HABITAT CONSERVATION PLAN

For
SPANISH KEY CONDOMINIUM

Spanish Key Condominium
17287 Perdido Key Drive
Pensacola, Florida

Final
September 2, 2009

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1.0 INTRODUCTION

This habitat conservation plan (HCP) addresses potential impacts to habitat for state and federally listed species which may occur due to development of a parking facility located on Perdido Key in Escambia County, Florida (Appendix A).

A single species has prompted the need for an Incidental Take Permit (ITP), although other listed species may occur in the habitats addressed by this plan. The "trigger" species is the Perdido Key beach mouse (*Peromyscus polionotus trissyllepsis)* and this HCP is limited to areas designated as suitable habitat. However, the HCP includes conservation measures for nesting sea turtles and non-breeding piping plover that resulted in the Service determining that an ITP would not be needed for sea turtles or piping plover.

This HCP focuses on suitable habitat designations as associated with the PKBM. The proposed project area also includes areas designated as critical habitat for the Perdido Key beach mouse (PKBM).

It is the responsibility of the United States Fish and Wildlife Service (USFWS) to determine whether issuance of an ITP will jeopardize the continued existence of a species, whereas the responsibility of the Florida Fish & Wildlife Conservation Commission (FWC) is to ensure that such a permit is issued only when the permitted activity will clearly enhance the survival potential of the species. The intent of this HCP is to provide the information necessary to for the agencies to make such a determination.

Spanish Key Condominium is seeking an incidental take permit (ITP) from the USFWS pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 (Act), as amended and the FWC regulates "take" under the Florida Administrative Code 68A-27.003. The permit would authorize the take of the federal and state listed Perdido Key beach mouse within the project area in Escambia County, Florida.

The proposed taking would be incidental to the development of a parking facility to support access to waterfront activities associated with the adjacent subject parcel. The design exhibits 20 parking spaces requiring the permanent impact to 12,118 sq/ft of designated suitable habitat for the beach mouse (Appendix A).

1.1 Impacts to Listed Species

The habitat impacted by the Spanish Key Old River project includes coastal scrub. Animal and plant species likely to inhabit the coastal beach and dunes and scrub habitat of the of the project area and designated as endangered or threatened by the USFWS or the Florida Game and Fresh Water Fish Commission (FWC) are referred to hereafter as listed species.

The HCP addresses these and other species, which occur or are likely to occur in the project area. Some species are limited to the north Florida Gulf coast in contrast with

wide ranging distributions of many other species. Further, species not endemic to the habitats addressed in the HCP will benefit due to the proposed conservation measures to be implemented as a result of the project.

1.2 HCP Development

This HCP is prepared in accordance with the requirements of the USFWS in Section 10(a)(1)(B) of the Endangered Species Act (ESA). The *Habitat Conservation Planning Handbook* (Handbook), published by the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA-Fisheries), November 1996 was used to guide the preparation of the plan as was the *Choctawhatchee Beach Mouse, Perdido Key Beach Mouse, and Alabama Beach Mouse Recovery Plan, USFWS* (August 1987).

This HCP addresses the four mandatory elements as required by the ESA and Code of Federal Regulations [50CFR 17.22(b)(1), 17.32 (b)(1), and 222.22]. An HCP submitted in support of an incidental take permit application must detail the following information (corresponding section numbers in this HCP are noted in parentheses).

I. Impacts likely to result from the proposed taking of the species for which permit coverage is requested (sections 1.2, 1.4, 2.1, 2.2,). There are four steps to determine the likely effects of a project or activity on federally listed or candidate species. These are:

A. delineation of the HCP boundaries or plan area
B. collection and synthesis of biological data for species to be covered by the HCP
C. identification of activities proposed in the plan area that are likely to result in incidental take
D. quantification of anticipated take levels

II. Measures the applicant will take to monitor, minimize, and mitigate such impacts, including the funding that will be made available to undertake such measures, and the procedures to deal with unforeseen circumstances (sections 2.3 and 2.4)

III. Alternative actions the applicant considered that would not result in take, and the reasons why such alternatives are not being utilized (section 2.1)

IV. Additional measures required USFWS /FWC (to be addressed in subsequent meetings with USFWS & FWC).

1.3 Project Location and Delineation of Habitat Boundaries

The project location and HCP boundaries are presented in Appendix A. The HCP is associated with one 0.49 acre lot fronting Old River. The proposed project consists of the construction of 20 parking spaces to support access to Old River by residents and guests of Spanish Key Condominiums. Approximately 20,665 sq/ft (0.47 acre) of the parcel is considered suitable habitat for PKBM. Only 12,118 sq/ft of the project is proposed

within the suitable habitat of the beach mouse. As a result, 59% of suitable habitat will be impacted, and 41% will remain in—or be restored to—a natural condition

Because of biological needs of the beach mouse and other listed species addressed herein, the primary focus of the HCP will be the scrub dune habitats within the project area, which provide habitat for the beach mouse. The Applicant will focus conservation and mitigation activities on the suitable and restorable habitat of the project area.

1.3.1 Critical Habitat

Critical habitat was designated for the PKBM, CBM, and the ABM at the time of listing (50 Code of Federal Regulations [CFR] § 17.95, 50 FR 23872), and revised October 12, 2006 (71 FR 60238). Five units were designated for the PKBM spaced throughout its historic range, depending on the relative fragmentation, size, and health of habitat, as well as availability of areas with beach mouse primary constituent elements. The five units are: (1) Gulf State Park Unit, (2) West Perdido Key Unit, (3) Perdido Key State Park Unit, (4) Gulf Beach Unit, and (5) Gulf Islands National Seashore Unit (**Table 1** and **Figure 1**). The proposed project is located in lands designated as critical habitat within the Gulf Beach Unit (Unit 4) and the project site contains critical habitat primary constituent elements (PCE).

Table 1: Critical Habitat Units for the Perdido Key Beach Mouse.

Critical Habitat Unit	Federal Acres	State Acres	Local and Private Acres	Total Acres
1. Gulf State Park Unit	0	115	0	115
2. West Perdido Key Unit	0	0	147	147
3. Perdido Key State Park Unit	0	238	0	238
4. Gulf Beach Unit	0	0	162	162
5. Gulf Islands National Seashore Unit	638	0	0	638
Total	638	353	309	1300

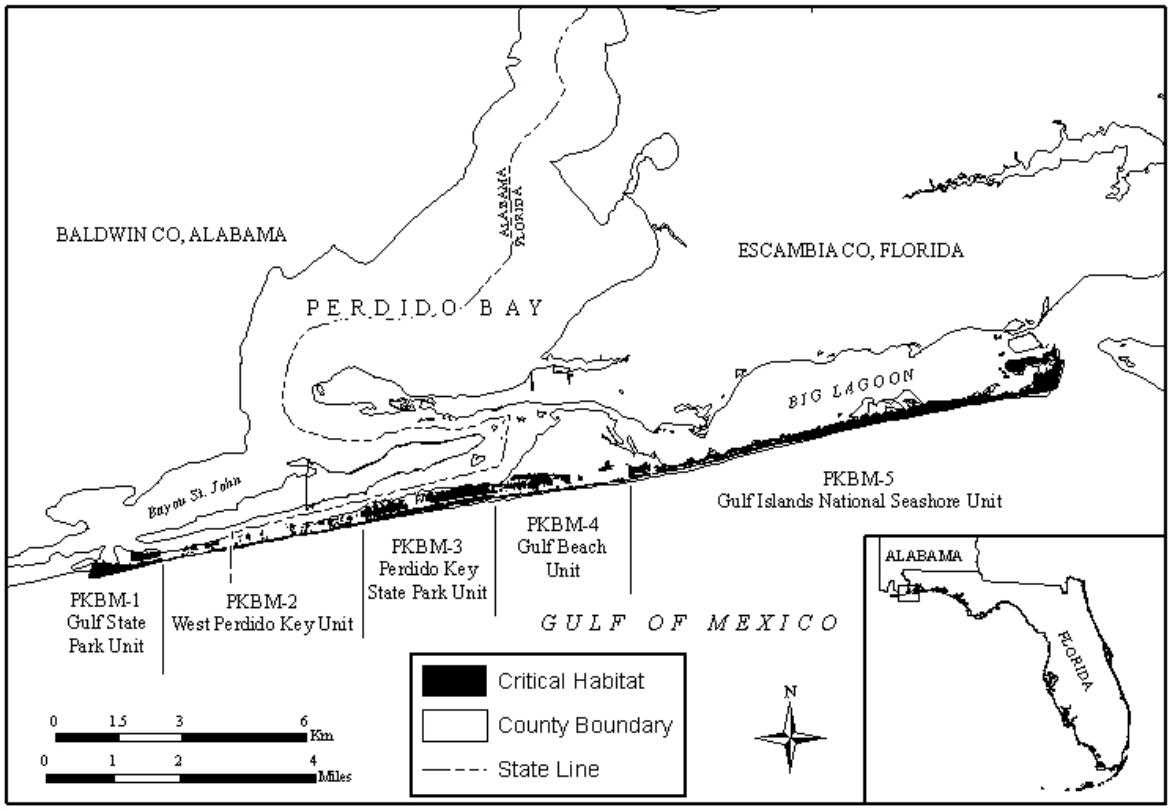

Figure 1. Designated Critical Habitat Units for the Perdido Key Beach Mouse.

1.3.2 Spanish Key Old River

Spanish Key Old River is a condominium development on Perdido Key in southwest Escambia County, Florida. Spanish Key Old River proposes to create parking and access to the ocean within a single 0.49 acre parcel adjacent to the extant Old River condominiums. Landforms and vegetative communities on this tract include coastal scrub which has been altered due to previous development on both sides of the subject parcel.

The scrub community can typically be characterized as a closed to open canopy forest of sand pines with dense clumps or vast thickets of scrub oaks and other shrubs dominating the understory. Vegetation within this community consists mainly of sand-live oak (*Quercus virginana geminata*) with Chapmans oak (*Q. chapmanii*) interspersed and sand pine (*Pinus clausa*). Ground cover is largely dominated by saw palmetto (*Seneroa repens*) with the herbaceous vegetative stratum lacking. The subject parcel maintains very few beneficial vegetation communities, due to prior disturbance. Photographs of habitat associated with the Spanish Key Old River Access parcel are presented in Appendix B.

1.4 Biological Overview of Species Addressed by this Plan

Several species are addressed in this HCP due to their listed status or their reliance upon suitable habitat within the project area. The listed species addressed in the HCP includes:

- Perdido Key beach mouse
- Atlantic loggerhead, green turtle, leatherback, and Kemp's ridley sea turtle
- Piping plover

Biological overviews for these species are provided in the following sections. Certain additional species listed by the state of Florida are also protected by this HCP due to similarity of habitat with the species listed above. These species may include snowy plover (*Charadrius alexandrius*), peregine falcon (*Falco peregrinus*), tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), little blue heron (*Egretta caerulea*), least tern (*Sterna antillarum*), black skimmer (*Rynchops niger*), American oystercatcher (*Haematopus pallaitus*), Cruise's golden aster (*Chrysopsis cruseana*), large-leaved jointweed (*Polygonella macrophylla*), and coastal lupine (*Lupinus westianus*). Potential habitat impacts, conservation mitigation intents, and habitat management programs are addressed in Section 2.

1.4.1 Perdido Key beach mouse

The Perdido Key beach mouse (*Peromyscus polionotus trissyllepsis)* is a subspecies of the common old field mouse (*Peromyscus polionotus*) and is endemic to Florida (Humphrey 1992). The Perdido Key beach mouse is one of several subspecies of beach mouse that inhabit the coastal areas and barrier islands of Alabama, and Florida. The various subspecies differ from the old field mouse in color, markings, and size. The historic range of the Perdido Key beach mouse included coastal dunes extending from Alabama Point to the eastern terminus of Johnson's Beach Escambia County.

Populations of the Perdido Key beach mouse have historically occurred throughout the coastal regions of Perdido Key, Florida. Small, isolated populations of Perdido Key beach mice may occur on privately owned, developed and undeveloped areas with in the historic range. Critical habitat was revised October 12, 2006 (71 FR 60238).

1.4.1.1 Habitat

Optimal habitat for the Perdido Key beach mouse consists of rolling, stabilized, inland and high frontal sand dunes which support vegetation communities of sea oats, grasses, herbs, and small shrubs. Optimal beach mouse habitat, as defined in the Biological Opinion for the Alabama beach mouse (1999) added primary, secondary, scrub dunes, and interdunal areas to optimal habitat previously described by the USFWS Recovery Plan (1987). Data has indicated the presence of beach mice in interior areas beyond the traditional areas (primary, secondary, scrub dunes approximately 700-1000 feet inland). Optimal habitat may also include connecting corridors between other habitats. Optimal beach mouse habitat, based on trapping data through 1999, is characterized by:

- primary, secondary, and scrub dunes, and interdunal areas
- high maximum elevation of the coastal sand dunes
- relatively great difference between maximum dune height and minimum interdunal elevation
- close proximity of forest
- sparse cover of ground vegetation with moderate number (average 3.5) of plant species
- relatively low cover of sea oats

1.4.1.2. Local Populations

The habitat types described above for the Alabama beach mouse are found in coastal dune habitats of northwest Florida along Perdido Key and extending to St. Andrews Bay in Bay County. This habitat description is consistent with suitable habitats of the Perdido Key subspecies.

Currently, it is theorized that potentially three core populations of the PKBM may exist along an estimated 10 to 12 miles of coastline (Figure 2). Each of these core populations is described below.

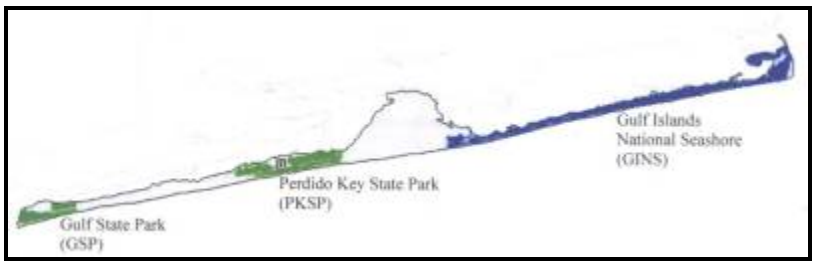

Figure 2. Map of public lands on Perdido Key.

The GSP population is located in the extreme western section of Perdido Key within Baldwin County Alabama, approximately 2 miles west of the Seabreeze project area. This 115-acre State Park has 1.1 miles of shoreline on the Gulf of Mexico with a bank of primary, secondary, and scrub dunes, paralleling the coast. The PKBM population at GSP was believed to be the only remaining population in the early 1980s. Mice from GSP were reintroduced to GINS in 1986, but have since suffered the effects of hurricane Opal and a problematic feral cat population. The population at GSP may be extirpated, though trapping to determine absence has not been conducted.

The PKSP consists of 1.5 miles of Gulf of Mexico frontage with considerable back dune acreage the width of the Key. This area is located approximately 1 mile east of the project area. The beach mouse population at PKSP was thought to be extirpated in the early 1980s. Reintroduction efforts occurred in 2000 and 2001, and until the passage of hurricane Ivan, indication was that the population was doing well. Personal communications with the USFWS (2006) indicate that the beach mouse is currently present within both the Gulf front section of land as well as the scrub dunes north of SR 292.

The GINS population is located along the easternmost section of Perdido Key This section of habitat extends for 7 miles of Gulf frontage and maintains a mosaic of habitats from tidal marsh to primary dune systems. This population was thought to be extirpated in the early 1980's, but reintroduction efforts in 1986 yielded a healthy population. Since hurricane Ivan, and the numerous tropical storms in 2005, the population and its habitat had been severely impacted. However, the most recent tracking data in GINS (August 2009) has suggested a significant rebound in population abundance and distribution (Mitchell 2009). This trend is likely the result of habitat conditions within GINS finally improving after being set back by repeated storm events following the hurricanes of 2005.

1.4.1.3 Life History

The Perdido Key beach mouse is primarily a granivore, foraging mainly on seeds and fruits of bluestem, sea oats, and evening primrose (*Oenothera humifusa*); however, insects are also an important component of their diet (Moyers, 1996). These foods are often stored in burrows excavated by the mouse. The PKBM is likely preyed upon by a variety of larger animals such as foxes, raccoons (*Procyon lotor*), herons, and coyotes (*Canis latrans*), as well as domestic cats (*Felis cattus*). PKBM are nocturnal foragers, in part to avoid predation.

The PKBM constructs intricate burrows. Entrances to the burrows are typically on the sloping side of a dune at the base of vegetation, where the burrow is both stabilized and concealed. The burrows usually have secondary exits, which provide escape from predators. The beach mouse burrow consists on an entrance tunnel, usually descending obliquely for some distance before continuing straight into the dune bank, where there is typically a nesting chamber 2 to 3 feet in depth, and an escape tunnel rising steeply to within an inch from the surface. Beach mouse home ranges may include numerous burrows for safe refuge from predators and shelter for food storage and nesting.

1.4.2 Additional Listed Species

There are several species that may occupy beach, dune, or other coastal habitat similar to that of the Perdido Key beach mouse. These species likely would not be impacted by the Spanish Key project but associated activities likely will benefit the species by the implementation of the HCP. The habitat in the project area may be used by these species but the habitat as described is not crucial to these species.

1.4.3 Plants

Although the ESA does not generally prohibit the incidental taking of listed plants on private property in accordance with State Law (USFWS 1996), plants listed by the State of Florida may be protected by this HCP due to the similarity of habitat needs are Cruises golden aster, large-leaved jointweed, and coastal lupine. Because these species are

tolerant of high-energy dune systems, they may also occur in locally disturbed areas where other plant species have not yet been established or re-established.

2.0 PROPOSED ACTIVITIES

Proposed development of the Spanish Key Old River access project may result in an incidental take on the project area. The first mandatory element of the HCP (USFWS 1996) related to the potential incidental take requires that:

- activities proposed in the plan area that are likely to result in incidental take must be identified; and
- anticipated take levels be quantified.

2.1 Development Intent: Proposed Activities Which May Result in Incidental Take

Proposed activities, which may result in an incidental take, are described in the following paragraphs.

2.1.1 Spanish Key Old River

The applicant proposes to develop Spanish Key Old River access (project), within a 0.49 acre tract along the Florida Gulf coast beaches of Southwest Escambia County.

- 20 parking places;
- 170 foot elevated boardwalk, elevated a minimum 1’ above grade, to access the Old River pier.

2.2 Impact on Habitat: Quantifying Anticipated Incidental Take

Anticipated incidental take levels have been quantified for the Spanish Key Old River access project area and are presented below. Quantifying the anticipated take of the Perdido Key beach mouse is directly dependent upon impacts to the designated suitable habitat.

Facilities associated with these land uses include minimal parking spaces for the water access and an elevated boardwalk. All landscaping efforts will be accomplished with native trees, shrubs, and grasses and the species proposed for use in the project will be consistent with the State and Federal agencies approved lists.

The project site habitat consists primarily of heavily disturbed coastal scrub. Current conditions reveal the majority of the coastal scrub has been disturbed due to previous sand stockpiling associated with Federal Emergency Management Agency contracted Hurricane Ivan clean up activities. There exists .474 acre of impacted scrub, and .013 of wetlands in the project area, making up 100 percent of the project area habitats. Of this

59% (0.28 acre) of the disturbed scrub habitat in the project area will be impacted by the proposed development.

Permanent impacts to suitable habitat amount to 0.28 acre. Habitat which will be disturbed but not permanently converted to a more intensive land use (e.g., temporary construction) will be restored. The value of retaining habitat, where possible, within the project area and augmented with native landscaping will be accomplished in all areas outside the developed core of the parking lot.

In addition to direct impacts of habitat loss, indirect impacts due to increased human activity may occur. These include increased pedestrian traffic resulting in disturbance, introduction of house pets, attraction of feral animals, increased trash, disturbance due to lighting, and habitat fragmentation. Many of these secondary impacts will be reduced or eliminated by the initiation of the HCP.

	Open Beach	Primary Dunes	Secondary Dunes	Scrub Dunes	Current Infrastructure / Impacted Area	Total	Habitat (Total - Current Infrastructure)
Parcel Total	0	0	0	20,665 sq/ft	575 sq/ft (wetlands)	21,240 sq/ft	20,665 sq/ft
Permanently Impacted	0	0	0	12,118 sq/ft	0	12,118 sq/ft	12,118 sq/ft
Temporarily Impacted	0	0	0	0	0	0	0
Restored	0	0	0	8,547 sq/ft	0	8,547 sq/ft	8,547 sq/ft
Protected	0	0	0	8,547 sq/ft	0	8,547 sq/ft	8,547 sq/ft

Based on habitat and local distributions, impacts to the Perdido Key beach mouse as a result of the project is addressed in the following sections. The loss of habitat comprises a direct effect only to habitat suitable to the Perdido Key Beach Mouse.

2.2.1 Spanish Key Old River Access

The Spanish Key Old River Access (ORA) project area contains a total 0.48 acres. Of this, 0.48 acres are suitable habitat for the Perdido Key beach mouse.

2.2.2 Habitat Types

One general habitat type makes up the suitable habitat for the PKBM as described for the ORA project area. The remaining coastal scrub habitat is in poor condition due to sand stockpiling activities associated with the rebuilding of SR 292 after hurricane Ivan. This habitat is typically described as suitable habitat for the Perdido key beach mouse.

2.2.2.1 Coastal Scrub habitat

The scrub community can typically be characterized as a closed to open canopy forest of sand pines with dense clumps or vast thickets of scrub oaks and other shrubs dominating the understory. Vegetation within this community consists mainly of sand-live oak (*Quercus virginana geminata*) with Chapmans oak (*Q. chapmanii*) interspersed and sand pine (*Pinus clausa*). Ground cover is largely dominated by saw palmetto (*Seneroa repens*) with the herbaceous vegetative stratum lacking.

The project area includes 0.47 acres of recovering scrub habitat of which the applicant is proposing impacting 0.28 acres. The scrub community makes up suitable habitat of the Perdido Key beach mouse. The scrub vegetation provides both cover and forage for the mouse. The loss of the scrub habitat would result in the loss of suitable habitat for the endangered Perdido Key beach mouse and is considered adverse and possibly a "taking" incidental to the development.

2.3 Conservation and Mitigation Intent and Alternative Actions

This section specifically addresses the conservation, mitigation, and restoration intent of the HCP, listed previously in section 1.1. These mandatory elements concern:

- minimizing and mitigating impacts; and
- alternative actions.

2.3.1 Conservation and Mitigation

The designs for the project minimize impacts to natural habitat and provide for the restoration of impacted areas that do not presently provide suitable habitat. Additionally, other mitigation measures will be employed to benefit the listed species, the mitigation and conservation portion of the plan contains the following three parts all are more specifically described below.

- Restoration and enhancement of approximately 0.20 acre scrub habitats through re-vegetation.
- Management and conservation of remaining natural area (approximately 0.20 acre).
- Implementation and Participation of conservation measures currently considered by the agencies including trapping, relocation, monitoring, and management efforts.
- Planting and maintaining native dune vegetation within storm water swales adjacent to parking area to provide some degree of connectivity to protected habitat on site.

2.3.1.1 Scrub Restoration/Enhancement

The impacted area of scrub dune in the ORA project will be restored. The scrub system existing within the project site exists in a degraded condition. To provide conditions appropriate for the natural re-building of the vegetative community, several steps will be required:

- Install sand fencing to expedite sand accretion in restored area;
- Acquisition of sea oats and other appropriate herbaceous vegetation which are of sufficient quality, health and genetic integrity;
- Installation of plants in a way that ensures their success;
- Maintenance of the plants to ensure their continued success;
- Development of educational signage to be posted on the boardwark

The objective of this restoration/enhancement project is to achieve rapid and effective habitat improvement and dune stabilization through plantings of sea oats and other native plants. The habitat to be restored in the ORA project area will consist of a single continuous dune, or habitat.

The exact numbers and species has yet to be determined, but is expected to aid in overall coverage of the newly established dune system, as well as provide additional forage and cover opportunities for the Perdido Key Beach Mouse.

The objective of this restoration/enhancement project is to achieve rapid and effective dune stabilization through plantings of sea oats and other native plants.

Other species which occasionally occur within the scrub dune include bunch grass (*Andropogon maritimus*), beach grass (*Panicum amarum*), beach morning glory (*Ipomoea stolonifera*) and railroad vine (*Ipomoea pes-caprae*). The Perdido Key beach mouse forages and nests among beach grasses and sea oats that will be addressed as part of the dune restoration.

Each of the component parts of the restoration effort is addressed specifically and in detail in Appendix C. A generalized restoration design is presented in the following sections.

2.3.1.2 General Planting Design

The scrub vegetation will be restored using container plants. Sea oats and panic grass will be planted in a throughout the subject area to repair the disturbed dune area. The plantings will be arranged on eighteen-inch (18) to twenty four inch (24) centers in linear patterns. The plants will be planted six inches deep with a small amount of slow release fertilizer and a hydrated biodegradable polymer placed in each planting hole.

The planting will be patterned after the species composition in the adjacent native community.

2.3.1.3 Conservation Intent in the Spanish Key Old River Access Project Area

The conservation intent in the ORA project area includes several components:

- Conservation of suitable habitat area;
- Recording of a conservation easement;
- Restoration of the degraded secondary dune/scrub area associated with previously impacted lands;
- Development of appropriate covenants and restrictions;
- A prescriptive management program (described in section 2.4).

Each of these components is intended to conserve and manage habitat for the listed Perdido Key beach mouse and benefit other species with similar habitat requirements.

2.3.2 Alternative Action

Alternative actions considered included:

- no development (no action alternative); and
- minimization of impacts and mitigation both inside and outside the project area (proposed action), as conditioned by this HCP.

2.3.2.1 No Action Alternative

The applicant is seeking to build an access parking area to use a permitted pier within Old River. The development will require the parking lot design to consider current Land Development Code issues as associated with building setbacks (6.05.08.E.4), parking requirements (7.02.00.C.1), and design, maintenance, and treatment of stormwater as regulated by the Florida Department of Environmental Protection. These regulations required additional footprint of the developable area to comply with the "new" code/regulations.

The owners have the right to develop the property consistent with zoning designations. It is not the intention of the program to take the property rights away from an individual that is proposing to develop his property consistent with Federal, State, and County mandates. The no action alternative would be appropriate if the State was to purchase the land for current market value.

2.3.2.2 Minimize Impacts and Develop the Site with Off-site/On-site Mitigation as Conditioned by this HCP.

The proposed alternative is the development of ORA project with on-site and off-site mitigation that will:

- Enhance north/south habitats by the installation of appropriate forage and cover plant species.

- Restore 0.20 acres of scrub habitat in the ORA project area; and
- Consent to the participation of trapping or other conservation measures deemed important by State and Federal wildlife agencies as permitted by the attached conservation easement that would benefit the long range survival of the sub-species.

These mitigation actions include compliance with the conditions of the HCP. This mitigation will result in the restoration and perpetual maintenance of 0.20 acres of coastal scrub/dune habitat.

The undeveloped 0.20 acre will be managed to suitable habitat for many of the listed species. Management will also include those actions prescribed in this plan including turtle compatible lighting, control of litter and trash, predator control, and restoration and/enhancement of adjacent poor quality habitat and any habitat impacted during construction. The lighting will be pole mounted lighting which will not be higher than 15' tall. The light fixtures will be (FCO's) shielded from line of sight to the beach. The bulbs will be long wavelength light sources such as low pressure sodium

Prior to beginning development and after issuance of the ITP, the Applicant will provide legally binding deed restrictions on subject parcel to implement the HCP. These will include building restrictions, trash and pest control.

2.3.3 Additional Measures that may be Required for the HCP

Section 10(a)(2)(B) of the ESA which describes issuance criteria for incidental take permits authorizes the USFWS to obtain "such other assurances as (they) may require that the plan will be implemented". This provision allows the USFWS broad latitude to require measures as necessary to accommodate the wide variety of circumstances often encountered in HCPs. Based on prior conversations, both on and off-site, as well as efforts to minimize the impact on the habitat, it is the applicant's belief that no such circumstances exist and therefore no additional assurances are required.

2.4 Prescriptive Management Program

The prescriptive management program (PMP) (USFWS 1996) addresses the protection and management of the coastal beaches and secondary and primary dune habitat in the project area. Design and habitat management activities will be accomplished through appropriate:

- design of facilities
- construction
- operation, including long-term management of the project area

The PMP will include restoration of marginal habitat, mitigation for impacted habitat, and installation of boardwalk elevated a minimum 1' above grade and lighting compatible with management for coastal beach and dune habitat. Finally, there will be

allocation of responsibilities to the Spanish Key Homeowners Association. The activities required for the management of these area, as well as the entities responsible for the management, are specifically addressed in the following sections.

2.4.1 Design

The design of the parking facility and boardwalk has been such as to minimize impacts to scrub/dune habitat through the scale and orientation of structures and the placement of associated facilities, such as number of parking spaces, and the elimination of non-native landscaped areas. The facilities development is anticipated to impact 12,118 sq/ft of suitable habitat for the Perdido Key beach mouse.

The remaining dune/scrub habitat will be managed as natural habitat area and landscaping will be limited to native vegetation. No invasive or exotic species shall be planted during any landscaping or restoration activities.

2.4.2 Construction

All restored/protected suitable habitat will be restored upon completion of construction.

2.4.2.1 Revegetation of Temporarily Disturbed Areas

Areas designed for habitat protection, which are temporarily disturbed during construction grading shall be revegetated to ensure habitat conditions compatible with the Perdido Key beach mouse. Areas included under the revegetation provision include road shoulders, storm water swales, boardwalk areas, and natural areas impacted by construction. Plants to be installed in these natural areas shall include only species native to coastal Escambia County.

2.4.2.3 Turtle Lighting

Any lighting on permanent structures as well as lighting which may be used during the construction phase which occurs during turtles nesting and emergence seasons (May through September) shall follow the general guidelines presented in section 2.4.3.7 (Turtle Lighting).

2.4.3 Management Activities

Management and conservation activities proposed to provide for long term management of the coastal communities addressed in the HCP are presented in this section. These management activities will:

- avoid and minimize impacts to suitable habitat through design consideration
- restore and enhance 0.20 acre of coastal scrub/dune.

- implement management actions designed to avoid impacts, maintain, and enhance the ecological integrity of habitat in the project area
- consent to future trapping/participation recovery efforts of beach mouse by the USFWS or FWC as permitted by the conservation easement.

2.4.3.1 Conservation

Conservation of lands shall be accomplished through conservation easement or deed restriction on subject parcel. These will insure that the responsible party will comply with the conditions of the HCP, on all portions of the subject parcel.

2.4.3.2 Habitat Restoration

Because dune restoration requires natural accretion of sand, it cannot be conditioned as a single event. Restoration of disturbed areas within the preserved habitat area will occur as described previously in Section 2.3.1. All plants used in the restoration of the dunes shall be beach mouse friendly and otherwise as permitted by the regulatory agencies.

2.4.3.3 Reporting

The ITP issued under Section 10 (a) of the Act requires an activities report submitted to the USFWS by 31 January of each year. The annual report shall be prepared by the responsible party and submitted to the USFWS and the FWC. The report shall contain a summary of development activities which took place on the project area and other information relevant to preservation of the habitat for the species of interest discussed in previous sections.

2.4.3.4 Control or Removal of Pests and/or Predators

No domestic cats shall be allowed to be kept on subject parcel. The county or state employs animal control for feral cats. This person could have access to the site pursuant to the conservation easement, and would keep the homeowners from catching cats. Dogs will be permitted outdoors only on a leash.

2.4.3.5 Litter and Trash Control

A trash and rubbish control program will be incorporated into daily operating procedures. Outdoor trash receptacles incorporated into the parking lot/pier design.

2.4.3.6 Identification and Protection of Turtle Nests

Nesting sites are not expected to occur on the Old River Access property, if they occur on-site, the area will be closed to public access to minimize disturbance.

2.4.3.7 Turtle Lighting

Many coastal counties and communities in Florida have developed lighting ordinances to reduce nesting adult and hatchling disorientation. Specific lighting requirements for sea turtles are presented here. Lighting restrictions will be implemented as part of the constructions plans.

Lighting Guidelines to Reduce Impacts to Marine Turtles

General Information. The negative effects of beachfront lighting on marine turtle hatchlings and nesting females are well documented. Hatchlings emerge during hours of darkness, allowing them to make their journey to the sea when sand temperatures are low and terrestrial, avian, and aquatic predators are comparatively few. Proper hatchling orientation depends largely on a visual response to light. Under natural conditions, the ocean presents the brightest and most open horizon, and this serves as a cue to hatchlings in their new ocean finding behavior.

Artificial lights disrupt this behavior, and attract hatchlings as they emerge from their nests. Visible light sources and the reflection or "glow" resulting from the cumulative effects of coastal lights both contribute to this problem. Instead of making their way to the ocean, hatchlings become disoriented and may wander extensively on the beach. Even for those hatchlings that eventually reach the ocean, unnecessary wandering increases their vulnerability to predation and expends limited energy stores. In addition, hatchlings may wander landward through beachfront property or across parking lots and highways towards light sources. Most die from desiccation, direct exposure to the morning sun, or contact with vehicles. Furthermore, beachfront lighting has been documented to negatively affect nesting females and often results in reduced or abnormal nesting activity.

General Guidelines. To prevent hatchling mis-orientation and adverse impacts to nesting turtles, all exterior lighting visible from a nesting area located on and adjacent to the waterway to the north of the property will be "turtle friendly", and tinted glass or window film that meets a transmittance value of 40% or less (inside to out transmittance) shall be used on all windows and glass doors visible from any point in a nesting area located on and adjacent to the waterway to the north of the property.

2.4.3.8 Education of Guests and Residents

An environmental education program will be developed to inform the residents and guests of the listed species that inhabit the coastal areas. This program will include the development of an informational brochure regarding the listed species and the coastal habitat, and the placement of an educational placard on the access way to the pier located on Old River.

2.4.4 Allocation of Management Responsibilities

Section 7 [50 CFR] regulations require the Applicant to provide legal and financial assurances that HCP obligations will be met for minimization, monitoring, and mitigation

of project impacts. Allocation of management responsibilities and commitment to these elements are addressed below.

2.4.4.1 Minimization of Impacts

Minimization of impacts associated with the project includes reducing the number of parking spaces to the minimum necessary.

2.4.4.2 Responsibilities for Beach Mouse Monitoring

Section 7 of the Act regulations require that an HCP specify the measures the Applicant will take to "monitor" the impacts of the taking resulting from the project actions [50 CFR 17.22(b)(1)(iii)(B) and 50 CFR 222.22 (b)(5)(iii)].

The Applicant would agree to allow state and federal representatives onto the property pursuant to the conservation easement/deed restriction to allow for the beach mouse monitoring.

2.4.4.3 Mitigation

Implementation of the restoration requirements will be performed in accordance with the ITP. The restored area will be managed and maintained in accordance with this ITP and the attached covenants and restrictions. The Applicant is also willing to participate in the mitigation program that is currently being set up by county, state and federal agencies as well as the required contribution of $28,000.00

2.5 Regulatory Controls and Enforcement

The provisions of this HCP will be enforced through the terms and conditions of the Section 10(a)(1)(B) permit and the HCP. Should any development disturbance take place outside the limits set by this HCP, the USFWS can enforce provisions of the Endangered Species Act as they relate to the taking of an endangered species with respect to each individual lot. If general terms and conditions required under the HCP and the Section 10(a)(1)(B) permit are not carried out in a timely manner, the USFWS may suspend the Section 10(a)(1)(B) permit for the entire project. Additionally, the FWC can enforce the terms of the HCP through the issuance of the State incidental take permit. Notwithstanding the foregoing, or anything else contained in this HCP, the applicant does not waive any rights or remedies available at law or in equity.

After issuance, of the incidental take permit and prior to the development of the Old River amenity, the Applicant will provide by laws to implement the provisions of this HCP. These by laws will include building restrictions, procedures for trash, and pest control regulations, as well as funding and enforcement to insure full compliance with the HCP.

2.5.1 Failure to Re vegetate or Restore Specified Areas

The HCP requires that the homeowners association for the condominium restore degraded sand dunes to enhance habitat for the Perdido Key beach mouse. The principal means of enforcement for the restoration requirement is through permitting, inspections and as-built certifications by the homeowners association. If the homeowners association does not meet the obligation in a timely fashion, the USFWS or FWC will notice the homeowners association of the deficiencies and request that remedial actions be taken to meet the intent of the HCP and ITP.

2.5.2 Post-Construction Enforcement

Once construction is completed, no future construction or activity by owner or at owner's discretion will take place in the restored areas that is not in compliance with or permitted by the ITP.

2.6 Amendment Procedures

The HCP includes a wide range of management efforts designed to limit and mitigate take of the endangered Perdido Key beach mouse and develop the parking lot in a manner consistent with Escambia County land use policies. If, over the usual thirty year life of the permit, there are unforeseen circumstances which change development or other conditions, HCP amendments may be needed. Amendments which may be included are listed and described below.

2.6.1 Administrative Amendments

Changes which would not appreciably alter the extent of incidental take, the mitigation prescribed for take, or the funding of the HCP, are primarily administrative and can be accomplished by amending the HCP text without modifying the underlying Section 10(a)(1)(B) permit. The determination of the administrative status of a change will be made by the USFWS and/or FWC with concurrence by other parties, and must take into account the cumulative effect of the proposed change and all preceding or pending administrative changes.

2.6.2 Permit Amendments

Changes which may appreciably alter the extent of the incidental take, the mitigation prescribed for take, and the funding of the HCP will require an amendment to the Section 10(a)(1)(B) permit as well as to the HCP text. Only the permittee can request a permit amendment, and the request is processed by the USFWS and the FWC.

2.6.3 Minor Construction Boundary Adjustments

To accommodate conditions encountered during construction, an explicit provision is made for minor construction boundary adjustments. Upon request by the landowner, the USFWS and the FWC shall allow the construction boundary fence to be moved up to 50

feet from the approved location if there is a compelling reason to do so. The USFWS and FWC shall determine the appropriateness of fence movement on a case by case basis. Minor boundary adjustments cannot increase the cumulative extent of temporary disturbance of habitat by more than 5 percent. Construction boundary adjustments are not intended allow a change in the permanent development footprint.

3.0 LITERATURE REVIEW

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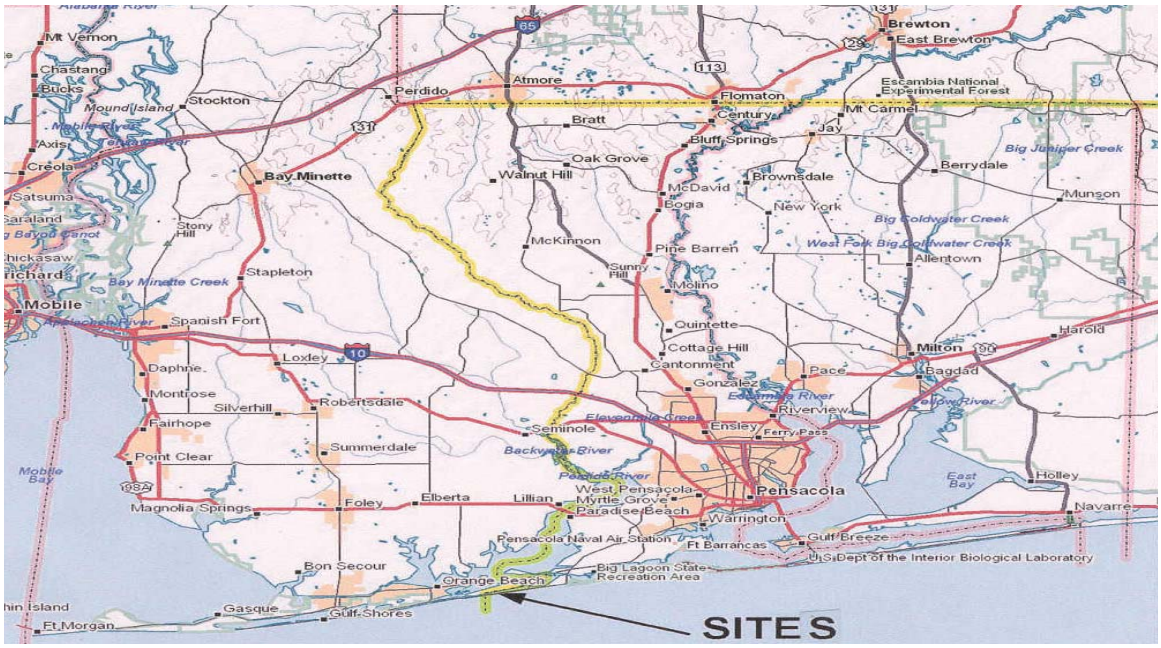
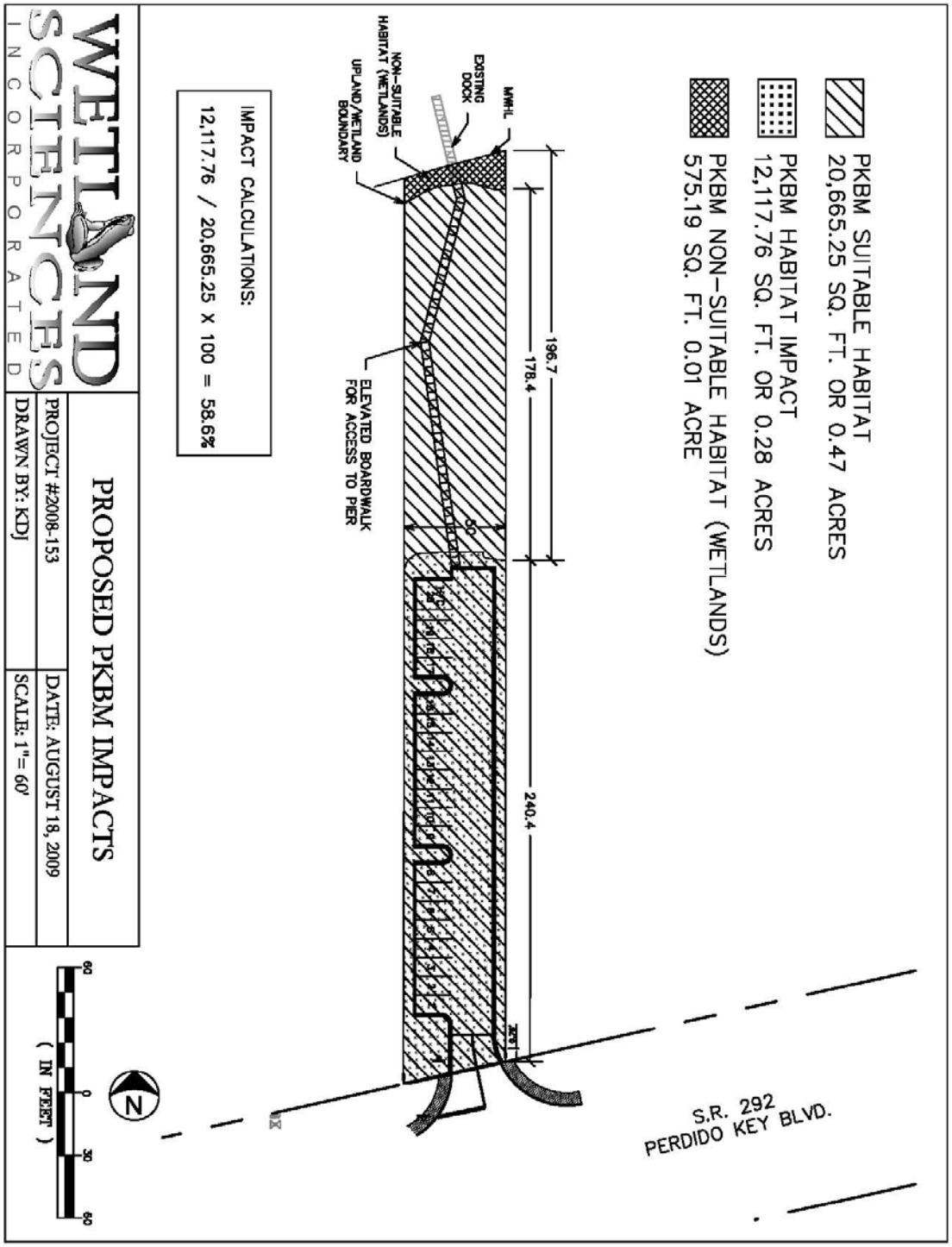
APPENDIX A
Site plan depicting development details and habitat typology




PKBM SUITABLE HABITAT
20,665.25 SQ. FT. OR 0.47 ACRES
PKBM HABITAT IMPACT
12,117.76 SQ. FT. OR 0.28 ACRES
PKBM NON-SUITABLE HABITAT (WETLANDS)
575.19 SQ. FT. 0.01 ACRE
MHWL
EXISTING DOCK
NON-SUITABLE HABITAT (WETLANDS)
UPLAND/WETLAND BOUNDARY
ELEVATED BOARDWALK FOR ACCESS TO PIER
196.7
178.4
240.4
50'
S.R. 292
PERDIDO KEY BLVD.
N
60
0
30
60
(IN FEET)
IMPACT CALCULATIONS:
12,117.76 / 20,665.25 X 100 = 58.6%
WETLAND SCIENCES INCORPORATED
PROPOSED PKBM IMPACTS
PROJECT #2008-153
DATE: AUGUST 18, 2009
DRAWN BY: KDJ
SCALE: 1"= 60'

APPENDIX B
Site Photographs

Photo taken from across Perdido Key Drive looking north at subject parcel.

Photo taken along western property line looking north at subject parcel and adjacent parcels.

Photo taken from center of subject parcel looking north.

Photo taken from center of subject parcel looking north.

Photo showing northwest corner of subject parcel.

Photo taken of subject parcel looking north.

Photo showing northern property line of subject parcel.

Photo taken of existing pier located on subject parcel.

Photo taken from pier looking south at subject parcel.

APPENDIX C

DUNE RESTORATION THROUGH SEA OATS PLANTING

1. Dune Restoration - Sea Oats Plantings

The restoration portion of the HCP includes restoration of a beach dune in the Marquesa project area. The dune has been degraded over time as a large cut developed through the dune as a result of heavy pedestrian traffic to the beach. The restoration of the historic elevation grade and vegetation on primary dune includes approximately .070 acre. Restoration involves planting and other activities which allow for the natural and gradual rebuilding of the dune by:

- restoration of the historic elevation of the dune with sand
- acquiring sea oats for re-vegetation which are of sufficient quality, health, and genetic integrity
- installing the plants in a way which ensures their success
- maintenance of the plants to ensure their continued success
- protection of the plants to avoid disturbance from human activities

The component parts of the restoration effort are addressed specifically and in detail in the following sections. These parts include:

- plant quality
- source materials
- propagation methods
- plant preparation and shipping
- plant size, age and condition
- planting season and delivery date
- planting zone profile
- planting depth and spacing
- irrigation
- fertilization
- signs and fencing
- success criteria

1.1 Plant Quantity

Planting Unit Definition- For the purpose of this restoration effort, the term "planting unit" refers to an individual nursery grown plant (as specified below) of sea oats (*Uniola paniculata*). No other plant species will be accepted as substitutes under this bid.

Required Number of Planting Units- The Contractor shall provide a total number of planting units (sufficient to cover the designated dune restoration area at a density of

18" on center). All planting units must be grown from acceptable source material, and delivered in an acceptable size, age and condition, as described below.

1.2 Source Materials

Planting Unit Sources- The source material for all planting units delivered under this bid shall be limited to seeds and propagated plants collected from Panhandle Florida, including the counties of Escambia, Santa Rosa, Okaloosa, Walton, Bay, Gulf and Franklin. Source material collected from areas other than Panhandle Florida (e.g. the Atlantic coast, the Gulf peninsula of Florida, or the Caribbean) shall be rejected under this bid.

1.3 Propagation Methods

Seed Preparation- All seed material used in the production of planting units delivered under this bid shall be subjected to cold treatment within one week prior to being seeded in liners. Cold treatment shall constitute exposure to temperatures of 3 to 5 degrees Celsius for a minimum of no less than 10 days.

Liners- All planting units shall be grown in multi well trays (liners) not to exceed a size of approximately 1.5" wide by 1.5" long; and not less than 2.5", or more than 3" in depth.

Seed Number per Liner- The number of seeds placed in each liner shall be determined through germination experiments by the Contractor such that deliverable planting units with 2 to 4 stems, on average are produced.

Soil Matrix- The Contractor shall use an appropriate soil matrix in each liner such that germination success and survival are optimized. Prior to shipping, roots should fill the entire volume of the liner but should not be root bound.

Irrigation and Disease Control- the Contractor shall spray irrigate the planning units during nursery propagation at such a rate that root health is maximized and the pathogenic loss is minimized.

Micropropagation- Planting units frown from approved sources via micropropagation techniques may be accepted under this bid. Plants produced from cuttings or the division of larger plants may be used if the material is derived from Panhandle Florida sources and meets all of the specification for seed produced planting units. However, planting units derived from micropropagation techniques shall no exceed 25% of the total number of planting units delivered under this bid.

Inspections- The Contractor shall provide access to all nursery operations to the Owner's Representative, in the manner and timeframe requested, for the purpose of compliance inspection of the propagation methods being used by the Contractor.

1.4 Plant Preparation and Shipping

Plant Preparation- All deliverable planting units shall be removed from their liners and stacked in waxed cardboard boxes immediately prior to shipping. The root ball shall be properly moistened to prevent dessication. All planting units shall be handled and packed in such a manner as to ensure protection against dessication, thermal stress or physical damage. Plants deemed to have been improperly handled may be rejected by the Owner's Representative upon delivery.

Shipping Time- The total shipping time, or time from when planting units are packed in shipping boxes until they are delivered to the installation site, shall not exceed 3 days.

On-Site Holding Time- No deliverable planting units shall be stored in shipping boxes any longer than 2 days upon receipt at the installation site. At no time shall planting units be exposed to direct sunlight except while actually being installed. Shipping boxes must be shaded while plants are being staged for installation.

Total Handling Time- The total handling time, or the time from when planting units are packed in shipping boxes until they are installed, shall not exceed 5 days, unless authorized in advance by the Owner's Representative.

1.5 Plant Size, Age and Condition

Plant Size- Deliverable planting units shall be no less than 8", and no more than 12", in height, as measured from the top of the root ball to the apical meristem.

2. Dune Restoration – Plantings of other species within frontal dunes

Please see section 2.3.1 for general information concerning vegetation planting of land seaward of the proposed development. Detailed plans will be reviewed by the Service prior to planting