

**VILLAGE AT PALM COAST PHASE 1
FLAGLER COUNTY, FLORIDA**

HABITAT MANAGEMENT PLAN

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1.0 INTRODUCTION

CPH Engineers, Inc. (CPH), Environmental Services, has prepared this habitat management plan for the Village at Palm Coast Phase 1 site located in Flagler County, Florida. The purpose of this habitat management plan is to meet local, state and federal protection standards for protected flora and fauna through implementation of a development plan that includes the protection of listed species within and adjacent to the Villages at Palm Coast Phase 1 project site. The subject property is located in Section 32, Township 10 South, Range 31 East, Flagler County, Florida.

2.0 EXISTING CONDITIONS

The subject property is located within a partially developed private community known as Tidelands which consists of single family residencies along the intracostal waterway (ICW). The subject area is generally undeveloped land located between the ICW and residential lots and includes a common area owned by the Tideland Homeowners Association. The project area includes portions of the ICW, forested uplands and some open land. The area contains several undeveloped lots and a large common area controlled by the Tideland Homeowners Association. A Protected Species Survey conducted in December 2010 documented the occurrence of gopher tortoise (*Gopherus polyphemus*) burrows located on undeveloped single family lots and within the common area. Manatees (*Trichechus manatus*) were also documented in the immediate vicinity by state and local data bases.

The gopher tortoise is listed as a “Threatened” species by the FFWCC and is protected by state law under Chapter 68A-27, Florida Administrative Code. The manatee is listed as Endangered by the USFWS and the FFWCC. The manatee is protected under the Marine Mammal Protection Act of 1972, as amended, 16 U.S.C. 1631 *et seq.*, the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq.*, the Florida Manatee Sanctuary Act of 1978, Chapter 68C-22, Florida Administrative Code (F.A.C.) and Florida Chapter 68A, F.A.C. The Florida Fish and Wildlife Conservation Commission (FFWCC) regulate the taking of species listed as endangered, threatened or of special concern and their nests through Rules 68A-27.003, 68A-27.004 and 68A-27.005, Florida Administrative Code. The FFWCC also provides technical assistance to other agencies that have regulatory authority over activities, which may affect fish and wildlife and their habitat.

The project was issued a permit modification by the SJRWMD on December 8, 2010 (40-035-63175-8) establishing a Maintained Vegetated Buffer (MVB) located between a proposed shell walking path and the ICW within the common area. The MVB is located along the eastern landward extent of the development. All area west of the shell path will be maintained by the home owners association and individual lot owners.

A majority of this area is comprised of hardwoods forests with oaks and cabbage palm as the dominant species. Other areas are absent of trees and are composed of mostly grasses and weeds.

3.0 MAINTAINED VEGETATED BUFFER

The MVB is an area that averages 25 feet between the future location of the proposed shell path and the ICW. This habitat is primarily comprised of native upland vegetation suitable for coastal, sandy habitats. In some areas of the MVB restoration activities are required. Areas required to be restored will be done so in accordance with the SJRWMD approved MVB Management and Restoration Plan and plant list (**Appendix A**). The restoration effects will include annual monitoring and reporting to the SJRWMD until the restoration is deemed successful and monitoring requirements are waived by the SJRWMD. Those areas without need of restoration are to be maintained as appropriate habitat through non-mechanical and selective trimming means and when possible the replacement of vegetation with species on the approved planting list.

Gopher tortoises located within the buffer will benefit from the preservation of the MVB through the restoration and maintenance activities. Selective trimming will allow more open spaces for grasses and forbes suitable for foraging. The prohibition of mechanized equipment (recreation or maintenance) provides a measure of safety to the current population. Restored areas will include vegetation typical of those habitats deemed optimal gopher tortoise habitat.

4.0 UPLAND LOTS AND COMMON AREA

Much of the project area is comprised of undeveloped single family lots and their associated common area. These areas are located west of the proposed shell path. The development of these lots will be permitted separately by private individuals and no restrictions can be placed over them by the home owners association. The common area associated with each lot is under the control of the HOA and no development is proposed for this area after the completion of the

proposed shell path. Each lot owner will be responsible for conducting a gopher tortoise survey on their lots prior to development activities and should relocations be required, shall be permitted by the lot owners for the lots and the associated common areas.

5.0 INTRACOASTAL WATERWAY

The Villages at Palm Coast Phase 1 project will allow for future lot owners to apply for permits to build docks on the ICW adjacent to the common area associated with their own single family lot. Lot owners who decide to obtain permits for docks located in the ICW may do so after proper permits are obtained from the ACOE, SJRWMD and the City of Palm Coast. As part of the permit process additional site specific surveys and dock dimensions will be reviewed by the regulatory agencies who will provide comments and guidance to applicants during the review process.

Specific design standards and dimensions will be addressed during dock permit review by the ACOE, SJRWMD and City of Palm Coast. In addition to the details and requirements included in the permits issued by the regulatory agencies during the individual dock permit reviews the following conditions will be required at a minimum for all projects with construction activities located on the ICW for protection of manatees during and after the construction process.

- Construction activities must obtain and post applicable permits from the ACOE, FDEP, SJRWMD and City of Palm as applicable during construction activities.
- All proposed projects must provide updated survey results from a City of Palm Coast Qualified Environmental Professional (QEP) for listed species and rare habitats (sea grass beds) prior to construction activities.
- All projects must use FFWCC approved screens or barriers to prevent manatees from entering the construction zone. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- All projects shall implement a manatee observer with after action reporting. At least one person shall be designated as a manatee observer when in-water work is being performed.

That person shall have experience in manatee observation and equipped with polarized sunglasses to aid in observation. The manatee observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity.

- Movement of a work barge, other associated vessels, or any in-water work shall not be performed after sunset, or before sunrise when the possibility of spotting manatees is negligible.
- All vessels associated with the construction project shall operate at “Idle Speed/No Wake” at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida.
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used. One sign measuring at least 3 ft. by 4 ft. which reads Caution: Manatee Area must be posted. A second sign measuring at least 8-1/2” by 11” explaining the requirements for “Idle Speed/No Wake” and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.
- Construction staff shall undergo a pre-construction educational program to familiarize the staff with manatee regulations and proper in-water protocol to prevent harm to manatees.
- A permanent sign measuring at least 8-1/2” by 11” will be placed in a visible location at the entrance of each dock from land which reads Caution: Manatee Area in block print. Typical signs will include a small picture of a manatee but is not required.
- All projects will not be allowed permanent potable or reclaimed water fixtures, cleaning stations.

6.0 HABITAT MANAGEMENT BENEFITS

Through the implementation of the habitat management plan for the Village at Palm Coast, Phase 1 the potential harm to listed species will be minimal. The goal is allow residents to develop and enjoy their community while coexisting with the native Florida wildlife through the habitat management standards outlined in this report.



Environmental Team
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APPENDIX A

Maintained Vegetated Buffer Management and Monitoring Plan

**Village at Palm Coast Phase 1
Habitat Management Plan
Flagler County**

MAINTAINED VEGETATED BUFFER (MVB) MANAGEMENT AND MONITORING PLAN

Tracts within the proposed Maintained Vegetated Buffer (MVB) that require restoration will be required to be managed and monitored to ensure survival of the restored buffer. Each tract will be restored with plants from the approved plant list with no less than 80% cover at the time of restoration activities.

Monitoring of the restored tracts shall be conducted twice annually, once in the wet season (August – September) and once in the dry season (March- April). Annual reports will be provided to the SJRWMD after the wet season monitoring event. Monitoring and reporting shall occur no less than 5 years from the end of restoration activities. If the restoration activities have met success criteria after 5 years the SJRWMD will not require further monitoring.

Success Criteria

The restoration activities shall be considered a success when at least 80% of planted vegetation has survived and are showing signs of normal annual growth, based upon standard growth parameters and at least 80% of the restoration area is under vegetative cover.

Monitoring Methodology

Monitoring shall be conducted twice annually and shall include photostations and percent cover determined by 1-meter square quadrats located in each tract with restoration activities. Each tract shall have a permanent photostation located along the shell path, west of the restoration area. Photos will be taken in a manner to include the entire MVB within the tract. Photographs shall be taken for visual aid to determine vegetative composition, cover and growth. A minimum of 5 1-meter plots shall be located within the restoration area of each tract to determine the percent cover and composition of ground cover species. Each plot shall be permanently marked in the field.

Maintenance

The MVB will be maintained by the applicant. If at any time the percent cover of vegetation fall below 80% for any given tract the applicant will install vegetation from the approved list. Regular trimming and cutting of woody shrubs, vines, grasses and other ground cover vegetation shall be allowed provided that the work is done by hand and hand tools. No mechanical tools such as mowers, chainsaws, backhoes etc. are permitted for regular maintenance. Artificial irrigation is prohibited except as required to establish installed vegetation. No fertilizers or herbicides shall be used within the MVB.

Annual Reports

Annual reports will be submitted to the SJRWMD in October annually until the project is released from monitoring requirements. Annual reports will include at a minimum, a summary of restoration activities, maintenance, mortality rate of planted vegetation, percent cover of desirable vegetative species, recommendations and photographs

depicting each tract. In the case of mortality rates greater than 50% of planted vegetation a remediation plan will be included with the recommendations.

Annual reports will include a map of each restored lot that will include at a minimum, the location of the sample plots, limits of restoration activities.

Plants Approved for Restoration Work within the Maintained Vegetative Buffer

Trees

Live oak (*Quercus virginiana*)
Laurel oak (*Quercus laurifolia*)
Turkey Oak (*Quercus laevis*)
Red cedar (*Juniperus virginiana*)
Cabbage palm (*Sabal palmetto*)
Yaupon holly (*Ilex vomitoria*)
Dahoon holly (*Ilex cassine*)
Slash pine (*Pinus elliottii*)
Longleaf pine (*Pinus palustris*)
Sweet gum (*Liquidambar styraciflua*)
Red maple (*Acer rubrum*)
Magnolia (*Magnolia virginiana*)
Sugarberry (*Celtis laevigata*)

Shrubs

Saw palmetto (*Serenoa repens*)
Wax myrtle (*Myrica cerifera*)
Fetterbush (*Lyonia lucida*)
Blueberry (*Vaccinium* sp.)
Broomsedge (*Andropogon* sp.)
Blackberry (*Rubus* sp.)

Groundcover

Panic grasses (*Panicum* sp.)
Cordgrass (*Spartina alterniflora*)
Muhly grass (*Muhlenbergia capillaris*)
Crown grass (*Paspalum Quadrifolium*)
Fakahatchee Grass (*Tripsacum dactyloides*)
Saw grass (*Cladium* sp.)
Bahia grass (*Paspalum notatum*)
Bermuda grass (*Cynodon dactylon*)
Love grass (*Eragrostis* sp.)
Prickly pear cactus (*Opuntia* sp.)