## MARTIN COUNTY, FLORIDA

## REVISED

## PRESERVE AREA MANAGEMENT PLAN

For:

**Phase 3 Revised Final Site Plan** 

3700 Floridian Drive

Palm City, FL 34990

<u>Section 1, Township 38S, and Range 40E</u> Section 6, Township 38S, and Range 41E Section 31, Township 37S, and Range 41E

**Prepared by:** 

EW Consultants, Inc.

Approved by/Date:\_\_\_\_\_

A Preserve Area Management Plan (PAMP) is required of all applicants for development approval on sites which contain wetland or upland preserve areas, pursuant to provisions of Section 4.36.A.1 of the Martin County Land Development Regulations, Martin County Code.

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Lake Area Maintenance Plan (LAMP)

## 1.0 GENERAL

The owner of the lands to be preserved and maintained by this Preserve Area Management Plan (PAMP) and the developer of *Floridian Golf Club PUD* successors and assigns, and their environmental consultants and contractors, will implement and comply with all portions of this PAMP.

The subject property received site plan approval for construction of a golf course and residential lots in 1993 and was subject to a Preserve Area Management Plan as part of that approval. This PAMP has been prepared in support of a request for a Revised Phase 3 final site plan in order to create a living shoreline in the location of an excavated boat basin. This PAMP incorporates the approved preserve areas as part of the Floridian Golf\_Resort final site plan approval, the PAMP for which was recorded on March 25<sup>th</sup>, 2011. This PAMP provides for preservation of all wetlands, preservation of scrub habitat (rare and unique upland habitat), and restoration, preservation, and creation of pine flatwoods (common upland habitat). It also incorporates the current Martin County PAMP template requirements, many of which had not been developed at the time of the 1993 site plan approval. In addition, design and planting plans for a living shoreline to replace the existing excavated boat basin are incorporated into the revision of the Phase 3 Final Site Plan.

Compliance with the terms of this PAMP includes submittal of all Monthly Monitoring Reports on PAMP compliance throughout all phases of project construction and submittal of all Annual Monitoring Reports following completion of project construction, pursuant to Section 10.17 of the Martin County Land Development Regulations. The owner of the lands to be preserved/maintained shall have ultimate responsibility for the submittal of all Monthly and Annual Monitoring Reports, according to the format and schedule requirements of Section 10 of this PAMP.

As noted in Section 9 of this PAMP, the Martin County Environmental Planning Administrator shall be notified in writing within thirty (30) days of transfer of ownership of any lands to be preserved/maintained under the terms of this PAMP. Failure to notify shall be considered as non-compliance with the terms of this PAMP

This PAMP will not be altered or amended by either Martin County or the owner/developer of <u>Floridian</u> <u>Golf Club PUD</u>, except by an alteration or amendment agreed to by both the Martin County Environmental Planning Administrator and the owner/developer of <u>Floridian Golf Club PUD</u>. Such alterations and amendments shall be inserted into the PAMP and the final revised document shall be recorded by the Martin County Clerk of Courts. The revised PAMP will be labeled with the appropriate O.R. Book and Page Number. Three copies of the revised document shall be provided to the Martin County Environmental Planning Administrator within thirty (30) days of the Recording date.

## **INTRODUCTION**

The subject portion of the *Floridian Golf Club PUD* property is located in Martin County, and a portion of the overall project falls outside Martin County in the municipal limits of the City of Port St. Lucie. This PAMP covers only that portion of the property that occurs within Martin County.

The property covered by this Environmental Assessment is comprised of 121.6 acres located along N.W. Gilson Road. A Location Map and Aerial Photo with the subject property boundary are provided in the Maps Section. This PAMP is to be used in conjunction with all phases of the Master Site Plan as depicted by Lucido & Associates, Inc.

## 2.0 ENVIRONMENTAL ASSESSMENT

The Environmental Assessment includes maps and text which depict the site location, soils, wetlands, uplands, listed species, previous impacts, preserve area locations and boundaries, and other significant environmental features.

- **2.1** Location A Location Map is provided in the Maps Section.
- **2.2** Soils Soil types on the property were classified using a Soils Survey of Martin County Area, Florida and a copy of the appropriate soils map sheet is included in the Maps Section.

<u>#22 Okeelanta Muck</u> - This nearly level soil is very poorly drained. It is typically found in depressions and freshwater swamps and marshes. This soil is ponded for six to nine months or more in most years. The water table is within a depth of 10 inches most of the rest of the year.

<u>#35 Salerno Sand</u> - This is a nearly level, poorly drained soil found in broad areas of flatwoods. The water table is typically at a depth of less than 10 inches for two to four months during the wet season, and at a depth of greater than 40 inches during the dry season.

<u>#36 Arents, 0 to 2 percent slopes -</u> This soil is nearly level and ranges from somewhat poorly drained to moderately well drained. The water table is at a depth of 30 inches or more for most of the year.

<u>#41 Jonathan Sand, 0 to 5 percent slopes -</u> This is a nearly level to gently sloping, moderately drained soil found in elevated ridges in the flatwoods. The water table is typically at a depth of 40 to 60 inches for one to four months during wet seasons, and below a depth of 60 inches for most of the rest of the year.

<u>#53 Arents, 2 to 35 percent slopes -</u> This steep soil is well drained to excessively drained. It comprises the older, eroded spoil banks along the C-23 Canal.

<u>#61 Hobe Fine Sand, 0 to 5 percent slopes -</u> This somewhat excessively drained soil is typically located on knolls and ridges in coastal areas of flatwoods. The water table is found at a depth of 50 to 60 inches for brief periods, but is generally below 80 inches.

<u>#73 Samsula Muck</u> - This nearly level, organic soil is very poorly drained. It is found in depressions and in freshwater swamps and marshes. The soil is ponded for six to nine months during most years.

2.3 Habitats – The following is a summary of the vegetation communities found on the subject property. Vegetative community classifications were mapped based on the Florida Land Use, Cover and Forms Classification System (FLUCFCS) developed by the Florida Department of Transportation. Field Reconnaissance and aerial photograph interpretation were employed in the mapping effort of the vegetative communities on the subject property.

The subject property has been previously developed as a golf course, roadways and cleared lots and consequently is currently comprised of a mosaic of native wetlands and uplands, as well as improved areas of various types comprising the golf course, lots and an associated surface water management lake system.

There are several FLUCFCS classifications currently present on the site. The natural upland classifications include Pine Flatwoods (411) and Upland Scrub, Pine and Hardwoods (436). Manmade land covers include Residential Low-Density (110), Golf Course (182), Boat Basin (184) and Disturbed Lands (740). The wetland communities on site are classified as Wet Prairies (643). In addition, other surface waters exist as Ditches (510) and Reservoirs Less than 10 acres (534). A land cover map of the observed community types is included in the Maps section. The land cover types observed on the property are described as follows and include approximate acreages and percent cover of the total subject site:

### Wetlands

Of the 122.41 acres that make up the subject property within Martin County, 7.65 acres are comprised of wetland habitats, classified as wet prairies that have been previously delineated by South Florida Water Management District.

## <u>643 - Wet Prairies (7.65 +/- Ac)</u>

The typical vegetation includes beakrush, St. John's wort, pickerel weed, and other native wetland grasses and herbaceous species. There are several areas that have developed a shrub layer including Carolina willow, buttonbush, and immature forested species such as red maple.

### <u>Uplands</u>

The majority of native uplands currently present on the subject property have previously been designated as preserve areas as part of local government approvals. Other areas of native upland as well as developed and disturbed areas that are not designated for preservation also occur within the subject property. The existing native uplands are comprised of pine flatwoods and scrub areas.

## 411 - Pine Flatwoods (25.8 +/- Ac)

The pine flatwoods are characterized by a mature slash pine canopy, scattered cabbage palms, and oaks. The native understory consists of immature trees of the aforementioned species, as well as saw palmetto, gallberry, and rusty lyonia. Plants making up the ground cover include shiny blueberry, witchgrass, gopher apple, sword fern, and wire grass.

## 436 - Upland Scrub, Pine and Hardwoods (8.6 +/- Ac)

This scrub category represents a collection of several species found in the upland area. These areas have no one predominant species and are usually comprised of a mixed-low canopy of slash pines, sand pines, sand live oaks, and myrtle oaks. Ground cover is generally comprised of tarflower, gopher apple, and reindeer moss.

## 110 - Residential, Low Density (1.0 +/- Ac)

A fixed residential structure exists in the southeast portion of the project on the C-23 Canal. The shoreline in this area has been hardened with a seawall.

### 182 - Golf Courses (39.06 +/- Ac)

The subject site has been previously developed (and reconfigured in 2012) as a golf course facility and currently exhibits features typically associated with this land use. Included in this land cover category are the existing greens, fairways, bunkers, cart paths, access driveways, and an equipment storage area. East of the existing road, the golf course rough area contains mature slash pines.

### 740 - Disturbed Lands (47.14 +/- Ac)

This land cover category includes areas that have been cleared of their natural vegetative communities prior to the development of the property or as a result of the authorized development of the golf course, as well as the lots along the C-23 Canal and Bessey Creek. There is an additional strip of disturbed land located in the western edge of the property which is the result of a stormwater berm constructed as part of the River's End plat.

#### Other Surface Waters

#### 534 - Reservoirs less than 10 acres (7.1 + Ac)

The subject site contains surface water management lakes that were constructed as part of the existing golf course and associated site improvements. The western-most lake will be slightly modified as a result of this proposal.

510 - Ditches (0.5 +/- Ac)

The subject site includes a man-made drainage ditch excavated from uplands located in the southeastern portion of the property. This ditch was once connected to the C-23 Canal, but now has a six foot-high weir at its southern end.

#### <u>184 – Boat Basin (0.2 +/-Ac)</u>

This FLUCFCS designation is typically reserved for Marinas and Fish Camps. There is a small historic excavation used as a boat basin east of the existing residential structure. It has been excavated from the C-23 Canal, and is hardened with seawall on all three sides.

**2.4** Listed Species Evaluation

### Gopher Tortoise

Gopher tortoises, listed as a Threatened species by the State of Florida, are known to occur on the property. Gopher tortoises are commonly found within pine flatwoods and upland scrub areas, as well as within the disturbed areas that are re-growing in native vegetation. While no formal gopher tortoise survey has been conducted to date, several gopher tortoises and potentially occupied burrows were observed, as well as other signs such as gopher tortoise tracks and scat.

At the time of the conversion of the property to the current golf course facility, a Gopher Tortoise Permit (#MRT-1) was issued by the Florida Game and Fresh Water Fish Commission (now known as the Florida Fish and Wildlife Conservation Commission - FFWCC). During the golf course reconstruction project, all gopher tortoises remaining outside of established preserve areas on the subject property were relocated to preserve areas as authorized by the existing permit in accordance with FFWCC requirements. Although the previous permit authorized incidental take of gopher tortoises, no taking of gopher tortoises is proposed as part of this project.

#### Florida Scrub Jay

The upland scrub areas constitute potential Florida scrub jay habitat. Scrub jays are listed as a Threatened species by the U.S. Fish and Wildlife Service (USFWS) and FFWCC. A scrub jay survey was conducted in 2007 and concluded that no Florida scrub jays were present on the property. Field reconnaissance conducted in support of this assessment (regularly from 2010 through 2014) did not indicate the presence or likely occurrence of scrub jays on the subject property.

#### Bald Eagle

The mature pine canopy present in the pine flatwoods provides nesting opportunities for bald eagles. While the bald eagle has been delisted from the Federal endangered list, its nests remain protected under the Bald and Golden Eagle Protection Act. Bald eagles have been observed over the property and perching in trees nearby along the St. Lucie River shoreline, however no nests have been observed (field reconnaissance from 2010 to 2014) on the subject site.

#### American alligator

American alligators, listed as Threatened by similarity of appearance to the American crocodile by USFWS, have been observed in the surface water management lakes on the subject site.

#### Wading Birds

Several listed species of wading birds frequently utilize the on-site wetlands and surface water management lakes for foraging. Among the wading bird species observed on site, listed species such as wood stork (state and federally endangered), little blue heron and tricolor heron (both State listed Threatened species) have been observed foraging within the project site. While these species and other wading birds frequent the subject site for foraging, they remain transient species as no nesting was observed on site. Several wading bird colonies have been documented in the region surrounding the site; however, there are no documented nesting colonies on the site.

#### <u>Osprey</u>

An active osprey nest (FFWCC species of special concern *in Monroe County only*) was observed on the east side of golf hole #1, west of the Phase 2 and 3 limits. The location of this nest can be found on the FLUCFCS Map.

### **2.5** Previous Impacts

Portions of the subject property have been previously impacted and cleared as part of the golf course area, stormwater system, roadways and in anticipation of residential lot development. Therefore, the site is currently comprised of a mosaic of native wetland and uplands, as well as improved areas of various types including a golf course, cleared areas, roads, and associated surface water management lake system. Land cover classifications presented on the FLUCFCS Map resulting from previous impacts are Golf Course (182), Boat Basin (184), Ditches (510), Reservoirs Less than 10 acres (534), and Disturbed Lands (740). In addition to these activities, approximately 2,870 feet of the shoreline along the C-23 Canal and St. Lucie River has been hardened with seawall or rip-rap extending from the residential structure in the southeast portion of the site northeast and north to the St. Lucie County line.

## 2.6 Agency Correspondence

Correspondence with state and Federal agencies is provided in the Appendix.

## 3.0 IDENTIFICATION OF PRESERVE AREAS

3.1 <u>Site Plan -</u> All Preserve areas, right-of-ways and easements are shown on the *Floridian Golf Club* <u>PUD</u> Master Site Plan, a copy of which is included in this PAMP. The Site Plan, as developed by Lucido and Associates, Inc., includes a summary of the following: acreage of wetlands under preservation; acreage of native upland habitat under preservation; and total acreage of the site.

The Site Plan contains the notation: "PRESERVE AREAS ARE NOT TO BE ALTERED WITHOUT WRITTEN PERMISSION OF THE MARTIN COUNTY BOARD OF COUNTY COMMISSIONERS."

**3.2** <u>Legal Recording -</u> The final <u>*Floridian Golf Club PUD*</u> Site Plan will be recorded with the PAMP by the Martin County Clerk of Courts. The Site Plan and the PAMP will be labeled with the appropriate O.R. Book and Page Number and copies of each recorded document will be provided to the Martin County Environmental Planning Administrator within thirty (30) days of the recording date.

## 4.0 SURVEYING, MARKING AND BARRICADING REQUIREMENTS

The limits of all Preserve Areas shown on the Site Plan for *Floridian Golf Club PUD* will be surveyed and marked in the field with appropriate survey markers and signage. During the clearing and construction phases of the project, Preserve Area boundaries within the construction phase will be marked by physical barriers. No plant material will be removed from the Preserve Areas to facilitate surveying, fencing or soil boring/sampling without prior permission from the Martin County Environmental Planning Administrator.

- 4.1 <u>Preserve Area Surveying Requirements</u> Each Preserve Area will be surveyed and marked with permanent monuments at each corner and at other sites necessary for locating the boundary of the Preserve Area. These permanent monuments will be installed under the supervision of a Registered Professional Surveyor and Mapper and will be shown on the Site Plan. Map coordinates of each Preserve Area will be provided to the Martin County Environmental Planning Administrator, in a form compatible for use in the County GIS mapping system.
- **4.2** <u>Preserve Area Boundary Markers and Signs -</u> Preserve Areas will be posted with permanent signs and boundary markers. Boundary Markers will be placed at the corners of any residential lots abutting Preserve Areas. Signs will be at least 11 x 14 inches in size and will be posted in conspicuous locations along the Preserve Area boundary, at a frequency of no less than one (1) sign per 500 feet.

In areas where preserve areas are adjacent to golf course play areas and/or cart paths, additional signage will be installed indicating that no golf carts are allowed to enter preserve areas and no play is allowed from within designated preserve areas. These signs will be placed at intervals of approximately 250 feet along the common boundaries of golf play areas and designated preserve areas.

In addition to the designated native habitat preservation areas, the Phase 2 and Phase 3 Revised Final Site Plans establish an area of shoreline slope protection along the St. Lucie River and C-23 Canal frontage as well as a living shoreline in the former location of the boat basin. The living shoreline, shoreline slope, and shoreline protection zone will be afforded the same protection as native preserve areas under this PAMP. Preserve area signs will be installed on each lot line within Phase 2 and Phase 3 at the point it intersects with the established shoreline slope protection area.

All boundary markers and signs will be approved by the Martin County Environmental Planning Administrator and where practical they will be in place prior to issuance of building permits. Illustrations of the signs and markers to be used for this project are included as an Appendix to this PAMP.

**4.3** <u>Barricading Requirements -</u> Prior to clearing, the developer will ensure that all Preserve Areas within the construction Phase are protected with physical barriers during all clearing and construction activities in accordance with the following guidelines. Barricades will be inspected by County Environmental Division staff prior to initiating land clearing. Removal of the barricade materials will be upon issuance of the final Certificate of Occupancy with authorization from appropriate County staff.

Barricades (not including turbidity screens) will be high-visibility orange safety fence extending from the ground to a height of at least four feet. Barricades will not be attached to vegetation. The barricade installation will include provision of a siltation barrier (turbidity screen) five feet outside the boundary line of the preserve area. Outside the turbidity screen, the high visibility orange safety fence will be installed so as to prevent incursion of equipment or development impacts against the siltation barrier.

All barricades and turbidity screens will be upright and maintained intact for the duration of construction. Where areas are proposed for clearing (i.e. building envelope, utilities, drainage, road right-of-way, etc.) the bright orange barricades and silt fences will be offset at least five feet outside the Preserve Area or placed at the dripline of the canopy trees, whichever is greater. Cut or fill will meet existing grade without encroaching into Preserve Areas.

All native vegetation not slated for removal as part of the development plans will be retained in an undisturbed state and will be barricaded at or outside the dripline of the trees.

Wetlands will be protected from possible surface water and sediment runoff by the placement of silt screens, hay bales or other turbidity control measures, at the boundary of the upland buffer or adjacent upland preserve at least 25 feet from the delineation line prior to any land clearing or construction activity.

It is the responsibility of the owner and developer of <u>Floridian Golf Club PUD</u> to inform all contractors of these Marking and Barricading Requirements. Failure to comply with these Marking and Barricading Requirements will be considered a violation of the Site Plan approval. Further work on the project may be stopped until compliance with the Marking and Barricading Requirements is achieved, and the owner or developer may be required to appear before the Code Enforcement Board.

### 5.0 USE OF PRESERVE AREAS

- 5.1 <u>Activities Allowed In Preserve Areas</u> Activities allowed in preserve areas are limited to passive uses such as bird watching and nature enjoyment.
- **5.2** <u>Activities Prohibited In Preserve Areas -</u> Activities prohibited in Preserve Areas include, but are not limited to: construction or placing of building materials on or above the ground; dumping or placing soil or other substances such as garbage, trash, and cuttings; removal or destruction of native trees, shrubs or other native vegetation; excavation, dredging or removal of soil materials; diking or fencing; vehicular traffic including use by non-motorized vehicles, recreational vehicles and off-road vehicles; permanent irrigation; trimming, pruning, or fertilization; and any other activities detrimental to drainage, flood control, water conservation, erosion control or fish and wildlife conservation and preservation. Golf management and maintenance including mowing, string trimmers, and planting of turf grass is specifically prohibited in all designated preserve areas. The shoreline slope and shoreline protection zones established in Phase 2 and Phase 3 allows for riparian access easements within which elevated walkways may be permitted to facilitate riparian access and protect native vegetation plantings.</u>

No hazardous materials other than fuel and fluids for refueling and maintaining on-site heavy equipment will be stored during the construction phases with the exception of currently permitted golf course maintenance storage facilities. Temporary on-site fuel tanks shall not be located within twenty-five (25) feet of any Preserve Areas and shall be removed upon completion of construction work.

Habitable structures and buildings proposed to be located adjacent to Preserve Areas shall be set back a minimum of ten (10) feet to allow for construction and maintenance without encroaching into the Preserve Area. All other non-habitable structures (e.g. pools, sheds, decks, fences) shall be set back a minimum of five (5) feet from the Preserve Area boundary.

Development activities such as the construction of building pads for associated structures, swales, or culverts for surface water management shall not alter the hydrology of adjacent Preserve Areas, nor shall any activities increase non-point source pollution in Preserve Areas.

## 6.0 RESTORATION AND MAINTENANCE ACTIVITIES

Except for approved restoration and maintenance activities, Preserve Areas will be left undisturbed. All maintenance of Preserve Areas will be in accordance with this PAMP for *Floridian Golf Club PUD*. Maintenance and management activities will be performed by or under the supervision of a qualified environmental professional and must be approved by the Martin County Environmental Planning Administrator. The following restoration and maintenance activities may be allowed within Preserve Areas with prior written approval from the Environmental Planning Administrator: exotic plant removal, re-vegetation or planting native vegetation, and removal of dead, diseased, or safety hazard plant material.

- 6.1 <u>Exotic Vegetation Removal –</u> Exotic vegetation shall be removed from Preserve Areas by the least ecologically-damaging method available. Such methods include hand pulling, hand spading, cutting with hand or chain saws and in-situ treatment with appropriate herbicides. No debris, including dead plants, plant clippings or wood scraps, shall be disposed of in Preserve Areas. Any dead plant material and/or exotic plant debris removed from Preserve Areas shall be disposed of in a County approved recycling facility.
- 6.2 <u>Re-vegetation</u> Any re-vegetation which may be necessary as a result of exotic vegetation removal or site construction activities shall consist of native plant species representative of the existing native plant community. This will ensure that the Preserve Areas maintain indigenous plant associations. Re-vegetation plans shall be submitted to the Martin County Environmental Planning Administrator for approval prior to implementation.

In addition to re-vegetation efforts associated with the exotic removal effort, the living shoreline, shoreline protection zone, and shoreline slope area within Phase 2 and Phase 3 will be re-planted with appropriate native species. These zones will be kept free of exotic vegetation as defined by the Florida Exotic Pest Plant Council in perpetuity. Shoreline planting details for Lots 1 - 10 and Lots 11 - 28 as well as the Living Shoreline are discussed in Section 8.1, Miscellaneous Provisions and Restrictions.

The additional pine flatwoods preserves and creation areas are discussed further in Section 8.2 of this PAMP.

Please note that all preservation, restoration and creation areas as described throughout this PAMP and accompanying Lake Area Management Plan will meet the following vegetative success criteria:

- Desirable native vegetation will cover a minimum of 80% of each preserved/restored or created area within one year of plant installation
- Exotic and nuisance vegetation coverage will be at less than 5% at any given time throughout the year
- If such vegetative criteria are not met, additional measures, such as increased exotic and nuisance plant treatment events and/or re-planting with desirable native species, will commence immediately and will be coordinated with Martin County Growth Management Department staff

- 6.3 <u>Vegetation Removal -</u> Dead or diseased plant material may be removed from Preserve Areas upon approval by the Martin County Environmental Planning Administrator. Re-vegetation may be required for any removed plant material. No debris, including dead plants, plant clippings or wood scraps, shall be disposed of in Preserve Areas. Any dead plant material and debris removed from Preserve Areas shall be disposed of in a County-approved recycling facility.
- 6.4 <u>Prescribed Burns</u> Martin County considers prescribed burns an acceptable habitat management tool. When approved by the Martin County Environmental Planning Administrator, they will be conducted by a certified burn manager who will be responsible for obtaining all appropriate permits from State and local agencies.
- 6.5 <u>Hydrology</u> Previous or potential drainage impacts will be corrected to the extent technically feasible. Water quality and the rate, timing, and volume of run-off shall be designed to benefit onsite wetlands and other water bodies. Wetlands and water bodies on adjacent properties shall be protected from adverse impacts.
- 6.6 <u>Mitigation Plan -</u> There are no proposed impacts to the existing on-site wetlands, therefore there is no proposed mitigation on-site. There will, however, be activities associated with wetland preservation and enhancement that will involve exotic plant removal and re-vegetation (see 6.2 above).

## 7.0 PROTECTIVE MEASURES FOR LISTED SPECIES

7.1 Gopher Tortoises have been confirmed to be present on the site. In Florida, gopher tortoises are protected as a Threatened species. Under Florida law, no person may take, possess, transport or sell a Listed Species. No land clearing or construction shall occur until all tortoises which may be impacted are relocated to upland preservation areas or to off-site receiver areas as permitted by the FFWCC. A certified environmental professional will supervise clearing in the areas of the gopher tortoise burrows. Tortoises inhabiting burrows in areas to be developed will be captured and relocated following guidelines set forth below. Tortoise burrows may be bucket trapped or excavated using a methodology approved by the Florida Fish and Wildlife Conservation Commission and conducted by an environmental professional possessing a valid relocation permit.

During the golf course reconstruction project, all gopher tortoises remaining outside of established preserve areas on the subject property were relocated to preserve areas as authorized by the existing permit in accordance with FFWCC requirements. Although the previous permit authorized incidental take of gopher tortoises, no taking of gopher tortoises is proposed as part of this project.

During clearing and grubbing operations, equipment operators will be notified of the potential occurrence of gopher tortoises on the site and instructed to observe for roaming and foraging individuals. Should gopher tortoises be seen during the clearing and grubbing, all equipment operations will be stopped and the gopher tortoises will be captured and relocated into a Preserve Area of the project away from the immediate clearing activities. Once the tortoise(s) have been safely relocated to a Preserve Area and restrained by tortoise fencing, equipment operations can resume.

- 7.2 <u>Commensal Species</u> If necessary, all gopher tortoise relocation efforts will include trapping of protected burrow commensal species that may occur in the burrows. These commensal species include but are not limited to the Florida mouse (*Peromyscus floridana*), gopher frog (*Rana aerolata*) and Eastern indigo snake (*Drymarchon corais couperi*).
- 7.3 <u>Relocation of Tortoises –</u> The original approval of the site plan for this property included issuance of a gopher tortoise relocation permit MRT-1 (attached to this PAMP). This permit remains valid for on site relocation of tortoises to preserve areas within the project area. There are several on site preserves under conservation easements in accordance with permit MRT-1 which have been utilized as receiver areas for gopher tortoises that have been relocated. Any necessary relocation of gopher tortoises will be conducted subsequent to installation of the preserve barricades and prior to initiation of site construction.

Should the number of tortoises exceed the carrying capacity of the remaining preserved habitat area on-site, the Martin County Environmental Planning Administrator will be notified and will be provided with a copy of the off site Gopher Tortoise Relocation Permit from the Florida Fish and Wildlife Conservation Commission. All relocations shall be carried out by an environmental professional licensed for gopher tortoise relocations. The responsible party shall have access to literature pertaining to gopher tortoise preservation and shall be encouraged to preserve additional areas and to landscape with native vegetation. Under no circumstances will taking of gopher tortoises occur in order to accommodate the proposed development.

## 8.0 MISCELLANEOUS PROVISIONS AND RESTRICTIONS

As discussed in sub-section 6.2, Re-vegetation, the shorelines along the C-23 Canal, the Living Shoreline, the North Fork of the St. Lucie River, and along Bessey Creek will require restoration and re-planting in varying degrees. As shown on the Revised Master Site Plan as developed by Lucido & Associates, Inc., three widths exist within the Shoreline Protection Zone (SPZ) areas: 1) 20 feet landward of Mean High Water (MHW) for the proposed lots adjacent to legally hardened (seawall or rip-rap) shorelines; 2) 25 feet landward of MHW for proposed lots adjacent to man-made, unhardened shorelines along the C-23 Canal, and; 3) 75 feet landward of MHW south of SW Harbor Island Way on the island adjacent to natural Bessey Creek.

The primary function for each of these shoreline protection zones, along with the Living Shoreline and "shoreline slope" (the area landward of the SPZ extending to the retaining wall), is to prevent runoff from the developed lots from reaching the receiving water body, thereby eliminating harmful pollutants from entering the St. Lucie River Estuary. The SPZ and shoreline slope within Phase 2 (Lots 1 - 10) and Phase 3 (Lots 11 - 28) as well as the Living Shoreline are discussed in detail in Section 8.1 below.

### 8.1 Shoreline Provisions within Phase 2 Lots 1 - 10

Based on discussions with Martin County Growth Management Department staff, the SPZ landward of the hardened shoreline within lots 1 - 10 (Phase 2) and lots 11 through a portion of Lot 23 (Phase 3) will be planted with a variety of native groundcover and understory plant species. In addition, a shoreline slope protection area has been established, which occurs immediately landward of the SPZ and extends to the retaining wall that will define the limits of lot fill. The shoreline slope area will be planted with similar plant material, as well. In addition, Lots 17 and 18 (Phase 3) include an existing bulkheaded boat basin where a 20' shoreline protection zone was provided. The revised Final Site Plan for Phase 3 incorporates a new Living Shoreline along the C-23 Canal at the frontage for Lots 17 and 18... The remainder of Lot 23 through Lot 28 will have the unhardened man made shoreline re-sloped in order to prevent erosion and the 25' SPZ as well as an additional area of shoreline slope will be planted with native vegetation. Please refer to the shoreline planting details provided in the Appendix for plant types, spacing and sizes.

The planting activities within the SPZ and shoreline slope area in Phase 2 will be completed in accordance with the PAMP drawings subsequent to completion of the retaining wall and prior to the issuance of the first Certificate of Occupancy (C.O.) for a residential structure in Phase 2. The planting activities within the SPZ and shoreline slope area in Phase 3 have been completed in accordance with the PAMP drawings subsequent to completion of the retaining wall and shoreline slope re-grading and prior to the issuance of the first Certificate of Occupancy (C.O.) for a residential structure in Phase 3. The Living Shoreline that is being added to Phase 3 (at the water frontage of Lots 17 and 18) will be planted in accordance with the attached Living Shoreline Planting Plan subsequent to the completion of the wall connecting the existing retaining wall sections from Lot 17 and Lot 18.

In addition, the SPZ, Living Shoreline, and shoreline slope within Phase 2 and Phase 3 will be subject to bi-monthly exotic vegetation control events in order to prevent the establishment of exotic and nuisance species in these areas. It is anticipated that these events will occur at a minimum on a bi-monthly basis for a period of one year after the plant installation is complete. After one year, these treatments will be re-evaluated for effectiveness and the treatment schedule will be modified if necessary. Any herbicides which may be used within the SPZ, Living Shoreline, and shoreline slope will be limited to those approved for use within or adjacent to aquatic environments.

Monitoring of the SPZ, Living Shoreline, and shoreline slope plantings within Phase 2 and Phase 3 will be in accordance with the Monitoring Maps as shown in the Appendix. A Time-Zero monitoring report will be prepared within 15 days of the restoration planting completion, and will serve as the certification report for the Growth Management Department. Annual reports detailing the condition of the planted area within Phase 2 and Phase 3 will be submitted to the County for a period of five years subsequent to the Time-Zero report.

The SPZ established in Phase 2 and Phase 3 will be placed under a conservation easement dedicated to the Property Owners' Association in order to simplify compliance with this PAMP. In order to provide for riparian access to lot owners, 12 foot-wide shared riparian access easements will exist along the lot lines in order to provide riparian access. These Riparian Access Easements are further described in the final PUD special condition language. These easements will be dedicated to the property owners' association for compliance purposes.

Details of the SPZ and shoreline slope will be provided for the remaining waterfront lots in subsequent final site plan submittals.

## 8.2 Shoreline Provisions within Phase 3, Lots 11 - 28

The SPZ landward of the hardened shoreline within lots 11 - 28 (Phase 3) will be planted with a variety of native groundcover and understory plant species. In addition, a shoreline slope protection area has been established, which occurs immediately landward of the SPZ and extends to the retaining wall that will define the limits of lot fill. The shoreline slope area will be planted with similar plant material, as well. For lots 11 - 23 with hardened shoreline a 20' SPZ and additional shoreline slope area (minimum 10') will be planted with native vegetation in accordance with the plans provided in the Appendix.

Lots 17 and 18 (Phase 3) include an existing bulkheaded boat basin where a 20' shoreline protection zone was previously provided and planted with native vegetation. The boat basin is being replaced with a Living Shoreline along the C-23 frontage. The 20' SPZ within the existing boat basin will be eliminated and replaced with a living shoreline that will be planted with mangroves and salt tolerant grasses. The existing retaining wall sections on Lots 17 and 18 will be connected across the boat basin and will define the landward edge of the Living Shoreline. Rip rap will be placed along the waterward boundary of the Living Shoreline (at the mean high water line) for wave attenuation, soil retention, and to allow the ebb and flow of tidal exchange with the C-23 Canal.. The area between the rip rap and the retaining wall will be partially filled providing for a range of 1.0 to 1.5 feet below the mean high water line. The Living Shoreline will then be planted with salt tolerant native vegetation(primarily mangroves) in accordance with the planting plan provided with this PAMP.

The remainder of Lot 23 through Lot 28 will have the unhardened man made shoreline re-sloped in order to prevent erosion and the 25' SPZ as well as an additional area of shoreline slope will be planted with native vegetation. Please refer to the shoreline planting details provided in the Appendix for plant types, spacing and sizes.

The planting activities within the SPZ and shoreline slope area in Phase 3 will be completed in accordance with the PAMP drawings subsequent to completion of the retaining wall and prior to the issuance of the first Certificate of Occupancy (C.O.) for a residential structure in Phase 3. The planting activities within the Living Shoreline in Phase 3 will be completed in accordance with the PAMP drawings subsequent to completion of the retaining wall on Lots 17 and 18 and prior to the issuance of a Certificate of Occupancy (C.O.) for a residential structure on Lots 17 or 18. In addition, the SPZ, Living Shoreline, and shoreline slope within Phase 3 will be subject to bi-monthly exotic vegetation control events in order to prevent the establishment of exotic and nuisance species in these areas. It is anticipated that these events will occur at a minimum on a bi-monthly basis for a period of one year after the plant installation is complete. After one year, these treatments will be re-evaluated for effectiveness and the treatment schedule will be modified if necessary. Any herbicides which may be used within the SPZ, Living Shoreline, and shoreline slope will be limited to those approved for use within or adjacent to aquatic environments.

Monitoring of the SPZ, Living Shoreline, and shoreline slope plantings within Phase 3 will be in accordance with the Monitoring Maps as shown in the Appendix. A Time-Zero monitoring report will be prepared within 15 days of the restoration planting completion of the Living Shoreline, and will serve as the certification report for the Growth Management Department. Annual reports detailing the condition of the planted areas within Phase 3 will be submitted to the County for a period of five years subsequent to the Time-Zero report.

The SPZ and Living Shoreline established in Phase 3 will be placed under a conservation easement dedicated to the Property Owners' Association in order to simplify compliance with this PAMP. In order to provide for riparian access to lot owners, 12 foot-wide shared riparian access easements will exist along the lot lines in order to provide riparian access. These Riparian Access Easements are further described in the final PUD special condition language. These easements will be dedicated to the property owners' association for compliance purposes.

Details of the SPZ and shoreline slope will be provided for the remaining waterfront lots in subsequent final site plan submittals.

## 8.3 Shoreline Provisions within Phase 4, Lots 29 - 46

Details for the Shoreline Protection Zone and Shoreline Slope areas for Phase 4, which include lots 29 through 46, will be provided at the time of Final Site Plan application.

## 8.4 Shoreline Provisions within Phase 5, Lots 47 - 51

Details for the Shoreline Protection Zone and Shoreline Slope areas for Phase 5, which include lots 47 through 51, will be provided at the time of Final Site Plan application.

## 8.5 Additional Pine Flatwood Preserve Planting

As part of the approved master plan, additional pine flatwoods upland preserves have been provided on site. These areas consist of varying quality of native habitat, ranging from fully vegetated, partially vegetated with appropriate native species, and remnant golf course area. Based on these existing conditions, those areas designated as pine flatwoods preserve that are partially vegetated or remnant golf course area must be planted with appropriate native vegetation. The sized, spacing, and quantities of such plant species are shown on the Pine Flatwoods Restoration maps provided in the Appendix.

The planting activities within these pine flatwoods areas will be completed in accordance with the PAMP drawings prior to the issuance of the first Certificate of Occupancy (C.O.) for a residential structure in Phase 2. In addition, all upland and wetland preserves shown on the Master Site Plan will be subject to exotic vegetation control treatment events in order to prevent the establishment of exotic and nuisance species in these areas. It is anticipated that these events will occur at a minimum on a bi-monthly basis for a period of one year after the plant installation is complete. After one year, these treatments will be re-evaluated for effectiveness and the treatment schedule will be modified if necessary. Any herbicides used within preserve areas on-site will be limited to those approved for use within or adjacent to aquatic environments.

Monitoring of the restored and created pine flatwood areas will be in accordance with the Monitoring Map as shown in the Appendix. A Time-Zero monitoring report will be prepared within 15 days of the restoration planting completion, and will serve as the certification report for the Growth Management Department. Annual reports detailing the condition of the restored and created pine flatwood area will be submitted to the County for a period of five years subsequent to the Time-Zero report.

## 8.6 Lake Littoral Zones

The alteration of the on-site stormwater management lake (Lake 2) will require provision of planted littoral zones in accordance with the requirements of Martin County's Excavation and Fill Ordinance. The location of these littoral zones, along with the plant types and planting specifications, are detailed in a Lake Area Management Plan (LAMP) which is included as part of this PAMP.

The supplemental planting activities within the lake littoral zones will be completed in accordance with the LAMP drawings prior to the issuance of the first Certificate of Occupancy (C.O.) for a residential structure in Phase 2. In addition, the lake littoral zone areas shown on the LAMP drawings will be subject to exotic vegetation control treatment events in order to prevent the establishment of exotic and nuisance species in these areas. It is anticipated that these events will occur at a minimum on a bi-monthly basis for a period of one year after the plant installation is complete. After one year, these treatments will be re-evaluated for effectiveness and the treatment schedule will be modified if necessary. Any herbicides used within littoral zones will be limited to those approved for use within or adjacent to aquatic environments.

## 9.0 TRANSFER OF RESPONSIBILITIES

The property owner(s) and developers of *Floridian Golf Club PUD* are responsible for implementation of all requirements of this Preserve Area Management Plan until such time as the developer transfers responsibility to the owners or a successor. The Martin County Environmental Planning Administrator will be notified in writing within thirty (30) days of transfer of ownership of any lands to be preserved under this PAMP. Failure to notify will be considered as non-compliance with the terms of this PAMP.

The developer will pay his share of total cost of management activities or fines on a per lot basis if he retains ownership of lots. At such time as the developer is ready to transfer control of the *Floridian Golf* <u>*Club PUD*</u> to the property owners, whether the developer retains ownership of the lots in the project or not, an environmental professional shall certify, in writing, to the Martin County Environmental Planning Administrator, that the Preserve Areas are in full compliance with this PAMP.

The developer and/or successor will be responsible for maintaining the Preserve Areas in their existing natural condition with the periodic removal of invasive exotic vegetation. After transfer of responsibilities, funding for all maintenance and management programs will be the responsibility of all successors.

### **10.0 MONITORING, REPORTING AND INSPECTIONS**

10.1 <u>Monthly Construction Reports –</u> During land clearing and earthwork related construction of *Floridian Golf Club PUD*, the developer will be responsible for submitting a monthly report on the progress of earthwork and land clearing activities, which will address all aspects of the site construction relative to the Preserve Areas. Information regarding construction and maintenance of the Preserve Areas, such as placement of barriers and signage, removal of exotic vegetation, revegetation, prescribed burns, etc. will be described and supported with photographs, where appropriate.

#### 10.2 <u>Annual Monitoring Reports -</u>

Monitoring and reporting will be conducted annually by a qualified environmental professional for a period of five years from the date of completion of the project or project phase encompassing the monitored area. Annual monitoring will be conducted at the end of the wet season (usually by November 30) and a report of the monitoring will be submitted to the Martin County Environmental Planning Administrator within 30 days of the completion of the monitoring.

The Annual Monitoring Reports will document changes in vegetation including encroachment and/or overgrowth of noxious or exotic vegetation. Fixed-point panoramic photos of all Preserve Areas will be included in each report. The reports will include recommendations for exotic vegetation removal, re-vegetation, and any additional enhancement activities necessary to maintain the Preserve Area. A timetable for action within 90 days of the report will be prepared and followed.

A copy of the proposed Annual Monitoring Report format is attached to this PAMP as an Appendix. This format may be modified separately from the PAMP, as necessary, upon written approval from the Martin County Environmental Planning Administrator. Upon request, Martin County Environmental Planning staff may meet with the responsible parties to review the annual monitoring report findings and supply technical assistance and support for stewardship.

The first Annual Monitoring Report due in compliance with this PAMP will be submitted to the Martin County Environmental Planning Administrator no later than December 31 of the year in which construction activity is completed. Subsequent Annual Monitoring Reports will be due on the same date for the next four years.

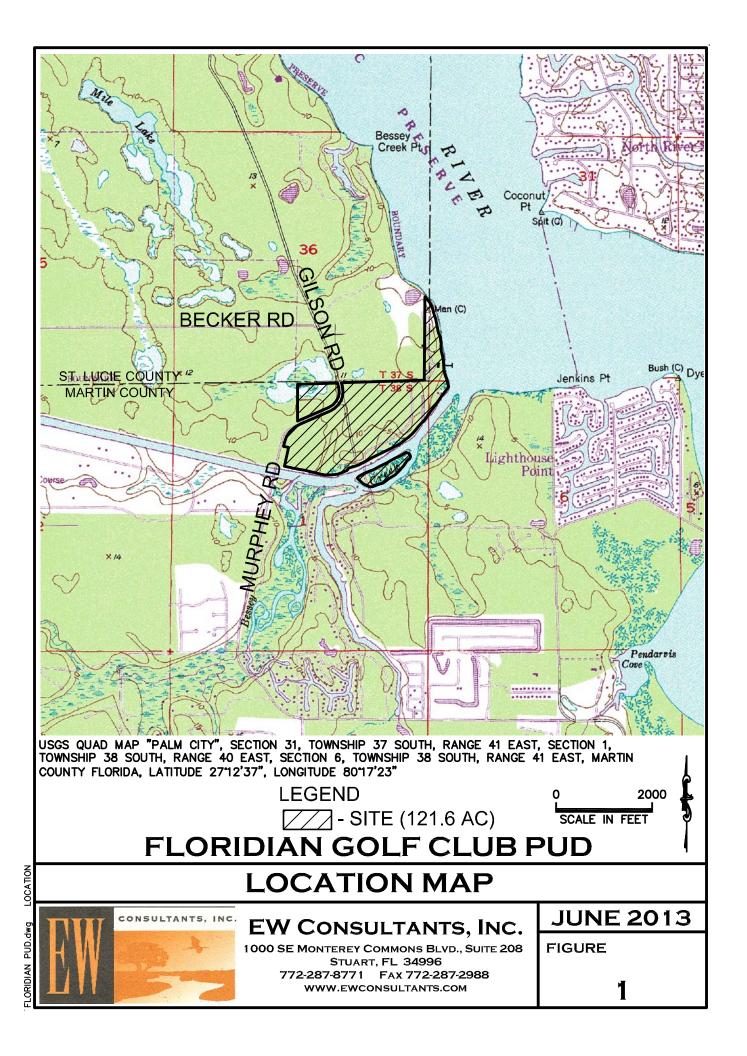
After the initial five-year monitoring period, the Preserve Areas may be subject to periodic review and, if conditions warrant, will be subject to further monitoring and maintenance to ensure environmental integrity, consistent with the provisions of this Plan.

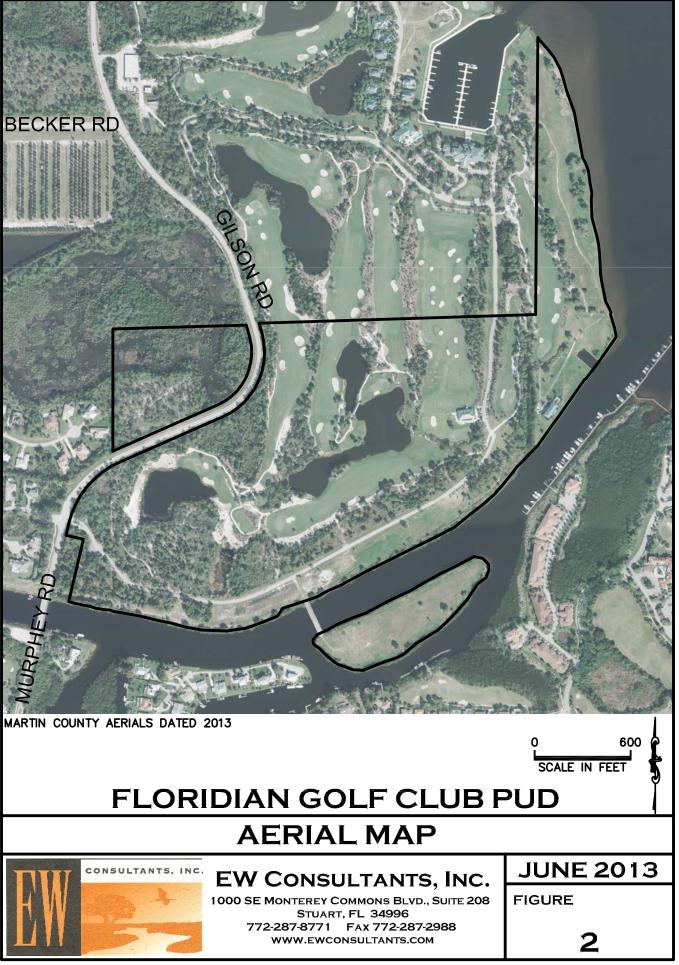
10.3 <u>Inspections -</u> Martin County is authorized to inspect any County regulated site or appurtenance. Duly authorized representatives of Martin County may, at any time, upon presenting proper identification, enter upon and shall be given access to any premises for the purpose of such inspection.

### **11.0 ENFORCEMENT**

Martin County shall have the right to enforce the provisions of this PAMP through any available administrative or civil proceeding, which may result in penalties. Restoration of habitat and other remedies, such as fines and fees covering staff time, may be required of any person, corporation or other entity found in violation of any of the provisions of this PAMP or of Article 10 of the Martin County Land Development Regulations.

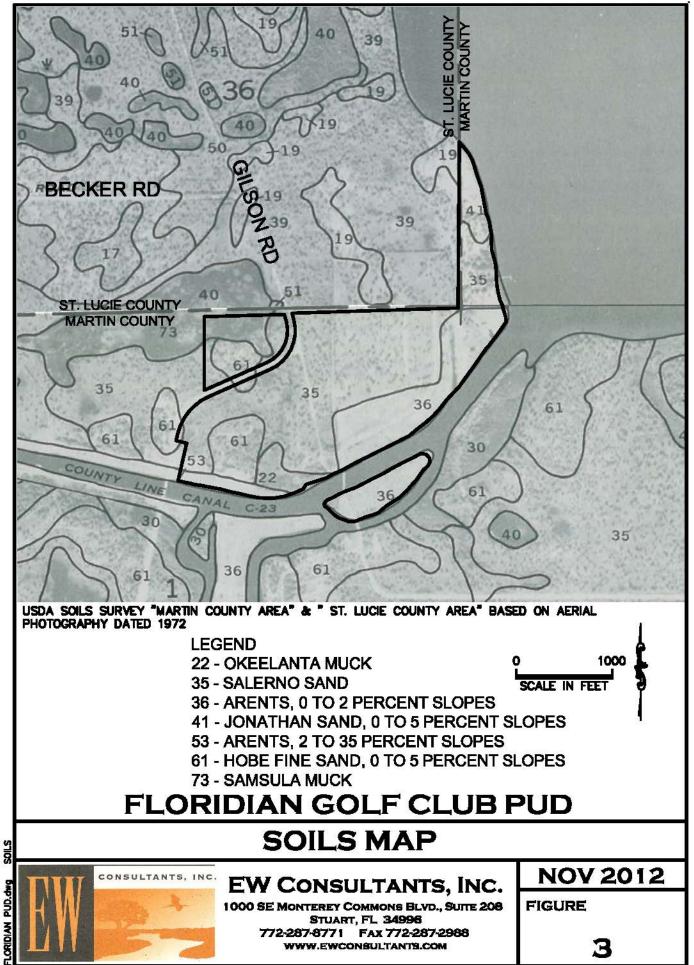
# APPENDIX



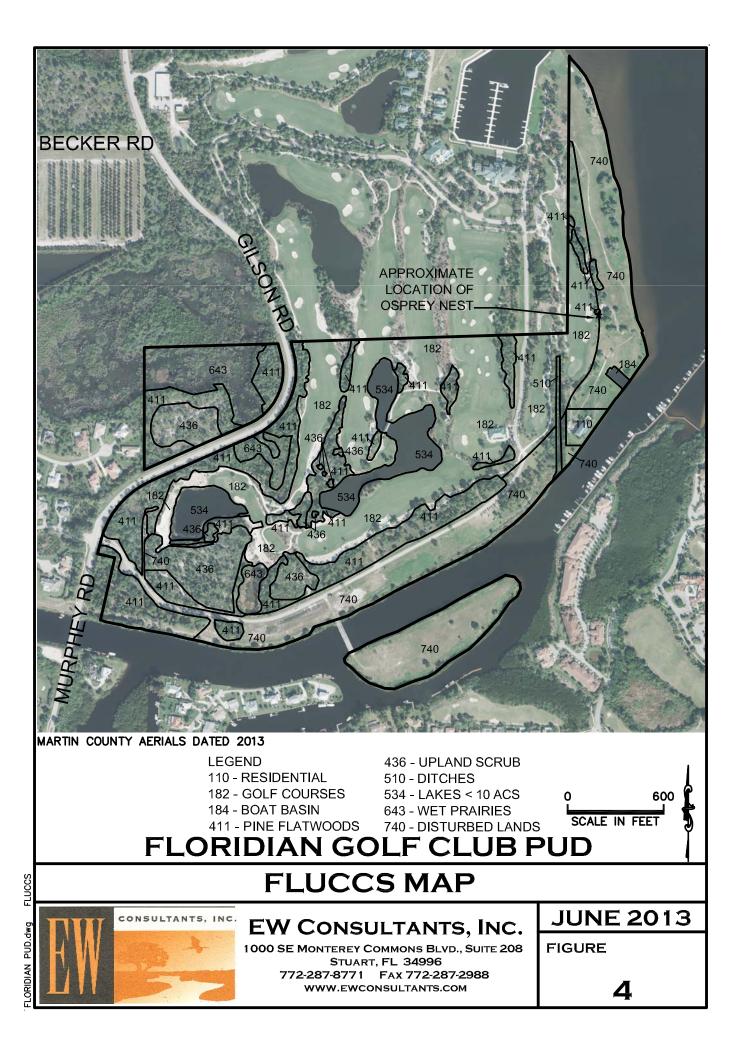


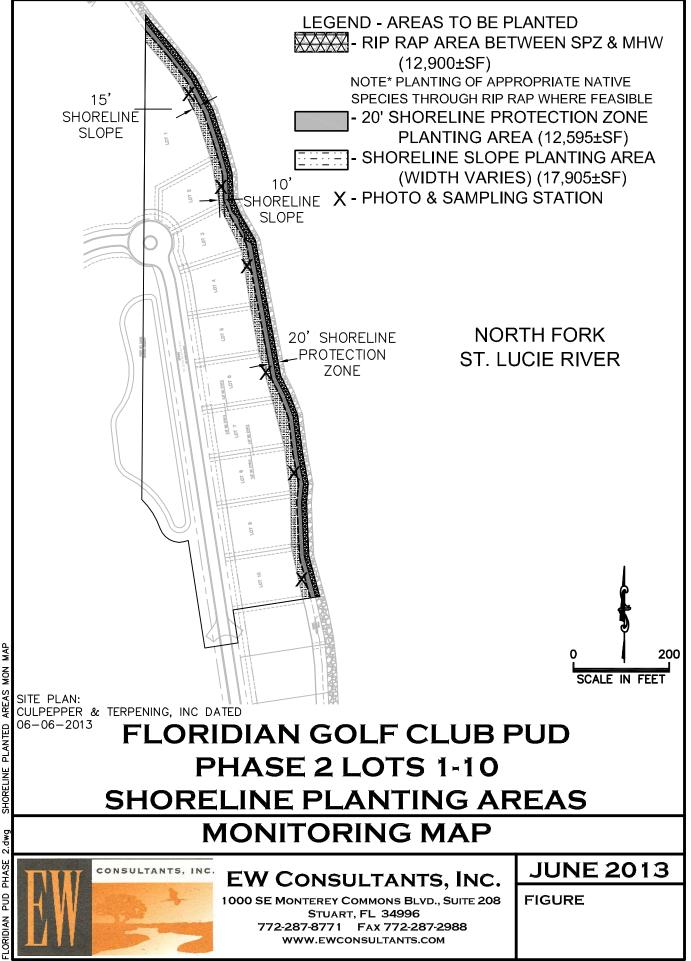
ORIDIAN PUD.dwg

AERIAL

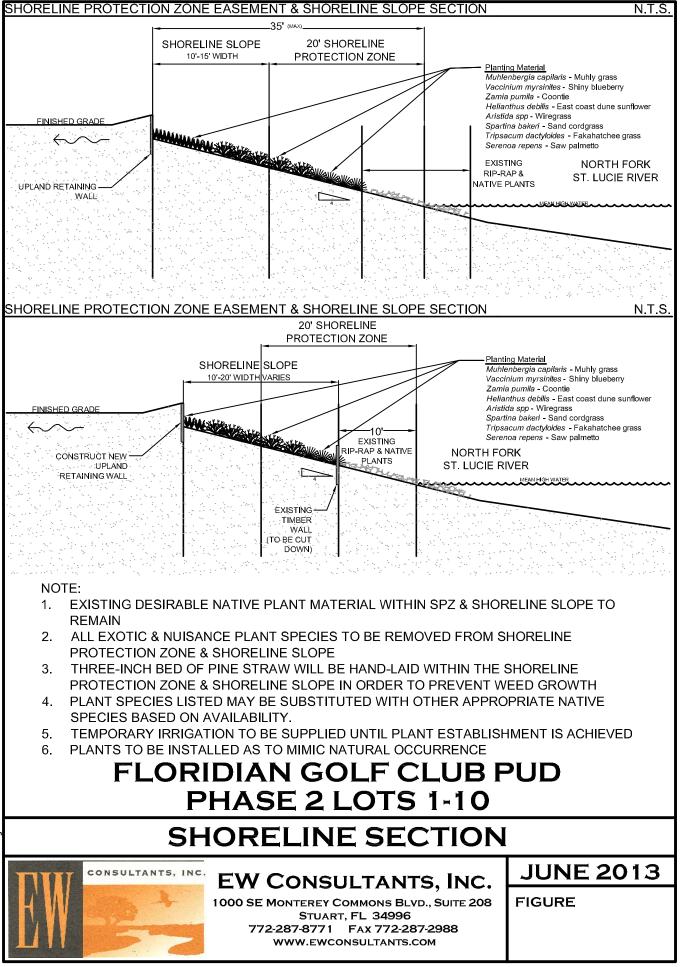


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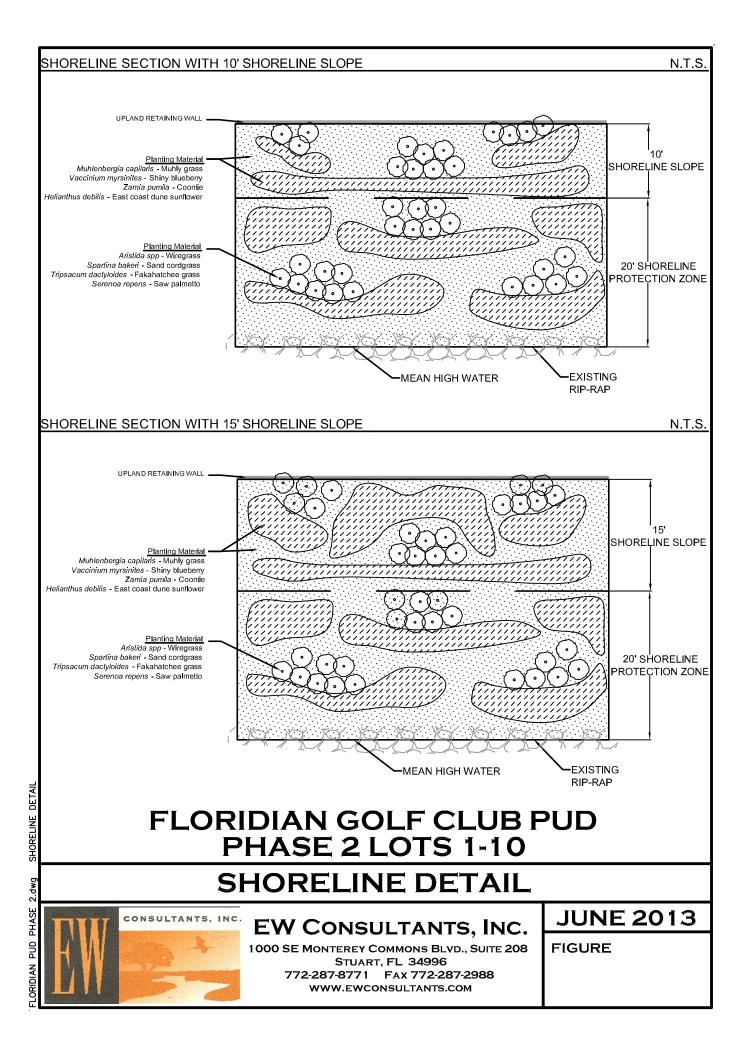


AREAS SHORELINE PLANTED 2.dwg PHASE DUG IDIAN



SECTION SHORELINE 2 RIDIAN

5 P PHASE DUG



Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	520
Vaccinium myrsinites	Shiny blueberry	535
Helianthus debilis	East coast dune sunflower	535
Aristida spp	Wiregrass	520
Spartina bakeri	Sand Cordgrass	515
Tripsacum dactyloides	Fakahatchee grass	520
Planting Material - 3' o.c.		
Zamia pumila	Coontie	1,365
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	750
Planting Material - 2' o.c.	Plant Type	Quant.
10' - 15' Shoreline Slope area (1		
Muhlenbergia capilaris	Muhly Grass	750
Vaccinium myrsinites	Shiny blueberry	765
Helianthus debilis	East coast dune sunflower	760
Aristida spp	Wiregrass	740
Spartina bakeri	Sand Cordgrass	740
Tripsacum dactyloides	Fakahatchee grass	750
Planting Material - 3' o.c.		
Zamia pumila	Coontie	1,965
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	1,080
		Quant.
Pine straw		quarta

# FLORIDIAN GOLF CLUB PUD PHASE 2 LOTS 1-10 SHORELINE SLOPE & SPZ

**PLANTING MATERIALS & QUANTITIES** 

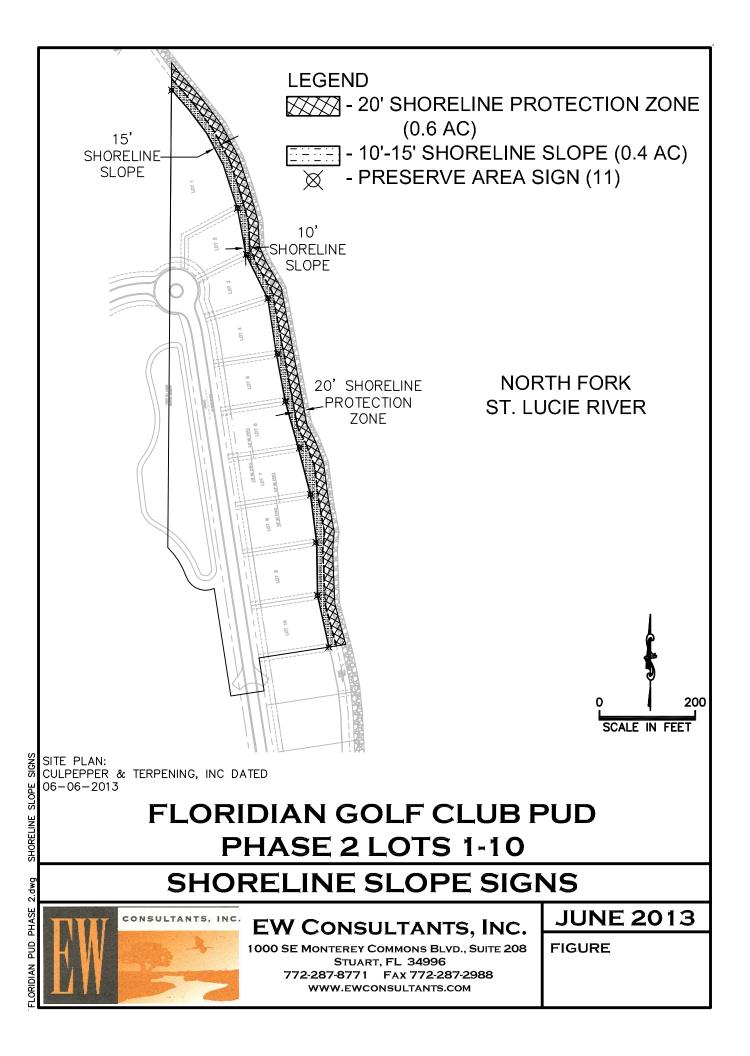


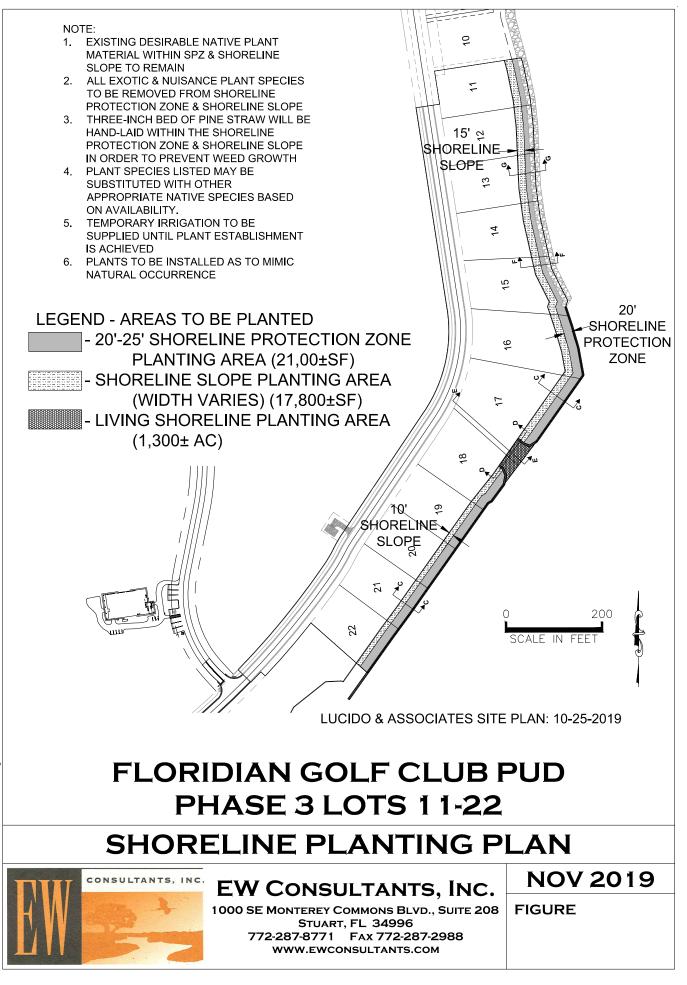
## EW CONSULTANTS, INC.

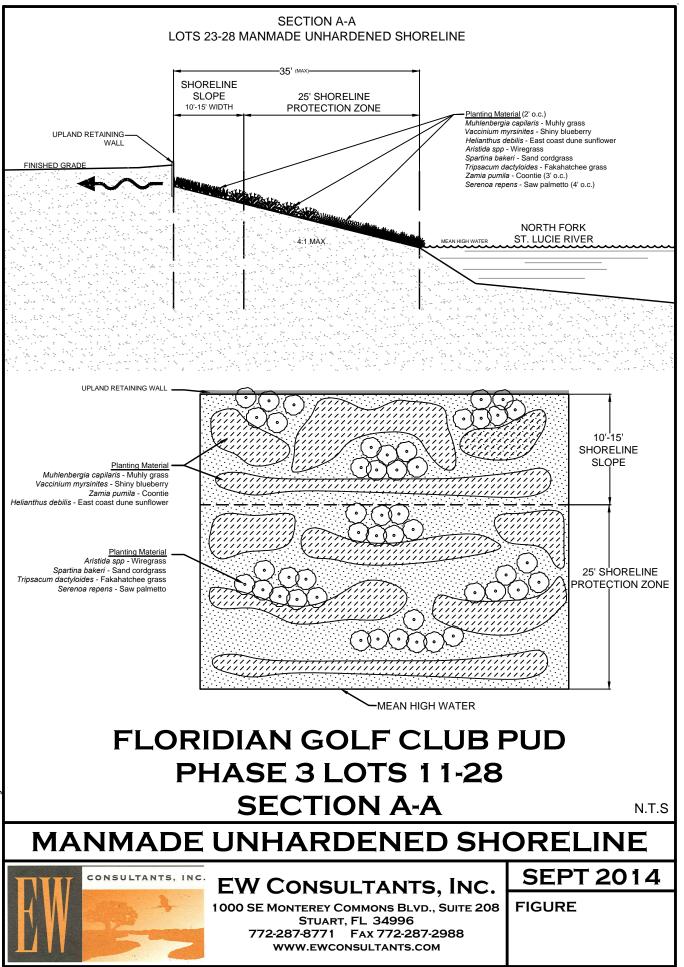
1000 SE MONTEREY COMMONS BLVD., SUITE 208 STUART, FL 34996 772-287-8771 FAX 772-287-2988 WWW.EWCONSULTANTS.COM **JUNE 2013** 

FIGURE

ORIDIAN PUD PHASE 2.dwg SPZ MATERIAL







## **Section A-A**

## Lots 23-28

25' Shoreline Protection Zone (17,730+/- SF)					
Planting Material - 2' o.c.	Plant Type	Quant.			
Muhlenbergia capilaris	Muhly Grass	745			
Vaccinium myrsinites	Shiny blueberry	740			
Helianthus debilis	East coast dune sunflower	740			
Aristida spp	Wiregrass	745			
Spartina bakeri	Sand Cordgrass	745			
Tripsacum dactyloides	Fakahatchee grass	745			
Planting Material - 3' o.c.					
Zamia pumila	Coontie	1,945			
Planting Material - 4' o.c.					
Serenoa repens	Saw Palmetto	1,070			

10' - 15' Shoreline Slope area (5,905+/- SF)

-,,	
Plant Type	Quant.
Muhly Grass	240
Shiny blueberry	245
East coast dune sunflower	235
Wiregrass	235
Sand Cordgrass	245
Fakahatchee grass	245
Coontie	620
Saw Palmetto	335
	Muhly Grass Shiny blueberry East coast dune sunflower Wiregrass Sand Cordgrass Fakahatchee grass Coontie

# FLORIDIAN GOLF CLUB PUD PHASE 3 LOTS 11-28 SECTION A-A

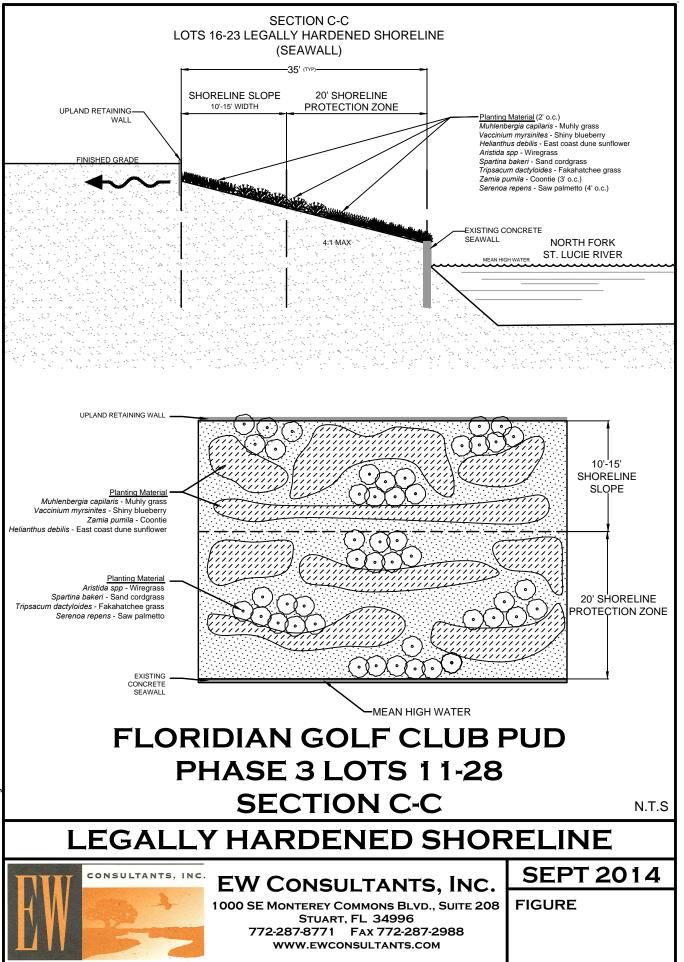
MANMADE UNHARDENED SHORELINE



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FIGURE



ORIDIAN PUD PHASE 3 SECTIONS.dwg SECTION C-C

## Section C-C

## Lots 16-23

20' Shoreline Protection Zone (15,350+/- SF)

Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	640
Vaccinium myrsinites	Shiny blueberry	640
Helianthus debilis	East coast dune sunflower	640
Aristida spp	Wiregrass	645
Spartina bakeri	Sand Cordgrass	645
Tripsacum dactyloides	Fakahatchee grass	640
Planting Material - 3' o.c.		
Zamia pumila	Coontie	1,675
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	920

#### 10' - 15' Shoreline Slope area (9,865+/- SF)

Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	405
Vaccinium myrsinites	Shiny blueberry	410
Helianthus debilis	East coast dune sunflower	410
Aristida spp	Wiregrass	405
Spartina bakeri	Sand Cordgrass	405
Tripsacum dactyloides	Fakahatchee grass	415
Planting Material - 3' o.c.		
Zamia pumila	Coontie	1,060
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	580

# FLORIDIAN GOLF CLUB PUD PHASE 3 LOTS 11-28 SECTION C-C

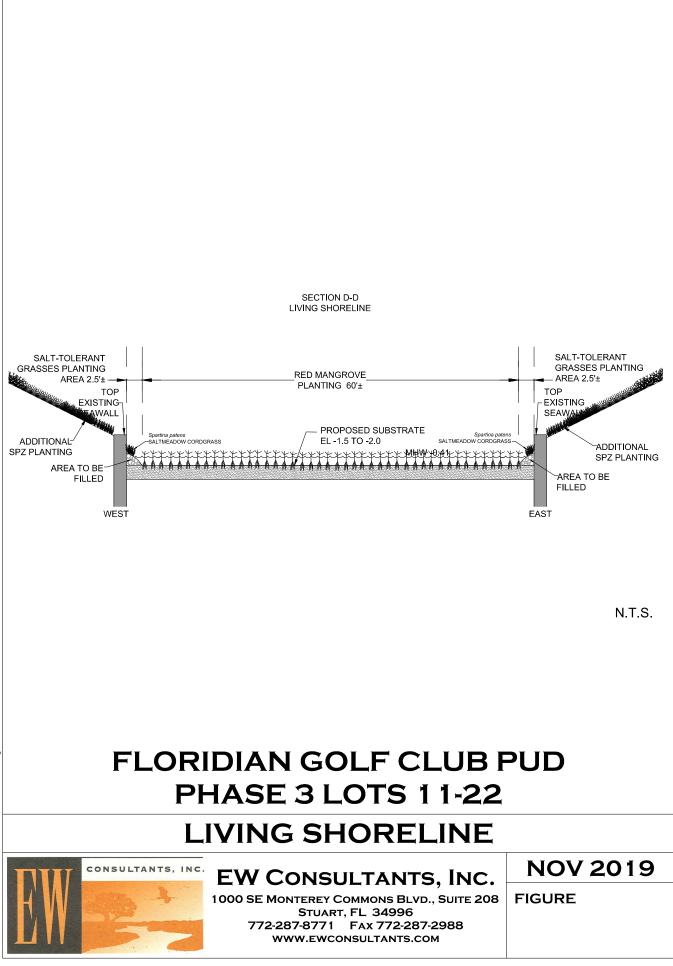
# LEGALLY HARDENED SHORELINE

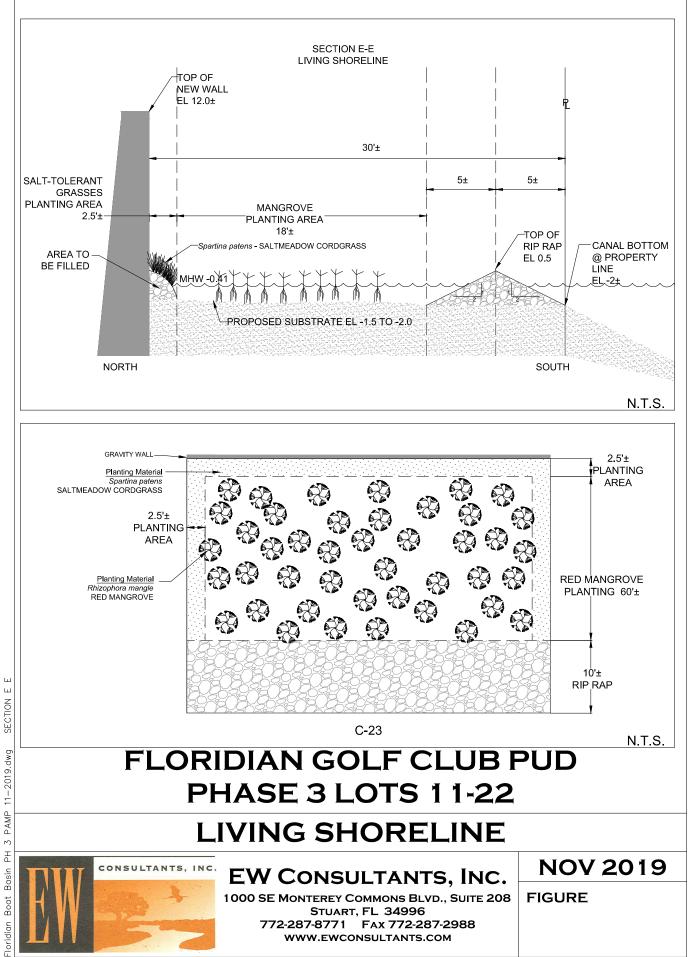


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FIGURE





#### Section D-D & E-E

Living Shoreline (1,300+/- SF) Planting Material - 1' o.c. Spartina patens Planting Material - 2' o.c. Rhizophora mangle

Plant Type	Quant.
Salt meadow cordgrass	312
Red Mangrove	345

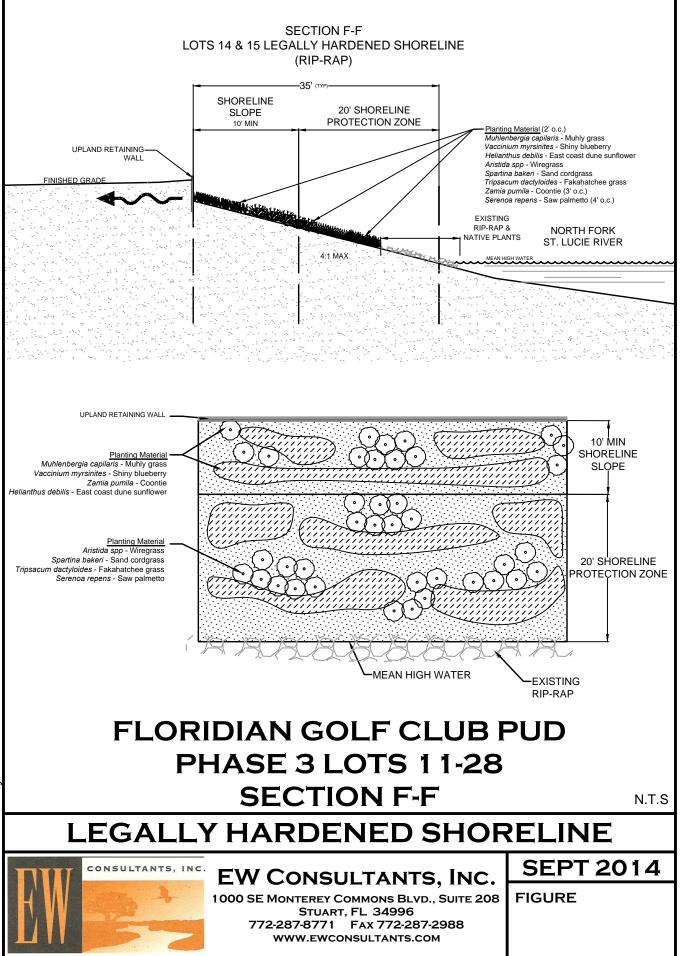


# LIVING SHORELINE



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ORIDIAN PUD PHASE 3 SECTIONS.dwg SECTION F-F

## Section F-F

#### Lots 14-15

#### 20' Shoreline Protection Zone (2,635+/- SF to edge of existing wall/rip rap)

Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	100
Vaccinium myrsinites	Shiny blueberry	100
Helianthus debilis	East coast dune sunflower	105
Aristida spp	Wiregrass	105
Spartina bakeri	Sand Cordgrass	105
Tripsacum dactyloides	Fakahatchee grass	105
Planting Material - 3' o.c.		
Zamia pumila	Coontie	260
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	140

#### 10' min Shoreline Slope area (3,890+/- SF)

Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	155
Vaccinium myrsinites	Shiny blueberry	155
Helianthus debilis	East coast dune sunflower	160
Aristida spp	Wiregrass	155
Spartina bakeri	Sand Cordgrass	155
Tripsacum dactyloides	Fakahatchee grass	155
Planting Material - 3' o.c.		
Zamia pumila	Coontie	400
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	215

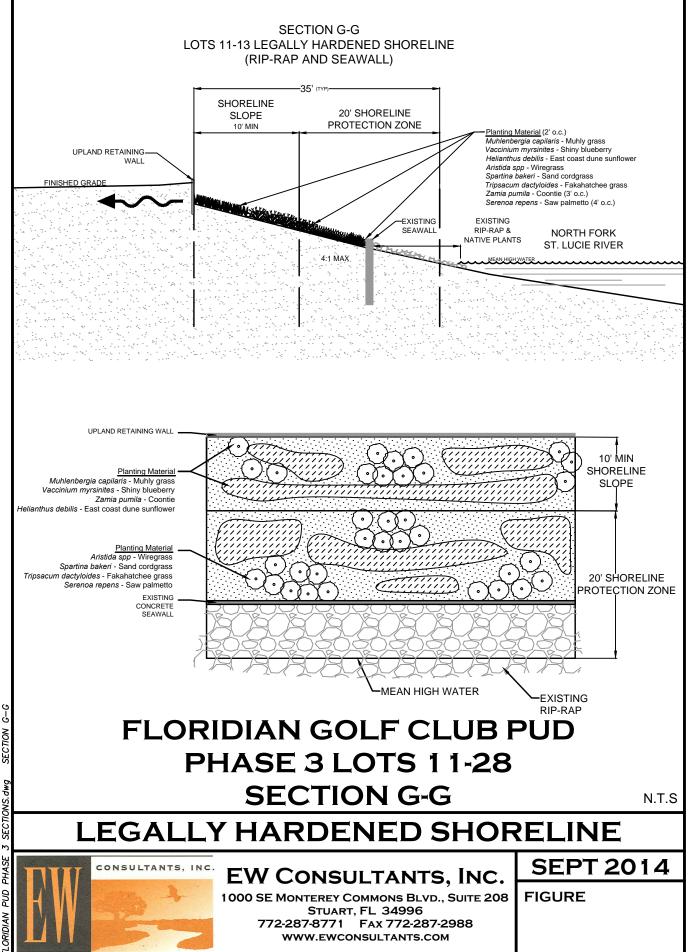
# FLORIDIAN GOLF CLUB PUD PHASE 3 LOTS 11-28 SECTION F-F

# LEGALLY HARDENED SHORELINE



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SECTION SECTIONS.dwg m PHASE DUD ORIDIAN

## Section G-G

#### Lots 11-13

#### 20' Shoreline Protection Zone (2,670+/- SF to edge of rip rap)

Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	100
Vaccinium myrsinites	Shiny blueberry	105
Helianthus debilis	East coast dune sunflower	110
Aristida spp	Wiregrass	105
Spartina bakeri	Sand Cordgrass	110
Tripsacum dactyloides	Fakahatchee grass	100
Planting Material - 3' o.c.		
Zamia pumila	Coontie	265
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	140

#### 10' min Shoreline Slope area (4,025+/- SF)

Planting Material - 2' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	155
Vaccinium myrsinites	Shiny blueberry	165
Helianthus debilis	East coast dune sunflower	165
Aristida spp	Wiregrass	165
Spartina bakeri	Sand Cordgrass	165
Tripsacum dactyloides	Fakahatchee grass	155
Planting Material - 3' o.c.		
Zamia pumila	Coontie	410
Planting Material - 4' o.c.		
Serenoa repens	Saw Palmetto	220

Pine straw

Quant.

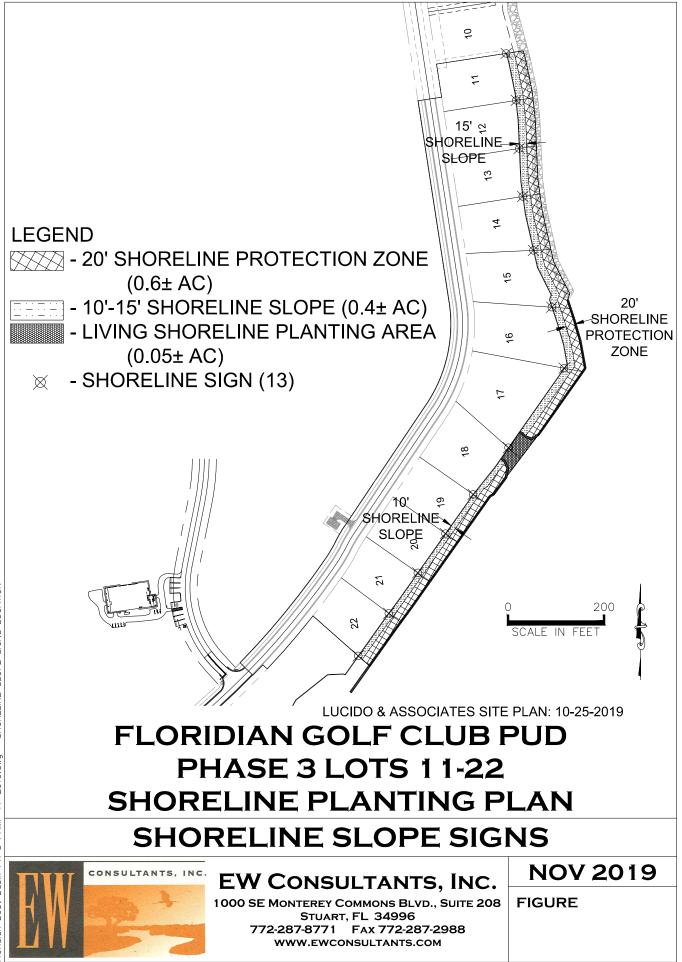
## <sup>20 Pallets</sup> FLORIDIAN GOLF CLUB PUD PHASE 3 LOTS 11-28 SECTION G-G

# LEGALLY HARDENED SHORELINE

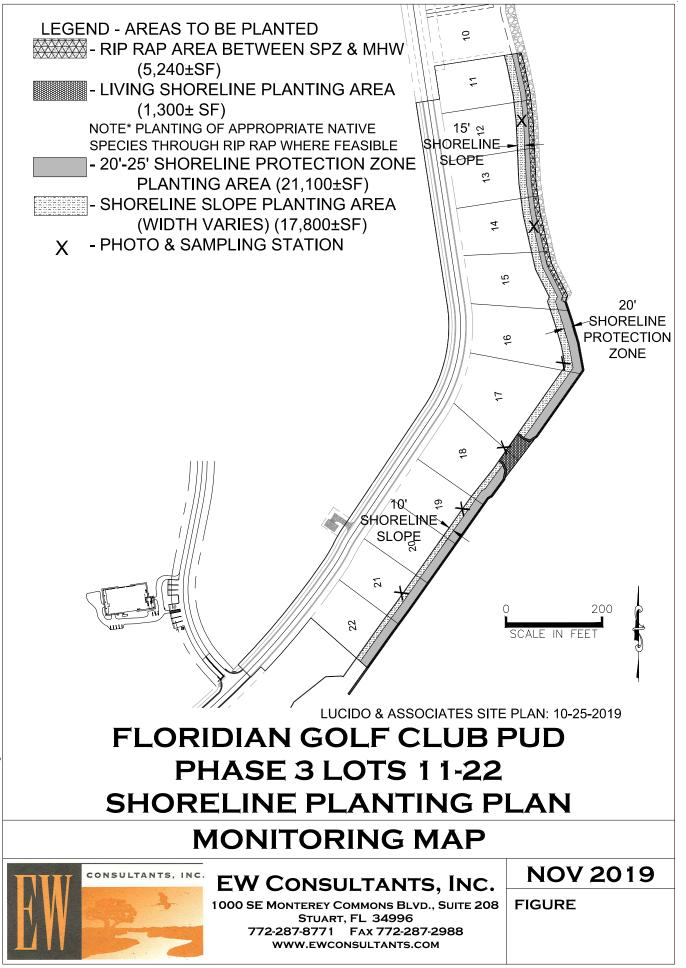


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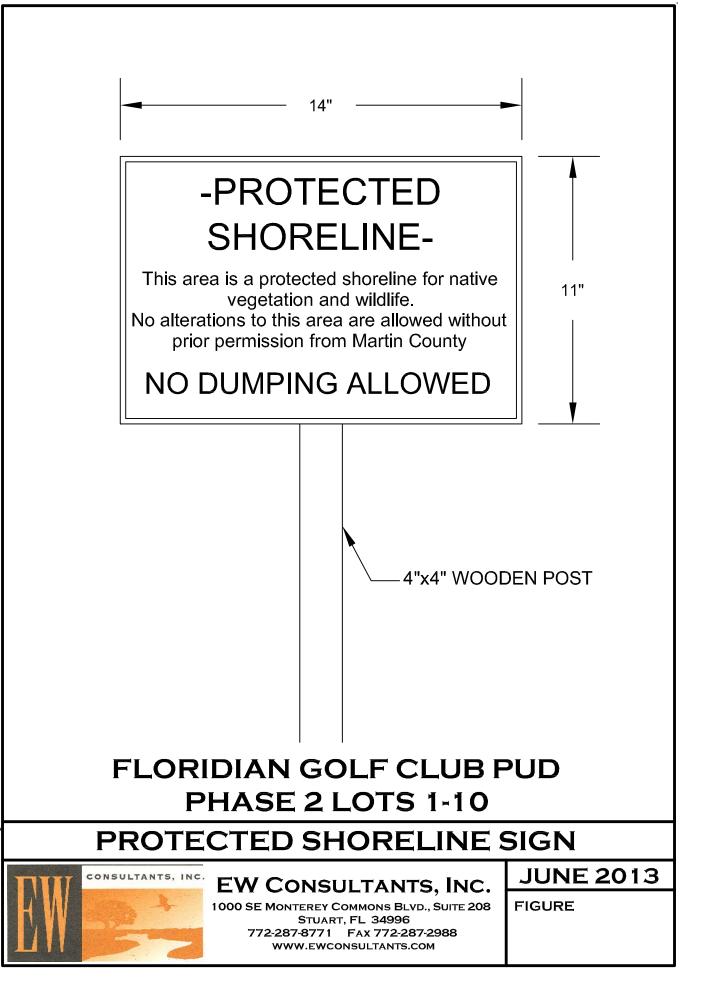
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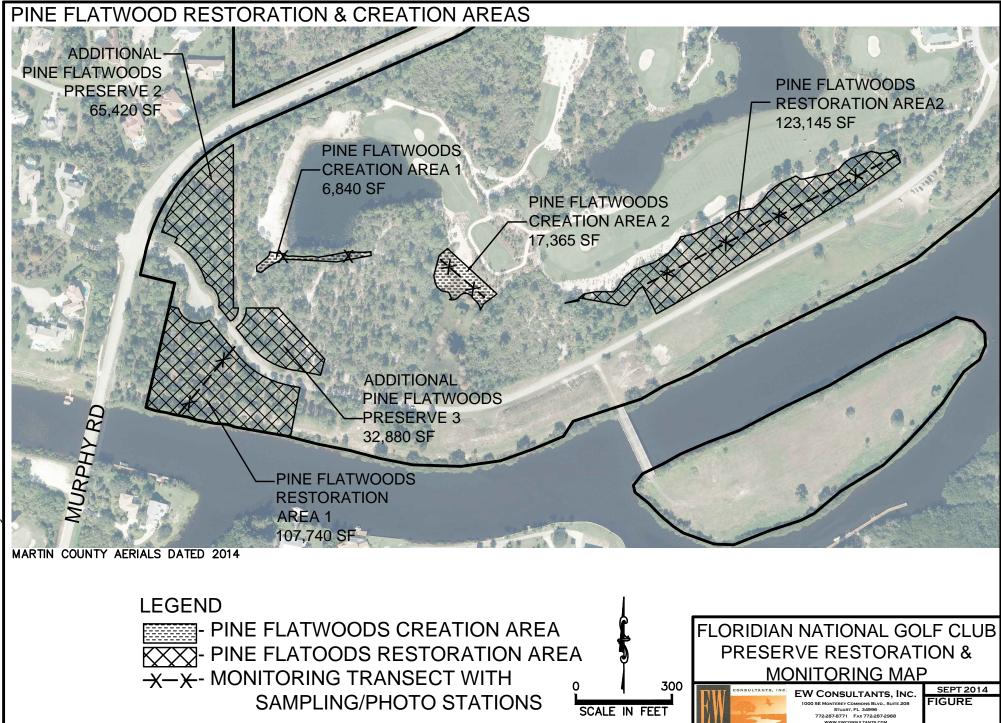


oridian Boat Basin PH 3 PAMP 11-2019.dwg SHORELINE SLOPE SIGNS LOCATION



oridian Boat Basin PH 3 PAMP 11-2019.dwg SHORELINE PLANTING MON





FLORIDIAN PUD PINE FLATWOODS PLANTING.dwg PF AREAS & M

~			M	
P	ine Flatwoods Restoration	Area	··· ···	
A	rea 1	······································	·	
G	roundcover			
P	lanting Material - 3' o.c.	Plant Type	Quant.	
N	1uhlenbergia capilaris	Muhly Grass	1675	
Т	ripsacum dactyloides	Fakahatchee grass	1680	
Si	partina bakeri	Sand Cordgrass	1680	
$\lambda$	1imosa strigillosa	Sunshine mimosa	1690	
A	ristida spp	Wiregrass	1675	
U	nderstory	n (	: 	
	lanting Material - 5' o.c.	Plant Type	Quant.	
1.00	erenoa repens	Saw Palmetto	360	
	lyrica cerifera	Wax Myrtle	360	
	onia lucida	Fetterbush	385	
	allicarpa americana	Beautyberry	385	
5 mm	iburnum obovatum	Walter's Viburnum	380	
C	hrysobalanus icaco	Green Cocoplum	385	:
	ex glabra	Galberry	380	uf
V	accinium myrsinites	Shiny Blueberry	385	;
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
Pi	ne Flatwoods Restoration	Area	•	
	rea 2	· · · · · · · · · · · · · · · · · · ·	· · ·	
	roundcover			
2000 - Alexandre	anting Material - 3' o.c.	Plant Type	Quant.	
Sec. 12	Iuhlenbergia capilaris	Muhly Grass	535	
	ipsacum dactyloides	Fakahatchee grass	540	
	partina bakeri	Sand Cordgrass	535	
	limosa strígillosa	Sunshine mimosa	560	• • •
AI	ristida spp	Wiregrass	560	
U	nderstory_		· · · · · · · · · · · · · · · · · · ·	
PI	anting Material - 5' o.c.	Plant Type	Quant.	
Se	erenoa repens	Saw Palmetto	110	
24.14M	lyrica cerifera	Wax Myrtle	110	
	onia lucida	Fetterbush	135	
Second	allicarpa americana	Beautyberry	135	
	burnum obovatum	Walter's Viburnum	120	
	nrysobalanus icaco	Green Cocoplum	120	:
	x glabra	Galberry	130	:
	accinium myrsinites	Shiny Blueberry	130	
FLORIE	DIAN NATI	ONAL GO	DLF	CLUB
PINE FLAT	WUUUS F	KESIORA		NAREAS
QUANTITIES & MATERIALS				
CONSULTANTS,	INC. FW/ CONIC	sultants, In		APR 2013
		Y COMMONS BLVD., SUIT		FIGURE
		ART, FL 34996	E 208	rigure.
	772-287-877	1 FAX 772-287-2988		

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FLORIDIAN PUD PINE FLATWOODS PLANTING.dwg RESTORATION QUANTITES & MATERIALS

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Area 1	i		Area 2		
Groundcover			Groundcover	· · · · · · · · · · · ·	1967 - 1979 - 1 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 -
Planting Material - 3' o.c.	Plant Type	Quant.	Planting Material - 3' o.c.	Plant Type	Quant.
Muhlenbergia capilaris	Muhly Grass	140	Muhlenbergia capilaris	Muhly Grass	395
Tripsacum dactyloides	Fakahatchee grass	140	Tripsacum dactyloides	Fakahatchee grass	380
Spartina bakeri	Sand Cordgrass	165	Spartina bakeri	Sand Cordgrass	375
Mimosa strigillosa	Sunshine mimosa	165	Mimosa strigillosa	Sunshine mimosa	395
Aristida spp	Wiregrass	140	Aristida spp	Wiregrass	375
<u>Understory</u>			<u>Understory</u>		· · · · · · · · · · · · · · · · · · ·
Planting Material - 5' o.c.	Plant Type	Quant.	Planting Material - 5' o.c.	Plant Type	Quant.
Serenoa repens	Saw Palmetto	25	Serenoa repens	Saw Palmetto	75
Myrica cerifera	Wax Myrtle	25	Myrica cerifera	Wax Myrtle	85
Lyonia lucida	Fetterbush	35	Lyonia lucida	Fetterbush	90
Callicarpa americana	Beautyberry	50	Callicarpa americana	Beautyberry	105
Viburnum obovatum	Walter's Viburnum	35	Viburnum obovatum	Walter's Viburnum	90
Chrysobalanus icaco	Green Cocoplum	40	Chrysobalanus icaco	Green Cocoplum	80
llex glabra	Galberry	35	llex glabra	Galberry	85
Vaccinium myrsinites	Shiny Blueberry	30	Vaccinium myrsinites	Shiny Blueberry	105
Assorted Canopy Trees	·····		Assorted Canopy Trees		· · · · · · ·
Planting Material - 15' o.c.	Plant Type	Quant.	Planting Material - 15' o.c.	Plant Type	Quant.
Pinus elliottii densa	South FL Slash Pine	30	Pinus elliottii densa	South FL Slash Pine	80
Planting Material - 20' o.c.	Plant Type	Quant.	Planting Material - 20' o.c.	Plant Type	Quant.
llex cassine	Dahoon holly	15	llex cassine	Dahoon holly	45
Planting Material - 25' o.c.	Plant Type	Quant.	Planting Material - 25' o.c.	Plant Type	Quant.
Pinus elliottii densa	South FL Slash Pine	10	Pinus elliottii densa	South FL Slash Pine	25
Planting Material - 30' o.c.	Plant Type	Quant.	Planting Material - 30' o.c.	Plant Type	Quant.
Quercus laurifolia	Laurel oak	3	Quercus laurifolia	Laurel oak	15
Quercus virginiana	Live oak	5	Quercus virginiana	Live oak	5

# FLORIDIAN NATIONAL GOLF CLUB PINE FLATWOODS CREATION AREAS

# **QUANTITIES & MATERIALS**



EW CONSULTANTS, INC. 1000 SE MONTEREY COMMONS BLVD., SUITE 208

STUART, FL 34996 772-287-8771 FAX 772-287-2988 WWW.EWCONSULTANTS.COM APR 2013

## **APPENDICES**

Annual Monitoring Report Form Project Master Site Plan Shoreline Protection Area Signage Agency Correspondence Gopher Tortoise Permit Lake Area Maintenance Plan )LAMP)

## MARTIN COUNTY, FLORIDA

#### PRESERVE AREA MANAGEMENT PLAN

#### ANNUAL MONITORING REPORT FOR (Year)

- Name and address of current owner of Preserve Area;
- Location of Preserve Area
- Date PAMP approved;
- Documentation of vegetation changes, including encroachment of exotic vegetation;
- Fixed-point panoramic photos of all Preserve Areas;
- Synopsis of maintenance activities conducted in compliance with the PAMP requirements such as exotic vegetation removal, re-vegetation, and additional enhancement activities necessary to maintain the Preserve Area;
- A timetable for action within 90 days of the report;
- A list of all violations of the PAMP; and
- Recommendations for remedial actions, with a proposed schedule for the coming year.

Signature/Date : \_\_\_\_\_

Typed Name/Title :

Company Name (if applicable) : \_\_\_\_\_