

Article X – LANDSCAPING REQUIREMENTS AND TREE PRESERVATION

Sec. 27-221. - Purpose and objectives.

- (a) *Purpose.* To perpetuate the unique characteristics and aesthetic qualities of Plantation and regulate landscape design and the physical development that will occur within the
- (b) *Objectives.* The objectives of this chapter are as follows:
 - (1) To protect, preserve, and improve the aesthetic appearance, character and value of adjacent land uses (including surrounding neighborhoods) and thereby promote the general welfare and increase property values by providing for the installation and maintenance of landscaped areas for screening and aesthetic effects.
 - (2) To encourage the establishment of a functional landscape and improve the aesthetic quality, thereby promoting the health and general welfare of the City and its citizens.
 - (3) To design landscaping which will enhance architectural features, relate structure design to the site, visually screen sites and unsightly views, reduce noise impacts from major roadways and incompatible uses, strengthen important vistas and reinforce neighboring site design and architecture.
 - (4) To promote principles through the use of drought-tolerant landscape species, grouping of plant material by water requirements, the use of irrigation systems that conserve the use of potable and non-potable water supplies and restrictions on the amount of lawn areas.
 - (5) To utilize landscape material to visually define the hierarchy of roadways, and to provide shade and a visual edge along roadways.
 - (6) To prevent the destruction of the City's existing tree canopy and promote its expansion to be valued and preserved for present and future generations;
 - (7) To provide for the preservation of existing natural plant communities and re-establish native habitat where appropriate, and encourage the appropriate use of native plant and drought tolerant plant material in the landscape.
 - (8) To promote the use of trees and shrubs for energy conservation by encouraging cooling through the provision of shade and the channeling of breezes, thereby helping to offset global warming and local heat island effects through the added absorption of carbon dioxide and reduction of heat islands;
 - (9) To contribute to the processes of air movement, air purification, oxygen generation, ground water recharge, and storm water runoff retention, while aiding in the

abatement of noise, glare, heat, air pollution and dust generated by major roadways and intense use areas;

- (10) To promote the concept of planting the right tree or plant in the right place to avoid problems such as clogged sewers, cracked sidewalk, power services interruptions, and conflicts with above & below ground utilities.

Sec. 27-222. – Landscape definitions.

For the purpose of this article, the following terms and words shall have the meaning herein prescribed, unless the context clearly requires otherwise:

Accessway. A means of vehicular ingress or egress, which area shall be excluded from the perimeter required to be landscaped pursuant to this Code. However, this definition does not apply to single-family driveways.

Arboriculture: The cultivation, management, and study of individual trees, shrubs, vines, and other perennial woody plants.

ANSI A-300: The American National Standards Institute standards for tree care operations in the U.S., organized in sections covering topics such as pruning, soil management, root management, tree risk assessment, planting, integrated pest management, tree protection during construction, and lightning protection.

Arborist: Professional who possesses the technical competence gained through experience and related training to provide for or supervise the management of trees and other woody plants in residential, commercial, and public landscapes. The ISA “Certified Arborist” credential is granted by the International Society of Arboriculture (ISA) and identifies individuals who have full-time experience working in the professional tree care industry and who have passed an extensive examination.

Bond. Security in a form acceptable to and payable to the City of Plantation in an amount equal to the fair market value of the replacement tree(s) to be relocated or whose dripline may be encroached upon, and given by the applicant as guarantee of replacement for a period of time. Fair market value shall be based upon published trade wholesale price lists.

Bufferyard. An area of landscaping and open space around the perimeter of a development parcel or an area adjacent to a parking lot which is used to screen differing land uses from each other.

Building pad: The building footprint plus the five-foot distance from each of its sides.

Caliper. Refers to nursery stock only. Diameter of a dicot or conifer tree trunk as measured at the heights as follows:

- Six (6) inches from the ground on trees up to and including four (4) inches in caliper.
- Twelve (12) inches above the ground for trees larger than four (4) inches in caliper.

- Caliper of a monocot is the diameter of the tree trunk measured one (1) foot above the ground.

Clear Wood. For palms, a measurement from the top of the rootball to the highest point on the trunk free of persistent leaf bases. For palms with a crownshaft, the measurement is from the top of the rootball to the base of the crownshaft.

Common area. Area under common ownership of a subdivision (e.g. recreation area, open space) excluding rights-of-way.

Conifer. A non-flowering, seed-bearing tree that produces cones and evergreen needlelike or scale like leaves.

Conspicuously flowering. A plant that exhibits a contrasting display of reproductive parts in size, quantity and duration.

Critical root zone (CRZ). The area of soil around a tree where the minimum amount of roots considered critical to the structural stability and/or health of the tree are located.

Crown thinning. The thinning of shade tree canopy for the purpose of improving light infiltration or the reduction of wind resistance.

Diameter at breast height (DBH). The measurement of a tree's trunk diameter in inches at breast height (4.5 feet above ground level). When the trunk branches or splits less than 4.5 feet from the ground, measure the smallest diameter below the lowest branch. For multi-trunk trees it shall be the sum of the diameter of the individual trunks measured 4 1/2 feet above ground level.

Dicotyledonous (dicot) tree. A tree having a woody trunk and branches and leaves with net venation and having a separate, distinct outer bark that can be peeled from the tree.

Dripline. The natural outside end of the branches of a tree or shrub projected vertically to the ground.

Dripline encroachment. Any activity that has the effect of causing soil compaction, injury to lower limbs, grade change, contamination of soil, or damage to the root system. Specifically, this definition shall include acts such as parking of vehicles, use of heavy earth moving or grading equipment, placement of construction materials, excavation and filling, trenching and the exposure of paints, oils or chemicals within a tree's dripline. Specifically excluded from this definition are routine maintenance activities such as mowing or walking within the tree's dripline.

Dripline encroachment plan. A plan, included as part of a tree permit, which ensures survivability of trees and palms and is required for all trees whose dripline is planned to be encroached upon by any construction, excavation, fill or other activities associated with the development of the site.

Excavation. To make a hole, unearth, scrape, or dig out for the purpose of construction, demolition, or removal with specific relation to a tree drip line and root system.

Excessive lifting. Also known as “overlifting.” The pruning of lower branches of a tree so that the distance between the top and bottom of the canopy is less than two-thirds of the height of the tree.

Florida #1. One of four grades of nursery plants that meet the criteria set forth in the latest edition of *Florida Grades and Standards for Nursery Plants*, by Florida Department of Agriculture and Consumer Services. Determining grades for trees takes into account attributes such as the tree matrix type, trunk structure, crown uniformity, root ball and roots, container size, and insect damage. Florida #1 graded trees are the second highest in quality after ‘Florida Fancy.’

Florida Grades and Standards for Nursery Plants. A reference for buyers and sellers of nursery plants to communicate information about plant quality and other attributes of trees, palms, shrubs and wetland plants. These grades and standards, developed by the Florida Department of Agriculture and Consumer Services, are codified within Section 581.031 (2)(3) of the Florida Statutes.

Florida-friendly landscape. The principles of Florida-friendly landscaping include planting the right plant in the right place, efficient watering, appropriate fertilization, mulching, attraction of wildlife, responsible management of yard pests, recycling yard waste, reduction of stormwater runoff, and waterfront protections. Additional components of Florida-friendly landscape include planning and design, soil analysis, the uses of solid waste compost, practical use of turf, and proper maintenance.

Ground cover. A planting of low growing, spreading, perennial plants that provide soil protection against erosion, weeds, and drought.

Hatracking. To flat-cut the top or sides of a tree or both; severing the leader or leaders; or internodal cutting within the tree's canopy; or trimming to a degree as to remove the normal tree canopy and disfigure the tree.

Hedge. A close planting of shrubs which forms a compact, dense, visually opaque, living barrier when mature.

Historic Tree. A tree which has been determined by the city council to be of notable historic interest because of its age, type, size or historic association and has been so designated as part of the official records of the city.

ISA: International Society of Arboriculture. A credentialing organization that promotes the professional practice of arboriculture and focuses on research, technology, and education to advance best tree care practices for professionals and the public through publications, events, and training.

Internodal cut. A pruning cut that is located between two (2) growth nodes.

Invasive exotic plant. A plant species introduced to Florida, purposefully or accidentally, from a natural range outside of the state, sustaining itself outside of cultivation and expanding on its

own in Florida native plant communities. When referenced in this Code, invasive exotic plants refer to those listed as ‘Category I’ species in the most current edition of the Florida Exotic Pest Plant Council’s (FLEPPC) *List of Invasive Plant Species*.

Irrigation. The application of water by artificial means, that is, means other than precipitation. Irrigation methods (surface, micro or trickle, sprinkler, etc.) vary in how the water is carried to the plant.

Land clearing: The indiscriminate removal of trees, shrubs and/or undergrowth by stripping or any other process, with the intention of preparing real property for non-agricultural development purposes.

Landscape architectural plans. Any plan which included detailed locations of existing and proposed landscape material and details about the types of landscape material.

Landscape. Refers to any and all areas which are planted, including but not limited to turf, ground covers, flowers, shrubs, trees, and similar plant materials as opposed to agricultural crops grown and harvested for monetary return.

Landscape island: A curbed (full type D) greenspace of varying width within a parking lot for the purpose of accommodating landscape material.

Landscape manual: Document prepared by the City pursuant to this section of the Land Development Regulations, which provides an illustrative interpretation of landscape standards and a suggested guide for landscaping in accordance with the above standards.

Landscape material: Living plant material such as, but not limited to: Turf, ground cover, shrubs, vines, hedges, trees or palms; other materials (mulch).

Landscape Mitigation Fee. Dollar value or payment equal to the fair market value of the required replacement tree(s) which may be paid by the applicant after determination by the City that replacement of trees on-site or off-site is not feasible.

Lawn/turf/sod. Upper layer of soil bound by grassy plant roots.

Live crown ratio (LCR). The ratio of canopy height to total tree height, or the percentage of a tree’s total height that has foliage.

Mitigation, Tree. The act of compensating for healthy tree removal by planting a proportionate number of replacement trees on a site based upon the species and size of each existing tree that is lost or taking other actions to restore and biologically enhance existing green space including monetary payment.

Monocotyledonous (monocot) tree. Any tree belonging to the large group of flowering plants (angiosperms) whose seeds typically contain a single embryonic leaf, or cotyledon. Members of this group include grasses, palms, orchids, bananas, bamboos, gingers, pineapples, and tulips.

Mulch. An organic soil additive or topping such as compost, wood chips, wood shavings, seasoned sawdust, bark, leaves or straw, used to reduce evaporation, prevent erosion, control weeds, enrich the soil and lower soil temperature. Colored or dyed mulch, and any mulch manufactured from recycled wood pallets or Cypress (*Taxodium*) trees, are not allowed.

Native tree: Tree of a species identified as native to this area by the Florida Association of Florida Native Nurseries (FANN) as may be amended from time to time, and incorporated herein by reference.

Natural area: An area identified on an approved site plan containing natural vegetation which will remain undisturbed when the property is fully developed.

Overlifting. See Excessive lifting.

Overthinning. The removal of the majority of the inner lateral branches and foliage thereby dispersing weight and mass to the ends of the branches.

Palm: Any member of the botanical plant family Areaceae (Palmae) consisting of perennial trees, climbers, shrubs, and acaules, commonly known as palm trees. Most palms are distinguished by their large, compound, evergreen leaves, known as fronds, arranged at the top of an unbranched stem.

Pervious area. That surface area of land that allows passage of air and water to the subsurface area.

Protected tree. A tree which due to its size, shape, character, age, and/or aesthetic value is declared by the city council to be a locally unique example of the species.

Rain sensor or shutoff device. A calibrated device that is designated to detect rainfall and override the irrigation cycle of the sprinkler system when a predetermined amount of rainfall has occurred. Must meet current State regulatory standards.

Retention area: An area designed and used for the temporary or permanent storage of stormwater runoff, which may be either dry or wet retention.

Right-of-way. Lands set aside for public traverse, location of public utilities or swales or waterways.

Rootball: Soil containing all or a portion of the roots that are moved with a plant when it is planted or transplanted.

Root barrier. Membranes or sheets installed vertically in the soil to limit or direct the growth of tree roots. Primarily used to prevent or minimize damage to structures, hardscapes, and underground utilities.

Shade/canopy tree, large. A single or multi-trunk dicot tree that by virtue of its natural shape provides at maturity a minimum canopy spread of 40' in diameter.

Shade/canopy tree, medium. A single or multi-trunk dicot tree that by virtue of its natural shape provides at maturity a minimum canopy spread of 25' in diameter.

Shock. A physiological state of or degeneration of the vital processes of a plant or tree resulting from but not limited to root damage, wounds, impact, partial or total girdling, or improper cutting.

Shrub. A multi-stemmed woody plant with several permanent stems, instead of a single trunk, which is used as a hedge, massing element or accent that typically is sheared or kept at a certain height.

Specimen tree: Any dicot tree that has a diameter at breast height (DBH) of 16 inches or greater, and any monocot tree which is 35 feet or greater in height. Specimen trees must be well shaped and in good health as verified through inspection. In addition to size, individual trees with unique or noteworthy characteristics or values, *e.g.* species, age, historic significance, ecological value, aesthetics, location, cultural or religious importance, may be designated a 'specimen tree' by the City.

Standard. A woody perennial plant with a number of stout stems, all but one (1) of which have been removed. The remaining stem then has been trained into an upright, small, tree-like form having a rounded crown usually supported by a stake.

Street tree: Street trees are those shade trees acceptable to the City for street tree usage, and which are located in swale areas of rights-of-way.

Structural cell. Also known as 'tree vault.' A pre-engineered system consisting of plastic columns and beams molded into a modular frame, creating stackable, open-sided box cells that are placed under pavement and hardscapes. The large spaces within cells are filled with low-compacted soil to support tree root growth.

Structural soil. An aggregate and soil mix that can be compacted to pavement and sidewalk design and installation requirements while permitting tree root growth. These soils cannot be used in situations other than structural applications.

Swale: All unpaved portions of a right-of-way located between the edge of pavement and the property line.

Top soil: A medium composed of naturally occurring mineral particles and 30 percent organic matter which provides physical, chemical and biological properties necessary for plant growth.

Tree. A woody perennial plant, possibly shrubby when young, with one (1) or more main stems or trunks that naturally develops characteristics of a particular species.

Tree abuse. Any action or inaction that contributes to the decline or death of a tree caused by a human, can be intentional or unintentional.

Tree Risk Assessment: A systematic process used to determine the level of risk, *i.e.* the likelihood for conflict or tree failure occurring and affecting a target, posed by a tree, tree part, or group of trees.

Tree fund. Account used for mitigating tree replacement determined by the equivalent monetary value of tree(s) removed and not replaced.

Tree permit: Consists of the application and all necessary information relating to existing or future trees on a site and proposed installation, relocation, removal, trimming, dripline encroachment and barricading. This permit shall not be approved and/or issued prior to city approval of the underlying project, if required.

Tree protection. The act of safeguarding specific trees or a group or area of trees from deliberate damage or destruction related to construction activity.

Tree protection zone (TPZ). The defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to the root system, trunk and canopy of designated trees, especially during construction or development.

Tree Service Provider. Any licensed person, company, corporation or service which does regularly, for a compensation or fee, transplant, remove, prune, trim, repair, inject, or perform procedures surgery upon a tree.

Tree relocation: The transplanting of plant material from one location to another location that is acceptable by the city following proper horticultural and arboricultural.

Tree Risk Assessment: A systematic process used to determine the level of risk, *i.e.* the likelihood for conflict or tree failure occurring and affecting a target, posed by a tree, tree part, or group of trees.

Tree survey: A sealed survey prepared by a Florida licensed Landscape Architect or land surveyor which shows, in addition to all boundary information, the exact location, size, botanical and common name, and diameter of all trees at least three inches in diameter measured four and one-half feet above ground level within the area affected by the development.

Tree trimming (pruning). To reduce, shorten or diminish gradually a tree or parts of a tree without altering the natural shape, using proper horticultural and arboricultural techniques.

Understory: The plant life existing under a tree canopy including ferns, bushes and groundcovers.

Vehicular use area. Any area used by vehicles except public thoroughfares, including but not limited to areas for parking, display, storage or traverse.

Vine. A plant whose natural growth characteristic produces climbing stems.

Sec. 27-223. – Development approval process and requirements.

(a) *Applicability.*

- (1) *Generally.* Landscape areas include building landscaping (Sec. 27-225 Landscape Pedestrian Zones), entrance landscaping (Sec. 27-226 Accessway Landscaping), perimeter landscaping (Sec. 27-227 Perimeter Landscaping Requirements), streetscape landscaping (Sec. 27-228 Street Trees), vehicular use areas landscaping (Sec. 27-229 Vehicular Use Areas), and tree conservation areas (Sec. 27-239 Tree Protection and Preservation) of this article. This division applies to the applications described in Table 10-1.

**Table 10-1
Applicability of General Standards**

Type of Development	Landscape Pedestrian Zones	Accessway Landscaping	Perimeter Landscaping	Street Trees	Vehicular Use Area Landscaping	Single-Family Lot Landscaping	Tree Protection and Preservation
Non-residential Developments	✓	✓	✓	✓	✓		✓
Planned Residential Developments	✓	✓	✓	✓	✓	✓	✓
Multi-Family Dwelling Units (Condos & Townhouses)	✓	✓	✓	✓	✓		✓
Single-Family Dwelling Units						✓	

- (2) *Expansion.* When a building or parking lot is enlarged or modified the requirements of this article apply on the portion of the building or lot that is being modified or enlarged.
- (3) *Exemptions.* This section does not apply to the following situations:
- a. Agricultural uses or plant nurseries; However, these properties might require a perimeter of hedge and trees.
 - b. The reconstruction of an existing building of which 50 percent or less of the floor area was destroyed or ruined by flooding, fire, wind storm, or act of God. This exemption shall apply only where reconstruction of that building will not result in an increase in building size or paving area of the parking facilities to be provided;

- c. Interior finish work or remodeling in a portion of a building unless the work results in an increase in the paving area of the parking facilities within the street yard or in an enlargement of the exterior dimensions of an existing building;
- d. Any use, building, or structure for which only a change of use is requested and which requires no structural modifications that increase its volume or scale;

(b) *Landscape coverage.*

- (1) Landscape material shall be placed on all areas not covered by main and accessory structures, walks and vehicular use areas.
- (2) Landscape material shall extend to any abutting street pavement edge and to the mean water line of any abutting canal, lake or waterway.

(3) *Perimeter landscaping*

- (a) Street trees, hedge, irrigation, and sod, at a minimum is required for all demolition projects in the city. All unbuilt parcels and outparcels of retail or office projects must be treated with such landscaping prior to issuance of the first certificate of occupancy (C.O.) on the site or within 30 days of a completed demolition on land cleared for retail or office development. Retail and office outparcels which are not anticipated to be developed within one year may be sodded with Bahia sod without irrigation.
- (b) Street trees, hedge, irrigation, and sod, at a minimum shall be required before a project with multiple buildings will be issued more than 25% of their CO's. This is required for all new construction projects in the City.

- (4) No landscape area shall be constructed with gravel or stone.

(c) *Submittal Requirements*

(1) *Permits.*

- a. Landscape permits are required for all landscaping done in the City of Plantation. All planned residential developments must obtain a landscape permit for the individual lots, and a separate landscape permit for the common areas including the street trees.
- b. All tree removals for trees and palms, regardless of location, require a tree removal permit. No tree removal permit fee will be required for Australian Pine, Melaleuca, Brazilian Pepper, or Lead trees.

(2) *Site Plan, Landscape and Irrigation plans.*

- a. *Landscape plan requirements.* Landscape plans and drawings shall be signed and sealed by a landscape architect. A digital and hard copy of all landscape plans shall be submitted to the City for review. All landscape plans shall meet the following requirements:
 1. The landscape plans shall be the same size and scale of the site plan. In no circumstance will the landscape plan be smaller than 1 (one) inch equaling 30 feet. The recommended size of a landscape plan is 1 (one) inch equaling 20 feet. The drawing size shall not exceed two (2) feet by three (3) feet.
 2. Full responsibility for the design, installation, maintenance, implementation and compliance with all applicable city codes of all the items on the landscape drawings shall fall upon the owner of the project. All plans shall be executed in a professional manner acceptable to the city and shall contain:
 - a. *Proposed layout plan (site plan).* The proposed layout plan shall show the dimensions and radii of the landscape elements of the proposed development, including the location of plant material, surface material; existing and proposed landscape features and furnishings, including walls and fences; property lines, easements, right-of-way, drain fields and fire hydrant locations, and site lighting should also be shown.
 - b. *Proposal conceptual grading plan.* The proposed conceptual grading plan shall contain existing and proposed spot grades at all building corners, roadways, parking lot corners, pedestrian walks, and around any existing vegetation, arrows indicating drainage flow, proposed slope percentages, and shall indicate in detail any proposed mound or berm construction.
 - c. *Existing tree/palm survey and disposition plan.* Concurrent with the submission of the landscape plan, the applicant shall submit a tree survey by an ISA Certified arborist. In certain cases, the City may require a Master Risk assessment, or a report by a Registered Consulting Arborist. All existing trees and palms on site shall be shown on an existing site plan identified by a number or symbols. The existing spread shall be drawn to scale. A tabular list of the existing trees and palms shall include botanical name, common name, caliper, spread, height, general condition and disposition of tree(s) and palms(s). In the event that there are no trees on-site, the applicant shall submit a letter bearing the seal of a landscape architect stating that there are no existing trees or palms on-site. Location, condition, names, sizes, diameter at breast height, and disposition of existing trees, palms, hedges, and any site improvements along abutting properties within 25 feet of the property lines shall be shown on the survey.
 3. *Proposed elevation plan.* The proposed elevation plan shall show architectural and landscaped elements in their proper relationship with

enough detail to determine the impact of the proposed landscape treatment at the time of the planting installation. The drawing must be accurate and to a noted scale. Approximate size of plantings after fifth year of growth shall be indicated by dashed lines.

4. *Proposed Planting Plan.* The proposed planting plan shall include the following:
 - a. A landscape calculation table shall be shown on all planting plans.
 - b. The north arrow, scale, title block with address of site shall be shown on all planting plans.
 - c. A plant list identifying by symbol and for each existing and proposed plant species include the scientific name, common names, installed size (height, width, spread, and caliper), spacing of plant material, quantity of plant material, mulch type, sod type, a notation that all trees will be field grown/balled and burlapped and shall be FL # 1 or better in quality as by definition, native or non-native, drought tolerance. The plant list shall be indicated on all planting sheets.
 - d. Location of existing and proposed easements, property lines, rights-of-way.
 - e. Location and labeling of proposed and existing above and below ground utilities, water, drainage, fire hydrants and associated equipment, light poles, FPL boxes, sewage, water, electric, gas, cable shown in greyscale.
 - f. Location and details including type, height, color and additional embellishments of walls, fences, gates, furnishings and signs.
 - g. All planting and staking details, including but not limited to planting/staking specifications, general landscape contractor notes, root barriers, and tree protection details. Additionally, all relevant general landscape notes.
 - h. Existing and proposed water bodies and retention areas indicating the slope(s).
 - i. Proposed conceptual grading plans containing, existing and proposed spot grades, drainage flow arrows at all building corners, roadways, parking lot corners, pedestrian walks and existing landscaping. Additionally, provide existing or proposed berms contours of heights and slopes of not less than 3 to 1.
 - j. Location of all proposed or existing buildings and site improvements, including but not limited to, parking spaces, access aisles, driveways, sidewalks and other vehicular use areas which are to remain or be removed.
5. *Proposed Irrigation Plan.* An indication of water source, valves, pumps, backflow preventers, controllers, main line, lateral lines, sleeves, head types, specifications and spacing.
6. *Proposed Watering Schedule.* Watering schedule for relocated and newly planted trees/palms provide a tree irrigation schedule for the first 12 months

that specifies the method and frequency of application, and amount of water used for each application.

7. Such other information that may be required to give a complete understanding of the proposed plan.
- (3) *Existing plant material credit.* Where healthy plant material exists on a site and is to be retained, the director may adjust the application of the minimum landscaping requirements to allow credit for such plant material, if such an adjustment is consistent with and furthers the intent of this article.
- a. In such cases, a survey shall be provided specifying the species, approximate height, spread and caliper/DBH, as well as the location and condition of any plant material used as a basis for requesting the adjustment. As applicable, this information shall be included with a complete landscape plan submittal meeting all technical requirements.
 - b. Any adjustment shall be based on the unique circumstances of the subject property and support the objective of preserving existing vegetation and maintaining a tree canopy.
 - c. Every effort shall be made to design around existing, large desirable trees. Parking spaces that are lost because of saved trees and supporting root system pervious area may be counted as spaces at the discretion of the director, up to ten percent of the required count.
- (4) *Subdivision common area landscape plan requirements.* A building permit shall not be issued for any lot or improvement within a subdivision until a landscape and irrigation plan for all common areas is submitted to and approved by the City.

Sec. 27-224. - Minimum plant material size requirements for all zoning districts.

Minimum Size Requirements of Plant Material at Time of Planting

Landscape Feature	Height	Spread	Caliper	Spacing On-center	Minimum Planting Area
Trees*	12'	7'	2 1/2"	35' large canopy trees 25' medium canopy trees	200 square feet for large shade trees, 100 square feet for medium shade trees
Palms	6' clear wood	n/a	n/a	Varies by species	64 square feet
Shrubs**	2 1/2'	2 1/2'	n/a	2 1/2'	9 square feet
Ground cover	12"	12"	n/a	18"	

*Sec 27-225(d) in landscape pedestrian zones larger or smaller trees may be required.
 **Sec 27-227(d)(2) perimeter landscape may require shrubs with a greater height

Section 27-225 – Landscape Pedestrian Zones

(a) *Purpose and Intent.* Recognizing that it is universally accepted that trees and other plantings function to visually and aesthetically buffer and enhance building facades to reduce air and noise pollution and to conserve energy within the structure, there shall be a landscaped pedestrian zone along the length of all building walls. The depth of this pedestrian zone and the degree to which it is landscaped shall be determined by building height and function. This requirement shall not apply to those parts of a building facade containing building entrances, driveways into garages or carports, or loading docks.

(b) *Landscape Pedestrian Zones Requirements*

(1) *Width Requirement.* Landscape pedestrian zones shall extend the full width of each façade. The minimum width of such landscaped zone for all structures shall be measured from the base of the building and shall relate to the adjacent structure's wall height as herein defined as follows:

Adjacent Structure Wall Height	Landscape Pedestrian Zone Width
Wall height up to and including 30'	10'
Wall height between 31' and 60'	15'
Wall height greater than 60'	25'

(2) *Number of Trees Required.* One (1) tree shall be installed in this zone per each thirty (30) lineal feet, or fraction thereof, of facade width. Trees must be of a size as required in the following table. Trees may be grouped, but there must be a minimum of one (1) tree per facade. Palms may be substituted for trees in landscape zones of limited width. Palms shall be required at the rate of three (3) palms for each tree that would otherwise be required under this section. Palms must be of a size as required by the following diagram. The remainder of the landscape area of the zone shall be treated appropriately with plantings, seating, and sidewalks and other pedestrian accessways.

Structure Wall Height	Tree Height	Tree Spread	Tree Caliper	Palm Height (Clear Wood/)
Up to 15'	10'	6'	2"	6'

15' up to 25'	12'	7'	2.5"	9'
25' up to 35'	14'	8'	3"	12'
35' and greater	16'	9'	4"	15'

(c) *Excluded Areas*

- (1) Paved areas such as sidewalks, ground floor slabs/porches do not count towards the required landscape pedestrian zone.
- (2) Green/planting areas under roof, balcony, awnings, and/or canopy overhangs do not count towards the required landscape pedestrian zones.

(d) *Foundational Plantings.* Structures shall have foundation plantings proportionate and appropriate to each facade in keeping with good landscape design principles.

(e) *Administrative Relief.* The director has the ability to administratively reduce the width of the landscape pedestrian planting zone by ten (10) percent in limited areas. It must be demonstrated that the reduced green space is provided elsewhere on site and functions to help soften the mass of the structure.

Sec. 27-226 Accessway (Entryway) Landscaping Requirements

(a) *Intent & purpose.* The intent of this section is to provide an enriched landscape at the public entrances to nonresidential projects including industrial, office, and retail projects. The street tree requirement may be combined with the accessway planting requirements in the entryways to provide well integrated design solutions. The following are in lieu of the perimeter bufferyard requirements for this area only.

(b) *Accessway zone.* The accessway zone extends from the paving edge of the entry drive (not radius) for a distance equal to half the right-of-way width of the roadway on both sides of the entry. The zone also extends perpendicularly 40 feet from the right-of-way of the adjacent roadway along the entry drive and includes medians where provided. A minimum zone length of 40 feet per side is required for rights-of-way of less than 80 feet wide. Site triangle shall apply

(c) *Accessways affected.* All accessways designed for public entry are included. Service drives used exclusively for service access are exempted from this regulation.

(d) *Planting requirements.* The accessway zone requires two large shade trees and four medium shade trees per 40-foot section of the zone. Large shrubs may be substituted for the medium tree requirement in the accessway zones. Entryway medians require three trees, as well as

shrubs or groundcovers which cover the entire zone. A minimum ten-foot wide planting bed containing low shrubs and/or ground cover must also be provided fronting the taller plantings in the accessway zone, and must extend a minimum of five feet beyond the small tree/large shrub mass. Alternate design schemes that meet the intent of this section may be approved at the discretion of the director.

Sec. 27-227. Perimeter Landscaping Requirements.

- (a) *Intent and Purpose.* The intent of this section is to provide landscape separation between uses where appropriate; screen from view certain land uses that may create visual clutter and distraction; and provide for increases in the width and opacity of the bufferyard as the land-use intensity of the new or expanded development increases.
- (b) *Generally.* This section applies to any of the following, except where exempted by Section 27-227(c) of this article.
 - (1) The construction or erection of any new building or structure for which a development approval is required;
 - (2) Any enlargement exceeding 1,000 square feet or 10 percent in area, whichever is greater, of the exterior dimensions of an existing building for which a development approval is required; and
 - (3) Any construction of a new parking lot or expansion of an existing parking lot by more than 2,000 square feet or 10 percent in area, whichever is greater.
- (c) *Exemptions.* This section does not apply to the following situations:
 - (1) Single-family dwelling units on existing lots of record;
 - (2) Interior renovations or remodeling in a portion of a building unless the work results in an increase in the paving area of the parking facilities within the street yard or in enlargement of the exterior dimensions of an existing building as noted in Section 27-227(b) above;
 - (3) Any use, building, or structure for which only a change of use is requested, and which use does not increase the existing building square footage; and
 - (4) Contiguous commercial parcels or land areas under common ownership or unified control.
- (d) *Perimeter landscaping relating to abutting properties.*
 - (1) On the site of a building or structure or open lot use providing an off-street parking area or other vehicular use area, where such areas will not be entirely screened visually by an intervening building or structure from an abutting property that portion

of the area not so screened shall be provided with shrubs, or a hedge, or a wall, or other durable landscape barrier to form a continuous screen between the off-street parking area or other vehicular use area and such abutting property.

- (2) If shrubs are chosen to be the durable landscape barrier, they shall have a minimum installed height of four (4) feet and shall be spaced to form an immediate and continuous hedge or screen.
 - (3) The wall or fence, if used, shall be a minimum of 6 feet in height when nonresidential parking or vehicular use areas are being screened from neighboring residential use, and maximum 6 feet when residential parking or vehicular use areas are being screened from neighboring residential use. The wall or fence shall not extend to obstruct vision of oncoming traffic at access points to roadways. The fence or wall must be screened with a continuous hedge with a minimum height of 2½' with tips of plant material touching.
 - (4) A large shade tree shall be provided per each forty (40) lineal feet of the landscape barrier or fraction thereof. Trees shall be planted in a buffer landscape strip contiguous with the property line, which strip shall be not less than ten (10) feet in width.
 - (5) The planting area required by subsection (4) above, in addition to the tree and durable barrier requirement, shall be totally landscaped with grass, ground cover, or other landscape material.
 - (6) The provisions of this section shall not be applicable in the following situations:
 - a. When a property line abuts a dedicated alley which does not also serve property zoned for residential use;
 - b. Where a proposed parking area or other vehicular use area abuts an existing hedge, wall, or other durable landscape barrier on an abutting property, the existing barrier may be used to satisfy the landscape barrier requirements (provided that the existing barrier meets all applicable standards of this chapter and is protected from vehicular encroachment).
- (e) *Perimeter landscaping adjacent to public rights-of-way.* On the site of a building or open lot use providing an off-street parking area or other vehicular use area, where such areas will not be entirely screened visually by an intervening building or structure from any abutting right-of-way, excluding dedicated alleys, there shall be provided landscaping between such areas and such right-of-way as follows:
- (1) A strip of land a minimum of fifteen (15) feet in depth, unless greater width is required elsewhere in the Land Development Regulations, located between the abutting right-of-way and the off-street parking area or other vehicular use area that is exposed to an abutting right-of-way shall be landscaped.

- (2) Such landscaping shall include one (1) large shade tree per every forty (40) lineal feet. They shall be planted in a planting area of at 64 square feet with a dimension of at least 8 feet.
- (3) In addition, a hedge, wall, or other durable landscape barrier of a height of not less than two and one-half (2½) feet and not more than five (5) feet shall be placed within the area of such landscaped strip. A variety of species and/or materials shall be used with eighty (80) percent of the plants being one (1) predominant species.
- (4) The landscaped strip and hedge should follow the outline of the parking area and vehicular use area perpendicular to the right-of-way such as at the entry drives.
- (5) If such durable barrier is of nonliving material, such as a wall or fence, plantings should be of such size and spacing that seventy-five (75) percent of the total linear length is covered by plantings. The city council may waive the requirements of this subsection if it determines the wall or fence is an architectural feature such that aesthetics will better be served by leaving it unscreened.
- (6) The remainder of this required landscaped strip shall be planted with grass, ground cover, or other landscape treatment. Paving, such as pedestrian walkways, may not cover more than ten (10) percent of the total area.
- (7) If landscape setbacks are twenty-five (25) feet or more from the right-of-way, the two and one-half-foot durable barrier set forth in subsection (2) hereof may be substituted with a continuous berm with grass or other landscape treatments. See Section 27-233. Trees are still required as specified above.
- (8) Necessary access ways from the public right-of-way through all such landscape strips may be subtracted from the linear dimension used to determine the number of trees. Trees shall be located not less than twenty (20) feet from either side of the edges of such access drives and may count toward the total tree count required.

Sec. 27-228. Street Trees Required.

- (a) *Street tree location and purpose.* Street trees shall be required along existing, proposed and improved rights-of-way to provide shade along the roadways and create an aesthetically pleasing design edge along the roadway. The species and location of swale trees shall not conflict with improvements and utilities. Consideration shall be given to the selection of the trees to avoid serious problems such as future road widening, broken pipes, clogged sewers, cracked sidewalks and power interruptions. As such, swale trees will require prior approval from the City Engineer, City Public Works Department, City Utilities Department, and City or City designees.
- (b) *Size, spacing and planting width.* The required street trees shall be large canopy shade trees, have minimum height of 12', spread of 7' and caliper of 2 ½" at the time of planting

and shall have a clear trunk of at least 4½', at time of planting. Adjustments are allowed where utility lines (water, sewage, underground lines, and/or overhead lines) conflict with this standard; adjustments in the sizes will be determined by the City. Swale trees shall be spaced at average intervals of 40' on-center for large shade trees and 25' on-center for medium shade trees. In instances where there is conflict, smaller trees may be substituted and spacing requirements will be adjusted.

- (c) Because the City intends to procure landscaping, if possible, on all major rights-of-way and because property to be developed hereafter along such major rights-of-way will receive commensurate benefit and increase in value from street trees and landscaping, property owners along such major rights-of-way prior to site plan approval, or building permit issuance if site plan approval is not applicable, will satisfactorily commit to plant or contribute as set forth in this subsection. If the designated street trees have not yet been planted, the property owner will arrange with the City, County, Florida Department of Transportation, or other controlling entity of the right-of-way to plant their proportionate share with street trees and related irrigation and landscaping, with the property owner obtaining the necessary permits and license to accomplish same. If the designated street trees have been planted, the property owner will make payment to the City in an amount equal to the cost of present planting of the trees and landscaping, and irrigation installation, with the City holding such amount to use for maintenance, repair and necessary replacement, either through itself or the controlling entity of the right-of-way.
- (d) The maintenance of required street trees shall be the responsibility of the adjacent landowner.

Sec. 27-229. Interior Vehicular Use Areas Landscaping Requirements.

- (a) *Purpose.* Interior landscaping shall be installed in landscaped areas designed and arranged for the explicit purposes of controlling traffic, providing shade, screening unnecessary views into and within the vehicular use areas, and separating the parking, circulation and service areas.
- (b) *Percentage of Landscape.* In all zoning districts requiring review and approval of site plans, a total area of interior landscaping shall be provided in all off-street parking areas equal to not less than fifteen (15) percent of the total paved vehicular use area of the site, including all parking and circulation areas. For secondary vehicular use areas such as service areas, loading zones and utility vehicle parking areas, the total area of interior landscaping shall be calculated at the minimum ten (10) percent for the first fifty thousand (50,000) square feet of paved areas, plus five (5) percent of the paved area in excess of that amount.
- (c) *Dimensions.* Landscape areas shall have the following dimensional requirements:
 - (1) No landscaped area shall have any dimension less than 8'.
 - (2) Interior islands in parking bays shall have a minimum size of 12' in width and 16' length green area, not including curbing.
 - (3) Terminal islands shall have a minimum size of 8' in width and 16' in length green area, not including curbing

- (4) Medians shall be provided to separate parking bays from major internal access drives and shall have a minimum width of 10', not including curbing.
 - (5) Medians between double parking bays shall have a minimum width of 10', not including curbing.
 - (6) Perimeter areas adjacent to vehicular use areas shall have a minimum width of 10'.
- (d) *Location, Quantity, and Details.* In addition to all other requirements for green space or landscaping of parking areas where multiple perpendicular or angular parking spaces are provided to driveways, private streets, or public roads, landscaped islands will be substituted and preserved in green so as to break up the monotony of such parking and to minimize the hazards created thereby by providing visual breaks to assist in seeing other pedestrian and vehicular traffic on the following basis:
- (1) A maximum of 9 spaces shall be permitted between islands, interior and/or terminal.
 - (2) Interior planting islands shall be staggered throughout the parking area.
 - (3) A full 6" x 18" type D curb shall be provided in all vehicular use areas where planting areas are located to provide protection for the required trees.
 - (4) Islands containing utility equipment (fire hydrants and/or associated equipment, light poles, FPL boxes, etc.) shall not be counted as landscape islands.
 - (5) No Light poles shall be located within the mature spread of the canopy or within 7 and ½ feet of a medium shade tree or palm species.
- (e) *Tree planting requirements.* Trees shall be installed in all parking areas at a maximum spacing of forty (40) feet center to center (except where precluded by off-street parking requirements and excluding parking areas which abut perimeters for which trees are required by other provisions). The trees shall be installed explicitly to provide shade for the parked vehicles. The trees shall be planted in landscaped areas which conform to the dimensional requirements described in Section 27-229(c).
- (1) Interior planting islands shall have 1 large canopy shade tree installed.
 - (2) Terminal planting islands shall have 1 medium canopy shade tree adjacent to the terminal parking space.
 - (3) Planting medians shall have 1 large canopy shade tree for each 40 linear feet of median length. Canopy spread conflicts with interior and terminal islands should be avoided.
 - (4) Minimum tree specifications: trees shall be a minimum of 12' in height, 7' spread, 2½" caliper.

Section 27-230. Single family lot landscaping.

- (a) *RS-1EP zoning districts required tree planting and buffering.* Each lot in RS-1EP zoning district seeking a building permit shall present a site plan or drawing which shall show a minimum of number of trees according to the size of the lot as specified in the following table. Trees shall be placed in locations in the front and side yards so as to buffer the principal building from other principal buildings located upon the same street. The sign-

off of the landscape site plan by the City will be sufficient for issuance of the building permit which includes the landscaping plan.

Size of Parcel	Number of Trees	Large Shade Tree Canopy (min)
Under 40,000 square feet	8	5
40,000 square feet or greater	6	4

(b) *Single Family Zoning District Landscape Requirements.* Minimum landscape requirements apply to all new single-family residence construction or modifications (not including re-roofing) to existing single-family buildings not requiring site plan approval.

Plot Size	Required Large Canopy Shade Tree(s)	Required Medium Canopy Shade Tree(s)	Tree count in front of structure
Less than 10,890 square feet (1/4 acre)	1	2	1
10,890 square feet (1/4 acre) or more	2	2	1 medium, 1 large

- (1) Trees in the City swale do not count as required trees.
- (2) Three palms planted in a group can be used as an equivalent of one medium shade tree; no more than one group of three palms can be used to satisfy this requirement.
- (3) Large & medium canopy trees can be selected from the lists of recommended trees available at the City.
- (4) Trees shall be a minimum of 12' in height, 7' spread, and 2½" caliper. Palms shall be a minimum of 6' clear trunk.
- (5) All existing trees on the property used to satisfy the minimum landscape requirements must be healthy and vigorous, and meet the minimum tree size requirements and planted in the required areas on the property.
- (6) The existing and/or new landscaping will be directly tied to a permit issued by the Building Department.
- (7) The property owner and/or occupant shall have the responsibility of maintaining the landscape required by this section of the Land Development Regulations.
- (8) Trees or palms used for mitigation to meet the minimum requirement standard shall not be removed unless the tree(s) or palm(s) are in poor health or condition or it is determined the tree(s) or palm(s) are creating an unsafe situation. Permits are required prior to the removal of any tree. Mitigated tree(s) that are removed for such a situation must be replaced with trees of equal size and/or value.

Sec. 27-231. Plant Material and Installation Requirements.

(a) *Landscape materials and standards.*

- (1) *Permit required:* A landscape permit is required for all landscape installations including new single family homes that are not part of a planned community. No trees

or other plant material may be planted in public rights-of-way (swale areas) without a permit from the city.

- (2) *Plant materials:* Plant materials used in conformance with the provisions of this article shall conform to the grades and standards for Florida No. 1 or better as described in *Grades and Standards for Nursery Plants* ** by the Florida Department of Agriculture and Consumer Services, Division of Plant Industry, most current edition or such other publication or standard acceptable to the City.
- (3) *Planting soil:* Planting soil shall be clean and reasonably free of construction debris, weeds, rocks, and noxious pests and disease. The topsoil for all planting areas shall be amended with horticulturally acceptable organic material (50% composted organic matter, well-mixed with native soil). Backfill material shall be free from rock, construction debris, or other extraneous material.
- (4) *Paved or architectural surfaces:* Paved or architectural surfaces shall be kept reasonably free of weeds. In addition, paved or architectural surfaces shall be of barrier free design for use by disable persons and shall have minimum intrusion to the landscape area, the landscaped area being that portion of the site where plant materials predominate over architectural features.
- (5) *Root barriers:* Minimum root barrier requirements are as follows:

Minimum root barrier requirements:
 - 1) Panel 0.085 thick polypropylene
 - 2) Zipper join system
 - 3) Rounded edges
 - 4) 24" depth
 - 5) Anti-lift pads
- (6) *All Trees:* All trees must be field grown/balled & burlapped. Trees shall be able to stand erect without the use of staking materials. Girdling, plunging and/or circling roots are not acceptable. Trees at the time of installation shall have a minimum trunk a minimum height of twelve (12) feet, a minimum crown spread of seven (7) feet and a trunk caliper of two and one-half (2½) inches. Larger or smaller sizes may be required or permitted next to buildings pursuant to 27-225(d), minimum tree requirements for landscape pedestrian planting zones.
- (7) *Shrubs/Hedges:* Shrubs/hedges at the time of installation shall not be less than two and one-half (2½) feet in height unless the City determines that some are not available, in which case height will be determined by availability. Unless a provision of another code dictates a larger hedge (screening, perimeter hedge, etc.)
- (8) *Vines:* Vines at the time of installation shall be not less than 5' in height.
- (9) *Ground cover:* Ground cover at the time of installation shall not be less than 12" in height unless the City determines that some are not available, in which case height will be determined by availability.

- (10) *Mulch*: Must be an organic soil additive or topping such as compost, wood chips, wood shavings, seasoned sawdust, bark, leaves or straw, used to reduce evaporation, prevent erosion, control weeds, enrich the soil and lower soil temperature. The use of Cypress and/or colored mulch is prohibited.
- (11) *Sodded Areas*: Sod shall be placed on all areas not covered by main and accessory structures, walks, vehicular use areas and other landscape areas. Sod shall extend to *any* abutting street pavement edge, swale and swale rights-of-way and to the mean water line of any abutting canal, lake or waterway. All grass areas shall be sodded with a species of grass that will survive as a permanent lawn in Broward County provided with appropriate and adequate watering and fertilization. Sod provided must be true to type, viable, reasonably free of weeds, insects, and disease, and capable of growth and development.
- (12) *Structural soil* and *structural cells* are required when soil volumes under pavement and sidewalks, or in similarly restricted planting spaces, limits tree rooting space and increases the likelihood of damage by expanding roots under existing hardscapes. Both options support long-term tree growth in urban conditions by reducing the negative effects of soil compaction and increasing the space for root growth without structural damage.
- (a) *Structural soil*. The mixture shall consist of 80% stone aggregate (3/4" angular gravel with no fines), 20% clay loam soil, and a small amount of polymer gel (hydrogel) or other soil stabilizer to hold the mix together.
 - (b) *Structural cell*. Structural cells must meet American Association of State Highway and Transportation Officials (AASHTO) H-20 standard when combined with the load distribution of the paving above the cells. The manufacturer must be consulted for pavement/hardscape design compatibility.
- (b) *Landscape installation*. All landscaping and irrigation shall be installed in a sound workmanship-like manner and according to accepted and proper planting procedures.
- (1) Planting soils shall be required as specified in the landscape materials section of this article (subsection 27-231(a)(3)). All trees and shrubs shall be planted in a soil native to the site unless it is determined to be of poor quality by the City. **50% composted organic matter, well-mixed with native soil. Backfill material shall be free from rock, construction debris, or other extraneous material.**
- a. All planting holes for trees shall be 3 times the width of the root ball of the plant material.
 - b. The minimum planting soil depth shall be 6" for groundcover areas.
 - c. The minimum planting soil depth shall be 4" for seeded grass areas and 2" for sodded grass areas.

- (2) A maximum of 3” of clean mulch shall be installed around each tree planting and throughout planting beds. Mulched areas around trees and palms shall have a minimum of a 5’ diameter. Mulch shall be kept three (3) inches away from the trunks and stems of plants and 1½’ from the tips of plant material (hedge and ground cover).
- (3) All trees and palms shall be properly guyed and staked at the time of planting to ensure establishment and erect growth. Trees and palms shall be restaked in the event of blowovers or other failure of the staking and guying. Nail staking or other methods which cause cosmetic or biological damage to the tree are prohibited. All guying and staking material should be removed when the tree or palm is stable and established but in no case more than one (1) year after initial planting of tree palm. The use of plastic or non-biodegradable staking material on trees is prohibited except in certain site conditions.
- (4) All plant material shall be planted at a depth equal to or slightly above the final grade. First order roots and root flare shall be visible.
- (5) Ground cover at the time of installation shall be planted with a minimum of seventy-five (75) percent coverage with one hundred (100) percent coverage occurring within three (3) months of installation.
- (6) Vines at the time of installation and shall be planted with a minimum of 50% coverage with 75% coverage occurring within 3 months of installation.
- (7) Shrubs, when installed as a hedge, shall be planted with a spacing between the plants so that the plants are touching at time of installation.
- (8) All landscaped areas shall be provided with an automatically-operating underground irrigation system.
 - a. The irrigation system must be designed to have a minimum of one hundred (100) percent coverage, with fifty (50) percent minimum overlap in grass and groundcover areas and fifty (50) percent minimum overlap in shrub areas.
 - b. The irrigation system must be equipped with a rain sensor also known as rain shut off device consistent with Florida Statutes.
 - c. Rust inhibitor filtration system must be installed to all irrigation systems where well water is to be used.
- (9) All plantings shall be fertilized at the time of installation with an appropriate fertilizer consistent with site conditions or at such higher standard as may be determined by the City.
- (10) Root barriers are required where trees or palms are planted within 15’ of any paved surface or infrastructure without a full type D curb. Root barriers shall be installed, following the manufacturer’s specifications, against the edge of and parallel to the sidewalk, roadway, and/or driveway apron and extend no less than one-half the canopy width of a mature tree or 20’ in length, whichever is greater.

- (11) Sod shall be aligned with tightly fitted joints and no overlap of butts or sides. Sod pieces shall have adequate soil backing for continuous root growth and irrigation retention. Subgrade of lawn areas shall be reasonably free of all stones, sticks, rocks, roots and other matter prior to the placement of sod. The subgrade must be covered with a suitable soil composite that permits viable sod growth. Excessively large turf areas, such as play fields, may be grassed by other methods with approval of the City.
- (12) Finished grade of landscape areas shall be at or below the grade of adjacent paved areas or curbed areas, except for mounding or other surface aesthetics. Grade shall be designed to receive roof and surface runoff. Mounding or other surface aesthetics shall not inhibit or defeat intended rainwater capture, retention or percolation.
- (13) Structural soil. Irrigation of the tree hole and entire structural soil volume is required. Do not install structural soil within the tree opening; place high-quality soil around the root ball of the tree. Install subgrade below the soil/aggregate structural soil and compact to 95% of dry density. Provide structural soil as deep as possible: Large shade trees require a minimum of 4000 cu ft of structural soil; Medium shade trees and palms, 2400 cu ft.
- (14) Structural cell. Install cells following the manufacturer's recommendations. Leave an airspace under the deck and above soil for irrigation, fertilization, and expansion of zone-of-rapid-taper roots. Drainlines are required in the aggregate sub-base layer. Tree opening must be as large as possible to allow development of trunk flare. Fill cells with an appropriate planting soil (not structural soil!) that considers drainage, compaction, and organic matter (not more than 15%). Provide a minimum of 1000 cu ft of soil volume for Large shade trees, and 600 cu ft for medium shade trees and palms.
- (15) New trees required to be installed shall be planted so normal growth and aesthetic appearance will not be impaired. Large shade trees shall not be planted under utility lines or lighting, too close to structures or paved areas.
 - (a) Trees shall be installed as follows:
 - i. Large canopy shade trees shall be located a minimum of fifteen (15) feet away from structures and a minimum of thirty (30) from other large canopy shade trees.
 - i. Medium canopy shade trees and palms shall be located a minimum of seven and one-half (7½) feet away from structures, twenty (20) feet from other medium canopy shade trees, and twenty-five (25) feet from other large canopy shade trees.
 - ii. Trees shall be planted no closer to an impervious area than half of the minimum size of the required planting area for the particular tree species.
 - iii. Where a conflict in spacing or canopy spread occurs between required trees and existing offsite or onsite trees, the requirements of this section may be modified as determined by the director.

- (b) Trees shall be installed as follows: Each tree shall have pervious area surrounding it sufficient to support the species, as determined by the City. The minimum planting area shall be for:
 - i. Large shade tree species – two hundred twenty-five (225) square feet within twelve (12) feet of the smallest dimension.
 - ii. Medium shade tree species – ninety (90) square feet with eight (8) feet the smallest dimension.
 - iii. Palm types – twenty-five (25) square feet with five (5) feet the smallest dimension.

Sec. 27-232. - Sight distance for landscaping adjacent to public rights-of-way and points of site access.

Landscape material and trees are required in the sight triangle so as to not obscure sight distance. Refer to Section 23-117 of the City Codes of Ordinances.

Sec. 27-233. Berms.

Berms, if approved as part of a landscape plan, shall meet the following standards:

- (1) Berms without hedges shall be a minimum of four feet in height and have a maximum slope of three to one. Berms shall be smooth, transitional, without awkward grade changes, and shall be both undulating and meandering.
- (2) Berms with hedges shall be a minimum of three feet in height, and shall have a hedge of a minimum 2½' in height at time of planting.
- (3) The height of a berm shall be measured from the grade of the adjacent paving on the public side (i.e., sidewalk, or road crown).

Sec. 27-234. – Screening requirements.

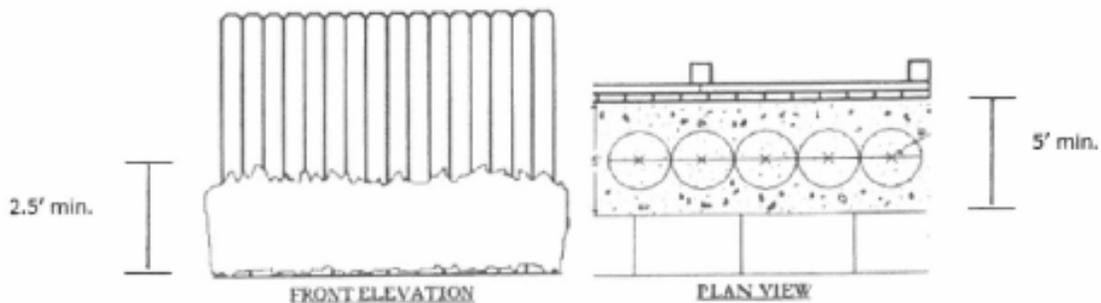
- (a) *Recreational amenities.* In all districts active recreation play courts such as pools, tennis courts, basketball courts, and tot lots must be screened on all sides visible from off-site with a contiguous hedge a minimum of 2½' in height at time of planting and maintained at three feet. Such plantings shall be outside the fence enclosure (where one exists) or a minimum of six feet off the court outside edge.
- (b) *Common Areas/Open spaces.* Common areas/open spaces within residential zoning districts, such as project entries, and miscellaneous open spaces including but not limited to tot lots and recreation areas, shall have a minimum of one tree and 20 shrubs for each 2,000 square feet of site area or portion thereof, not utilized for structures or vehicular use areas.
- (c) *Above-ground elements.* Dumpster enclosures, storage areas, transformers, air conditioning units, pool equipment, mechanical equipment, and all other above ground freestanding utility

equipment shall be fully screened with living plant material on all non-accessible portions with hedge material equal to the height of such elements. Enclosure elements shall be screened with living plant material half the height of the enclosure.

- (d) *Generators.* Generators and above ground gas tanks shall be fully screened on all non-accessible portions from public view with hedge material equal to the height of the generator and the gas tanks. All aspects of fire and life safety shall comply with the current edition of the Florida Fire Prevention Code.
- (e) *Fences/Walls.* All fences and walls abutting or parallel to a right-of-way, sidewalk, or bikeway require landscaping. Open-weave fences without “slats” of plastic or other material, open-rail fences, or such other type of fence which does not present a visual barrier by having more than 20 percent of its surface area visually obstructed. are excluded from this landscaping requirement. The owner shall have the duty of maintaining the irrigation and live greenery required.

The following specifications must be adhered to for the above requirements:

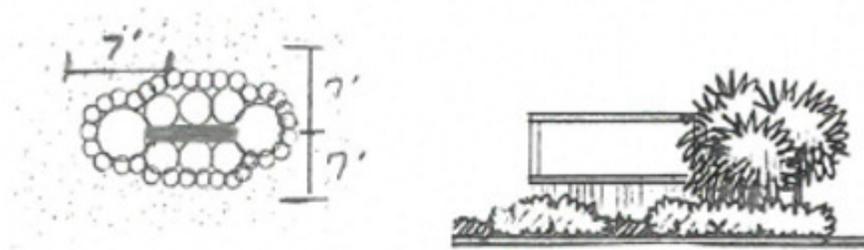
- The fence must be set back a minimum of five feet from the property line.
- Plant material must be a minimum of 2½’ in height at time of installation, tips of plant material must touch at time of plating.
- Minimum 5’ wide planting bed.
- Planting beds must be mulched.
- Planting beds must be irrigated.



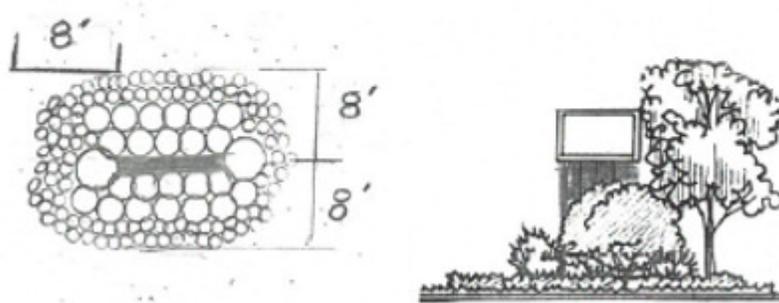
Section. 27-235. – Free Standing Monument Sign landscape requirements.

- (a) *Signs.* All detached/free standing monument signs shall be located within a landscaped area designed to provide an aesthetic setting for the sign. Where possible, the landscape area should be blended together with the existing or surrounding landscape. The landscape area should be designed in such a manner so as to not block the message on the sign. These are minimal requirements and do not limit the landscape area from being increased in size. Generous and creative landscaping is always encouraged.

SIGN HEIGHT	MINIMUM LANDSCAPE REQUIRED
7' or less in height	A 5' wide planting bed on all 4 sides of the monument sign with a minimum of 1 row of hedge 30" x 24" planted 24" on-center and 1 row of ground cover 12" x 12" planted 12" on-center.
Greater than 7' in height	A 8' wide planting bed on all 4 sides of the monument sign with a minimum of 2 rows of hedge 30" x 24" planted 24" on-center and 2 rows of ground cover 12" x 12" planted 12" on-center.



Detached/free standing monument signs 7' in height or less



Detached/free standing monument signs greater than 7' in height.

*Exception – in cases where the set back is less than the minimum width the planting bed will be adjusted accordingly.

Sec. 27-236. Maintenance Requirements.

All landowners, or their agents, shall be responsible for the maintenance of all landscaping. This includes mowing and maintaining abutting rights-of-way, swales, lakes and canal banks. Landscaping shall be maintained in a good condition so as to present a healthy, neat and orderly appearance at least equal to the original installation and shall be mowed or trimmed in a manner and at a frequency so as not to detract from the appearance of the general area. Landscaping shall be maintained to minimize property damage and public safety hazards, including removal of living, dead or decaying plant material, removal of low hanging branches and those obstructing street lighting and maintenance of clear sight distance standards. Landscaping shall be maintained in accordance with the following standards:

- (a) *Insects, disease, etc.:* Landscaping shall be kept free of visible signs of insects and disease and appropriately irrigated and fertilized to enable landscaping to be in a healthy condition.
- (b) *Mulching:* Three inches of clean, weed-free, mulch shall be maintained over all areas originally mulched at all times until landscaped area matures to 100 percent coverage with the exception of tree root balls which shall be mulched at all times. The City prohibits the use of Cypress or colored mulch.
- (c) *Irrigation systems:* Irrigation systems shall be maintained to eliminate water loss due to damaged, missing or improperly operating sprinkler heads, emitters, pipes and all other portions of the irrigation system and shall not be installed or operated to overspray onto roads or pedestrian walkways. The frequency (times per week/month) and duration (minutes/hours) of the operation of each zone shall be adjusted and operate in order to meet the water needs of the plants within each zone as a supplement to rainfall. Adjustments shall be made a minimum 4 times per year to match the seasonal changes of the plants and the operational restrictions. Rain sensors and the rust inhibitor filtration system must be maintained in operable condition at all times.
- (d) *Control of nuisance species:* All areas developed after the effective date of this ordinance shall be maintained free of Brazilian Pepper, Australian Pines, Lead trees, Melaleuca. This shall include natural areas within developed property.
- (e) *Replacement requirements:* An owner is responsible to ensure that living plant material including trees, palms, hedge, ground cover, and sod which are required to be planted by the City are installed pursuant to this code and are replaced if any plant material is dead, declining, irreparably damaged, diseased, or missing following the issuance of a certificate of occupancy. Preserved vegetation which dies following the issuance of the certificate of occupancy shall be replaced with equivalent living plant material. A permit for tree or palm removal shall be required for the removal of any tree or palm.
- (f) *Tree Pruning:* The removal of diseased or dead portions of a tree or an obstructing branch interfering with street lights, stop signs, vehicular use or pedestrians is required. Permits are required see Sec 27-238.
 - (1) All developers, developer agents or contractors or their agents, and homeowners, must prune trees in accordance with standards set forth in American National Standards Institute (ANSI) A-300, and Z-133, current edition. If the pruning is tree abuse and causes tree removal, a permit for tree removal shall be required from the City.
 - (2) Any pruning performed without conformance to ANSI A-300 and Z-133 standards shall be subject to enforcement by the City. No live palm fronds may be removed.
 - (3) Failure to remove or properly prune a tree damaged by a natural disaster within 30 days shall be a violation.

- (4) The Hazard Pruning Standards and the Crown Reduction Standards of ANSI A-300 and Z-133, current edition, apply to utility companies and their contractors. Refer to Sec 27-240 for penalty.
- (5) The removal of diseased or dead portions (such as palm fronds) of a tree or the removal of an interfering, obstructing or weak branch of a tree which is a threat to public safety or to adjacent property is allowed. Pruning to reduce or eliminate interference with or obstruction of street lights, stop signs or traffic signals is an example of an allowed pruning activity, provided tree abuse does not occur.
- (6) Crowns of mature shade trees may be thinned to allow for more light penetration and less wind resistance, however, not more than one-quarter of the growth in the crown may be removed in any given year (ANSI A-300, 5.3.1.4), and one-half of the foliage shall remain evenly distributed in the lower two-thirds of the crown (ANSI A-300, 5.3.1.5).
- (7) *Excessive lifting*: Lifting may be performed to eliminate a hazard to pedestrians or to protect the tree from vehicular damage only, not for visibility to signage in lieu of crown thinning. What is regarded as excessive is species dependent, however under no circumstances may the middle one-third of the overall height of the tree contain less than 50 percent of the foliage.
- (8) All trees required under the provisions of this chapter shall be allowed to grow to their natural height, size and shape.

Sec. 27-237. Maintenance of Swales.

- (a) *Maintenance responsibility*: It shall be the responsibility of the adjacent property owner for Planned Residential and Non-residential properties to maintain the swale area.

Sec. 27-238. - Permits

- (a) *Application for permit*. Application for a tree removal or tree relocation permit shall be made to the City. Upon receipt of an application for tree removal, the City will determine the species size, condition, and replacement requirement. Monetary value will be confirmed using the most current edition of the *Guide for Plant Appraisal*, published by the International Society of Arboriculture or such other publication or standard acceptable to the City.
- (b) *Two step permit*. Applicable to developed single-family lots where no site plan approval was required. This permitting is a two-part process. The first part is the planting of mitigated trees and demonstrating that after a six-month period, the trees are established. Once this is satisfied, the second part will be the issuance of a removal permit for the requested tree(s).
- (c) *Permit eligibility*. An applicant may be eligible to receive a tree removal permit if the following considerations are present:

- (1) If a proposed development cannot be located on the site without tree removal; and if the proponent has made every reasonable effort to incorporate existing trees in the development project and to minimize the number of trees removed; or
 - (2) If a tree proposed to be removed is of poor quality and condition; or
 - (3) If a tree proposed to be removed is obstructing safe vehicular cross visibility; or
 - (4) If a tree proposed to be removed is damaging existing improvements and every reasonable effort to cease further damage through proper arboricultural and horticultural practices has been exhausted; or
 - (5) If the growth of a tree proposed to be removed is being suppressed by dominant tree canopy that inhibits the natural growth and development of the affected tree(s); or
 - (6) Other circumstances as determined by the City.
- (d) *Permit conditions.* The City shall issue a tree removal or tree relocation permit when the applicant for such permit has agreed to fulfill one (1) of the following conditions:
- (1) That the tree or palm, if transplanted, shall be moved, established and maintained using proper arboricultural and horticultural practices accepted by the industry in South Florida. New location shall provide adequate space to allow the tree or palm to attain its natural growth characteristics. The replacement size and planting location shall be designated by the City and guaranteed with a cash bond by the property owner for one (1) year from the planting (or replanting) date.
 - (2) That the tree(s) or palm(s), if destroyed, shall be substituted with equivalent tree or palm replacement or replacements, approved by the City, planted on the site from which the destroyed tree(s) or palm(s) were removed. The replacement size and planting location shall be designated by the City and guaranteed by the property owner for one (1) year from the planting (or replanting) date.
 - (3) That the tree(s), if destroyed, will be replaced by the applicant by providing the equivalent monetary value to the City's tree fund. The equivalent monetary value shall be determined using appraisal methods described in the most current edition of the *Guide for Plant Appraisal* published by the International Society of Arboriculture or such other publication or standard acceptable to the City.
 - (4) *Trees or Palms damaged by natural events.* All reasonable efforts should be made to preserve trees or palms damaged by a hurricane, windstorm, flood, or like event. All trees required by code or approved site plan that are destroyed and/or removed due to such event shall be replaced. Permits for removing such trees or palms are required. Applications for removal must be accompanied by supporting documentation in the form of photographs and/or tree assessments provided by an ISA Certified Arborist.
- (e) *Permit fees.* Each application for a tree removal/relocation permit shall be accompanied by a permit fee for each tree sought to be removed or relocated.
- (1) Fee. The fee for single-family residential zoned property or for a single dwelling unit owner in a multi-family zoned property shall be thirty-five dollars (\$35.00) per tree, and for all other instances, the fee shall be thirty-seven dollars and fifty cents (\$37.50) per tree;

- (2) Permit fee for trees removed without permits. The fee for single-family residential zoned property or for a single dwelling unit owner in a multi-family zoned property shall be seventy dollars (\$70.00) per tree, and in all other instances, one hundred dollars (\$100.00) per tree.
 - (3) Tree abuse permit fee. Each application for a permit to remediate tree abuse or "hat racking" shall be accompanied by a permit fee for each tree abused or hat racked. The fee for single-family residential zoned property or for a single dwelling unit owner in a multi-family zoned property shall be seventy dollars (\$70.00) per tree, and in all other instances, one hundred dollars (\$100.00) per tree.
 - (4) Tree trimming permit fee. Each application for a permit for professional tree trimming shall be accompanied by a permit fee. The fee for single-family residential zoned property or for a single dwelling unit owner in a multi-family zoned property shall be twenty dollars (\$20.00). In all other instances, the fee shall depend on the number of trees trimmed and shall be the sum, as and if applicable, of fifty dollars (\$50.00) for up to twenty-five (25) trees, one hundred dollars (\$100.00) for any number of trees between twenty-six (26) and seventy-five (75) trees, and one hundred fifty dollars (\$150.00) for any number of trees in excess of seventy-six (76) trees.
- (f) *Bonding.* Any persons conducting a permitted tree relocation must post a bond to insure the survival of tree(s) designated for preservation. The requirement of this bond may be waived by the City upon suitable showing by the applicant. Determination of the bond amount shall be computed based upon the most current edition of the *Guide for Plant Appraisal*, published by the International Society of Arboriculture or such other publication or standards acceptable to the City. Said bond shall meet the approval of the appropriate city departments.

Section. 27-239. - Tree Preservation and Protection.

- (a) *Designation of protected trees, specimen trees and historic trees.* The city council may designate by resolution protected trees, specimen trees, and/or historic trees as defined herein. Any tree which has been declared to be a protected tree shall not be removed unless approved by the City.
- (1) When a protected tree is on a site which cannot be put to any significant use without the removal of the protected tree, removal of the protected tree will be allowed with all such conditions being imposed as are appropriate pursuant to the guidelines applying to the removal of non-protected trees and to the special status of the protected tree.
 - (2) When a protected tree is on a site to be developed or redeveloped, the owner, developer, or contractor shall take all reasonable measures to prevent damage to the tree and root system out to the natural drip line. The extent of the drip line will be based on caliper and species without respect to previous pruning activities.
- (b) *Tree Preservation.*

- (1) *Purpose.* The purposes of this section are to establish rules and regulations governing the protection of trees and vegetative cover within the city limits, to encourage the proliferation of trees and vegetation within the City as well as their replacement, in recognition of their importance and their meaningful contribution to a healthy, beautiful, and safer community attributable to their carbon dioxide absorption, oxygen production, dust filtration, wind and noise reduction, soil erosion prevention, surface drainage improvement, beautification and aesthetic enhancement of improved and vacant lands and the general promotion of the health, safety, and well-being of the community. In the evaluation of a tree permit, priority shall be given to protecting trees in place; relocation and removal of trees shall be considered in cases where such actions are justified with supporting documentation.
- (2) *Tree removal.*
 - a. On developed single family lots where no site plan approval was required, trees with a caliper under sixteen (16) inches may be removed without obtaining a tree removal permit. Properties where a minimum number of trees per lot are required by this article shall require a tree removal permit regardless of its caliper. Monocots with a height of six (6) or more feet of clearwood shall require a tree removal permit. It shall be unlawful to remove such tree without first obtaining a tree removal permit.
 - b. On all other developed property, including single-family lots in the RS1-EP zoning district, it shall be prohibited to remove a tree or palm required by code or as a condition of a site plan; from public or private lands without first obtaining a tree removal permit from the landscape architecture department.
 - c. On undeveloped property, it shall be prohibited to remove any dicot or conifer tree or palm. No permit shall be required for the removal of Australian Pines (*Casuarina spp.*), Melaleuca (*Melaleuca quinquenervia*), Florida Holly (*Schinus terebinthifolius*). Moving a tree from one location to another in the City will not be considered removal; however, a permit shall be required.
- (3) *Tree replacement requirements.*
 - a. The tree canopy coverage of a site shall be determined using any combination of the following methods:
 - i. Review of aerial photography;
 - ii. On-site inspection; and/or
 - iii. Review of a tree survey.
 - b. For replacement requirements, the minimum number of species varies based on the number of trees being replaced. Refer to the following table.

Number of Trees being replaced	Species variety
1 to 5	Minimum 1 species
6 to 10	Minimum 2 species
11 to 20	Minimum 3 species
21 to 50	Minimum 4 species
51 and greater	Minimum 5 species

(4) *Tree trimming and cutting.*

- a. *Permits.* Permits are required for the pruning of any above-ground parts of a tree, and the removal of dead fronds and living or dead influences from palm trees. The removal of green or partially green palm fronds is not allowed.
- b. *Tree services and arborists.*
 1. Vehicles used by tree services/arborists operating within the city shall be clearly marked with the name and telephone number of the tree service/arborist. Tree services/arborists shall display the Broward County certified logo and registration number, as-required by the county.
 2. All tree trimmers which provide services in Plantation shall hold a valid tree trimmers “A” license from Broward County, and a certified arborist must be on site at all times.
 3. A photocopy of the local business tax receipt shall be available for inspection at each job site.
 4. In all instances, pruning or repair to dicotyledonous, monocotyledonous and conifer species, shall be made according to most current edition of American National Standard Institute for Tree Care Operations Tree, Shrub and Other Woody Plant Maintenance Standard Practices (ANSI A300-1995) or such other publication or standard acceptable to the city, a copy of which is on file in the landscape office of the city. The exception is the trimming of palms as described by ANSI A300**, section 5.6.1.1. No removal shall be permitted of live palm fronds whose petiole initiates in a direction above a plane parallel to the ground plane below, thereby leaving less than a one hundred eighty (180) degree head of fronds. This removal should not constitute more than twenty-five (25) percent of fronds. Persons engaged in the business of tree service in the city shall adhere at all times to these standards.
- c. The owner, tenant, occupant or tree services/arborists engaged to trim trees on lands located within the city shall neither remove, top, or trim back more than twenty-five (25) percent of the total area of any tree canopy.

(c) *Tree Protection.*

- (1) All trees retained on a site shall be protectively barricaded before and during construction activities. The minimum barricade shall be a temporary fence constructed of a minimum of two (2) by four (4) inch posts, forty-eight (48) inches high with three (3) two (2) by four (4) inch rails equally spaced. A performance bond instead of or in addition to a protective barricade may be required from the agent or owner by the City for any tree protection, removal, or transplanting to guarantee protection of a tree or trees or to ensure restoration of an equivalency. The amount of said bond shall be based on the equivalent value of the tree or trees specifically covered. Any bond required for a "protected tree" shall be four (4) times the equivalent value for that tree.
- (2) Underground utility lines shall be routed around existing trees to the outside of the drip line. If this is not possible, as determined by the City a tunnel made by a power-driven soil auger may be used under the tree in a proper horticultural/arboricultural manner.
- (3) Installation of fences and walls shall take into consideration the root systems of existing trees. Post holes and trenches located close to trees shall be dug by hand and adjusted as necessary to avoid damage to major roots. Continuous footers for masonry walls shall be ended at the point larger roots are encountered and the roots bridged.
- (4) Any owner, tenant, contractor or agent thereof who fails to provide tree protection as stated herein shall be guilty of tree abuse.

Sec. 27-240. Enforcement, violations, and penalties.

- (a) *Tree abuse.* Tree abuse is prohibited. Abused trees may not be counted toward fulfilling landscape requirements and may be required to be replaced. Tree abuse shall include:
- (1) Significant damage inflicted upon any part of a tree including but not limited to, damage by machinery, or pruning equipment, storage of materials, soil compaction, excavation, vehicle accidents, chemical application or change to the natural grade.
 - (2) Damage inflicted to or cutting pruning a tree which permits infection or pest infestation.
 - (3) Pruning a tree in such a manner which reduces the natural functions and biological processes of the tree or puts it into stress or shock conditions or kills the tree.
 - (4) Pruning a tree, in a manner which destroys the natural habit of growth.
 - (5) Hatracking.
 - (6) Tears and splitting of limb ends or peeling and stripping of bark.
 - (7) Use of climbing spikes on any species of tree for any purpose other than total tree removal.
 - (8) Girdling a tree with use of mechanical or manual equipment (e.g., use of a weedeater, mower damage, guy wires, etc.).

- (9) Overlifting.
 - (10) Overthinning.
 - (11) Other activities which cause physical and biological damage to a tree or palm.
- (c) Vegetation maintenance and tree or palm pruning or trimming conducted by utilities shall conform to ANSI A300 (Part 1)-2001 pruning standards and ANSI Z133.1-2000 Pruning, Repairing, Maintaining, and Removing Trees and Cutting Brush – Safety Requirements or most current publication shall not constitute tree abuse. Utility companies and their contractors A penalty will be assessed in the amount of \$500.00 plus the value of the tree determined to be lost as established by the methodology contained in the ISA "Guide for Plant Appraisal." current edition, for each violation.
- (d) Remedial measures for tree abuse: action taken should be one (1) of the following:
- (1) Remedial pruning to improve the health and form of affected trees as determined by the City, to protect public safety and property.
 - (2) Removal as determined by the City shall be as a result of severely abused trees that compromise the health and structural integrity of the tree and the safety of the public and property. Said plant material shall be removed and stump ground within thirty (30) days of notice by the City. Prior to the removal of any tree or palm tree removal permits are required.
- (a) Mitigation shall be required for any tree or palm requiring removal.

ADD Sections here for:

Trees removed without permits

Trees trimmed without permit

Noncompliance with approved landscape plan

Sec 13-35 a & b