meet the following overall height, diameter (dbh) and Spread requirements, at the time of planting, by species classification:
- a. For single-family residential uses:
 - i. Trees: Eight (8) feet tall with one inch diameter (dbh) minimum and two-foot Spread.
 - ii. Palms: Eight (8) feet of Clear Trunk.
 - b. For multi-family, commercial, institutional, and industrial uses:
 - i. Large species: Twelve (12) feet tall with three (3) inch diameter (dbh) minimum and five (5) foot Spread, and if required to be planted within Vehicular Use Areas at least 300 square foot Pervious Area.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- ii. Medium species: Ten (10) feet tall with one inch (1) inch diameter (dbh) minimum and three (3) foot Spread, and if required to be planted within Vehicular Use Areas at least 240 square feet Pervious Area.
 - iii. Small species: Eight (8) feet tall with one (1) inch diameter (dbh) minimum and two-foot Spread.
 - iv. Palms: Ten (10) feet of Clear Trunk.
- (9) Use of palms. Preservation of palms, or the planting of palms, may only be used to satisfy up to twenty-five percent (25%) of the required landscaping unless barrier island conditions prohibit the use of less salt-tolerant plants. In no event shall more than 24 palms per acre be utilized to satisfy the landscaping requirements in this division.
- (10) Use of synthetic plants. In no event shall synthetic plants such as manmade, plastic, rubber or silk plants be used for landscaping credits. Removal of existing landscape materials for installation of synthetic plants is prohibited.
- (11) Selection of plant materials. The selection of new plant materials to satisfy the landscaping requirements in this Division shall be compatible with the proposed use of the site, type of soils, hydroperiods, climate, water quality and other general environmental concerns.
- (12) Location of plant materials. The vegetation utilized to satisfy the landscaping requirements in this Division shall be located on the site in such a manner that the vegetation shall:
- a. Not interfere with drainage systems or utility services or create an unsafe visual clearance or other safety hazard. This does not prohibit the appropriate plantings in stormwater retention or detention areas or within utility easements.
 - b. Be placed in a manner that will not interfere with vehicular or pedestrian traffic and circulation or visibility.
 - c. Be protected from vehicular encroachment.
- (13) Protection of preserved vegetation during construction. All vegetation to be preserved on the site must be protected to ensure survivability during and after construction on the site. An applicant shall provide to NRMO the proposed methods of vegetation protection that will be utilized during and after construction. The methods shall be approved prior to issuance of the land clearing permit. Protective methods and barriers for preserved vegetation shall be deployed prior to the beginning of construction or any alteration of the site. No soil disturbance or compaction, construction materials, traffic, trenching, fill or other land disturbing activities are allowed within the root protection zone of preserved vegetation.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE



- (14) Site preparation. Before landscape installation, the applicant shall provide documentation that the soils are suitable for the prescribed plantings. Any soil amendments shall be preformed in accordance with accepted industry standards. For multi-family, institutional, public, residential subdivisions, commercial and industrial development, certification by a registered or certified landscape professional will be required as proof that such Soil Amendments have been made prior to the issuance of the Certificate of Occupancy or Completion.
- (15) Prior to the issuance of the Certificate of Occupancy or Certificate of Completion for single-family, subdivision, multifamily, commercial, and industrial projects, and at the time of development of government-owned lands, all Non-Native Noxious Invasive Plants, as defined in this Division, shall be removed. For lots greater than five (5) acres, the requirement to remove and control re-growth of Non-Native Noxious Invasive Plants applies to five (5) contiguous acres to and including the Buildable Area as defined in section 62-4332. After the issuance of the Certificate of Occupancy or Certificate of Completion, re-growth of Non-Native Noxious Invasive Plants shall be controlled in perpetuity. The requirements to remove Non-Native Noxious Invasive Plants at the time of development and control re-growth of such plants in the required area within the site shall apply countywide and prospectively to property after the effective date of this ordinance.
- (16) For projects using Xeriscaping™ or Water-Wise Landscaping, the following criteria shall be met:
- a. Landscape plans must clearly demonstrate that plant species are grouped by hydrozones (i.e., natural areas, drought tolerant areas, and oasis areas). In addition, the landscape must be installed as detailed in the landscape plan.
 - b. Property must be one hundred percent (100%) free of Non-Native Noxious Invasive Plants.
 - c. A layer of at least three (3) inches of non-synthetic inorganic or organic mulches must be present. The use of mulch containing Chromated Copper Arsenate (CCA) is expressly prohibited. NRMO has the authority to inspect and require testing of newly placed mulch material for CCAs and the responsibility to deny final approval of a landscape plan if mulches containing CCAs are used.
 - d. No more than fifty percent (50%) of the landscape shall be equipped with high volume (micro) irrigation delivery systems.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- e. Soil analysis and letter confirming appropriate amendments must be submitted to NRMO.
 - f. Property must be free of nuisance vegetation as defined in Chapter 114, Article II.
 - g. Landscape must be appropriately maintained. Improper pruning shall not constitute appropriate maintenance. In no event shall overgrowth as defined in Chapter 114, Article II be allowable as Xeriscaping™ or Water-Wise Landscaping.
 - h. Consistent with Florida Law, the automatic irrigation system, if any, must be equipped with an automatic rain sensor shut-off device.
 - i. If criteria a through h are met in their entirety, NRMO may provide special recognition in the form of a listing on the Brevard County web site or via signage to be displayed in the landscape and a fifty percent (50%) reduction of the required shrubbery square footage per acre of Buildable Area shall be credited.
- (17) Performance bond. When the County Manager or designee determines that circumstances indicate that the planting of trees or vegetation prior to the issuance of a Certificate of Occupancy or Certificate of Completion would not be prudent, for reasons such as an improper time of year for the planting of trees, the applicant may post a performance bond with the Board of County Commissioners, in a form acceptable to the County. The performance bond, if posted, shall be in an amount of no less than one hundred twenty-five percent (125%) of the estimated cost of all trees and vegetation to be planted, plus labor, pursuant to the requirements of this division. The performance bond shall be received and accepted by the County prior to the issuance of the Certificate of Occupancy or Certificate of Completion.
- (18) Removal and replacement criteria.
- a. Removal criteria.

A Protected Tree in excess of the minimum number of trees required for preservation, as specified in this Division, shall be approved for removal by NRMO if one or more of the following criteria are met:

 - i. Where site design modifications, as determined by a pre-clearing inspection, are not feasible to allow the use permitted, as determined by the specific zoning of the subject property. Streets, rights-of-way, easements, utilities, lake perimeters, septic tanks, and lot lines shall be shifted whenever possible to preserve trees.
 - ii. Where the trunk of a Protected Tree is located closer than ten feet, or 25 feet for any protected pine, from the foundation of the proposed structure, and it is not feasible to relocate the structure.
 - iii. Where the location of the tree prevents any access to the property from a publicly dedicated and maintained roadway, or where the tree constitutes a hazard to pedestrian or vehicular traffic that cannot be mitigated without removing the tree.
 - iv. Where the location of the tree prevents the construction of utility lines, drainage facilities, on-site sewage disposal systems, roadways or required Vehicular Use Areas which cannot be practically relocated or rerouted or where the trees cannot be utilized as part of these systems.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- v. Where the tree is weakened by age, storm, fire or other injury so as to pose a danger to persons, property, site improvements or other trees.
- vi. Where trees reduce visibility of a nonresidential development more than fifty percent (50%) of the linear footage of the lot along the roadway to which the project has primary frontage.
- b. Replacement criteria.
Where the removal of a protected tree meets any one or more of the criteria identified in subsections (18)a(i), (18)a(ii), or (18)a(vi), the applicant may choose one of the following options to be included as part of the required landscape requirements:
 - i. The applicant shall provide one or more native canopy species trees to replace the removed tree where the total dbh of the replacements is equal to one hundred and fifty percent (150%) of the total dbh of the tree or trees removed.
 - ii. The applicant may relocate or transplant the protected tree elsewhere on the same lot or parcel of land if there is a source of water and adequate irrigation system on the site to ensure viability of the transplanted tree.

SECTION 13. Sec. 62-4341. Landscape Buffers. is created as follows:

Sec. 62-4341. Landscape Buffers.

The purpose of the vegetative buffering requirements set out in this section is to provide visual and physical screening and buffering between potentially incompatible uses and to reduce the effects of glare, noise and incompatible activities, to include commercial, institutional, and industrial uses when they abut existing residential uses.

- (1) Type A, Compatibility Buffer. Where a fence or wall is required by Article VI of this Chapter, the Type A buffer, as defined in this subsection, may be utilized in lieu of the required fence or wall. This buffer classification shall be used to separate commercial, institutional, or industrial uses from residential uses. The Type A buffer shall be completely opaque from the ground up to a height of at least six feet, except where located within 25 feet of a road, where it shall be four feet in height. In conjunction with this buffer, a minimum 20-foot vegetated area shall be provided. There shall be no parking or structures other than permitted signage located within this vegetated area.
 - a. The opaque buffer may utilize a masonry wall, wood fence, Landscaped Earth Berm, planted or existing vegetation or any combination thereof that maintains a completely opaque buffer.
 - b. Location of fences and walls. Where a fence or wall is used to fulfill the screening requirements within a vegetative buffer, it shall be located one foot inside of the property line that abuts the residential zoning. When an impediment such as a drainage easement, ditch or water body runs along a property line, an administrative waiver may be granted by the NRMO Director or designee to allow the masonry wall or fence to be placed along the edge of the ditch or water body instead of on the property line. Where there are existing trees within the buffer area, the fence or wall shall be located so as to preserve the trees.
- (2) Type B, Roadway Buffer. This buffer classification shall be required for all development excluding individual single-family homes not within platted

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

subdivisions. This buffer shall be landscaped, be located adjacent to any public road and have a minimum width of 15 feet. There shall be no parking or structures other than permitted signage located within this vegetated area.

- (3) Planting requirements. The planting requirements for the Vegetative Buffer Areas shall be consistent with Appendix B as amended, and shall be credited toward the overall landscaping requirements. Minimum buffering and landscaping of Vehicular Use Areas shall be met regardless of other requirements.

SECTION 14. Sec. 62-4342. Maintenance and Inspections. is created as follows:

Sec. 62-4342. Maintenance and Inspections.

- (1) Except as allowed by Section 62-4340 (18), the health and viability of all required landscape materials on the site, whether preserved or newly planted, must be maintained through proper care or replacement in perpetuity after issuance of the Certificate of Occupancy, Certificate of Completion, or restoration as may be required to resolve a code violation.
- (2) For multi-family, residential subdivisions, commercial, institutional, and industrial projects, the County may perform a courtesy inspection of the landscaping within 90 days after issuance of the Certificate of Occupancy or Certificate of Completion. If the vegetation appears to be under stress, the staff shall notify the property owner. A second inspection may be performed ten to twelve months after the issuance of the Certificate of Occupancy or Certificate of Completion. If the vegetation is not viable at that inspection, notice shall be given to the property owner and the property owner shall be responsible for replacing the vegetation with equivalent landscape material. Failure to have viable landscape materials or preserved areas consistent with the approved landscape plan after of the issuance of the Certificate of Occupancy or Certificate of Completion shall constitute a violation as described under Section 62-4336. Failure to remove Non-Native Noxious Invasive Plants and control re-growth prior to the final landscaping inspection is a violation of this Division and shall be enforced pursuant to Section 62-4336. A maintenance bond, cash bond or letter of credit shall be collected in conjunction with the application fee for multi-family, commercial, institutional, and industrial projects equal to twenty-five percent (25%) of the cost of vegetation other than sod. This maintenance bond, cash bond or letter of credit shall be forfeited if vegetation consistent with the approved landscape plan is not maintained in a viable state or if re-growth of Non-Native Noxious Invasive Plants is not controlled for the twelve-month duration of the bond. The County reserves the right to enter property to make the necessary inspections.
- (3) An onsite inspection shall be conducted prior to the approval of the land clearing permit.

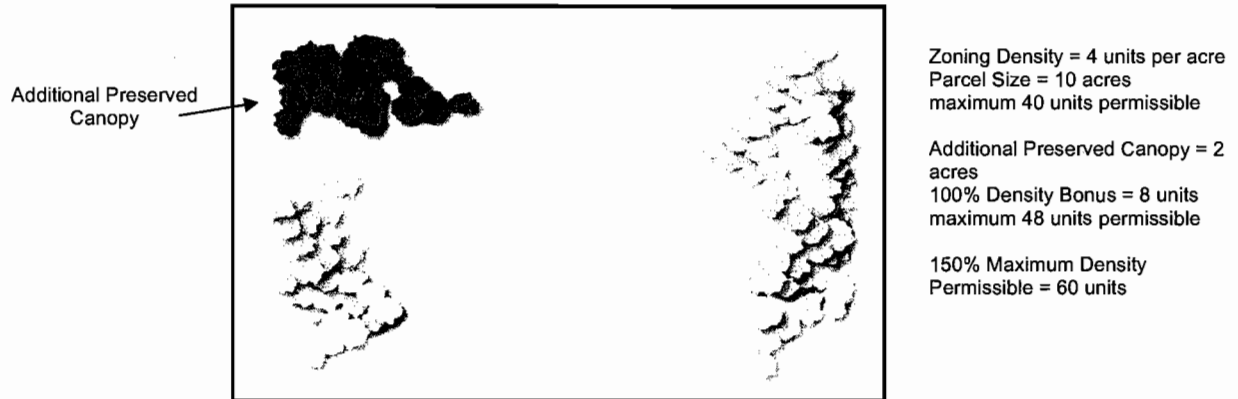
SECTION 15. Sec. 62-4343. Incentives for Increased Canopy and Tree Preservation and Increased Landscaping. is created as follows:

Sec. 62-4343. Incentives for Increased Canopy and Tree Preservation and Increased Landscaping.

To encourage the preservation of Canopy, Protected Trees, Specimen Trees and Heritage Trees, the following incentives are provided.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- (1) For preservation of canopy greater than the minimum total canopy required for the land use and its associated root protection zone, a density bonus equal to one hundred percent (100%) of the excess canopy preservation area shall be granted not to exceed one hundred and fifty percent (150%) of the density assigned to the property. If other density transfers or bonuses are used in combination with this incentive, the overall density of the property shall not exceed one hundred and fifty percent (150%) of that permitted by the zoning district.



Example of Density Bonus

- (2) Preservation of vegetation of special concern.
In addition to credit for additional preservation of trees or canopy, landscaping credit may be accumulated for the preservation on the site of any of the following vegetation of special concern that is in a healthy condition:
- a. For each one hundred (100) square feet of land containing no dimension less than ten (10) feet, that is predominately vegetated by rare, endangered or threatened plant species as listed in Volume 5, *Plants, Rare and Endangered Biota of Florida*, University Presses of Florida, Gainesville, Florida, and as listed in Section 581.185, Florida Statute, the property owner shall receive 200 square feet of landscape credit for that class of vegetation. No species of Mangroves shall be eligible for points under this subsection.
 - b. For each one hundred (100) square feet of vegetation classified as hardwood hammock, barrier island scrub, cypress domes or sand pine scrub associations preserved on the site, total tree planting requirements shall be reduced by five percent (5%) when the vegetative community is preserved intact; and the vegetative community preserved comprises an area of no less than one hundred (100) square feet with no dimension less than ten feet.
 - c. For each one hundred (100) square feet of vegetation classified as barrier island association preserved on the site, landward of the County Coastal Setback Line, total landscaping requirements shall be reduced by five percent (5%) when the vegetative community is preserved intact and the

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- vegetative community preserved comprises an area of no less than one hundred (100) square feet with no dimension less than ten feet.
- d. For each one hundred (100) square feet of native vegetation preserved adjacent to a scenic vista or public roadway classified as arterial or collector, Type B Roadway Buffer requirements may be waived for the equivalent area if the native vegetative community is preserved and maintained intact and the vegetative community preserved comprises an area of no less than one hundred (100) square feet with no dimension less than ten (10) feet.
 - e. If Mangroves do not presently exist on shorelines contiguous to estuarine waters and are planted on four-foot (4) centers, the requirements for shrubs may be reduced accordingly. The minimum size of newly planted Mangroves shall be fully rooted 3-gallon container plants with a minimum height of 15-18 inches.
 - f. For preservation of each Specimen or Heritage Tree, the corresponding tree planting requirements shall be reduced by the dbh of the Specimen or Heritage Tree divided by four inches.

SECTION 16. Sec. 62-4344. Alternative Landscape Enhancement Plans, Mitigation, Compensation and Waivers. is created as follows:

Sec. 62-4344. Alternative Landscape Enhancement Plans, Mitigation, Compensation and Waivers.

In cases of Adverse Site Conditions or hardship, Alternative Landscape Enhancement Plans may be considered. Such plans shall be signed and sealed by a landscape architect registered in the state of Florida except for individual single-family homes not part of a platted subdivision. Alternative Landscape Enhancement Plans may consist solely or a combination of on-site preservation, landscaping enhancement, on-site mitigation, off-site mitigation and compensation. In all cases, the standards for Alternative Landscape Enhancement Plans shall be, in order of priority, on-site preservation of existing native vegetation, on-site landscape enhancement, on-site mitigation, off-site mitigation, and compensation.

- (1) Alternative Landscape Enhancement Plans are intended to provide increased flexibility for sites demonstrating existing Adverse Site Conditions. Alternative Landscape Enhancement Plans shall meet the following performance standards on-site:
- a. Results in landscaping that exceed specific goals and intent of landscape regulations.
 - b. Provides sufficient tree plantings to achieve a tree canopy equal to five percent (5%) greater than the minimum required at the time of development.
 - c. Provides heat island mitigation and landscape buffers, as required by the landscaping code.
 - d. Replaces Protected Trees with new plantings of the same species at a rate of one hundred and fifty percent (150%) of the cumulative Diameter at Breast Height (dbh) of the trees removed, using minimum four (4) inch dbh plantings.
 - e. Parking shall not exceed the minimum required for the proposed use(s).

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

- f. When the applicant provides clear and convincing evidence that demonstrates the canopy preservation and tree preservation performance standards listed within this Division cannot be met on the subject property, the applicant may submit an alternative plan that includes mitigation for consideration.

(2) Mitigation

When the applicant has provided clear and convincing evidence that demonstrates the canopy preservation and tree preservation performance standards cannot be met on the subject property, the applicant may submit an Alternative Landscape Enhancement Plan that includes mitigation. Specimen or Heritage Trees are not eligible for consideration of mitigation and must be preserved or relocated on-site. Mitigation can consist of a combination of restoration and replacement of trees and canopy through tree plantings, relocation of trees to another site, (with written authorization from the receiving property owner), off-site canopy preservation or monetary compensation. For all mitigation, except for compensation, the applicant is responsible for maintenance in perpetuity and bonding as set forth in Section 62-4342. The types of mitigation and applicable standards are as follows:

a. Restoration and Replacement

- i. For every Protected Tree that cannot be preserved or re-located on-site, the size of the replacement tree shall be at least five (5) inches dbh and the number of planted trees required shall be determined by a ratio of one hundred and fifty percent (150%) of the Protected Tree's dbh.
- ii. All restoration or replacement areas shall be permanently protected in a conservation easement recorded in the public records in Brevard County.

b. Relocation

- i. For every Protected Tree that cannot be preserved or reasonably relocated on-site, the Protected Tree may be relocated to another site acceptable to the County. Reasonable relocation includes techniques such as root pruning, tree spades and other similar techniques. Relocation techniques shall be reviewed and approved by the County prior to being used for any relocation of trees both on and off the property.
- ii. All relocation areas shall be permanently protected in a conservation easement recorded in the public records in Brevard County.

c. Off-site preservation. If on-site canopy and tree preservation standards cannot be met and restoration and relocation are not options, then off-site preservation may be considered. Off-site preservation will be based on square footage of canopy at a ratio of two (2) to one (1) of similar quality and diversity. Similar quality and diversity shall be determined by a certified arborist.

d. When the applicant has provided clear and convincing evidence that demonstrates the canopy and tree preservation performance standards and alternative landscape enhancement plan objectives listed within this Division cannot be met on the subject property or through mitigation, the applicant may submit a compensation proposal for consideration.

(3) Compensation

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Compensation for the loss of canopy and Protected Trees shall be determined as follows:

- a. Compensation (C) for trees of known Number REMoved (NREM) and known Total DBH (TDBH) shall be calculated using the costs established by Resolution.
- b. Compensation for trees of known Number REMoved (NREM) but unknown total diameter shall be calculated using the costs established by Resolution.
- c. Compensation for trees for which neither the total diameter nor the number can be determined shall be made under the assumption that the site is one hundred percent (100%) forested. Compensation shall be calculated using the costs established by Resolution, or the valuation provided by a tree appraisal conducted by an arborist certified by the International Society of Arboriculture or landscape architect registered in the state of Florida and where the appraisal was conducted in accordance with the methodology contained in the Guide for Plant Appraisal, 9th edition, as amended and published by the International Society of Arboriculture.
- d. Compensation for Specimen or Heritage Trees illegally removed or destroyed shall be three (3) times the calculated cost of C.
- e. All compensation funds shall be deposited in the trust fund established by Section 62-4336 of this Division.

(4) Waivers

- a. When the NRMO Director or designee has determined that the site will not support the required trees and vegetative communities to be preserved as well as the required landscaping, an administrative waiver to tree planting requirements may be granted. It is the intent of this Division that preservation of native and Florida-friendly trees shall take precedence over additional planting of trees and vegetation.
- b. When the County Manager or designee determines that a minor administrative adjustment to the applicable parking standards in nonresidential zoning classifications would allow for the preservation or additional planting of native or Florida-Friendly Landscaping on the site, upon a written request by the applicant, together with a vegetation survey, submitted with the required landscaping plan, the County Manager or designee may administratively waive up to thirty percent (30%) of the applicable parking standards for the property. Where the County Manager or designee determines that additional preservation would occur if required parking reduction were granted, applicant must submit for parking reduction by up to thirty percent (30%) to allow preservation. The total parking spaces shall not be less than seventy percent (70%) of the parking as required by the Land Development regulations. If the parking requirements of any other section of this Code conflict with the landscaping requirements of this division, the conflict may be resolved administratively by the County Manager or designee.

SECTION 17. Sec. 62-4345. Appeals. is created as follows:

Sec. 62-4345. Appeals.

EXHIBIT 1
PROPOSED LLTP TASK FORCE ORDINANCE

Any appeals relating to any administrative decision or determination concerning implementation or application of the provisions of this Division shall be filed in accordance with the provisions set forth in Section 62-301, Brevard County Code.

SECTION 18. Conflicting Provisions. In the case of a direct conflict between any provision of this ordinance and a portion or provision of any other appropriate federal, state or county law, rule code or regulation, the more restrictive shall apply.

SECTION 19. Severability. If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of the ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are declared severable.

SECTION 20. Area Encompassed. This ordinance shall take effect only in the unincorporated area of Brevard County, Florida.

SECTION 21. Inclusion in code. It is the intention of the Board of County Commissioners that the provisions of this ordinance shall become and be made a part of the Code of Ordinances of Brevard County, Florida; and that the sections of this ordinance may be renumbered or re-lettered and that the word "ordinance" may be changed to "section," "article," or such other appropriate word or phrase.

SECTION 22. Effective Date. A certified copy of this ordinance shall be filed with the Office of the Secretary of State, State of Florida within ten (10) days of enactment. This ordinance shall take effect upon adoption and filing as required by law.

ATTEST

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

Scott Ellis, Clerk

Helen Voltz, Chair
As approved by the Board of County
Commissioners on

Reviewed for form and content by:

Christine Lepore
Assistant County Attorney

EXHIBIT 1
APPENDIX A-1

Appendix A-1**Noxious Weed List**

Source: Florida Department of Agriculture and Consumer Services rule 5B-57.007, Florida Administrative Code
Mark A. Garland Florida Department of Agriculture and Consumer Services July 6, 2004

Parasitic Weeds

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Aeginetia</i> spp.	aeginetia	Orobanchaceae (broomrape family)	Indomalaysian region and East Asia		*			3 species. Non-photosynthetic parasites on grasses and other monocots. <i>A. indica</i> is pest of sugarcane. Photos: http://www.science.siu.edu/parasitic- plants/Scrophulariaceae/NoPhoto.Scrophs.html
<i>Alectra</i> spp.	alectra	Scrophulariaceae (snapdragon family) or Orobanchaceae (broomrape family)	Tropical Africa, Asia		*			40 species. Hemiparasites (with chlorophyll). Photos: http://www.science.siu.edu/parasitic- plants/Scrophulariaceae/Hemipar.ht ml.
<i>Cuscuta</i> spp., except the native Florida species	dodder	Convolvulaceae (morning-glory family)	Cosmopolitan	* (<i>C. japonica</i>)	all except native U.S. species			~145 species, 8 native to Florida. Yellow-stemmed non- photosynthetic twining parasites of herbs and woody plants. Species are distinguished by minute floral and fruit characters.
<i>Orobanche</i> spp., except native <i>O. uniflora</i> .	broomrape	Orobanchaceae (broomrape family)	Temperate and subtropical regions		*			150 species, 1 native to Florida. Non-photosynthetic parasites. Photos: http://www.science.siu.edu/parasitic- plants/Scrophulariaceae/Orobanche. Gallery.html

EXHIBIT 1
APPENDIX A-1

Terrestrial Weeds

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Ageratina adenophora</i>	crofton weed	Compositae or Asteraceae (sunflower family)	Mexico		*			Serious rangeland weed in India, Nigeria, Southeast Asia, Pacific Islands, Australia, New Zealand, California. Toxic to livestock. http://ucce.ucdavis.edu/datastore/detailreport.cfm?usernumber=2&surveynumber=182
<i>Alternanthera sessilis</i>	sessile joyweed	Amaranthaceae (amaranth family)	South Asia?	*	*			Weed of over 30 crops, mostly in tropics and subtropics. Holm et al. 1997, p. 45. http://www.hear.org/pier/species/alternanthera_sessilis.htm
<i>Asphodelus fistulosus</i>	onionweed	Liliaceae (lily family) or Asphodelaceae (asphodel family)	Mediterranean region, south Asia		*			Flora Europaea (5: 17. 1980) includes <i>A. tenuifolius</i> in this species. Weed of cultivated fields in India, Pakistan (<i>A. tenuifolius</i>), Australia. Also in California, New Mexico, Texas (http://plants.usda.gov/cgi_bin/plant_profile.cgi?symbol=ASF12). Holm et al. 1997, p. 86.
<i>Avena sterilis</i> (including <i>Avena ludoviciana</i>)	animated oat, wild oat	Gramineae or Poaceae (grass family)	Old World		*			Weed of cereal crops worldwide. Known from Oregon, California, Pennsylvania, New Jersey (http://plants.usda.gov/cgi_bin/plant_profile.cgi?symbol=AVST). Holm et al. 1977, pp. 107-9.

**EXHIBIT 1
APPENDIX A-1**

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Borreria alata</i>	broadleaf buttonweed	Rubiaceae (coffee family)	?		*			USDA list uses <i>Spermacoce alata</i> . Weed of crops in tropics worldwide. "Has recently become very troublesome and is spreading rapidly" (Holm et al. 1997, p. 113). Species hard to identify. "This genus [<i>Spermacoce</i>] needs a worldwide revision" (Howard, Flora Lesser Antilles 5: 462. 1989).
<i>Carthamus oxyacantha</i>	wild safflower	Compositae or Asteraceae (sunflower family)	Central and southern Asia		*			Common weed in Pakistan, India, Iraq, Afghanistan, Iran (Reed 1977, p. 614). Taxonomic info, references: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?9239
<i>Chrysopogon aciculatus</i>	Pilipiliula, Mackie's pest, lovegrass	Gramineae or Poaceae (grass family)	Tropical Asia, Australia, Polynesia	(*)	*			Weed in Asian tropics; sharp seeds cause ulcers in animal flesh (Reed 1977, p. 51). Illustration, description: http://herbarium.usu.edu/webmanual/default.htm . "In the contiguous United States, it is known only from controlled plantings at the experiment station in Gainesville, Florida." (FNA 25:634. 2003). Possibly native in Hawaii (http://www.hear.org/pier/species/chrysopogon_aciculatus.htm). <i>C. pauciflorus</i> is native to Florida.
<i>Commelina benghalensis</i>	Benghal dayflower, tropical spiderwort	Commelinaceae (dayflower family)	Old World tropics	*	*			In at least California, Louisiana, Georgia, and Florida. Has recently become a serious pest in "Roundup Ready" crops. See http://edis.ifas.ufl.edu/AG230 .

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Crupina vulgaris</i>	common crupina	Compositae or Asteraceae (sunflower family)	Mediterranean, southwest and central Asia		*			Thistle-like range weed in Idaho, Washington, Oregon, California. See www.cdfa.ca.gov/phpps/ipc/weedinfo/crupina.htm . Taxonomic info, references: http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?Crupina+vulgaris
<i>Cupaniopsis anacardioides</i>	carrotwood	Sapindaceae (soapberry family)	Australia, Indonesia	*			I	Weed tree of natural areas like mangrove swamps, formerly planted as street tree in south Florida. See http://aquat1.ifas.ufl.edu/cupana.htm
<i>Digitaria scalarum</i>	African couchgrass, fingergrass	Gramineae or Poaceae (grass family)	East Africa		*			“Worst weed of the major crops of [eastern Africa]” (Holm et al. 1977, p. 254). See also Reed 1977, p. 66.
<i>Digitaria velutina</i>	Velvet fingergrass, annual conchgrass	Gramineae or Poaceae (grass family)	Africa		*			Serious weed of crops in Africa. Holm et al. 1997, p.297. Illustration, description: http://herbarium.usu.edu/webmanual/default.htm . See also Reed 1977, p. 69.
<i>Dioscorea alata</i>	white yam	Dioscoreaceae (yam family)	Old World tropics	*			I	Like <i>D. bulbifera</i> , but stems angled or winged and leaves opposite. http://aquat1.ifas.ufl.edu/dioala.html
<i>Dioscorea bulbifera</i>	air potato	Dioscoreaceae (yam family)	Asia, Africa, Australia	*			I	Vine with round stems, heart-shaped alternate leaves, aerial tubers. Drapes trees. http://aquat1.ifas.ufl.edu/diobul.html

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Drymaria arenarioides</i>	lightning weed, alfombrilla	Caryophyllaceae (pink family)	Mexico		*			Range plant toxic to livestock. See Kingsbury, J.M. 1964. <i>Poisonous Plants of the United States and Canada</i> , p. 248; Williams, M.C., J. Range Manage. 31:182-184. 1978; http://www.ansci.cornell.edu/plants/toxicagents/saponin.html ; Reed 1977, p. 275.
<i>Emex australis</i>	three-cornered jack	Polygonaceae (buckwheat family)	Southern Africa		*			Spiny-fruited herb. Crop and pasture weed in India, Australia; also in California. Biocontrol brochure: http://www.ento.csiro.au/research/weedmgmt/pdf/emex.pdf ; http://www.hear.org/pier/species/emex_australis.htm .
<i>Emex spinosa</i>	devil's thorn	Polygonaceae (buckwheat family)	Mediterranean region	?	*			Like <i>E. australis</i> but with more erect stems, smaller fruits. Weed in Australia. Collected in waste ground in Pensacola in 1901, not seen in Florida since. See http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail_list?this_id=987438 . Also in (or formerly in) Hawaii, California, Texas, New Jersey, Massachusetts. Photo: http://www.uib.es/depart/dba/botanica/herbari/generes/Emex/spinosa/
<i>Euphorbia prunifolia</i>	painted euphorbia	Euphorbiaceae (spurge family)	Originally neotropical, now throughout tropics and subtropics (<i>E. heterophylla</i>).	* (<i>E. heterophylla</i>)				A wild poinsettia. Generally considered a synonym of <i>Euphorbia heterophylla</i> (<i>Poinsettia heterophylla</i>) (http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?Euphorbia+prunifolia). Annual weed of fields, crops, gardens (Holm et al. 1997, p. 361, as <i>E. prunifolia</i>).

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Galega officinalis</i>	goat's rue	Leguminosae or Fabaceae (legume family)	Mediterranean region, central Europe, Pakistan		*			Garden and "forage" plant (toxic!) sparingly escaped in northern U.S. south to Maryland, Utah. See http://www.agriculture.state.pa.us/plantindustry/lib/plantindustry/pdffdocs/vol24_10.pdf . Range in U.S.: http://plants.usda.gov/cgi_bin/plant_profile.cgi?symbol=GAOF .
<i>Heracleum mantegazzianum</i>	giant hogweed	Umbelliferae or Apiaceae (carrot family)	Caucasus, southwest Russia		*			Giant herb 10-20 feet tall. Juice causes photodermatitis, scarring skin. Naturalized in northern U.S. south to Oregon, Maryland. See http://www.oda.state.or.us/plant/weed_control/alerts/hogweed.html .
<i>Imperata brasiliensis</i>	Brazilian satintail	Gramineae or Poaceae (grass family)	Mexico, Central America, Caribbean, South America	?	*			Illustration, description: http://herbarium.usu.edu/webmanual/default.htm . Formerly in Fla., but no collections later than 1970 (FNA 25: 621. 2003). Like cogon grass but with 1 stamen per flower.
<i>Imperata cylindrica</i>	cogongrass	Gramineae or Poaceae (grass family)	Old World tropics, temperate regions	*	*		I	Covers thousands of acres of central and west Florida. 2 stamens per flower. Illustration, description: http://herbarium.usu.edu/webmanual/default.htm . Also http://plants.ifas.ufl.edu/impcyl.html
<i>Ipomoea triloba</i>	little bell, Aiea morning glory	Convolvulaceae (morning-glory family)	Throughout tropics, perhaps originally West Indian	*				Annual vine. Removed from USDA list April 15, 1999, because it was thought to be native to Florida. See http://www.ceris.purdue.edu/napis/pests/weeds/freg/fr990316.txt . Range in Florida, photos: http://www.plantatlas.usf.edu/main.asp?plantID=4038 .

**EXHIBIT 1
APPENDIX A-1**

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Ischaemum rugosum</i>	murainoglass	Gramineae or Poaceae (grass family)	Southern and eastern Asia, Australia		*			Serious weed of rice in tropics; also in sugarcane (Holm et al. 1977, p. 295). Supposedly eliminated from Maryland and south Texas (FNA 25: 648. 2003). Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Leptochloa chinensis</i>	Asian sprangletop	Gramineae or Poaceae (grass family)	Tropical Asia		*			Weed of rice, sugarcane, upland crops in east Asia (Holm et al. 1977, p. 307). Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Lycium ferocissimum</i>	African boxthorn	Solanaceae (nightshade family)	South Africa		*			Spiny shrub used as hedge plant in Australia and New Zealand and escaped; see http://www.rnzih.org.nz/pages/lyciumferocissimum.htm .
<i>Lygodium japonicum</i>	Japanese climbing fern	Schizaeaceae (curlygrass family)	Eastern and southern Asia	*			I	Climbing fern more common in north Florida. http://plants.ifas.ufl.edu/lygjap.html
<i>Lygodium microphyllum</i>	small-leaved climbing fern; Old World climbing fern	Schizaeaceae (curlygrass family)	Tropical Africa, eastern and southern Asia, Australia	*			I	Climbing fern taking over northern Glades and spreading across south Florida. http://aquat1.ifas.ufl.edu/lygod.html
<i>Melaleuca quinquenervia</i>	melaleuca	Myrtaceae (myrtle family)	New Guinea, northeast Australia, New Caledonia	*	*	*	I	One of the most common exotic pest trees in south Florida. http://plants.ifas.ufl.edu/melainv.html

**EXHIBIT 1
APPENDIX A-1**

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Melastoma malabathricum</i>	Indian rhododendron	Melastomataceae (meadow-beauty family)	Tropical Asia, northern Australia	*	*			Ornamental tree that invades wet natural areas in tropics and subtropics. Found in Martin County (http://131.247.163.200/website/plantatlas/maps.asp?plantID=4157). " <i>M. malabathricum</i> " in Hawaii now called <i>M. candidum</i> (http://www.hear.org/starr/hiplants/reports/html/melastoma_candidum.htm).
<i>Mikania cordata</i>	mile-a-minute	Compositae or Asteraceae (sunflower family)	Eastern and southeast Asia, Pacific islands		*			Vine. Smothers tree crops like tea, rubber, coffee in Old World tropics (Holm et al. 1977, p. 320). See also Reed 1977, p. 654.
<i>Mikania micrantha</i>	climbing hempweed	Compositae or Asteraceae (sunflower family)	Mexico, Caribbean, Central and South America		*			Vine like <i>M. cordata</i> . Weed in south Asia, Pacific Islands, Australia (Holm et al. 1977, p. 320). See http://www.issg.org/database/species/ecology.asp?si=42&fr=1&sts= , http://kakadu.nt.gov.au/pls/portal30/docs/FOLDER/DBIRD_PI/AGRICULTURE/WEEDS/AGNOTES/535.PDF
<i>Mimosa invisa</i>	giant sensitive plant	Leguminosae or Fabaceae (legume family) or Mimosaceae (mimosa family)	Brazil, Venezuela, Colombia		*			Thicket-forming shrub or vine with spiny stems; serious weed in southeast Asia, Australia, Pacific islands (Holm et al. 1977, p. 328). http://kakadu.nt.gov.au/pls/portal30/docs/FOLDER/DBIRD_PI/AGRICULTURE/WEEDS/AGNOTES/493_0.PDF

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Mimosa pigra</i>	catclaw mimosa	Leguminosae or Fabaceae (legume family) or Mimosaceae (mimosa family)	Mexico, Caribbean, Central and South America	*	*	*	I	Spiny thicket-forming shrub or vine like <i>M. invisa</i> . Weed in Australia, Africa, Asia. Known from several counties in south Florida. http://plants.ifas.ufl.edu/mimpig.html ; http://www.issg.org/database/species/ecology.asp?si=41&fr=1&sts=tss
<i>Nassella trichotoma</i>	serrated tussock	Gramineae or Poaceae (grass family)	Southern Brazil, Uruguay, Argentina		*			One of the worst weeds of rangeland in Australia: http://www.deh.gov.au/biodiversity/invasive/weeds/n-trichotoma.html ; also in New Zealand, southern Europe. Found in U. S. as contaminant of fescue seed from Argentina in 1988: http://entweb.clemson.edu/caps/pestar/st/st.htm .
<i>Neyraudia reynaudiana</i>	Burma reed	Gramineae or Poaceae (grass family)	East, south, southeast Asia, Indonesia	*			I	Reed-like grass with plumose flower head, invader of natural areas in south Florida. Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Opuntia aurantiaca</i>	jointed prickly pear	Cactaceae (cactus family)	Argentina, Paraguay, Uruguay		*			Forms dense thickets in South Africa: http://www.arc.agric.za/institutes/ppri/main/divisions/weedsdiv/jcactus.htm and Australia: http://www.nrme.qld.gov.au/factsheets/pdf/pest/PP29.pdf .
<i>Oryza longistaminata</i>	red rice	Gramineae or Poaceae (grass family)	Africa		*			A weed of rice, but also perhaps the progenitor of cultivated <i>O. glaberrima</i> (Holm et al. 1997, p. 531). "The taxonomy of the <i>Oryza</i> genus appears to be more of an art than a science" (ibid., p. 534).

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Oryza punctata</i>	red rice	Gramineae or Poaceae (grass family)	Africa		*			A weed of and close relative of rice (Holm et al. 1997, p. 531).
<i>Oryza rufipogon</i>	wild red rice	Gramineae or Poaceae (grass family)	South and southeast Asia, Indonesia, Australia		*			A weed of rice, but also perhaps the progenitor of cultivated <i>O. sativa</i> (Holm et al. 1997, p. 531).
<i>Paederia cruddasiana</i>	sewer-vine	Rubiaceae (coffee family)	South and southeast Asia	*			I	Smelly vine draping trees in Dade County. http://aquat1.ifas.ufl.edu/paecru.html
<i>Paederia foetida</i>	skunk-vine	Rubiaceae (coffee family)	China, Japan, south and southeast Asia, Indonesia	*			I	Vine like <i>P. cruddasiana</i> , particularly abundant in Hernando, Pasco counties (introduced by USDA in Brooksville before 1916). http://aquat1.ifas.ufl.edu/paefoe.html
<i>Paspalum scrobiculatum</i>	Kodomillet	Gramineae or Poaceae (grass family)	Africa, south and southeast Asia, Indonesia, Australia		*			Cultivated for grain, pasture, hay in tropics and subtropics. In Pacific islands, where perhaps native: http://www.hear.org/pier/species/paspalum_scrobiculatum.htm . Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Pennisetum clandestinum</i>	Kikuyu grass	Gramineae or Poaceae (grass family)	East Africa		*			Pasture and lawn grass, invasive in South Africa, Australia, New Zealand, Hawaii, California. See http://www.hear.org/pier/species/pennisetum_clandestinum.htm . Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .

**EXHIBIT 1
APPENDIX A-1**

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Pennisetum macrourum</i>	African feathergrass	Gramineae or Poaceae (grass family)	Africa, Yemen		*			Weed in Australia, New Zealand, Pacific islands. Also in Monterey County, California. http://www.hear.org/pier/species/pennisetum_macrourum.htm . Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Pennisetum pedicellatum</i>	Kyasuma grass	Gramineae or Poaceae (grass family)	Africa, India	*	*			Weed in Pacific islands, Australia. See http://www.issg.org/database/species/ecology.asp?si=210&fr=1&sts= In Polk, Manatee counties. Description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Pennisetum polystachyon</i>	Missiongrass, thin napiergrass	Gramineae or Poaceae (grass family)	Tropical Africa	*	*			Correct spelling is <i>P. polystachion</i> . Weed in southeast Asia, Australia, Pacific Islands. See http://www.issg.org/database/species/ecology.asp?si=210&fr=1&sts= . In Dade, Collier, Highlands counties. Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Prosopis</i> spp.	mesquite	Leguminosae or Fabaceae (legume family)	Subtropical/tropical New World		25 spp. listed; excludes native U.S. species.			44 species, 5 native to southwestern U.S. Weed trees in Southwest Asia, Africa, "one of the worst weeds in Australia", Pacific islands including Hawaii: see http://www.deh.gov.au/biodiversity/invasive/weeds/proposis.html ; http://www.hear.org/pier/species/prosopis_spp.htm .

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Pueraria montana</i>	kudzu	Leguminosae or Fabaceae (legume family)	East, southeast Asia, Indonesia, Australia, some Pacific islands	*			I	“The vine that ate the south.” Has large leaves with 3 leaflets, purple, grape-scented flowers. Scattered in Florida, commoner in north part of state. See http://www.nps.gov/plants/alien/fact/pulo1.htm ; http://aquat1.ifas.ufl.edu/puemon.html .
<i>Rhodomyrtus tomentosa</i>	downy myrtle, downy rose myrtle	Myrtaceae (myrtle family)	East, south, southeast Asia, Indonesia	*			I	Weed in Pacific islands. See http://www.issg.org/database/species/ecology.asp?si=212&fr=1&sts= . Shrub that dominates understory of native pinelands in south Florida. http://aquat1.ifas.ufl.edu/rhotom.html .
<i>Rottboellia cochinchinensis</i>	itchgrass	Gramineae or Poaceae (grass family)	Africa, East and tropical Asia, Indonesia, Australia	*	*			Weed of crops in Africa, Philippines, Gulf of Mexico, northern South America (Holm et al. 1977, p. 139, as <i>R. exaltata</i>). Painful fiberglass-like hairs on leaf sheaths. Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Rubus fruticosus</i>	bramble blackberry	Rosaceae (rose family)	Europe		*			Name refers to an aggregate of many asexually-reproducing forms in section <i>Rubus</i> —2000 named (Flora Europaea 2: 7. 1968). “Name should, strictly speaking, be applied to <i>R. plicatus</i> Weihe & Nees” (Jarvis, Taxon 41: 573. 1992). Serious weeds in southern Australia. See http://www.weeds.crc.org.au/documents/wmg_blackberry.pdf .

**EXHIBIT 1
APPENDIX A-1**

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPP C	Notes/References
<i>Rubus moluccanus</i>	wild raspberry	Rosaceae (rose family)	Southeast Asia, Indonesia, Australia, Pacific islands		*			Weedy on Indian Ocean islands (http://www.hear.org/pier/species/rubus_moluccanus.htm). " <i>R. moluccanus</i> " in Hawaii is <i>R. sieboldii</i> (Wagner et al., Manual of the Flowering Plants of Hawai'i 2: 1110. 1990). See Kalkman, Flora Malesiana series I, 11:275-280. 1993.
<i>Saccharum spontaneum</i>	wild sugarcane	Gramineae or Poaceae (grass family)	Africa, central, south and southwest Asia, Indonesia		*			Relative of and possible progenitor of sugarcane, with which it can hybridize. Weed of crops and pastures in Asia (where native) (Holm et al. 1997, p. 693), invasive in Hawaii, Panama (http://www.hear.org/pier/species/saccharum_spontaneum.htm).
								Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .
<i>Salsola vermiculata</i>	wormleaf salsola	Chenopodiaceae (goosefoot family) or Amaranthaceae (amaranth family)	Sicily, Spain, Portugal		*			Dryland range plant known from California www.cdfa.ca.gov/phpps/ipc/weedinfo/salsola-vermiculata.htm Photos:
								http://www.uib.es/depart/dba/botanica/herbari/generes/Salsola/vermiculata/
<i>Sapium sebiferum</i>	Chinese tallow tree	Euphorbiaceae (spurge family)	China, Taiwan	*			I	Now known as <i>Triadica sebifera</i> (Esser, Harvard Papers in Botany 7: 19-21. 2002). Ornamental tree invading wetlands in Southeast, particularly Louisiana and east Texas. In Florida, commonest in north. http://aquat1.ifas.ufl.edu/sapium.html .

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPP C	Notes/References
<i>Schinus terebinthifolius</i>	Brazilian pepper-tree	Anacardiaceae (poison-ivy family)	Brazil, Argentina, Uruguay, Paraguay	*		*	I	One of the most abundant invasive exotic trees in south Florida. http://aquat1.ifas.ufl.edu/schinus.html .
<i>Setaria pallidifusca</i>	cattail grass	Gramineae or Poaceae (grass family)	Old World tropics		*			Now called <i>S. pumila</i> subsp. <i>pallidifusca</i> or <i>pallidifusca</i> . Weed of crops and pastures throughout Old World tropics, established in southeast Louisiana (FNA 25: 558. 2003). <i>S. pumila</i> subsp. <i>pumila</i> (from Europe) is in Florida. See Holm et al. 1997, p. 765.
<i>Solanum tampicense</i>	wetland nightshade	Solanaceae (nightshade family)	Mexico, Central America, Cuba	*	*		I	Clambering prickly shrub forming thickets in wetlands in southwest Florida: http://aquat1.ifas.ufl.edu/solan2.html ; http://www.issg.org/database/species/ecology.asp?si=424&fr=1&sts= .
<i>Solanum torvum</i>	turkeyberry	Solanaceae (nightshade family)	Mexico, Central America, Caribbean, northern South America	*	*			Tree-like weed of pastures, disturbed areas throughout tropics; in south Florida, Hillsborough, Columbia counties: http://www.hear.org/pier/species/solanum_torvum.htm ; http://aquat1.ifas.ufl.edu/soltor.html
<i>Solanum viarum</i>	tropical soda apple	Solanaceae (nightshade family)	Brazil, Argentina, Paraguay, Uruguay	*	*		I	Serious pasture weed in Florida, spreading to other southeastern states with movement of cattle. See http://www.invasive.org/tsa/ .
<i>Tridax procumbens</i>	coat buttons	Compositae or Asteraceae (sunflower family)	Mexico, Central America, northern South America	*	*			Annual or perennial weed of crops and pastures throughout tropics and subtropics. Lawn weed in south Florida. Holm et al. 1997, p. 862. http://www.hear.org/pier/species/tridax_procumbens.htm

EXHIBIT 1
APPENDIX A-1

Scientific Name	Common Name	Family	Origin	In Fla?	USDA	DEP	EPPC	Notes/References
<i>Urochloa panicoides</i>	liverseed grass	Gramineae or Poaceae (grass family)	Africa, Yemen, south Asia		*			<i>Panicum</i> -like weed of crops in Australia, where it is becoming herbicide resistant. Known from south Texas. Illustration, description: http://herbarium.usu.edu/webmanual/default.htm .

Origin of species generally taken from USDA, ARS, National Genetic Resources Program. *Germplasm Resources Information Network* -(GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. [<http://www.ars-grin.gov/>].

Presence in Florida determined with aid of Wunderlin, R. P., and B. F. Hansen. *Atlas of Florida Vascular Plants*. Institute for Systematic Botany, University of South Florida, Tampa. [<http://www.plantatlas.usf.edu/>].

USDA Noxious Weeds List: <http://www.aphis.usda.gov/ppq/weeds/noxiousweedlist.pdf>

DEP (Florida Department of Environmental Protection) Prohibited Aquatic Plants List:

<http://www.dep.state.fl.us/lands/invaspec/2ndlevpgs/perrules.htm#62C-52.011%20Prohibited%20Aquatic%20Plants>.

EPPC (Florida Exotic Pest Plant Council) 2003 Invasive Plant List: <http://www.fleppc.org/Plantlist/03list.htm>. "I" in table means Category I, a plant invading and altering native plant communities in Florida.

References abbreviated in table:

Flora of North America Editorial Committee (eds.). 2003. *Flora of North America North of Mexico*, vol. 25. Oxford University Press, New York.

Holm, L. G., D. L. Plucknett, J. V. Pancho, and J. P. Herberger. 1977. *The World's Worst Weeds: Distribution and Biology*. University Press of Hawaii, Honolulu.

Holm, L., J. Doll, E. Holm, J. Pancho, and J. Herberger. 1997. *World Weeds: Natural Histories and Distribution*. John Wiley & Sons, New York.

Reed, C. F. 1977. *Economically Important Foreign Weeds: Potential Problems in the United States*. U. S. Department of Agriculture Agriculture Handbook 498.

Prohibited Aquatic Plants 62C-52.011

Source: Florida Department of Environmental Protection Prohibited Aquatic Plants List, FAC 62-C52

- (1) Class I Prohibited Aquatic Plants -- Under no circumstances will these species be permitted for possession, collection, transportation, cultivation, and importation except as provided in Rule 62C-52.004, F.A.C.:

SCIENTIFIC NAMES - COMMON NAMES

Alternanthera philoxeroides

Alligatorweed, green lead plant

Casuarina spp. - Australian Pine

Crassula helmsii - swamp stone crop

Eichhornia spp. - waterhyacinth

Hydrilla verticillata - hydrilla, Florida elodea,

Ipomoea aquatica - water spinach

Ipomoea fistulosa

Lagarosiphon spp. - African elodea

Limnocharis flava - Sawah flowing rush

Lythrum salicari - purple loosestrife

Melaleuca quinquenervia - melaleuca

Mimosa pigra - giant sensitive plant, cat's claw

Monochoria hastata

Monochoria vaginalis

Myriophyllum spicatum - Eurasian watermilfoil

Nechamandra alternifolia

Oryza rufipogon - wild red rice

Pontederia rotundifolia - tropical pickerelweed

Salvinia spp., (excluding *S. minima*)

Schinus terebinthifolius -Brazilian pepper

Sparganium erectum - exotic burreed

Stratiotes aloides - water-aloe, soldier plant

Trapa spp. - water chestnut

Vossia cuspidata - hippo grass

**EXHIBIT 1
APPENDIX A-2**

- (2) Class II Prohibited Aquatic Plants -- These species are considered to be highly invasive and noxious in localized areas of the State of Florida. These plants may be cultured in a nursery regulated by the Department of Agriculture and Consumer Services pursuant to s. 581.031, 581.131, and 581.145, F.S., and shall only be sold out of state upon approval by the Department of Agriculture and Consumer Services. These species shall not be imported or collected from the wild. They must be contained in such a manner so as to prevent the dissemination from the nursery premises.

SCIENTIFIC NAMES - COMMON NAME

Hygrophila polysperma - *hygro*

Limnophila sessiliflora - *ambulia*

Pistia stratiotes - *water lettuce*

- (3) The department is authorized to designate additional plants to be prohibited by emergency order as provided in Rule 62C-52.012, F.A.C.
- (4) The prohibited aquatic plant list comprises the most recent and accepted scientific and common names of the prohibited aquatic plant species. However, the prohibited status also applies to any synonyms.
- (5) The department is authorized to consider a plant for inclusion on the prohibited plant list when it displays, or when there is scientific evidence to believe it could display in the Florida environment, one or more of the following characteristics:
- (a) The tendency to spread or become invasive in an ecosystem, sometimes in a rapid manner, so as to impair the ecosystem's ability to function by altering its productivity, decomposition, water fluxes, nutrient cycling and loss, soil fertility, erosion, dissolved oxygen concentrations, or its ability to maintain its existing species diversity.
 - (b) The propensity to invade and disrupt aquatic and wetland ecosystems in other areas or in other countries with climates similar to that of Florida.
 - (c) The ability to create dense, monospecific stands or monotypic stands which displace or destroy native plant habitat, destroy fish and wildlife habitats, inhibit water circulation, hinder navigation and irrigation, or severely restrict the recreational use of waterways.
 - (d) The ability to resist effective management by present technology or available management agents so that only extraordinary efforts, such as repeated chemical treatments at high dosage rates, can bring about effective management.

Specific Authority 369.25, 369.251 FS.

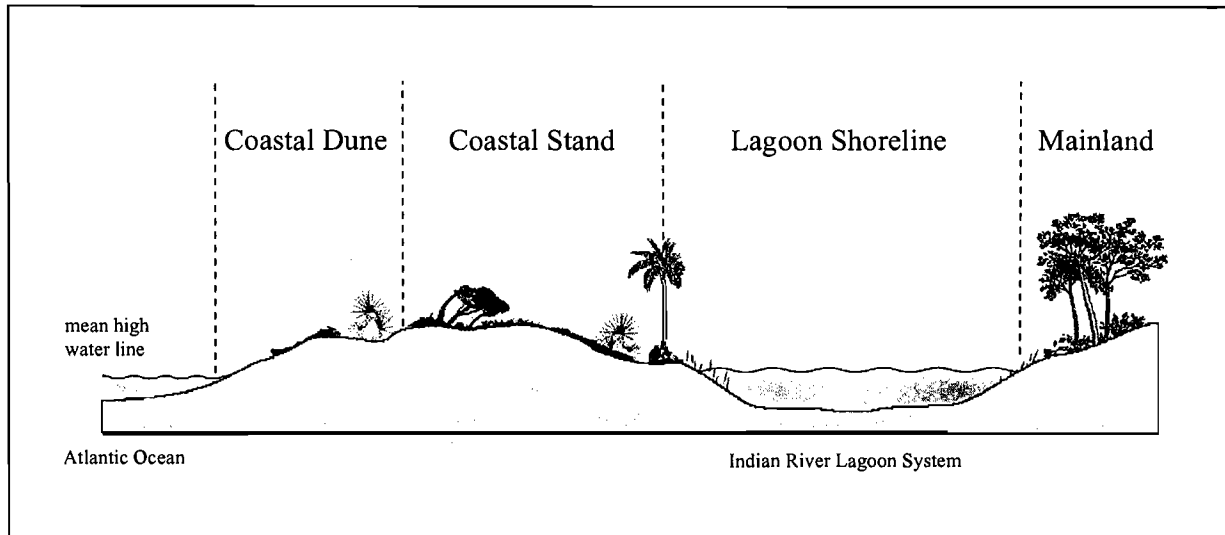
Law Implemented 369.25, 369.251 FS.

History--New 8-11-86, Amended 6-13-93, Formerly 16C-52.011.

Vegetative Buffers Planting Requirements

The following planting guidelines shall be met when establishing or re-establishing a vegetative buffer. Each planting zone shall contain plantings from all groups within the zone. Plants listed here are examples. For more options, contact the Brevard County Agricultural Extension Office or Natural Resources Management Office.

Brevard County can be divided into four planting zones traversing the County from East to West.



(1) PLANTING ZONES

(A) MAINLAND AND COASTAL STAND ZONES

1. GROUP 1 PLANTS- shall plant a minimum of three (3) feet in height four (4) feet on center.
2. GROUP 2 PLANTS- shall plant a minimum of four (4) trees for every one hundred (100) linear feet having a minimum height of eight (8) feet. Two (2) palms equal one (1) hardwood tree.
3. GROUP 3 PLANTS- shall be a minimum of twelve (12) inches in height planted three (3) feet on center.

(B) COASTAL DUNE ZONE

1. GROUP 1 PLANTS- Saw Palmetto and Coontie shall be a minimum of twelve (12) inches in height planted three (3) feet on center. All other Group 1 Plants shall be a minimum of three (3) feet in height planted four (4) feet on center.
2. GROUP 2 PLANTS- shall plant a minimum of four (4) trees for every one hundred (100) lineal feet having a minimum height of eight (8) feet. Two (2) palms equal one (1) hardwood tree.
3. GROUP 3 PLANTS- shall have four (4) inch minimum liners planted twelve (12) inches on center.

(C) LAGOON SHORELINE

1. GROUP 4 PLANTS- shall plant ten (~~10~~ 15-18) inch seedlings a minimum of four (4) feet on center.
2. GROUP 5 PLANTS- shall plug twelve (12) inches on center.
3. GROUP 6 PLANTS- shall plant or plug native sod to ensure total coverage of the buffer area.

(2) PLANT GROUPS

The following is a partial list of recommended plants and trees which should be considered when re-establishing a required vegetative buffer as referenced in the planting requirements above. This list is intended as a recommendation. Other appropriate plantings may be suggested to the NRMO for review and approval.

(A) GROUP 1 PLAN

<u>Mainland Zone</u>	<u>Coastal Stand Zone</u>	<u>Coastal Dune Zone</u>
Wax Myrtle	Wax Myrtle	Natal Plum
Sea Grape	Cocoplum	Sea Grape
Native Viburnum	Sea Grape	Native Scaevola
	Inkberry	Saw Palmetto
	Eleagnus	Cocoplum
		Cocoplum

(B) GROUP 2 PLANTS

<u>Mainland Zone</u>	<u>Coastal Zone</u>	<u>Coastal Dune Zone</u>
Oak	Sand Live Oak	Cabbage Palm
Maple	Cabbage Palm	
Longleaf or		
Slash Pine	So. Red Cedar	Sand Live Oak
So. Red Cedar	Red Bay	So. Red Cedar
Cabbage Palm	So. Magnolia	Red Bay
Bottlebrush	Myrtle Oak	Myrtle Oak
Canary Island	Chapman Oak	Chapman Oak
Date Palm		
Pindo Palm		
Chinese Elm		
Cherry Laurel		
So. Magnolia		

(C) GROUP 3 PLANTS

<u>Mainland Zone</u>	<u>Coastal Zone</u>	<u>Coastal Dune Zone</u>
Yaupon Holly	Yaupon Holly	Beach Elder
Juniper	Carissa	Inkberry
Saw Palmetto	Saw Palmetto	Railroad Vine
	Coontie	Beach Sunflower
	Seaside Oxeye	Sea Oats
	Daisy	
	Coastal Panicum	
	Cord Grass	

(D) GROUP 4 PLANTS
Lagoon Shoreline
White Mangrove
Black Mangrove
Red Mangrove

(E) GROUP 5 PLANTS
Lagoon Shoreline
Salt Jointgrass
Cordgrass
Seashore Saltgrass
Christmas Berry
Buttonwood

(F) GROUP 6 PLANTS
Lagoon Shoreline
Seashore Paspal

**EXHIBIT 1
APPENDIX C**

Appendix C										
Recommended Plants for Brevard County1										
For species not listed herein, contact the Brevard County Agricultural Extension Office or NRMO.										
LEGEND										
L=LOW, M=MEDIUM, H=HIGH, P=POOR, F=FAIR, G=GOOD, FS=FULL SUN, PS=PARTIAL SUN, SH=SHADE, B=BARRIER AND MI, S=SOUTH, C=CENTRAL, N=NORTH										
NOTE: To determine expected mature canopy size for the requirements of Section 62-3639(1)(g), the midpoint of the Expected Mature Canopy Diameter ranges given in the source publications was used.										
Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (pi r ²)	Expected Mature Height (feet)	Comments
LARGE TREES										
<i>Acer rubrum</i>	red maple	B,S,C,N	M	L	P	PS,FS	30	123	68	deciduous
<i>Carpinus carolinia</i>	American hornbeam	C,N	M	L		SH,PS	25	123	25	deciduous
<i>Carya glabra</i>	pignut hickory	S,C,N	L	L	P	FS	65	830	75	deciduous
<i>Carya tomentosa</i>	mockernut hickory	C,N	L	L	P	PS,FS	35	241	60	deciduous
<i>Catalpa bignonioides</i>	southern catalpa	C,N	L	L		PS,FS	40	314	50	deciduous
<i>Celtis laevigata</i>	hackberry, sugarberry	S,C,N	L	L	P	PS,FS	55	594	60	deciduous
<i>Cupressocyparis x leylandii</i>	Leyland cypress	S,C,N	M	M		FS	20	79	45	evergreen
<i>Diospyros virginiana</i>	American persimmon	B,S,C,N	M	L		FS,PS	28	154	50	deciduous
<i>Gordonia lasianthus</i>	loblolly-bay	S,C,N	H	L		PS,FS	13	33	48	evergreen
<i>Guapira discolor</i>	blolly	B,S	L	H		FS	30	177	40	evergreen
<i>Ilex opaca</i>	American holly	C,N	L	M	G	PS,FS	20	79	43	evergreen

**EXHIBIT 1
APPENDIX C**

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (pi r ²)	Expected Mature Height (feet)	Comments
<i>Juniperus virginiana</i>	Eastern red cedar	S,C,N	L	H	P	FS	25	123	38	evergreen
<i>Liquidambar styraciflua</i>	sweetgum	C,N	L	L		PS,FS	43	363	68	deciduous
<i>Liriodendron tulipifera</i>	yellow poplar	C,N	H	L	P	FS	30	177	100	deciduous
<i>Magnolia grandiflora</i>	southern magnolia	B,S,C,N	M	M	G	PS,FS	35	241	70	evergreen
<i>Magnolia virginiana</i>	sweet bay	S,C,N	H	M		FS,PS	20	79	45	evergreen
<i>Nyssa sylvatica</i>	black tupelo	N	M	L	G	PS,FS	30	177	70	deciduous
<i>Persea borbonia</i>	red bay	B,S,C,N	L	H	P	PS,FS	40	314	40	evergreen
<i>Pinus elliotii</i>	slash pine	B,S,C,N	L	M	F	FS	43	363	60	evergreen
<i>Pinus glabra</i>	spruce pine	C,N	M	L	G	FS	33	214	45	evergreen
<i>Pinus palustris</i>	long-leaf pine	S,C,N	L	L	F	FS	35	241	70	evergreen
<i>Pinus serotina</i>	pond pine	S,C,N	H	L	F	FS	23	104	45	evergreen
<i>Pinus taeda</i>	loblolly pine	S,C,N	L	L		FS	25	123	100	evergreen
<i>Piscidia piscipula</i>	Jamaican dogwood	B,S	L	H		PS,FS	25	123	45	deciduous
<i>Platanus occidentalis</i>	sycamore	S,C,N	L	M	G	FS	60	707	83	deciduous
<i>Prunus caroliniana</i>	cherry laurel	S,C,N	M	M	P	PS,FS	20	79	28	evergreen, poisonous
<i>Quercus hemisphaerica</i>	laurel oak	S,C,N	L	L		FS,PS	35	241	50	semi-evergreen
<i>Quercus laurifolia</i>	laurel oak	S,C,N	L	L	P	FS	40	314	65	evergreen
<i>Quercus nigra</i>	water oak	S,C,N	M	L	P	FS	65	830	55	evergreen
<i>Quercus virginiana</i>	live oak	B,S,C,N	L	H	G ₂	FS	90	1590	70	evergreen
<i>Salix babylonica</i>	weeping willow	S,C,N	H	L	P	FS	58	661	58	deciduous
<i>Sideroxylon foetidissimum</i>	mastic, false mastic	B	L	M		PS,FS	40	314	65	evergreen

EXHIBIT 1
APPENDIX C

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (πr^2)	Expected Mature Height (feet)	Comments
<i>Simarouba glauca</i>	paradise tree, bitterwood	B	L	M		PS,FS	30	177	50	evergreen
<i>Taxodium ascendens</i>	pond cypress	S,C,N	L	M	G	PS,FS	25	123	63	deciduous
<i>Taxodium distichum</i>	bald cypress	S,C,N	L	M	G	PS,FS	28	154	88	deciduous
<i>Ulmus alata</i>	Winged elm	B,S,C,N	L	L		FS,PS	35	241	58	deciduous
<i>Ulmus americana var. floridana</i>	Florida elm	S,C,N	M	L	P	PS,FS	55	594	70	semi-evergreen
<i>Ulmus parviflora</i>	Chinese elm	C,N	L	L		PS,FS	43	363	45	semi-deciduous

**EXHIBIT 1
APPENDIX C**

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (πr^2)	Expected Mature Height (feet)	Comments
MEDIUM TREES								0		
<i>Avicennia germinans</i>	black mangrove	B,S,C	H	H		FS	20	79	25	evergreen
<i>Bursera simaruba</i>	gumbo-limbo	B,S,C	L	H	G	PS,FS	43	363	38	semi-deciduous
<i>Carya floridana</i>	scrub hickory	S,C,N	L	L	P	FS	18	64	35	deciduous
<i>Carya floridana</i>	scrub hickory	B,S,C,N	L	L	P	FS	15	44	25	deciduous
<i>Cercis canadensis</i>	eastern redbud	N	L	L		PS,FS	20	79	25	deciduous
<i>Citharexylum spinosum</i>	fiddlewood	B,S	L	M		PS,FS	18	64	25	evergreen
<i>Coccoloba diversifolia</i>	pigeon plum	B,S	L	H	G	SH,FS	33	214	38	evergreen
<i>Coccoloba uvifera</i>	seagrape	B,S,C	L	H	G	PS,FS	25	123	28	evergreen
<i>Conocarpus erectus</i>	buttonwood	B,S,C	L	H		FS	25	123	38	evergreen
<i>Cordia sebestena</i>	geiger tree	B,S	L	H		PS,FS	23	104	28	evergreen
<i>Cornus florida</i>	dogwood	N	H	L	F	PS,FS	13	33	25	deciduous
<i>Crataegus flava</i>	summer haw	S,C,N	L	L		PS,FS	38	284	25	deciduous
<i>Eriobotrya japonica</i>	loquat	S,C,N	L	M		FS	33	214	25	evergreen
<i>Fraxinus caroliniana</i>	pop ash	S,C,N	H	L	P	FS	38	284	35	deciduous
<i>Ilex cassine</i>	dahoon holly	S,C,N	L	M	G	PS,FS	19	71	33	evergreen
<i>Ilex x attenuata</i>	East Palatka holly	B,S,C,N	M	M	G	PS,FS	13	33	38	evergreen
<i>Jacaranda mimosifolia</i>	Jacaranda	S,C,N	L	L	P	FS	53	552	33	deciduous
<i>Laguncularia racemosa</i>	white mangrove	B,S,C	H	H		FS	28	154	33	evergreen
<i>Magnolia grandiflora</i>	Little Gem variety southern magnolia	B,S,C,N	M	M		FS,PS	13	33	23	evergreen
<i>Morus rubra</i>	red mulberry	S,C,N	M	M		FS	30	177	60	deciduous

EXHIBIT 1
APPENDIX C

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<i>Persea palustris</i>	swamp bay	S,C,N	M	H		PS,FS	38	284	38	evergreen
<i>Quercus geminata</i>	sand live oak	B,S,C,N	L	H		PS,FS	55	594	33	evergreen
<i>Quercus incana</i>	bluejack oak	C,N	L	L		FS	28	154	33	deciduous
<i>Quercus laevis</i>	turkey oak	S,C,N	L	M	P	FS	28	154	35	deciduous
<i>Quercus myrtifolia</i>	myrtle oak	S,C,N	L			FS	25	123	25	evergreen
<i>Sapindus saponaria</i>	soapberry	B,S,C,N	L	H		PS,FS	15	44	25	semi-deciduous
<i>Zanthoxylum clava-herculis</i>	Hercules-club	B,S,C,N	L	H		PS,FS	18	64	28	deciduous
<i>Chrysophyllum oliviforme</i>	satinleaf	B,S	L	M		FS	20	79	23	evergreen
<i>Ocotea coriacea</i>	lancewood	B,S,C	L	L		PS,SH	25	123	20	evergreen
<i>Rhizophora mangle</i>	red mangrove	B,S,C	H	H		FS	20	79	20	deciduous

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SMALL TREES < 25 feet height								0		
<i>Acacia farnesiana</i>	sweet acacia	B,S,C,N	L	H	P	FS	20	79	20	evergreen
<i>Aesculus pavia</i>	red buckeye	S,C,N	M	L		PS	18	64	18	deciduous, seeds poisonous
<i>Amyris elemifera</i>	torchwood	B,S	L	H		PS,FS		0	18	evergreen
<i>Annona glabra</i>	pond-apple, custard-apple	S	H	M		FS	15	44	16	semi-deciduous
<i>Ardisia escallonioides</i>	marlberry, marbleberry	B,S	M	L		PS,SH	8	13	16	evergreen, poisonous
<i>Bumelia tenax</i>	tough bumelia	B,S,C,N	H	H		FS	15	44	23	evergreen
<i>Callistemon citrinus</i>	lemon bottlebrush	B,S,C,N	M	M		FS	13	33	13	evergreen
<i>Chionanthus virginicus</i>	fringe tree	C,N	H	L		FS,PS,SH	13	33	16	deciduous
<i>Cordia boissieri</i>	wild olive	S,C,N	L	L		FS	13	33	18	evergreen
<i>Cornus foemina</i>	swamp dogwood	S,C,N	H	L		FS,PS,SH	13	33	18	deciduous
<i>Cyrilla racemiflora</i>	titi	C,N	H	L		FS,PS	18	64	23	semi-evergreen
<i>Dodonaea viscosa</i>	varnish leaf	B,S,C,N	L	H		PS,FS	11	24	13	evergreen
<i>Ilex vomitoria</i>	yaupon holly	B,S,C,N	L	H		PS,FS	18	64	20	evergreen
<i>Jatropha integerrima</i>	peregrina	S	L	M		FS	13	33	13	evergreen, poisonous
<i>Krugiodendron ferreum</i>	black ironwood, leadwood	B,S	L	M		PS,FS	15	44	20	evergreen
<i>Lagerstroemia spp.</i>	crepe myrtle	S,C,N	L	M	F	FS	20	79	20	deciduous
<i>Lyonia ferruginea</i>	rusty lyonia	S,C,N	H	L		FS	5	5	14	evergreen

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<i>Myrcianthes fragrans</i>	Simpson's stopper	B,S,C	L	H		FS,PS	18	64	25	evergreen
<i>Myrica cerifera</i>	wax myrtle	B,S,C,N	H	H	F	PS,FS	23	104	20	evergreen
<i>Osmanthus americanus</i>	wild olive	S,C,N	L	L		PS,FS	13	33	20	evergreen
<i>Parkinsonia aculeata</i>	Jerusalem thorn	B,S,C,N	L	H		FS	23	104	18	deciduous
<i>Platycladus orientalis</i>	arborvitae	S,C,N	L	L		PS	13	33	18	evergreen
<i>Plumeria rubra</i>	frangipani	S	L	M		PS,FS	23	104	23	deciduous
<i>Prunus augustifolia</i>	Chickasaw plum	S,C,N	L	H		PS,FS	18	64	16	deciduous
<i>Prunus umbellata</i>	flatwoods plum	S,C,N	M	L		PS,FS	15	44	20	deciduous
<i>Quercus chapmanii</i>	Chapman's oak	B,S,C,N	M	M		FS	10	20	20	briefly deciduous
<i>Vaccinium arboreum</i>	sparkleberry	S,C,N	M	L		PS,SH	13	33	16	deciduous
<i>Viburnum odoratissimum</i>	sweet viburnum	S,C,N	M	L		FS,PS,SH	20	79	28	evergreen
<i>Zanthoxylum fagara</i>	wild-lime	B,S,C,N	L	H		PS,FS	20	79	20	evergreen

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PALMS										
<i>Acoelorrhaphe wrightii</i>	Everglades paurotis palm	S,C	H	M	G	FS,PS	13	33	20	evergreen
<i>Butia capitata</i>	Pindo palm	B,S,C,N	M	M		PS,FS			15	evergreen
<i>Livistona australis</i>	Australian fan palm	S,C,N	M			FS			60	evergreen
<i>Phoenix canariensis</i>	Canary Island date palm	B,S,C,N	L	M		FS			45	evergreen
<i>Rhapidophyllum hystrix</i>	needle palm	B,S,C,N	H	L	G	SH	6	7	6	evergreen
<i>Rhapis excelsa</i>	broad leaf lady palm	S,C,N	M	M		SH, PS			9	evergreen
<i>Sabal etonia</i>	Florida scrub palmetto	S,C,N	L	H	G	FS,PS	5	5	5	evergreen
<i>Sabal minor</i>	dwarf palmetto	S,C,N	L	M	G	FS,PS	5	5	5	evergreen
<i>Sabal palmetto</i>	cabbage palm	B,S,C,N	L	H	G	FS,PS	13	33	38	evergreen
<i>Serenoa repens</i>	saw palmetto	B,S,C,N	H	H	G	FS,PS	6	7	12	evergreen

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SHRUBS										
<i>Agave americana</i>	century plant	B,S,C,N	L	H		FS			6-8	evergreen
<i>Alpinia zerumber</i>	shell ginger	S,C	M	M		PS,FS			8	herbaceous perennial
<i>Argusia gnaphalodes</i>	sea lavender	B,S,C,N	L	H		FS			3-5	evergreen
<i>Baccharis halimifolia</i>	saltbush	B,S,C,N	L	H		FS, PS			10-12	semi-evergreen
<i>Berberis julianae</i>	wintergreen barberry	S,C,N	M	M		PS,FS			5	evergreen
<i>Berberis thunbergii hybrid</i>	crimson pygmy barberry	S,C,N	M	M		FS,PS			3-5	deciduous
<i>Bougainvillea glabra</i>	bougainvillea, paper flower	B,S,C,N	L	H		FS			8	evergreen
<i>Buddleja davidii</i>	butterfly bush	S,C,N	M	M		FS			8-10	evergreen
<i>Buxus microphylla v. japonica</i>	littleleaf boxwood	S,C,N	M	L		PS,FS			4	evergreen
<i>Caesalpinia pulcherrima</i>	dwarf poinciana	S,C,N	L	M		FS			P	evergreen, poisonous
<i>Callicarpa americana</i>	American beautyberry	B,S,C,N	L	L		PS,FS			4-6	deciduous
<i>Calliandra haematocephala</i>	red powderpuff	S,C,N	L	L		FS			15	evergreen
<i>Camellia sasanqua</i>	Sasanqua camellia	S,C,N	H	L		FS			15	evergreen
<i>Capparis cynophallophora</i>	Jamaica caper-tree	S,C	L	H		FS			9	evergreen
<i>Cephalanthus occidentalis</i>	buttonbush	S,C,N	H	L		PS,FS			8-12	deciduous
<i>Cestrum nocturnum</i>	night-blooming jasmine	S,C	M	M		FS			10	evergreen
<i>Chiococca alba</i>	snowberry	B,S,C	M	L		FS,PS			3	evergreen

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<i>Chrysobalanus icaco</i> "red tip"	red-tip cocoplum	B	M	L		FS,PS			12-15	evergreen
<i>Cocculus laurifolius</i>	snail seed	S,C,N	M	L		PS,FS			13	evergreen, poisonous leaves
<i>Codiaeum variegatum</i>	croton	S,C	L	M		PS,FS			8	evergreen
<i>Conradina canescens</i>	wild rosemary	S,C,N	L	M		FS			4	evergreen
<i>Crinum asiaticum</i>	crinum lily	S,C,N	M	M		FS,PS			5	herbaceous perennial, poisonous
<i>Dodonaea viscosa</i>	varnish leaf	B,S,C,N	L	H		PS,FS			6	evergreen
<i>Duranta repens</i>	golden dewdrop	S,C,N	L	M		PS,FS			12-14	evergreen, fruit is poisonous
<i>Erythrina herbacea</i>	coralbean, Cherokee bean	B,S,C,N	L	M		PS,FS			15	evergreen, seeds poisonous
<i>Eugenia foetida</i>	Spanish stopper	B	L	H		PS,FS				evergreen
<i>Forestiera segregata</i>	Florida privet	B,S,C,N	L	H		FS			10	evergreen
<i>Gamolepis chrysanthemoides</i>	African bush daisy	S,C,N	M	L		FS			3	evergreen
<i>Garberia heterophylla</i>	garberia	C,N	L	M		FS			6	evergreen
<i>Gardenia augusta</i>	gardenia	S,C,N	H	L		FS			6	evergreen
<i>Gossypium hirsutum</i>	wild cotton	B,S,C,N	L	H		PS,FS			6-12	evergreen, endangered in wild
<i>Hamelia patens</i>	firebush	B,S,C	L	M		PS,FS			3-10	evergreen
<i>Hibiscus rosa-sinensis</i>	Hibiscus	S,C	H	M		FS			8-10	evergreen
<i>Hibiscus coccineus</i>	swamp hibiscus	S,C	H	L		PS,FS			5-6	herbaceous perennial

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<i>Hibiscus syriacus</i>	Rose-of-Sharon	S,C,N	H	L		FS			10	deciduous
<i>Hydrangea macrophylla</i>	hydrangea	S,C,N	H	L		FS			5	deciduous
<i>Ilex cornuta</i>	Buford holly	S,C,N	M	L		PS,FS			8-15	evergreen
<i>Ilex crenata</i>	Japanese holly	S,C,N	H	L		PS,FS			8-10	evergreen
<i>Ilex glabra</i>	inkberry, gallberry	S,C,N	L	M		PS,FS			6-7	evergreen
<i>Ilex vomitoria "Nana"</i>	dwarf yaupon holly	B,S,C,N	L	H		PS,FS			3	evergreen, poisonous
<i>Illicium anisatum</i>	anise tree	S,C,N	M	L		PS,FS			15	evergreen
<i>Illicium parviflorum</i>	Florida anise	S,C,N	M	L		PS,FS			8-10	evergreen
<i>Itea virginica</i>	Virginia sweetspire	S,C,N	H	L		PS,FS			4-7	semi-evergreen
<i>Iva imbricata</i>	beach elder	B,S,C,N	L	H		FS			3	evergreen
<i>Ixora coccinea</i>	red ixora	S,C	M	M		FS			5	evergreen
<i>Lantana involucrata</i>	wild lantana	B,S,C,N	L	H		FS,PS			5	evergreen
<i>Leucophyllum frutescens</i>	Texas sage	S,C,N	L	M		FS			5	evergreen
<i>Lycium carolinianum</i>	Christmasberry	B,S,C,N	L	H		PS,FS			7	evergreen
<i>Lyonia ferruginea</i>	rusty lyonia	S,C,N	L	L		FS			10-15	evergreen
<i>Lyonia lucida</i>	fetterbush, shiny lyonia	B,S,C,N	H	L		FS,PS			3-5	evergreen
<i>Myrica cerifera</i>	wax myrtle	B,S,C,N	L	H		PS,FS			20	evergreen
<i>Nerium oleander</i>	oleander	B,S,C,N	L	H		FS			15	evergreen, entire plant is very poisonous
<i>Osmanthus fragrans</i>	wild olive	S,C,N	M	L		PS,FS			20	evergreen
<i>Plumbago auriculata</i>	blue plumbago	S,C,N	L	M		FS			5	evergreen

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<i>Pittosporum tobira</i>	green pittosporum	B,S,C,N	M	H		FS			6-8	evergreen
<i>Podocarpus macrophyllus</i>	yew podocarpus	S,C,N	M	M		PS,FS			35	conifer
<i>Psychotria nervosa</i>	shiny-leaf wild coffee	B,S,C,N	M	M		PS,SH			5	evergreen
<i>Psychotria sulzneri</i>	dull-leaf wild coffee	B,S,C	M	M		PS,SH			6-9	evergreen
<i>Randia aculeata</i>	white indigo berry	B,S	L	H		FS			8	evergreen
<i>Rapanea punctata</i>	myrsine	B,S,C,N	L	H		PS,FS			9	evergreen
<i>Rhapiolepis indica</i>	indian hawthorne	S,C,N	M	M		PS			4	evergreen
<i>Rhododendron austrinum</i>	Florida flame azalea	S,C,N	H	L		PS			6	deciduous
<i>Rhododendron hybrids</i>	azaleas	S,C,N	H	L		PS,SH			4-6	evergreen
<i>Rosa spp.</i>	rose	S,C,N	M	L		FS			10	evergreen
<i>Sambucus canadensis</i>	elderberry	B,S,C,N	M	L		FS			10-15	deciduous
<i>Scaevola plumieri</i>	beachberry	B	L	H		FS			3-5	evergreen
<i>Sideroxylon tenax</i>	buckthorn	B,S,C,N	L	H		FS			20	evergreen
<i>Sophora tomentosa var. truncata</i>	yellow necklacepod	B,S,C,N	L	H		PS,FS			6-8	evergreen, seeds and pods are poisonous
<i>Stachytarpheta urticifolia</i>	blue porterweed	B,S,C,N	L	H		FS			4-5	evergreen
<i>Tibouchina urvilleana</i>	glorybush	S,C,N	H	L		PS,FS			10	evergreen
<i>Tournefolia=Argusia gnophalodes</i>	sea lavender	S,C	L	H		FS			6	evergreen
<i>Turnera ulmifolia</i>	yellow alder	B,S,C,N	L	H		PS,FS			2-4	evergreen
<i>Vaccinium myrsinites</i>	shiny blueberry	B,S,C,N	L	L		PS,FS			2	evergreen
<i>Viburnum obovatum</i>	Walter's viburnum	S,C,N	L	L		PS,FS			12-15	evergreen

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<i>Viburnum suspensum</i>	Sandankwa viburnum	S,C,N	H	L		PS, FS			6	evergreen
<i>Viburnum odoratissimum</i>	sweet viburnum	S,C,N	M	L		PS,FS			8-10	evergreen
<i>Yucca aloifolia</i>	spanish bayonet	B,S,C,N	L	H		FS			12-14	evergreen
<i>Yucca smalliana</i>	Adam's needle	B,S,C,N	L	H		FS			5	evergreen
<i>Zamia floridana</i>	coontie	B,S,C,N	L	H		FS,PS			2	evergreen

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GROUNDCOVERS										
<i>Aloe spp.</i>	aloe	B,S,C,N	L	H		FS,PS			1	perennial
<i>Bacopa monnieri</i>	waterhyssop	B,S,C,N	H	H		FS			0.5	perennial
<i>Borrichia frutescens</i>	bushy sea oxeye daisy	B,S,C,N	M	H		FS			3	perennial
<i>Canavalia rosea</i>	beach bean	B,S,C	L	H		FS			0.5	perennial
<i>Ernodea littoralis</i>	beach-creeper	B,S	L	H		FS			2	perennial
<i>Hemerocallis spp.</i>	daylily	B,S,C,N	L	H		FS			2	perennial
<i>Juniperus spp.</i>	juniper, many varieties	B,S,C,N	L	M-H		FS			varies	evergreen
<i>Licania michauxii</i>	gopher-apple	B,S,C,N	L	H		FS			1	evergreen
<i>Sesuvium portulacastrum</i>	sea-purslane	B,S,C,N	L	H		FS			1-3	perennial
GRASSES										
<i>Andropogon brachystachyus</i>	short-spike bluestem	S,C,N	M			FS				
<i>Andropogon glomeratus</i>	bushy bluestem	B,S,C,N	H			FS				
<i>Andropogon virginicus</i>	broomsedge bluestem	B,S,C,N	M			FS				
<i>Aristida spiciformis</i>	bottlebrush grass	S,C,N	M			FS				
<i>Aristida stricta var. beyrichiana</i>	wiregrass	S,C,N	M			FS,PS				
<i>Cladium jamaicense</i>	saw-grass	B,S,C,N	H	H		FS				
<i>Distichlis spicata</i>	saltgrass	B,S,C,N	H	H		FS				
<i>Equisetum hyemale</i>	scouring rush, horsetail	S,C,N	A			FS				
<i>Eragrostis elliottii</i>	Elliott's lovegrass	B,S,C,N	M	H		FS,PS				

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<i>Eragrostis spectabilis</i>	purple lovegrass	B,S,C,N	M			FS,PS				
<i>Hypericum reductum</i>	scrub hypericum	S,C,N	M			FS				
<i>Juncus effusus</i>	soft rush	B,S,C,N	H			FS,PS				
<i>Liriope muscari</i>	lilyturf	S,C,N	M	M		PS,SH				
<i>Muhlenbergia capillaris</i>	muhly grass	B,S,C,N	M	M		FS				
<i>Ophiopogon japonicus</i>	mondo grass	S,C,N	M	H		SH				
<i>Panicum hemitomon</i>	maidencane	S,C,N	H			FS,PS				
<i>Panicum virgatum</i>	switchgrass	B,S,C,N		H		FS				
<i>Paspalum distichum</i>	salt jointgrass	B	H	H		FS				
<i>Paspalum vaginatum</i>	seashore paspalum	B,S,C,N	M	H		FS				
<i>Scirpus californicus</i>	giant bulrush	S,C,N	A			FS				
<i>Sorghastrum secundum</i>	lopsided Indiangrass	S,C,N	M	H		FS				
<i>Spartina alterniflora</i>	saltmarsh cordgrass	B,S,C,N	M	H		FS,PS				
<i>Spartina bakeri</i>	sand cordgrass	B,S,C,N	M	H		FS,PS				
<i>Spartina patens</i>	marshhay cordgrass	B,S,C,N	M	H		FS				
<i>Sporobolus junceus</i>	pineywoods dropseed	S,C,N	H	H		FS,PS				
<i>Sporobolus virginicus</i>	seashore dropseed	B,S,C,N	H	H		FS				
<i>Tripsacum dactyloides</i>	eastern gamagrass, Fakahatchee grass	B,S,C,N	L	M		FS		4-6	herbaceous perennial	
<i>Uniola paniculata</i>	sea oats	B	H	H		FS				

EXHIBIT 1 APPENDIX C

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (πr^2)	Expected Mature Height (feet)	Comments
<i>Zizaniopsis miliacea</i>	southern wild rice	S,C,N	A	H		FS				
VINES										
<i>Campsis radicans</i>	trumpet creeper	S,C,N	M			FS,PS				
<i>Canavalia rosea</i>	beach bean	B,S,C,N	H	H		FS				
<i>Gelsemium sempervirens</i>	yellow jesamine	S,C,N	M			FS,PS				
<i>Ipomopsis rubra</i>	standing-cypress	S,C,N	H			FS				
<i>Lonicera sempervirens</i>	coral honeysuckle	B,S,C,N	M			FS,PS				
<i>Parthenocissus quinquefolia</i>	Virginia creeper	B,S,C,N	M			FS,PS,SH				
<i>Passiflora incarnata</i>	passion vine	B,S,C,N	H	M		FS				
<i>Passiflora suberosa</i>	corky passion-flower	B,S,C,N	H	M		FS,PS				
<i>Symphotrichum carolinianum</i>	climbing aster	S,C,N	H			FS,PS				
<i>Trachelospermum jasminoides</i>	confederate jasmine	B,S,C,N	H	H		FS,PS				
<i>Vitis rotundifolia</i>	muscadine grape	B,S,C,N	M			FS,PS				
<i>Ipomoea alba</i>	moonflower	B,S,C,N	M			FS				
<i>Ipomoea imperati</i>	beach morningglory	B	H	H		FS				
<i>Ipomoea pes-caprae subsp. Brasiliensis</i>	railroad vine	B	H	H		FS				
<i>Ipomoea purpurea</i>	purple morningglory	B,S,C,N				FS				

**EXHIBIT 1
APPENDIX C**

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (πr^2)	Expected Mature Height (feet)	Comments
<i>Tecomaria capensis</i>	cape honeysuckle	S,C	M	L		FS			6-8	evergreen, can be maintained as shrub
WILDFLOWERS										
<i>Arisaema triphyllum</i>	jack-in-the-pulpit	S,C,N	H			PS,SH				
<i>Asclepias incarnata</i>	swamp milkweed	S,C,N	H			FS,PS				
<i>Berlandiera subacaulis</i>	Florida greeneyes	S,C,N	H			FS,PS				
<i>Boehmeria cylindrica</i>	small-spike false-nettle	S,C,N	H			FS,PS,SH				
<i>Canna flaccida</i>	golden canna	S,C,N	H			FS				
<i>Conoclinium coelestinum</i>	mistflower	S,C,N	M			FS				
<i>Conradina grandiflora</i>	large-flowered conradina	S,C,N	H	H		FS				
<i>Coreopsis floridana</i>	Florida tickseed	S,C,N	H			FS				
<i>Coreopsis leavenworthii</i>	Leavenworth's tickseed	S,C,N	M			FS,PS				
<i>Gaillardia pulchella</i>	blanket-flower, gaillardia	B,S,C,N	H	H		FS				
<i>Helianthus angustifolius</i>	narrow leaf sunflower	S,C,N				FS,PS				
<i>Helianthus debilis</i>	dune sunflower	B,S,C,N	H	H		FS				
<i>Heliotropium angiospermum</i>	scorpion-tail	B	M			FS,PS				
<i>Heliotropium polyphyllum</i>	pineland heliotrope	B,S,C,N	M	M		FS,PS				
<i>Hibiscus coccineus</i>	scarlet hibiscus	S,C,N	H			FS,PS				

EXHIBIT 1 APPENDIX C

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (πr^2)	Expected Mature Height (feet)	Comments
<i>Hibiscus grandiflorus</i>	swamp rosemallow	S,C,N	H			FS				
<i>Hymenocallis latifolia</i>	mangrove spiderlily, perfumed spiderlily	B,S,C,N	M	H		FS,PS				
<i>Hymenocallis palmeri</i>	alligator-lily	S,C,N	M			FS,PS				
<i>Hypericum hypericoides</i>	St. Andrew's-cross	B,S,C,N	M			FS,PS				
<i>Hypericum tetrapetalum</i>	four-petal St. Peter's-wort	S,C,N	M			FS,PS				
<i>Iris hexagona</i>	prairie iris	S,C,N	H			FS,PS				
<i>Iva frutescens</i>	marsh elder	B	M	H		FS				
<i>Lachnanthes caroliana</i>	redroot	S,C,N	H			FS,PS				
<i>Liatris chapmanii</i>	Chapman's blazing-star					FS				
<i>Liatris gracilis</i>	slender blazing-star	B,S,C,N	M			FS				
<i>Liatris spicata</i>	spiked blazing star	S,C,N	M			FS				
<i>Liatris tenuifolia</i>	blazing-star	S,C,N	H			FS				
<i>Lythrum alatum var. lanceolatum</i>	winged loosestrife	S,C,N	H			FS,PS				
<i>Melanthera nivea</i>	snow squarestem	S,C,N	M			FS,PS				
<i>Monarda punctata</i>	dotted horsemint	B,S,C,N	M	M		FS				
<i>Opuntia humifusa</i>	prickly-pear cactus	B,S,C,N	H			FS				
<i>Penstemon multiflorus</i>	manyflower beardtongue	S,C,N	H			FS				
<i>Phoebanthus grandiflorus</i>	phoebanthus	S,C,N	H			FS,PS,SH				

**EXHIBIT 1
APPENDIX C**

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area (pi r ²)	Expected Mature Height (feet)	Comments
<i>Piloblephis rigida</i>	pennyroyal	S,C,N	H			FS				
<i>Pityopsis graminifolia</i>	silk-grass	B,S,C,N	H			FS				
<i>Rhexia cubensis</i>	meadow-beauty	S,C,N	H			FS				
<i>Rhexia mariana</i>	pale meadow-beauty	S,C,N	H			FS				
<i>Rhynchospora colorata</i>	fineleaf whitetop sedge	S,C,N	M			FS				
<i>Rudbeckia hirta</i>	blackeyed-susan	B,S,C,N		M		FS				
<i>Ruellia caroliniensis</i>	Carolina wildpetunia	S,C,N	M	M		FS,PS,SH				
<i>Salvia coccinea</i>	scarlet sage, tropical sage	B,S,C,N	M	M		FS,PS				
<i>Salvia lyrata</i>	lyre-leaved sage	S,C,N	M			FS,PS				
<i>Scutellaria integrifolia</i>	rough skullcap	B,S,C,N	M			FS,PS				
<i>Solidago fistulosa</i>	hollow goldenrod	S,C,N	H	H		FS,PS				
<i>Solidago odora var. chapmanii</i>	sweet goldenrod	B,S,C,N	M			FS,PS				
<i>Solidago sempervirens</i>	seaside goldenrod	B,S,C,N	M	H		FS				
<i>Symphotrichum dumosum</i>	bush aster	S,C,N	M			FS,PS				
<i>Teucrium canadense</i>	wood-sage	S,C,N	H	H		FS,PS				
<i>Viola lanceolata</i>	long-leaf violet	S,C,N	H			PS,SH				
<i>Viola sororia</i>	violet	S,C,N	M			PS,SH				
<i>Yucca filamentosa</i>	Adam's needle	B,S,C,N	H	H		FS,PS				

EXHIBIT 1
APPENDIX C

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<i>Zephyranthes simpsonii</i>	Simpson's zephyr lily	S,C,N	M			FS,PS				
<i>Asclepias tuberosa</i>	butterflyweed	B,S,C,N	H	H		FS				
FERNS										
<i>Acrostichum danaeifolium</i>	giant leather fern	B,S,C,N	H	M		FS,PS,SH				
<i>Blechnum serrulatum</i>	swamp fern	B,S,C,N	H			PS,SH				
<i>Nephrolepis exaltata</i>	wild Boston fern	B,S,C,N	M			PS,SH				
<i>Osmunda cinnamomea</i>	cinnamon fern	B,S,C,N	H			FS,PS				
<i>Osmunda regalis</i> var. <i>spectabilis</i>	royal fern	B,S,C,N	H			FS,PS,SH				
<i>Pteridium aquilinum</i>	bracken fern	B,S,C,N	M	M		FS,PS,SH				
<i>Thelypteris kunthii</i>	widespread maiden fern	S,C,N	M			PS,SH				
<i>Woodwardia areolata</i>	netted chain fern	S,C,N	H			PS,SH				
<i>Woodwardia virginica</i>	chain fern	S,C,N	H			FS,PS,SH				
HERBACEOUS AQUATIC PLANTS										
<i>Nuphar advena</i> = <i>N. lutea</i>	cowlily, spatterdock	S,C,N	A			FS				
<i>Nymphaea mexicana</i>	yellow water-lily	S,C,N	A			FS				
<i>Nymphaea odorata</i>	white water-lily	B,S,C,N	A			FS				
<i>Pontederia cordata</i>	pickerelweed	S,C,N	A			FS,PS				
<i>Sagittaria lancifolia</i>	lance-leaved arrowhead	S,C,N	A			FS,PS				
<i>Saururus cernuus</i>	lizard's-tail	S,C,N	H			PS,SH				

**EXHIBIT 1
APPENDIX C**

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Expected Mature Canopy Diameter (feet)	25% of the Expected Mature Canopy Area	Expected Mature Height (feet)	Comments
								(πr^2)		
<i>Scirpus californicus</i>	giant bulrush	S,C,N	A			FS				
<i>Thalia geniculata</i>	alligator flag	S,C,N	A			FS,PS				
HERBACEOUS PLANTS FOR INLAND WET AREAS										
<i>Hydrangea quercifolia</i>	oakleaf hydrangea	S,C,N	H	L		PS,FS			5-6	deciduous, poisonous
<i>Rhododendron canescens</i>	pinxter azalea	S,C,N	H	L		PS			10	deciduous
<i>Viburnum nudum</i>	possum haw	S,C,N	H	L		PS,SH			6-12	deciduous
FOOTNOTES										
1- <i>Waterwise</i> , published by the Water Management Districts										
2- Live Oak will topple if not given adequate room for proper root structure										

A RESOLUTION ESTABLISHING COMPENSATION COSTS FOR TREES AND VEGETATION REMOVED FROM LANDS WITHIN BREVARD COUNTY.

WHEREAS, Brevard County' Landscaping, Land Clearing and Tree Protection regulations provide the compensation of trees and vegetation removed from lands within Brevard County; and

WHEREAS, these costs should reflect actual costs of replacement trees, vegetation and lands; and

WHEREAS, this resolution will allow for periodic review and update of the compensation costs; and

WHEREAS, the Brevard County Board of County Commissioners, Florida, has determined that the fees hereinafter specified are reasonable.

NOW, THEREFORE BE IT RESOLVED, BY THE BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS, FLORIDA, that:

SECTION 1. Establishment of Schedule of Compensation Costs.

A schedule of compensation costs used for the implementation of the Landscaping, Land Clearing and Tree Protection Regulations, as specified herein, is established and adopted for the Natural Resources Management Office as follows:

- (A) Compensation (C) for trees of known Number REMoved (NREM) and known Total DBH (TDBH) shall be calculated by the formula

$$C = \$400.00(NREM) + \$120.00(TDBH)$$
- (B) Compensation for trees of known Number REMoved (NREM) but unknown total diameter shall be calculated by the formula

$$C = \$3,000(NREM)$$
- (C) Compensation for trees for which neither the total diameter nor the number can be determined shall be made under the assumption that the site is 100% forested. Compensation shall be calculated by the formula.

$$C = \$60,000/\text{acre}$$
 or the valuation provided by a tree appraisal conducted by an arborist certified by the International Society of Arboriculture or landscape architect registered in the state of Florida and where the appraisal was conducted in accordance with the methodology contained in the Guide for Plant Appraisal, 9th edition, as amended and published by the International Society of Arboriculture.
- (D) Compensation for specimen or heritage trees illegally removed or destroyed shall be three (3) times the calculated cost of C.
- (E) All compensation funds shall be deposited in the trust fund established by Section 62-4336 Code of Ordinances of Brevard County.

SECTION 2. Revision of Schedule of Fees and Charges. The schedule of charges as established herein may, by resolution of the Board of County Commissioners of Brevard County, Florida, be amended or repealed, in whole or in part, as required for economical provision of such services.

**EXHIBIT 2
DRAFT RESOLUTION**

SECTION 3. Public Record and Posting. In accordance with Brevard County Ordinance No. 73-17, a certified copy of this Resolution shall be posted for public inspection in the Brevard County Natural Resources Management Office.

SECTION 4. Effective Date. This Resolution shall take effect on the effective date of Ordinance No. 06-***.

Adopted this ____ day of _____ 2006 in regular session.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

Scott Ellis, Clerk

Helen Voltz, Chairperson
As approved by the Board on

EXHIBIT 3

Additional Actions and Ordinance Modifications for Board Consideration

1) Linear Projects Options (Section 62-4334)

- 1-a. Approve as proposed. (All Linear Projects not part of a site plan or subdivision are exempt.)
- 1-b. Modify to “All Linear Projects are not exempt.” (LLTP Task Force, BCAC, LPA)
- 1-c. Approve with modification that Linear Projects are exempt except when they come within 150 feet of a residential lot. (Individual/Public Comment)
- 1-d. Approve with modification that Linear Projects are not exempt unless approved by the Board based on meeting the public interest criteria set forth in the comprehensive plan.
- 1-e. Other action as identified by the Board.

2) Agricultural Activity Rollback Options (Sections 62-4332 and 62-4335)

- 2-a. Approve as proposed (3-year rollback starting at time of exemption issuance).
- 2-b. Approve as proposed with modification that the 3-year rollback period commences at the start of agricultural activity. (LPA)
- 2-c. Modify to a 5-year rollback (starting either at time of exemption issuance or start of agricultural activity). (Individual/Public Comment)
- 2-d. Other action as identified by the Board.

3) Appendix A - Non-Native Noxious Invasive Plants List Options (Sections 62-4332, 62-4334 and 62-4340)

- 3-a. Approve Appendix A as proposed (two lists- FL Dept. of Agriculture and Consumer Services List and FL Dept. of Environmental Protection Prohibited Aquatic Plants List).
- 3-b. Replace Appendix A with the portion of the University of Florida’s Institution of Food and Agricultural Sciences (IFAS) list that references “prohibited” species. (Individual/Public Comment)
- 3-c. Other action as identified by the Board.

4) Trust Fund Usage Options (Section 62-4336)

- 4-a. Approve as proposed. (Utilize funds only for re-vegetation, restoration and management of public conservation lands or for the purchase of environmentally sensitive lands.)
- 4-b. Approve with specified uses identified by the Board.

5) Other County Department Considerations (note: these are not required for functionality of the ordinance)

Direct staff to:

- 5-a. Explore reduction of lot widths and sizes as a preservation incentive.
- 5-b. Explore deleting other landscaping regulations (e.g., 15-foot buffer for subdivisions).
- 5-c. Improve coordination with the Stormwater Utility Dept. to promote multi-benefit plantings with respect to required retention areas.
- 5-d. Explore instituting a pre-design walk-through site evaluation before the site plan is developed.

EXHIBIT 3

Administrative, BOCC, staff, individual or public comment issues

1. Preserve and enhance property values. (Section 62-4331 (7).)
2. Single-family properties 2.5 acres or less that have a Certificate of Occupancy Homestead Exemption (Section 62-4334 (4).)
3. Add language to clarify canopy preservation requirements when the parcel does not start out with the minimum canopy amount that is required to be preserved. (Section 62-4339(1).) “If existing canopy is less than the listed minimum canopy preservation requirement, the existing canopy percentage shall be used in lieu of the minimum canopy preservation requirement. Total canopy percentage shall be recalculated using the new minimum preserved canopy plus the required planted canopy.”
4. Add language stating the natural growth of native plants, properly managed, shall not constitute a nuisance. “Any yard conforming to the Florida Native Back Yard Program or any similar program officially endorsed by the State of Florida shall not constitute a nuisance.” (Section 62-4340 (16). f.)
5. ~~Similar~~ Equal to or greater quality and diversity shall be required as determined by a certified arborist. (Section 62-4344 (2). c.)
6. Add language stating “ Australian pine may be retained on site with a waiver from the Director if maintained at its current extent.”
7. For all Vehicular Use Areas, islands shall not be less than twelve (12) feet in width for medium size tree species or fifteen (15) feet in width for large size tree species and in accordance with Section 62-4340 (8). (Section 62-4340 (5). c. vi.)
8. For every Protected Tree that cannot be preserved or relocated on site, the size of the replacement tree shall be at least ~~five (5)~~ four (4) inches dbh ... (Section 62-4344 (2). a. i.)
9. Add Language to exempt fruit and nut crops as preservation requirements while allowing credit for planting.

Sec. 62-4332. Definitions.

Fruit and nut crop means Apples, Atemoya, Annon, Avocado, Banana, Blackberries, Blueberries, Chestnut, Citrus, Figs, Grapes/Muscadine, Jackfruit, Mango, Mayhaw, Nectarines, Papaya, Passion fruit, Peaches, Pears, Pecans, Persimmon, Plums, Quince, Raspberry, Star apple, Sugar apple, Tamarind and any other species as deemed appropriate for Brevard County based on chilling requirements, cold hardiness, warm weather adaptability, and variety adaptation.

Sec. 62-4334. Exemptions.

The following land uses and activities shall be exempt from the requirements of this Division:

(10) The removal of fruit and nut crops unless used to satisfy the landscaping performance standards of this Division.

Sec. 62-4340. Landscaping Performance Standards.

(3) All development shall meet the following standards through preservation, plantings, or a combination thereof:

EXHIBIT 3

<p><i>Minimum Trees Per Acre of Buildable Area</i> Minimum size specifications shall be as outlined in Section 62-4340 (8) Lots containing less than one acre of Buildable Area shall provide no less than five (5) trees.</p>	5
<p><i>Minimum Inches of dbh per acre of Buildable Area</i> No less than fifteen (15) inches dbh per ¼ acre or fraction thereof.</p>	60
<p><i>Minimum Number of Shrubs and Groundcovers, Not Including Sod, per Acre of Buildable Area (or fraction thereof)</i> Minimum standard is a three-gallon fully rooted 15-18 inches in height shrub or equivalent. Preservation of 25 square feet of native understory is equal to one three gallon fully rooted 15-18 inches in height planted shrub.</p>	250

All plantings shall be at least Florida No. 1 grade as defined by the *Grades & Standards for Nursery Plants*. 1998. Division of Plant Industry, Florida Department Agriculture and Consumer Services, as may be amended. Fruit and nut crops, appropriate to Brevard County, shall be considered for credit towards required plantings provided size specifications, as outlined above, are met.