

CITY OF MIAMI BEACH ROUTINE GROUNDS MAINTENANCE SPECIFICATIONS

1. **STANDARDS AND REFERENCES:** The landscape maintenance personnel shall be well versed in Florida maintenance operations and procedures, Florida Friendly Landscaping, and Integrated Pest Management practices. All employees shall be competent and skilled in their particular job in order to insure that they properly perform the work assigned.

The following organizations provide standards and publications which shall be used as a guide for conducting grounds maintenance services. Any deviations from these standards should be approved by the City in writing:

- Florida Cooperative Extension Services, 18710 SW 288th Street, Homestead, Florida, 33030.
- Florida Turf-Grass Association, Inc., 302 Graham Avenue, Orlando, Florida, 32803-6399.
- National Recreation and Park Association, 1601 N. Kent Street, Arlington, Virginia, 22209.
- Florida Recreation and Park Association, 1406 Hays Street, Suite 1, Tallahassee, Florida, 32301.
- Florida Department of Transportation, "Manual on Traffic Controls and Safe Practices for Street & Highway Construction, Maintenance and Utility Operations."
- Institute for Regional Conservation.
- Florida Department of Environmental Protection.
- American National Standards Institute A-300 Standards.
- Florida Nursery, Growers and Landscape Association.

2. **MATERIALS:** All materials supplied and used by landscape maintenance personnel shall be the highest quality and used in accordance with manufacturer's directions. Commercial products such as fertilizers and pesticides shall bear the manufacturer's label and guaranteed analysis. City inspectors may require tests and reject materials not meeting these specifications or manufacturer's guarantee. Salvage materials will not be allowed.

A. **REPLACEMENT:** Any plants which are damaged or die as a result of improper maintenance, inadequate or lack of irrigation or lack of sufficient maintenance shall be replaced by the landscape maintenance personnel, at no cost to the City, within ten (10) calendar days upon discovery by the landscape maintenance personnel or notification by the City. The following criteria shall be used to determine if replacement is necessary.

- i. Plants are not in a healthy growing condition and this renders them below the minimum quality standard (Florida Grade #1 as defined by the Florida Grades and Standards Manual for Nursery Plants).
- ii. There is a question of any plants ability to thrive after the end of the maintenance period which would render it below the minimum quality standards (Florida Grade #1 as defined by the Florida Grades and Standards Manual for Nursery Plants).
- iii. The plant material is dead.

3. SIZE, QUALITY, AND GRADE OF REPLACEMENT:

- A. Replacement material shall be of the same brand, species, quality and grade as that of the material to be replaced, or it shall conform to the Florida Grades & Standards for nursery plants Florida #1 Quality, whichever is higher. The size of the replacement plants shall not be necessarily the same size as the original specified plant at its initial planting. The replacement shall be of equal size to the plant to be replaced at the time it has been determined that it must be replaced. However, if for some reason, the plant to be replaced is smaller than the size to be replaced, the replacement shall be at least equal to the original size when the maintenance period began.
- B. Plants shall be sound, healthy, and vigorous, free from plant disease, insect pests or their eggs, and shall have normal root systems and comply with all State and local regulations governing these matters, and shall be free from any noxious weeds.
- C. All trees shall be measured six (6) inches above ground surface.
- D. **SHAPE AND FORM:** Plant materials shall be symmetrical, and/or typical for variety and species.
- E. All plant materials must be provided from a licensed nursery.

4. WATER: Should landscape maintenance personnel be required to supply water temporarily, the water shall be fresh (non-salt), and containing no harmful levels of pollutants or chemicals.

5. SOIL:

- A. Any soil supplied by landscape maintenance personnel shall be good, clean, friable top soil (or soil mix), free from any toxic, noxious or objectionable materials, including rocks, lime rock, plant parts or seeds.
- B. "Planting Soil Mix" shall be equal parts of Canadian peat, silica sand, and composted organic matter, sterilized.
- C. "Muck-sand-soil" shall be 70 percent silica sand and 30 percent Florida peat.

6. FERTILIZER: All fertilizer shall be the best commercial grade and except for free flowing liquids, shall be delivered to site and be dry when processed for application. Fertilizers shall be in appropriate containers and tagged. Special permission from the City is required to use bulk fertilizers.

Landscape maintenance personnel may be required to submit copies of the manufacturer's specifications for all fertilizer including data substantiating that the proposed materials comply with specified requirements.

7. PESTICIDES (INSECTICIDES, FUNGICIDES, HERBICIDES, ETC.): Insecticides & Fungicides shall be only those which are approved or recommended for use near open water bodies and those specified. Only the Federal Environmental Protection Agency (EPA) approved products

shall be used.

All pesticides are to be registered and approved for use by the Florida Department of Agriculture.

Landscape maintenance personnel should document and retain to be produced if requested, a schedule of spraying and dusting materials to be used to control pests and disease infestation, the reason for their use and the method to be used to apply the materials and the method of application before it is delivered and used on the site. The need for pest and disease control, will be determined by the landscape maintenance personnel's Horticulturist. Also, if requested by the City, landscape maintenance personnel will furnish documentation that the implementation of these control measures for pests and disease infestation is in strict compliance with all Federal, State, and Local Regulations. Any use of pesticides in Parks must be approved in writing by City.

8. **MISCELLANEOUS MATERIALS:** Mulch shall be Amerigrow Recycling's or City approved equivalent shredded, round-wood, recycled mulch Pine Bark Brown in color. Other mulch types may be required upon request by the City.
9. **EQUIPMENT:** Equipment supplied by landscape maintenance personnel shall be designed for or suited to the grounds maintenance task in which it is to be used. Equipment will not be used in areas or to perform tasks where damage will result to the landscapes or sites.

Landscape maintenance personnel shall maintain supplied equipment in a good appearance and all equipment shall be maintained in a safe, operational and clean condition.

10. **COMPLETION OF WORK:** All work is to be completed in a continuous manner. That is all mowing, edging, weed control, trimming, litter removal, etc. shall be completed before leaving the job site.

11. **GROUNDS MAINTENANCE FUNCTIONS AND TASKS:**

A. **TURF CARE:** Maintain turf areas in a healthy, growing green and trim condition by performing the following operation:

- i. **SITE PREPARATION:** The landscape maintenance personnel shall, prior to mowing, retrieve materials and dispose of waste to include, and not be limited to, papers, glass, bottles, cans, fallen tree limbs and/or fronds, and all other deleterious materials found on the sites listed herein. Should the landscape maintenance personnel have knowledge of the existence of hazardous wastes upon lands covered by the provisions of this agreement, the landscape maintenance personnel shall have a duty to immediately notify the City in writing of such a condition, and provide information on the disposal of the material.

B. **MOWING GENERAL**

- i. Mowing shall be performed in a workmanlike manner that insures a smooth surface appearance without scalping or leaving any "missed" uncut grass. Special care will be required to avoid scalping swales and on top of berms. Line trimmers will not be permitted for cutting grass in areas larger than 64

square feet.

- ii. Reel mowers will be used on Bermuda, Paspalum and Zoysia grass.
- iii. Rotary mowers will be used on St. Augustine and Bahia grass.
- iv. All mowers are to be adjustable and adjusted to the proper cutting height and level for the kind of grass and current condition of the turf. Mower blade height adjustment is to be measured from a level floor surface to the parallel and level plane of the mower blade.
- v. All mower blades are to be maintained sharpened condition and sharp enough to cut, rather than to tear grass blades.
- vi. All litter and debris is to be removed from turf before mowing to avoid shredding that will damage turf appearance, or items that may be propelled by mower blades.
- vii. Mowing will be done carefully so as not to "bark" trees or shrubs, or to introduce weeds into ground cover beds, or to damage sprinkler heads, curbs, or other facilities.
- viii. Grass clippings or debris caused by mowing or trimming will be collected and removed from the turf or from adjacent walks, drives, gutters and curbs or surfaces on the same day as mowed or trimmed and legally disposed of at an off-site location at Contractor's expense. Dispersion of clippings by the use of blowers is expressly forbidden.
- ix. Mowing will not be done when weather or other conditions will result in damaged turf.

C. MOWING SPECIFICS

- i. **ST. AUGUSTINE GRASS:** Mow only with a rotary mower a minimum of once per week during the growing season of May through the end of September and at other General Service, as needed, throughout the year.
- ii. **BAHIA GRASS:** Turf shall be mowed at 4" to 4 1/2 "above soil level with a mower designed for use in the specific circumstances. Remove clippings from areas if excessive clippings result from the mowing operation.

- D. TRIMMING AND EDGING:** Landscape maintenance personnel shall trim and properly edge all shrub and flower beds as well as trees, curbs, walks, lighting and all other obstacles in the landscape and remove clippings. Paved areas (hard edges) shall be edged **every mowing** with respect to the turf type adjacent to the edging. Edging of beds and the tree rings (soft edging) shall be executed not less than **every other** mowing with respect to the turf type adjacent to the edging. Turf edging at shrub beds, flower beds, ground cover beds, hedges, or around trees (where "edging" rather than "trimming" is directed), shall be edged with a manual or mechanical edger to a neat vertical uniform line. Line Trimmers are not to be used for vertical edging or for cutting

turf grass in areas larger than 64 square feet. Line trimming of large areas shall be considered contrary to Accepted Standard Industry Maintenance Practices and subject to payment reductions as described in Appendix B Section 1.5. Edge grass at plant bed lines to keep grass from growing toward shrubs, keep the width of sod as it was originally placed. Care shall be taken to avoid damage of ground cover weed barrier. Grass will be trimmed at the same height as adjacent turf is mowed, and to remove all grass leaves from around all obstacles and vertical surfaces in the turf, such as posts, walls, fences, etc. Particular attention will be given to trimming around sprinkler heads and other irrigation system components to assure their proper water delivery function. The mechanical line trimmers are not to be used within eighteen (18") inches of tree or palm trunks and are not to be used in lieu of a trim mower, to mow large areas of grass. Note: Damage to property or existing vegetation by improper trimming or edging shall be repaired or replaced within 48 hours at landscape maintenance personnel's expense. All walks and other paved areas littered in the lawn maintenance process shall be vacuumed, swept, or blown off while the mowing, edging, or trimming is in process so that the appearance suffers for the least amount of time. Direct clippings back on to the site not in to the roadway. Debris shall never be disposed into storm drains, adjacent properties or in to adjacent roadways. Shell, mulch, gravel or other porous walk ways shall be raked clean with a fan rake. Blowers are not to be used on shell, mulch or sand walkways. Landscape lighting shall be wiped, blown off or vacuumed as needed to prevent accumulation of clippings and dead insects. Landscape areas shall be raked and cleaned of clippings, leaves, sticks, twigs, and all litter **during each service visit.**

Materials cleaned from grounds may not be disposed on-site, and must be removed from locations at landscape maintenance personnel's expense.

12. **PRUNING SHRUBS AND GROUND COVER PLANT BED AREA MAINTENANCE:** All shrubs and ground cover plants growing in the work areas shall be pruned, **as required**, to maintain plants in a healthy, growing, flowering condition and to maintain plant growth within reasonable bounds to prevent encroachment of passageways, walks, streets, view of signs or any manner deemed objectionable.
 - A. **BED AREA MAINTENANCE:** The landscape maintenance personnel shall keep the bedded areas free of dead plants, leaves, and branches at all times. All beds shall be vertically edged, and kept weed free at all times. Edge grass at plant bed lines to keep grass from growing toward shrubs, keep the width of sod as it was originally placed. Landscape edging where used must be kept in place, and vertical as it was originally installed.
 - B. **SHRUBS:** All shrub material shall be pruned a **minimum of once per month** to insure the best shape, health, and character of the individual plant. Mechanical trimming may only be utilized when the health or appearance of the plant will not be damaged by the mechanical trimmers.
 - C. **GROUND COVER:** All groundcover material shall be pruned a **minimum of once per month** to insure the best shape, health, and character of the individual plant. Groundcover plants shall be selectively cut back to encourage lateral growth and kept inbounds and out of other plantings, walkways, lighting, etc. Mechanical trimmings may only be utilized when the health or appearance of the plant will not be damaged by the mechanical trimmers.

13. **TREES AND PALM PRUNING:** Trees and palms are to be maintained in a healthy, growing, safe, attractive condition and in their proper shape and size according to variety, species and function in the landscape.

A. Emphasis to be placed on the proper (natural) shape and size. Limit the amount of trimming done to meet special purposes, e.g., sign clearance on businesses, leaves dropping on outdoor tables, etc. The City's tree code states that it is unlawful to destroy a tree's natural shape. This type of pruning to be performed only with the approval of the City Urban Forester.

B. **SEC. 46-62. TREE ABUSE PROHIBITION:** It shall be unlawful to abuse any tree located within the boundaries of the City of Miami Beach, either public or private. The following acts shall constitute tree abuse:

- Damage inflicted upon any part of a tree, including its root system, by machinery, mechanical devices, soil compaction, excavation, intentional vehicle abuse, chemical applications, changes to the natural grade, fire, storage or disposal of toxic or hazardous substances, or any removal of the outer bark area.
- Damage inflicted to or cutting a tree which permits infection or pest infestation.
- Cutting any tree which destroys its natural shape, such as topping or hat racking.
- Fastening any sign, rope, wire or object by nail, staple, chemical substance, or other adhesive means to go on through, or around, any tree, causing permanent damage to the tree.
- Any pruning, or cutting, in violation of the practices established by the American National Standards Institute (ANSI) A300 Standards for Tree Care Operations.

C. **PRUNING:** All pruning shall be in compliance with the most recent tree maintenance standards as published in the American National Standards Institute (ANSI) A300 Standards for Tree Care Operations. All tree pruning must be done by an ISA certified arborist or under the direct, on-site supervision of an ISA certified arborist.

Pruning will also be required from time to time to remove damaged branches from storms, frost, pruning to prevent encroachment of branches over streets, into private property, obscuring view of signs or traffic, particularly at a road intersection, or interference with lighting, etc.

Tree branches shall be pruned up to seven (7') feet over walkways and in areas so designated by the City Urban Forester. All tree pruning shall be accomplished in accordance with the most recent American National Standards Institute (ANSI) A300 Standards for Tree Care Operations.

In addition to the situations mentioned in the preceding text, Pruning shall include the following items:

- Dead, dying or unsightly part of the tree

- Remove sucker growth from base of the trees in which an exposed trunk character is desired
- Crossed branches that may rub together
- “V” crotches with included bark, which are subject to failure subordinate multiple leaders if the tree normally has only a single stem
- Growth that interferes with the movement of vehicle or pedestrian traffic, signage, or lighting. Nuisance growth includes the removal of all dangerous thorns, spikes or appendages which show potential conflict with people

All branches, dead wood, and cuttings shall be removed from the job site at time of pruning and disposed of in an acceptable manner. All lawn and shrub areas damaged by pruning equipment shall be restored.

Palms are to be pruned a minimum of four times a year, in June, September, December and March. Minor pruning as otherwise required to remove brown or broken fronds, prevent encroachments, and remove fruit shall be done throughout the year. Special attention should be paid Coconut Palms and Date Palms where fallen fruit may present a hazard to pedestrians or property or create problems with sanitation.

D. NATURAL SHAPING AND THINNING: Prune, thin, and trim all trees at least once a year. Trees should be inspected and evaluated monthly, and pruning scheduled as needed for health, development of structural strength, public safety, maintenance of clearances, etc. to keep the trees healthy, to (1) maintain the natural character of the variety, (2) to control shape and to prevent crowding. Pruning in general shall consist of the removal of dead, broken, fungus infected, superfluous, and intertwining branches, vines, and the removal of dead or decaying stumps and other undesirable growth. Palms shall be pruned as needed to remove fruit, inflorescence, dead fronds and weak stalks. In order to prevent the spread of disease and reduce the possibility of nutrient deficiencies, only dead, brown fronds should be removed under normal circumstances. Whenever live plant tissue is being cut, including for example, diseased, broken or mostly dead fronds or fruits or inflorescences, tools shall be disinfected. Disinfect tools between palms by soaking in a (5.25%) - 25% dilution Chlorine bleach and water solution for a minimum of 5 minutes. **Chainsaws shall not be used on Phoenix spp. Due to the difficulty in sanitizing chainsaws, hand saws only will be permitted. Saws must be disinfected after pruning each Phoenix palm.** Palms shall not be excessively pruned, i.e., above the horizontal plane with the ground, or the 3 o'clock/9 o'clock crown positions. Remove brown or broken fronds only unless removal is required due to encroachments.

E. STAKING AND GUYING AND TREE SET-UP: Maintain existing and adjust tree stakes, guy wires and hoses or blocks, until trees are capable of standing vertical and/or resisting normal winds.

- i. Landscape maintenance personnel shall be responsible for the complete removal and replacement of those trees lost due to faulty maintenance or negligence, as determined by the City Urban Forester.
- ii. Replacement shall be made by landscape maintenance personnel in the kind and size of tree determined by the City Urban Forester.

- iii. All trees that have died or have been blown or knocked over are to be reported immediately upon discovery to the City Urban Forester.
- iv. With prior approval from the City Urban Forester, it is the landscape maintenance personnel's responsibility to remove and properly dispose of all dead or injured trees and/or weed trees such as but not limited to Florida Holly, Melaleuca or Australian Pines. Landscape maintenance personnel shall set and support trees that have been knocked or blown over
- v. Landscape maintenance personnel shall be responsible for removing all graffiti, signs, posters, boards, supports and any other material(s) attached or fastened to trees, or from elsewhere on the site, as directed by the City Urban Forester.

14. WEED CONTROL

- A. All landscape areas within the specified area, including lawns, shrub and ground cover beds, planters, and areas covered with concrete, pavers, gravel or shell, shall be kept free of all weeds at all times. This means complete removal of all weed growth shall be **accomplished at each service visit**. For the purpose of this specification, a weed will be considered as any undesirable or misplaced plant. Weeds shall be controlled either by hand, mechanical, or chemical methods. The City may restrict the use of chemical or mechanical weed control in certain areas. Mechanical weed control shall not disturb the mulch layer so as to expose the underlying soil.
 - i. Weeds are to be mowed, trimmed, or edged from turf areas as a part of turf care operations.
 - ii. Weeds are to be manually removed from shrub, hedge, ground cover or flower beds, unless chemical or mechanical means are specifically authorized. Line Trimmers are not to be used for weed control in mulched areas. Use of line trimmers in mulched areas shall be considered contrary to Accepted Standard Industry Maintenance Practices. Damaged plant material resulting from such practice shall be replaced in kind.
 - iii. Weeds are to be removed from walkways, curbs, expansion joints, and along fence lines and guardrails at **each service**.
- B. If infestations cannot be controlled by hand-pulling, or herbicide use will damage or kill the shrubs or ground-covers, the bed may be excavated, after removing all plants. Then, weeds may be destroyed **before** replanting by any of the following methods:
 - i. Sterilize the soil; or
 - ii. Allow weeds to re-establish a vegetative top and treat with a systemic herbicide, at least two (2) applications, about two (2) weeks apart, or until there is a 90% kill; or
 - iii. After the kill, apply, immediately after replanting, a pre-emergent herbicide, such as Treflan or prior to replanting utilizing a ground cover fabric.

- iv. If it is determined by the City that the landscape maintenance personnel responsible for maintenance allows weed infestations to spread beyond the ability to control them, then the removal, treatment, and replacement of the planting bed shall be done as described above by the landscape maintenance personnel at no cost to the City. Soil which exhibits significant weed growth within one (1) month after planting, (20% ground coverage of the bed by weeds) shall be considered as previously weed-infested.

15. LITTER CONTROL

- A. **TRASH GENERATED FROM LANDSCAPING ACTIVITIES:** Landscape maintenance personnel shall promptly remove all debris generated by his pruning, trimming, weeding, edging, and other work required in the specifications. Storm drains shall be kept clear and free of debris. Debris must be disposed of at an authorized site for commercial use. Neighborhood trash transfer stations or road side piles are not considered authorized sites. Landscape maintenance personnel shall clean driveways and paved areas with suitable equipment immediately after working in them. All cuttings are to be collected and removed on same day as cut.
- B. **LITTER REMOVAL:** Litter shall be removed from all turf areas, landscape beds, walk ways and all hard surfaces at each regularly scheduled service.

16. FERTILIZATION AND SOIL TESTING: The fertilizer used shall be a commercial grade product and recommended for use on each plant type. Specific requirements should be determined by soil test results, soil type, and time of year. Applications shall proceed continuously once begun until all areas have been completed. In the event fertilizer is thrown on hard surfaces, it shall be removed immediately to prevent staining.

A. TURF

- i. **ST. AUGUSTINE:** St. Augustine turf areas that contain palms shall be fertilized three (3) times per year; with “Palm Special Fertilizer” with the formulation of 8N-2P₂O₅-12K₂O +4Mg with micronutrients. 100% of the N, K, and Mg must be slow release with micronutrients in a water soluble form, applied according to label rates.

For all other turf grass areas; applications to be made during the following months: April, July, and October. The N< P< K ratios shall vary with the time of year of the application and results of the soil analysis.

The approximate N, P, K ratios should be:

- One (1) application of a 5:2:1 ratio with a post-emergent weed control;
 - One (1) application of a 10:1:2 ratio with Insecticide, and one application being a blanket application of insecticide in accordance with IPM (Integrated Pest Management) standards;
 - One (1) application of a 3:1:3 ratio;
- ii. **GROUNDCOVER AND SHRUBS:** The fertilizer for all planted shrubs and groundcovers shall meet appropriate horticultural standards with an N, P, K ratio of 3:1:2, unless soil conditions or plant species dictate differently, with at

least 60% of the nitrogen from a non-water soluble organic source.

All shrubs and groundcovers shall be fertilized by broadcasting by hand over the beds three (3) times per year during the months of April, July and October.

Changes in fertilization rates, methods and composition must be approved by the City in writing.

- iii. **FERTILIZATION OF TREES AND PALMS:** The fertilizer for all the planted trees shall be a **complete slow release fertilizer with minor elements**, with a N, P, K ratio of 3:1:2 or 3:1:3 (e.g. 12-4-8 or 15-5-15, unless soil conditions or plant species dictate differently,.

All Trees 5" caliper or under shall be fertilized three (3) times per year: April, July and October. Landscape maintenance personnel to apply a complete slow release fertilizer with minor elements, applying 1 pound of Nitrogen per 1000 square feet of area of root zone (drip line plus 50%).

All Palms shall be fertilized four (4) times per year; every three (3) months; during the months of January, April, July and October. Contractor to apply "Palm Special Fertilizer" with the formulation (8N-2P₂O₅-12K₂O +4Mg) with micronutrients. 100% of the N, K, and Mg must be slow release with micronutrients in a water soluble form. The fertilizer shall be broadcast evenly under canopy area at a rate of 1.5 lbs of fertilizer (not N) per 100 sq. ft.

- 17. **DISEASE AND PEST CONTROL:** To control or eradicate infestations by chewing or sucking insects, leaf miners, fire ants, and other pests and diseases, spray affected plants with chemical sprays and combinations of sprays suitable for that particular pest when the infestation or infection becomes evident and as often thereafter as necessary. Landscape maintenance personnel shall be fully licensed to apply pesticides. Landscape maintenance personnel shall use sound cultural practices that aid in preventing the presence or proliferation of insect and diseases. IPM (Integrated Pest Management) standards and principles shall be incorporated into any approved disease and pest control plan. Insects in Bermuda, Paspalum and Zoysia grass shall be controlled by both curative and preventative measures. Timing will be critical on mole cricket applications and frequencies of application will be as needed to successfully control their infestations.

- A. All Royal Palms shall receive a root drench with Merit insecticide every February per label directions to control summer infestations of the Royal Palm bug.

- B. **PHOENIX SPP. PALMS DISEASE CONTROL:** Three times per year all Phoenix palms will be treated with a systematic fungicide(s) which is labeled for Fusarium, Pithium, and Phytophthora. These applications will be performed as a root drench during the months of March, July, and November and are considered to be preventive maintenance. Failure to complete applications as specified may result in landscape maintenance personnel being liable for the replacement of Phoenix palms lost to these diseases.

- 18. APPLICATION OF HERBICIDES AND INSECTICIDES:** Landscape maintenance personnel may apply various herbicides by means of spray type devices to aid in the control of unwanted weeds and vegetation. All applications shall be performed by persons holding a valid herbicide application license as issued by the State of Florida and shall be done in accordance with the herbicide manufacturer's recommended rates and all applicable Federal, State, County and Municipal regulations.
- A. Landscape maintenance personnel shall exercise extreme care so as not to over spray and effect areas not intended for treatment. Areas adversely affected by such over spray shall be restored by the landscape maintenance personnel at their expense.
 - B. When a chemical is being applied, the person using it shall have in their possession all labeling associated with the chemical. Also, the chemical shall be applied as indicated on the label. A specimen label and the Material Safety Data Sheet for each product shall be retained and supplied to the City upon request.
 - C. All insecticides shall be applied by an operator licensed pursuant to Chapter 487 of the Florida Statutes. The operator shall have the license/certification in his or her possession when insecticides are being applied. The implementation of control measures for pests and disease infestations shall be in strict compliance with all federal and local regulations. Upon request, the landscape maintenance personnel shall furnish documentation of such compliance.
 - D. The spraying of insecticides and other such chemicals are to be confined to the individual plant. Spraying techniques which may introduce the material being sprayed beyond the immediate area of the individual plant are strictly prohibited.
 - E. Spray or dust material on foliage only during calm days. Do not apply when leaves are wet, when rain is expected within 3-4 hours after spraying, or when temperatures exceed 88 degrees Fahrenheit. Spray at times when traffic is lightest (i.e., early mornings or weekends). Use a surfactant to aid in adherence and absorption of the material. Wash material off of pavements and buildings immediately after applying.
 - F. Landscape maintenance personnel shall utilize all safeguards necessary during disease or insect control operations to ensure safety to the public.
- 19. TURF RENOVATIONS:** Turf renovations may be required if conditions warrant such a procedure and will be an extra charge. Conditions which warrant renovation include, areas thinned out or damaged turf resulting from natural burnout, traffic, and any area which has become unsightly.
- Proper watering, fertilization and pest management will be critical during and after renovation. Any irrigation damaged because of turf renovation will be repaired at landscape maintenance personnel's expense.
- 20. IRRIGATION SYSTEM MAINTENANCE AND WATERING:** Landscape maintenance personnel will be responsible for the operation and maintenance of the automatic/manual irrigation systems and for setting and adjusting the timer to insure proper watering of all plant material in the landscape.

- A. Landscape maintenance personnel will be responsible for the labor and supervision to

- make irrigation repairs to the lateral line, risers and sprinkler heads up to one inch (1") in diameter as required to keep the system operating.
- B. Landscape maintenance personnel will also, at least once a month, perform a Full Irrigation Wet Test which will include fully operating all the irrigation zones and replace, repair or clean all irrigation heads, lines, valves, valve boxes, filters and controllers as needed. Any equipment damaged by landscape maintenance personnel shall be replaced with the same equipment and by the same manufacturer.
 - C. Irrigation System shall be constantly maintained and adjusted to insure that no water from the system hits the road or other hard surface.
 - D. Grass shall be cut back around all irrigation heads and valve boxes at least once per month or more often as required to keep them clearly visible and fully operational. Care shall be taken to avoid damage to the irrigation boxes, zone wires, sprinkler heads from the required clearance activities, and any damage caused will be the landscape maintenance personnel's sole responsibility to repair.
 - E. The irrigation shall be capable of providing 1-1/2" of water to all lawns and shrub beds each week or as often as required to provide for a uniform lush green landscape appearance. System shall be adjusted during the various seasons.
 - F. Landscape maintenance personnel shall be required to make all irrigation repairs within a 24 hour time period or sooner to prevent water loss.
 - G. Irrigate as necessary during times of little or no rainfall using the automatic irrigation system and any supplemental watering necessary to apply the proper amount of water to keep plant material in optimum health. Under normal conditions, irrigate deep and infrequently (2 – 3 times weekly) to promote a good root system. Water early mornings within watering restrictions. Avoid watering in the evenings.
 - H. Landscape maintenance personnel are required to ensure adherence to all local watering restriction ordinances. It shall be the responsibility of the landscape maintenance personnel to pay any and all fines levied due to lack of compliance with watering restrictions.

21. MULCHING BEDS

- A. Replenish mulch in shrub beds as required to cover areas of bare soil, especially at the edge of the bed and in places where the shrub canopy has not grown together to shade the soil. Add mulch around tree trunks in sod areas. Mulch shall be added to maintain **a constant three (3) inches thickness**. Do not pile mulch against tree trunks and shrub stems.
- B. Use Amerigrow Recycling's or a City approved equivalent shredded "round-wood" mulch "Pine Bark Brown" color.

22. **SAND REMOVAL/POLICING:** Cleaning of debris within the confines of the sites by blowing, sweeping, or vacuuming or other means must be performed as required to keep paved, bricked or concrete surfaces clean and neat at all times.