Imperial Marsh Preserve

20251 Corkscrew Road
Estero, FL 33928

Draft Land Management Plan
Third Edition

Prepared by the Conservation 20/20 Land Management Section
Lee County Department of Parks and Recreation
Approved by the Lee County Board of County Commissioners on XX/XX/2019

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Roxanne Taylor
Felicia Nudo

Table of Contents

List of Figures

List of Tables

List of Acronyms

BOCC	Lee County Board of County Commissioners
C20/20	Conservation 20/20
CLASAC	Conservation Lands Acquisition and Stewardship Advisory Committee
CREW	Corkscrew Regional Ecosystem Watershed
DHR	Division of Historical Resources
DRGR	Density Reduction Groundwater Resource
DRI	Development of Regional Impact
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FFS	Florida Forest Service
FGCU	Florida Gulf Coast University
FLEPPC	Florida Exotic Pest Plant Council
FLUCCS	Florida Land Use Cover and Forms Classification System
FLU	Future land use
FNAI	Florida Natural Areas Inventory
FPL	Florida Power & Light
FWC	Florida Fish and Wildlife Conservation Commission
GIM	Greater Imperial Marsh
IMP	Imperial Marsh Preserve
IRC	Institute for Regional Conservation
LCDCD	Lee County Department of Community Development
LCDNR	Lee County Division of Natural Resources
LCDOT	Lee County Department of Transportation
LCDCD	Lee County Department of Community Development
LCEC	Lee County Electric Co-operative
LCPA	Lee County Port Authority
LCPR	Lee County Department of Parks and Recreation
LCU	Lee County Utilities
LSOM	Land Stewardship Operations Manual
NWI	National Wetlands Inventory
ORV	off-road vehicle
SFWMD	South Florida Water Management District
SR	State Road
STRAP	Section, Township, Range, Area, Parcel
T&T	Timberland and Tiburon
USACOE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

Vision Statement

It is the vision of the land management staff in the Lee County Department of Parks and Recreation and the Conservation 20/20 Program to restore and manage Imperial Marsh Preserve to a productive, functional and viable ecosystem. The six sections of this preserve, combined with surrounding conservation land, provide habitat for many listed species and serve as an important groundwater recharge area for the citizens of Lee County. The management goals for this preserve include enhancing natural hydrologic features, restoring farm fields and pastures to natural plant communities, and reducing heavy fuel loads to improve wildlife habitat.

I. Executive Summary

Imperial Marsh Preserve is a 971-acre preserve owned by the Lee County Board of County Commissioners and managed by the Lee County Conservation 20/20, through the Lee County Department of Parks and Recreation. It is located in Estero, FL, in southeast Lee County between State Road 82 and Corkscrew Road. The preserve is comprised of six parcels acquired between 2000 and 2017, for a total purchase price of $12,718,068. Each parcel is identified using a chronological number that was assigned when the parcel was nominated to the Conservation 20/20 Program. These parcels are 93, 259, 288, 321, 334 and 567.

The preserve has slight natural topographic variability, and is part of three county-defined watersheds. The topographic elevations range from 20 to 35 feet. The higher elevations are associated with berms and spoil areas. The lower elevations are associated with depressional marshes, cypress domes, ditches and cow wells.

The preserve is comprised of seventeen soil types. The dominant soil types are Valkaria Fine Sand and Immokalee Sand, which together comprise approximately 50% of the preserve. These soils are typically associated with wetlands.

The preserve contains a wide diversity of plant and animal species, including several listed species. The majority of the preserve is wetlands. Sixteen plant communities exist at IMP. The dominant communities are transitional wet prairies, pine, and cypress communities.

Several of the parcels contained stands of dense melaleuca that had invaded the parcels prior to Lee County purchasing the lands. After they were purchased and incorporated into the Conservation 20/20 program, the melaleuca was logged and removed or killed in place. Some of the parcels, such as 93, 288, 334 and 567 contain remnants of old agricultural fields (citrus and row crops). These fields were fallow for several years, however land management and restoration efforts have proven successful to turn these areas into prairies and successional hardwoods.

Historical uses include agricultural operations, hunting and off-road recreational vehicle use. Some of these uses have caused ecological and hydrologic impacts to the preserve. Restoration strategies have focused on hydrological improvements and invasive plant removal. Goals for future management include invasive exotic plant removal, a restoration project on Site 567, and re-establishment of a natural fire cycle.

The goal of this land management plan is to identify preserve resources, develop strategies to protect those resources and continue with restoration and management activities to maintain IMP as a productive, functional and viable ecosystem. Management activities will be in accordance with the Lee County

Parks and Recreation's Land Stewardship Operations Manual. This will be accomplished through a multi-faceted approach that includes controlling invasive exotic plant and animal species, maintaining fence lines and firelines, conducting habitat improvement and restoration projects, and providing ecologically sound resource-based recreational opportunities.

A management Action Plan that outlies restoration and management goals has been incorporated into this document. The plan outlines the goals and strategies, explains how to accomplish the goals, and provides a timetable for completion. This land management plan will be revised in ten years (2029).

Table 1: Management Work Summary (2008-2018)

Natural Resource Management
✓ 924 acres have been treated for invasive exotic vegetation
✓ 41,100 native wetland plants were installed in the southern portion of Site 93 in 2018
✓ 187 acres of previous fallow farmland was treated separately for invasive exotics and nuisance plants
✓ Melaleuca was logged from 50 acres of wetlands in various areas of several parcels of the preserve
Restoration Projects
✓ 184 acres of hydrologic restoration in Site 93 through marsh creation, planting of 12,582 native wetland plants, ditch plugs and installation of a water control structure
✓ Restoration planning began for 44 acres of fallow cropland in Site 567
Overall Protection
✓ Clearing and installation of 7,050 feet of fenceline
✓ Installation of approximately 12,000 feet of firelines
✓ Installation of 2,425 feet of fence around the parking area of Site 93
Volunteers
✓ Removal of thousands of melaleuca and hundreds of wax myrtles within 23 acres of wetlands

II. Introduction

This management plan provides background information of Imperial Marsh Preserve (IMP), including the location and site description, natural resources description, and factors influencing management. It also includes a Management Action Plan that addresses management goals and objectives for the next ten years. A projected timetable for implementation and financial considerations are included to aid in planning the management and restoration strategies listed in the plan.

Imperial Marsh Preserve consists of six parcels (STRAP Numbers 21-46-27-00-00001.0010, 19-46-27-00-00001.0030, 09-46-27-00-00002.0000, 28-45-27-00-00001.0000, 25-45-26-00-00001.3000 and 25-45-26-00-00001.2000) that were purchased by Lee County Conservation 20/20 (C20/20) between 2000 and 2017 for a total purchase price of $12,718,068. The preserve is approximately 972 acres in size and lies within a regional area known as the Greater Imperial Marsh (GIM), a vast wetland system that flows to Estero Bay. The majority of the GIM is owned by the Lee County Port Authority and is maintained as their mitigation park. Together with the C20/20 parcels, the GIM comprises approximately 8,000 acres of conservation lands, not including privately owned mitigation lands in the area.

Imperial Marsh is a regionally important wetland system with myriad of ecosystem services, including aquifer recharge, flood mitigation, water retention and attenuation, water filtration, carbon sequestration, habitat for threatened and endangered species and migratory birds, and nutrient cycling. These ecosystem services make IMP an ecologically important wetland of regional significance. IMP is also located in Lee County's DRGR (density reduction groundwater resource) area. The DRGR is an area designated for water resource protection through preservation of natural lands and low density development.

The preserve consists of sixteen plant communities described by the Florida Natural Areas Inventory (FNAI). The dominant plant community is transitional wet prairie, followed by wet and mesic flatwoods and basin swamps. This diversity of communities supports a wide variety of native plants and wildlife. The preserve contains 250 species of surveyed plant species; 79 of which are listed by the Institute for Regional Conservation (IRC) and six of which are listed by the Florida Department of Agriculture and Consumer Services (FDACS). At least 190 animal species have been documented on the preserve, including 12 species that are state and/or federally listed, and 20 species that are listed by the Florida Natural Areas Inventory (FNAI). These listings include threatened, endangered, species of special concern and those whose rarity are related to declines in their habitats or home ranges. A full list of plant and animal species is attached to this document.

Prior to their purchase and incorporation into Conservation 20/20, several of the preserve parcels were used for agricultural purposes, including citrus, row crops and cattle grazing. In addition, several of the parcels contained areas of exotic monocultures, especially melaleuca (*Melaleuca quinquenervia*). Upon incorporation into Conservation 20/20, land management staff worked to reduce the exotic loads on each parcel by conducting exotic removal projects. These include melaleuca logging and kill-in-place methods, as well as general sweeps for exotics. Several volunteer groups also helped with this endeavor over the years, including a large group from the HSBC Consumer and Mortgage Lending Conference that removed melaleuca and wax myrtle (*Morella cerifera*) from 23 acres of Site 288.

All of the areas previously designated as exotic monoculture have been treated. No dense stands of woody exotics remain, however some areas contain exotic grasses such as torpedo grass (*Panicum repens*). The previously farmed areas are reverting to wet prairies or successional hardwoods. Continued management is needed to ensure these areas are maintained in their natural state.

Evidence of some of the old land uses is still in the landscape, including cow wells, remnant ditches and berms, and furrows from row cropping. Some of these features have been incorporated into the C20/20 site designs, while others are slated for removal and restoration. Currently, Site 567, a previous citrus farm, is in the planning phase for restoration. A hydrological restoration project was completed in the remnant row crop areas on Site 93. This project included the construction of a series of ditch blocks, berm breaks, small marshes planted with native vegetation, and an outfall structure at the south end of the site that discharges into the Corkscrew Road swale. The outfall structure contains riser boards and space to alter the water levels in the future if needed. This restoration project was permitted by the South Florida Water Management District (SFWMD). Any changes to the elevation of the outfall structure may require prior approval through a permit modification.

In 2018, a berm breach occurred on the southern berm just east of the outfall. This was the second time the area had been breached, so an engineer was consulted and a plan drawn up. The breach was repaired in-house by staff as soon as water levels allowed in the spring of 2019. The breached area was dug out, new fill material was packed in, and a non-woven fabric with geo-webbing and 57 stone was laid on top to armor it.

Nearly all of Site 93 is utilized for mitigation. The northern portions are associated with mitigation for SFWMD and Army Corp of Engineer (ACOE) permits, particularly for Corkscrew Road widening and the Estero Parkway Extension. The southern portion is mitigation for the construction of Miromar Outlet Mall and Hertz Arena; also known as the T&T property (Timberland & Tiburon). The permits contain language regarding the long-term management of the site.

Sites 321 and 334 are part of a mitigation agreement with the Lee County Port Authority (LCPA). The agreement allows the LCPA to request to utilize these sites or portions of these sites for wetland mitigation associated with airport expansion projects. The LCPA has made requests on both sites, though to date the sites have not been used for mitigation. The request is in effect until January 21, 2021. Any mitigation work conducted as part of this agreement will be the responsibility of the LCPA.

Three cattle leases exist at IMP. These leases are on Sites 259, 288 and 321. The leases expire on September 30, 2019, though they can be extended for additional years as needed.

After C20/20 began managing the preserve, each site has received exotic vegetation treatment. In addition, each site was fenced and boundary signs were put up. Site 93 and portions of Site 259 have fire lines. The fire lines on Site 93 also double as primitive trails for public use. Site 93 also contains a public parking/viewing area and pedestrian access gate. The fences and front access gates on sites 321 and 334 were replaced in early 2019, and all boundary signs and 'no palmetto berry picking' signs were reinstalled.

The purpose of this management plan is to provide a 10-year update and identify the future land management goals for the preserve. Staff researched restoration plans, reviewed literature and studied historical records to better define the successes of past projects, as well as the management needs for Imperial Marsh Preserve. These efforts serve as a guide for Conservation 20/20 (C20/20) staff to utilize best management practices in the continued conservation of the natural communities and resources at the preserve. This plan will also serve as a reference guide for anyone interested in learning more about IMP and conservation efforts in Lee County.

III. Location and Site Description

IMP is approximately 971 acres in size and has historically been used for agriculture (crops and cattle grazing) and as a site for outdoor recreation (camping, shooting, hunting, and off-road activities). The surrounding land is mostly agriculture, other conservation lands, and mining operations; however several locations are being developed for residential housing.

IMP is located in southeastern Lee County, approximately 9 miles east of I-75 (Figure 1). The preserve is comprised of six noncontiguous parcels that lie between State Road (SR) 82 (northern boundary) and Corkscrew Road (southern boundary). These parcels do not share a common boundary, although four parcels are contiguous to the Greater Imperial Marsh (GIM). The GIM consists of conservation lands managed by the Lee County Port Authority (LCPA), South Florida Water Management District (SFWMD), and other local agencies. IMP together with GIM serves as an important wildlife corridor and preserves natural areas in a rapidly changing county. Additionally, IMP provides ecosystem services for water attenuation, aquifer recharge and water quality improvements.

Three of the sites within IMP have been assigned by the Lee County Property Appraiser's office as "Access Undetermined". Lee County Division of Public Safety's E-911 Program does not assign an address to a parcel unless there is a potential point of public access or a structure located on site. The remaining three sites have been assigned addresses that will allow emergency personnel to locate the site in case it is necessary to do so.

IMP consists of a variety of freshwater wetland and upland plant communities, in addition to abandoned cropland. Figure 2 identifies the boundaries of IMP in a 2019 aerial photograph.

Figure 1: Location

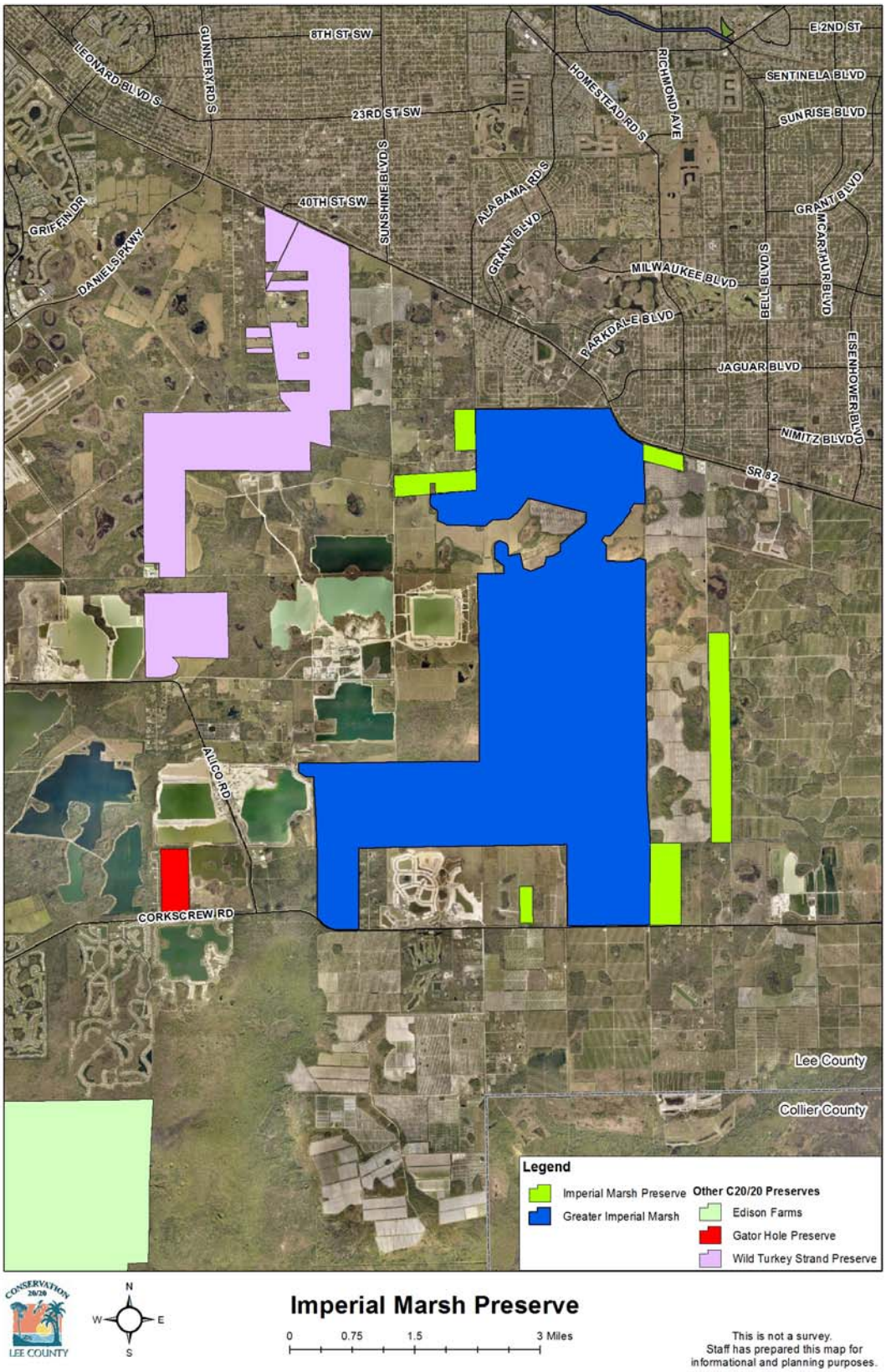
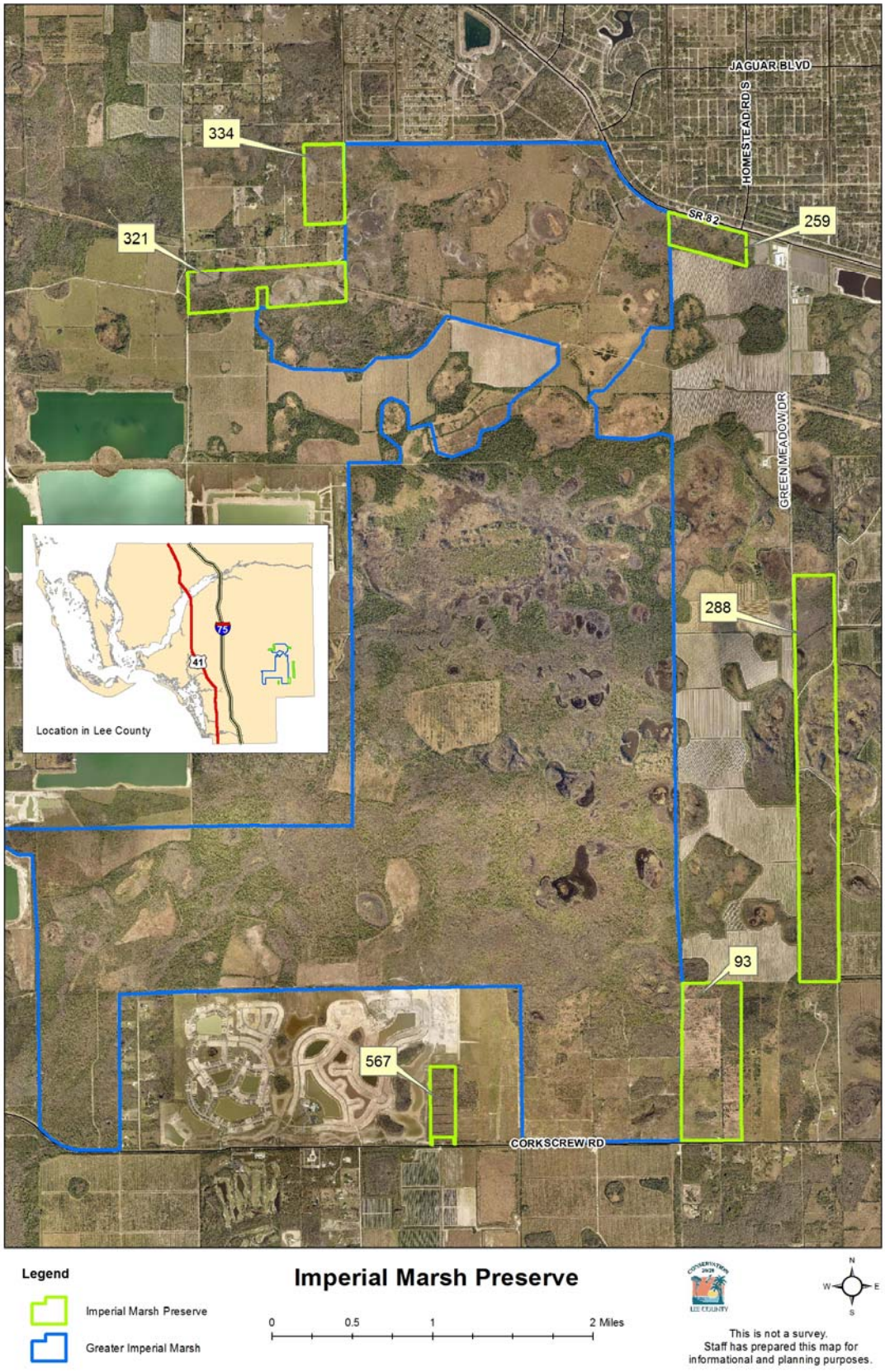


Figure 2: 2019 Aerial



IV. Natural Resources Description

A. Physical Resources

i. Climate

General information on the climate of southwest Florida is located in the Land Stewardship Operations Manual's (LSOM) Land Stewardship Plan Development and Supplemental Information section.

ii. Geology

Specific information on the geologic features such as physiographic regions, formations and maps, can be found in the LSOM Land Stewardship Plan Development and Supplemental Information section.

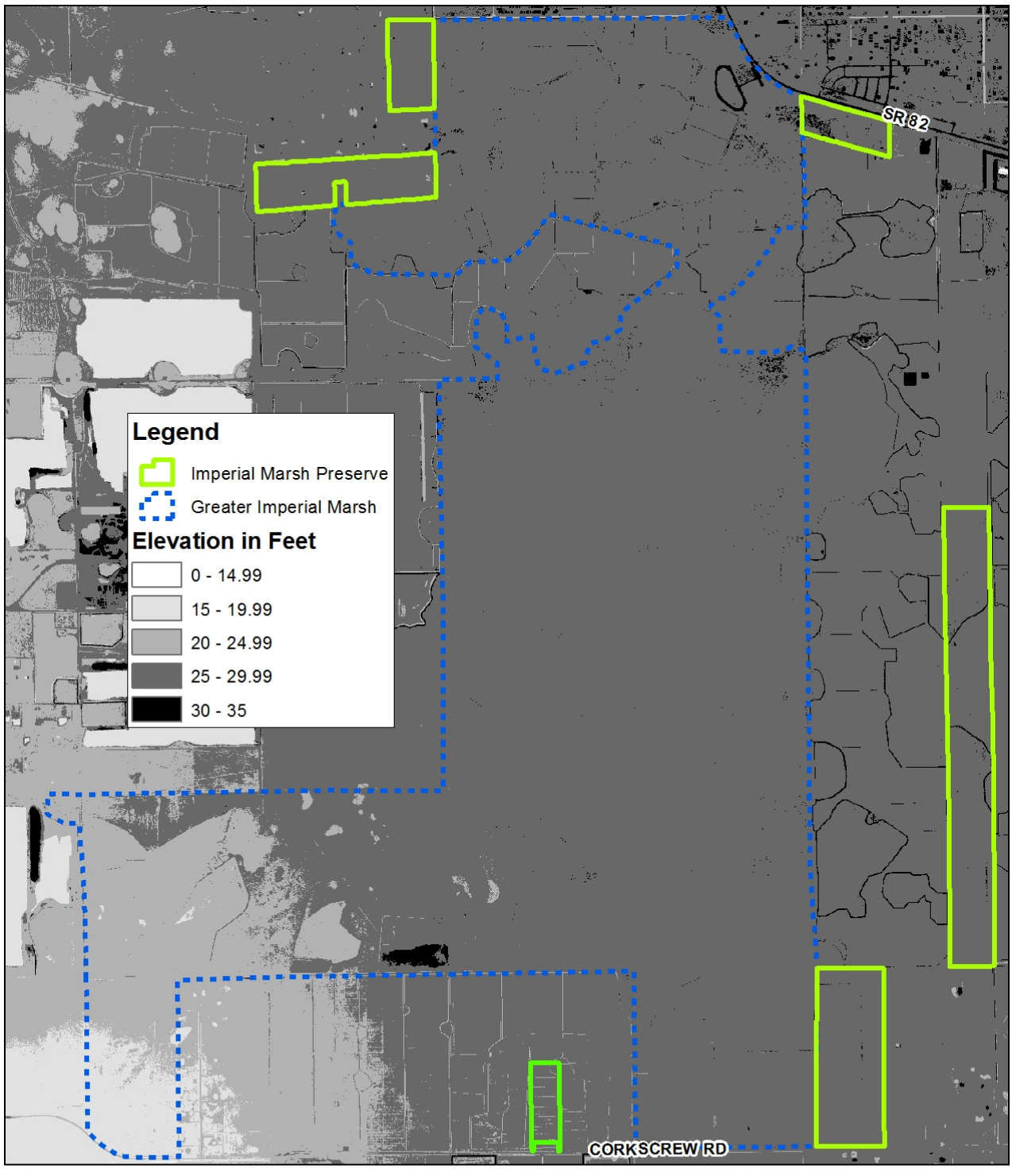
iii. Topography

Most of Lee County is located within the Gulf Coastal Lowlands of Florida that extend around the coastal periphery of the state where elevations are generally less than 100 feet above sea level (Stubbs 1940; Cooke 1945).

Known elevations range from 20 to 35 feet at IMP (Figure 3). Generally, the higher elevations (>30') correspond with berms, roads and other man-made features. Sites 321 and 334 have the least variability in slope. Site 259 generally slopes downward from west to east. Sites 93 and 288 have a more complex mosaic of higher and lower areas. The topographic maps were created using 2007 LiDAR. Although not as precise as a survey, the error should not exceed 0.6 feet.

Four shallow marshes were dug within the central lateral portion of Site 93 in 2012 as a means to create habitat for wading birds. These marshes are relatively small, with three of them being approximately 0.20-0.24 acres in size and the southern-most marsh being approximately 1.3 acres in size. The excavated material was utilized onsite as fill for an approximately 0.20-acre staging area adjacent to Corkscrew Road.

Figure 3: Topography



Imperial Marsh Preserve

0 0.425 0.85 1.7 Miles

N W E S

This is not a survey.
Staff has prepared this map for informational and planning purposes.

iv. Soils

Based on the NRCS Soil classifications, seventeen soil types are found at IMP. Figures 4-9 show the locations of these soils. Table 2 summarizes the characteristics of the soils found and illustrates the soils color-coded based on their hydric status. These characteristics have been organized to quickly provide land managers with pertinent soils information for understanding restrictions and/or results regarding future habitat restoration and probable recreational plan limitations and expenses. Further information on soils is located in the LSOM Land Stewardship Plan Development and Supplemental Information section.

Light Blue (Wet):
Sometimes present in wetlands (approximately 20-40% of the time)

Blue (Wetter):
Often present in wetlands (approximately 75-95% of the time)

Dark Blue (Wettest):
Very often present in wetlands (approximately 100% of the time)

The dominant soil types are Valkaria Fine Sand and Immokalee Sand, which together comprise approximately 50% of the preserve. Both soils are rated as hydric by the NRCS, meaning they were formed under conditions of saturation, flooding or inundation long enough to develop anaerobic conditions in the upper horizons. These soils are poorly drained, which allows for water filtration through slow percolation into the ground.

Table 2: Soil Attributes and Acreages

Soil Typres	Map Symbol	Total Acres	% of Preserve	Habitats (Range Site)	*Physical Attributes*							*Biological Attributes*			Limitations for Recreational Paths & Trails
					Wetland Class (1)	Hydrologic Group (2)	Surface Permeability	Subsurface Permeability	Water Table Within 10" of Surface	Water Table Below 10-40" of Surface	% Organic Matter	Potential as habitat for wildlife in-			
												Openland	Woodland	Wetland	
Anclote Sand, Depressional	40	4	0.4	marshes/ ponds	P	B/D*	rapid		>6 months (ponded)		2-10%	very poor	very poor	good	Severe: ponding
Boca Fine Sand	13	43	4.4	flatwoods		B/D	rapid	rapid	2-4 months	6 months	1-3%	fair	poor	fair	Severe: wetness, too sandy
Felda Fine Sand, Depressional	49	53	5.5	marshes/ ponds	P	B/D	rapid	rapid	3-6+ months (ponded)	4-6 months	1-4%	very poor	very poor	good	Severe: wetness, too sandy
Floridana Sand, Depressional	51	2	0.2	marshes/ ponds	P	D*	rapid	rapid	3-6 months (ponded)	~12 months	6-15%	very poor	very poor	good	Severe: ponding, too sandy
Hallandale Fine Sand	6	4	0.4	flatwoods		B/D	mod-mod rapid		1-3 months	7 months	2-5%	poor	poor	fair	Severe: wetness, too sandy
Immokalee Sand	28	194	20.0	flatwoods		B/D	rapid	rapid	1-3 months	2-6 months	1-2%	poor	poor	poor	Severe: wetness, too sandy
Malabar Fine Sand	34	92	9.5	slough	S	B/D	rapid	rapid	2-4 months	> 6 months	1-2%	poor	poor	fair	Severe: wetness, too sandy
Malabar Fine Sand, Depressional	44	12	1.2	marshes/ ponds	P	B/D*	rapid	rapid	4-6+ months	4-6 months	1-2%	very poor	very poor	good	Severe: ponding, too sandy
Malabar Fine Sand, High	63	5	0.5	flatwoods		B/D	rapid	rapid	N/A	4-6 months	1-2%	fair	poor	fair	Severe: wetness, too sandy
Myakka Fine Sand, Depressional	53	1	0.1	marshes/ ponds	P	D	rapid	rapid	1-3 months (ponded)	2-6 months	1-2%	very poor	very poor	good	Severe: ponding, too sandy
Pineda Fine Sand	26	64	6.6	slough	S	B/D	rapid	rapid	2-4 months	>6 months	0.5-6%	fair	poor	fair	Severe: wetness, too sandy
Pineda Fine Sand, Depressional	73	28	2.9	marshes/ ponds	P	D*	rapid	rapid	3-6+ months (ponded)	4-6 months	0.5-6%	very poor	very poor	good	Severe: ponding, too sandy
Pompano Fine Sand	10	52	5.4	slough	S	B/D	rapid		2-4 months	6 months	1-5%	poor	poor	fair	Severe: wetness, too sandy
Pompano Fine Sand, Depressional	27	51	5.3	depressions	P	B/D *	rapid		2-4 months	> 5 months	1-5%	very poor	poor	good	Severe: ponding, too sandy
Valkaria Fine Sand	14	293	30.2	slough	S	B/D	rapid		1-3 months	6 months	1-4%	poor	poor	good	Severe: wetness, too sandy
Valkaria Fine Sand, Depressional	41	7	0.7	depressions	P	B/D *	rapid		~6 months (ponded 3 mo.)	~12 months	1-4%	very poor	very poor	good	Severe: ponding, too sandy
Winder Sand, Depressional	62	66	6.8	marshes/ ponds	P	D	rapid	rapid	3-6 months (ponded)	extended dry periods only	0.1-2%	very poor	very poor	good	Severe: ponding, too sandy

Color Key:

Wet

Wetter

Wettest

(1) - Wetland Classification:

P - Ponding: Standing water on soil in closed depressions

S - Slough (sheet flow): A broad nearly level, poorly defined drainage way that is subject to sheet-flow during the rainy season.

(2) - Hydrologic Group:

B - Moderate rate of water transmission

D - Very slow rated of water transmission

Figure 4: Site 93 Soils

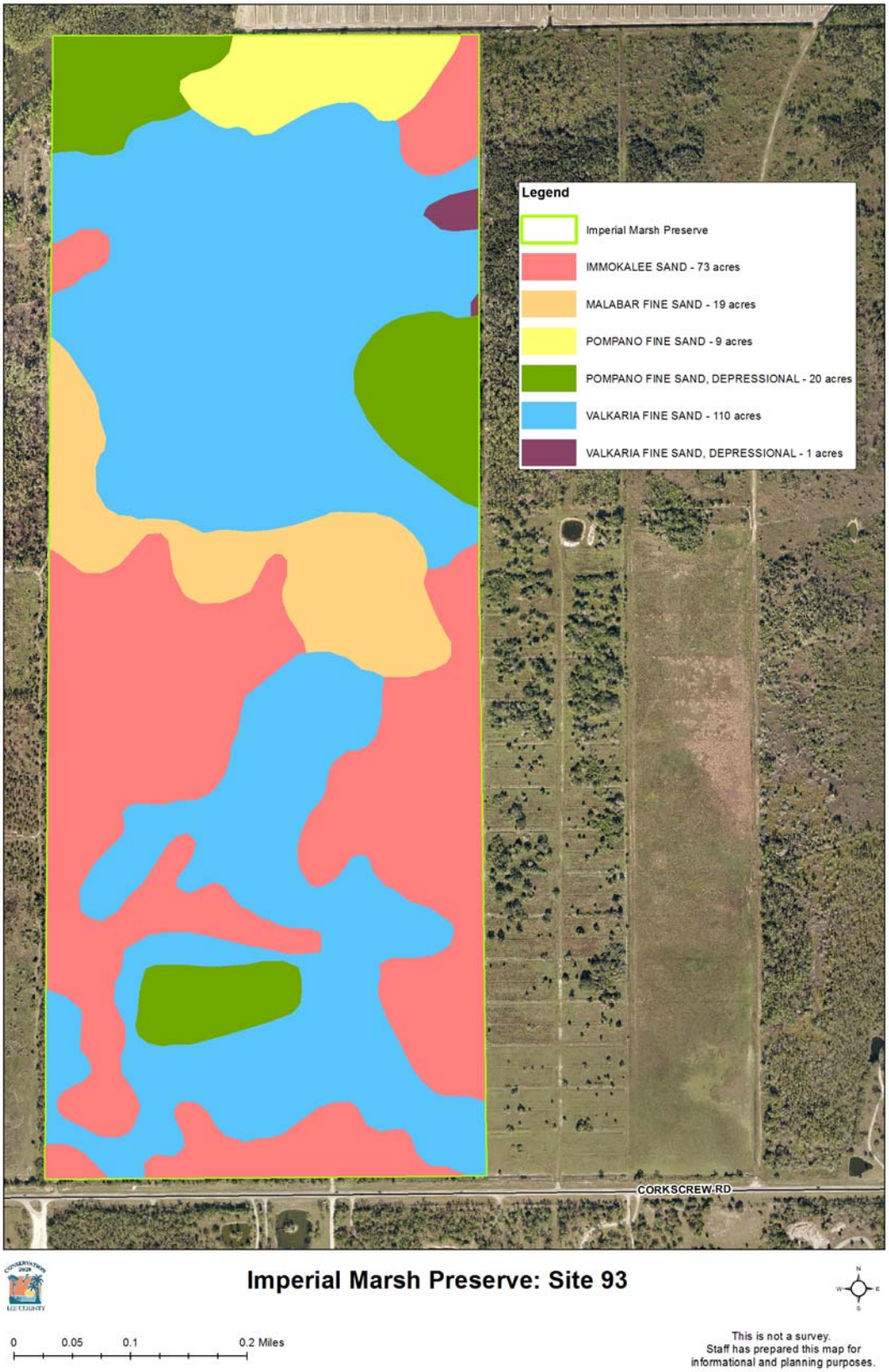


Figure 5: Site 259 Soils

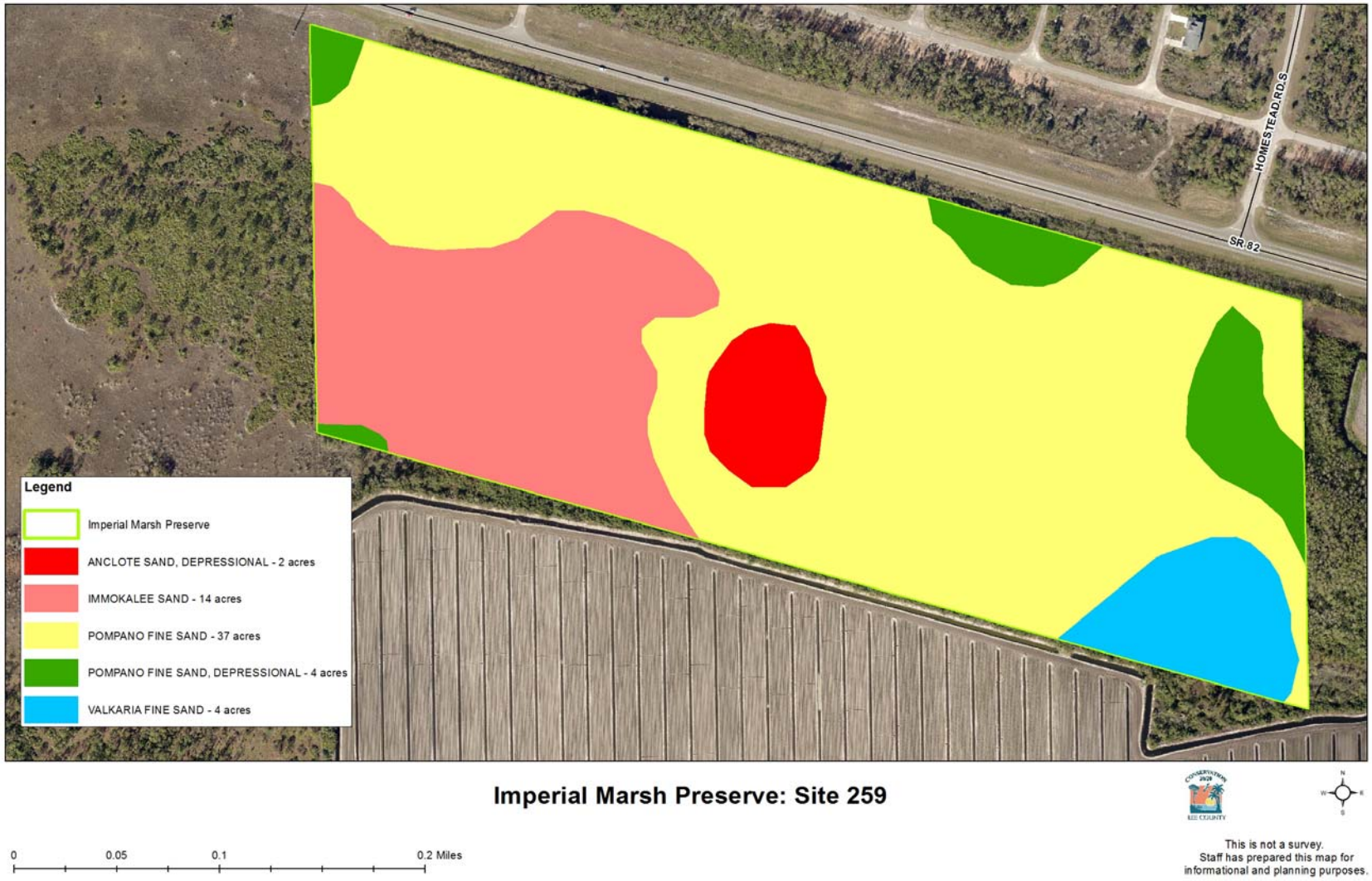
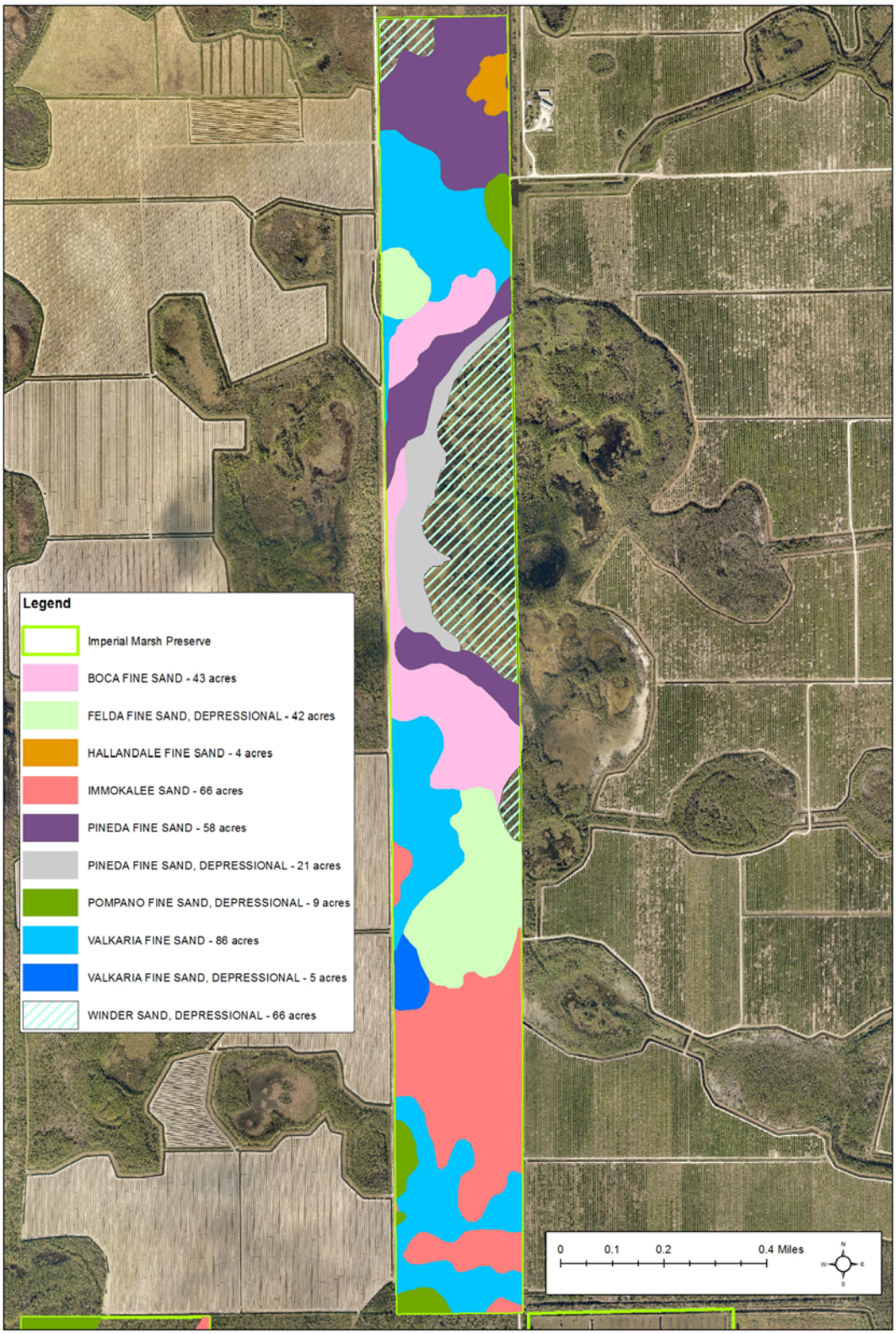


Figure 6: Site 288 Soils



Imperial Marsh Preserve: Site 288

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Staff has prepared this map for informational and planning purposes.

Figure 7: Site 321 Soils

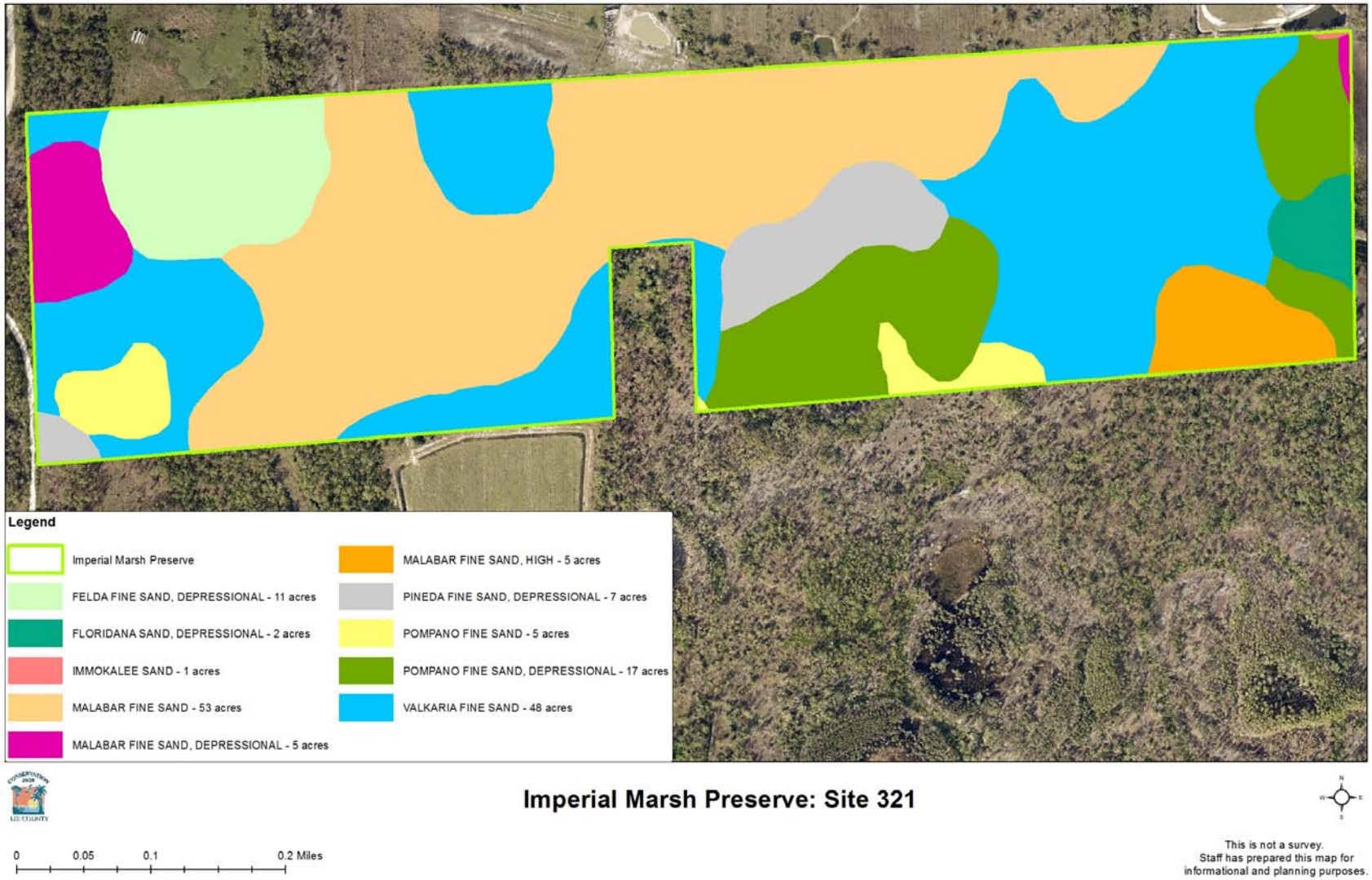


Figure 8: Site 334 Soils

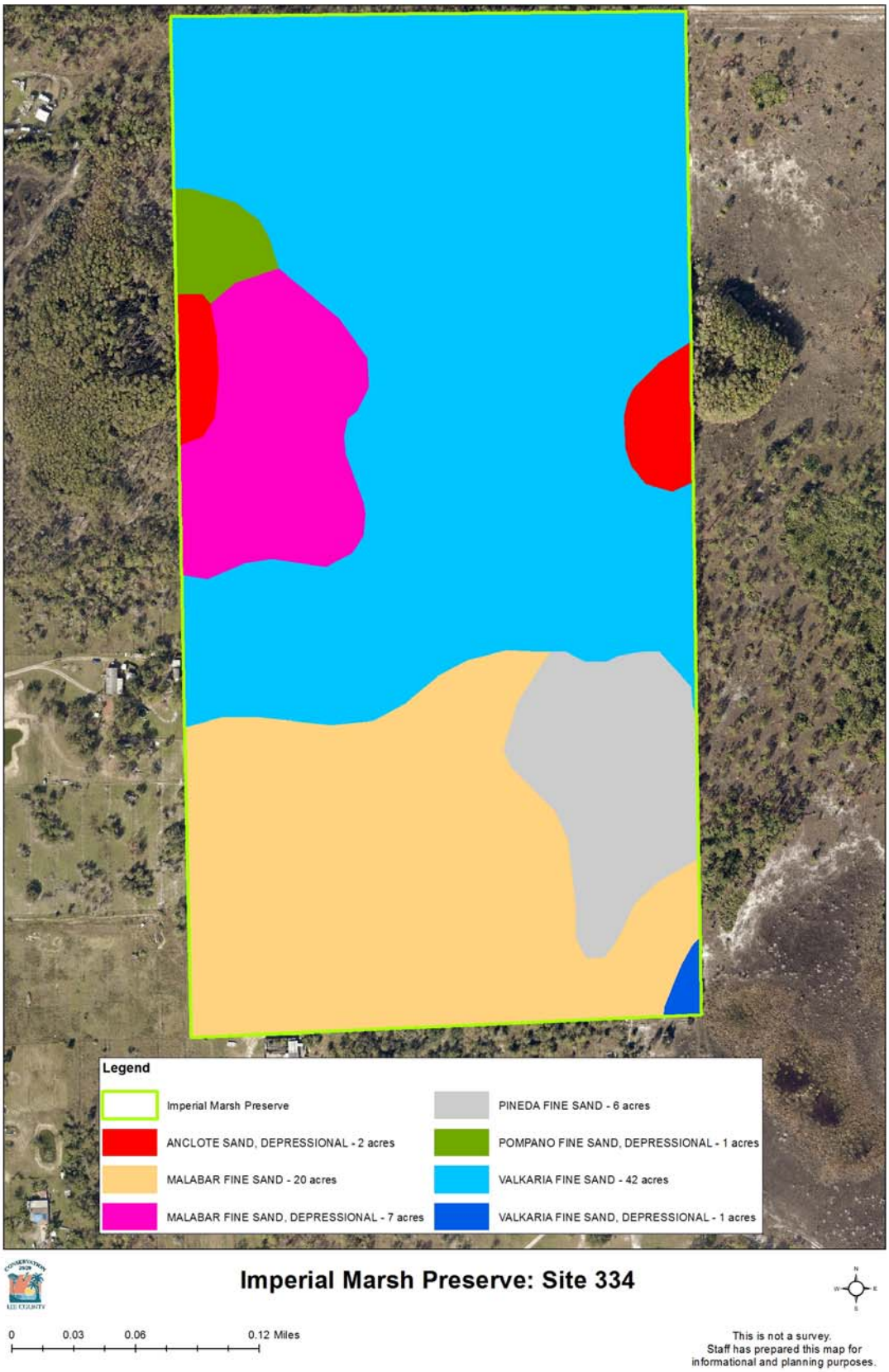
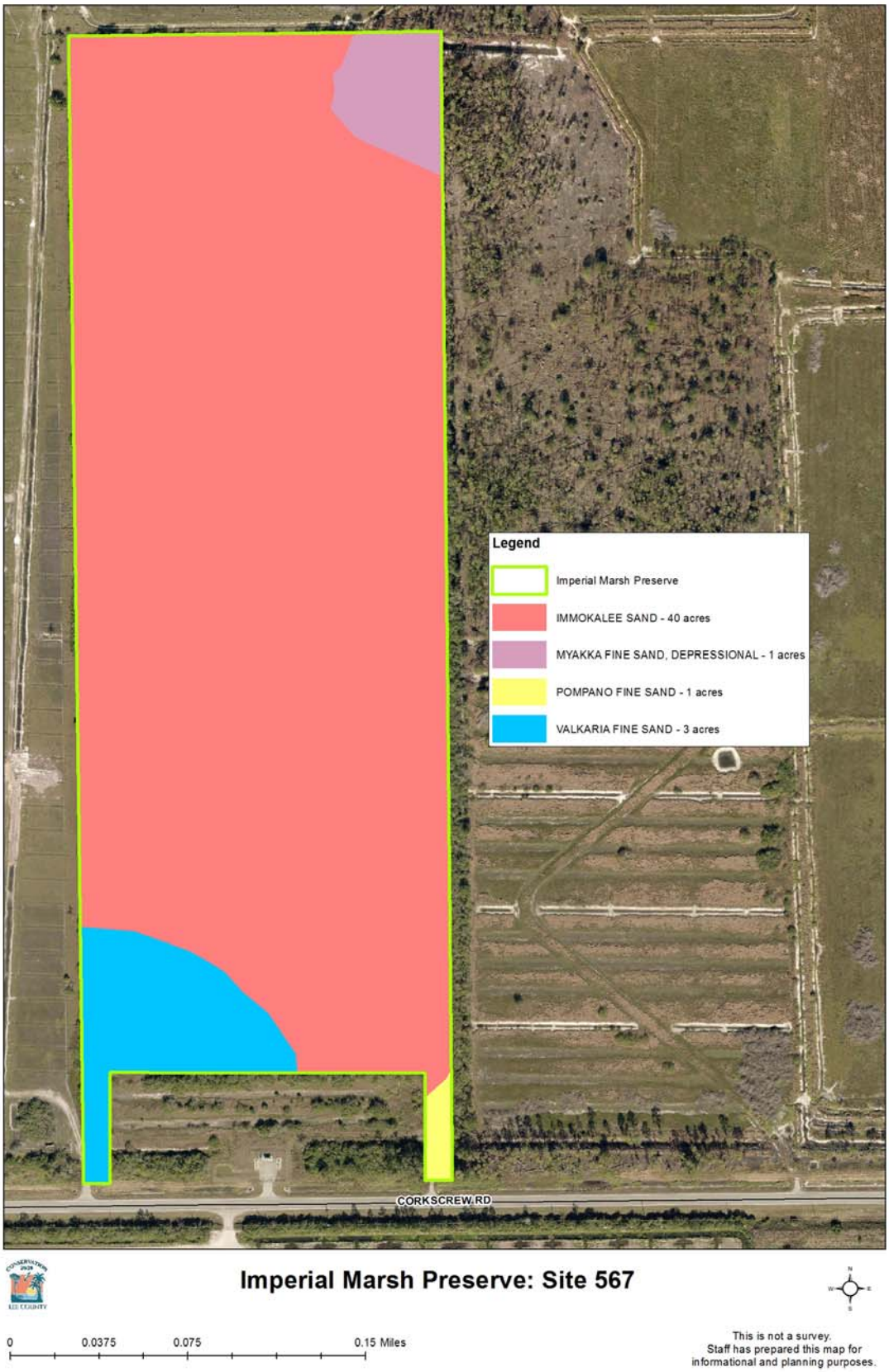


Figure 9: Site 567 Soils



v. Hydrologic Components and Watershed

IMP is within the South Florida Water Management District's (SFWMD) Lower West Coast region. The SFWMD has categorized ten watersheds that fall at least partially within Lee County. These watersheds are within larger sub-basins; of which three are located at least partially within Lee County. Based on published SFWMD watershed information, the majority of IMP falls within the Estero Bay Watershed. Site 288 falls within the Estero Bay and Trafford Watersheds (Figure 10).

Lee County Division of Natural Resources (LCDNR) determines watersheds based on a county-wide scale rather than a regional scale as SFWMD does. This approach results in a higher number of smaller watersheds being identified in the same area. As such, the LCDNR has identified 48 different watersheds in Lee County.

Based on LCDNR information, IMP lies mostly within the Imperial River, Estero River and Cocohatchee River Watersheds (Figure 11). The Imperial River Watershed is approximately 86 square miles; the largest in Lee County. Most of the watershed to the west of I-75 has been developed as single-family homes and other urban uses. Portions of the watershed that are east of I-75 are mostly agriculture and wetlands, which play an important role in stormwater run-off and ground water recharge. At its westernmost point, the Imperial River flows into the Estero Bay and is an important fresh water source for the bay.

The preserve lies entirely within the Density Reduction Groundwater Resource (DR/GR) area of Lee County. This area, which covers approximately 83,000 acres in eastern Lee County, is intended to protect critical water supplies for the region by protecting large tracts of land for aquifer recharge and minimizing development in the area. A secondary benefit of this concept includes the conservation of wildlife through the protection of their habitat. In recent years, increased pressure for the development of housing projects has been placed on the DR/GR, which is comprised largely of wetlands. These pressures threaten the regional water supply, making conservation efforts all the more important.

Regarding wetlands, the United States Fish and Wildlife Service (USFWS) conducted an inventory of the nation's wetlands in 1974. This National Wetlands Inventory (NWI) became operational in 1977. Wetlands were identified on the photography by vegetation, visible water features and geography, and subsequently classified in general accordance with the Classification of Wetlands and Deep Water Habitats of the United States (Cowardin et al. 1979). In 2013, USFWS reviewed aerials and updated the inventory. More information about the different classifications can be found there, or in the LSOM's Land Stewardship Plan Development and Supplemental Information section.

Figure 12 depicts the variety of wetlands as identified by the 2013 NWI. All of the wetlands on IMP are described as Palustrine. These systems are all non-tidal

wetlands dominated by trees, shrubs, persistent emergent aquatic plants, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5%.

The wetlands located on IMP are either forested, scrub-shrub or emergent. Forested wetlands are characterized by woody vegetation that is 6 meters (19.6 feet) tall or taller. These areas typically have an overstory of trees, an understory of young trees or shrubs and an herbaceous layer. The dominant canopy species that occurs in the forested wetlands at IMP is cypress (*Taxodium spp.*). Scrub-shrub wetlands are dominated by woody vegetation less than 20 feet tall. Emergent wetlands are characterized by erect rooted, herbaceous hydrophytes, excluding mosses and lichens that are present for most of the growing season. A variety of grasses, sedges and small shrubs such as wax myrtle and St. John's wort (*Hypericum spp.*) are typically found in this wetland category at the preserve.

Based on the NWI, approximately 679 acres of wetlands are present at IMP. This acreage does not include old non-functional agricultural ditches on Site 567. The majority of the wetlands onsite are freshwater forested systems. A great portion of the wetlands extend offsite onto adjacent parcels and connect hydrologically to the Greater Imperial Marsh system.

The wetlands in the area are ecologically sensitive, and external pressures such as development and roads threaten the hydrological integrity of the area. Many of the wetlands are isolated or cut off from larger systems by roads, communities, ditches, berms, etc. Invasive exotic vegetation, such as melaleuca continues to be a management constraint for the region. Conservation is necessary for the protection of the water supply and the ecosystems that support threatened and endangered species.

General information on hydrologic processes and watershed is located in the LSOM Land Stewardship Plan Development and Supplemental Information section.

Figure 10: South Florida Water Management District Watersheds

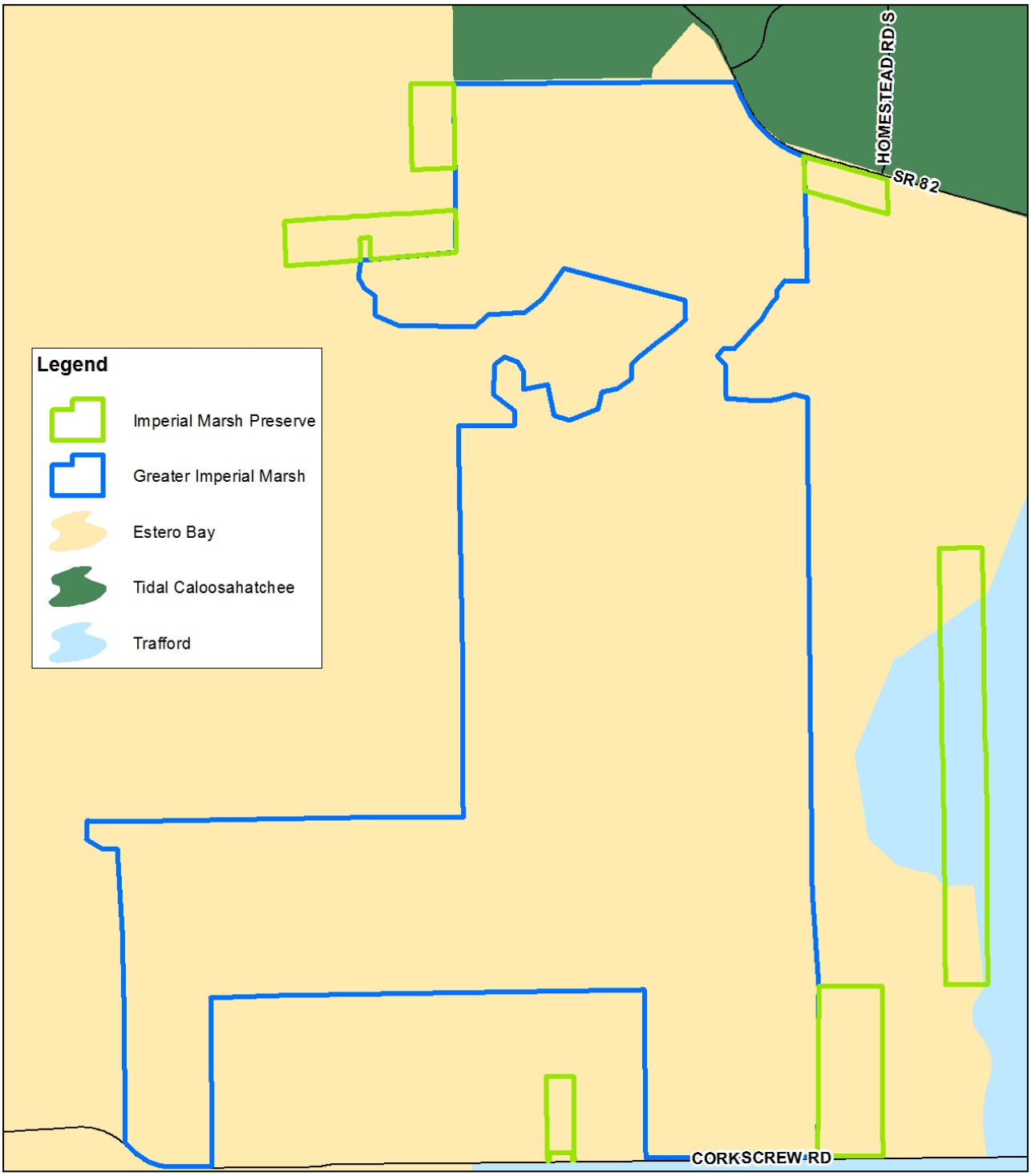


Figure 11: Lee County Department of Natural Resources Watersheds

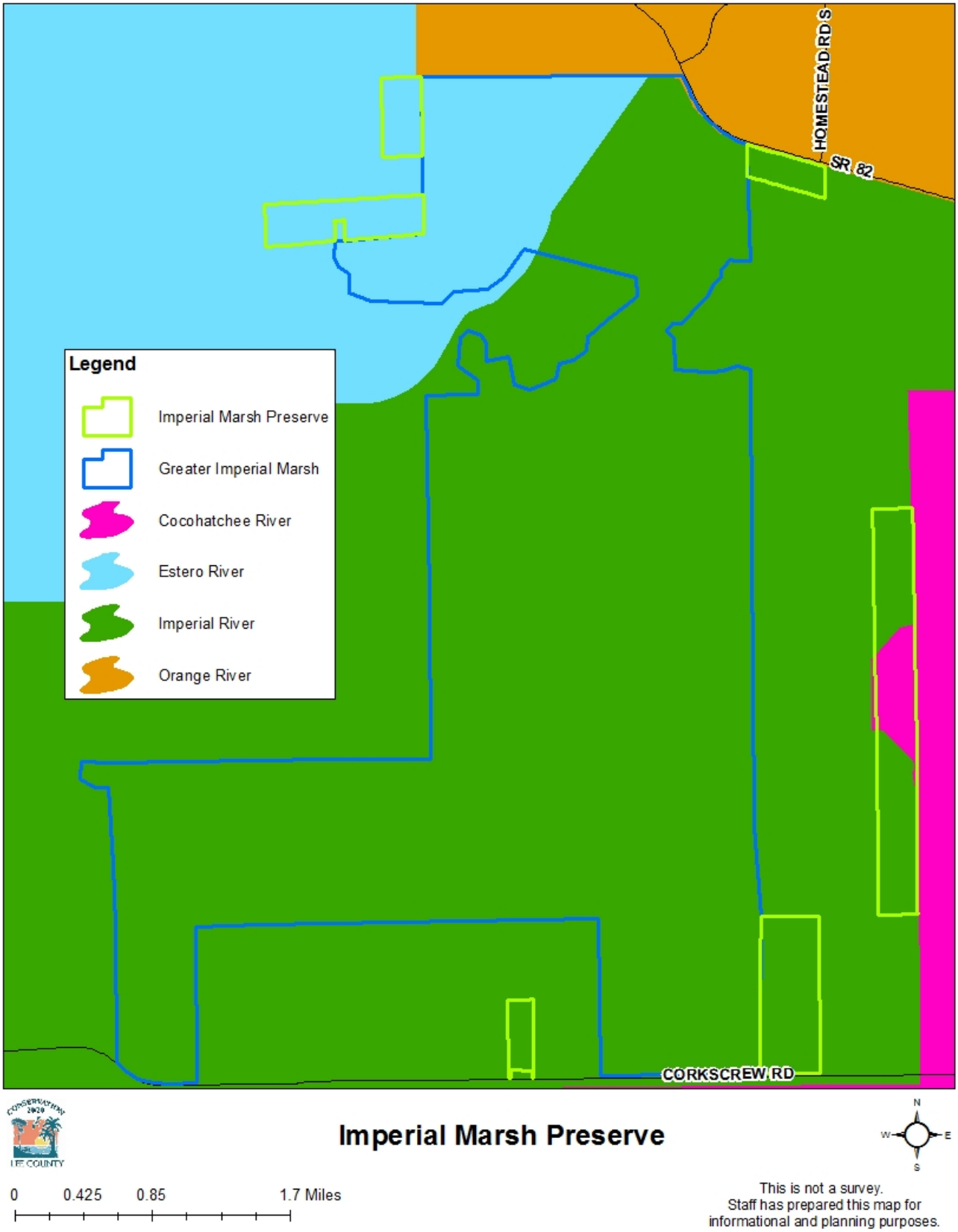
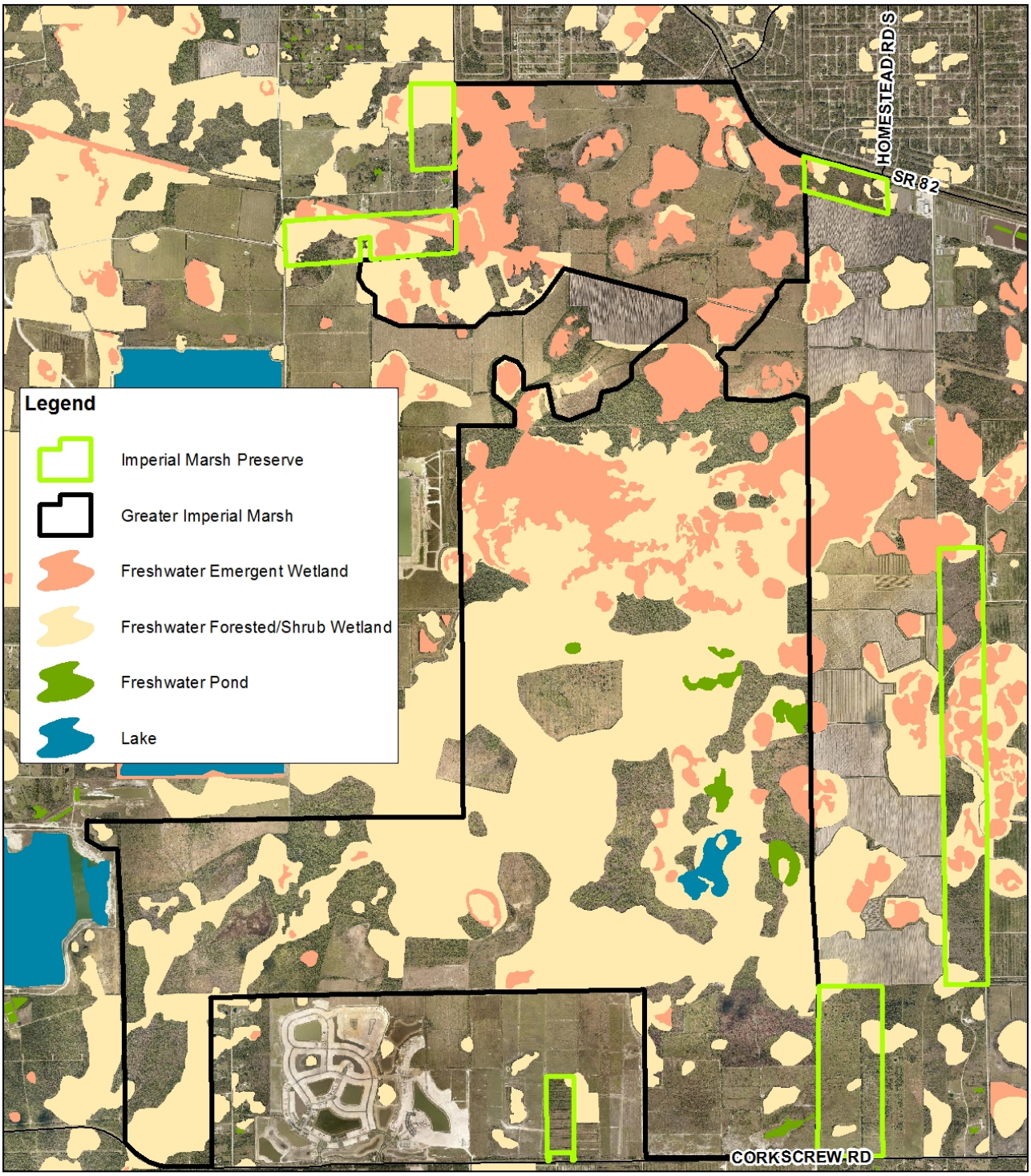


Figure 12: National Wetlands Inventory



B. Biological Resources

i. Ecosystem Function

IMP contains a diverse range of wetland and upland communities. Pine flatwoods serve as important habitat for a variety of birds, small mammals, reptiles, amphibians, and some large mammals including white-tailed deer (*Odocoileus virginianus*), black bear (*Ursus americanus floridanus*) and Florida panther (*Puma concolor coryi*). Birds find shelter in the palmetto understory, nest in the tall pines, and forage in the grasses. Oak toads (*Bufo quercicus*) dig their burrows in the sandy soil and hunt for spiders and insects. During a severe flood, the flatwoods serve as a water storage area to help protect adjacent land owners from flooding (Tiner 1998). As water moves slowly through the flatwoods of IMP, it percolates through the sandy soil and returns to the ground water instead of flooding roads and private property.

Fire is an important element affecting the health of pine flatwoods. Florida has more thunderstorm days per year than anywhere else in the country and, in turn, one of the highest frequencies of lightning strikes of any region in the United States. Fire shapes ecosystem processes in the flatwoods including the creation of soil conditions suitable for germination of seeds of some species, turnover of litter, humus and nutrients, reduction of competition from hardwoods, and increasing the hardiness of some plant species (Myers and Ewel 1990). Additionally, fire can be used as an effective management tool to keep exotic plant coverage at a maintenance level by reducing their population and increasing native plant species reproduction.

The wetlands of south Florida are important to people and to wildlife. Wetlands at IMP provide places for birds to feed, in addition to breeding opportunities for frogs and fish. Additionally, people rely on these marshes to improve water quality and recharge the aquifer. The seasonal changes in southwest Florida profoundly affect the hydrologic components at this preserve. During the late spring and summer months, the rain begins to fall and the wetlands fill to capacity. Fish populations begin to increase both in number and biomass. In the fall when the rains end, the water recedes and the fish are concentrated in the shallow marshes. The wading birds come in to feast and this aids the remaining fish by decreasing the density and increasing the availability of dissolved oxygen. Most wildlife utilizing these communities have adapted by migrating from one wetland to another as the shallow ones dry up.

Plants in these areas also benefit from the seasonal wet/dry flux. Most aquatic plants cannot germinate under water and require this drying phase. The plants in these wetlands become completely dry, die, decay, and release nutrients that are bound in their tissues. This makes the soils highly productive for the next wet season. Typically, these plants have low nutrient requirements so they stockpile the excess, which is beneficial to herbivores feeding upon them. When the nutrient loads become too high, cattails (*Typha latifolia*) increase (Myers and

Ewel 1990), which is evident around wetland areas adjacent to citrus groves and along the ditches dug throughout some portions of the preserve.

Healthy cypress communities capable of sustainable reproduction occur in depressions with a hydroperiod of approximately 250-290 days and maximum water levels of one to two feet (Duever et al. 1986). The lower hydroperiod and water level ranges produce smaller cypress and the upper ranges produce larger ones. There is some debate in the scientific community whether these two extremes represent two species of cypress (pond cypress; *Taxodium ascendens* are small and bald cypress; *Taxodium distichum* are large) or whether they represent the same species growing differently under different environmental conditions.

The surrounding cypress areas provide excellent cover and foraging for warblers and other migratory song birds. Animals count on the health and long-term viability of the cypress communities for nesting, breeding, and feeding. The Florida cottonmouth (*Agkistrodon piscivorus conanti*) uses mats of debris in the swamp ferns as sunning platforms. Yellow-crowned night herons (*Nyctanassa violacea*) build their nests in the trees while white ibis (*Eudocimus albus*) and great egrets (*Ardea alba*) roost in the canopy. To sustain the health of the cypress communities, water quality and quantity must be protected and improved.

The abandoned row crop fields within the preserve contain habitat for many wildlife species. In the wet summer months, standing water creates feeding grounds for many wading birds including snowy egrets (*Egretta thula*), lesser yellow-legs (*Tringa flavipes*), and great blue herons (*Ardea herodias*). The fields also provide foraging habitat for sandhill cranes. In the fall, these fields provide habitat for resident mottled ducks (*Anas fulvigula*) and migratory blue-winged teal (*Anas discors*). These open fields provide foraging opportunities for the crested caracara (*Caracara cheriway*) to hunt and feed on small mammals and reptiles.

ii. Natural Plant Communities

IMP consists of sixteen plant communities, the majority of which are comprised of wet prairies, pine communities and basin swamps. Historically, IMP contained additional wetland ecosystems that have been hydrologically impacted by on-site activities and surrounding land uses that have either blocked sheet flow or reduced water tables. Although several of the wetland systems have been restored through onsite restoration projects, the preserve may benefit from offsite and potentially regional hydrological restoration projects. Figures 13-18 illustrate the current plant communities at IMP.

The following are descriptions of the dominant plant communities and characteristic animals found within each community. A complete list of plant species identified during site inspections to IMP can be found in Appendix A. This list will be updated seasonally as new plants are identified. This list, however, is not necessarily a comprehensive list for the entire preserve.

Abandoned Cropland – 130 acres, 13% coverage at IMP

Five of the six parcels contain areas that were previously used for row cropping or citrus and have been impacted by these activities. Once these agricultural operations ceased, some of these locations were then used for cattle grazing. Previously, approximately 294 acres of abandoned cropland existed in IMP. Most locations have transitioned to characteristics of wet prairie, wet flatwoods or mesic flatwoods communities. Staff recommends that additional ecosystem restoration activities occur to help ensure the remaining areas become viable communities.

Plants found within this community at IMP vary from wetland to upland plant species. Wetland plants include flatsedge (*Cyperus spp.*), swamp smartweed *(Polygonum hydropiperoides*), capeweed (*Phyla nodiflora*), buttonweed (*Diodia virginiana*) and dog fennel (*Eupatorium capillifolium*). Typical upland plants include south Florida slash pine (*Pinus elliottii var. densa*), saw palmetto (*Serenoa repens*), and myrtleleaf St. John's-wort (*Hypericum tetrapetalum*). Plants found in both wetlands and uplands in this community include cabbage palm (*Sabal palmetto*), and wax myrtle.

Birds found in this community include blue jay (*Cyanocitta cristata*), blue-gray gnatcatcher (*Polioptila caerulea*), sandhill crane (*Grus canadensis*), snowy egrets (*Egretta thula*), palm warblers (*Dendroica palmarum*), wood storks (*Mycteria americana*), caracara, barn owls (*Tyto alba*) and killdeer (*Charadrius vociferous*).

The exotic plant cover in the abandoned cropland areas includes torpedo grass, West Indian marsh grass (*Hymenachne amplexicaulis*), alligator weed (*Alternanthera philoxeroides*), caesarweed (*Urena lobata*), melaleuca, false shrubby buttonweed (*Spermacoce verticillata*) and Brazilian pepper (*Schinus terebinthifolia*). These species disrupt native plant communities by out-competing and displacing the native vegetation. When this occurs, native wildlife usage also declines, causing a change or collapse in the overall ecological structure of the area.

Basin Marsh Community – 7 acres, 0.7% coverage at IMP

This community is characterized by shallow depressional marshes that pocket the landscape, often connecting to deeper cypress wetlands. Hydrologic conditions vary, with standing water during the wet season and relatively dry conditions during the dry season. Hydroperiods range widely from less than 50 days to more than 200 days per year. Typical plants here include herbaceous species such as arrowheads (*Sagittaria, sp.),* pickerelweed (*Pontederia cordata*), fire flag (*Thalia geniculata*) and spikerushes (*Eleocharis, sp*.); and small coverages of woody species such as coastalplain willow (*Salix caroliniana*).

Basin Marsh, Transitional Community – 26 acres, 2.7% coverage at IMP

This is a basin marsh community that contains dead melaleuca snags from previous land management efforts. Specifically, melaleuca that had previously

invaded the marsh was killed in place. These snags will eventually decompose, leaving just the species typical of a basin marsh behind.

Basin Swamp Community – 110 acres, 11.3% coverage at IMP

Five of the six parcels have basin swamp communities which typically extend outside the preserve boundary. A basin swamp is generally characterized as a relatively large and irregularly shaped basin that is not associated with rivers, but is vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod. Dominant plants include pond cypress and bald cypress. Other typical plants here include wax myrtle and pickerelweed.

Animals found in the basin swamp community include egrets, herons, turtles, fish, frogs, and alligators.

Basin swamps may act as a reservoir releasing groundwater as adjacent upland water tables drop during drought periods. The typical hydroperiod is approximately 200 to 300 days. If water levels must be artificially manipulated, somewhat deeper than normal water is not likely to do much harm. However, extended hydroperiods will limit tree growth and prevent reproduction. Shortened hydroperiods will permit invasion of mesophytic species and change the character of the understory or will allow a devastating fire to enter which would drastically alter the community.

Basin Swamp, Transitional Community – 8 acres, 0.8% coverage at IMP

This community is a basin swamp that contains dead standing melaleuca snags from previous invasive vegetation removal efforts. Specifically, melaleuca that had previously invaded the swamp was killed in place. These snags will eventually decompose, leaving just the species typical of a basin swamp behind.

Depression Marsh – 8 acres, 0.8% coverage at IMP

This plant community occurs on Sites 93 and 288 and includes isolated wetlands, ephemeral ponds and seasonal marshes. This community typically consists of open, treeless areas with herbaceous vegetation that is often growing in concentric bands. Hydrologic conditions vary, with standing water during the wet season and relatively dry conditions during the dry season. Hydroperiods range widely from less than 50 days to more than 200 days per year. Typical plants here include herbaceous species such as arrowheads, pickerelweed, fire flag and spikerushes; and woody species such as coastalplain willow.

Included in this acreage is 0.7 acres of transitional marsh, where previous melaleuca removal efforts have resulted in a stand of dead snags in the marsh. These snags will eventually decompose, leaving behind the open, herbaceous community typical of these systems.

Wildlife documented using this community include the roseate spoonbill (*Platalea ajaja*), great egret (*Ardea alba*), great blue heron, tricolored heron (*Egretta*

tricolor), northern harrier (*Circus hudsonius*), and pig frog (*Rana grylio*). Deer tracks have also been documented along the edges of the depression marsh.

Depression marshes are extremely important in providing breeding and foraging habitat for a variety of wildlife including amphibians. Because of their temporary nature, few large predatory fish, which would feed heavily on tadpoles, occur in these wetlands. Since this community typically dries down in most years, the aquatic animals become quite concentrated and are an excellent food source for birds and other wildlife.

Dome Swamp Community – 34 acres, 3.5% coverage at IMP

All parcels contain whole or remnant elements of dome swamp communities scattered throughout the preserve. Dome swamps are characterized as shallow, forested, usually circular depressions that generally present a domed profile because the center contains larger trees that decrease in height toward the periphery. Typical plants found in these communities include bald cypress, pond cypress, pond apple (*Annona glabra*), golden polypody (*Phlebodium aureum*), Virginia chain fern (*Woodwardia virginica*), resurrection fern (*Pleopeltis polypodioides*), orchids (*Orchidaceae*), and bromeliads (*Bromeliaceae*).

Typical animals include Florida cricket frog (*Acris gryllus dorsalis*), eastern narrowmouth toad (*Gastrophryne carolinensis*), barred owl (*Strix varia*), and great-crested flycatcher (*Myiarchus crinitus*). Exotic plants found here include caesarweed, Brazilian pepper and melaleuca, with coverage varying from 5% - 75% depending on the parcel.

Hydric Hammock Community – 2 acres, 0.2% coverage at IMP

Three hydric hammock plant communities exist on IMP. It is a well-developed hardwood and cabbage palm forest with a variable understory dominated by palmettos and ferns. Plants found in this community at IMP include live oak, cabbage palm, saw palmetto, dahoon (*Ilex cassine*), strangler fig (*Ficus aurea*), and myrsine (*Rapanea punctata*).

Hydric hammocks are generally saturated, although only inundated for short periods following heavy rains. The normal hydroperiod is seldom over 60 days per year. Because of their generally saturated soils and the sparse herbaceous cover, hydric hammocks rarely burn.

Normal hydrological regime must be maintained in hydric hammock. If the water table is lowered, hydric hammocks will gradually change to mesic conditions. If the hammock is flooded, many trees will die and eventually be replaced by more hydrophilic species.

Mesic Flatwoods Community – 119 acres, 12.3% coverage at IMP

The mesic flatwoods community is found within all parcels of the preserve. Synonyms for this plant community include pine flatwoods and pine savannahs. Mesic flatwoods occur on relatively flat, moderately to poorly drained soils.

Standing water is common for brief periods during the rainy season. Mesic flatwoods are characterized as having an open canopy with widely spaced pine trees and a dense ground cover of herbs and shrubs. Typical plants growing in these communities at IMP include South Florida slash pine (*Pinus elliottii* var. *densa*), saw palmetto, wax myrtle, and St. John's-wort.

A few animals that have been documented utilizing mesic flatwoods at the preserve include eastern narrowmouth toad, pygmy rattlesnake (*Sistrurus miliarius*), white-eyed vireo (*Vireo griseus*), red-bellied woodpecker (*Melanerpes carolinus*) and Big Cypress fox squirrel (*Sciurus niger avicennia*).

Historically, natural fire probably burned in these communities every 1-8 years (FNAI 2010). Lacking sufficient fires, mesic flatwoods will transition into hardwood-dominated forests with closed canopies that will gradually eliminate the groundcover of herbs and shrubs. Alternatively, too frequent or too hot fires would eliminate pine recruitment and eventually transform the mesic flatwoods into dry prairie.

Portions of the mesic flatwoods community within the preserve contain exotic plant coverage of >0 – 25% consisting of Brazilian pepper and melaleuca.

Successional Hardwood Forest – 30 acres, 3.1% coverage at IMP

This community type is located in the old agricultural fields on Site 288. It is characterized by a diversity of canopy trees such as live oaks (*Quercus virginiana*), laurel oaks (*Quercus laurifolia*), red maple (*Acer rubrum*), and scattered South Florida slash pine. The previously farmed fields were fallow for over a decade, and transitioned into hardwood forest. Although the area is generally open, a dense shrub layer of wax myrtle and salt bush with scattered saw palmetto exists in some areas of the hardwood forest. The old furrows were not smoothed out and therefore remain in the landscape.

Wet Flatwoods – 131 acres, 13.5% coverage at IMP

Wet flatwoods occur on relatively flat, poorly drained terrain where water frequently stands on the surface for one or more months of the year. Many plants here are under the stress of water saturation during the wet season and under the stress of dehydration during the dry season (FNAI 2010). As with the mesic flatwoods, the ideal basal area for this community ranges between 40-80 square feet per acre. In addition to South Florida slash pines, some of the more common plants documented in this community include wax myrtle, coastalplain St. John's-wort (*Hypericum brachyphyllum*), myrtleleaf St. John's-wort, and toothpetal false reinorchid (*Habenaria floribunda*).

Natural fire regimes for this plant community range from every 3-10 years (FNAI 2010). Without regular fires, wet flatwoods will transition into hardwood-dominated forests with closed canopies that would gradually eliminate the groundcover herbs and shrubs. Lack of fire will allow pine needle drape and the

height of flammable understory shrubs to increase, which will increase the probability of a catastrophic canopy fire.

Animals documented utilizing this plant community include red-shouldered hawk (*Buteo lineatus*), blue-gray gnatcatcher, and Florida cricket frog.

Wet Flatwoods Transitional- 48 acres, 5% coverage at IMP

This community describes wet flatwoods that were previously invaded with exotics such as melaleuca and are currently in a state of transition from a melaleuca dominated community to a community dominated by hydric pine. The melaleuca was killed in place, leaving snags to decompose. Some areas contain snags that have since fallen and are degrading on the ground. The dead melaleuca litter will eventually decay and open up the areas for native groundcover species such as yellow eyed grass, wire grass, three-awns (*Aristida spp.*), broomsedges (*Andropogon, spp*.), and other grasses, sedges and rushes to thrive.

Wet Prairie – 260 acres, 26.8% coverage at IMP

Wet prairies are described as nearly treeless plains with a diverse ground cover of grasses and herbs including gulf coast spikerush (*Eleocharis cellulosa*), beaksedge (*Rhynchospora spp*.), fringed yellow stargrass (*Hypoxis juncea*), pale meadowbeauty (*Rhexia mariana*), and St. John's-wort. Areas of this community are recruiting with shrubs such as wax myrtle, and invasive exotic grasses such as torpedo grass. Active management, including mechanical clearing and selective treatment of wax myrtle and other shrubs is necessary to maintain this habitat due to the hydrological issues of the region and lack of fire frequency. Additionally, regularly-scheduled exotic treatment events are needed to keep exotic coverages within manageable levels.

The acreage of wet prairie at IMP has increased dramatically over the years as old fallow farm fields have transitioned to wet prairie. This is most evident on Sites 93, 259 and 334. A hydrological restoration project occurred on Site 93, which helped with the transition. Sites 259 and 334 were previously utilized for agriculture and those activities have since ceased. Although site 334 has an active cattle lease, no hydrological manipulation is conducted onsite. The increase in acreage of wet prairies and decrease in fallow farm fields is an encouraging sign of the success of conservation and management efforts.

Wildlife noted in IMP wet prairies include Florida cricket frog, killdeer, marsh rabbit (*Sylvilagus palustris*), white-tailed deer and Florida panther.

Wet prairies are fire dependent communities. Typically these areas will burn every 2-4 years. Longer fire intervals will result in the invasion of wax myrtle and other trees and shrubs (FNAI 2010), which is notable on several parcels of the preserve.

Disturbed

This category includes all areas that have been disrupted by the placement of artificial features to the extent that the native communities within the footprints of the features have been adversely impacted or removed. These features include berms, ditches, impoundments (cow wells), roadways, filled trails and utility easements (powerlines with raised roads). All IMP tracts have disturbed areas that have been placed into this category either because of past agricultural uses containing ditches and berms, cow wells for cattle grazing, trails for access and utilities or ditches created for highway runoff. Below is a more detailed description of each disturbed feature and the acreages.

Disturbed – Artificial Impoundment – 1 acre, 0.1% coverage at IMP

These areas are cow wells and any associated spoil material that may be present adjacent to the cow well. Most of the parcels contain at least one cow well from cattle grazing operations. At least two of the cow wells typically contain water year-round and support other wildlife use; providing a beneficial service. Therefore, staff recommends that the cow wells be evaluated prior to restoration efforts to determine whether or not they should remain or be filled in.

Disturbed – Berm/Ditch – 15 acres, 1.5% coverage at IMP

These areas typically are ditches with associated spoil that runs the length of the ditches. Some are the result of past agricultural uses, where lateral ditches and rimming of wetlands were common practice. One ditch and berm on the north end of Site 259 is for the runoff of water from SR82 into the parcel. Some of these on Site 93 have been filled in or blocked as part of a hydrological restoration project. This category does not include perimeter berms.

Plant species includes broadleaf cattail, torpedo grass, maidencane, alligator flag and a variety of grasses and sedges.

Animal species using these areas of the preserve include American flagfish (*Jordanella floridae*), brown hoplo (*Hoplosternum littorale*), Florida gar (*Lepisosteus platyrhincus*), American alligator (*Alligator mississippiensis*), wading birds, and amphibians such as frogs and toads.

Disturbed – Powerline – 15 acres, 1.5% coverage at IMP

These areas were cleared and are maintained as powerline right-of-ways by Florida Power & Light (FPL). These utility easements exist on Sites 259 & 321.

Disturbed – Roadway – 18 acres, 1.8% coverage at IMP

These areas were cleared, filled and are used as internal trails/roadways on Sites 288 & 321. Although the one on Site 321 is minor (associated with powerline access), the improved roadway on Site 288 extends nearly the length of the preserve, primarily along most of the eastern edge and a small portion of the western edge. It was constructed as an access for farming operations sometime during the mid-to-late 1980s. The easement is 4.75 miles long and dissects portions of the preserve and impacts natural hydrological sheet flow.

Disturbed – Improved Trail – 2 acres, 0.2% coverage at IMP

These areas occur on Sites 93, 259 and 321. In some instances fill was brought in to construct improved trails for agricultural operations. In the case of Site 93, the fill was placed for parking for passive recreation. Where needed, staff recommends that small sections of raised trails be removed to improve hydrological sheet flow.

Plant community descriptions and further information is located in the LSOM Land Stewardship Plan Development and Supplemental Information section.

Figure 13: Site 93 Plant Communities

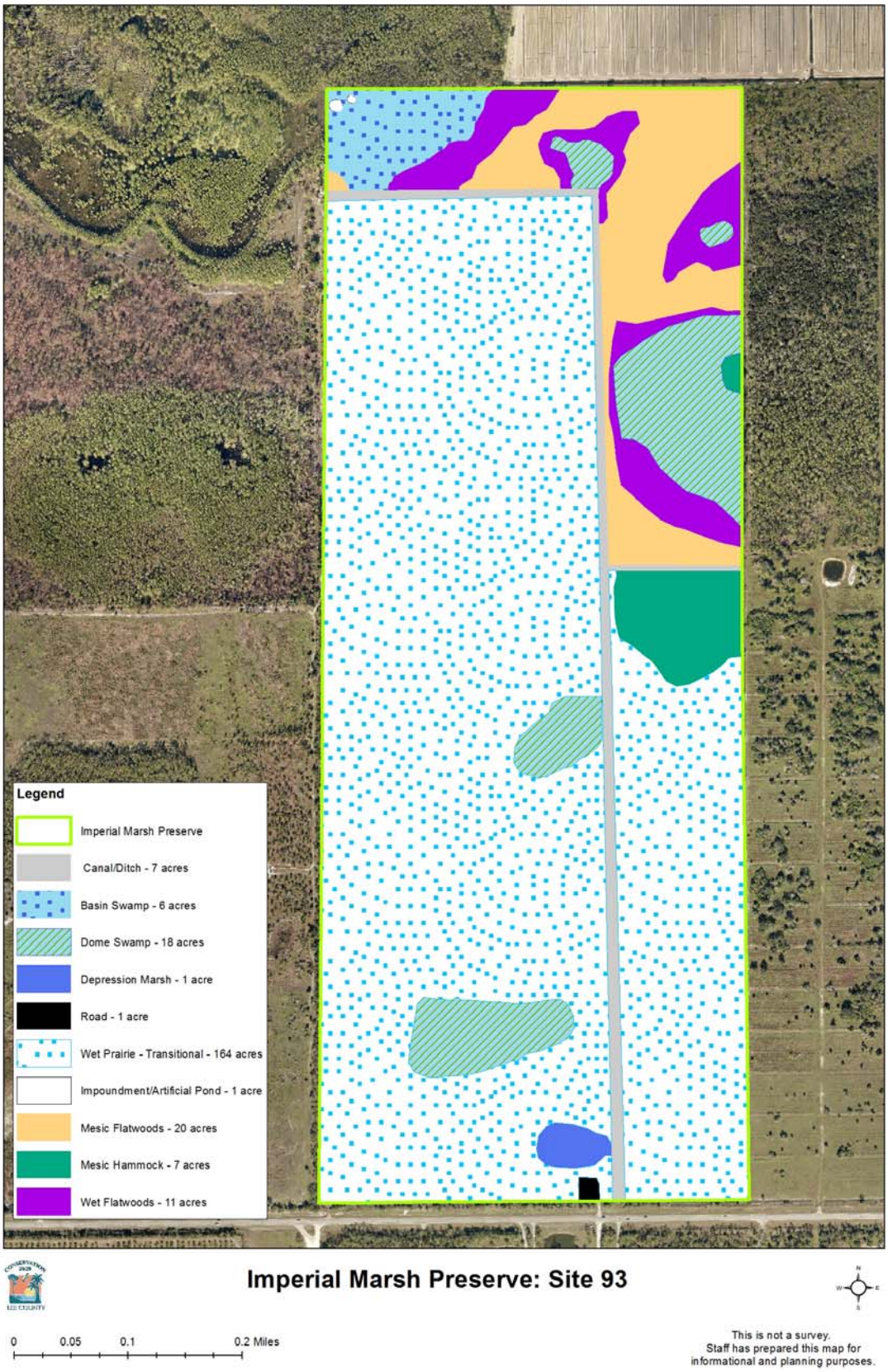


Figure 14: Site 259 Plant Communities

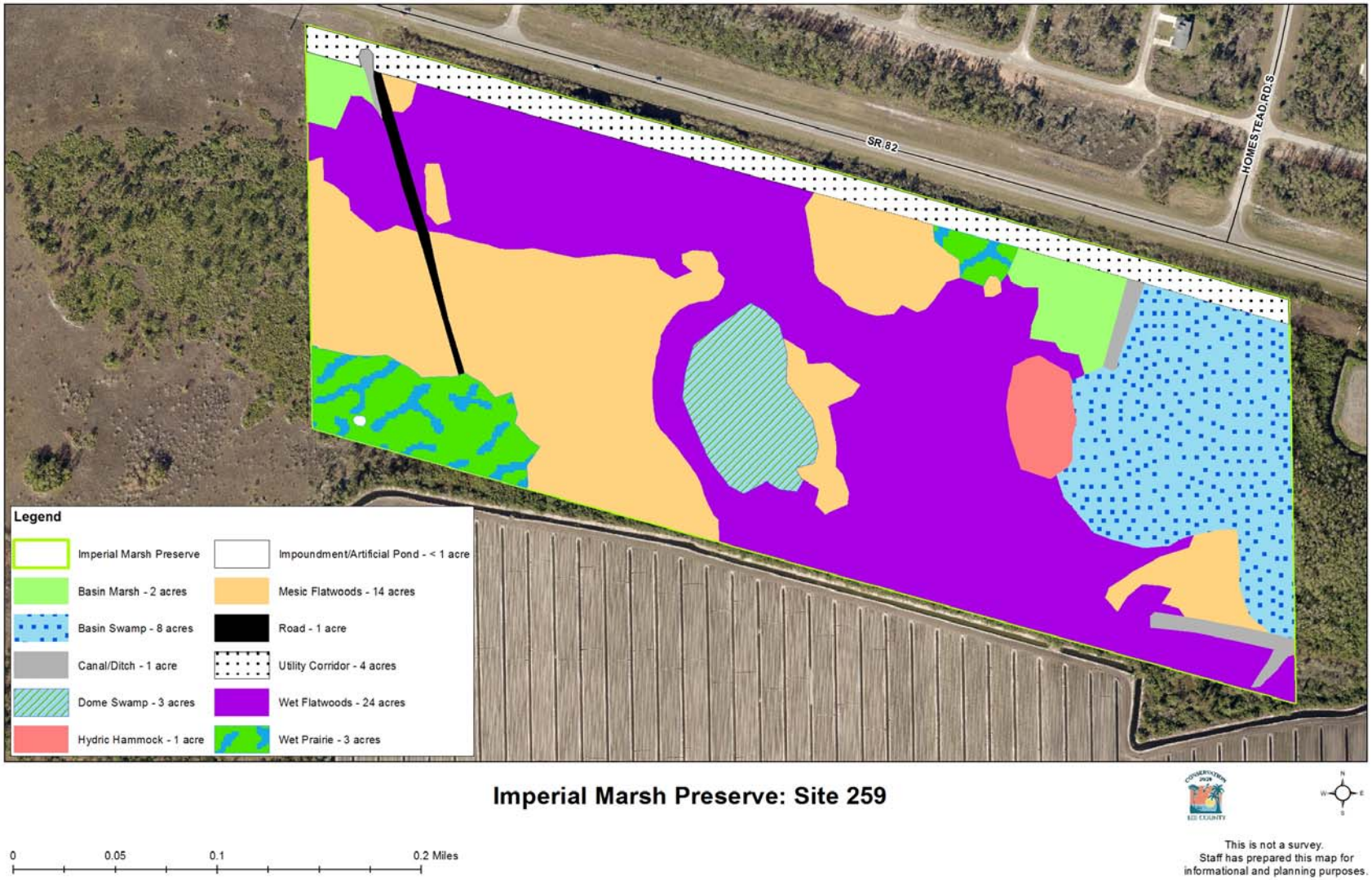


Figure 15: Site 288 Plant Communities

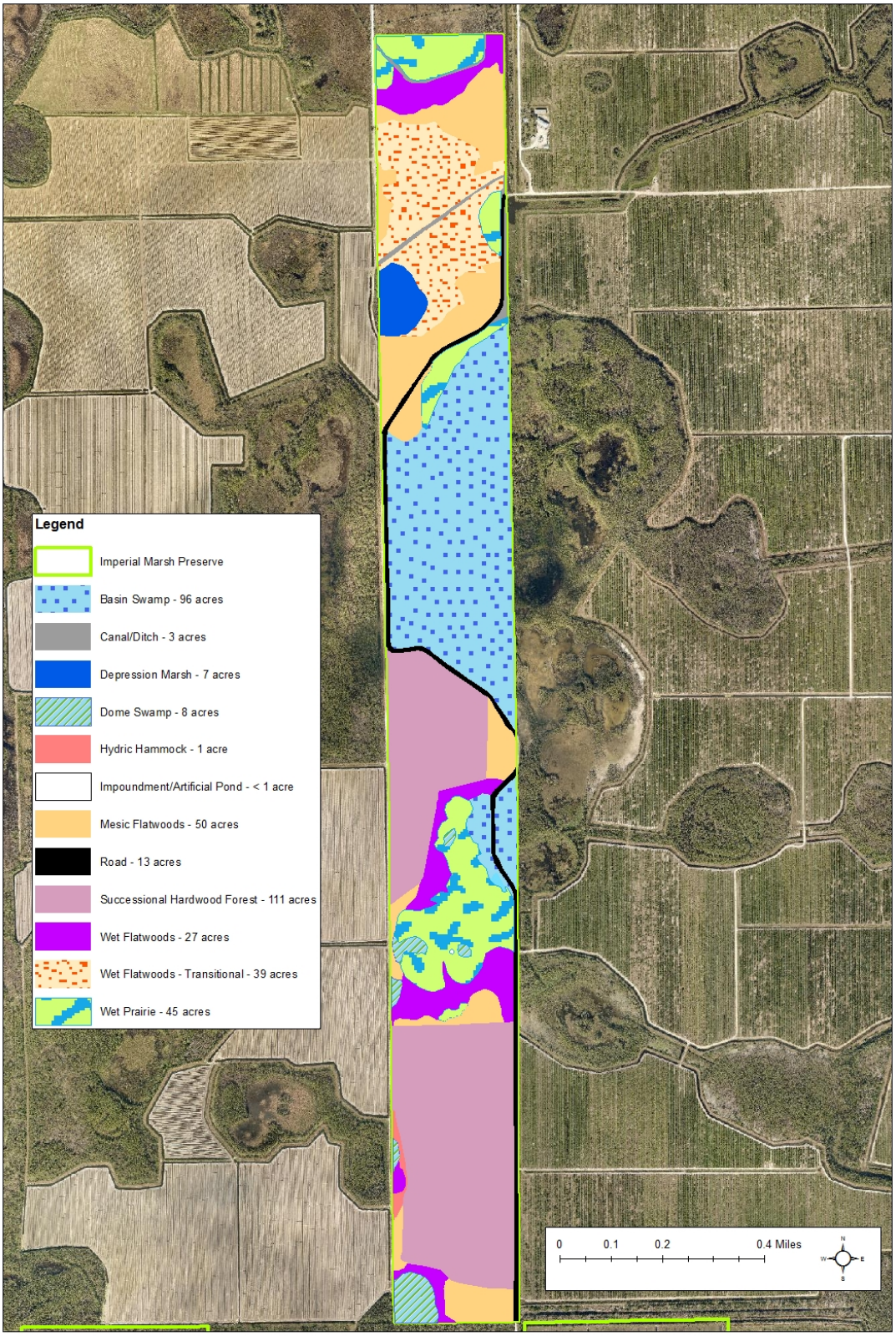


Figure 16: Site 321 Plant Communities

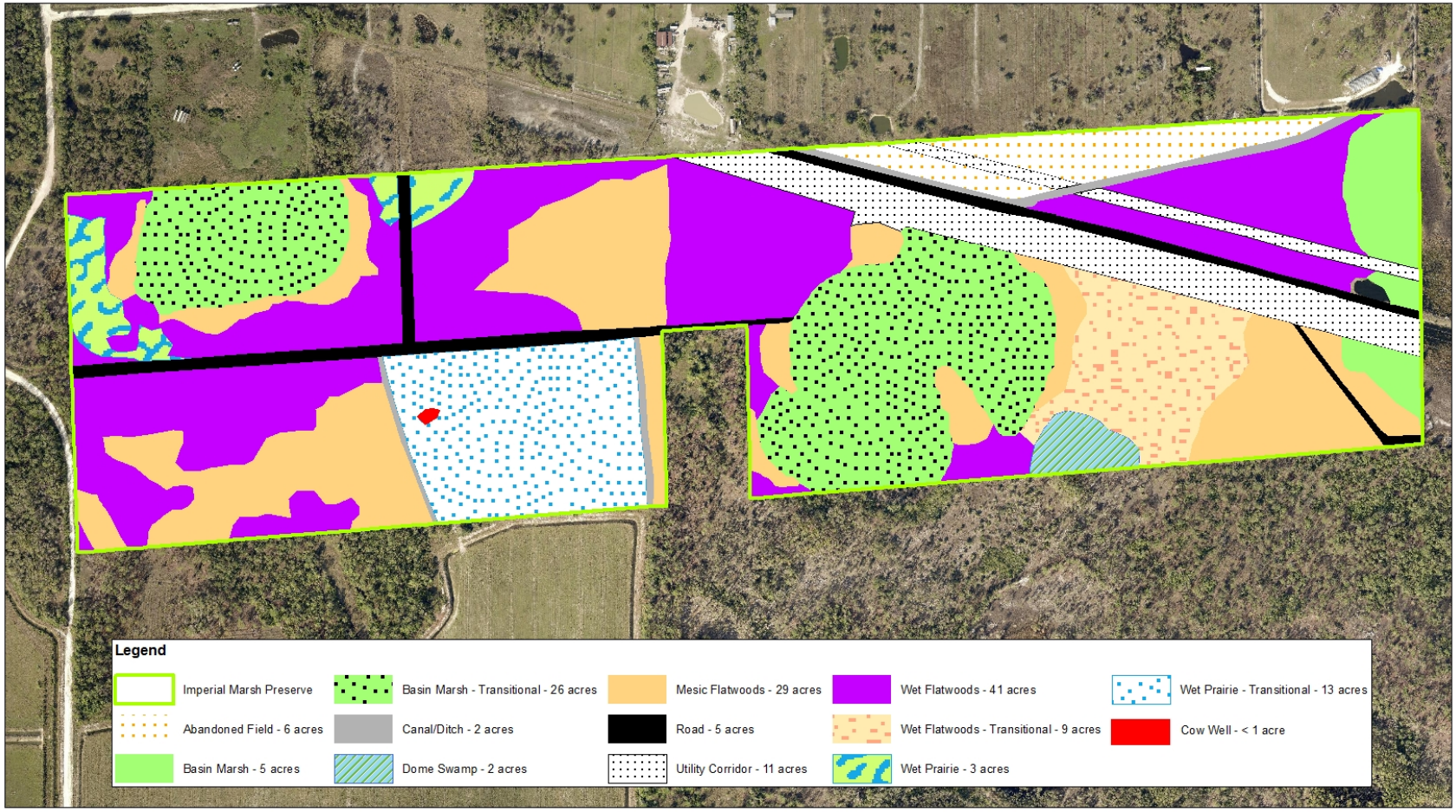


Figure 17: Site 334 Plant Communities

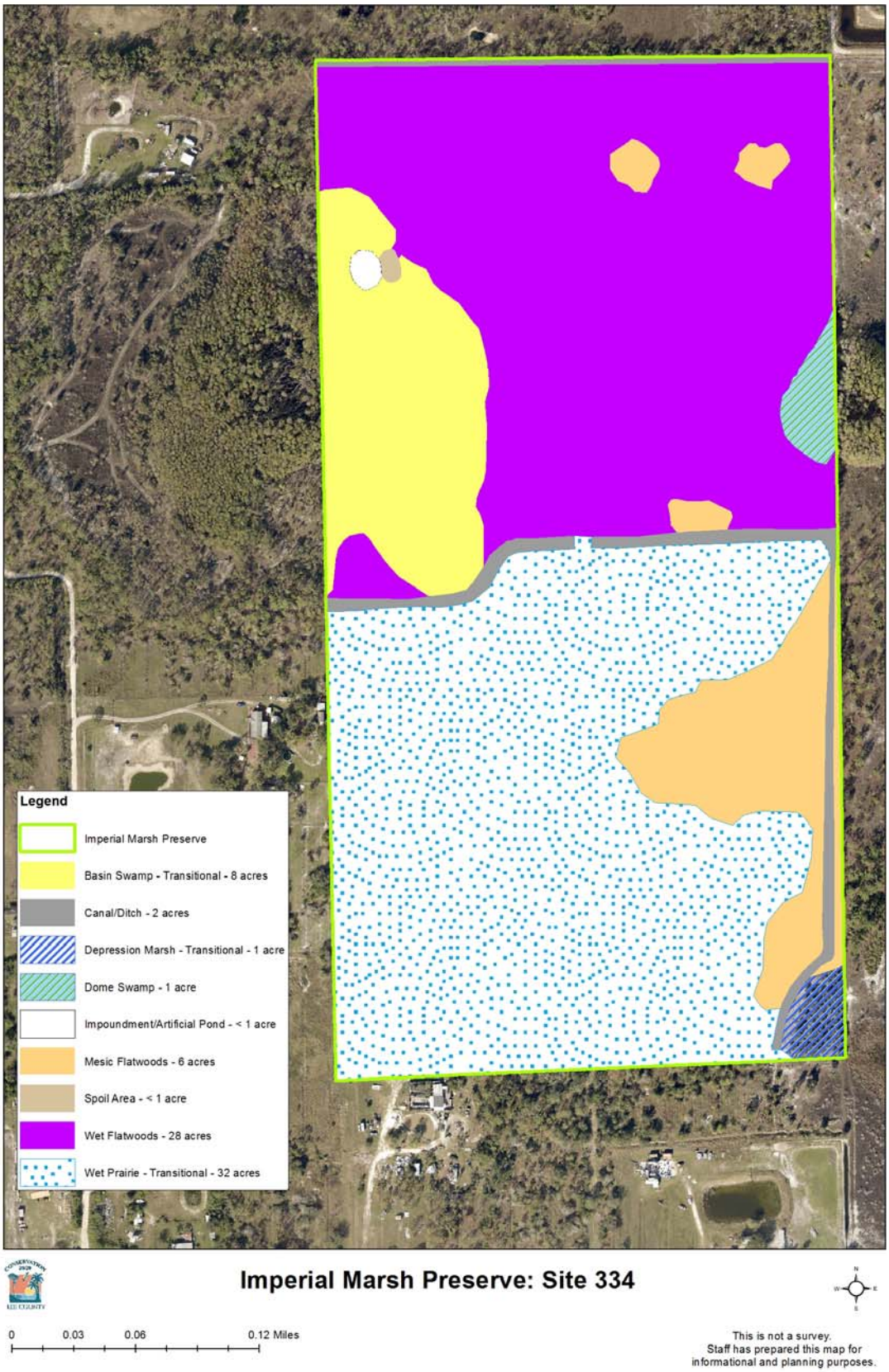


Figure 18: Site 567 Plant Communities

iii. Fauna

IMP has been greatly affected by past disturbances of the natural plant communities. IMP has a wide diversity of fauna and numerous state and federally listed wildlife. Appendix B has the complete list of wildlife observed on the preserve through staff field work, site inspections, and the Lee County Bird Patrol volunteer program. Most portions of IMP are adjacent to the GIM conservation lands managed by the Lee County Port Authority (LCPA), SFWMD and other local conservation agencies. The continuity of these additional conservation lands provide a larger area of habitat for wildlife.

Some of the bird species observed include; bald eagle (*Hailaeetus leucocephalus*), Florida sandhill crane, wood stork (*Mycteria americana*) and several different species of woodpeckers. A variety of reptiles such as the Florida box turtle (*Terrapene carolina bauri*), American alligator, and Florida cottonmouth have been observed along with several different species of mammals including the Florida panther, black bear, bobcat (*Lynx rufus*), and raccoon (*Procyon lotor*).

Table 3 shows the exotic wildlife documented at Imperial Marsh Preserve. The species of highest concern is the feral hog (*Sus scrofa*) because of its ability to uproot native vegetation and disturb the natural landscape. Hog trapping is the approved method for hog removal on C20/20 preserves. Although melaleuca psyllids (*Boreioglycaspis melaleucae*) are an exotic species, they are beneficial as a biological control that targets the invasive melaleuca trees. If practical, a methodology will also be established and implemented against other unwanted exotic animal species.

Table 3: Exotic Wildlife at IMP

Scientific Name	Common Name
Dasypus novemcinctus	nine-banded armadillo
Sus scrofa	feral hog
Streptopelia decaocto	Eurasian collared-dove
Sturnus vulgaris	European starling
Anolis sagrei	brown anole
Eleutherodactylus planirostris	greenhouse frog
Osteopilus septentrionalis	Cuban treefrog
Clarias batrachus	walking catfish
Hoplosternum littorale	brown hoplo
Hypostomus plecostomus	suckermouth catfish
Boreioglycaspis melaleucae	melaleuca psyllid
Pomacea insularum	island apple snail

Management goals at the preserve will focus on providing optimal habitat for native wildlife species. Restoration of the disturbed areas, control of invasive

exotic plants, and application of prescribed fire will be critical restoration components to provide improved habitat for wildlife. IMP is part of a countywide tri-annual site inspection program for all C20/20 preserves. A copy of the site inspection form is available in the LSOM. These inspections allow staff to monitor for any impacts and/or changes to each preserve and include lists of all animal sightings and new plant species that are observed. If staff finds FNAI listed species during their inspections, they will be reported using the appropriate form.

iv. Designated Species

A wide variety of designated animal and plant species are found in the preserve. Although all native plant and animal species found on the preserve have some protection due to the preservation of this property, certain species need additional protection. For management purposes, all plants and animals listed by the USFWS, Florida Fish and Wildlife Commission (FWC), Florida Department of Agriculture and Consumer Services (FDACS), Institute for Regional Conservation (IRC), and FNAI will be given special consideration. Additional natural history on these species and management measures to protect them can be found in the LSOM's Land Stewardship Plan Development and Supplemental Information section.

Wildlife Species

The following is a brief summary of each designated wildlife species explaining why they are in decline. Unless stated otherwise, the reasons for the species decline and the management recommendations, if available, were obtained from Hipes et al. (2001).

Wading Birds

The decline in populations of little blue herons (*Egretta caerulea*) and tricolored herons (*Egretta tricolor*) is due to loss of freshwater wetlands and alteration of their natural hydroperiod. There is also some indication that pesticides and heavy metal contamination may affect these species. Like these herons, the snowy egret has been declining throughout its range since the 1950s. Scientists believe that the main reason for this decline is the loss and alteration of wetlands where they forage. Similar to the herons and egrets listed above, the roseate spoonbill (*Platalea ajaja*) is declining throughout its range due to the reduction and degradation of wetlands and human disturbances to their rookeries. These species will benefit from the removal of invasive exotic plants (particularly melaleuca), hydrologic restoration of the natural hydroperiod by filling ditches and leveling berms, and maintaining natural marshes to promote foraging areas.

Yellow-crowned Night Heron

Yellow-crowned night heron "populations have probably declined due to illegal shooting, disturbance at breeding colonies, and drainage of wetlands used for foraging. In Florida, the destruction and alteration of more than half of the wetlands, due to the phenomenal increase in population has caused a substantial decline in ardeids. Wetlands have been filled and or impacted by

housing developments, agriculture, human activity (i.e. sports, recreation) and the infrastructure that supports these activities" (Rodgers et al. 1996).

Wood Stork

Wood storks are very sensitive to high fluctuations of water levels in freshwater wetlands, as they require high concentrations of fish in fairly shallow water for foraging. Unnaturally high water levels during nesting seasons and extended droughts are both threats that wood storks face.

Swallow-tailed Kite

Swallow-tailed kites (*Elanoides forficatus*) migrate to Southwest Florida from South America in late February/early March for their nesting season that lasts through late July/early September. Nest sites typically include tall trees in hydric pine and cypress dominated habitats. In the early 1900s, swallow-tailed kites were confirmed as nesting in 21 states; today they are only found in seven southeastern states including Florida. Loss of nesting sites through development and conversion to agriculture are the major threats to this species.

Snail Kite

The Everglades snail kite (*Rostrhamus sociabilis plumbeus*), the subspecies of the snail kite in the United States, is endangered because many of the marshlands that serve as its habitat have been drained for development, which in turn has caused diminishing numbers of the kite's prey species, the apple snail (*Pomacea paludosa*). Success in locating apple snails is further obstructed by the introduction of exotic plants such as water lettuce, which hinders foraging. Apple snails have also suffered from agricultural runoff, eutrophication, pesticides and other pollutants.

Only 65 snail kites were left when the Endangered Species Act was passed in 1973. The preservation and management of this species resulted in a 1997 population of 995 birds. No nests are currently on the preserve.

Bald Eagle

Bald eagle numbers have steadily increased in Florida after a low of 120 active nests in 1973. Still, loss of habitat and human disturbance due to development is a primary concern for this species. An active eagle nest has been confirmed on Site 321. Although bald eagles have been delisted, the bald eagle nest will be protected according to federal, state and local laws.

Crested Caracara

The crested caracara's range has contracted and become more fragmented because their habitat is threatened primarily by residential development and conversion to more intensive agricultural (e.g., citrus) uses. The crested caracara's large habitat requirements makes land acquisition and/or development of incentives (e.g., cooperative agreements, conservation easements, tax breaks) for private landowners to maintain their ranch lands for

their long-term security an important task. A crested caracara nest has been confirmed on Site 288.

Merlin

"The merlin (*Falco columbarius*) does not build a nest, but instead takes over old nests of other raptors or crows." They breed in open country from open coniferous woodland to prairie, occasionally in adjacent suburbs. Merlins "winter in open woodland, grasslands, open cultivated fields, marshes, estuaries, and seacoasts." In Florida, merlin's are considered non-breeding residents (CLOa 2003).

Limpkin

The limpkin (*Aramus guarauna*) is a large, long-billed, long-legged wader of swamps and marshes. Its bill is heavy and slightly decurved, allowing easy access to its preferred food, the apple snail. Pollution, hydrological disruptions, and an increase in invasive plants threaten the health of the apple snail population and hence the limpkin.

Florida Sandhill Crane

Florida sandhill cranes and the migratory greater sandhill crane (*Grus canadensis tabida*) are indistinguishable from each other. Threats to Florida sandhill cranes include loss and degradation of wetlands, fire suppression, free ranging dogs and cats and entanglement in fencing (Rodgers et al. 1996).

Hairy Woodpecker

The hairy woodpecker (*Picoides villosus*) is a "resident from central Alaska to Newfoundland, southward to Florida and Central America, but can also be found in the Bahamas." They are "found in mature woods, small woodlots, wooded parks, and residential areas with large trees." Hairy woodpeckers build their nest in cavities of trees or a dead branches and do not put additional materials in the cavity. They are considered "common and widespread, but may be declining in some areas. The hairy woodpecker is attracted to the heavy blows a pileated woodpecker makes when it is excavating a tree. The hairy forages in close association with the larger woodpecker, pecking in the deep excavations and taking insects that the pileated missed" (CLOb 2003).

American Alligator

American alligators have recovered dramatically since the 1960s. Populations are large enough to support limited harvests in designated wildlife management areas. Pollution and destruction of wetlands are currently the main threat to this species. Protecting wetlands from ditching, filling and pollution are the management recommendations for this species.

Big Cypress Fox Squirrel

The Big Cypress fox squirrel is in decline throughout its range primarily due to loss and degradation of habitat. Although the number of this sub-species of fox

squirrel in Florida is unknown, “based on the amount of known habitat loss, fox squirrel populations have undoubtedly declined by at least 85% from pre settlement levels” (Humphrey 1992). Much of the fox squirrel’s pine-oak forest has been converted to pine plantations, agriculture and development. Additionally, regular burn regimes of 2-5 years during the growing season (April-July) are critical to maintain their habitat with an open canopy with minimal understory. Exotic plant removal/control and the implementation of regular prescribed burning will improve the habitat for this species.

Florida Panther

The Florida panther is extirpated from most of its historic range in the southeastern United States, but exists in small populations in south Florida. The Florida panther's decline is due mainly to loss, fragmentation, and degradation of habitat. Other habitat related threats include inbreeding, insufficient numbers of large prey, disease, and mercury and other environmental contaminants. Institutional constraints and negative public perception also threaten the future survival of the Florida panther. The large cats require extensive areas of mostly forested communities. Large wetlands that are generally inaccessible to humans are important for diurnal refuge. They will tolerate improved areas in a mosaic of natural communities.

Evidence of Florida panthers has been observed at IMP by land management staff and confirmed by radio-collared panthers monitored by FWC. The preserve is within the Priority 2 land delineated in the Florida Panther Habitat Preservation Plan issued by the Florida Panther Inter-agency Committee, which consists of four state and federal wildlife agencies (Figure 19). To protect the Florida panther, management activities include preservation of the mosaic of communities across the preserve that provide habitat and promote prey usage. This includes control of exotic plants, plugging ditches, leveling berms, and either introducing prescribed fire or mimicking fire through mechanical reductions of overgrown areas. Intentionally designated corridors for the Florida panther are becoming more important as surrounding lands are developed and Corkscrew Road is widened.

Plant Species

In addition to designated wildlife, IMP provides habitat for plant species listed by the IRC and FDACS. A comprehensive list of plant species in the preserve is included in this document. IRC’s designation was obtained from their website (http://www.regionalconservation.org). Seventy-nine IRC listed species have been documented on the preserve. The FDACS designations for plant species in the table were taken from Chapter 5B-40, F.A.C. (2018), the statute that covers endangered, threatened and commercially exploited plants in Florida. Six FDACS listed species have been documented in the preserve. The following is a brief summary of the FDACS-designated plant species explaining why they are in decline, typical habitats where they are located, and management recommendations.

Royal Fern

Royal fern (*Osmunda regalis var. spectabilis*) is listed as Commercially Exploited by FDACS. This plant is distributed throughout Florida and can be found in wet flatwoods, basin swamp and dome swamp communities of the preserve. Threats to this species include illegal harvesting and habitat destruction. Continued preservation, maintenance of preserve boundaries, exotic maintenance and control of vines are management techniques that will benefit this species.

Redmargin Zephyrlily

Redmargin Zephyrlily (*Zephyranthes simponii*) is listed as Threatened by FDACS. It grows from an underground bulb and flowers typically from February through April. This species is typically found in hydric pine, savannas/pastures and on the margins of wet hammocks. It is also found along moist mowed roadsides. The main threat to this species is habitat destruction. Drainage and development in particular drastically alter or eliminate the habitat this species needs to survive. Continued preservation, exotic removal and selective thinning of pines and mid-story species are management techniques that will benefit this species.

Northern Needleleaf

The northern needleleaf (*Tillandsia balbisiana*) is a species listed as threatened by FDACS that is occasionally found in a variety of communities including pinelands, hammocks and mangroves. It has been documented in several areas of the preserve. Threats to this species include the exotic Mexican bromeliad weevil (*Metamasius callizana*) and habitat destruction (Save 2016).

Currently, scientists are researching biological control agents for the exotic Mexican bromeliad weevil. Staff will keep current with the research developments and work with scientists in the future if it is determined that the weevils are affecting epiphytes and the United States Department of Agriculture (USDA) is in need of release sites.

Cardinal and Giant Airplants

Cardinal airplants (*Tillandsia fasciculata var. densispica*) and giant airplants (*Tillandsia utriculata*) are found in hammocks, cypress swamps and pinelands at IMP. Both airplants are listed by FDACS as endangered. Scattered plants have been documented in several portions of the preserve. Threats to these plants include illegal collecting, habitat destruction and the Mexican bromeliad weevil (Save 2016). They were once considered common before the arrival of the weevil in Florida in the late 1980s.

Needleroot Airplant Orchid

The needleroot airplant orchid, also known as the jingle bell orchid (*Dendrophylax porrectus*), is designated as Threatened by FDACS. This inconspicuous plant grows on the limbs of trees including cypress and oaks in wet areas. Threats to this species include habitat destruction and infestations of

invasive exotics. Continued preservation, exotic removal and selective thinning of the mid-canopy are management techniques that will benefit this species.

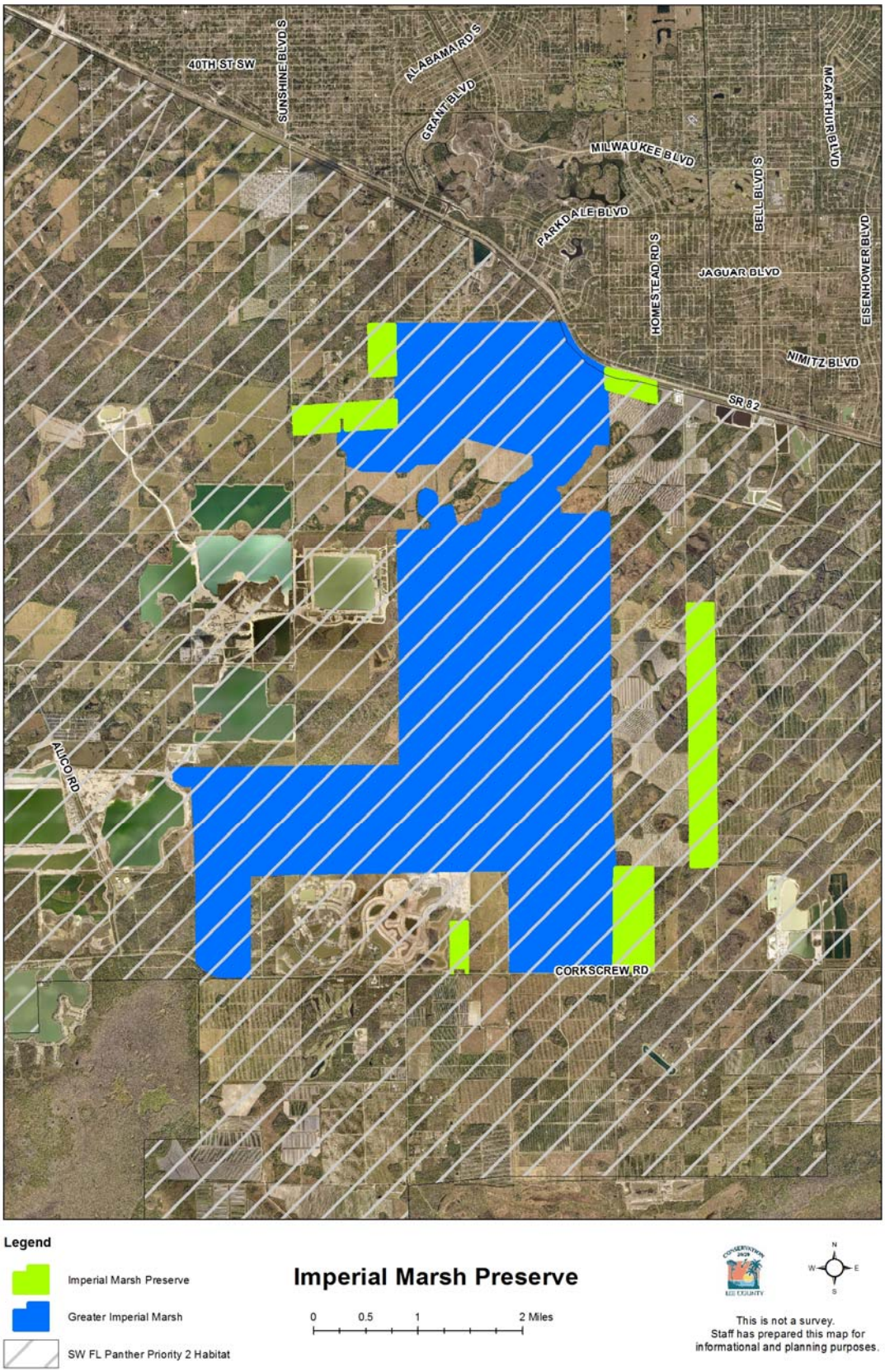
Management Recommendations

In the IRC's book, Rare Plants of South Florida: Their History, Conservation and Restoration (Gann 2002), the authors provide recommendations to help restore south Florida's rare plant diversity. Several of these recommendations, particularly those that protect plants on the preserve and relate to management practices, will be utilized. More information on the specifics techniques used will be discussed in the Management Action Plan later in this document. The following list highlights those recommendations by IRC that will be incorporated into the management of IMP:

- Prohibit recreational activities such as off-road vehicle use to avoid impacts to rare plant populations.
- Prevent illegal poaching of rare plants.
- Prosecute poachers to the fullest extent of the law.
- Implement an ongoing exotic pest plant control program.
- Educate exotic plant control crews about the rare plants to ensure they avoid non-target damage.
- Trap wild hogs, which can completely destroy the above ground vegetation and disturb all the soil in an area where they are feeding.
- Initiate prescribed fire in communities that are fire adapted since fire as a management tool is extremely critical for the protection of many rare plants.
- When prescribed burns are implemented, divide the site so entire communities are not burned during the same growing season.
- Ensure that management activities do not negatively impact rare plant populations.

If additional listed species are documented on the preserve, they will be added to the wildlife and plant lists.

Figure 19: Panther Priority Habitat



v. Biological Diversity

General information on biological diversity and measures used to promote biological diversity can be found in the LSOM Land Management Plan Development and Supplemental Information section. The integrity and diversity of IMP must be protected when and where possible. Land management staff will perform the following actions in this regard.

- Control of invasive exotic vegetation followed by regular maintenance to provide more suitable habitat for native aquatic and terrestrial species.
- Maintain boundaries with signs to eliminate illegal access to the preserve and protect fragile ecosystems.
- Install and maintain “No Berry Picking” signs to inform visitors and vegetation poachers it is illegal to harvest on the preserve.
- Prevent and prosecute poaching and illegal removal activities (palmetto berry harvesting, illegal hunting, orchid collection, etc.).
- Remove any debris and prevent future dumping within the boundary line.
- Conduct on-going species surveys to catalog and monitor plant and wildlife diversity.
- Use adaptive management if monitoring of current techniques indicates a change may be necessary.

C. Cultural Resources

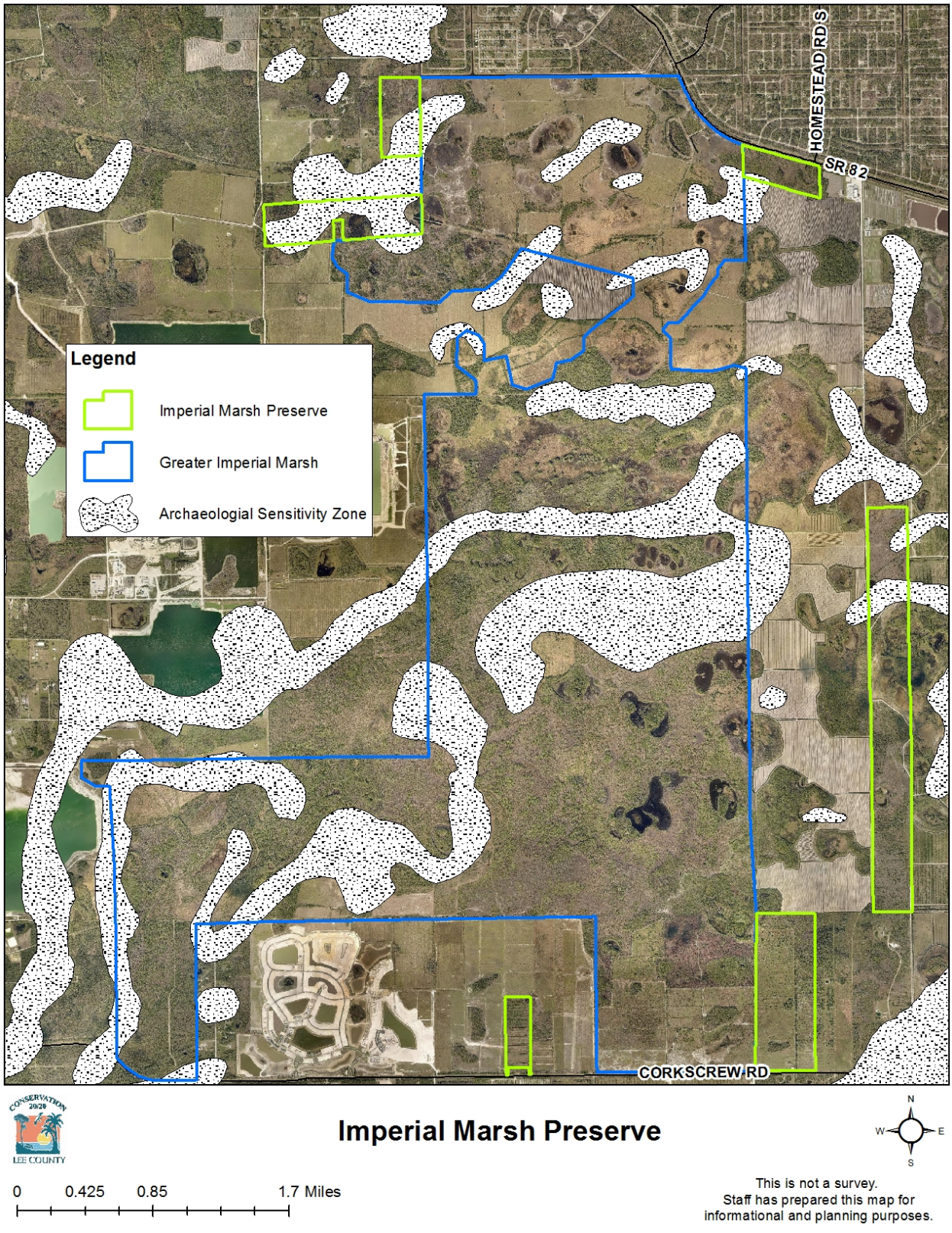
i. Archaeological Features

In 1987, Piper Archaeological Research, Inc. conducted an archaeological site inventory of Lee County. They were able to identify 53 sites, increasing the total number of known archaeological sites in Lee County to 204. They also created a site predictive model and archaeological sensitivity map for the county that highlighted areas likely to contain additional archaeological sites. Portions of all but Sites 93 and 567 are located within an area designated as archaeological sensitivity level 2 (Figure 20). The study defines this level as “areas that contain known archaeological sites that have not been assessed for significance and/or conform to the site predictive model in such a way that there is a high likelihood that unrecorded sites of potential significance are present. If these areas are to be impacted by development activities, then they should be subjected to a cultural resource assessment survey by a qualified professional archaeologist in order to determine the presence of any archaeological sites in the impact area and/or assess the significance of these sites” (Austin 1987).

If any restoration projects within these boundaries require major soil disturbance (for example, excavation of soil), a professional archaeologist will be hired to conduct a survey of the area to be impacted. If evidence of artifacts are found in the area during restoration activities, staff will follow the Division of Historical Resources (DHR) “Best Management Practices: An Owner’s Guide to Protecting Archeological Sites” (http://www.flheritage.com/archeology/education/culturalmgmt/Handbook.pdf) and immediately DHR will be contacted. Staff will also work with DHR to designate the preserve as a State Archeological Landmark Zone under Section 267.11. This would extend protection of the site and allow for protection procedures under the provision of Chapter 267, Florida Statutes, Sections 267.061 2(a) and (b). Collection of artifacts and/or any disturbance of the archaeological site will be prohibited unless prior authorization has been obtained from the Department of State, DHR. The site will be managed in coordination with recommendations of the DHR and, if necessary, the site will be kept confidential with periodic monitoring for impacts. If any significant archaeological resources are found and confidentiality is not found to be necessary, they will be incorporated into the public educational program.

General information on archaeological features in Lee County is located in the LSOM Land Stewardship Plan Development and Supplemental Information section.

Figure 20: Archaeological Features



ii. Land Use History

Site 93

The changes to this portion of the preserve have been extensive since 1953 (Figure 21). Although not evident from historic photographs, intense logging of slash pine from the late nineteenth century until the 1930s virtually eliminated all virgin stands of the southern mixed forest in South Florida. This activity is likely to have reduced slash pine densities throughout the preserve and explains the lack of old growth pine trees found on the site. Corkscrew Road, a dirt jeep trail in the 1940s, was widened and moved to its present position between 1958 and 1966. In the 1960s and 1970s, the stumps of the logged slash pines were removed from many properties in the region. This activity, referred to as stumping, was conducted to extract turpentine from the wood. Stumping created depressions in the soil, which created a microhabitat where soil moisture is higher for longer periods than adjacent habitats. For this reason different plant species are likely to occur in these depressions.

The majority of this portion of the preserve was cleared and ditched for row crop farming between 1958 and 1966. By 1974, the southeastern field showed signs of abandonment and through natural succession, has recovered with scattered cabbage palms, live oaks, wax myrtles, and numerous herbaceous plant species. The dominant invasive exotic vegetation are currently grass species including torpedo and West Indian marsh grass. The field on the western side of Site 93 extended west into what is now the Corkscrew Mitigation Bank. In 1981, this field was still being farmed (Figure 22). It is also interesting to note that the pine flatwoods in the north part of the preserve have become very thick and overgrown, probably due to fire suppression. Over the next decade the western field was abandoned and the area began to be used for cattle ranching as evident by three cow wells and a cow pen being installed in the early 1980s. The 2002 aerial (Figure 23) shows successional vegetation, similar to the eastern field with a thicker cover of woody plants, especially wax myrtle and Brazilian pepper.

The site was acquired by Lee County and incorporated into C20/20 in 2000. Since then, various management activities have occurred, including a hydrologic restoration project. The hydrologic restoration included the installation of a series of small depressional marshes, berm breaks and ditch plugs on the interior berm, and a control structure set at an elevation of 29 feet NGVD 29 to optimize water levels in the preserve. The control structure includes a set of movable risers if adjustments are necessary in the future. The material from the marsh creation was used to create a raised staging area adjacent to Corkscrew Road, which serves as a parking and wildlife viewing area. A diversity of native vegetation, including cypress, buttonbush (*Cephalanthus occidentalis*), dahoon holly (*Ilex cassine*) and red maple were planted in the interior of the western field in 2013. Exotic removal is on-going. Figure 24 shows the progress of these projects. Largely used as a mitigation area for various road and development projects, Site 93 will be preserved and maintained in perpetuity.

Figure 21: 1953 Aerial Site 93

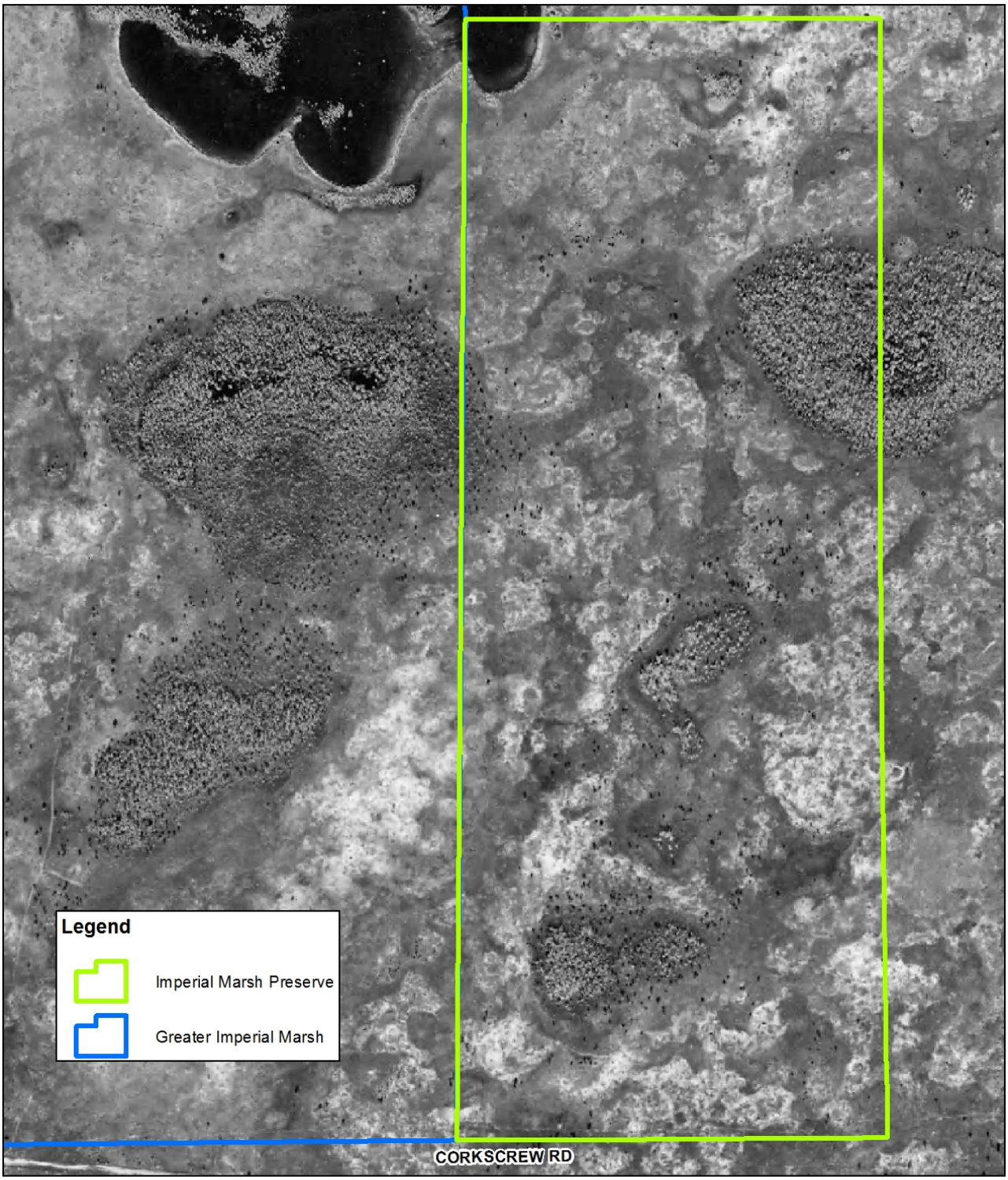
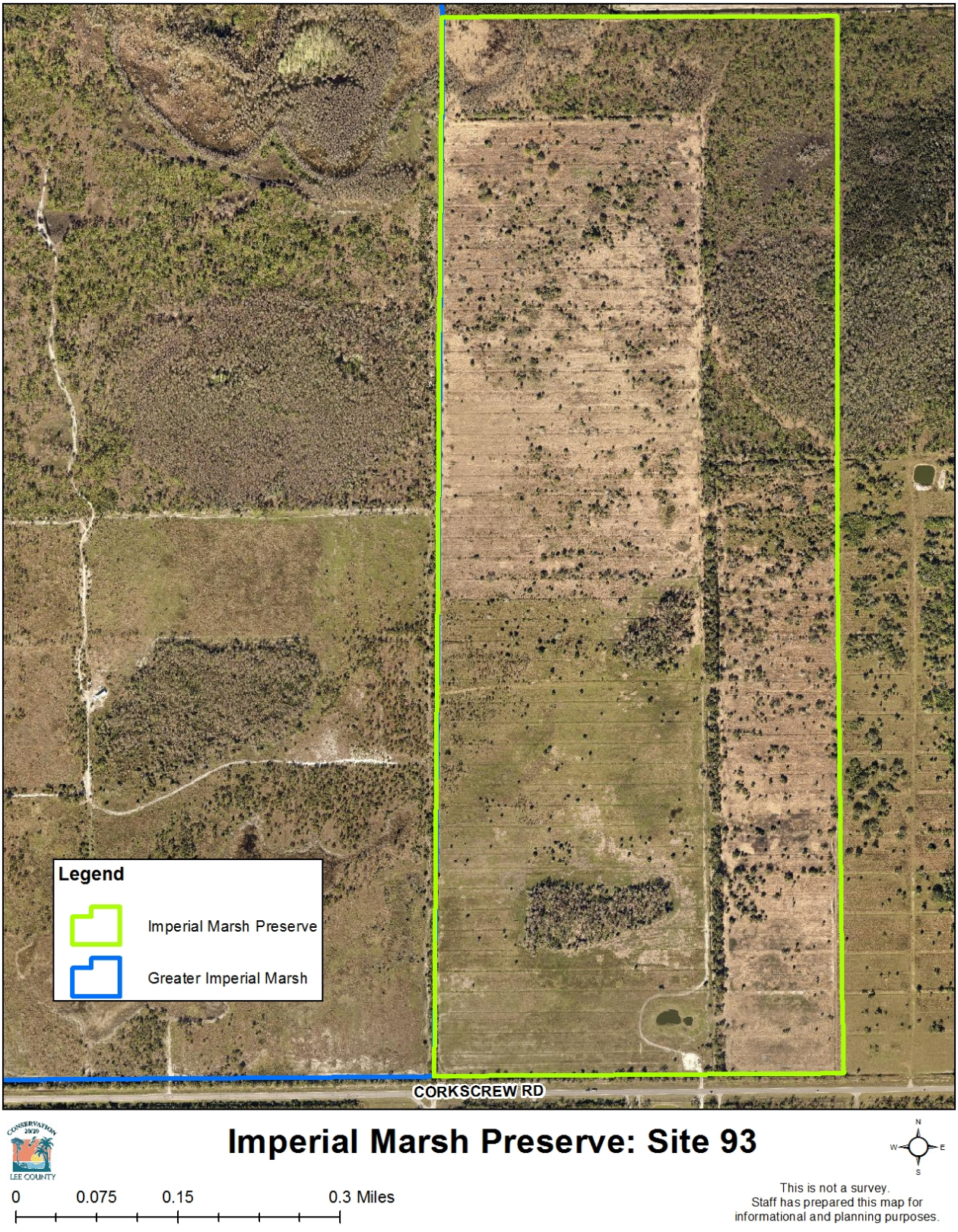


Figure 22: 1998 Aerial Site 93

Figure 23: 2002 Aerial Site 93

Figure 24: 2019 Aerial Site 93



Site 259

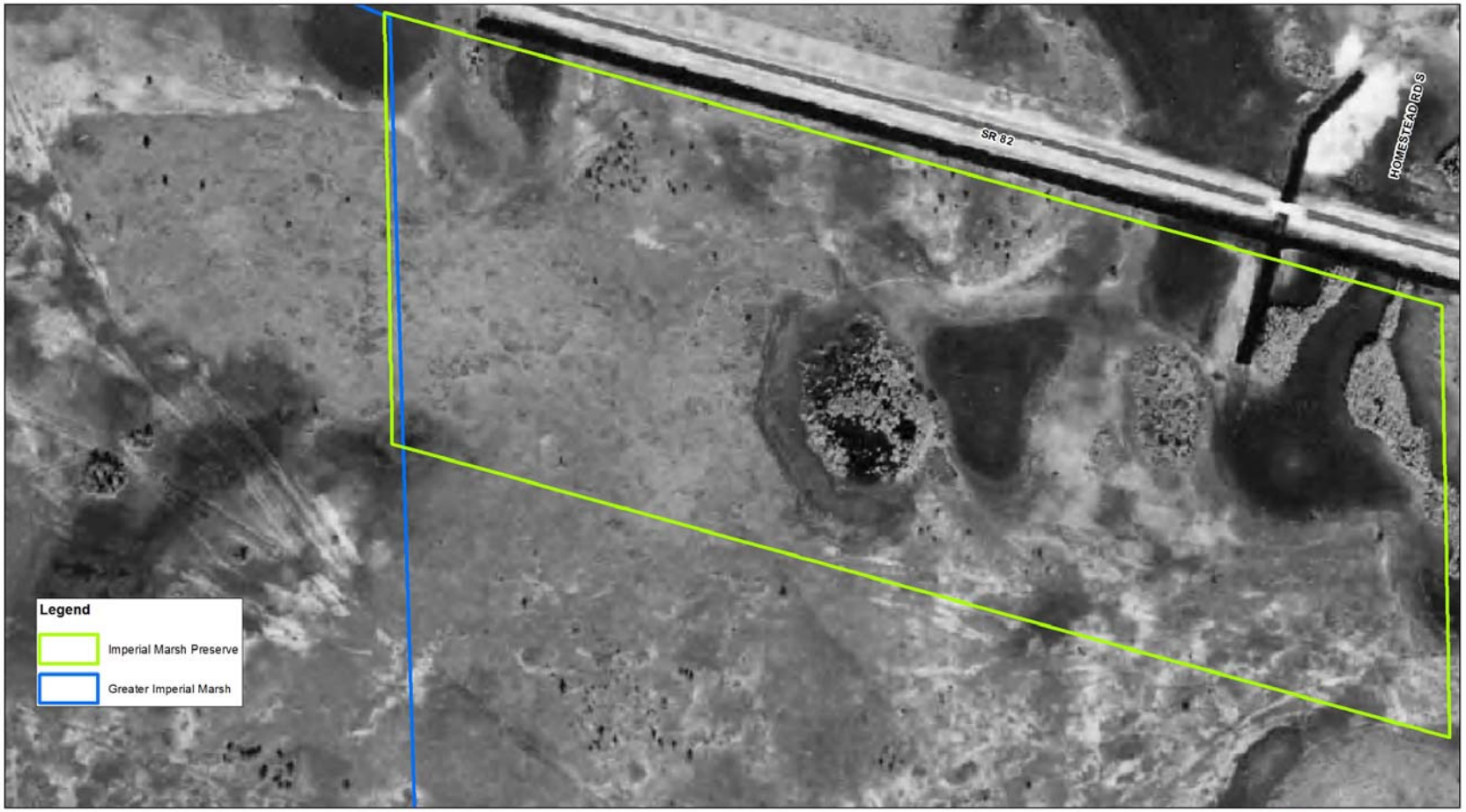
Like Site 93, this portion of the preserve has changed tremendously since 1953 (Figure 25). By then, State Road 82 had been built on the northern boundary of this portion of the preserve and the ditch that is still on the site today was dug for drainage under the road. Besides the road, the area remained relatively undeveloped until the mid-1960s when much of the land to the south and east were cleared for row crops. The existing entrance to Site 259 first appeared in the 1966 aerial and it appears that this site was used as an access point for the agricultural areas to the south. During the 1970s, there is evidence of interior jeep trails, and the powerlines that stretch along the north boundary were installed. When comparing the 1966 aerial with the 1990 aerial, it appears that the surrounding development diverted water from the preserve and the higher west third portion of the site transitioned into a mesic flatwoods with an understory of palmetto.

Probably the most dramatic change occurred between 1990 and 2002 (Figures 26-27). In those 12 years, Site 259 changed from a relatively open area with scattered cypress domes to a site dominated by higher shrubs and trees. Invasive melaleuca trees filled the center of the site while the edges filled in with Brazilian pepper and other shrubs. The native pine trees have also grown in dense thickets.

The site was acquired by Lee County and incorporated into C20/20 in 2005. Since then, exotic removal events have occurred throughout the site over the years. Melaleuca was logged and removed around 2009. The exotic removal efforts have resulted in a shift in plant communities in the central portion of the site from exotic pasture grasses to a wet prairie (Figure 28). It is anticipated that further improvements throughout the site will occur with time. Additional efforts are needed to reduce the pine density and height of the saw palmetto in the mesic flatwoods areas.

This parcel has an active cattle lease on it, signed in 2018. The lease is valid until September 30, 2019, with potential for an extension until September 30, 2020. No considerations are currently being made to end cattle leases on the site. This may change if site conditions or presence of sensitive species dictate the need to remove the cattle.

Figure 25: 1953 Aerial Site 259



Imperial Marsh Preserve: Site 259

0 0.05 0.1 0.2 Miles

This is not a survey.
Staff has prepared this map for informational and planning purposes.

Figure 26: 1990 Aerial Site 259

Imperial Marsh Preserve: Site 259

0 0.05 0.1 0.2 Miles

This is not a survey.
Staff has prepared this map for informational and planning purposes.

Figure 27: 2002 Aerial Site 259

Figure 28: 2019 Aerial Site 259

Site 288

Once again, this portion of the preserve, as well as all of southeastern Lee County, has changed significantly since 1953 (Figure 29). Between 1953 and 1958, the northern wetland had been cleared, possibly for drainage. By 1966 this area had changed dramatically. Although the aerial photography of Lee County is incomplete, it is still apparent that a large portion of the southern half was cleared for row crops. Additional clearing for agriculture is apparent in the surrounding lands and an access road was constructed on the northern third of the site. The preserve was not farmed for long, and by 1974, the fields were fallow and beginning to fill in with the typical pioneering species that appear in these ruderal settings.

Between 1986 and 1990, the farm road that extends through the majority of the site was constructed (Figure 30). This aerial also shows the continuing vegetation growth over the cleared agricultural areas and even the slow disappearance of the older farm access road on the north end. By the early 1990s, the site began to be managed for cattle. A cow well and pens were installed. Invasive exotic plants and other vegetation began to grow densely in the higher portions of the area which is quite apparent in the 2002 aerial (Figure 31). The surrounding land was also extensively cleared for agricultural purposes at this time.

In the early 2000s, the site was also used for hunting. Two separate primitive hunt camps were constructed and some remnants remain. In addition, cattle continued to graze the southern half of this portion of the preserve as an interim management technique. An active cattle lease is over a large portion of the property, started in September 2018 and valid until September 2019 with potential for a one-year extension, however no cattle are on the site. There is currently no plan to prohibit cattle leases, but future site conditions may result in the need to do so.

The site was acquired by Lee County and incorporated into C20/20 in 2007. Since then, exotic removal events have occurred throughout the site over the years. Melaleuca was logged and removed around 2009. The old agricultural fields have grown in with pine and oak trees, and continue to transition to a forested community (Figure 32). It is anticipated that further improvements throughout the site will occur with time.

Figure 29: 1953 Aerial Site 288

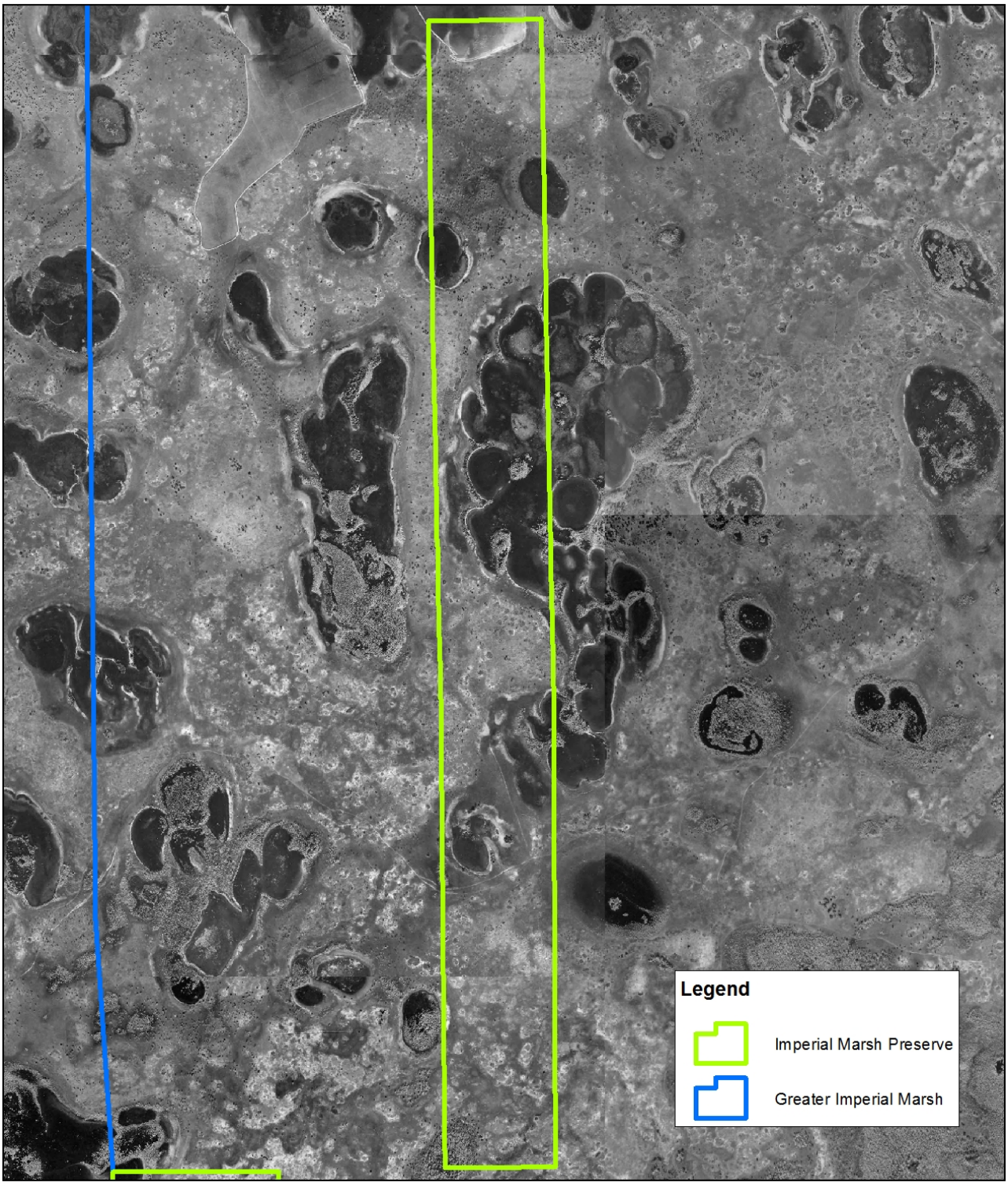


Figure 30: 1990 Aerial Site 288

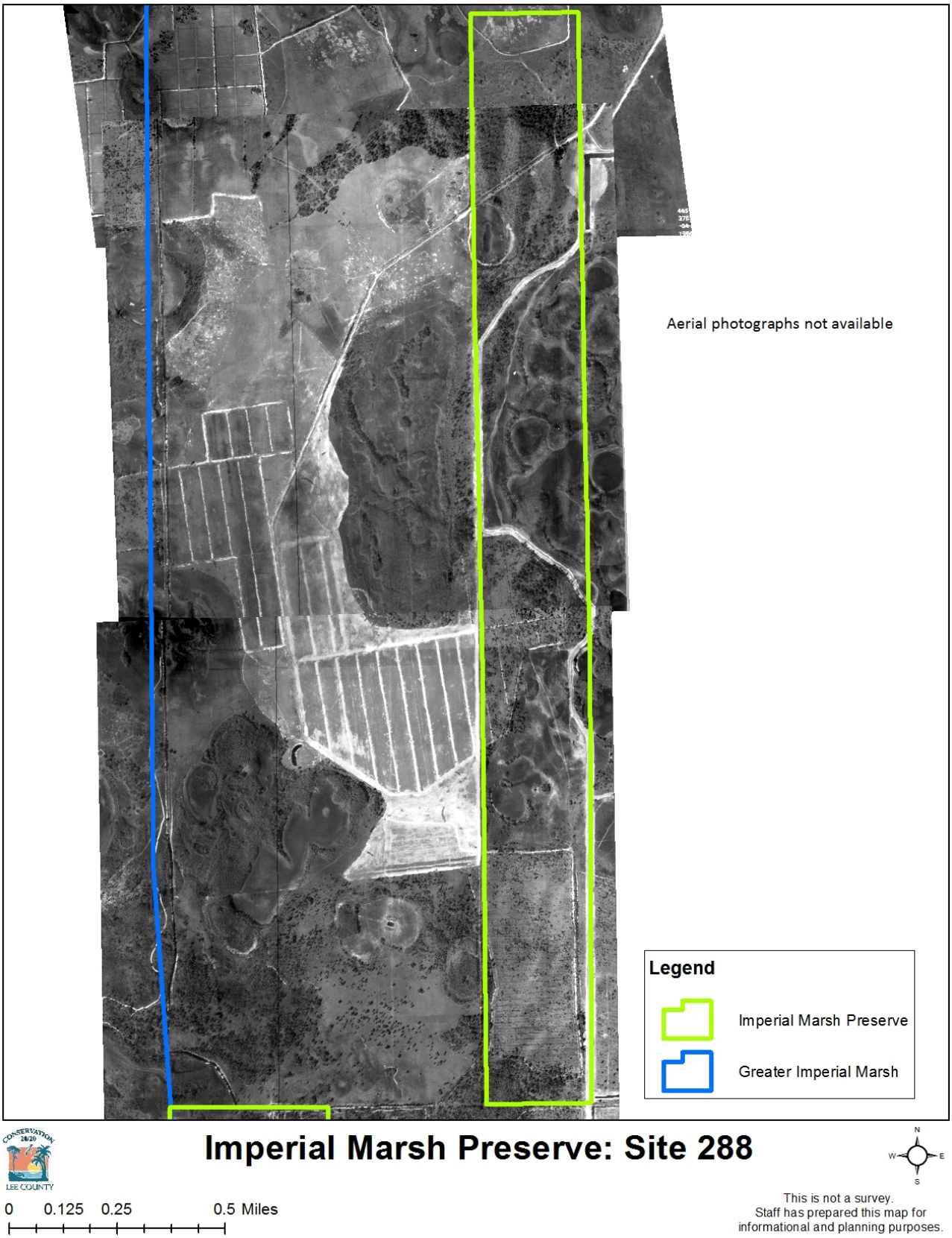


Figure 31: 2002 Aerial Site 288

Figure 32: 2019 Aerial Site 288

Sites 321 and 334

These two sites of IMP remained basically undisturbed between 1953 (Figure 33) and 1966. Between 1966 and 1974, when the next set of aerial photographs were taken, portions of both sites were partially cleared for row crops. Site 321 had the additional impact of a power line constructed on the eastern half. By the early 1980s interior jeep trails were placed on both sites. Farming continued for a few more years but by 1990 all the cleared farm fields began showing tree and shrub growth as the land lay fallow. As with all the other sites, comparing the 1990 aerial with the 2002 aerial (Figure 34) a significant increase in trees and shrubs, including large melaleuca trees are evident in the wetlands of both sites. By 2002, both sites had cow wells dug and have been used for cattle grazing. Finally, between 2005 and 2006 an additional set of power lines were installed on Site 321, parallel to the lines built in 1974.

Both sites were acquired by Lee County and incorporated into C20/20 in 2007. Since then, exotic removal events have occurred throughout the sites over the years. Melaleuca was removed between 2017 and 2018. In much of Site 321, the melaleuca was killed in place. Both sites have improved substantially, and the areas previously containing exotic monocultures continue to transition toward native communities (Figure 35). It is anticipated that further improvements throughout these sites will occur with time and continued exotic maintenance.

Site 334 continues to have cattle leases on it. The current lease is in effect from September 2018 to September 2019, with potential for a one-year extension. There is currently no plan to prohibit cattle leases, but future site conditions may result in the need to do so. Cattle leases may also need to be dis-continued if the LCPA utilizes the site for mitigation where the presence of cattle conflicts with the mitigation success (refer to the Legal Obligations and Constraints section for more information regarding the potential use of the site as mitigation by the LCPA).

Figure 33: 1953 Aerial Site 321 and 334

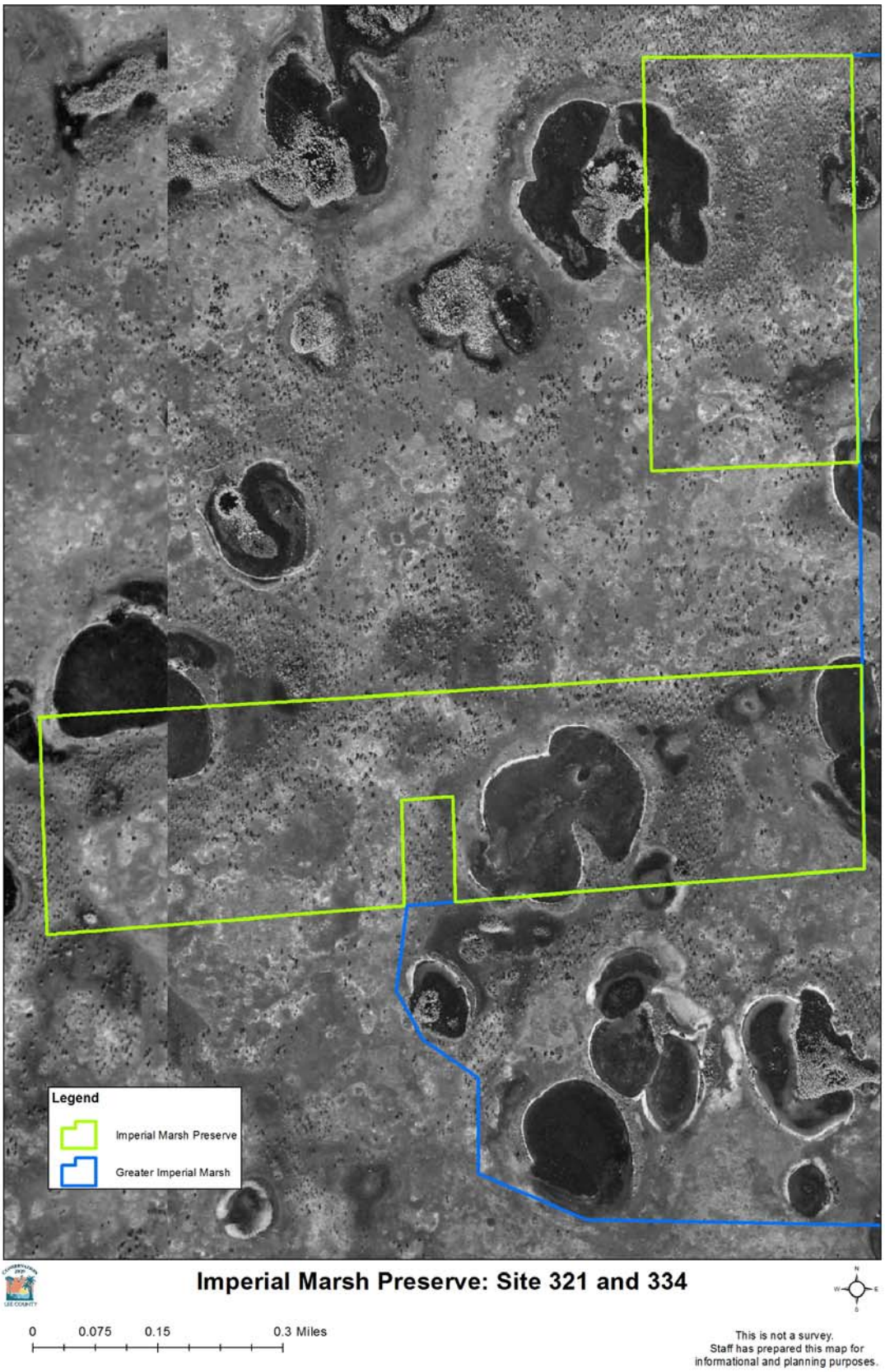
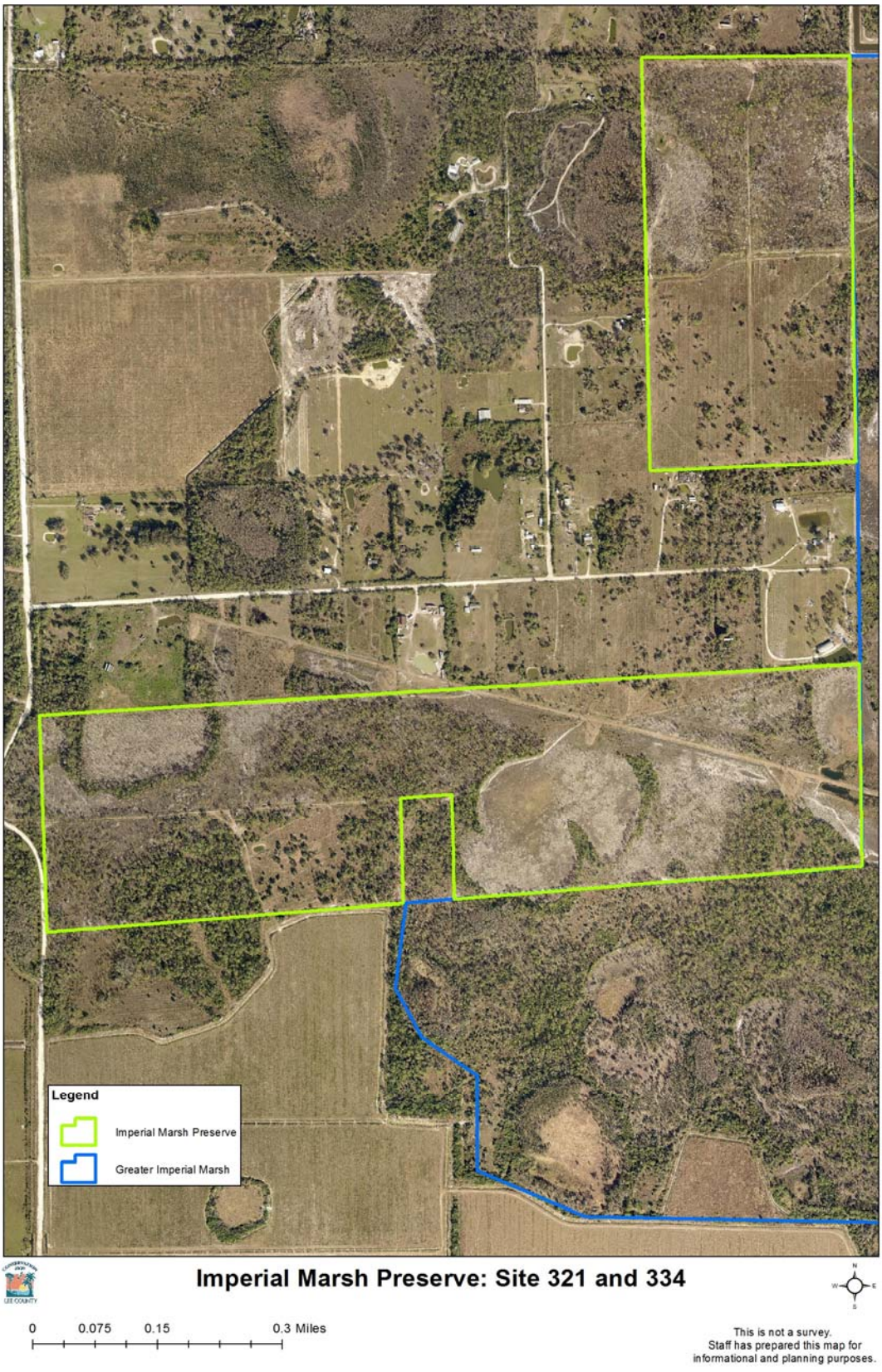


Figure 34: 2002 Aerial Site 321 and 334

Figure 35: 2019 Aerial Site 321 and 334



Site 567

The changes to this 44-acre portion of the preserve have been extensive since 1953 (Figure 36). As described for Site 93, logging of slash pines, the realignment of Corkscrew Road and removal of slash pine stumps occurred in the region between the 1930s and 1970s.

The site was previously a mosaic of pine uplands, freshwater marshes and cypress wetlands. The majority of this portion of the preserve was cleared and ditched for citrus farming between 1953 and 1998. The cypress dome in the northeast corner of the site was ditched off from the rest of the site. By 2009, the citrus field showed signs of abandonment (Figures 37-38) and currently sits fallow. The site was acquired by Lee County and incorporated into the C20/20 program in 2017.

The site is currently a fallow citrus grove with peripheral ditches and berms, internal furrows and a couple piles of debris (Figure 39). At least one unabandoned irrigation well is present on the site. The citrus trees are no longer present, and the furrows are being colonized by various ruderal species including ragweed, caesarweed, earleaf acacia, smutgrass, Spermacoce and other undesirable species. The cypress dome in the northeast corner of the site extends offsite into adjacent preservation lands. The site is surrounded on the west, north and east by preservation lands for The Place development. The southern boundary is bordered by Corkscrew Road and a Lee County utility parcel. A restoration plan is currently being drafted, and it is anticipated that this site will be enhanced to an upland/wetland mosaic of native habitats that includes a panther corridor, wet and dry prairies and shallow marshes.

Figure 36: 1953 Aerial Site 567

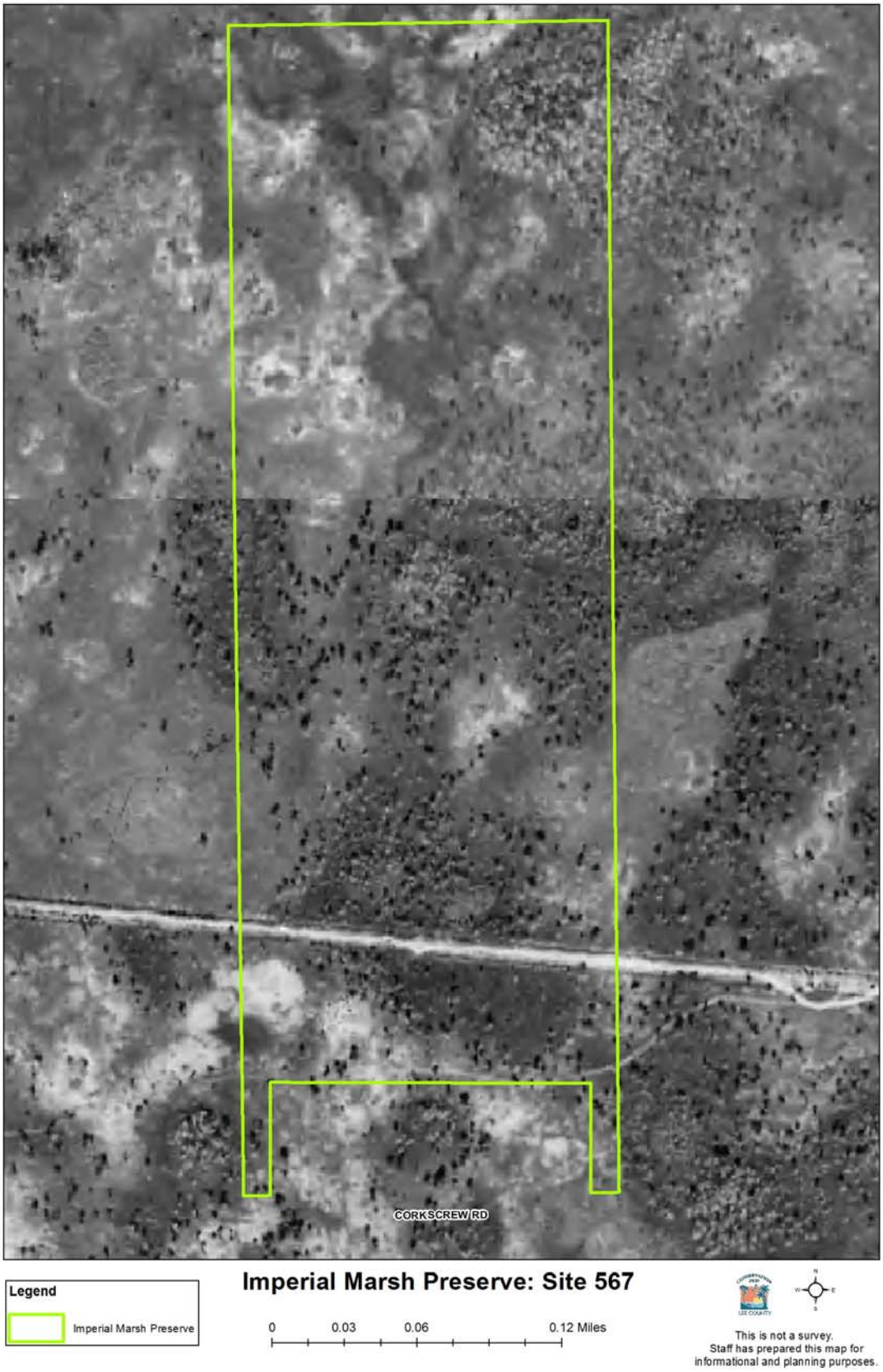


Figure 37: 2002 Aerial Site 567

Figure 38: 2009 Aerial Site 567

Figure 39: 2019 Aerial Site 567

iii. Public Interest

IMP was purchased for the preservation of environmentally sensitive lands and the high probability for listed species. In addition, the location of IMP made it especially important as an addition to the wildlife corridor and GIM. Sites 334, 321, 259, and 93 share a contiguous boundary with GIM. The preserve is also located in the Density Reduction Groundwater Resource (DRGR) protection area of the county. The purpose of the DRGR lands is to keep residential development lower than other rural areas of Lee County to protect future drinking water supplies (LCDCD 2018).

On January 11th, 2008, approximately 340 volunteers from a HSBC consumer and mortgage lending conference went to work on site 288 of IMP. The enthusiastic volunteer work force took to the site and attempted to cut and treat with herbicide every melaleuca tree encountered. In addition to this task, the volunteers also removed wax myrtle shrubs that were beginning to take over the wet prairie, a plant community that is normally open with grasses, sedges and other small herbaceous plants. This event was the first large-scale volunteer project on a C20/20 preserve. The volunteers treated 23 acres and removed approximately 3,400 melaleuca trees and 420 wax myrtle bushes.

Public requests for access into the preserve have been minimal. Due to an interest in wildlife viewing at Site 93, a small gravel parking area was installed. Further details are discussed in the Public Access and Resource Based Recreation section.

When prescribed burns and other management activities are planned, staff may send newsletters to preserve neighbors. Publicly available information concerning IMP and all C20/20 preserves can be found on the website along with copies of their associated management plans when available (www.conservation2020.org).

V. Factors Influencing Management

A. Natural Trends and Disturbances

Natural trends and disturbances influencing native communities and management at IMP include hurricanes, flooding, wildfires, and the pattern of wet and dry seasons. Implementation of the Management Action Plan will take all of these factors into consideration for projects at the preserve. For example, significant storm events and wildfires could damage vegetation. It may be necessary to remove vegetation using heavy equipment if the debris increases the chance of negative impacts to wildlife habitat or public safety from a wildfire.

The wet and dry season patterns will influence exotic plant removal and herbicide usage. Care shall be taken to prevent herbicide from running off during a typical summer thunderstorm, reducing impacts to non-target plants. Only herbicides approved for aquatic application will be used for treatment of vegetation in standing water or where flooding may occur. In addition, heavy equipment will

only be able to access the majority of the preserve areas in the dry season. The timing of prescribed burns will also be influenced by seasonal rain, weather, and wind patterns. If prescribed burn conditions are not favorable, mechanical fuel reduction may be used as an alternative. The timing of mechanical removal will also be influenced by seasonal weather patterns and wildlife activity in the area.

The state of Florida receives more lightning strikes than any other state. Therefore, wildfires caused by lightning are a common and natural occurrence in Florida. Staff has worked closely with local fire districts and with the Florida Forest Service to provide cooperation in planning and wildfire response. Coordination will be made with Florida Forest Service (FFS) to limit the use of plow lines used to control wildfire to situations where private property or public safety is at risk. Firelines are maintained by staff where feasible on the boundaries of IMP in an attempt to minimize the chance that a wildfire could extend beyond the boundary and damage surrounding property. These firelines are maintained by mowing or disking at a minimum of once per year during the onsite of the dry season. Prescribed fire also aids in the reduction of wildfire risk by reducing heavy fuel loads. These fires mimic wildfire behavior and are carefully planned, controlled, and managed by staff.

General information on natural trends and disturbances influencing native communities and management is included in the LSOM Land Stewardship Plan Development and Supplemental Information section.

B. Internal Influences

Numerous anthropogenic activities have influenced IMP. Many of these influences can be attributed to historic timber harvesting, agricultural operations, management activities and restoration activities. See Figures 40-44 for approximate location of some of these features.

All six IMP sites have been hydrologically altered to varying degrees. The remaining ditches, berms, internal furrows and spoil piles impede the natural sheet flow across the preserve and in some areas alter the natural hydroperiod by draining or retaining water. They also present a management constraint with the colonization of invasive species.

The natural sheet flow is also interrupted by the assortment of roads, primitive trails, FFS plow lines and power line easements. In May of 2007, a wildfire burned through the northern portion of Site 93 and entered the southern edge of Site 288. In an effort to stop the fire, FFS plow lines were installed which resulted in dirt mounds and slash on either side of the lines. There are also FFS lines on the southern boundary of Site 321. All remaining plow lines will be smoothed out to as close to natural grade as possible as site conditions allow. Primitive trails on Sites 288 and 321 cross through sensitive wetland systems. Use of these primitive trails has been limited since these sites have been placed under conservation, and are now only used for management purposes. It is anticipated

that as the sites continue with exotic plant removal, brush reduction and tree thinning activities, more suitable management trails will be established.

Other remnants of agricultural activities include cow wells on five of the sites. These will be kept for cattle leases until they are no longer needed. Eventually, some of the cow wells that are not providing suitable habitat for wildlife will be filled. Additionally, the associated spoil piles may be used on other portions of the preserve if needed. Interior fencing that is no longer needed will also be removed when feasible, since it can become hazardous for management activities such as prescribed burning, brush reduction and exotic plant removal with heavy equipment. Interior fence removal has occurred on Site 93, though more work is needed for completion.

There are shallow irrigation wells located on Sites 93, 288 and 567. The wells on Site 93 were noted during the Environmental Site Assessment for the property, but are unmarked and C20/20 staff has been unable to locate all of them. Two wells were found on Site 288, and it is possible that more will be found as restoration activities continue. An unabandoned well was located on Site 567, and will be properly abandoned during restoration activities. All of the wells are 8-12” metal pipes that are approximately one foot above the ground.

The majority of Sites 321 and 567 lie within the wellfield protection zone for Lee County’s Green Meadows Water Treatment Facility. Staff will need to be cautious with restoration work that takes place in this area. Further details about the regulations protecting these zones can be found in the Other Legal Constraints section.

Invasive exotic plants disrupt the natural systems and impact the native species on the preserve. Melaleuca, Brazilian pepper and torpedo grass are the most prevalent exotic species within the preserve, though their coverages have reduced substantially over the years. C20/20 staff takes note of any new invasions of invasive exotic plants and promptly take action at reduction and eradication.

Absence of fire within areas of the preserve has had noticeable impact on the natural fire dependent communities. In several areas, pine flatwoods have become mixed with hardwoods and other non-fire tolerant species. Also, palmetto has flourished to the extent of shading out herbaceous species. Within some areas of pine flatwoods, lack of fire has allowed smaller pines to become predominant and increased slash pine density to an unhealthy level. Some of the wet prairie communities are experiencing encroachment from wax myrtles and other shrubs.

Vegetation reduction measures will need to be implemented to reestablish healthier pine flatwoods and wet prairie communities and to reintroduce a fire regime. After restoration projects are completed in management units that contain fire dependent communities, a prescribed fire management program will

be implemented. This will aid conservation measures by inhibiting exotic plant regrowth and return an essential fire regime for fire dependent plants and animals for long-term sustainability. Implementing an appropriate fire regime within the landscape will help prevent the sometimes devastating effects of wildfires and possibly avoid the need for plow lines.

The wildfire that occurred on Site 93 resulted in a fairly large pine tree die-off. Although snags are good for wildlife, particularly woodpeckers and other cavity nesters, snags in the area can be hazardous for workers involved in restoration work. Incidents of tree snags falling on the fence line to the east have occurred, allowing the neighbor's cattle to enter the property. Because of this, selective removal of snags was done in the years after the fire.

Exotic animals can have a detrimental effect on native species. For example, feral hogs consume ground-nesting bird eggs and disturb soil and sensitive vegetation during rooting activities, which can provide optimal substrate for invasive exotic plant growth. Exotic snails, fish and amphibians can outcompete native fauna for habitat and food. A range of removal methods will be used for problematic invasive exotic animals found on the preserve.

Hydrological monitoring equipment has been installed on Site 93. Restoration activities using heavy equipment, mowing and prescribed fires could damage this equipment. Although the monitoring wells are not currently utilized, they may be reactivated in the future and therefore will not be removed at this time.

Other internal influences include bioturbation, aquifer recharge, attenuation of surface water and filtration of surface waters via percolation through the soils and slow shallow overland flow. Internal nutrient loading from leaf litter, decay and faunal inputs may provide a source of total phosphorus that cycles into the system. The natural mosaic of uplands and wetlands provides water quality treatment and flood protection, and collectively protects regional water supplies through water retention.

C. External Influences

IMP is located within the Southeast Lee County Community, an area designated by the Lee County Board of County Commissioners (BOCC) as one of 22 planning communities. This is the county's second largest planning community. "As the name implies, this community is located in the southeast area of Lee County. South of SR 82, north of Bonita Beach Road, east of I-75 (excluding areas in the San Carlos Park/Island Park/Estero Corkscrew Road and Gateway/Southwest Florida International Airport Communities) and west of the county line. With the exception of a few Public Facilities, the entire community is designated as Density Reduction/Groundwater Resource, Conservation Lands (both upland and wetlands), and Wetlands (Figure 51). This planning community consists of mining operations, agricultural uses, and very large lot residential home sites. The one exception is the Citrus Park Community. This community is not expected to change in character through the year 2030" (LCDCD 2018).

There are a variety of external influences that affect IMP (Figures 35-39). The construction and improvements to Corkscrew Road have slowed historic sheet flow to the south and have altered wildlife habitat and movement patterns. These alterations affect the amount, duration and timing of water flow that reaches and leaves IMP, thus altering the communities present on the preserve.

A new roadway project under study, has been referred to as either the “airport expressway” or “Alico Road Connector”. This new road proposes to connect Alico Road to SR 82 and then to Sunshine Boulevard. This future road would be west of Site 321.

The preserve is adjacent to several large tracts of conservation lands, including the Greater Imperial Marsh (GIM), Corkscrew Mitigation Bank, and the conservation area for a new residential development called The Place. The proximity to these conservation lands provides contiguous habitat, foraging, and nesting opportunities for many plant and animal species. Land management staff will coordinate with SFWMD and The Wetlandsbank Company, which manages the Corkscrew Mitigation Bank just west of Site 93. LCPA presently owns 7,000 acres (part of GIM) which is contiguous to most parcels of the preserve. Land management staff will work to initiate coordinated management efforts with LCPA, The Place, SFWMD and The Wetlandsbank Company, which would allow conservation on a landscape scale.

Other external influences consist of large drainage canals, ditches, culverts, and borrow ponds. Most of these are related to agriculture or rock mining operations. These man-made features affect the historic sheet flow and/or remove/impede water from recharging the wetland ecosystem by quickly channeling water off-site. There are several mining projects that are either operational, approved or pending that are adjacent to many of the IMP parcels such as Florida Rock Mining, Old Corkscrew Plantation & Troyer Brothers.

Climate change and sea level rise are external influences that have an unknown effect on the preserve. Implications regarding changes in climate patterns include altered flowering times for many species of flora, changes in migratory patterns (timing and locations) of certain species of birds, changes in breeding seasons, alterations in hydrology, changes in plant community structures, salt water intrusion and so forth. In recent years, the concept of resilience has come to the forefront of management objectives for many coastal communities. Published information regarding resiliency for internal (non-coastal) areas is not readily available, as to date the most documented correlation is with sea level rise and coastal flooding/saltwater intrusion.

Figure 40: Site 93 Internal/External Influences

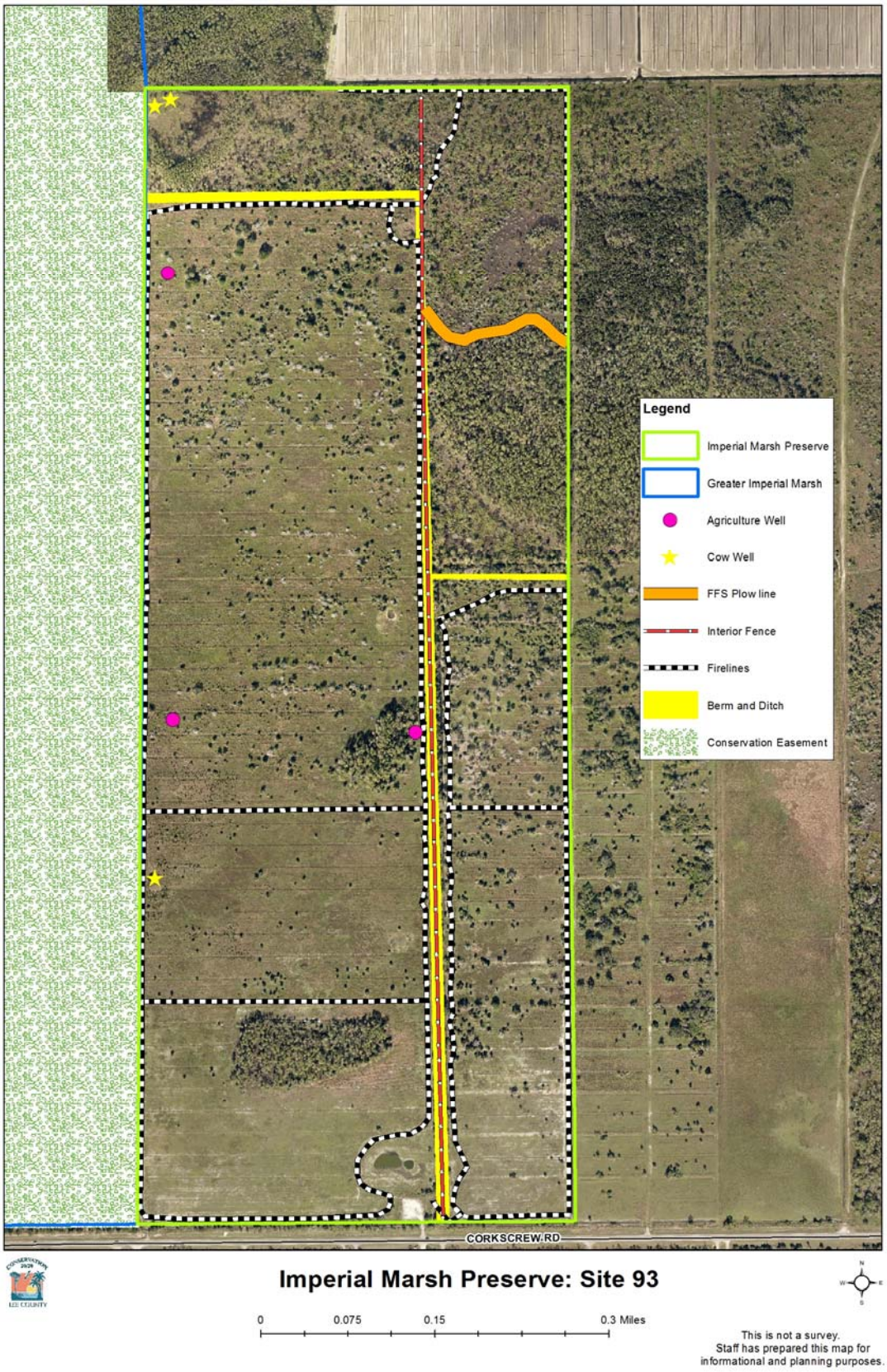


Figure 41: Site 259 Internal/External Influences

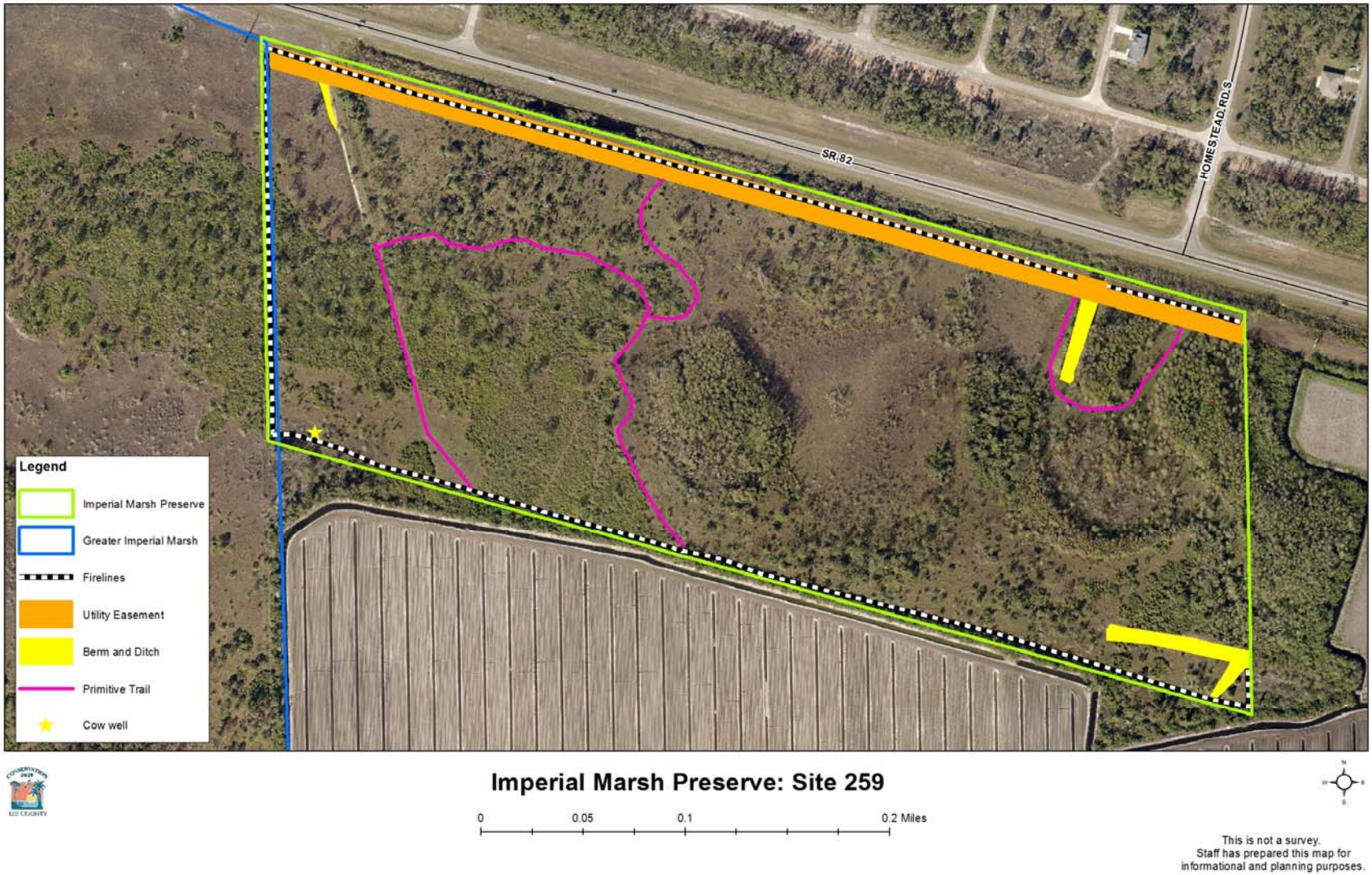


Figure 42: Site 288 Internal/External Influences

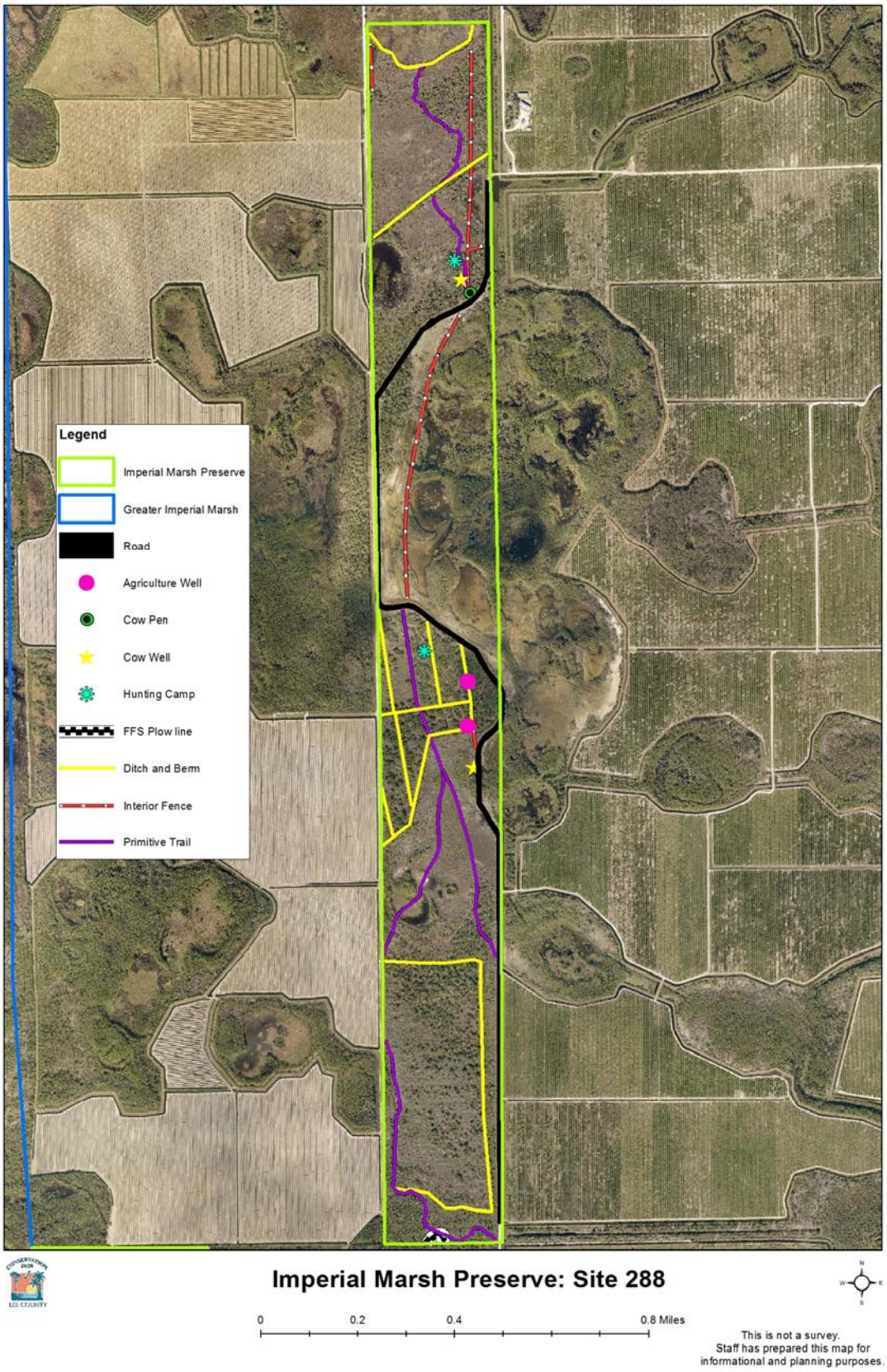


Figure 43: Site 321 and 334 Internal/External Influences

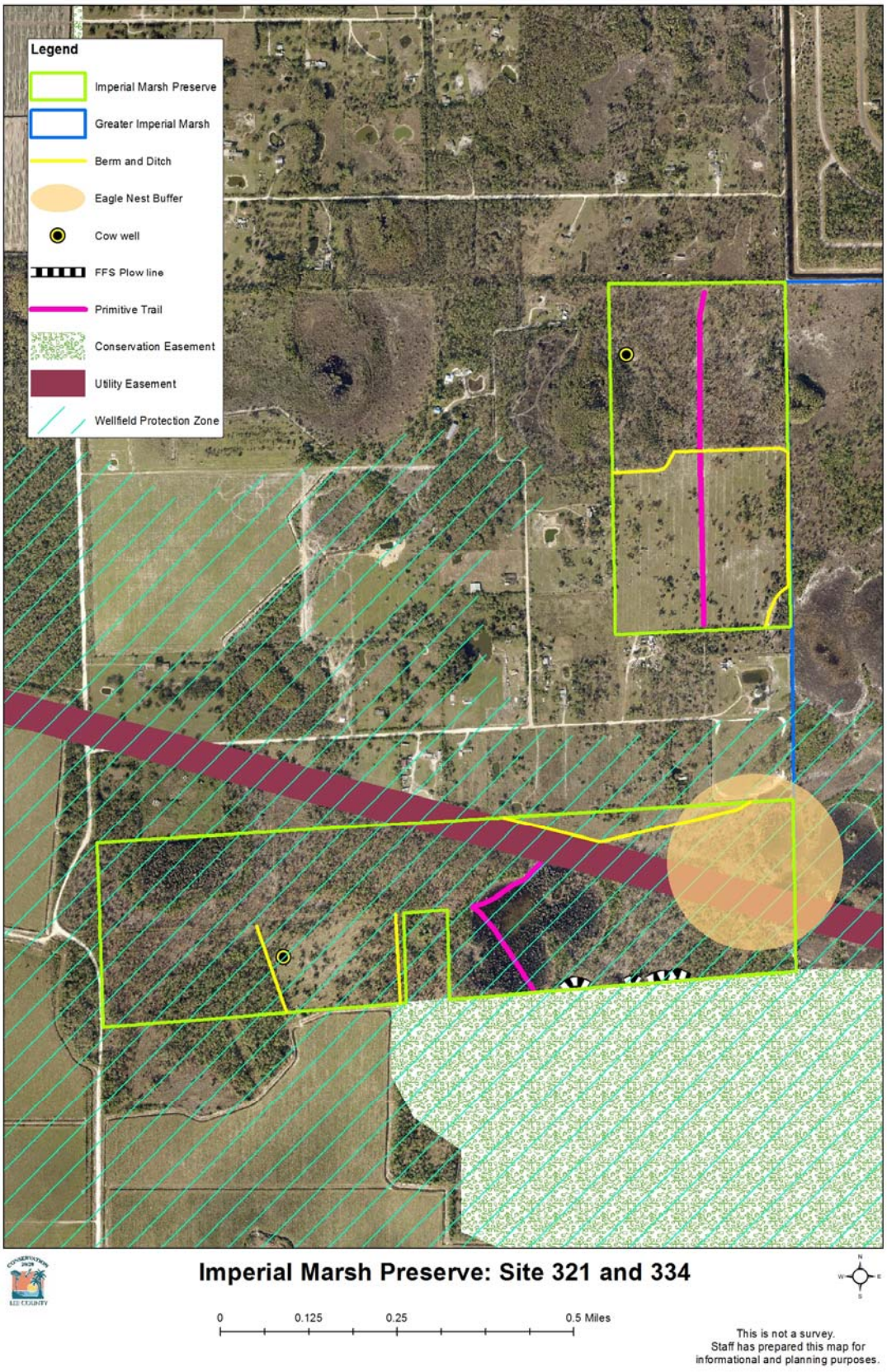
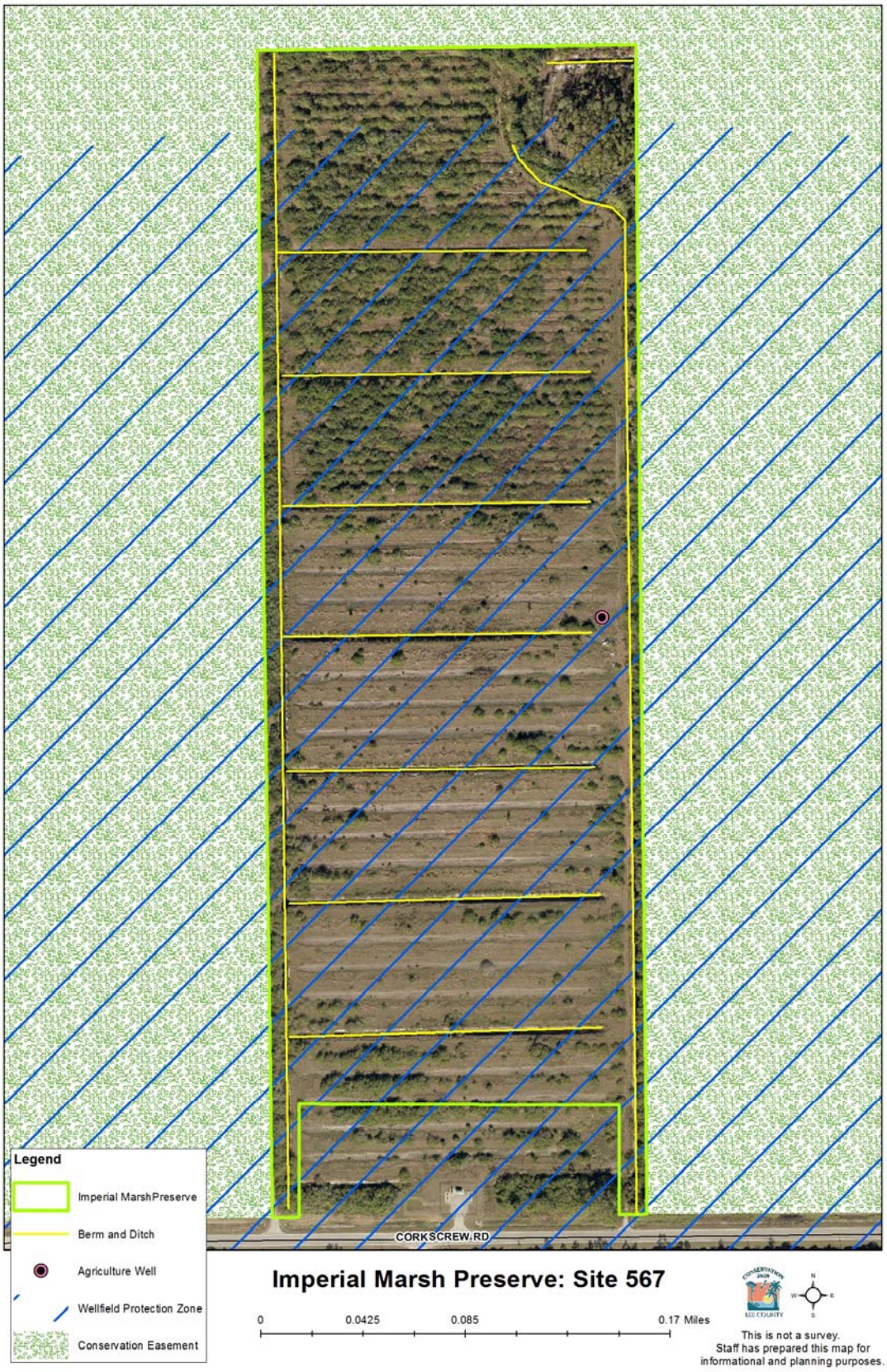


Figure 44: Site 567 Internal/External Influences



D. Legal Obligations and Constraints

i. Permitting

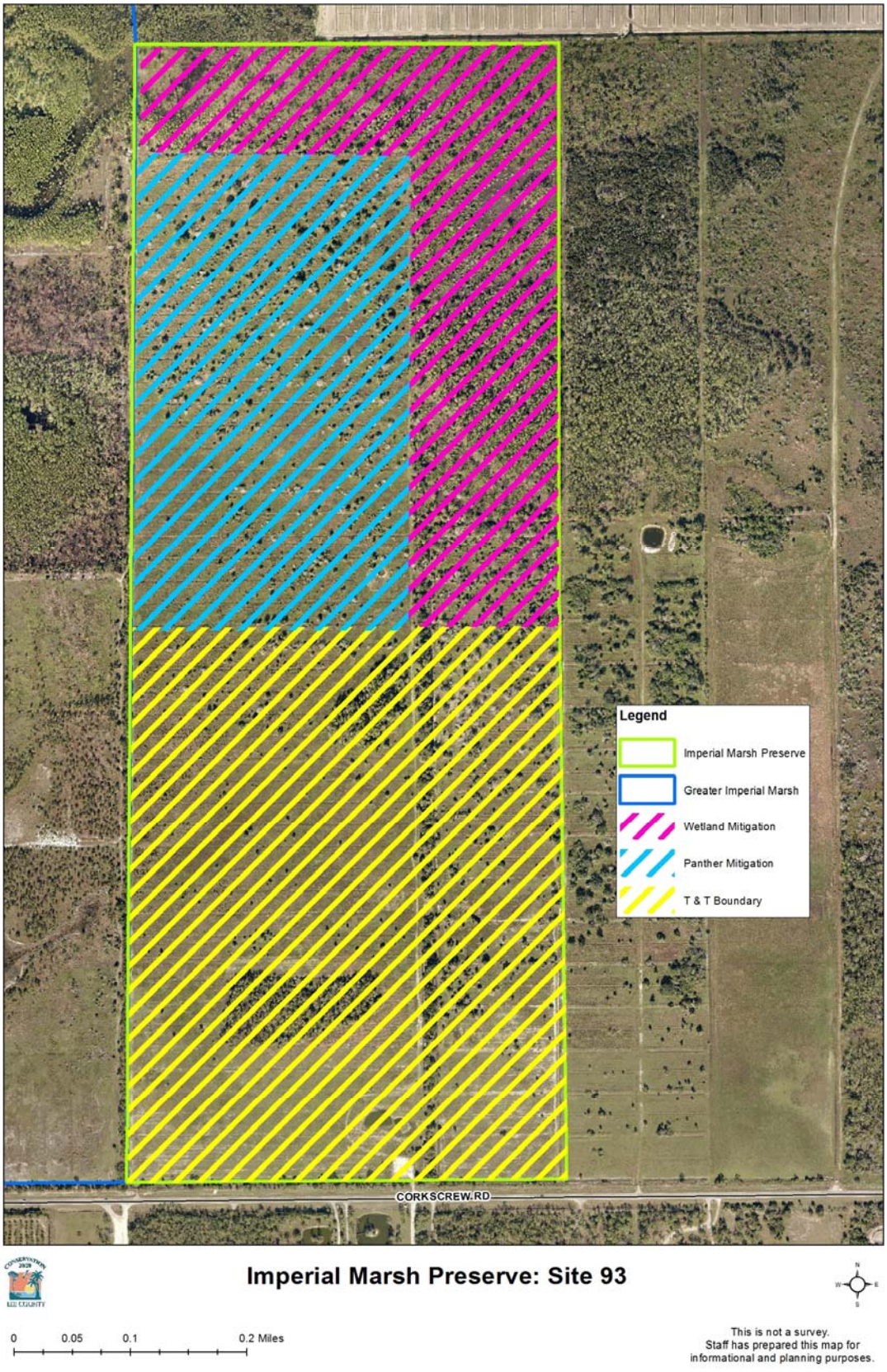
Land management activities at IMP may involve obtaining permits from regulatory agencies. Any proposed hydrologic improvements to the site may require obtaining permits from the Florida Department of Environmental Protection (FDEP), the U.S. Army Corp of Engineers (USACOE) and South Florida Water Management District (SFWMD). Hydrological and/or habitat restoration projects requiring heavy equipment or tree removal will require notification to the Lee County Department of Community Development (LCDCD). Burn authorization from the Florida Forest Service (FFS) is required for all prescribed burns conducted on IMP.

All of Site 93 is designated as mitigation for various projects. The Lee County Department of Transportation (LCDOT) has three mitigation projects on the northern half of Site 93 (Figure 45). The “L” portion provided wetlands mitigation for the Corkscrew Road Widening project for the SFWMD permit (36-02319-S) and wetlands and panther mitigation for the United States Army Corps of Engineers (USACOE) permit (SAJ-2004-91 (IP-MAE) (Appendix C). The remainder of the northern half provided panther mitigation for the Estero Parkway Extension ACOE permit (SAJ-2004-7046 (IP-MJD)) and Corkscrew Curve ACOE permit (SAJ-2006-5259-MAE). Mitigation efforts for the Corkscrew Road Widening project are focusing on improving panther habitat in pine flatwoods and exotic plant control for wetlands mitigation. In addition, the southern portion of Site 93 is designated as mitigation for the Timberland and Tiburon (T&T) mixed use development under ACOE permit SAJ-1993-02371.

Permit conditions require LCDOT to complete a monitoring program for a period of five years or until success has been attained. The SFWMD monitoring requirements have been satisfied. Currently, the T&T mitigation piece is being monitored for the ACOE by C20/20 until permit success is documented. Maintenance will be conducted in perpetuity per the permit requirements.

A SFWMD permit (36-07404-P) was issued for the hydrologic restoration project on Site 93. This permit does not require mitigation, but allows for the maintenance of the restoration features. This includes the created marshes, berm breaks, ditch blocks, berm and outfall structure.

Figure 45: Site 93 Mitigation Areas



ii. Other Legal Constraints

Three active cattle leases are on IMP, renewed in September 2018 (Appendix D) on portions of the preserve, including Sites 259, 288 and 334. As a consideration of the License for Cattle Grazing, this lease may be terminated with a 30-day written notice to the Licensee or canceled upon 48 hours verbal notice if cattle are not kept within the confines of the leased area. The current leases expire in September 2019, though they can be extended for up to one year if agreed upon by both parties.

The Lee County Wellfield Protection Ordinance 95-01 establishes protection for the "existing public potable water supply wells from the potentially irreversible and adverse effects of bacterial and chemical contamination from abandoned wells and to control the storage, handling and use of hazardous or toxins substances within certain distance from wellfields." This ordinance applies to all abandoned wells and areas surrounding a wellfield and designated as wellfield protection zones.

The majority of Sites 321 and 567 lie within the Wellfield Protection Zone. Section 14-213 of Ordinance 95-01 delineates the specific regulated substances that are only to be used in limited quantities, if at all, in these protection zones and cannot be stored within these zones. It is unlikely that any of these chemicals (restricted-use pesticides, petroleum-based products, etc.) would be used for management activities at the preserve. However, the ordinance does provide a special exemption for the application of herbicides in recreation and aquatic weed control activities as long as certain guidelines (Section 14-209b) are followed. Contractors will be advised of the protection zone and will not be allowed to store any regulated substances (which includes petroleum based products) in the area.

There are numerous easements on or directly adjacent to the preserve. Information on easements was gathered from surveys, where available or from various county GIS data layers and verified when possible through the Lee County Clerk of Courts Official Records. Staff will work to remove all easements that are not needed. Examples of easements that need to remain for the time being are the road through Site 288 that provides access to the citrus grove, the utility (power line) easement in Site 321 and an access easement in Site 321 that leads to the privately-owned outparcel. Further information regarding easements is below.

Site 93 is the only portion of IMP that currently does not have any easements, but does have a unique legal constraint. In the 1990s, T&T entered into a developer's agreement with Lee County for the construction of Miromar Outlet Mall, a sports complex and a golf course community north of Corkscrew Road and east of I-75. This large-scale development was classified as a Development of Regional Impact (DRI) because its character, magnitude and location could have a substantial effect upon the health, safety or welfare of the citizens of Lee

and Collier Counties. At that time a mitigation agreement was approved by T&T, the BOCC and USACOE as part of the DRI review, that rather than mitigating the effects of the development on their own land, T&T would instead provide incremental payments to Lee County that would be used to purchase conservation land within an established boundary area. Because the acquisition area is fragmented, it was very difficult to match up the funds available with appraised value of a parcel that is contiguous with the other conservation lands. Unfortunately, the money came in quite slowly at first and by the time enough accumulated, the land values increased to a point where the county was unable to purchase land in the designated areas.

In April 2000, the BOCC voted to use the T&T monies in the C20/20 Program for land acquisition and to provide management in the established T&T boundary. In March of 2005, T&T funds were used to reimburse C20/20 for the purchase the southern half (117 acres) of Site 93 (Figure 46) for a total cost of $634,202.01 with the remaining funds restricted for management activities on this portion of the preserve. See the Acquisition and Financial Considerations sections for a further explanation of the T&T funds for these activities.

Site 259 has a 60’ power line easement granted to the Lee County Electric Co-Operative (LCEC) along the entire northern boundary as well as a 50’ wide outfall and drainage ditch easement that was granted to the State of Florida for State Road 82 in 1962 (Figure 47).

Site 288 has six separate easements within the property or leading to the property. On the southeast corner, is a 200’ by 100’ easement granted to Charles L. Bigelow, Jr. in 1984 for use as a roadway, utility, drainage, access and ingress and egress. Just south of that easement, and off the property, is a 100’ ingress-egress roadway and utility easement that can be used by Land Stewardship staff for access into the property. There is a 60’ easement which begins at Corkscrew Road, follows the existing elevated dirt road through the preserve and extends northward to SR 82. This perpetual easement was created for road and utility purposes between the previous owners of Site 288 and the land to the east. It allows ingress and egress to and from both properties for vehicles as well as equipment and machinery for agricultural, oil, gas and mineral extraction. The road will be improved and maintained as necessary and any costs or responsibilities will be agreed upon by all parties sharing the easement (Figure 48). This easement was modified in 1990 to allow the two property owners to retain and maintain water levels on the east side of the road. The final two 20’ easements give the two property owners directly north of Site 288 access through the preserve and down to Corkscrew Road along the eastern boundary. C20/20 staff will work with those land owners to ensure that they use the existing road instead of the actual easement which would impact the cypress wetlands on the preserve.

Site 321 has five easements (Figure 49). There is a 60’ wide roadway and cul-de-sac easement, running west-east that almost completely bisects the site. The

easement was created as an ingress-egress for development prior to this parcel being preserved. The easement states that if the roadway is lawfully and permanently discontinued, the title to the roadway shall immediately revert to the owners of the rest of the site (e.g. C20/20). A second roadway easement (30' wide) runs along all but the northern boundary of this portion of the preserve. An additional 30' wide roadway/utility easement is also located on the west boundary of the site. There is also a 60' wide utility/roadway easement on the south and east boundaries, as well as two 200' x 200' square blocks. This easement was created for the drilling and maintenance of water wells, pipelines to transmit the water and road access to travel between the wells for maintenance. Created in 1973, this easement is subject to termination if no wells have been constructed within 12 years (1985). Additionally, if any of the water system is constructed and then abandoned, after five years, the easement will be terminated. There are two overlapping power line easements with FPL that combine to an almost 400' wide strip on the eastern side of the property. These easements allow for both overhead lines and underground pipe lines for electricity, gas and/or petroleum products. FPL is also permitted to prune trees and maintain undergrowth within the easement and on the adjoining land if necessary for the running and maintenance of their equipment.

Similar to Site 321, Site 334 also had an internal 60' wide road and cul-de—sac easement bisecting the property and subject to cancellation if the road is permanently discontinued (Figure 49). The final easement is located on the east boundary of Site 334. This 50' wide easement is the same utility/roadway easement to transmit water that impacts Site 321 and is also subject to termination. Access to Site 334 is granted with a 60' ingress-egress easement that is located on Balfour and Alter Roads.

A memorandum of understanding between the LCPA and BOCC allows for the use of Sites 321 and 334 to be used for aviation-related airport project mitigation. In this agreement, the LCPA may make a request to use either or both sites for mitigation, and then they have until the expiration of that request to either utilize the site(s) or utilize an alternative. Requests for Sites 321 and 334 were made in April 2011 when the MOU was signed, were renewed in 2016, and are in effect until January 21, 2021. Any mitigation work and associated permit requirements on these sites associated with this agreement will be the responsibility of the LCPA.

Figure 46: T&T Boundary

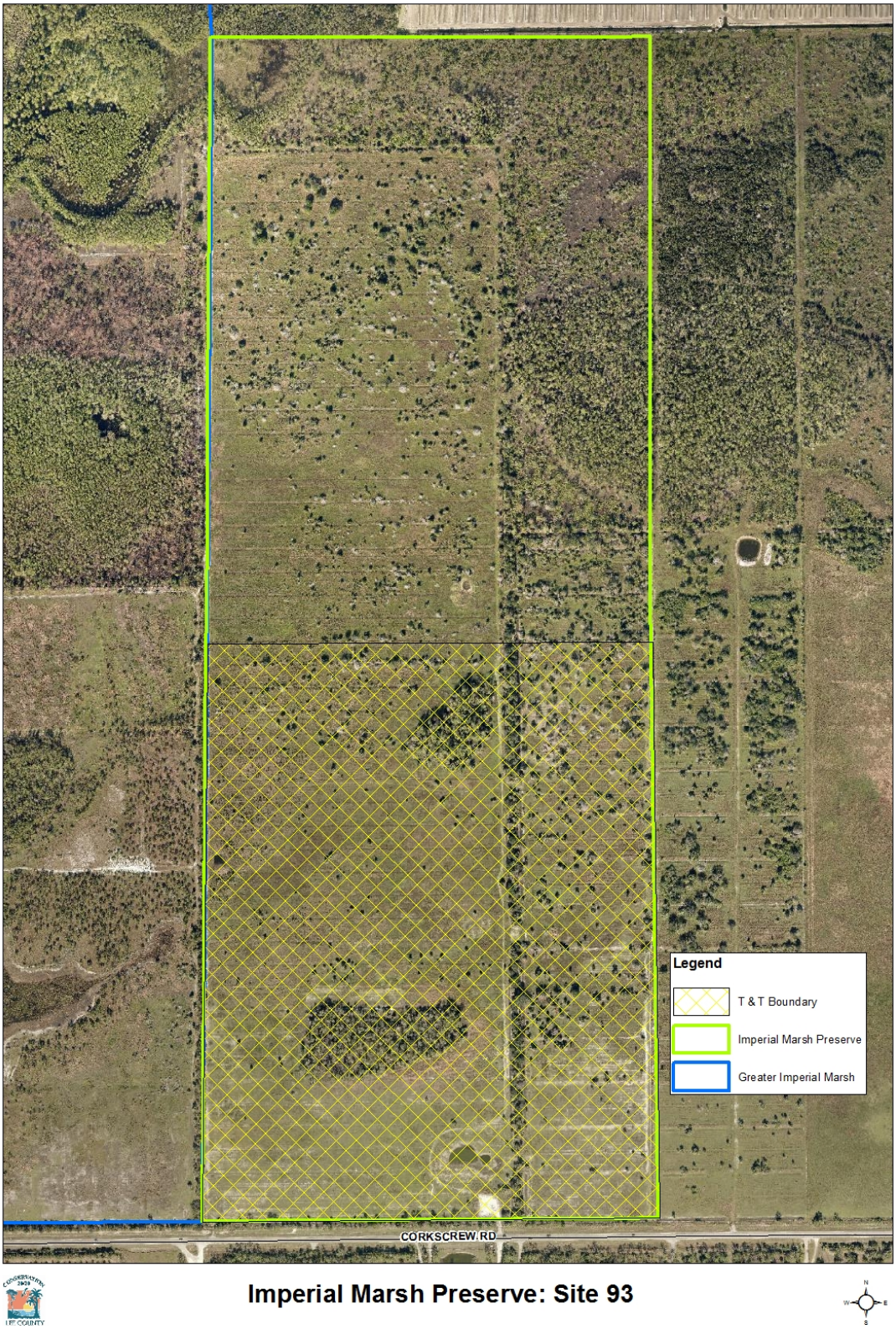


Figure 47: Site 259 Easements

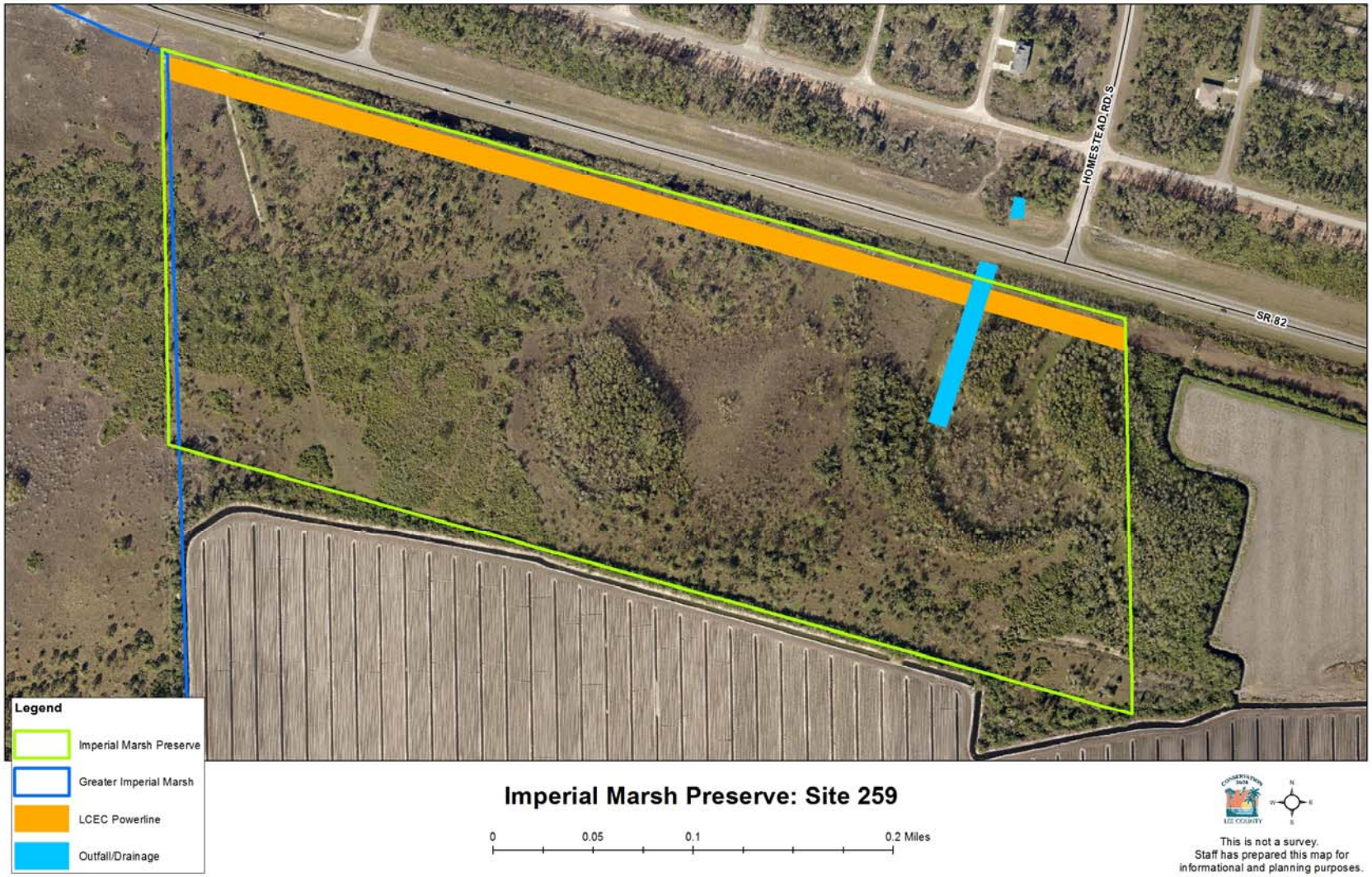
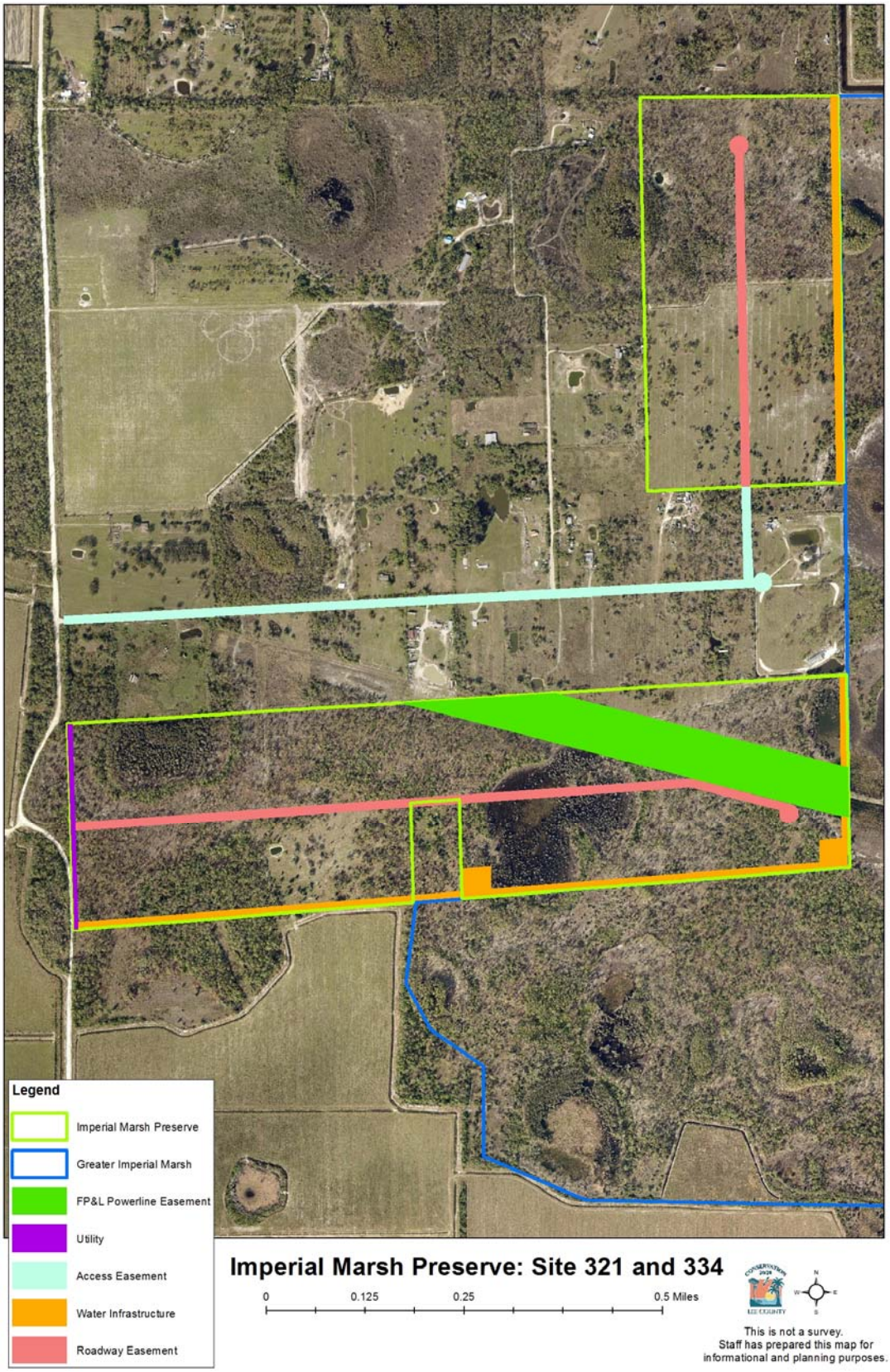


Figure 48: Site 288 Easements

Figure 49: Site 321 and 334 Easements



iii. Relationship to Other Plans

The Lee Plan, Lee County's comprehensive plan, is designed to depict Lee County as it will appear in the year 2030. Several themes have been identified as having "great importance as Lee County approaches the planning horizon" (Lee County 2018).

- The growth patterns of the County will continue to be dictated by the Future Land Use map.
- The continued protection of the County's natural resource base.
- The diversification of the County's traditional economic base.
- The expansion of cultural, educational and recreational opportunities.
- A significant expansion in the County's physical and social infrastructure.

The Lee Plan's land use accommodation is based on an aggregation of allocations for 22 Planning Communities. These communities have been designed to capture the unique character of each of these areas of the County. The entire Lee Plan can be accessed online at: http://www.leegov.com/dcd/Documents/Planning/LeePlan/Leeplan.pdf.

The sections of the Lee Plan which may pertain to C20/20 Preserves have been identified in the LSOM.

E. Management Constraints

The principle management constraints for IMP include limited funding, the brief dry season for conducting land management activities, easement constraints and impacts, increasing urbanization pressures, the mitigation MOU with LCPA, and adjacent land uses to the preserve. Most of the restoration on Site 93 has been funded through the LCDOT mitigation for the northern portion of the site and T&T funding for the southern portion of the site. Efforts to obtain additional funding through grants will be pursued for IMP in the future. These funds will be used to supplement the operations budget to meet the restoration goals in a timely manner.

IMP is very wet most of the year; over half of the preserve is classified as wetlands which include basin swamps, cypress domes, depression marshes, and wet prairies communities. Sites 93 and 288 contain areas that have several feet of standing water during the wet season, and dry down during late spring. The large basin marshes on Site 288 sometimes contain standing water all year. The plant communities at IMP are typically driest between January and April. Management activities will be conducted when water levels are low enough to adequately perform the tasks.

Urbanization pressures increasingly affect management activities and boundary security. Fire management is a vital tool used to keep fuel loads down, to ensure

biological diversity, and to maintain functional habitat value for wildlife. However, prescribed fire is difficult to implement in much of IMP due to the fuel loads, hydrology and location. Prescribed fire parameters become more restrictive with expanding residential and commercial development and increased traffic on nearby roadways. Currently, portions of Site 93 are in a burn rotation, though the rotation varies. When prescribed fire is not possible, mechanical means of fuel reductions will be implemented.

The adjacent land uses pose some obstacles to management of conservation land. Current adjacent land uses include agriculture, rural residential, a conservation easement, a mitigation bank, approved and pending rock mining activities, and expanding roadway systems. The current agricultural use may provide a seed source for exotic plants, and rock mining activities and/or expanding roadway systems will alter hydrologic conditions at IMP. These land uses can affect wildlife utilization of the area, which may put additional pressures on the preserve as a wildlife corridor. Potential development scenarios will be monitored and recommendations will be provided. Coordination with other agencies and adjacent landowners will also be an important part of managing the preserve.

F. Public Access and Resource-Based Recreation

Historically, few recreational activities have occurred at the preserve. In past decades, the preserve was utilized for both row crops and cattle ranching, and the associated fencing prevented most of the general public from entering. Since Lee County has purchased the preserve, some evidence of previous hunting and ORV use has been documented on Sites 93 and 288. The Parks and Recreation Ordinance, 18-12 (https://www.leegov.com/bocc/Ordinances/18-12.pdf) prohibits both of these activities.

In accordance with the LSOM, four of the IMP parcels are classified as Category 4- Resource Protection & Restoration Preserve. As with all designated Category 4 preserves, “if there is a public interest, staff may provide guided field trips when there are no safety concerns and it is compatible with protecting the animals and plant communities found at the specific preserve.” Many issues are taken into consideration in determining resource based activities at C20/20 preserves, including but not limited to, acreage of the site, viable access, presence of similar facilities nearby, plant communities present, listed species utilization, and hydrologic components.

Site 93 was recently designated as a Category 2- Intermediate Use Preserve. This 232-acre parcel contains a public amenity consisting of a parking area that doubles as a bird watching and wildlife viewing area easily accessible from Corkscrew Road. The viewing area overlooks a marsh creation area, cypress dome and transitional wet prairie; and is an area well-known for spotting large congregations of wading birds. A pedestrian gate allows visitors to enter the preserve and walk along the maintenance trails and fire lines, which also function as primitive trails. The creation of additional trails on Site 93 is limited by the

mitigation status of this parcel. Site 567 is in the planning stage for similar public use activities as Site 93. Recreational opportunities are limited on sites 321 and 334 because of the active mitigation requests from the LCPA, which may turn those parcels into mitigation areas.

G. Acquisition

Over a period of eighteen years, 6 parcels of IMP have been acquired through the C20/20 Program and T&T Mitigation Project (CIP #8830) for a total cost over $13,000,000. Refer to “Other Legal Constraints” section for detailed information regarding the T&T Mitigation Project. By March 2005, unspent T&T funds were at $825,331. A portion of this fund ($634,202) was used to reimburse the C20/20 Program for +/-117 acres (southern half of Site 93) and the money would be used for future land acquisition. The remaining funds were used for management needs of that portion of the preserve. In 2017, Site 567 was acquired through a land swap with Lee County Utilities (LCU) to increase conservation land in the vicinity of IMP (Appendix E). Site 252 (255 acres) was acquired in 2018 but has not yet been assigned to a department for management. Refer to the Financial Considerations section for additional budgetary information. Relevant acquisition information on the six successfully acquired IMP nominations is located in Table 4.

Table 4: Imperial Marsh Preserve Acquisition Information

Site #	Acres	Acquisition Cost	T&T Mitigation	Date Acquired	STRAP #
93	233.7	*$627,698	**$634,202	7/28/2000	21-46-27-00-00001.0010
259	59.8	$681,500	-	6/20/2005	28-45-27-00-00001.0000
288	399.9	$5,840,870	-	5/9/2007	09-46-27-00-00002.0000
321	155.4	$3,691,200	-	7/6/2007	25-45-26-00-00001.2000
334	78.1	$1,876,800	-	6/28/2007	25-45-26-00-00001.3000
567	44.5	trade	-	10/17/2017	19-46-27-00-00001.0030
TOTALS	**971.4**	**$12,718,068**	**$634,202**		

*In 2000, C20/20 originally purchased site 93 for $1,261,900.

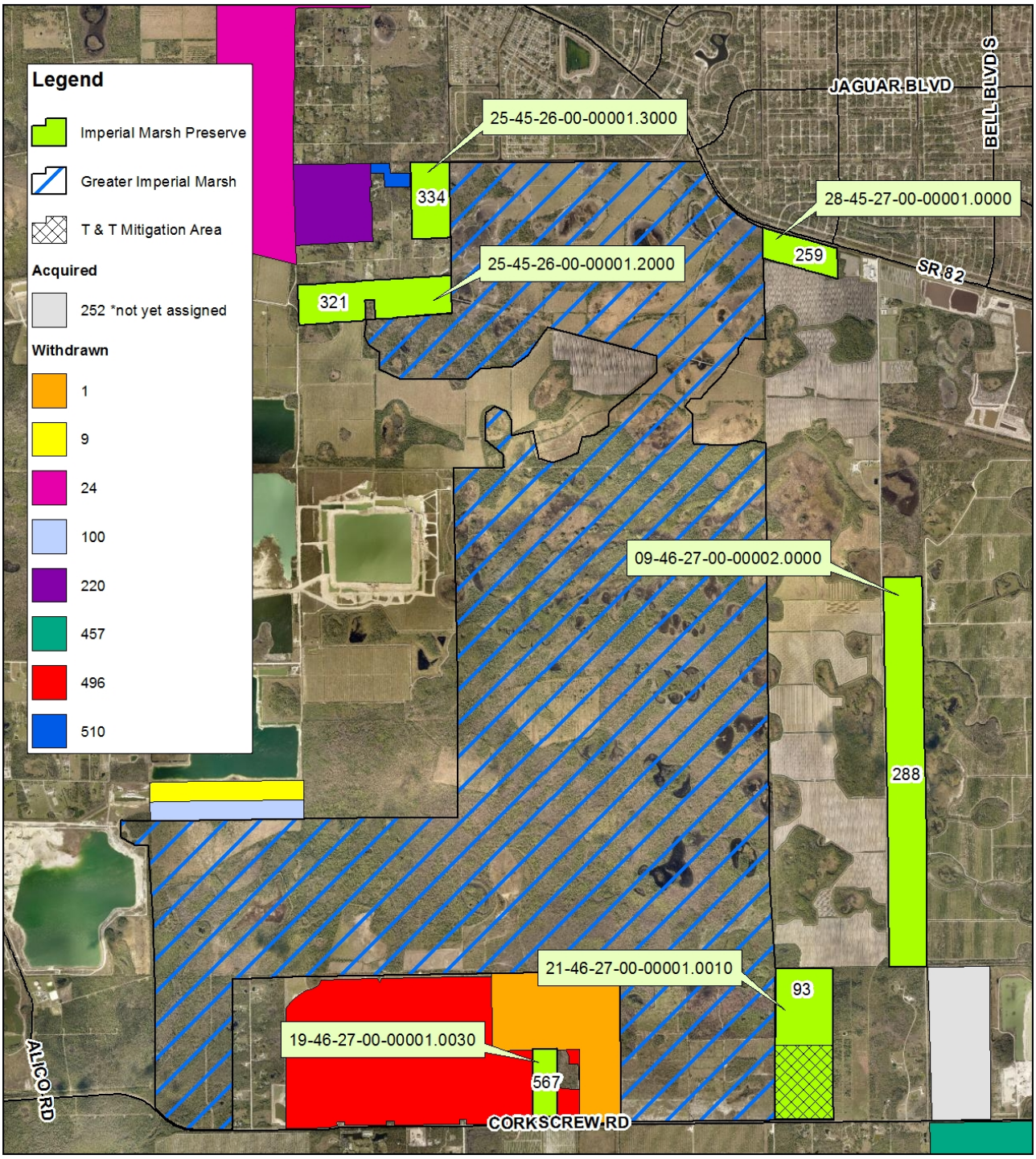
**In 2005, the T&T Mitigation Project reimbursed C20/20 for $634,202, thus the true cost for C20/20 purchase is reduced to $627,698.

Several other properties, surrounding the GIM area, were nominated to the program. In 1996, nomination #1 (342 acres) was submitted to the program. Nomination #1 was at an impasse because the owner had a pending offer from a third party, so the parcels were eventually sold to the Bonita Bay Group for golf course development. Two connected parcels, nomination #9 (80 acres) and #100 (80 acres) were nominated in 1996 and February 1999, respectively. In July 1997, there was nomination #24 (970 acres) and then by February 2002,

nomination #220 (160 acres) was submitted. Nomination #457 (1,150 acres), #496 (1,168 acres), and #510 (14 acres) were also nominated to the C20/20 Program. All of these nominations were withdrawn for various reasons. Nomination #496 was withdrawn and the land is now being developed for residential purposes. Figure 50 illustrates the acquired parcels with their Section, Township, Range, Area, Parcel (STRAP) numbers, nominated parcels by the C20/20 Program that have been withdrawn, the T&T Mitigation area, and the surrounding GIM conservation lands. With much of the land surrounding IMP being developed, additional undeveloped land in the vicinity of IMP would be beneficial to pursue for acquisition. Under the direction of the Public Works Department, Lee County has created a master mitigation plan that includes targeted areas considered appropriate for acquisition and conservation. Land management staff supports acquisition of properties that fall within these boundaries as long as they pass standardized review criteria established by the Conservation Lands Acquisition and Stewardship Advisory Committee (CLASAC).

IMP has 4 future land use (FLU) categories as shown on Figure 51. Sites 93, 334, 259, 321, and 288 are categorized as Conservation Lands (upland and wetland) while Site #567 is categorized as Wetlands or DRGR. Staff will coordinate with Lee County Department of Community Development (LCDCD) to change the FLU to Conservation Lands. The DRGR land use category was created in 1991 in an agreement between the Florida Department of Community Affairs and Lee County in an effort to protect the recharge capabilities of the surficial and ground water aquifers. This land use restricts development to 1 unit per 10 acres. Currently, all of IMP is zoned as agriculture “AG-2” (Figure 52). Staff will coordinate with LCDCD to change the zoning to Environmentally Critical.

Figure 50: STRAP and Nomination Numbers



Imperial Marsh Preserve

0 0.45 0.9 1.8 Miles

N W E S

This is not a survey.
Staff has prepared this map for informational and planning purposes.

Figure 51: Future Land Use

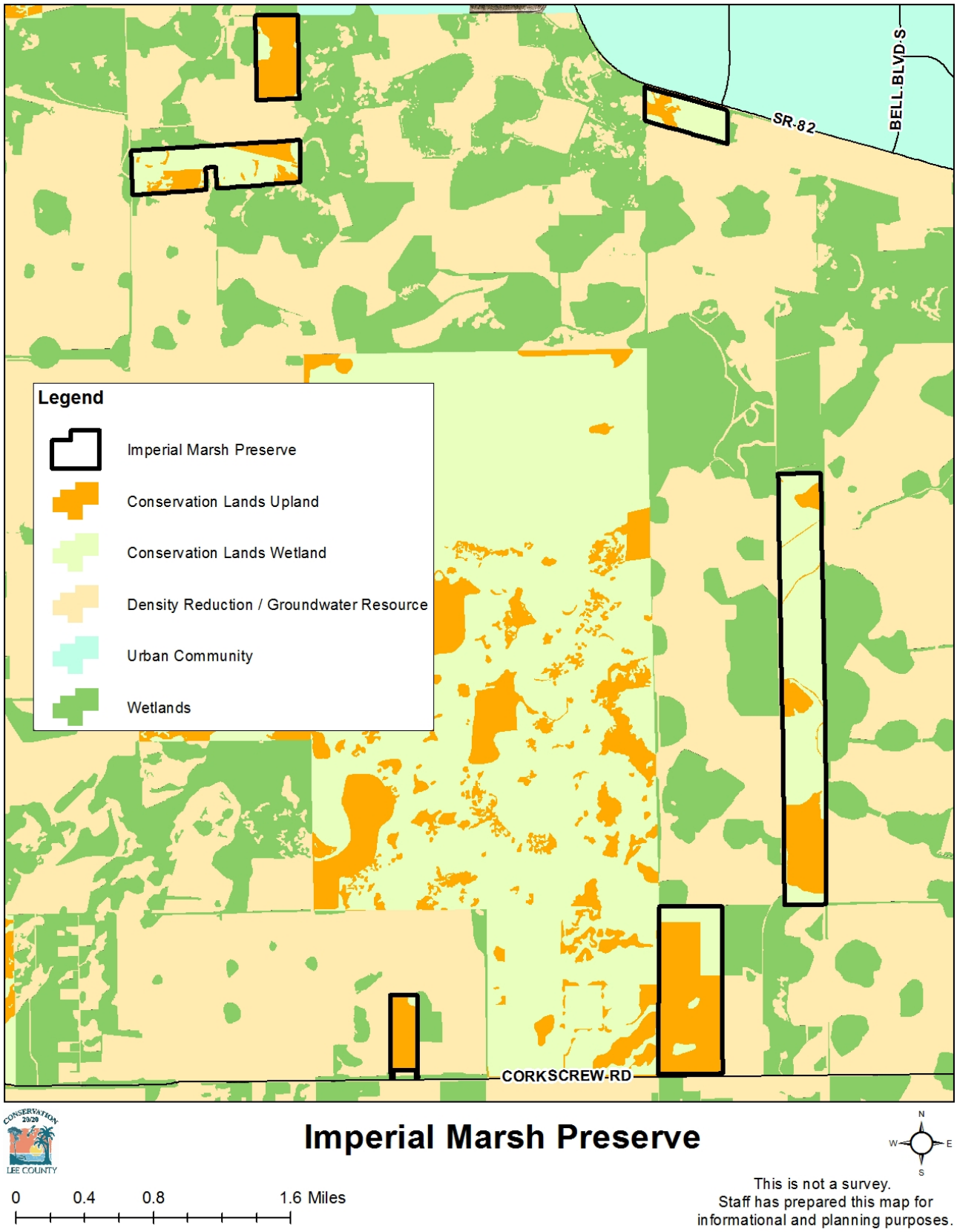
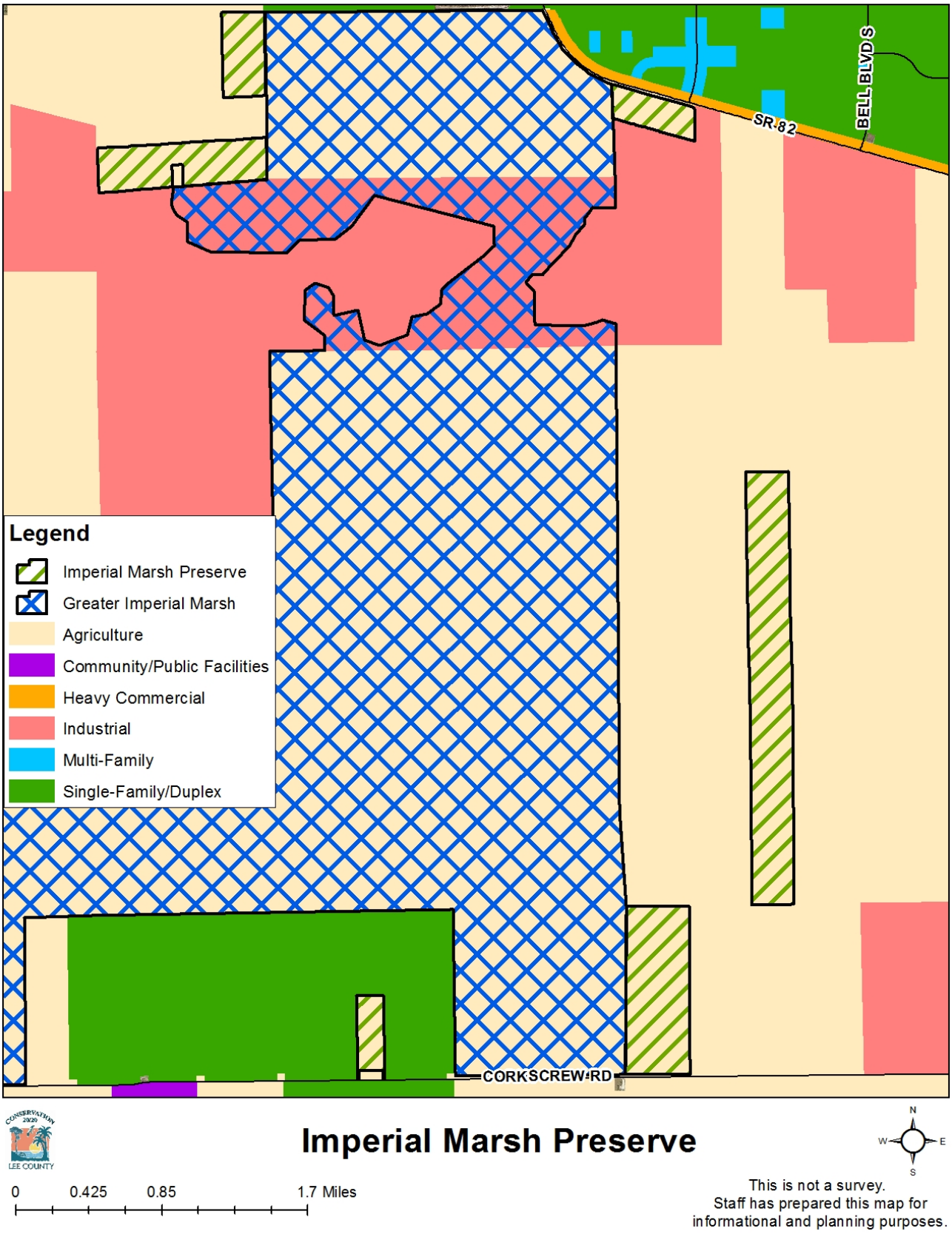


Figure 52: Zoning



VI. Management Action Plan

A. Management Unit Descriptions

IMP is divided into 20 management units to better organize and achieve management goals. Figures 53-58 delineate the management units that were created based on existing trails, roads, ditches, berms and plant communities. Acreage has been rounded to the nearest whole acre. Below is a description of each management unit and a general summary of proposed management work. This management work is in addition to any necessary trash and deleterious material removal, fence line and gate maintenance/repair, boundary sign replacement, fire line maintenance, and regular tri-annual inspections.

- Management Unit 93-1 (117 acres) consists of the southern half of the preserve. T&T mitigation funds were used to reimburse the county for acquisition costs of this piece of the preserve. It contains wet prairies, a created marsh and two dome swamps. A double ditch and berm divides the eastern third of the unit. The southern boundary is delineated by a ditch and Corkscrew Road. The eastern portion of the unit has larger, more scattered cabbage palms and oaks than the western portion with larger remnant swales from row cropping. The majority of invasive exotics have been initially removed and follow-up treatments have occurred, however the wet prairies (old agricultural fields) contain West Indian marsh grass, torpedo grass, caesarweed and alligator weed. Planned management work in this unit includes a rotation of mowing or prescribed fire and exotic treatment events to remove torpedo grass, followed by the installation of native plantings. Exotic treatment will be on-going. The cypress dome will receive regularly-scheduled maintenance events that may include periodic selective thinning of the mid-canopy. This unit includes the T&T mitigation area and has active monitoring transects for compliance with the ACOE permit.

- Management Unit 93-2 (69 acres) consists of the remaining wet prairies (old agricultural fields) that are not included with the T&T mitigation area. It is separated from Management Unit 93-3 by ditches and berms. This unit has had an initial treatment on Brazilian pepper through LCDOT mitigation projects as well as follow-up treatments. Other plants found in this unit include scattered pine trees, planted cypress trees, cabbage palms and a dense ground cover of invasive exotic plants including West Indian marsh grass, torpedo grass and caesarweed. Planned management work in this unit includes a rotation of mowing or prescribed fire and exotic treatment events to remove torpedo grass, followed by the installation of native plantings. Exotic treatment will be on-going. The cypress wetland will receive regularly-scheduled maintenance events that may include periodic selective thinning of the mid-canopy.

- Management Unit 93-3 (48 acres) is the only portion of Site 93 that was not cleared for row crops. This unit is currently being used by LCDOT for mitigation and has undergone initial and follow-up invasive exotic treatments. Native plant communities located in this unit include mesic and wet flatwoods, basin and dome swamps and a small hydric hammock. The basin swamp at the northwest corner contains an understory of torpedo grass and Wright's nutrush (*Scleria lacustris*). Planned management work in this unit is broken into two areas. The pine/palmetto and eastern cypress areas will receive regularly-scheduled exotic removal and selective thinning of the mid-canopy. Some roller-chopping of saw palmetto may be necessary to reduce the height, particularly if fire cannot be implemented. In the western cypress dome, the understory of torpedo grass and Wright's nutrush will be targeted with regularly scheduled treatment events. Due to the high water table in the western cypress dome, treatment will be limited to winter/spring only, or when water levels are low enough to safely perform the work. An alligator has been known to inhabit the western dome for a number of years, and often uses the cow well as a refuge during the dry season.

- Management Unit 259-1 (23 acres) is the western side of Site 259. It is separated from Unit 259-2 by an existing primitive trail. In general, this unit is higher and slightly drier than the eastern side of Site 259. This unit contains wet prairie areas restored from past agricultural use, roads and power lines as well as a mosaic of wet and mesic flatwoods. Planned management work in this unit includes regularly scheduled exotic maintenance and selective roller chopping of the saw palmetto. Selective thinning of pines may also be employed to help encourage wildlife usage and promote diversity.

- Management Unit 259-2 (37 acres) is the eastern side of Site 259 and is slightly lower and wetter than Unit 259-1. This unit contains wet prairie areas restored from past agricultural use, drainage and power lines as well as numerous plant communities including wet and mesic flatwoods, basin and dome swamps and hydric hammock. The south boundary of the unit has thick Brazilian pepper and guava (*Psidium guajava*) hanging over the fence from the adjacent property.

  Planned management work in this unit includes regularly scheduled exotic maintenance and selective roller chopping of the saw palmetto. Selective thinning of pines and mid-canopy vegetation may also be employed to help encourage wildlife usage and promote diversity. The southern fence line needs to be cleaned off and maintained by removing the overhanging vegetation. Attention needs to be paid to the ditch that connects to the SR82 right-of-way, as it may be a vector for invasive exotic vegetation.

- Management Unit 288-1 (56 acres) is located on the north end of Site 288. It is separated from Unit 288-2 by a ditch. Native plant communities in this unit include a wet prairie and mesic and wet flatwoods. Portions of the flatwoods that had been heavily invaded by melaleuca trees are now returning to a pine

community as girdled melaleuca continues to break down. Planned management work in this unit includes regularly-scheduled exotic maintenance and selective removal of willows and wax myrtle from the fence line.

- Management Unit 288-2 (44 acres) is also located on the northern half of the preserve and is separated from Unit 288-3 by the improved road. This unit has depression areas on the eastern and western boundaries, and the remaining area is a mix of wet and mesic flatwoods that had also been previously invaded to some extent by melaleuca trees. A cow well and cow pen are in this unit. Girdled melaleuca are still scattered in the landscape. A 2-acre marsh adjacent to the access road contains a near monoculture of torpedo grass. Planned management work in this unit includes regularly-scheduled exotic maintenance. The cow pen is old and dilapidated, but may be removed as conditions allow.

- Management Unit 288-3 (100 acres) is in the central portion and separated from the rest of the site by the improved road. This unit is almost entirely a basin swamp with fringes of wet prairie and mesic flatwoods. Invasive exotic plants are scattered across this unit in low concentrations. Standing water several feet deep is common in the wet season. Planned management work in this unit includes regularly-scheduled exotic maintenance. Due to water levels, maintenance will be conducted toward the end of the dry season.

- Management Unit 288-4 (48 acres) is delineated by the improved road on the north and east and a plant community change on the south. This unit consists of abandoned crop lands that have succeeded into mesic flatwoods and hydric hammock. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy.

- Management Unit 288-5 (5 acres) is similar to Unit 288-3. This unit was cleared of a previous melaleuca monoculture, and just has a few scattered exotic plants. Currently, the unit is characterized by a dome swamp and marsh. Planned management work in this unit includes regularly-scheduled exotic maintenance when conditions are dry enough to safely do so.

- Management Unit 288-6 (55 acres) is located in the southern third of Site 288. It is separated from Unit 288-7 by an agricultural ditch. This unit has a wide variety of native plant communities: wet and mesic flatwoods, basin and dome swamps and a large wet prairie. This unit underwent exotic plant removal and brush reduction, however some melaleuca stands and other scattered exotics remain. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy. The trail that previously went through the western depression marsh is nearly gone as vegetation has grown in over the years. This trail will not be re-established in this area, as a trail exists on the eastern portion of this unit

provides ingress-egress for management and inspections. An old cow well exists on this unit, and is barely discernable due to its presence in a wetland that contains standing water in the wet season.

- Management Unit 288-7 (73 acres) consists entirely of abandoned cropland that has transitioned to a successional hardwood hammock community. It is characterized by mature oak trees with wax myrtle and saw palmetto. Broomsedges, beaksedges, rushes and grasses dominate the groundcover. Invasive exotic plants are scattered in the landscape. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy.

- Management Unit 288-8 (18 acres) is the furthest south in this portion of the preserve. This unit is separated from the rest of the preserve by a ditch and berm. This unit contains wet and mesic flatwoods, dome swamp and hydric hammock. Scattered exotics exist throughout this unit, including Old World climbing fern. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy. Selective removal of willows and wax myrtle from the fence line is also needed in some areas.

- Management Unit 321-1 (35 acres) is located in the southwest portion of Site 321. It is separated from the rest of the preserve by an existing primitive road. This unit contains both wet and mesic flatwoods as well as transitional hammock with sparse wet and dry prairie vegetation all of which contain scattered invasive exotic plants. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy. Actual management activities may differ if the LCPA utilizes this site for mitigation as part of the MOU.

- Management Unit 321-2 (44 acres) is located in the northwest side of the site. Its boundaries are delineated by existing trails and the power line easement. The west side of the unit is primarily a wet prairie and basin swamp that transitions into wet and mesic flatwoods to the east. The basin swamp contains a dense stand of girdled melaleuca from a previous treatment event. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy. Potential pile burns may be employed to help reduce the dead melaleuca biomass. Actual management activities may differ if the LCPA utilizes this site for mitigation as part of the MOU.

- Management Unit 321-3 (40 acres) is on the southeastern quarter of the site. Native plant communities in this unit include mesic and wet flatwoods as well as basin and dome swamps. Like Unit 321-2, the basin swamp contains a dense stand of girdled and fallen melaleuca trees from a previous treatment event. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy.

Potential pile burns may be employed to help reduce the dead melaleuca biomass. Actual management activities may differ if the LCPA utilizes this site for mitigation as part of the MOU.

- Management Unit 321-4 (32 acres) is in the northeast and contains the most disturbed portions of Site 321. This unit is dominated by power lines, a roadway and abandoned cropland that is transitioning to wet prairie. Small sections of wet flatwoods and a basin swamp also exist in this area. Girdled and fallen melaleuca dominate the forested areas, and torpedo grass continues to be a treatment priority in the understory. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy. Potential pile burns may be employed to help reduce the dead melaleuca biomass. Actual management activities may differ if the LCPA utilizes this site for mitigation as part of the MOU.

- Management Unit 334-1 (39 acres) consists of the northern half of Site 334. This part of the preserve is dominated by wet flatwoods, and also has basin and dome swamps as well as mesic flatwoods. Exotic coverage is low, though West Indian marsh grass dominates the cow well. The basin swamp and some areas of the wet flatwoods contain girdled and fallen melaleuca from a previous treatment event. Planned management work in this unit includes regularly-scheduled exotic maintenance with periodic selective thinning of the mid-canopy. Potential pile burns may be employed in the basin swamp to help reduce the dead melaleuca biomass. Actual management activities may differ if the LCPA utilizes this site for mitigation as part of the MOU.

- Management Unit 334-2 (40 acres) is the remaining southern half of the site and was previously cleared for agriculture. A berm and ditch separates this unit from 334-1. The majority of this unit consists of abandoned cropland that is transitioning to wet prairie with small islands of mesic flatwoods on the east. The southeast corner contains a marsh with a near monoculture of girdled and fallen melaleuca from a previous treatment event. Planned management work in this unit includes regularly-scheduled exotic maintenance. Potential pile burns may be employed in the marsh to help reduce the dead melaleuca biomass. Actual management activities may differ if the LCPA utilizes this site for mitigation as part of the MOU.

- Management Unit 567-1 (45 acres) is the only management unit for Parcel 567. Additional units may be differentiated after the restoration plan is completed. This parcel consists of an abandoned citrus grove with a cypress dome on the northeast corner of the site. The cypress dome is ditched/diked off from the rest of the site. The grove contains ruderal herbaceous species and scattered palm trees and wax myrtle. The cypress dome contains little to no exotics, but appears hydrologically stressed based on signs of soil subsidence, little to no recent moss collars on the bases of the trees and

recruitment of various native vines such as grape vine (*Vitis rotundifolia*). Management work in this unit will be determined based on final site design. The current draft design includes the creation of a forested panther corridor and a mosaic of prairie and marshes.

Figure 53: Site 93 Management Units

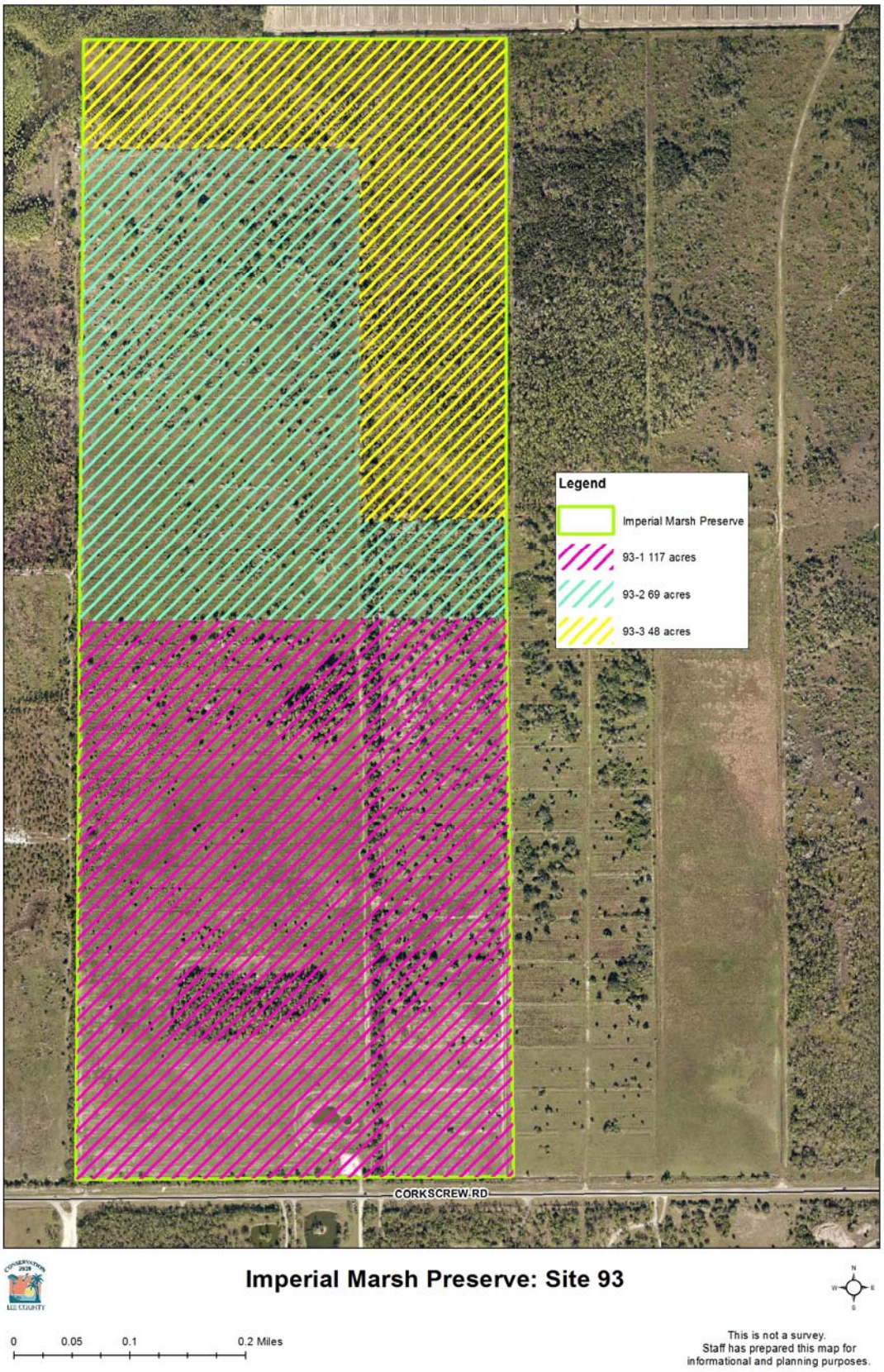


Figure 54: Site 259 Management Units

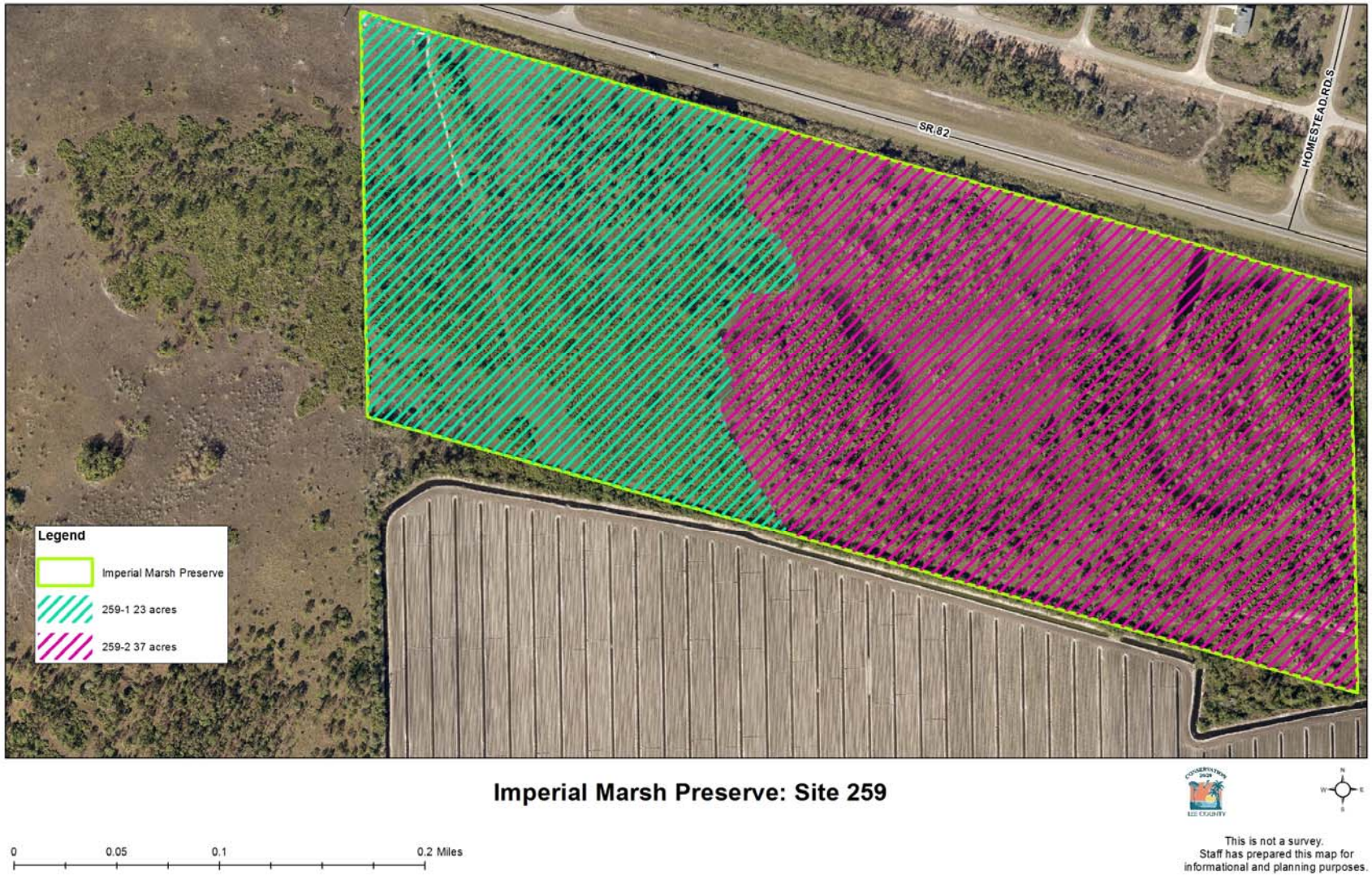


Figure 55: Site 288 Management Units

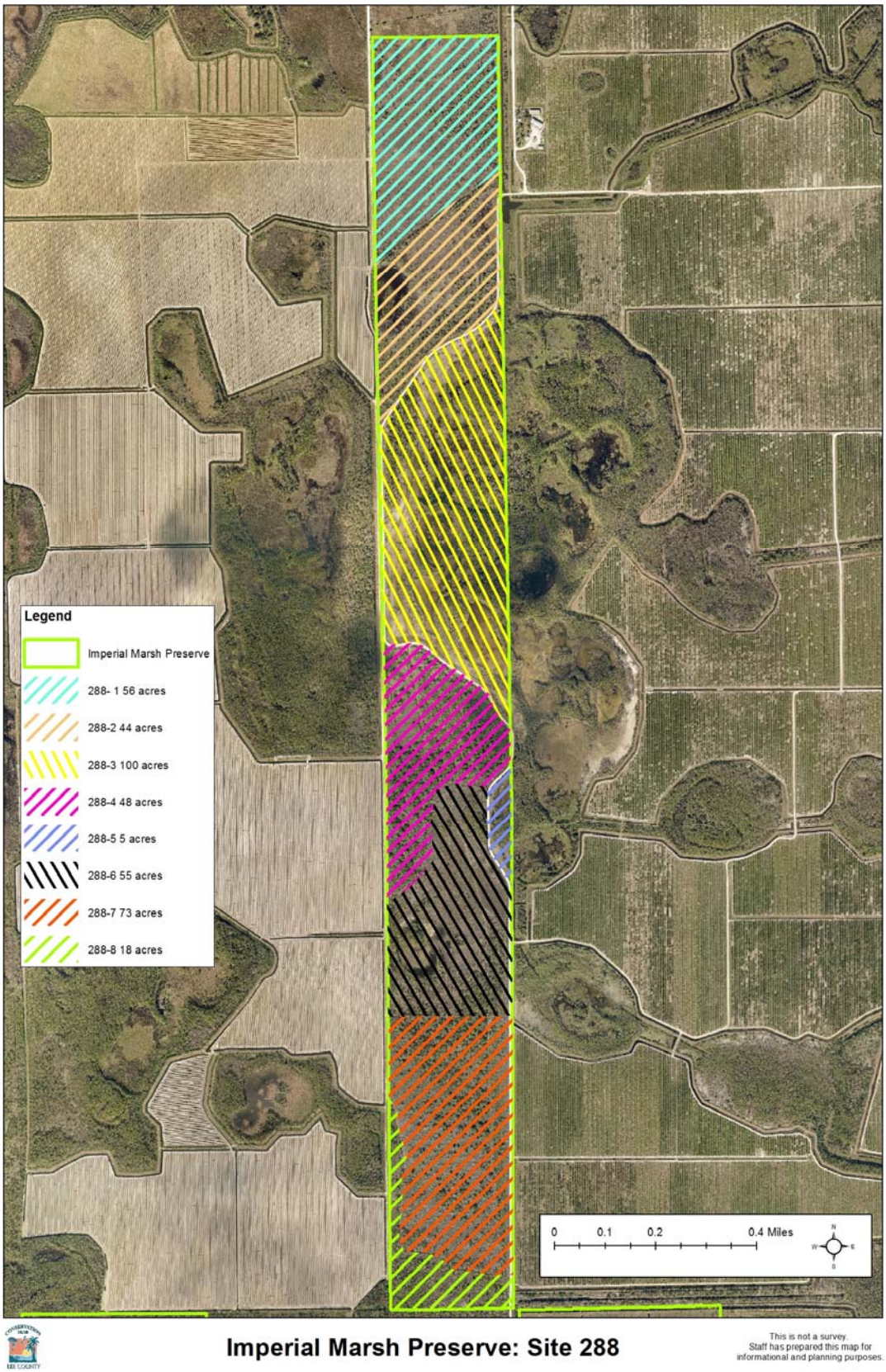


Figure 56: Site 321 Management Units

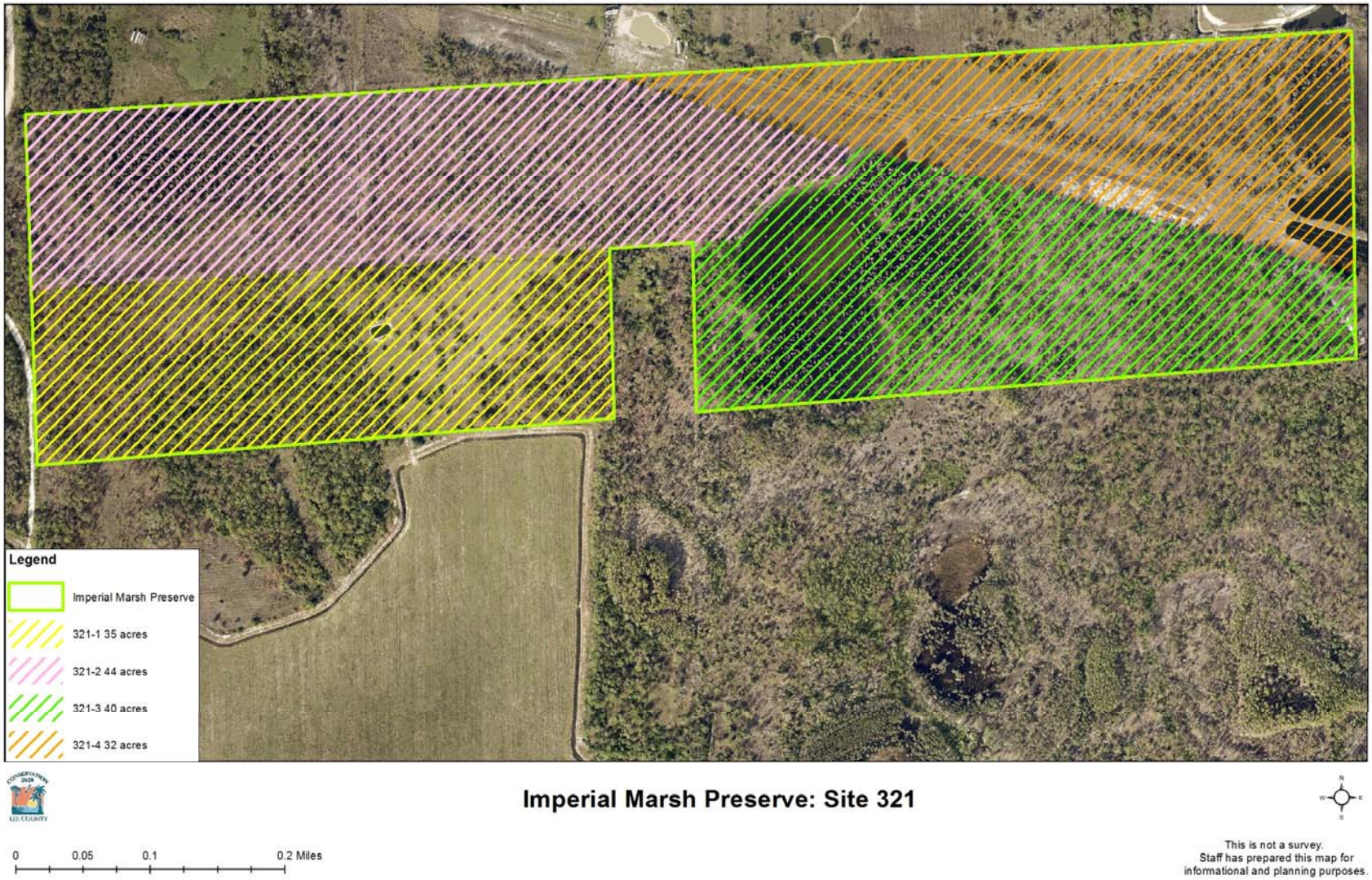


Figure 57: Site 334 Management Units

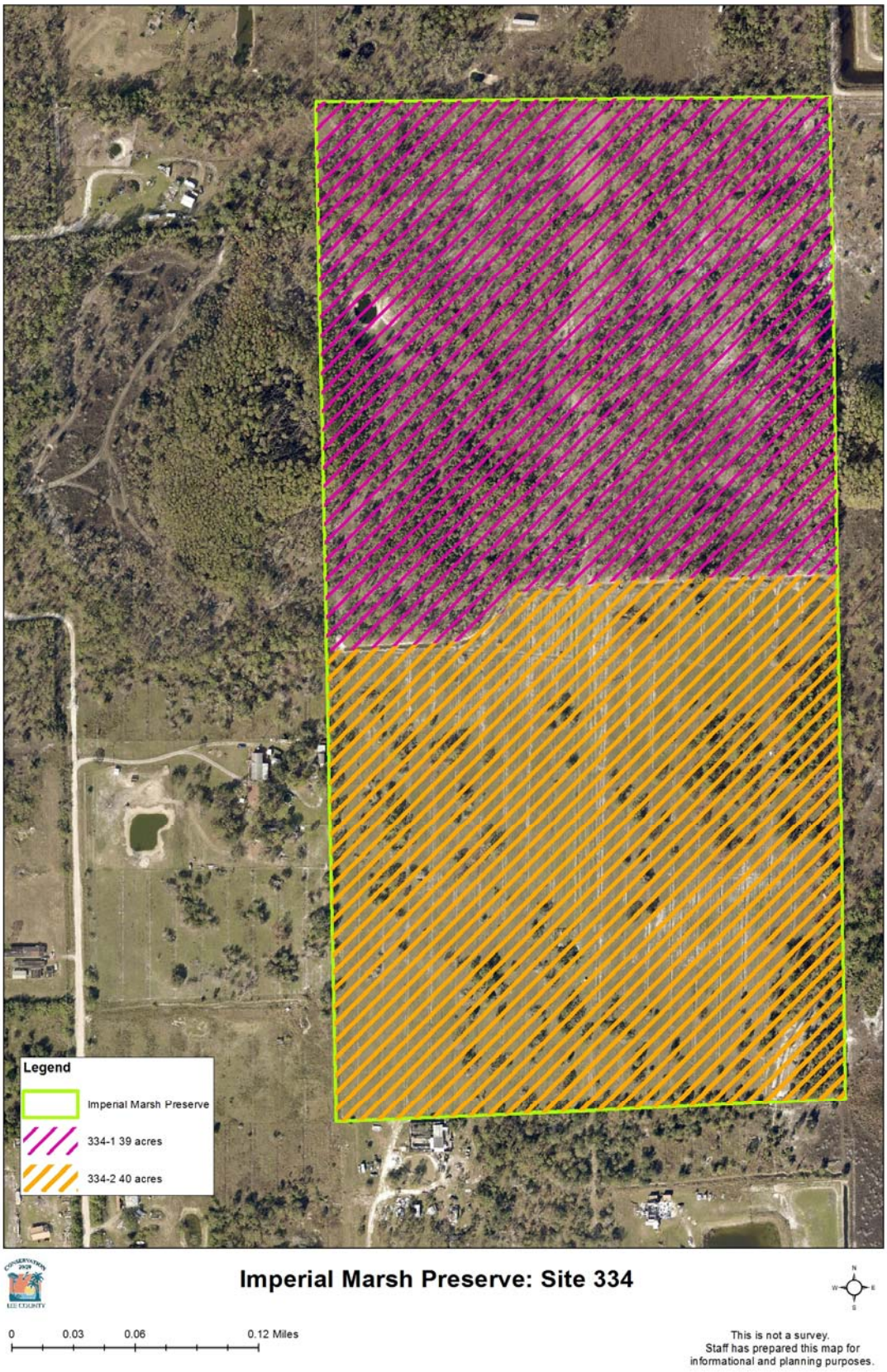


Figure 58: Site 567 Management Units

B. Management Work to Date

To date, five of the six parcels have received at least one exotic plant treatment. Parcel 567 is the newest parcel, acquired in 2017, and is currently undergoing restoration planning. Below is a summary of management work on each of the remaining parcels.

Site 93

This parcel has received multiple exotic treatments, marsh creation, fence and boundary sign installation and maintenance, fire line creation and maintenance, supplemental planting and hydrologic enhancements. The marsh creation includes four shallow marshes that were excavated and planted with native vegetation. These marshes are oriented generally north-south along a central line. The excavated material was used to create a public access area adjacent to Corkscrew Road. The fire lines were created with a combination of mowing and disking, and are maintained as needed. Supplemental planting includes the installation of pine and cypress trees in MU 93-2, and the 2018 installation of herbaceous vegetation in the southern portion of MU 93-1 (western portion of the old agricultural field). The hydrological enhancement includes the installation of ditch plugs and berm breaks, installation of a new water management berm and installation of a control structure on the south end of the parcel adjacent to the Corkscrew Road ditch. The ditch plugs and berm breaks were installed in the remnant agricultural berms and ditches located throughout the previously farmed portions of the site, and serve to improve overland flow of water during the wet season. Berm breaks and ditch plugs were also intentionally placed in the north-south ditch adjacent to the created marshes. Many of the lateral ditches were also plugged to improve overland flow over the site. Figure 59 illustrates these hydrological enhancement features.

This site has undergone several exotic removal events over the years. The most notable exotic removal events were done in 2004, 2006, 2009, 2012, 2013, 2014, 2015, 2016 and 2018. These include various sweeps for torpedo grass, Brazilian pepper, and general treatment of Category 1 and 2 invasive exotics.

Site 259

This parcel received exotic vegetation treatments and melaleuca removal events in 2009, 2014 and 2018. Melaleuca was logged in 2009, and continues to be maintained through regular treatment events. Maintenance events in 2014 and 2018 focused on full sweeps of Category 1 and 2 invasive exotic species. Other management work includes the installation of boundary signs and partial installation of fire lines.

Site 288

This parcel has received multiple exotic treatments and melaleuca removal. This includes multiple exotic treatments from C20/20 staff, volunteers and contractors,

management of trails/firelines and melaleuca logging. The most notable exotic removal events occurred in 2008, 2009 and 2016. In 2008, the HSBC Consumer and Mortgage Lending Conference volunteers treated 23 acres; removing thousands of melaleuca trees and hundreds of wax myrtles. Additional melaleuca were logged in 2009. General exotic removal occurred throughout the site in 2016, with a separate event focusing on Brazilian pepper.

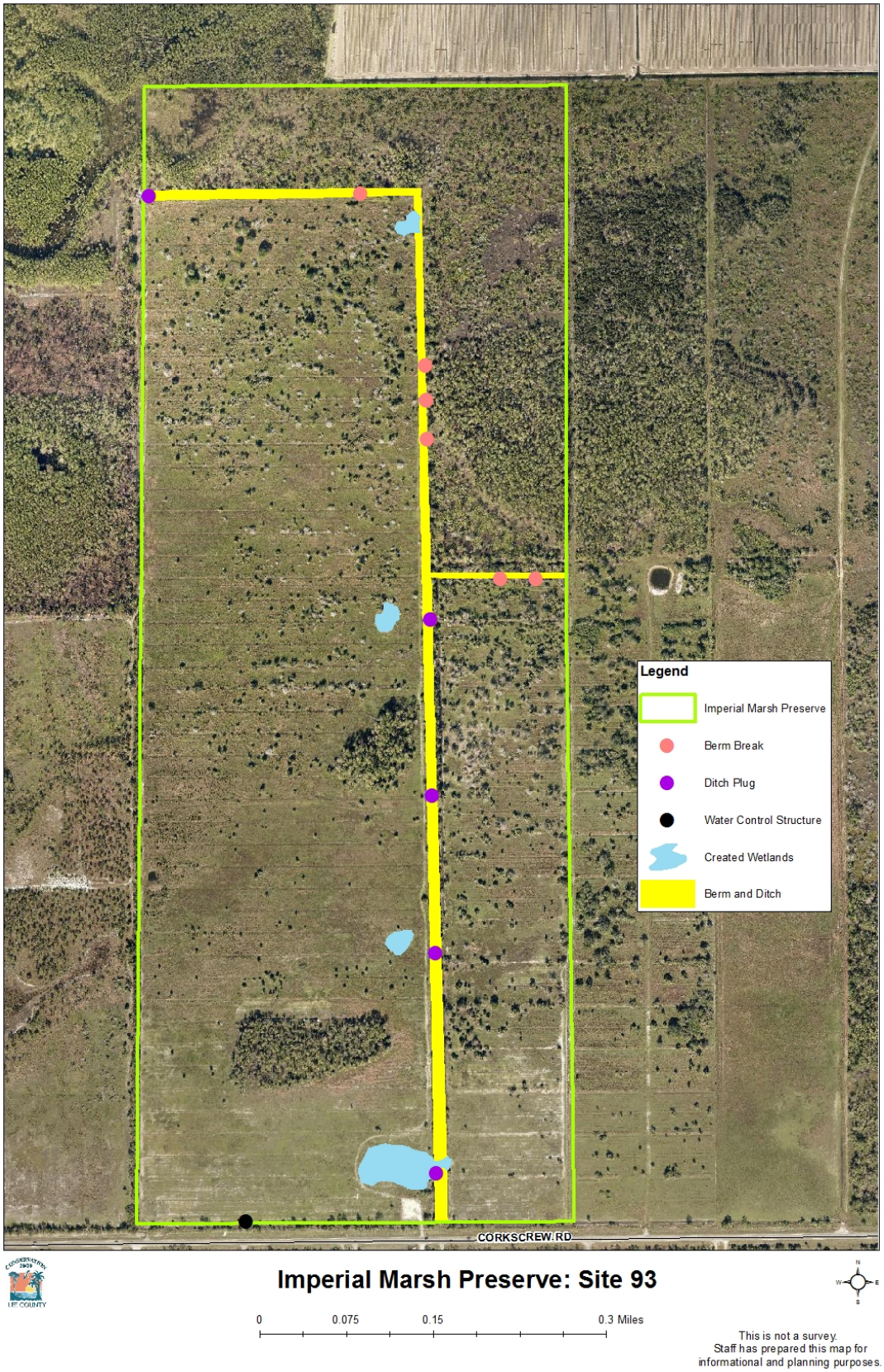
Site 321

This parcel received an initial treatment consisting of a general sweep of Category 1 and 2 invasive exotics in 2018. Installation of a new perimeter fence and boundary signs was completed in May 2019. A Memorandum of Understanding between Lee County and the Lee County Port Authority for the use of Conservation 20/20 lands for aviation-related airport project mitigation is currently in effect. This agreement allows the Port Authority to request certain conservation parcels for mitigation use, with the Port Authority being responsible for the implementation of all mitigation activities on the requested parcels. Per the agreement, the Port Authority has requested the use of Site 321 for mitigation purposes. Although the site is not currently used for mitigation, the request is valid until January 21, 2021.

Site 334

This parcel received an initial treatment consisting of a general sweep of Category 1 and 2 invasive exotics in 2018. Land management staff conducted a workday in May 2019, focusing on treating melaleuca and earleaf acacia in MU 334-1. Installation of a new perimeter fence and boundary signs was completed in early 2019. A Memorandum of Understanding between Lee County and the Lee County Port Authority for the use of Conservation 20/20 lands for aviation-related airport project mitigation is currently in effect. This agreement allows the Port Authority to request certain conservation parcels for mitigation use, with the Port Authority being responsible for the implementation of all mitigation activities on the requested parcels. Per the agreement, the Port Authority has requested the use of Site 334 for mitigation purposes. Although the site is not currently used for mitigation, the request is valid until January 21, 2021.

Figure 59: Site 93 Hydrological Enhancement



C. Goals and Strategies

The goal for IMP is to maintain and protect the native plant communities in a way that promotes wildlife usage, encourages diversity, and preserves the integrity of the ecosystems and functions they provide. This will be accomplished through natural resource management, implementation of restoration projects, and implementation of overall protection measures. These strategies will be carried out by internal staff, consultants, contractors, partner agencies and volunteers.

Natural Resource Management

- ✓ Pasture/hydrologic restoration
- ✓ Exotic plant control/maintenance
- ✓ Exotic and feral animal removal
- ✓ Prescribed fire management
- ✓ Mechanical brush reduction
- ✓ Monitor and protect listed species

Overall Protection

- ✓ Tri-Annual Inspections
- ✓ Debris removal and prevention of dumping
- ✓ Boundary sign installation/maintenance
- ✓ Boundary fence maintenance
- ✓ Install/Maintain fire breaks
- ✓ Termination of Easements
- ✓ Assess cattle leases
- ✓ Change Zoning and Future Land Use categories

Public Use

- ✓ Public access planning/assessments
- ✓ Trail and public use sign maintenance
- ✓ Maintenance of pedestrian walk-through gates

Volunteers

- ✓ Assist volunteer groups (i.e. Bird Patrol and land stewardship activities)

Outside Consultants

- ✓ Environmental/engineering

The following is a description of how each of these goals will be carried out, the success criteria used to measure each goal and a projected timetable outlining when and where each activity will take place.

Natural Resource Management

Pasture/Hydrologic Restoration

To add community diversity to the preserve, approximately 45 acres of abandoned cropland will be restored to native plant communities (Site 567). To prepare for the restoration project, data collection began in 2018 in order to determine appropriate plant communities. An environmental consultant has been hired to assist in the restoration process, and planning is currently underway. Conceptual planning for Site 567 includes enhancement of the existing cypress dome, a mosaic of wet and dry prairies, created marshes and a hammock that will serve as a panther corridor.

Staff will continue to maintain the previous hydrological restoration area on Site 93. Wright's nutrush and torpedo grass continue to be problematic at Site 93, and require additional management activities to bring them to maintenance levels. Despite this, the area is transitioning into a wet prairie with marshes scattered in the landscape.

Invasive Exotic Plant Control

The most current Florida Exotic Pest Plant Council's (FLEPPC) List of Invasive Species will be consulted in determining the invasive exotic plants to be controlled in each management unit. The goal is to remove and control these exotic species to a maintenance level, defined as less than 5% invasive exotic plant coverage. Prior to each invasive exotic plant control project at IMP, an Herbicide Prescription Form (located in the LSOM) will be filled out by the contractor, then reviewed and approved by county staff. Information regarding the projects will be recorded in the preserve files.

- Uplands with light to moderate infestations:

  In areas where invasive plants are sporadic and below 50% of the vegetation cover, hand removal will be utilized for control. Specific methodology will depend on stem size, plant type and season, but generally the stem will be cut near the ground and the stump will be sprayed with appropriate herbicide, or a foliar application will be applied to the entire plant. Hand pulling will be utilized when possible with appropriate species in order to minimize herbicide use. Basal bark treatment may be used at some locations. Cut stems may be piled to facilitate future potential burning, chipping or removal from site. No replanting will be needed due to significant presence of native vegetation and the native seed bank.

- Uplands with moderate to heavy infestations:

  Although no areas are currently in this condition, this management technique is included in case a new invasive species colonizes the preserve or site

conditions or weather prohibit timely treatment. In areas where the exotics occur as monotypic stands or are higher than 50% of the vegetation cover, the use of heavy equipment may be utilized in appropriate communities and during suitable season. Heavy equipment will be chosen so that soil disturbance and compaction are minimized. In areas along ditches where the hydric soils may not be conducive for heavy equipment, hand crews will be used to cut down and remove these plants. Tree debris will then either be pile burned or mulched. Follow-up treatment of these areas will include an application of an appropriate herbicide mixture to the foliage of any re-sprouts or seedlings. Land management staff will evaluate supplemental planting on a case-by-case basis.

- Wetlands with light to moderate infestations:

  Hand crews will need to hike in and foliar, girdle, basal bark, or cut-stump treat the exotics with an appropriate herbicide. Follow-up treatments will need to be done on an annual basis, with decreasing frequency if subsequent coverages of invasive exotics decline sufficiently. Where feasible or necessary, biomass may be removed from wetland sites to be piled and burned and/or mulched.

- Wetlands with moderate to heavy infestations:

  Aside from Site 567, which has not yet been restored, no wetlands currently have any heavy infestations of woody exotic vegetation. However, some areas contain moderate to heavy infestations of invasive grasses and sedges. At suitable locations such as seasonal ponds or areas with sandy soils, lightweight equipment may be utilized during dry, winter periods or hand crews will need to hike in on foot and either foliar, girdle, basal bark, or cut-stump treat the exotics with the appropriate herbicide. Follow-up treatments will need to be done on an annual basis, with decreasing frequency if subsequent coverages of invasive exotics decline sufficiently. Where feasible or necessary, biomass may be removed from sites to be piled and burned and/or mulched. Herbaceous vegetation such as torpedo grass may be mowed and/or burned to help reduce biomass prior to treatment when coverages are high or when the thatch is too thick for treatments to be effective.

Since 2009, approximately $465,371 has been spent on exotic plant removal work on 925 acres of the preserve. The exotic plant control efforts were funded by a combination of grants, public mitigation, the previous C20/20 management fund and the general fund.

Exotic and Feral Animal Removal

Twelve exotic animal species have been recorded on IMP (see Fauna section). Although melaleuca psyllids and weevils are non-native animals, they are beneficial biological control agents targeting the invasive melaleuca tree. The exotic animal species that causes the most damage at the preserve to date is the feral hog. Currently, the only acceptable method of hog removal on C20/20

preserves is trapping, which is done by a licensed contractor. Removing all hogs is an unreasonable goal; therefore a control program will need to be continuous on a long-term basis. Staff will coordinate with Lee County authorized hog trappers as needed when negative impacts are observed. Exotic apple snails, such as island apple snail (*Pomacea insularum*) have also been observed in the preserve. Currently, no practical method exists to remove this species from natural areas. When necessary, a methodology will be established and implemented against other unwanted exotic animal species.

A Burmese python was observed at CREW in 2018, a few miles from the preserve. Burmese pythons consume native wildlife of varying sizes, from mice to deer, making them a threat to our ecosystems as they compete for prey with our native apex predators like the bobcat and panther. The ecological destruction from these pythons has become more evident in recent years as their populations have expanded. To date, no pythons have been observed at IMP, though the site does contain habitat conducive to their survival. Any pythons observed on the preserve will be documented and reported immediately to FWC.

Although not noted at IMP, this preserve, like other C20/20 preserves, does not contain nor will it support feral cat colonies. FWC's Feral and Free Ranging Cats policy is *"To protect native wildlife from predation, disease, and other impacts presented by feral and free-ranging cats"* (FWC 2003). Any feral cats will be trapped and taken to Lee County Animal Services. C20/20 staff will continue to work with the Animal Services staff to prevent establishment of feral cat colonies adjacent to preserves.

Prescribed Fire Management

Prescribed fire has been implemented at Site 93 with limited success due to hydrology and low fuel loads. The remaining parcels are difficult to burn due to various factors including their sizes, locations and hydrology. Site 288, for example, stays wet most of the year, making it difficult to carry fire. Site 321 contains an active eagle nest and is bisected by a relatively large power line easement. Site 334 is mostly hydric and is adjacent to single family homes. There is potential that Site 567 could have fire-dependent communities that might be able to go on a burn rotation once the restoration project is completed. This possibility will be evaluated as site designs progress. Site 259 contains fire-dependent communities, and staff will attempt to place it on a burn rotation.

In the event that some of these other parcels could be put into a prescribed burn rotation, C20/20 will coordinate prescribed burn efforts at the preserve with the managers of adjacent conservation lands and inform adjacent neighbors of imminent burn plans.

Mechanical Brush Reduction

Mechanical brush reduction may be utilized as a management tool or in conjunction with preparation for a prescribed fire. Fuel load reduction is necessary in pine flatwoods and other fire dependent communities. When the

overgrowth is substantial or prescribed fire is not feasible, mechanical brush reduction may be used as an alternative to fire.

Slash pines, saw palmetto, shrubs and invading oaks may need to be thinned mechanically in overgrown areas to achieve desired results and to prevent crown fires or intense fires from occurring. In additional, mechanical mowing, roller chopping and mulching can help promote diversity and suppress the establishment of successional species. As a result of a May 8, 2007 wildfire on Site 93, additional brush reduction activities has involved removing snags along the eastern fence line to improve safety and reduce fence damage from falling limbs.

Selective mechanical brush reduction of saw palmetto and thinning of wax myrtle and other mid-canopy species may be employed to improve habitat and prevent areas from getting choked up with vegetation. Exotic removal events have encouraged a dense growth of young pines in Site 259. In addition, fire suppression has resulted in dense thickets of saw palmetto at heights well over 6 feet tall in some areas. Employing selective thinning and reduction techniques can help open these areas for wildlife such as bears and panthers to move around while still maintaining the cover they need.

Monitor and Protect Listed Species

As discussed in the Designated Species section, there are several listed species that have been documented on the preserve including Big Cypress fox squirrel, wood stork, snail kite, giant and cardinal airplants. These species will benefit from exotic plant control and hydrological restoration activities. During management activities, efforts will be made to minimize negative impacts to listed species. For example, no work will be conducted within the 660-foot buffer zone for eagle nests during nesting season, which runs from October 1 through May 15 each year.

IMP is part of a countywide tri-annual site inspection program conducted for all C20/20 preserves. A copy of the site inspection form is available in the LSOM. These inspections allow staff to monitor for impacts and/or changes to each preserve and includes lists of all animal sightings and new plant species that are found. If, during these inspections, staff finds FNAI listed species, they will be reported using the appropriate forms.

Overall Protection

Tri-Annual Inspections

Inspections are conducted every four months to evaluate trails, fence lines, gates/locks, boundary signs, wildlife, exotic treatments, photo points, mitigation areas and the website information page. Issues and deficiencies are noted for repairs as needed. New plant and animal sightings are recorded on the corresponding lists.

Debris Removal

IMP contains minor debris scattered throughout portions of the preserve. This will be removed during restoration and maintenance events. Land management staff will work to remove any future trash and debris as it is discovered. Deleterious and non-functional interior fences, cow pens and corrals will also be removed when possible. These are often remnants of past site uses.

Boundary Sign and Fence Installation/Maintenance

Boundary fences and signs have been installed on all parcels except for Site 567 to further protect and delineate the preserve. Fencing and signs for Site 567 will be installed either concurrently or after restoration. Staff will check the boundary fences and signs during regular inspections. Missing or damaged fence and signs will be replaced or repaired as needed.

Install/Maintain Fire Breaks

Perimeter fire breaks have been installed on Site 259. In addition, perimeter and internal fire breaks have been installed on Site 93. These fire breaks reduce the potential damage to areas outside the preserve from a wildfire or prescribed fire, and help delineate burn units for safe and effective prescribed fires. Some lines are mowed and others are disked; depending on the level of protection that is needed and the hydrology of the area. Staff will maintain these breaks as needed by either mowing or disking. Additional fire lines will be installed in other parcels and maintained as needed.

Termination of Easements

Where possible, land management staff will seek to terminate the agreements for easements that unnecessarily intrude into the preserve; specifically easements within Sites 321 & 334.

Assess Cattle Leases

Staff will evaluate the cattle leases during site inspections to determine if the cattle are having any negative effects on the natural plant communities, soils or water quality. The leased sections have a long history of cattle grazing and there is currently very little disturbance to the natural plant communities. If land management staff determines the cattle are negatively impacting the preserve, staff will meet with the lease holder to determine best management practices to lessen the impacts of cattle and determine if the lease should be continued or terminated.

Change Zoning and Future Land Use Categories

Staff will coordinate with LCDCD staff to discuss the zoning and future land use categories for IMP. All parcels zoning will be changed to “Environmentally Critical” from “Agriculture” and future land use designations will be modified to either “Conservation Lands – Uplands” or Conservation Lands - Wetlands.”

Public Use

Public Access Planning & Assessments

As appropriate, the sites, including new acquisitions, will be evaluated for potential public access. Currently, the restoration plan for Site 567 includes public access similar to Site 93. Public access for the remainder of the preserve is currently limited due to seasonal and permanent high water conditions of the majority of the parcels and the potential future mitigation status for sites 321 and 334.

Trail and Public Use Sign Maintenance

No specifically-designated trails currently exist at IMP. Site 93 contains fire lines that also double as trails, and Site 567 may contain a trail. Site 93 contains a Public Use preserve sign that will be maintained and replaced as needed. Site 567 will also have appropriate signs based on the final plan set.

Maintenance of Pedestrian Walk-Through Gates

Site 93 contains a pedestrian walk-through gate. This gate is a hinged single gate with a spring and chain to keep it closed. The gate will be maintained so that vegetation does not block it and prevent it from opening and closing. If Site 567 also contains a pedestrian access gate, it too will be maintained as needed to ensure safe usage.

Volunteers

Assist Volunteer Groups

The LSOM identifies the Land Stewardship Volunteer Program's mission statement as:

To aid in the management and preservation of Lee County resource-based public parks and preserves and to provide volunteers with rewarding experiences in nature.

Since 2003, the Lee County Bird Patrol volunteer group has actively performed bird monitoring surveys at this preserve on a monthly basis at Site 93. Staff will coordinate with Bird Patrol members to evaluate possibly expanding the monitoring effort to other areas of the preserve.

Additional volunteer activities exist at IMP, including exotic vegetation removal, fence line maintenance and other land stewardship activities. When volunteer opportunities arise, the sites will be evaluated for potential projects. Volunteer projects will be overseen by C20/20 staff and will align with the intent of this management plan.

Outside Consultants

Environmental Engineering

Environmental and engineering consultants have been hired to perform most aspects for the pasture and hydrological restoration project at Site 567. The consultants will also be responsible with coordinating and obtaining appropriate environmental permits before restoration efforts begin. In addition, the T&T mitigation area on Site 93 is still being monitored until final success is met.

VII. Projected Timetable for Implementation

The following timetable is dependent on obtaining necessary funding for numerous land management practices. Implementation of these goals may be delayed due to changes in staff, extreme weather conditions, or a change in priorities on properties managed by Lee County. Details on each management activity are found in the Management Action Plan section.

Management Activity	2019				2020				2021				2022				2023				2024				2025				2026				2027				2028			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Natural Resource Management																																								
Pasture/ Hydrologic Restoration	On-Going at 93 and 567			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Exotic Plant Control/ Maintenance		288, 334			93	93, 259, 321, 334			93	93, 288			93	93, 259, 321, 334			93	93, 288, 567				93, 259, 321, 334				93, 288, 567				93, 259, 321, 334				93, 288, 567				93, 259, 321, 334		
Exotic/Feral Animal Removal	Conducted as needed, monitoring on-going							→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Prescribed Burning						93												93								259														
Mechanical Brush Removal				93		259		93				93				93																								
Monitor/Protect Listed Species	Conducted as needed, monitoring on-going							→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Overall Protection																																								
Tri-Annual Inspection	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X
Debris Removal	On-Going			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Boundary Sign Maintenance	On-Going			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Fence/Fireline Maintenance	X				X				X				X				X				X				X				X				X				X			
Termination of Easements			321, 334	→	→	→	→	→																																
Assess Cattle Leases			259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334				259, 288, 334	
Change Zoning/ Future Land Use Categories			X	→	→	→	→	→																																
Public Use																																								
Public Access Planning	On-Going at 567			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Trail/sign Maintenance																	567				567				567				567				567				567			
Maintenance of Pedestrian Walk-Through Gates	93				93				93				93				93, 567				93, 567				93, 567				93, 567				93, 567				93, 567			
Volunteers																																								
Assist Volunteer Groups	On-Going			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Outside Consultants																																								
Environmental/ Engineering	Annual environmental monitoring at 93- T & T parcel to be conducted until final success; environmental and engineering consultation for the restoration of 567 to be conducted through construction completion																																							

VIII. Financial Considerations

The C20/20 program is funded through Lee County's general fund in accordance with Ordinance 15-08 (as amended). This annual allocation funds restoration, maintenance of the preserve, equipment, and C20/20 staff costs.

Past preserve expenses (Table 5) have been used for natural resource management projects, restoration projects and securing the overall protection of the preserve. Funding of the mitigation areas has been provided by the Lee County general fund, T&T mitigation funds and County DOT funds. Funding for non-mitigation areas has been largely provided by the Lee County general fund. Grants and restoration funds have been provided for natural resource management projects by the SFWMD and FWC.

Possible funding for future invasive exotic plant treatments and restoration projects may be requested through grants from agencies such as SFWMD, FWC, and USFWS. Projected costs (Table 6) for annual maintenance and management expenses have been calculated using cost trend formulas. These estimations reflect an approximate management cost that can be applied to the number of occurrences each method will be used over the next ten years of this management plan.

A Memorandum of Understanding between Lee County and the Lee County Port Authority for the use of Conservation 20/20 lands for aviation-related airport project mitigation is currently in effect (Appendix F). This agreement allows the Port Authority to request certain conservation parcels for mitigation use, with the Port Authority being responsible for the cost and implementation of all mitigation activities on the requested parcels. Currently, the Port Authority has requested the use of Sites 321 and 334 for mitigation purposes, however no mitigation has been planned yet.

Table 5: Expended Costs 2008-2018

Natural Resource Management		
Item	Funding Source	Costs
Feral Hog Control	C20/20	$150.00
Contracted Invasive Exotic Plant Treatments	C20/20	$397,498.75
In House Exotic Plant Treatments	C20/20	In House
Contracted Consultants for Mitigation*	C20/20	$65,102.28
Supplemental Planting	C20/20	$18,249.00
	Total	**$481,000.03**

Overall Protection		
Item	Funding Source	Costs
Boundary Sign Installation	C20/20	In House
Contracted Fence/Gate Installation	C20/20	$37,443.63
Fence Maintenance	C20/20	In House
Contracted Firebreak Installation	C20/20	$19,720.00
Fireline Maintenance	C20/20	In House
	Total	**$57,163.63**

Restoration		
Item	Funding Source	Costs
Hydrological Restoration	C20/20	$198,197.22
	Total	**$198,197.22**

IMP Total Expended Cost for Reporting Period: $736,360.88

*Mitigation consulting associated with Natural Resource Management is for T&T, Corkscrew Road Widening and other LDOT projects (not internal restoration projects).

Table 6: Projected Costs 2019-2028

Natural Resource Management			
Item	Funding Source	Costs	Occurrences
Feral Hog Control	C20/20	$1,500.00	10 Times
Prescribed Burn (2 BU's Site 93)	C20/20	$5,232.00	2 Times
Mechanical Brush Reduction	C20/20	$3,200.00	5 Times
In House Exotic Plant Treatments	C20/20	In House	20 Times
Contracted Exotic Plant Treatments	C20/20	$72,150.00	10 Times
Supplemental Planting	C20/20	$40,000.00	2 Times

Overall Protection			
Item	Funding Source	Costs	Occurrences
Fence Maintenance (In House)	C20/20	$100.00	10 Times
Boundary Sign Installation	C20/20	In House	1 Time
Boundary Sign Replacement	C20/20	In House	20 Times
Debris Removal (In House)	C20/20	$100.00	10 Times
Fireline Maintenance (In House)	C20/20	$1,720.00	10 Times

Restoration			
Item	Funding Source	Costs	Occurrences
Fallow Cropland Restoration	C20/20	$500,000.00	1 Time

Due to the timeframe of this management report, all associated management expense estimates have been projected over 10 years.

Total costs have been distributed evenly across a 10 year timeframe to generate a projected annual management expense estimate of **$ 137,263 per year**. Total projected annual management expense estimate is **$ 1,372628 over 10 years**. Total projected restoration expense estimate of **$ 500,000** to occur within the timeframe of this plan.

IX. Literature Cited

Austin RJ. 1987. An Archaeological Site Inventory and Zone Management Plan for Lee County, Florida. St. Petersburg: Piper Archaeological Research, Inc.

[CLOa] Cornell Lab of Ornithology. All About Birds: Merlin. 2003 [Internet]. [cited 2008 Sept 5]. Available from: http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/Merlin.html#conservation

[CLOb] Cornell Lab of Ornithology. All About Birds: Hairy Woodpecker. 2003 [Internet]. [cited 2008 Sept 5]. Available from: http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/Hairy_Woodpecker_dtl.html

Cooke RE. 1945. "Geology of Florida." In Ecosystems of Florida (Myers & Eweleds.). Orlando: University of Central Florida Press.

Cowardin LM, Carter V, Golet FC, LaRoe ET (Department of the Interior). 1979 December. Fish and Wildlife Service, Office of Biological Services. Classification of Wetlands and Deepwater Habitats of the United States. Washington, D.C.: DOI. 131 p. Available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.; FWS/OBS-79/31

[DHR] Florida Department of State Division of Historical Resources, Bureau of Archaeological Research. [Internet]. Tallahassee (FL): Best Management Practices: An Owner's Guide to Protecting Archeological Sites, 2005 January. [cited 2019 May 2]. Available from: https://dos.dos.myflorida.com/media/30867/handbook.pdf

Duever MJ, Carlson JE, Meeder JF, Duever LC, Gunderson LH, Riopelle L, Alexander TR, Meyers RL, Spangler DP. 1986. The Big Cypress National Preserve. New York: National Audubon Society.

[FDOT] Florida Department of Transportation. 1999 January. Florida Land Use, Cover and Forms Classification System. Third Edition. Tallahassee: DOT, Surveying and Mapping Office. 93 p.

[FLEPPC] Florida Exotic Pest Plant Council [Internet]. Ft. Lauderdale (FL): FLEPPC 2019 List of Florida's Invasive Plant Species – 2019 [cited 2019 May 2]. Available from: http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019_Plant_List_ABSOLUTE_FINAL.pdf

[FNAI] Florida Natural Areas Inventory. Guide to the Natural Communities of Florida. [Internet]. 2010. Available from: http://www.fnai.org/PDF/FNAI-NaturalCommunity-Classification-Guide-2010_20150218.pdf.

Gann GD, Bradley KA, Woodmansee SW. 2002. Rare Plants of South Florida: Their History, Conservation, and Restoration. Institute for Regional Conservation. Miami, Florida.

Hipes D, Jackson DR, NeSmith K, Printiss D, Brandt K. 2001. Field Guide to the Rare Animals of Florida. Tallahassee: Florida Natural Areas Inventory. 122 p.

Humphrey, SR, editor. 1992. Rare and Endangered Biota of Florida, Volume 1. Mammals. Gainesville, FL: University Press of Florida. 392 p.

[LCDCD] Lee County Department of Community Development. The Lee Plan 2018 Codification As Amended through August 2018 [Internet]. [cited 2019 April 29]. Available from: http://www.leegov.com/dcd/Documents/Planning/LeePlan/Leeplan.pdf

[LCPR] Lee County Parks and Recreation. Parks and Recreation Ordinance 18-12. 2018 [Internet]. [cited 2019 Feb 22]. Available from: https://www.leegov.com/bocc/Ordinances/18-12.pdf

Myers RL, Ewel JH, editors. 1990. Ecosystems of Florida. Orlando: University of Central Florida Press.

Rodgers JA Jr., Kale HW II, Smith HT, editors. 1996. Rare and Endangered Biota of Florida. Volume V Birds. Gainesville: University Press of Florida.

Save Florida's Native Bromeliads: Conservation of Endangered Airplants Through Biological Control and Seed Collection. 2016 [Internet]. Gainesville (FL): University of Florida Institute of Food and Agriculture Sciences. [cited 2019 May 2]. Available from: https://entomology.ifas.ufl.edu/frank/savebromeliads/index.html

Stubbs SA. 1940. "Solution a dominant factor in the geomorphology of peninsular Florida." In Ecosystems of Florida (Myers & Ewel eds.). Orlando: University of Central Florida Press.

Tiner RW. 1998. In Search of Swampland, A Wetland Sourcebook and Fieldguide. New Brunswick, NJ: Rutgers University Press.

Wunderlin RP, Hansen BF. 2013. Guide to the Vascular Plants of Florida. Third Edition. Gainesville, FL: University Press of Florida.

X. Appendices

A: Plant Species List

B: Wildlife Species List

C: SFWMD Permit Conditions

D: Cattle Leases

E: Site 567 Land Swap

F: Memorandum of Understanding between Lee County and the Lee County Port Authority

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Family: Azollaceae (mosquito fern)						
Azolla caroliniana	mosquito fern	native			R	
Family: Blechnaceae (midsorus fern)						
Blechnum serrulatum	swamp fern	native				
Woodwardia virginica	Virginia chain fern	native			R	
Family: Nephrolepidaceae (sword fern)						
Nephrolepis exaltata	sword fern	native				
Family: Osmundaceae (royal fern)						
Osmunda regalis	royal fern	native		CE		
Family: Polypodiaceae (polypody)						
Campyloneurum phyllitidis	long strap fern	native				
Phlebodium aureum	golden polypody	native				
Pleopeltis polypodioides	resurrection fern	native				
Family: Psilotaceae (whisk-fern)						
Psilotum nudum	whisk-fern	native				
Family: Pteridaceae (brake fern)						
Ceratopteris pteridoides	water horn fern	native			CI	
Ceratopteris thalictriodes	watersprite	exotic				
Family: Salviniaceae (floating fern)						
Salvinia minima	water spangles	exotic	I			
Family: Schizaeaceae (curly-grass)						
Lygodium microphyllum	Old World climbing fern	exotic	I			
Family: Thelypteridaceae (marsh fern)						
Thelypteris hispidula	hairy maiden fern	native			CI	
Thelypteris interrupta	hottentot fern	native				
Family: Vittariaceae (shoestring fern)						
Vittaria lineata	shoestring fern	native				
Family: Cupressaceae (cedar)						
Taxodium ascendens	pond cypress	native				
Taxodium distichum	bald cypress	native				
Family: Pinaceae (pine)						
Pinus elliottii var. *densa*	south Florida slash pine	native				
Family: Alismataceae (water plantain)						
Lemna obscura	little duckweed	native			R	
Lemna valdiviana	valdivia duckweed	native			I	
Sagittaria graminea var. *graminea*	grassy arrowhead	native			R	
Sagittaria lancifolia	bulltongue arrowhead	native				
Family: Amaryllidaceae (amaryllis)						
Zephyranthes simpsonii	redmargin zephyrlilly	native		T	I	G2G3/S2
Family: Araceae (arum)						
Pistia stratiotes	water lettuce	exotic	I			
Wolffia columbiana	Columbian water meal	native				
Family: Arecaceae (palm)						
Sabal palmetto	cabbage palm	native				
Phoenix reclinata	Senegal date palm	exotic	II			
Serenoa repens	saw palmetto	native				
Family: Bromeliaceae (bromeliads)						
Tillandsia balbisiana	northern needleleaf	native		T		
Tillandsia fasciculata var. densispica	cardinal airplant	native		E		
Tillandsia paucifolia	potbelly airplant	native				
Tillandsia recurvata	ball-moss	native				

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Tillandsia setacea	southern needle leaf airplant	native				
Tillandsia usneoides	Spanish moss	native				
Tillandsia utriculata	giant airplant	native		E		
Family: Commelinaceae (spiderwort)						
Commelina diffusa var. *diffusa*	common dayflower	exotic				
Murdannia spirata	asiatic dewflower	exotic				
Family: Cyperaceae (sedge)						
Cladium jamaicense	Jamaica swamp sawgrass	native				
Cyperus erythrorhizos	redroot flatsedge	native				
Cyperus haspan	haspan flatsedge	native				
Cyperus odoratus	fragrant flatsedge	native				
Cyperus polystachyos	manyspike flatsedge	native				
Cyperus surinamensis	tropical flatsedge	native				
Eleocharis cellulosa	gulf coast spikerush	native				
Eleocharis interstincta	knotted spikerush	native				
Fimbristylis puberula	hairy fimbry	native			I	
Fuirena scirpoidea	southern umbrellasedge	native				
Kyllinga odorata	fragrant spikesedge	native			I	
Rhynchospora colorata	starrush whitetop	native				
Rhynchospora fascicularis	fascicled beaksedge	native			R	
Rhynchospora filifolia	threadleaf beaksedge	native			I	
Rhynchospora microcarpa	southern beaksedge	native				
Rhynchospora miliacea	millet beaksedge	native			R	
Rhynchospora pusilla	fairy beaksedge	native			CI	
Rhynchospora rariflora	fewflower beaksedge	native			CI	
Rhynchospora tracyi	Tracy's beaksedge	native				
Scleria lacustris	Wright's nutrush	exotic	I			
Scleria reticularis	netted nutrush	native			R	
Family: Eriocaulaceae (pipewort)						
Lachnocaulon minus	Small's bogbutton	native			CI	
Family: Haemodoraceae (bloodwort)						
Lachnanthes caroliniana	Carolina redroot	native				
Family: Hypoxidaceae (yellow stargrass)						
Hypoxis juncea	fringed yellow stargrass	native			R	
Family: Iridaceae (iris)						
Iris hexagona	Dixie iris	native			I	
Family: Juncaceae (rush)						
Juncus megacephalus	bighead rush	native				
Juncus marginatus	shore rush	native			R	
Family: Marantaceae (arrowroot)						
Thalia geniculata	alligatorflag	native				
Family: Orchidaceae (orchid)						
Dendrophylax porrectus	needleroot airplant orchid	native		T	I	
Encyclia tampensis	Florida butterfly orchid	native				
Eulophia alta	wild coco orchid	native			R	
Habenaria floribunda	toothpedal false reinorchid	native				
Oeceoclades maculata	monk orchid	exotic	II			
Sacoila lanceolata var. *lanceolata*	leafless beaked ladiestresses	native			I	
Family: Poaceae (grass)						
Amphicarphum muhlenbergianum	blue maidencane	native			R	
Andropogon glomeratus	chalky bluestem	native			R	

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Andropogon longiberbis	hairy bluestem	native			R	
Andropogon virginicus var. virginicus	broomsedge bluestem	native			I	
Aristida patula	tall threeawn	native			R	
Aristida spiciformis	bottlebrush threeawn	native			R	
Aristida stricta	wiregrass	native				
Axonopus furcatus	big carpetgrass	native				
Cenchrus spinifex	coastal sandbur	native				
Cynodon dactylon	Bermuda grass	exotic				
Cyperus retrorsus	pinebarren flatsedge	native			R	
Dichanthelium commutatum	variable witchgrass	native			R	
Dichanthelium erectifolium	erectleaf witchgrass	native			R	
Elionrus tripsacoides	Pan-American balsamscale	native			I	
Eustachys petraea	pinewoods fingergrass	native				
Hemarthria altissima	limpograss	exotic	II			
Hymenachne amplexicaulis	West Indian marsh grass	exotic	I			
Muhlenbergia capillaris	muhly grass	native				
Oplismenus hirtellus	woodsgrass	native				
Panicum hemitomon	maidencane	native				
Panicum repens	torpedograss	exotic	I			
Panicum rigidulum	redtop panicum	native				
Paspalum conjugatum	hilograss	native				
Paspalum monostachyum	gulfdune paspalum	native			R	
Paspalum notatum	bahiagrass	exotic				
Pennisetum polystachion	mission grass	exotic	II			
Rhynchelytrum repens	rose natalgrass	exotic	I			
Sacciolepis striata	American cupscale	native			R	
Saccharum giganteum	sugarcane plumegrass	native				
Setaria parviflora	knotroot foxtail	native				
Spartina bakeri	sand cordgrass	native				
Sporobolus indicus	smutgrass	exotic				
Stenotaphrum secundatum	St. Augustine grass	native				
Family: Pontederiaceae (pickerelweed)						
Heteranthera limosa	blue mudplantain	exotic				
Pontederia cordata	pickerelweed	native				
Family: Smilacaceae (smilax)						
Smilax auriculata	earleaf greenbriar	native				
Smilax bona-nox	saw greenbrier	native			R	
Smilax laurifolia	laurel greenbrier	native				
Smilax tamnoides	bristly greenbrier	native			I	
Family: Typhaceae (cattail)						
Typha latifolia	broadleaf cattail	native			R	
Family: Acanthaceae (acanthus)						
Blechum pyramidatum	Browne's blechum	exotic	II			
Ruellia caroliniensis	Carolina wild petunia	native			I	
Family: Adoxaceae (moschatel)						
Viburnum obovatum	Walter's viburnum	native			I	
Family: Amaranthaceae (amaranth)						
Alternanthera philoxeroides	alligatorweed	exotic	II			
Iresine diffusa	Juba's bush	native				
Family: Anacardiaceae (cashew)						
Schinus terebinthifolius	Brazilian pepper	exotic	I			

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Rhus copallinum	winged sumac	native				
Toxicodendron radicans	eastern poison ivy	native				
Family: Annonaceae (custard-apple)						
Annona glabra	pond apple	native				
Asimina reticulata	netted pawpaw	native				
Family: Apiaceae (carrot)						
Eryngium yuccifolium	Button snakeroot	native			R	
Ptilimnium capillaceum	mock bishopsweed	native				
Family: Apocynaceae (dogbane)						
Asclepias longifolia	longleaf milkweed	native			R	
Sarcostemma clausum	white twinevine	native				
Family: Aquifoliaceae (holly)						
Ilex cassine	dahoon	native				
Ilex glabra	gallberry	native				
Family: Araliaceae (ginseng)						
Centella asiatica	spadeleaf	native				
Hydrocotyle umbellata	manyflower marshpennywort	native			R	
Family: Asteraceae (aster)						
Ambrosia artemisiifolia	common ragweed	native				
Baccharis halimifolia	groundsel tree	native				
Bidens alba	beggerticks	native				
Chaptalia tomentosa	pineland daisy	native				
Cirsium horridulum	purple thistle	native				
Cirsium nuttallii	Nuttall's thistle	native			I	
Conoclinium coelestinum	blue mistflower	native				
Conyza canadensis	Canadian horseweed	native				
Coreopsis leavenworthii	Leavenworth's tickseed	native				
Eclipta prostrata	false daisy	native				
Elephantopus elatus	tall elephantsfoot	native			R	
Emilia fosbergii	Florida tasselflower	exotic				
Erechtites hieraciifolius	fireweed	native				
Eupatorium capillifolium	dogfennel	native				
Eupatorium mohrii	Mohr's thoroughwort	native			R	
Euthamia caroliniana	slender flattop goldenrod	native				
Helenium amarum	Spanish daisy	native			I	
Mikania scandens	climbing hempvine	native				
Pluchea odorata	sweetscent	native				
Pluchea rosea	rosy camphorweed	native				
Pseudognaphalium obtusifolium	sweet everlasting	native			R	
Pterocaulon pycnostachyum	blackroot	native				
Symphyotrichum carolinianus	climbing aster	native			R	
Family: Bignoniaceae (trumpet creeper)						
Campsis radicans	trumpet creeper	native			CI	
Family: Boraginaceae (borage)						
Heliotropium polyphyllum	pineland heliotrope	native				
Family: Cabombaceae (watershield)						
Cabomba caroliniana	Carolina fanwort	native				
Family: Chrysobalanaceae (coco plum)						
Chyrsobalanus icaco	coco plum	native				
Family: Clusiaceae (mangosteen)						
Hypericum brachyphyllum	coastalplain St. John's-wort	native			R	

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Hypericum cistifolium	roundpod St. John's wort	native				
Hypericum fasciculatum	peelbark St. John's-wort	native			R	
Hypericum hypericoides	St. Andrew's-cross	native				
Hypericum mutilum	dwarf St. John's wort	native			I	
Hypericum myrtifolium	myrtleleaf St. John's-wort	native			CI	
Hypericum tetrapetalum	fourpetal St. John's wort	native				
Family: Cucurbitaceae (gourd)						
Melothria pendula	creeping cucumber	native				
Momordica charantia	balsampear	exotic				
Family: Droseraceae (sundew)						
Drosera spp.	sundew	native				
Family: Ericaceae (heath)						
Lyonia fruticosa	coastalplain staggerbush	native				
Vaccinium myrsinites	shiny blueberry	native				
Family: Euphorbiaceae (spurge)						
Caperonia castaneifolia	chestnutleaf falsecroton	native			I	
Euphorbia polyphylla	lesser Florida spurge	native				
Stillingia aquatica	corkwood	native			R	
Family: Fabaceae (pea)						
Abrus precatorius	roasary pea	exotic	I			
Acacia auriculiformis	earleaf acacia	exotic	I			
Chamaecrista nictitans	sensitive pea	native			CI	
Crotalaria pallida	smooth rattlebox	exotic				
Desmodium incanum	zarzabacoa comun	exotic				
Sesbania punicea	rattlebox (purple sesban)	exotic	II			
Sesbania vesicaria	bladderpod	native			I	
Vigna luteola	hairypod cowpea	native				
Family: Fagaceae (beech)						
Quercus elliottii	running oak	native			R	
Quercus laurifolia	laurel oak	native				
Quercus virginiana	Virginia live oak	native				
Family: Gentianaceae (gentian)						
Sabatia grandiflora	largeflower rosegentian	native			R	
Sabatia stellaris	rose-of-plymouth	native				
Family: Haloragaceae (watermilfoil)						
Proserpinaca pectinata	combleaf mermaidweed	native			R	
Family: Lamiaceae (mint)						
Hyptis alata	musky mint	native				
Family: Lauraceae (laurel)						
Cassytha filiformis	love vine	native				
Persea palustris	swamp bay	native				
Family: Lentibulariaceae (bladderwort)						
Pinguicula pumila	small butterwort	native			R	
Utricularia inflata	floating bladderwort	native			I	
Utricularia foliosa	leafy bladderwort	native			R	
Utricularia subulata	zigzag bladderwort	native			R	
Family: Linaceae (flax)						
Linum medium	stiff yellow flax	native			R	
Family: Loganiaceae (logania)						
Mitreola petiolata	lax hornpod	native				

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Family: Lythraceae (loosestrife)						
Ammannia latifolia	toothcups	native			R	
Cuphea carthagenesis	Colombian waxweed	exotic				
Lythrum alatum	winged loosestrife	native			R	
Family: Malvaceae (mallow)						
Kosteletzkya virginica	Virginia saltmarsh mallow	native				
Melochia spicata	bretonica peluda	native			I	
Urena lobata	caesarweed	exotic	II			
Family: Melastomataceae (melastome)						
Rhexia mariana	pale meadowbeauty	native			R	
Family: Menyanthaceae (bogbean)						
Nymphoides aquatica	big floating heart	native				
Family: Moraceae (mulberry and figs)						
Ficus aurea	strangler fig	native				
Family: Myricaceae (bayberry)						
Morella cerifera	wax myrtle	native				
Family: Myrsinaceae (myrsine)						
Rapanea punctata	colicwood, myrsine	native				
Family: Myrtaceae (myrtle)						
Melaleuca quinquenervia	punktree	exotic	I			
Psidium guajava	guava	exotic	I			
Rhodomyrtus tomentosa	rose myrtle	exotic	I			
Syzygium cumini	Java plum	exotic	I			
Family: Nymphaeaceae (waterlily)						
Nymphaea elegans	tropical royalblue waterlily	native			I	
Family: Onagraceae (eveningprimrose)						
Ludwigia arcuata	piedmont primrosewillow	native				
Ludwigia erecta	yerba de jicotea	native			I	
Ludwigia maritima	seaside primrosewillow	native			R	
Ludwigia octovalvis	Mexican primrosewillow	native				
Ludwigia peruviana	Peruvian primrosewillow	exotic				
Ludwigia repens	creeping primrosewillow	native				
Family: Orobanchaceae (broomrape)						
Agalinis fasciculata	beach false foxglove	native			R	
Buchnera americana	American bluehearts	native				
Family:Oxalidaceae (woodsorrel)						
Oxalis corniculata	common yellow woodsorrel	native				
Family: Polygalaceae (milkwort)						
Polygala grandiflora	showy milkwort	native				
Polygala lutea	orange milkwort	native			I	
Polygala rugelii	yellow milkwort	native			I	
Family: Polygonaceae (buckwheat)						
Polygonum hydropiperoides	swamp smartweed	native				
Polygonum punctatum	dotted smartweed	native				
Family: Rubiaceae (madder)						
Cephalanthus occidentalis	common buttonbush	native				
Diodia virginiana	Virginia buttonweed	native			R	
Psychotria nervosa	wild coffee	native				
Psychotria sulzneri	shortleaf wild coffee	native				
Richardia brasilensis	tropical mexican clover	exotic				
Spermacoce assurgens	woodland false buttonwood	native				

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI
Spermacoce verticillata	shrubby false buttonweed	exotic	II			
Family: Salicaceae (willow)						
Salix caroliniana	Carolina willow	native				
Family: Sapindaceae (soapberry)						
Acer rubrum	red maple	native				
Family: Sapotaceae (sapodilla)						
Sideroxylon reclinatum	Florida bully	native			R	
Family: Solanaceae (nightshade)						
Solanum viarum	tropical soda apple	exotic	I			
Family: Tetrachondraceae (tetrachondra)						
Polypremum procumbens	rustweed	native				
Family: Turneraceae (turnera)						
Piriqueta cistoides	pitted stripeseed	native				
Family: Urticaceae (nettle)						
Boehmeria cylindrica	false nettle	native				
Family: Verbenaceae (vervain)						
Phlyla nodiflora	capeweed	native				
Family: Veronicaceae (speedwell)						
Bacopa caroliniana	lemon bacopa	native				
Bacopa monnieri	herb-of-grace	native				
Gratiola ramosa	branched hedgehyssop	native				
Lindernia crustacea	Malaysian false pimpernel	exotic				
Scoparia dulcis	sweetbroom	native				
Family: Violaceae (violet)						
Viola lanceolata	bog white violet	native			I	
Family: Vitaceae (grape)						
Ampelopsis arborea	peppervine	native				
Parthenocissus quinquefolia	Virginia creeper	native				
Vitis rotundifolia	muscadine	native				
Family: Ximeniaceae ( )						
Ximenia americana	hog plum	native				

Appendix A: Plant Species List at Imperial Marsh Preserve

Scientific Name	Common Name	Native Status	EPPC	FDACS	IRC	FNAI

Key

Florida EPPC Status

I = species that are invading and disrupting native plant communities

II = species that have shown a potential to disrupt native plant communities

FDACS (Florida Department of Agriculture and Consumer Services)

E = Endangered

T = Threatened

CE = Commercially Exploited

IRC (Institute for Regional Conservation)

CI = Critically Imperiled

I = Imperiled

R = Rare

FNAI (Florida Natural Areas Inventory)

G= Global Status

T= Threatened

CE= Commercially Exploited

1= Critically imperiled because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerbility to extinction due to some natural or man-made factor.

2= Imperiled because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerbility to extinction due to some natural or man-made factor.

3= Either very rare and local throughout its range (21-200 occurences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.

4= Apparently secure

5= Demonstrably secure

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
MAMMALS				
Family: Didelphidae (opossums)				
Didelphis virginiana	Virginia opossum			
Family: Dasypodidae (armadillos)				
Dasypus novemcinctus	nine-banded armadillo *			G5
Family: Sciuridae (squirrels and their allies)				
Sciurus carolinensis	eastern gray squirrel			G5T2/S2
Sciurus niger avicennia	Big Cypress fox squirrel	T		G5T2/S2
Family: Muridae (mice and rats)				
Sigmodon hispidus	hispid cotton rat			
Family: Leporidae (rabbits and hares)				
Sylvilagus palustris	marsh rabbit			
Sylvilagus floridanus	eastern cottontail			G5
Family: Felidae (cats)				
Puma concolor coryi	Florida panther	E	E	G5T1/S1
Lynx rufus	bobcat			G5
Family: Canidae (wolves and foxes)				
Canis latrans	coyote			G5
Urocyon cinereoargenteus	common gray fox			
Family: Procyonidae (raccoons)				
Procyon lotor	raccoon			G5/S5
Family: Mustelidae (weasels, otters and relatives)				
Lutra canadensis	northern river otter			G5
Family: Suidae (old world swine)				
Sus scrofa	feral hog *			G5
Family: Cervidae (deer)				
Odocoileus virginianus	white-tailed deer			G5/S5
BIRDS				
Family: Anatidae (swans, geese and ducks)				
Subfamily: Dendrocygninae				
Dendrocygna autumnalis	black-bellied whistling-duck			
Subfamily: Anatinae				
Aix sponsa	wood duck			
Anas fulvigula	mottled duck			G4/S3S4
Anas discors	blue-winged teal			
Family: Odontophoridae (new world quails)				
Colinus virginianus	northern bobwhite			
Family: Phasianidae (pheasant, grouse, turkeys and their allies)				
Subfamily: Meleagridinae (turkeys)				
Meleagris gallopavo	wild turkey			
Family: Podicipedidae (grebes)				
Podilymbus podiceps	pied-billed grebe			
Family: Ciconiidae (storks)				
Mycteria americana	wood stork	FT	T	G4/S2
Family: Phalacrocoracidae (cormorants)				
Phalacrocorax auritus	double-crested cormorant			
Family: Anhingidae (anhingas)				
Anhinga anhinga	anhinga			
Family: Ardeidae (herons, egrets, bitterns)				
Botaurus lentiginosus	American bittern			
Ixobrychus exilis	least bittern			G5/S4
Ardea herodius	great blue heron			G5/S5
Ardea alba	great egret			G5/S4

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Egretta thula	snowy egret			G5/S3
Egretta caerulea	little blue heron	T		G5/S4
Egretta tricolor	tricolored heron	T		G5/S4
Bubulcus ibis	cattle egret			G5
Butorides virescens	green heron			G5/S4
Nyctanassa violacea	yellow-crowned night heron			G5/S3
Family: Threskiornithidae (ibises and spoonbills)				
Subfamily: Threshiornithinae				
Eudocimus albus	white ibis			G5/S4
Plegadis falcinellus	glossy ibis			G5/S3
Subfamily: Plataleinae				
Platalea ajaja	roseate spoonbill	SSC		G5/S2
Family: Cathartidae (new world vultures)				
Coragyps atratus	black vulture			G5
Cathartes aura	turkey vulture			G5
Family: Pandionidae (ospreys)				
Pandion haliaetus	osprey			G5/S3S4
Family: Accipitridae (hawks, kites, accipiters, harriers, eagles)				
Elanoides forficatus	swallow-tailed kite			G5/S2
Rostrhamus sociabilis plumbeus	everglades snail kite	E	E	G4G5T3Q/S2
Circus cyaneus	northern harrier			
Accipiter cooperii	Cooper's hawk			G5/S3
Hailaeetus leucocephalus	bald eagle	T		G5/S3
Buteo lineatus	red-shouldered hawk			G5
Buteo platypterus	broad-winged hawk			
Buteo brachyurus	short-tailed hawk			G4G5/S1
Buteo jamaicensis	red-tailed hawk			
Family: Rallidae (coots and gallinules)				
Gallinula galeata	common gallinule			
Family: Aramidae (limpkins)				
Aramus guarauna	limpkin	SSC		G5/S3
Family: Gruidae (cranes)				
Subfamily: Gruinae				
Grus canadensis pratensis	Florida sandhill crane	T		G5T2T3/S2S3
Family: Charadriidae (plovers)				
Subfamily: Charadriinae				
Charadrius vociferus	killdeer			GT
Family: Scolopacidae (sandpipers and phalaropes)				
Subfamily: Scolopacinae				
Tringa melanoleuca	greater yellowlegs			G5
Tringa flavipes	lesser yellowlegs			G5/S4
Calidris minutilla	least sandpiper			
Gallinago delicata	Wilson's snipe			
Family: Columbidae (pigeons and doves)				
Streptopelia decaocto	Eurasian collared-dove *			G5
Zenaida macroura	mourning dove			G5
Columbina passerina	common ground-dove			G5/S4
Family: Strigidae (true owls)				
Bubo virginianus	great horned owl			
Strix varia	barred owl			
Family: Caprimulgidae (goatsuckers)				
Subfamily: Chordeilinae				
Chordeiles minor	common nighthawk			

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Subfamily: Caprimulginae				
Caprimulgus vociferus	eastern whip-poor-will			
Family: Alcedinidae (kingfishers)				
Ceryle alcyon	belted kingfisher			
Family: Picidae (woodpeckers)				
Subfamily: Picinae				
Melanerpes erythrocephalus	red-headed woodpecker			
Melanerpes carolinus	red-bellied woodpecker			G5
Sphyrapicus varius	yellow-bellied sapsucker			G5
Picoides pubescens	downy woodpecker			G5
Picoides villosus	hairy woodpecker			G5/S3
Colaptes auratus	northern flicker			G5/S4
Dryocopus pileatus	pileated woodpecker			G5
Family: Falconidae (falcons)				
Subfamily: Caracarinae (caracaras)				
Caracara cheriway	crested caracara	T	T	G5/S2
Subfamily: Falconinae (falcons)				
Falco sparverius	American kestrel			G5
Falco columbarius	merlin			G5/S2
Falco peregrinus	peregrine falcon			G4/S2
Family: Tyrannidae (tyrant flycatchers)				
Subfamily: Fluvicolinae				
Sayornis phoebe	eastern phoebe			
Myiarchus crinicensis	great-crested flycatcher			
Tyrannus tyrannus	eastern kingbird			
Family: Laniidae (shrikes)				
Lanius ludovicianus	loggerhead shrike			
Family: Vireonidae (vireos)				
Vireo griseus	white-eyed vireo			
Vireo solitarius	blue-headed vireo			
Family: Corvidae (crows, jays, etc.)				
Cyanocitta cristata	blue jay			
Corvus brachyrhyncos	American crow			
Corvus ossifragus	fish crow			
Family: Hirundinidae (swallows)				
Subfamily: Hirundinidae				
Tachycineta bicolor	tree swallow			
Hirundo rustica	barn swallow			
Family: Troglodytidae (wrens)				
Troglodytes aedon	house wren			G5
Thryothorus ludovicianus	Carolina wren			G5
Family: Polioptilidae				
Polioptila caerulea	blue-gray gnatcatcher			G5
Family: Turdidae (thrushes)				
Sialia sialis	eastern bluebird			G5
Turdus migratorius	American robin			G5
Family: Mimidae (mockingbirds and thrashers)				
Dumetella carolinensis	gray catbird			G5
Toxostoma rufum	brown thrasher			G5
Mimus polyglottos	northern mockingbird			G5
Family: Sturnidae (starlings)				
Sturnus vulgaris	European starling *			G5

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Family: Bombycillidae (waxwings)				
Bombycilla cedrorum	cedar waxwing			
Family: Parulidae (wood-warblers)				
Seiurus aurocapillus	ovenbird			
Mniotilta varia	black-and-white warbler			G5
Vermivora celata	orange-crowned warbler			
Geothlypis tristis	common yellowthroat			G5
Wilsonia citrina	hooded warbler			
Setophaga ruticilla	American redstart			G5/S2
Parula americana	northern parula			G5
Setophaga petechia	yellow warbler			
Setophaga palmarum	palm warbler			G5
Setophaga pinus	pine warbler			G5
Setophaga coronata	yellow-rumped warbler			G5
Setophaga dominica	yellow-throated warbler			G5
Setophaga discolor	prairie warbler			G5
Family: Emberizine (sparrows and their allies)				
Pipilo erythrophthalmus	eastern towhee			G5
Passerculus sandwichensis	Savannah sparrow			G5
Ammodramus savannarum	grasshopper sparrow			G5
Melospiza georgiana	swamp sparrow			
Family: Cardinalidae (cardinals, some grosbeaks, new world buntings, etc.)				
Cardinalis cardinalis	northern cardinal			
Passerina cyanea	indigo bunting			
Passerina ciris	painted bunting			
Family: Icteridae (blackbirds, orioles, etc.)				
Dolichonyx oryzivorus	bobolink			
Agelaius phoeniceus	red-winged blackbird			
Sturnella magna	eastern meadowlark			
Quiscalus quiscula	common grackle			
Quiscalus major	boat-tailed grackle			
Family: Fringillidae				
Subfamily: Carduelinae				
Carduelis tristis	American goldfinch			
REPTILES				
Family: Alligatoridae (alligator and caiman)				
Alligator mississippiensis	American alligator	FT(SA	T(SA)	G5/S4
Family: Kinosternidae (musk and mud turtles)				
Kinosternon baurii	striped mud turtle			
Family: Emydidae (box and water turtles)				
Terrapene carolina bauri	Florida box turtle			G5/T4
Pseudemys floridana peninsularis	peninsula cooter			
Pseudemys nelsoni	Florida redbelly turtle			
Deirochelys reticularia	chicken turtle			
Family: Trionychidae (softshell turtles)				
Apalone ferox	Florida softshell			
Family: Polychridae (anoles)				
Anolis carolinensis	green anole			
Anolis sagrei	brown anole *			
Family: Scincidae (skinks)				
Eumeces inexpectatus	southeastern five-lined skink			G5
Family: Anguidae (glass and alligator lizards)				
Ophisaurus ventralis	eastern glass lizard			G5

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Family: Colubridae (harmless egg-laying snakes)				
Coluber constrictor priapus	southern black racer			G5/T5
Scotophis alleghaniensis	eastern rat snake			
Family: Crotalidae (pitvipers)				
Agkistrodon piscivorus conanti	Florida cottonmouth			G5/S4
Sistrurus miliarius barbouri	dusky pygmy rattlesnake			G5/T5
Family Natricidae (harmless live-bearing snakes)				
Nerodia fasciata pictiventris	Florida water snake			
Regina alleni	striped crayfish snake			
Thamnophis sauritus sackenii	peninsula ribbon snake			
Thamnophis sirtalis sirtalis	eastern garter snake			
AMPHIBIANS				
Family: Bufonidae (toads)				
Anaxyrus quercicus	oak toad			G5
Family: Eleutherodactylidae (free-toed frogs)				
Eleutherodactylus planirostris	greenhouse frog *			G5
Family: Hylidae (treefrogs and their allies)				
Acris gryllus dorsalis	Florida cricket frog			G5/T5
Hyla cinerea	green treefrog			G5
Hyla femoralis	pine woods treefrog			G5
Hyla gratiosa	barking treefrog			
Hyla squirella	squirrel treefrog			G5
Osteopilus septentrionalis	Cuban treefrog *			G5
Pseudacris nigrita verrucosa	Florida chorus frog			
Family: Microhylidae (narrowmouth toads)				
Gastrophryne carolinensis	eastern narrowmouth toad			G5
Family: Ranidae (true frogs)				
Lithobates grylio	pig frog			
Lithobates sphenocephalus	Florida leopard frog			G5
FISHES				
Family: Lepisosteidae (gar fish)				
Lepisosteus platyrhincus	Florida gar			G5
Family: Clariidae (labyrinth catfishes)				
Clarias batrachus	walking catfish *			
Family: Callichthyidae (callichthyid armored catfishes)				
Hoplosternum littorale	brown hoplo *			
Family: Loricariidae (suckermouth armored catfishes)				
Hypostomus plecostomus	plecostomus *			
Family: Fundulidae (topminnows and killifishes)				
Lucania parva	rainwater killifish			
Family: Cyprinodontidae (pupfishes)				
Jordanella floridae	American flagfish			G5
Family: Poeciliidae (livebearers)				
Gambusia spp.	mosquitofish			G5
MILLIPEDES				
Family: Spirobolidae (millipedes)				
Chicobolus spinigerus	Florida ivory millipede			
INSECTS				
Family: Acrididae (grasshoppers)				
Romalea microptera	eastern lubber grasshopper			
Family: Psyllidae (psyllids)				
Boreioglycaspis melaleucae	melaleuca psyllid *			

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Family: Cercopidae (spittlebugs, froghoppers)				
Prosapia bicincta	two-lined spittlebug			
Family: Libellulidae (skimmers)				
Erythrodiplax umbrata	band-winged dragonlet			
Tramea carolina	Carolina saddlebags			
Family: Lycaenidae (hairstreaks)				
Strymon istapa	mallow scrub-hairstreak			
Family: Papilionidae (swallowtails)				
Papilio polyxenes	black swallowtail			
Papilio cresphontes	giant swallowtail			
Papilio palamedes	palamedes swallowtail			G4/S5
Family: Pieridae (whites and sulphurs)				
Subfamily: Coliadinae (sulphurs)				
Eurema lisa	little sulphur			
Family: Nymphalidae (brushfoots)				
Subfamily: Heliconiinae (longwings)				
Agraulis vanillae	gulf fritillary			G5/S5
Heliconius charitonius	zebra			
Subfamily: Nymphalinae (brushfoots)				
Phyciodes phaon	phaon crescent			
Phyciodes tharos	pearl crescent			
Junonia coenia	common buckeye			
Anartia jatrophae	white peacock			
Subfamily: Danaidae (milkweed butterfiles)				
Danaus gilippus	queen			
Family: Hesperiidae (skippers)				
Subfamily: Pyrginae (open-winged skippers)				
Prygus oileus	tropical checkered skipper			
Family: Arctiidae (footman moths, tiger moths)				
Syntomeida epilais	polka dot wasp moth			
Family: Sphingidae (hawk moths, sphinx moths)				
Eumorpha fasciatus	banded sphinx moth			
Family: Mutillidae (velvet ants)				
Dasymutilla occidentalis	velvet ant			
ARACHNIDS				
Family: Araneidae (orb weavers)				
Argiope aurantia	black and yellow argiope			
Gasteracantha elipsoides	crablike spiny orb weaver			
Family: Salticidae (jumping spiders)				
Phidippus regius	regal jumping spider			
Family: Tetragnathidae (long jawed spiders)				
Leucauge venusta	orchard orbweaver			
GASTROPODS				
Family: Ampullariidae (apple snails)				
Pomacea insularum	island applesnail *			
Pomacea paludosa	Florida apple snail			

Appendix B: Wildlife Species List at Imperial Marsh Preserve

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**

KEY:

FWC = Florida Fish & Wildlife Conservation Commission
FWS = U.S. Fish & Wildlife Service
E - Endangered
T - Threatened
SSC - Species of Special Concern

FNAI = Florida Natural Areas Inventory
G - Global rarity of the species
S - State rarity of the species
T - Subspecies of special population
1 - Critically imperiled
2 - Imperiled
3 - Rare, restricted or otherwise vulnerable to extinction
4 - Apparently secure
5 - Demonstratebly secure

*** = Non-native**

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE PERMIT NO. 36-07404-P
DATE ISSUED: AUGUST 30, 2010

PERMITTEE: LEE COUNTY BOARD OF COUNTY COMMISSIONERS
(IMPERIAL MARSH PRESERVE)
1500 MONROE STREET,
FORT MYERS, FL 33901

PROJECT DESCRIPTION: CONSTRUCTION AND OPERATION OF A HYDROLOGICAL RESTORATION PROJECT SERVING A 186.93-ACRE ENVIRONMENTAL RESTORATION PROJECT KNOWN AS IMPERIAL MARSH PRESERVE, WITH DISCHARGE INTO OFFSITE WETLANDS VIA CORKSCREW ROAD ROADSIDE CONVEYANCE SYSTEM VIA THE PROPOSED SURFACE WATER MANAGEMENT SYSTEM.

PROJECT LOCATION: LEE COUNTY , SECTION 21 TWP 46S RGE 27E

PERMIT DURATION: See Special Condition No:1. See attached Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Permit Application No. 100513-1, dated May 13, 2010. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S.), and the Operation Agreement Concerning Regulation Under Part IV, Chapter 373 F.S., between South Florida Water Management District and the Department of Environmental Protection.

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit Modification is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.5 and Section 120.569, or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 19 General Conditions.
3. The attached 15 Special Conditions.
4. The attached 3 Exhibits.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition, please provide written objections, petitions and/or waivers to:

Elizabeth Veguilla, Deputy Clerk, MSC2440
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY that the Staff Report, Conditions and Notice of Rights have been mailed to the Permittee (and the persons listed on the attached staff report distribution list) no later than 5:00 p.m. on this 31st day of August, 2010, in accordance with Section 120.60(3), Florida Statutes, and a copy has been filed and acknowledged with the Deputy District Clerk.

ORIGINAL SIGNED BY
By **ELIZABETH VEGUILLA**
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments

CERTIFIED MAIL# 70050390000598199197

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 30, 2015.

2. Operation of the surface water management system shall be the responsibility of the permittee.

3. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.

4. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.

5. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.

6. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.

7. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

8. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.

9. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

10. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.

11. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

12. The restoration/enhancement program for Imperial Marsh Preserve Site proposes to implement restoration/enhancement activities in accordance with Exhibit Nos. 2.0 ,3.1, and the Imperial Marsh Preserve Land Stewardship Plan-2009. The permittee proposes to restore and enhance 186.93 acres, which inlcudes 180.23 acres of fallow crop land to be restored to wetlands and uplands, 4.5 acres of cypress wetlands, and 2.2 acres of pine-cypress wetlands. Mitigation credit for these activities was not requested and is not approved for this project. No recreational facilities such as boardwalks are authorized. This is an environmental restoration permit only.

13. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.

Exhibit 2.1 (pages 1-7) - Construction Pollution Prevention Plan
Exhibit 2.2 (pages 1-2) - Rural Stormwater Management Program

14. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.

15. Discharge Facilities:

2-3' W X 1' H FLAT PLATE RISER weirs with crest at elev. 29.5' NGVD 29.
2-3' dia. CORRUGATED METAL PIPE culverts each 30' long.
Receiving body : CORKSCREW ROAD
Control elev : 29 feet NGVD 29.

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373. F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permitee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved

responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

40E-4.321 Duration of Permits.

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C., is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. The effective date of the local government's comprehensive plan amendment,

2. The effective date of the local government development order,

3. The date on which the District issues the conceptual approval, or 4. The date on which the District issues a final order pertaining to the resolution of any Section 120.57, F.S., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, the construction phase authorizing construction, removal, alteration or abandonment of a sys-tem shall expire five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For an individual or standard general environmental resource permit, the operational phase of the permit is perpetual for operation and maintenance.

(e) For a noticed general permit issued pursuant to Chapter 40E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made by electronic mail at the District's e-Permitting website or in writing pursuant to subsection (3), the permit shall remain in full force and effect until:

1. The Governing Board takes action on an application for extension of an individual permit, or

2. Staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environ-mental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to paragraph 40E-4.331(2)(b), F.A.C.(letter modifications) do not extend the duration of the permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific Authority 373.044, 373.113, 668.003, 668.004, 668.50 FS. Law Implemented373.413, 373.416, 373.419, 373.426, 668.003, 668.004, 668.50 FS. History-New 9-3-81,Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4-20-94, 10-3-95,5-28-00, 10-1-06.

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office.** An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

Last Date For Agency Action: September 13, 2010

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Imperial Marsh Preserve

Permit No.: 36-07404-P

Application No.: 100513-1

Application Type: Environmental Resource (New Construction/Operation)

Location: Lee County, S21/T46S/R27E

Permittee : Lee County Board Of County Commissioners

Operating Entity : Lee County Parks And Recreation

Project Area: 186.93 acres

FINAL APPROVED BY EXECUTIVE DIRECTOR AUGUST 30, 2010

Project Land Use: Environmental Restoration

Drainage Basin: ESTERO BAY **Sub Basin:** IMPERIAL RIVER

Receiving Body: Offsite wetland via Corkscrew Road roadside conveyance system via proposed SWMS **Class:** CLASS III

Special Drainage District: NA

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

This application is a request for an Environmental Resource Permit authorizing Construction and Operation of a hydrological restoration project serving a 186.93-acre environmental restoration project known as Imperial Marsh Preserve, with discharge into offsite wetlands via Corkscrew Road roadside conveyance system via the proposed surface water management system.

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The 186.93-acre project site known as Site 93 of the Imperial Marsh Preserve (A Lee County 20/20 Parcel) is located on the north side of Corkscrew Road approximately nine (9) miles east of I-75 in Estero, Lee County. The site is adjacent to the Corkscrew Regional Mitigation Bank and across from the Corkscrew Country Store. A location map is attached as Exhibit 1.0.

The site currently consists primarily of fallow cropland. There are no permitted surface water managment faciltities within the 233.68 acre applicant owned area. The project involves ecological and hydrological restoration of 186.93 acres for conservation purposes to restore desirable native vegetation and habitat for wildlife. The total applicant-owned area is 233.68 acres; however, 46.75 acres of L-shaped area located at the northeast corner of the property was previously allocated to Lee County Department of Transportation (DOT) for mitigation activities associated with Permit No. 36-02319-S/Application No. 031224-12, which results in a 186.93 acre area proposed in this application (No. 100513-1). A FLUCCS map identifying the existing land uses and vegetative communities is attached as Exhibit No. 3.0.

PROPOSED PROJECT:

This project re-establishes hydrologic connections and enhances the diversity of onsite habitat (both vegetative and wildlife) on public lands (Lee County Conservation 20/20) known as Imperial Marsh Preserve. The project includes restoring hydrology by plugging existing on-site agricultural swales/ditches with fill generated from creating deep water ponds/marshes and breaching existing internal agricultural berms. In addition, the project includes constructing a construction/management staging area and entrance driveway and controlling offsite discharges by enhancing the existing perimeter berms and constructing a control structure. Exhibit 2.0 contains the construction plans for the proposed project. Exhibit No. 3.1 provides additional details of the proposed restoration plan.

Surface water generally flows from north to south within the project site. However, the northern 52.98 acres historically flows more in a southwestern direction towards the Corkscrew Regional Mitigation Bank (CRMB). To maintain these conditions in the future this 52.98 acres will continue to flow in a southwestern direction. The remaining 133.95 acres currently flows in a southern direction. Exhibit 3.1 page 5 of 6 depicts the existing flow patterns. The proposed control structure will be located along the western portion of the southern property line to meet allowable discharge rate from the 133.95-acre area into the Corkscrew Road roadside conveyance system. The control structure includes adjustable boards which will be adjusted between the existing ground elevation of 29.00 ft NGVD and maximum level of 29.50 ft NGVD to maintain the required water levels for restoration activities as required. In addition, berms exist around western and southern property boundaries at or above the design storm stage. This project includes constructing a perimeter berm along portions of the eastern property line to ensure no adverse impacts to offsite properties.

LAND USE:

- The land use category "Other" includes the area proposed for construction of staging area and entrance driveway.

Construction:

Project:

	This Phase	Total Project	
Other	.80	.80	acres
Preserved	186.13	186.13	acres

	This Phase	Total Project
Total:	**186.93**	**186.93**

WATER QUANTITY :

Discharge Rate :

No adverse discharge impacts are anticipated as a result of the proposed project.

Discharge Storm Frequency : 25 YEAR-3 DAY Design Rainfall : 10.9 inches

Basin	Allow Disch (cfs)	Method Of Determination	Peak Disch (cfs)	Peak Stage (ft, NGVD 29)
BASIN	5.23	Conveyance Limitation	4.34	29.88

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
BASIN	133.95	29		Other

Receiving Body :

Basin	Str.#	Receiving Body
Basin	CS	CORKSCREW ROAD

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Culverts:

Basin	Str#	Count	Type	Width	Length	Dia.
BASIN	CS	2	Corrugated Metal Pipe		30'	3'

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
BASIN	CS	2	Flat Plate Riser	3'	1'		3'	29.5 (crest)

WATER QUALITY :

The proposed created ponds/marshes provide an unquantified amount of water quality and the site also provides storage capacity due to the design of this project as hydrological restoration. In addition, a Construction Pollution Prevention Plan (Exhibit 2.1) and a Rural Stormwater Management Program (Exhibit 2.2) specifications and guidelines are part of the water quality.

No adverse water quality impacts are anticipated as a result of the proposed project.

WETLANDS:

The 186.93-acre site consists of approximately 180.23 acres of fallow crop land, 4.5 acres of cypress wetland , and 2.2 acres of pine-cypress wetlands that contain varying degrees of coverage by nuisance and exotic vegetation.

The uplands and wetlands will be restored via the removal of nuisance and exotic species along with hydrologic improvements. Natural recruitment of desirable native vegetation is proposed. The Imperial Marsh Preserve will not be utilized as a mitigation area for other Lee County public projects. In addition, no recreational facilities such as boardwalks are proposed.

Several methods of nuisance and exotic vegation removal have been proposed which includes disking the farm fields and treating with herbicides, mechanical removal, and hand removal. The vegetative debris will be either removed from the site, stacked in place or burned onsite. After the nuisance and exotic vegetation is removed and areas are treated, desirable native species will re-establish themselves from the natural seed bank. Supplemental plantings will depend on the amount of native species recruitment and the type of wetland community. It is anticipated that the majority of the site will be restored to hydric pine flatwoods with cypress wetland and freshwater marsh areas. In addition, it is anticipated that the uplands will be restored to mesic pine and oak. Lee County 20/20 currently have a series of monitoring wells onsite with continuous reading devices. These wells will continue to be utilized along with field observations for the purposes of habitat management. Details of the proposed restoration plan are attached as Exhibit No. 3.1. The proposed restoration plan is in accordance with the Lee County 20/20 land stewardship plan known as Imperial Marsh Preserve Land Stewardship Plan-2009.

The hydrologic improvements include the plugging existing agricultrural swales and ditches, breaching existing agricultural berms and constructing a perimeter berm along the southern portion of the eastern property line. Several onsite ponds/deep marshes will be created to generate the fill required for the hydrologic improvements. Details of the proposed hydrologic restoration activities are included in the Proposed Project section of this report and in Exhibit No. 2.0.

Wildlife Issues:

The proposed hydrologic restoration proposes to enhance the diversity of habitat for listed species and other wildlife. It is anticipated that wading birds, large mammals such as panther and bear and other listed and non-listed species will utilize the site.

The project site does contain preferred habitat for wetland-dependent endangered or threatened wildlife species or species of special concern. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, endangered/threatened species or species of special concern are discovered on the site.

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the

system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that irrigation is not required for this project.

The applicant has indicated that dewatering is not required for construction of this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

N/A

Waste Water System/Supplier:

N/A

Right-Of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

On July 6, 2010, the District received a letter from the Florida Department of State, Division of Historical Resources dated July 6, 2010 stating that the review of the Florida Master Site File indicates that no significant archaeological or historical resources are recorded within the project areas. Furthermore, because of the location and/or nature of the projects it is unlikely that any such site will be affected. This permit does not release the permittee from compliance with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

DCA/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF RECOMMENDATION TO EXECUTIVE DIRECTOR:

The Staff recommends that the following be issued :

Construction and Operation of a hydrological restoration project serving a 186.93-acre environmental restoration project known as Imperial Marsh Preserve, with discharge into offsite wetlands via Corkscrew Road roadside conveyance system via the proposed surface water management system.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached
General and Special Conditions.

STAFF REVIEW:

NATURAL RESOURCE MANAGEMENT APPROVAL

ENVIRONMENTAL EVALUATION

Jewelene S. Harris

SUPERVISOR

Laura Layman

SURFACE WATER MANAGEMENT APPROVAL

ENGINEERING EVALUATION

Rina Dalal

SUPERVISOR

William Foley, P.E.

ENVIRONMENTAL RESOURCE PERMITTING DIVISION DIRECTOR :

Anita R. Bain

DATE: 8/17/10

ENVIRONMENTAL RESOURCE REGULATION DEPUTY DEPARTMENT DIRECTOR :

Anthony M. Waterhouse, P.E.

DATE: 8/23/10

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373. F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permitee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity

GENERAL CONDITIONS

approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal,

GENERAL CONDITIONS

abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 30, 2015.
2. Operation of the surface water management system shall be the responsibility of the permittee.
3. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
4. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
5. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
6. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
7. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
8. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.
9. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.
10. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
11. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.
12. The restoration/enhancement program for Imperial Marsh Preserve Site proposes to implement restoration/enhancement activities in accordance with Exhibit Nos. 2.0 ,3.1, and the Imperial Marsh Preserve Land Stewardship Plan-2009. The permittee proposes to restore and enhance 186.93 acres, which inlcudes 180.23 acres of fallow crop land to be restored to wetlands and uplands, 4.5 acres of cypress wetlands, and 2.2 acres of pine-cypress wetlands. Mitigation credit for these activities was not requested and is not approved for this project. No recreational facilities such as boardwalks are authorized. This is an environmental restoration permit only.
13. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this

SPECIAL CONDITIONS

application number.

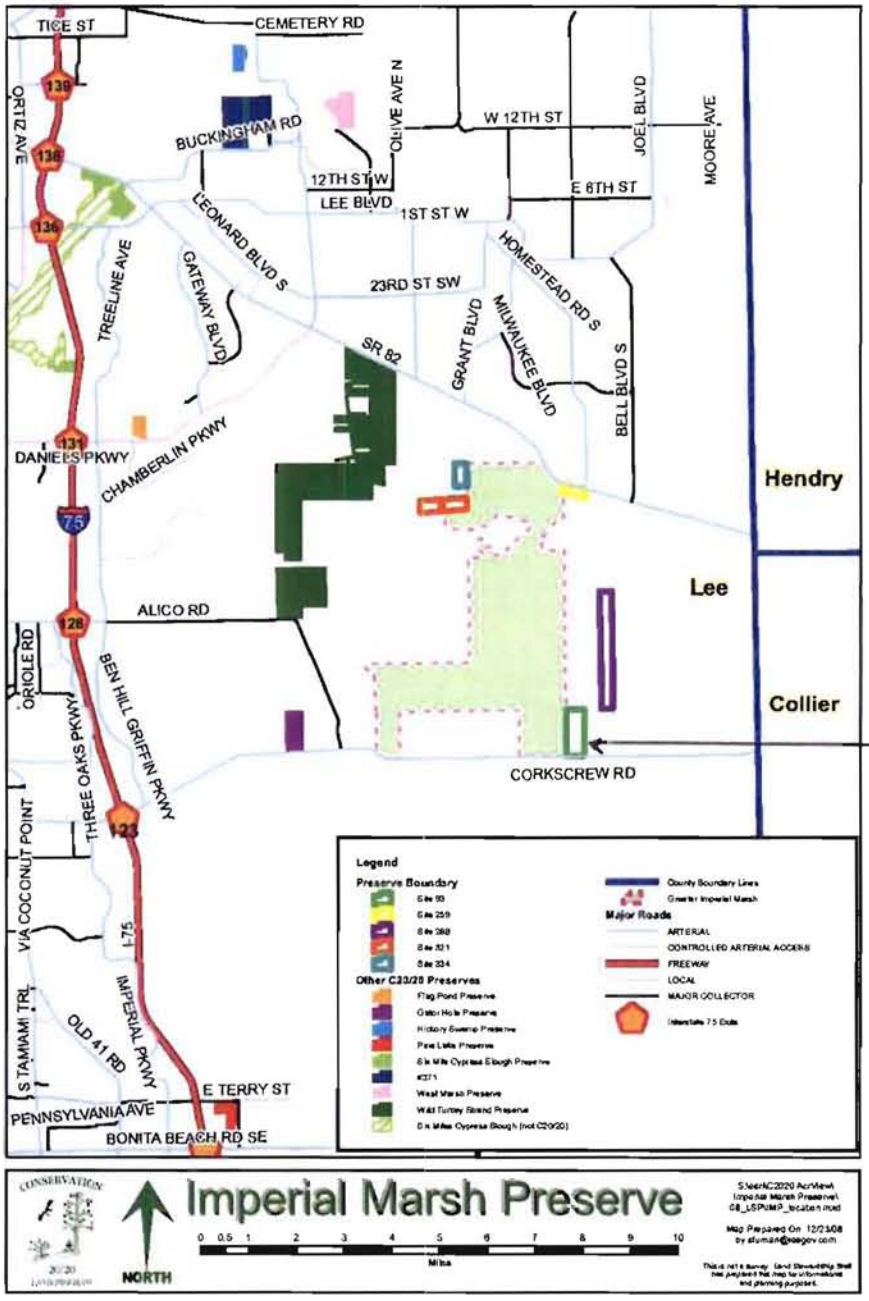
Exhibit 2.1 (pages 1-7) - Construction Pollution Prevention Plan
Exhibit 2.2 (pages 1-2) - Rural Stormwater Management Program

14. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.

15. Discharge Facilities:

2-3' W X 1' H FLAT PLATE RISER weirs with crest at elev. 29.5' NGVD 29.
2-3' dia. CORRUGATED METAL PIPE culverts each 30' long.
Receiving body : CORKSCREW ROAD
Control elev : 29 feet NGVD 29.

Figure 1: Location Map



Site Location

Page **2** of **4**

Exhibit No. 1.0
Application No. 100513-1
Page 1 of 1

ensite

IMPERIAL MARSH PRESERVE
LEE COUNTY, FLORIDA

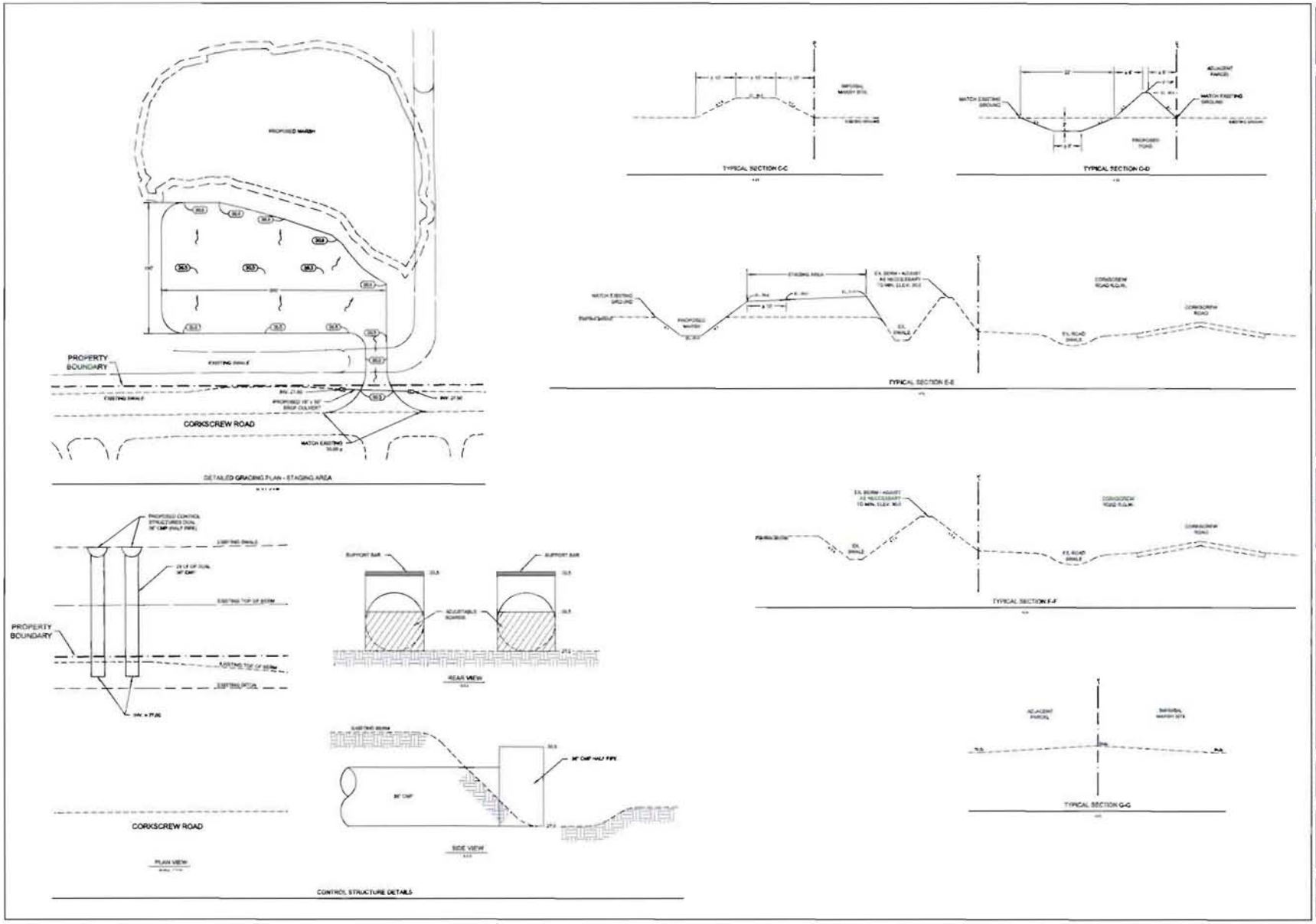
REVISIONS

DATE: 03-16-10
PROJECT NO: 1120-01
FILE NO.: 1120-01-SPET.dwg
SCALE: 1" = 200'

SITE PLAN

C-1

Exhibit 2.0
Application 100513-1
1 of 3



ensite

IMPERIAL MARSH PRESERVE
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE
1		
2		
3		
4		
5		

DATE: 03-16-10
PROJECT NO. 1120-01
FILE NO. 1120-01-SPET.dwg
SCALE: AS SHOWN

TYPICAL SECTIONS & DETAILS

C-2

Exhibit 2.0
Application 100513-1
2 of 3

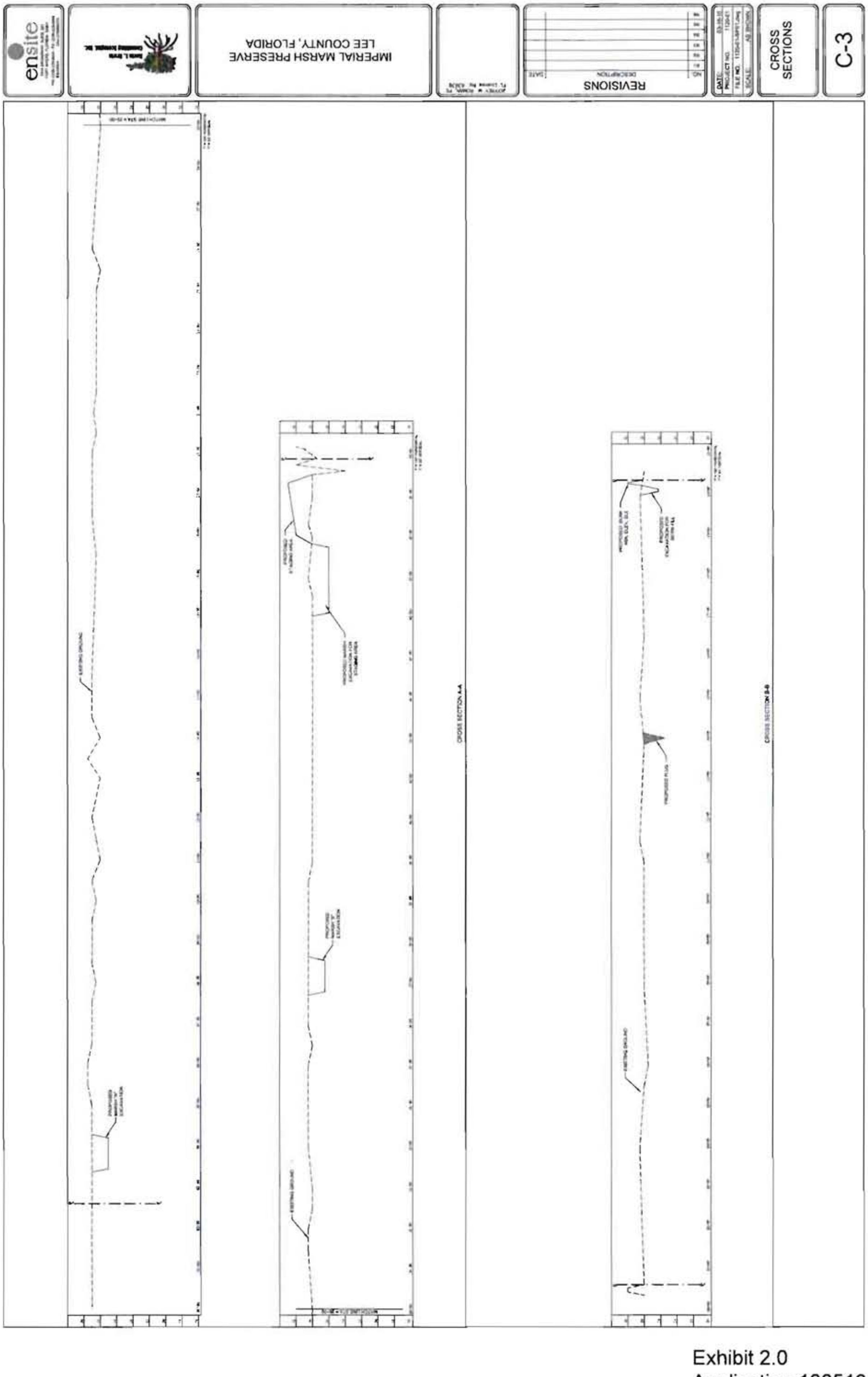


Exhibit 2.0
Application 100513-1
3 of 3

APPLICATION 100513-1
PERMIT 36-07404-P

EXHIBIT 2.1
Pages 1-7 of 7
Construction Pollution Prevention Plan

EXHIBIT 2.2
Pages 1-2 of 2
Rural Stormwater Management Program

INCORPORATED BY REFERENCE

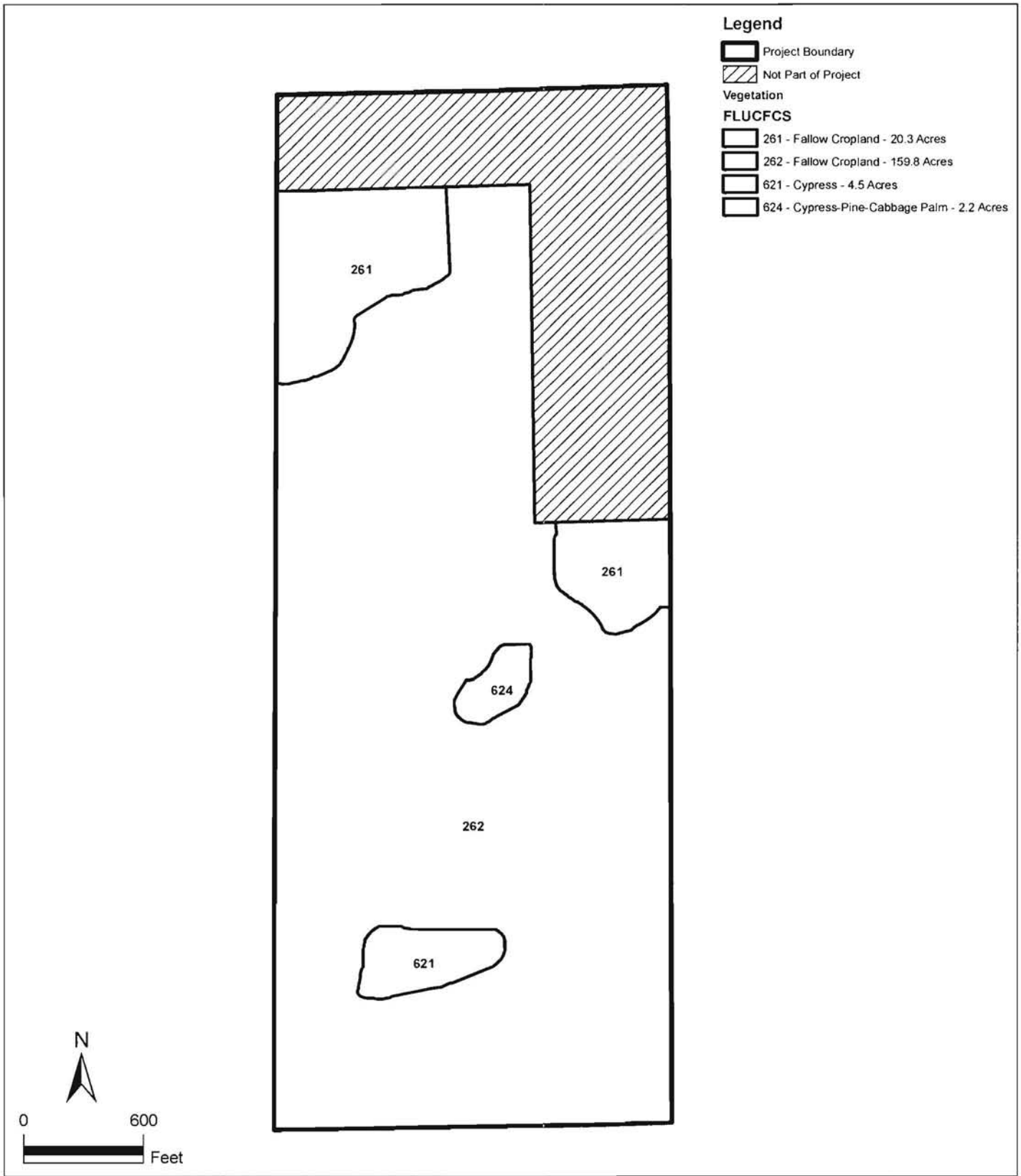


Figure 2. Imperial Marsh Preserve FLUCFCS Map

KEVIN L. ERVIN
CONSULTING
ECOLOGIST

Date: 2/17/10	Title: FLUCFCS Map
	Project Manager: KT

Exhibit No. 3.0
Application No. 100513-1
Page 1 of 2

IMPERIAL MARSH PRESERVE

Figure 2a: FLUCCS categories identified onsite:

FLUCCS Code	Land Use	Description
261	Fallow Crop Land	These areas have a predominant ground cover of bahia grass (Paspalum notatum), dog fennel (Eupatorium capillifolium), and Thalia lovegrass (Eragrostis atrovirens) with scattered wax myrtle (Merica cerifera), sabal palm (Sabal palmetto), oak (Quercus spp.), and slash pine (Pinus elliottii). Other vegetation present includes broomsedge (Andropogon virginicus), Caesarweed (Urena lobata), crabgrass (Digitaria sp.), torpedo grass (Panicum repens), buttonweed (Spermacoce sp.), frogfruit (Phyla nodiflera), and sedge (Cyperus sp.). There are agricultural swales present with deeper swales along the northern boundary of each 261 area.
262	Fallow Crop Land	This area had historically been crop land that was later converted to improved pasture before being purchased by Lee County Conservation 20/20 Program. The fallow fields/pasture are trending back toward wetland systems, but currently contain a mosaic of native upland, facultative and wetland vegetation along with invasive exotic and nuisance species including: frogfruit, day flower (Commelina diffusa), torpedo grass, buttonweed, broomsedges, lovegrass, sedges, chocolate weed, Paspalum spp., Caesarweed, dogfennel, Diodia sp., fireflag (Thalia geniculata), crabgrass, beakrush (Rhynchospora sp.), foxtail/bristlegrass (Setaria geniculata), smartweed (Polygonum sp.), maidencane (Panicum hemitomon), and West Indian marsh grass (Hymenachne amplexicaulis). Shrubs include wax myrtle, limited patches of saw palmetto and Brazilian pepper (Schinus terebinthifolius) seedlings. There is a limited regrowth of canopy including sabal palms, laurel oaks, and slash pine. There are agricultural swales and berms present.
621	Cypress	Cypress (Taxodium distichum) canopy with sabal palm midstory. The ground cover is predominantly torpedo grass in the higher areas with the lower areas having a mixture of day flower, frogfruit, and maidencane. Other ground cover present includes dog fennel, Caesarweed, swamp fern (Blechnum serrulatum), and water pennywort (Hydrocotyle sp.). There is an agricultural swale encircling the cypress wetland.
624	Cypress-Pine-Cabbage Palm	Cypress is the dominant tree species with sabal palm, slash pine and strangler fig (Ficus sp.) present in the canopy. The groundcover is predominantly Caesarweed with dog fennel, broomsedges , swamp fern, smartweed, frogfruit, maidencane, foxtail/bristlegrass and day flower present. There is an agricultural swale encircling this wetland.

IMPERIAL MARSH PRESERVE HYDROLOGIC RESTORATION PLAN

June 2010

Prepared by Kevin L. Erwin Consulting Ecologist, Inc.
for Lee County Department of Parks & Recreation, Conservation 20/20 Program

The Lee County Conservation 20/20 Imperial Marsh Preserve consists of five non-contiguous properties (Figure 1). The proposed hydrologic restoration project covers approximately 186.8 acres of Site 93. The current land use cover is fallow croplands/pasture with agricultural swales and berms (Figure 2).

The proposed hydrologic restoration project is strictly an ecological restoration for conservation purposes and is not being done to provide mitigation for another Lee County project. The restoration plan includes enhancing the hydrology, plugging agricultural swales, and creating a construction/management staging area. Small areas will be excavated to plug the swales, create a perimeter berm, and create the staging area while also enhancing the diversity of habitat onsite and creating wildlife refugia during drier periods. The staging area will allow safe access for the restoration and management of the preserve.

The proposed hydrologic restoration is to establish appropriate hydropatterns for the native plant communities that would have historically been present. Based upon the detailed site topography, the future goal for the site is to re-establish hydric pine flatwoods community with interspersed mesic forest, cypress forest, and freshwater marsh areas (Figure 3). The conceptual restoration plan is included showing the target native habitats, however, the boundaries of these habitats may be field adjusted as part of the adaptive land management based upon actual in the field conditions following the completion of the hydrologic restoration.

No planting is proposed. Following the hydrologic restoration, there will be natural recruitment of native species from the existing seed bank.

Future restoration activities may include typical land management tools including herbicide application for control of invasive exotic and nuisance vegetation, mowing and disking, prescribed burns, and supplemental planting of appropriate native vegetation.

Figure 1: Location Map

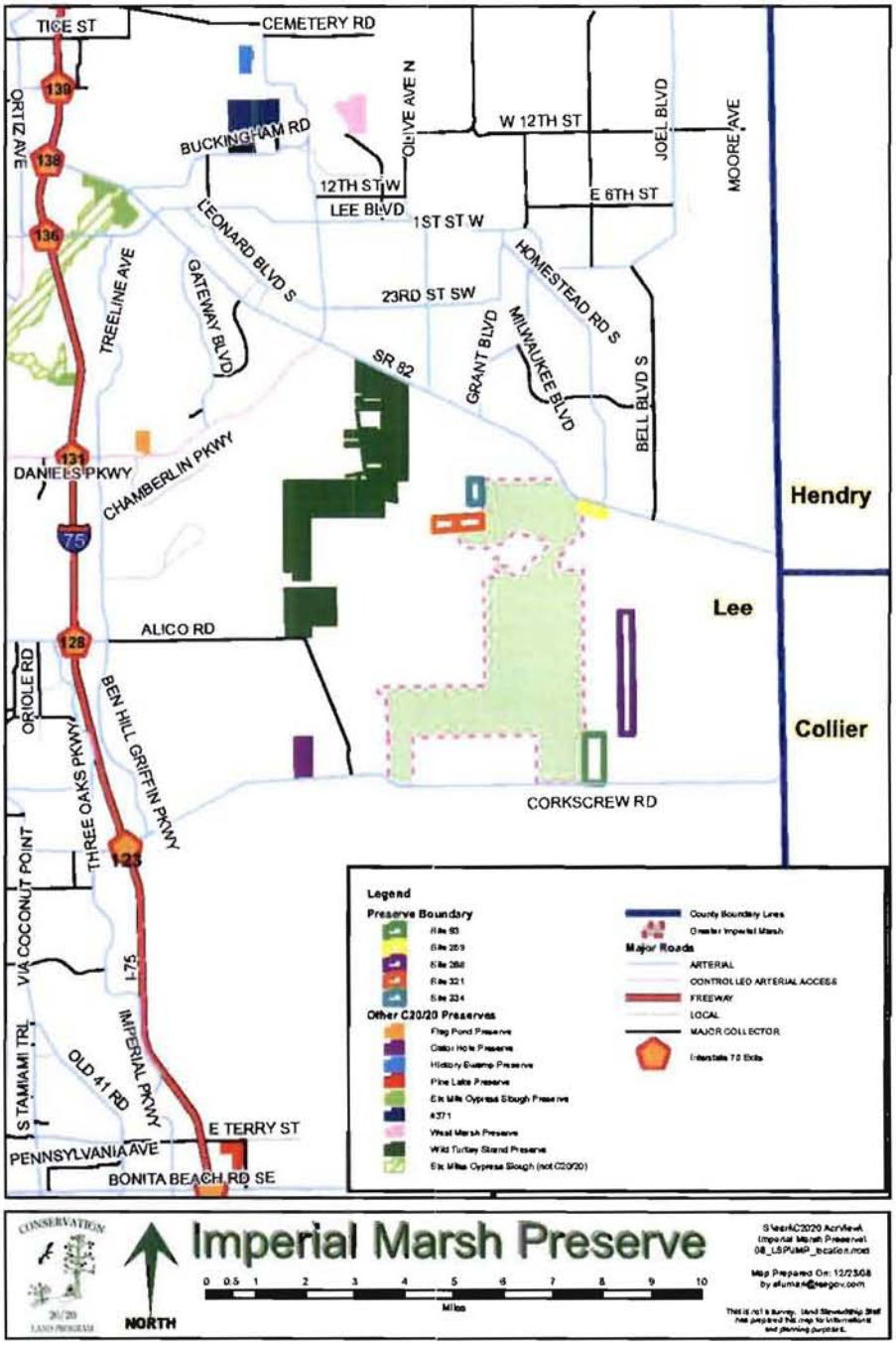


Exhibit No. 3.1
Application No. 100513-1
Page 2 of 6

Soil Descriptions		
ID	Type	Hydric
14	Valkaria Fine Sand	Yes
27	Pompano Fine Sand (Depressional)	Yes
28	Immokalee Sand	No
34	Malibar Fine Sand	Yes

Figure 3. Imperial Marsh Soils Map

Exhibit No. 3.1
Application No. 100513-1
Page 3 of 6

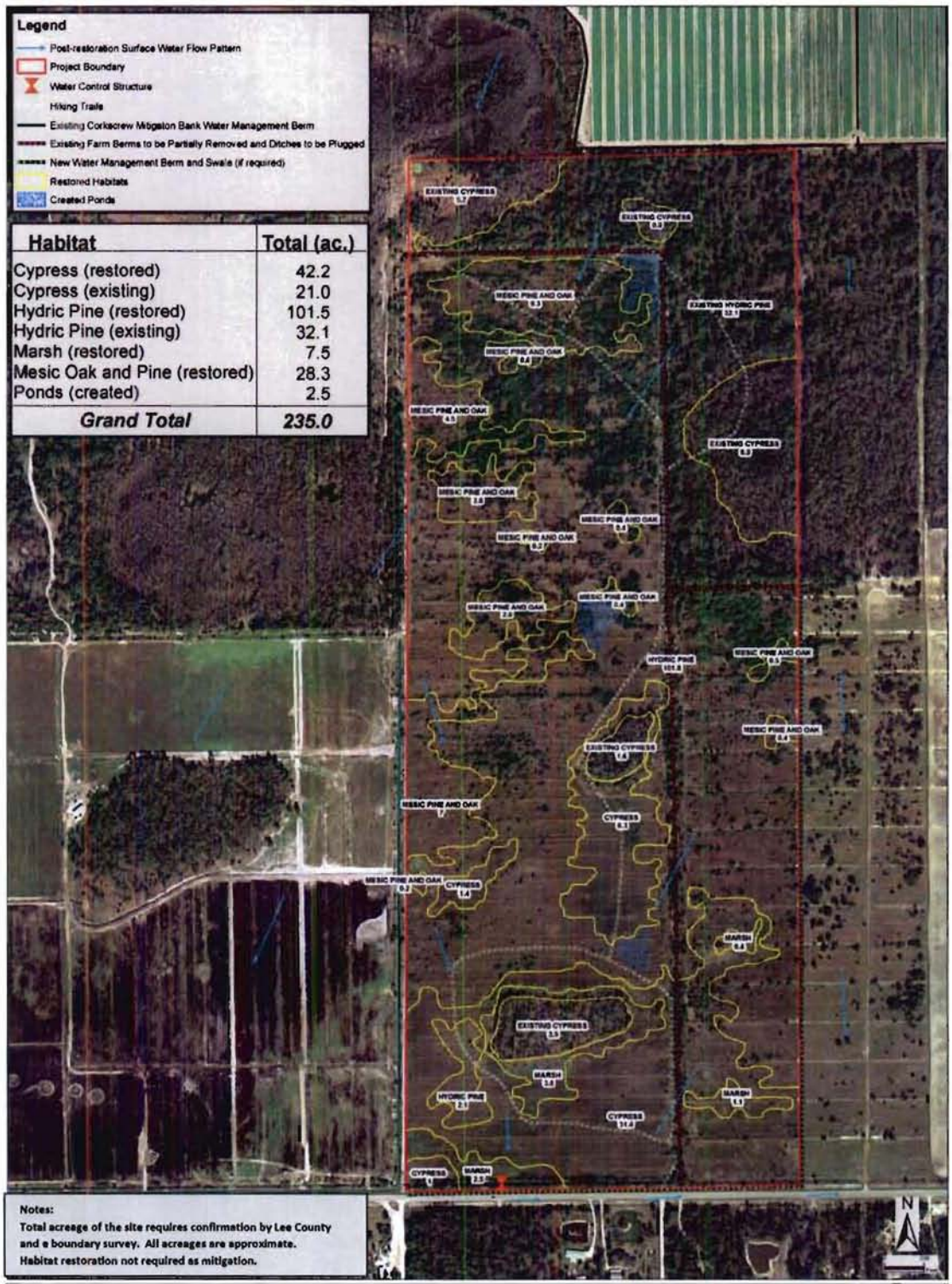


FIGURE 3:
Imperial Marsh Preserve
Conceptual Restoration Plan

Exhibit No. 3.1
Application No. 100513-1
Page 4 of 6

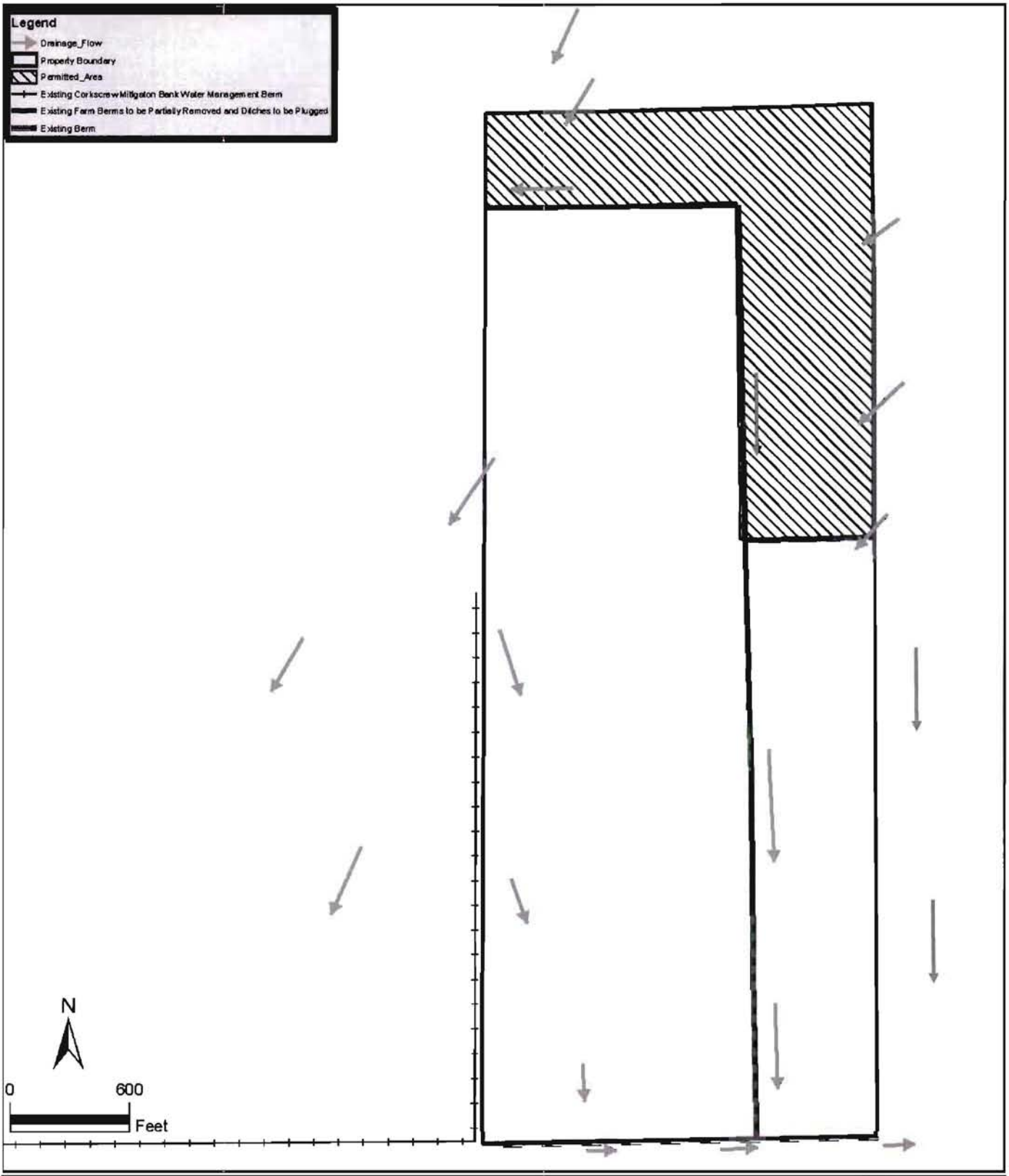
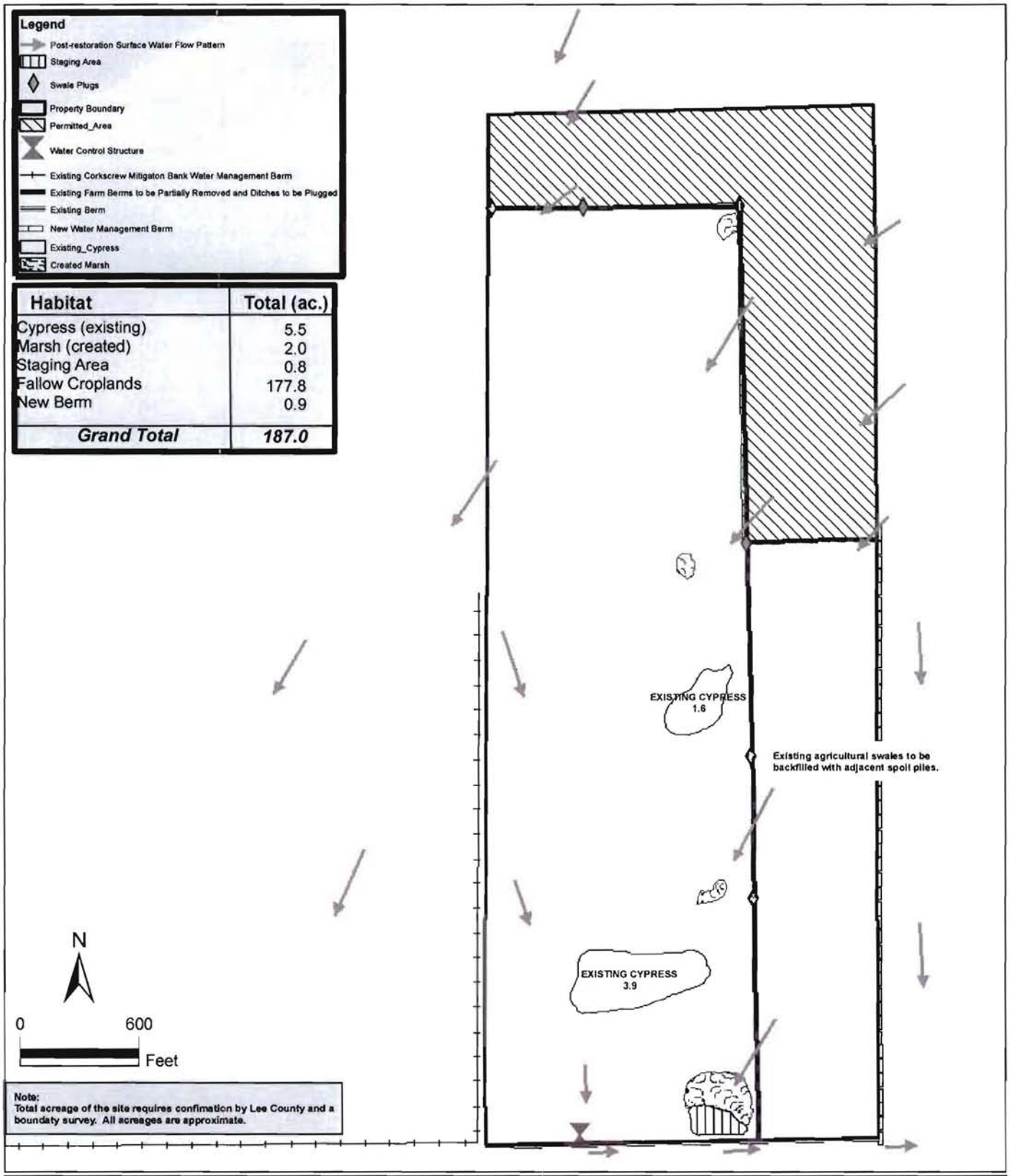


Figure 5. Imperial Marsh Preserve Existing Drainage Pattern

Revised 7-15-2010

Exhibit No. 3.1
Application No. 100513-1
Page 5 of 6



Habitat	Total (ac.)
Cypress (existing)	5.5
Marsh (created)	2.0
Staging Area	0.8
Fallow Croplands	177.8
New Berm	0.9
Grand Total	***187.0***

Figure 4. Imperial Marsh Preserve Conceptual Restoration Plan

Exhibit No. 3.1
Application No. 100513-1
Page 6 of 6

STAFF REPORT DISTRIBUTION LIST

IMPERIAL MARSH PRESERVE

Application No: 100513-1

Permit No: 36-07404-P

INTERNAL DISTRIBUTION

X Jewelene S. Harris
X Rina Dalal
X William J. Foley, P.E.
X Laura Layman
X A. Bain
X A. Waterhouse
X ERC Engineering
X ERC Environmental
X Fort Myers Backup File
X Fort Myers Service Center Director
X Pat McGary
X Permit File
X R. Valera

EXTERNAL DISTRIBUTION

X Permittee - Lee County Board Of County Commissioners
X Engr Consultant - En Site Inc
X Engr Consultant - Greensite Engineering Inc
X Env Consultant - Kevin L Erwin Consulting Ecologist Inc

GOVERNMENT AGENCIES

X City Engineer, City of Estero

OTHER INTERESTED PARTIES

X Audubon of Florida - Charles Lee
X Conservancy of Southwest Florida Steven Brown,AICP

Imp Marsh
#259

LICENSE AGREEMENT FOR CATTLE GRAZING

This AGREEMENT made this 21 day of Sept, 2018, by and between LEE COUNTY, a political subdivision and charter county of the State of Florida, whose address is P.O. Box 398, Fort Myers, Florida 33902-0398, (Licensor); and Shane and T. Denise Parker, individuals whose address is, 13500 Peace Rd., Fort Myers, FL 33905, ("Licensee").

WHEREAS, Licensor is the owner of property situated in Lee County and depicted and described in attached Exhibit A; and

WHEREAS, Licensor, in consideration of the fees paid and the covenants and agreements set forth herein to be kept and performed by the Licensee, does hereby grant to the Licensee a license solely for the grazing of cattle on Licensors lands as depicted/described in attached Exhibit B (Licensed Property).

NOW, THEREFORE, in consideration of the covenants and conditions set forth below, the parties agree as follows:

1. Recitals. The above recitals are true and correct and incorporated herein as though fully set forth below.

2. License. Licensor hereby grants to Licensee a revocable, non-exclusive License to graze cattle on the property described in attached Exhibit B.

3. License Fee. Licensee agrees to pay Lee County $30.00 per year for each license term or portion thereof is due in advance or before September 15th 2018. Payment may be provided to the Conservation 20/20 Supervisor for appropriate processing.

4. Term. This License begins on the date it is fully executed and ends September 30, 2019. The term of this license may be extended for one additional year, beginning October 1, 2019 and ending September 30, 2020 upon mutual agreement of the parties. Licensee must request the extension by August 31, 2019.

5. Revocation, Expiration, Termination or Cancellation. Licensor may revoke the License at any time with 30 days written notice to Licensee. Upon termination of the License, Licensee must remove all cattle and return the property to Licensor in as good or better condition than when it was first licensed.

The parties understand and agree that this License Agreement may be canceled upon 48 hours written notice to the Licensee, if any of the Licensees cattle are not kept within the confines of the Licensed Property as described on Exhibit B. Cattle may be transferred between adjacent or adjoining property, provided the properties are both the

subject of a cattle license held by or involving Licensee, but the cattle must remain within the confines of the perimeter fencing.

6. Use of Licensed Property.

a. *Cattle grazing.* Licensee understands and agrees the licensed property may only be used for cattle grazing and no other purpose.

Use of this License is limited to grazing of cattle owned by Licensee only. If Licensee uses or allows use of the Licensed Property to graze cattle owned by others, the County may terminate or revoke this License Agreement in accordance with paragraph 5 above.

Licensee agrees to graze cattle in the Licensed area provided the Licensed area is not being over-grazed and there is a sufficient water supply.

b. *Maximum number of cattle.* Licensee may not exceed 100 head of cattle on the Licensed Property at any time.

c. *Land management activity.* Licensee must obtain written approval from the Conservation 20/20 Land Stewardship Supervisor prior to performing any land clearing, controlled burns, fertilizing, exotic removal, chopping, chemical spraying, or other land management activities.

d. *Hog removal.* In order to preserve the licensed property and its use for cattle grazing, Licensee may trap and remove feral hogs, at Licensee's sole cost and expense, in a manner complying with state and local laws and regulations.

e. *Public Use.* Licensee has a non-exclusive right to use the Licensed Property. Licensee may not prevent the entry of members of the public on the Licensed Property for purposes of maintenance of the preserve areas/property and recreational enjoyment by hikers.

f. *Best Management Practices.* Licensee is responsible for implementing and using the most current Best Management Practices (BMP) provided by Florida Department of Agriculture and Consumer Services. Lee County Extension Services holds classes regarding BMPs, please contact them for scheduling. Failure of Licensee to use BMPs is grounds for termination or non-renewal of a Lee County cattle License.

7. Fencing.

a. During the term of this License, Licensee must maintain all perimeter and interior fencing necessary to keep livestock within the licensed area as follows:

1. Along all road frontage the fencing must be, at minimum, a 5-strand barbed wire fence.

2. Along non-road frontage license boundaries the fencing must be, at minimum, a 4-strand barbed wire fence.

3. The fencing must be maintained in good repair and must effectively prevent cattle from roaming beyond the boundaries of the Licensed Property at all times during the term of this license.

b. At the end of the license period stated in this Agreement, Licensee must turn over the Licensed Property with the fencing in good repair. In the event the fencing is not in good repair, Lee County may take one or more of the following actions: repair the fencing and send an invoice for the repair costs to Licensee; refuse to License County property to Licensee (including any entity involving the Licensee) in the future; or, take any other action the County deems appropriate.

8. Survey monuments. All section corners, quarter corners, and other survey monuments lying in the premises will be properly flagged by the Licensor. Licensee agrees to bear any survey costs for resetting these monuments in the event they are disturbed by the Licensee in any way.

9. Indemnification. Licensee hereby indemnifies and releases the Licensor from any and all claims for damages to both persons and property as the result of the cattle grazing; and, holds Licensor harmless from all damages during the term of this Agreement to include all reasonable fees, costs and expenses incurred for litigation in any forum resulting from damage claimed by third parties as a result of the Licensee's use of the property described in Exhibit "B".

10. Insurance. Licensee must maintain Premises Liability Insurance coverage through the license term and provide proof of insurance to Lee County Parks and Recreation for the duration of the license. The policy must provide minimum limits of $1,000,0000 (combined Single Limit of Bodily Injury and Property Damage). Lee County must be named as a Certificate Holder and Additional Insured on the insurance policy. (A copy of the insurance certificate is attached as Exhibit C.)

11. Personal property taxes. Licensee covenants and agrees to file an annual personal property tax return with the County of Lee, State of Florida, as required by law.

12. Assignment. This License is not assignable or otherwise transferable to any other party.

13. Notices. The contact information for the parties is as follows:

Lee County, Licensor
Director of Parks and Recreation
3410 Palm Beach Boulevard
Fort Myers, FL 33916
239-533-7275

Shane and Denise Parker, Licensee
13500 Peace Road
Fort Myers, FL 33905
863-673-2965 or 239-210-1460

14. Amendment. This is the entire agreement between the parties and may only be amended in a writing executed with the same formality.

15. Governing law. This Agreement will be construed in accordance with the laws of the state of Florida. Venue for any court proceedings is in Lee County.

16. Severability. In the event any portion or provisions of this License Agreement is deemed invalid, the remaining provisions will not be affected and will remain in full force and effect.

[Balance of page intentionally left blank.]

Licensee:

Witness: Kristie Valone

Print Name: Kristie Valone

By:

Printed Name: Shane Parker

By: Teresa Denise Parker

Witness: Laurie Goshorn

Print Name: Laurie Goshorn

Printed Name: Ti Denise Parker

Lee County Parks and Recreation:

Witness: Cynthia C. Mitar

Print Name: Cynthia C. Mitar

By:

✓ Jesse Lavender, Director

Alise Flanjack, Deputy Director

Witness: Jeannie Castillo

Print Name: Jeannie Castillo

Approved as to form for the reliance of Lee County only:

By:

Lee County Attorney's Office

[The Board of County Commissioners delegated authority to the Director of Parks and Recreation to enter short term leases/licenses for cattle grazing on Conservation 2020 lands and other lands managed by Lee County pursuant to Bluesheet #19990807 adopted on August 17, 1999.]

Imperial Marsh Preserve

Exhibit A

Bean, Whitaker, Lutz & Kareh, Inc.
13041 McGregor Boulevard
Fort Myers, Florida 33919-5910
email -- fmoffice@bwlk.net
(Ph) 239-481-1331 (Fax) 239-481-1073

Description of a Parcel of Land
Lying in
Section 28, Township 45 South, Range 27 East
Lee County, Florida
(Lee County Conservation 2020 Parcel No. 259)

A parcel of land situated in the State of Florida, County of Lee, being a part of Section 28, Township 45 South, Range 27 East, and further described as follows:

Beginning at the intersection of the west line of said Section 28 and the southwesterly line of State Road No. 82 (200 feet wide), said point lying on a curve concave to the north having a radius of 2964.79 feet and to which point a radial line bears S17°01'10"W; thence southeasterly along said curve and said right-of-way line through a central angle of 01°25'41" for 73.90 feet to a point of tangency; thence S74°24'31"E along said southwesterly right-of-way line for 2566.10 feet; thence S01°00'48"E parallel with the west line of said Section 28 for 1043.52 feet to an intersection with a line parallel with and 1000.00 feet southwesterly from (as measured on a perpendicular) said southwesterly right-of-way line; thence N74°24'31"W along said parallel line for 2639.72 feet to an intersection with the west line of said Section 28; thence N01°00'48"W along said west line for 1044.48 feet to the Point of Beginning.

Containing 60.60 acres, more or less.

Subject to easements, restrictions, reservations and rights-of-way (written and unwritten, recorded and unrecorded).

Bearings are based on the State Plane Coordinate System - Florida West Zone (North American Datum of 1983 - 1990 Adjustment).

Bean, Whitaker, Lutz & Kareh, Inc. (LB 4919)

Scott C. Whitaker, P.S.M. 4324

36914DESC1 5/25/05

Imperial Marsh Preserve Cattle Lease Map Site 259
Exhibit B

0 0.05 0.1 0.2 Miles

CERTIFICATE OF INSURANCE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW.

FLORIDA FARM BUREAU INSURANCE COMPANIES **P.O. BOX 147030** **GAINESVILLE, FLORIDA 32614-7030**	COMPANIES AFFORDING COVERAGES: Company Letter **A:** **Florida Farm Bureau General Ins. Co.** Company Letter **B:** **Florida Farm Bureau Casualty Ins. Co.**
NAME AND ADDRESS OF INSURED: SHANE & T DENISE PARKER 13500 PEACE RD FORT MYERS FL 033905	

The policies of insurance listed below have been issued to the insured named above and are in force at this time. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

CO. LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN **THOUSANDS**	
A	**General Liability:** ☑ Commercial General Liability (Occurrence Form) ☐ Owner's & Contractor's Protective ☐ Farmer's Personal Liability	CPP 9510196	03/01/18	03/01/19	General Aggregate	$ 2000
					Products-completed operations aggregate	$ 2000
					Personal & Advertising Injury	$ 1000
					Each Occurrence	$ 1000
					Fire Damage (Any one fire)	$ 50
					Medical Expense (Any one person)	$ 5
	Automobile Liability: ☐ Any auto ☐ All owned autos ☐ Scheduled autos ☐ Hired autos ☐ Non-owned autos				Combined Single Limit	$
					Bodily Injury (Per Person)	$
					Bodily Injury (Per Accident)	$
					Property Damage	$
	Excess Liability: ☐ Umbrella Form ☐ Other than Umbrella form				Each Occurrence	Aggregate
					$	$
	Employers Liability: ☐ Farm Employer's Liability ☐ Farm Employee's Medical					$ (Each Occurrence) $ (Each Employee)
	Other:					$

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES:
AS ADDITIONAL INSURED. CATTLE GRAZING LOCATIONS:
13650 PEACE RD FT MYERS, FL 33905
HWY 80 E BETWEEN ALABAMA AVE & HOMESTEAD RD FT MYERS, FL 33913

CANCELLATION: Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 10 days written notice to the below named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

NAME AND ADDRESS OF CERTIFICATE HOLDER:
LEE CO BOARD OF CO COMMISSIONERS
3410 PALM BEACH BLVD
FORT MYERS FL 33916-3736

COUNTY CODE 36 DATE ISSUED 08/13/18

Serviced by LEE County Farm Bureau

E WENDELL WILLIAMS, INC, CLU, LUTCF

AUTHORIZED REPRESENTATIVE

93-7-692 (Rev. 5/93)

POLICY NUMBER: CPP 9510196 23 COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED — MANAGERS OR LESSORS OF PREMISES

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE

1. Designation of Premises (Part Leased to You): SEE SCHEDULE: LOCATIONS 004,005
2. Name of Person or Organization (Additional Insured): LEE CO BOARD OF CO COMMISSIONERS
3. Additional Premium: $ 58

(If no entry appears above, the information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule but only with respect to liability arising out of the ownership, maintenance or use of that part of the premises leased to you and shown in the Schedule and subject to the following additional exclusions:

This insurance does not apply to:

1. Any "occurrence " which takes place after you cease to be a tenant in that premises.
2. Structural alterations, new construction or demolition operations performed by or on behalf of the person or organization shown in the Schedule.

FLORIDA FARM BUR GEN INS CO
LOCATIONS SCHEDULE

POLICY # CPP 9510196 23
SHANE & T DENISE PARKER
13500 PEACE RD
FORT MYERS, FL 33905-7430

AGENT: E WENDELL WILLIAMS, INC, CLU
3616447-0

Prems No.	Bldg No.	Street	City	St	Zip
001	000	4330 BUCKINGHAM RD	FORT MYERS 40 ACRES	FL	33905
002	000	11400 ORANGE RIVER BLVD	FORT MYERS 295 ACRES	FL	33905
003	000	13491 PEACE RD	FORT MYERS 31 ACRES	FL	33905
004	000	13650 PEACE RD	FORT MYERS 161 ACRES	FL	33905
005	000	HWY 80 E BETWEEN ALABAMA AVE & HOMESTEAD RD - S028 T45S R27E	FORT MYERS 60.6 ACRES	FL	33913
006	000	13651 ORANGE RIVER BLVD	FORT MYERS 15 ACRES	FL	33905
007	000	5040 BUCKINGHAM RD	FORT MYERS 40 ACRES	FL	33905
008	000	SE CRNR OF DANA RD & CEMETARY RD S009 T44S R26E	FORT MYERS 40 ACRES	FL	33905
009	000	12840 ORANGE RIVER BLVD	FORT MYERS 200 ACRES	FL	33905

Imp Marsh #288

LICENSE AGREEMENT FOR CATTLE GRAZING

This AGREEMENT made this 30 day of August, 2018, by and between LEE COUNTY, a political subdivision and charter county of the State of Florida, whose address is P.O. Box 398, Fort Myers, Florida 33902-0398, (Licensor); and David E and Cynthia D Widener individuals, whose address is, 5251 Jackson Road Fort Myers, FL 33905 ("Licensee").

WHEREAS, Licensor is the owner of property situated in Lee County and depicted and described in attached Exhibit A; and

WHEREAS, Licensor, in consideration of the fees paid and the covenants and agreements set forth herein to be kept and performed by the Licensee, does hereby grant to the Licensee a license solely for the grazing of cattle on Licensors lands as depicted/described in attached Exhibit B (Licensed Property).

NOW, THEREFORE, in consideration of the covenants and conditions set forth below, the parties agree as follows:

1. Recitals. The above recitals are true and correct and incorporated herein as though fully set forth below.

2. License. Licensor hereby grants to Licensee a revocable, non-exclusive License to graze cattle on the property described in attached Exhibit B.

3. License Fee. Licensee agrees to pay Lee County $186.50 per year for each license term or portion thereof is due in advance or before September 15th 2018. Payment may be provided to the Conservation 20/20 Supervisor for appropriate processing.

4. Term. This License begins on the date it is fully executed and ends September 30, 2019. The term of this license may be extended for one additional year, beginning October 1, 2019 and ending September 30, 2020 upon mutual agreement of the parties. Licensee must request the extension by August 31, 2019.

5. Revocation, Expiration, Termination or Cancellation. Licensor may revoke the License at any time with 30 days written notice to Licensee. Upon termination of the License, Licensee must remove all cattle and return the property to Licensor in as good or better condition that when it was first licensed.

The parties understand and agree that this License Agreement may be canceled upon 48 hours written notice to the Licensee, if any of the Licensees cattle are not kept within the confines of the Licensed Property as described on Exhibit B. Cattle may be transferred between adjacent or adjoining property, provided the properties are both the

subject of a cattle license held by or involving Licensee, but the cattle must remain within the confines of the perimeter fencing.

6. Use of Licensed Property.

a. *Cattle grazing.* Licensee understands and agrees the licensed property may only be used for cattle grazing and no other purpose.

Use of this License is limited to grazing of cattle owned by Licensee only. If Licensee uses or allows use of the Licensed Property to graze cattle owned by others, the County may terminate or revoke this License Agreement in accordance with paragraph 5 above.

Licensee agrees to graze cattle in the Licensed area provided the Licensed area is not being over-grazed and there is a sufficient water supply.

b. *Maximum number of cattle.* Licensee may not exceed 100 head of cattle on the Licensed Property at any time.

c. *Land management activity.* Licensee must obtain written approval from the Conservation 20/20 Land Stewardship Supervisor prior to performing any land clearing, controlled burns, fertilizing, exotic removal, chopping, chemical spraying, or other land management activities.

d. *Hog removal.* In order to preserve the licensed property and its use for cattle grazing, Licensee may trap and remove feral hogs, at Licensee's sole cost and expense, in a manner complying with state and local laws and regulations.

e. *Public Use.* Licensee has a non-exclusive right to use the Licensed Property. Licensee may not prevent the entry of members of the public on the Licensed Property for purposes of maintenance of the preserve areas/property and recreational enjoyment by hikers.

f. *Best Management Practices.* Licensee is responsible for implementing and using the most current Best Management Practices (BMP) provided by Florida Department of Agriculture and Consumer Services. Lee County Extension Services holds classes regarding BMPs, please contact them for scheduling. Failure of Licensee to use BMPs is grounds for termination or non-renewal of a Lee County cattle License.

7. Fencing.

a. During the term of this License, Licensee must maintain all perimeter and interior fencing necessary to keep livestock within the licensed area as follows:

1. Along all road frontage the fencing must be, at minimum, a 5 strand barbed wire fence.

2. Along non-road frontage license boundaries the fencing must be, at minimum, a 4 strand barbed wire fence.

3. The fencing must be maintained in good repair and must effectively prevent cattle from roaming beyond the boundaries of the Licensed Property at all times during the term of this license.

b. At the end of the license period stated in this Agreement, Licensee must turn over the Licensed Property with the fencing in good repair. In the event the fencing is not in good repair, Lee County may take one or more of the following actions: repair the fencing and send an invoice for the repair costs to Licensee; refuse to License County property to Licensee (including any entity involving the Licensee) in the future; or, take any other action the County deems appropriate.

8. Survey monuments. All section corners, quarter corners, and other survey monuments lying in the premises will be properly flagged by the Licensor. Licensee agrees to bear any survey costs for resetting these monuments in the event they are disturbed by the Licensee in any way.

9. Indemnification. Licensee hereby indemnifies and releases the Licensor from any and all claims for damages to both persons and property as the result of the cattle grazing; and, holds Licensor harmless from all damages during the term of this Agreement to include all reasonable fees, costs and expenses incurred for litigation in any forum resulting from damage claimed by third parties as a result of the Licensee's use of the property described in Exhibit "B".

10. Insurance. Licensee must maintain Premises Liability Insurance coverage through the license term and provide proof of insurance to Lee County Parks and Recreation for the duration of the license. The policy must provide minimum limits of $1,000,0000 (combined Single Limit of Bodily Injury and Property Damage). Lee County must be named as a Certificate Holder and Additional Insured on the insurance policy. (A copy of the insurance certificate is attached as Exhibit C.)

11. Personal property taxes. Licensee covenants and agrees to file an annual personal property tax return with the County of Lee, State of Florida, as required by law.

12. Assignment. This License is not assignable or otherwise transferable to any other party.

13. Notices. The contact information for the parties is as follows:

Lee County, Licensor
Director of Parks and Recreation
3410 Palm Beach Boulevard
Fort Myers, FL 33916
239-533-7275

Eric and Cyndi Widener, Licensee
5351 Jackson Rd.
Fort Myers, FL 33905
(239) 229-3748 or (239) 357-8913

14. Amendment. This is the entire agreement between the parties and may only be amended in a writing executed with the same formality.

15. Governing law. This Agreement will be construed in accordance with the laws of the state of Florida. Venue for any court proceedings is in Lee County.

16. Severability. In the event any portion or provisions of this License Agreement is deemed invalid, the remaining provisions will not be affected and will remain in full force and effect.

[Balance of page intentionally left blank.]

Licensee:

Witness: _____ By: _____

Print Name: Sherryl FURNARI Printed Name: Eric Widener

Witness: _____

Print Name: Denise L Potter

Lee County Parks and Recreation:

Witness: _____ By: _____

Print Name: Cynthia C. Mitar ✓ Jesse Lavender, Director

_____ Alise Flanjack, Deputy Director

Witness: _____

Print Name: DAISY CARDONA

Approved as to form for the reliance of Lee County only:

By: _____

Lee County Attorney's Office

[The Board of County Commissioners delegated authority to the Director of Parks and Recreation to enter short term leases/licenses for cattle grazing on Conservation 2020 lands and other lands managed by Lee County pursuant to Bluesheet #19990807 adopted on August 17, 1999.]

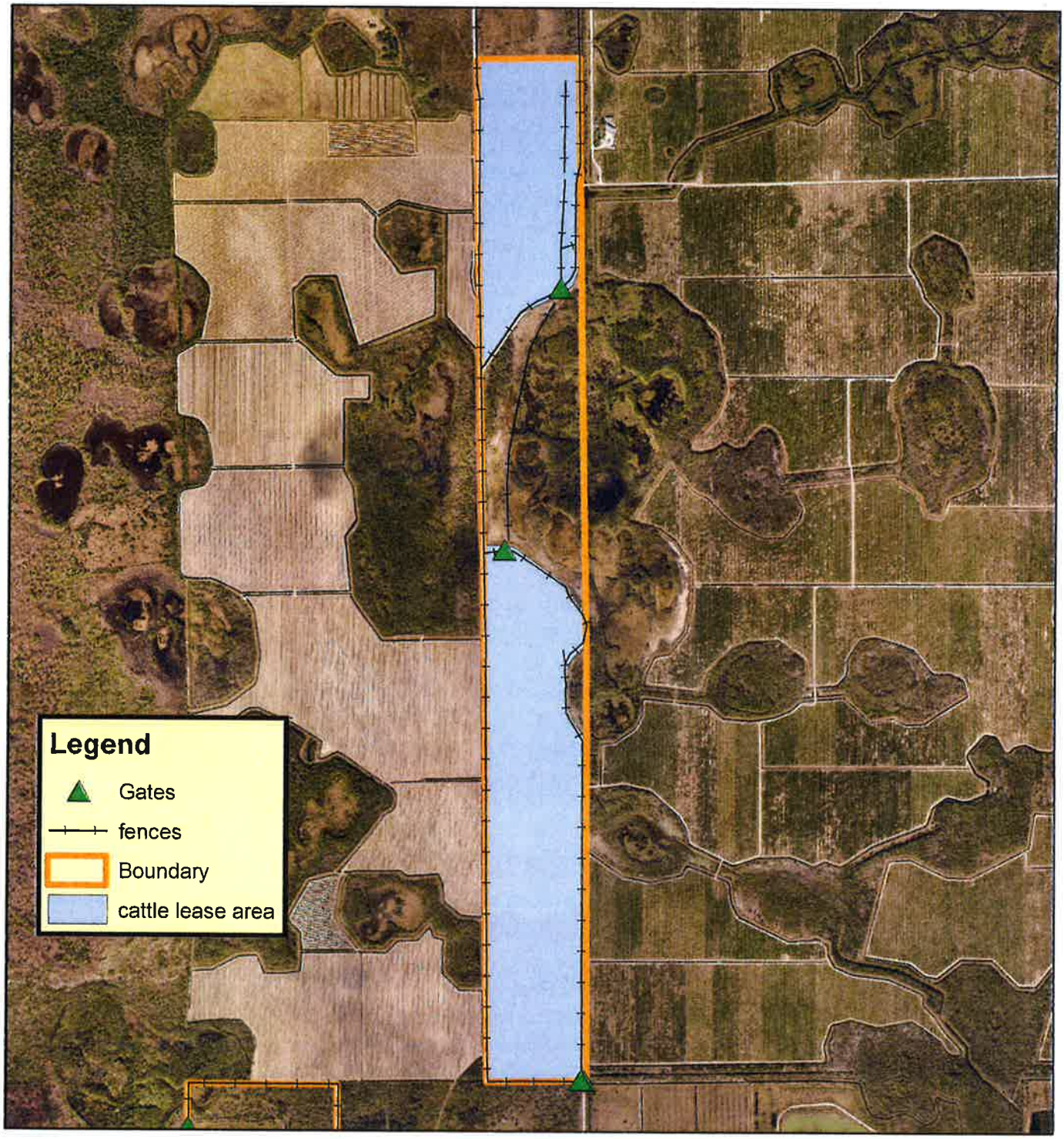
Exhibit A Site # 288 Imperial Marsh Pres. Galloway Tract

The East ¼ of Section 28 lying South of Highway No. 82, and the East ¼ of Section 33, Township 45 South, Range 27 East, and the East ¼ of Sections 4, 9 and 16, Township 46 South, Range 27 East, less; being a portion of Sections 28 and 33, Township 45 South, Range 27 East, and Section 4, Township 46 South, Range 27 East, Lee County, Florida, more particularly described as follows:

A tract of land lying in the east half (E ½) of the Southeast quarter (SE ¼) of Section 28, Township 45 South, Range 27 East and the East half (East ½) of the Northeast quarter (NE ¼) and the East half (E ½) of the Southeast quarter (SE ¼) of Section 33, Township 45 South, Range 27 East and the East half (E ½) of the Northeast quarter (NE ¼) of Section 4, Township 46 South, Range 27 East, all in Lee County, Florida and more particularly as follows:

Commencing at the East quarter (E ¼) corner of said Section 4; thence N 00°45'15" W along the east line of said Section 4; for 102.10 feet to the Point of Beginning; thence continue N 00°45'15" W along said east line for 3949.81 feet to a concrete post marking the Northeast corner of said Section 4; thence N 00°48'33" W along the east line of said Section 33 for 1388.12 feet to the intersection of said east line and the centerline of a Florida Power and Light Company easement (250 feet wide) as recorded in Official Records Book 291, at page 208 of the Public Records of Lee County, Florida; thence continue N 00°48'33" W along said east line for 1227.57 feet to a concrete monument marking the east quarter (E ¼) corner of said Section 33; thence N 00°48'35" W along said east line for 2615.14 feet to a concrete post marking the northeast corner of said Section 33; thence N 00°39.12 W along the east line of said Section28 for 1258.59 feet to a concrete monument marking the intersection of said east line and the southwesterly line of State Road No. 82 (200 feet wide); thence N 74°23'31" W along said southwesterly line for 1368.96 feet to the intersection of said southwesterly line and the west line of the East half (E ½) of the Southeast quarter (SE ¼) of said Section 28; thence S 00°44'38" E along said west line for 1702.62 feet to the intersection of said west line and the north line of said Section 33; thence S 00°40'08" E along the west line of the East half (E ½) of the Northeast quarter (NE ¼) of said Section 33 for 2587.59 feet to the intersection of said west line and the East/West quarter Section line of said Section 33; thence S 00°40'26" E along the west line of the East half (E ½) of the Southeast quarter (SE ¼) of said Section 33 for 838.33 feet to the intersection of said west line and the centerline of said Florida Power and Light Company easement; thence continue S 00°40'26" E along said west line for 1750.04 feet to a lightwood post marking the intersection of said west line and north line of said Section4; thence S 00°52'45" E along the west line of the East half (E ½) of the northeast quarter (NE ¼) of said Section 4 for 3946.72 feet to the intersection of said west line and the north line of lands previously described in a legal description prepared by Duane Hall Associates dated March 4, 1987; thence N 89°13'38" E along said north line for 1315.35 feet to the Point of Beginning.

Imperial Marsh Preserve Cattle Lease Map Site 288



0 0.275 0.55 1.1 Miles

HUDSON INSURANCE GROUP

HUDSON SPECIALTY INSURANCE COMPANY

100 WILLIAM STREET 5TH FLOOR
NEW YORK, NY 10038

FARMERS PERSONAL LIABILITY
PART TWO – POLICY DECLARATIONS

This Declarations Page along with "Policy Provisions – Part One" and any endorsements completes this Policy.

Policy Number:	PSFAL000921-01	G/A Number:	1000056

Item 1: Insured's Name:	DAVID E WIDENER CYNTHIA D WIDENER	Producer's Name:	NAT'L RISK SOLUTIONS DIV OF HULL & CO.
Mailing Address:	5351 JACKSON RD FORT MYERS, FL 33905	Mailing Address:	800 CARILLON PARKWAY. STE 150 ST. PETERSBURG, FL 33716

Item 2: Policy Period (Month/Day/Year):
From: 09/01/2018 To: 09/01/2019 At 12:01 A.M. Standard Time At Your Mailing Address Shown Above.
Policy Term: 365 Days Prior Policy: PSFAL000921-00

Item 3: Insured's Occupation: BUSINESS OWNER Spouse/Other Occupation: BUSINESS OWNER

Item 4: The "Farm Premises" covered by this policy is located at:
E/12 OF E1V2 SEC 9+E1/2 OF E1/2 OF SEC16+E1/2 OF E1/2 OF SEC4, FORT MYERS, FL 33905, See Item 7 for details

IN RETURN FOR THE PAYMENT OF THE PREMIUM AND SUBJECT TO ALL TERMS AND ENDORSEMENTS OF THIS POLICY, WE AGREE WITH YOU TO PROVIDE THE INSURANCE COVERAGE AS STATED IN THIS POLICY.

THIS INSURANCE IS ISSUED PURSUANT TO THE FLORIDA SURPLUS LINES LAW. PERSONS INSURED BY SURPLUS LINES CARRIERS DO NOT HAVE THE PROTECTION OF THE FLORIDA INSURANCE GUARANTY ACT TO THE EXTENT OF ANY RIGHT OF RECOVERY FOR THE OBLIGATION OF AN INSOLVENT UNLICENSED INSURER.

Item 5: **Limits of Liability**
(Defense Costs are provided outside this limit):

Coverage L – Personal Liability Coverage:	$ 1,000,000
Coverage M – Medical Payments To Others:	$ 1,000
Identity Theft Coverage:	Excluded

Item 6: **Retained Limit (Self Insured Retention):**

Coverage L – Personal Liability Coverage:	NONE
Coverage M – Medical Payments To Others:	NONE

SURPLUS LINES INSURERS' POLICY RATES AND FORMS ARE NOT APPROVED BY ANY FLORIDA REGULATORY AGENCY.

Item 7: **Other Insured Locations:**

1. 21231 CORKSCREW RD, ESTERO, FL 33928
2. 11900 S/R 82, FORT MYERS, FL 33913
3. 13550 BIRD RD, FORT MYERS, FL 33905
4. 13400 BIRD RD, FORT MYERS, FL 33905
5. 13430 BIRD RD, FORT MYERS, FL 33905
6. 15320 BROKEN J RANCH RD, FT MYERS, FL 33905
7. 15400 BROKEN J RANCH RD, FT MYERS, FL 33905

FLAT CANCELLATION NOT PERMITTED

MINIMUM EARNED PREMIUM APPLIES

This Insurance is issued pursuant to the Florida Surplus Lines Law. Person insured by surplus line carriers do not have the protection of the Florida Insurance Guaranty Act to the extent of any right of recovery for the obligation of an insolvent unlicensed insurer.

HUD-CPL0002(02/13)FL, HUD-CPL0001(11/15), HS-CPL0016(01/10), HUD-CPL0004(08/11), HUD-CPL0007(08/11), HUD-CPL0011(11/15), HUD-CPL0014(08/11), HUD-CPL0016(08/11), HS-CPL0017(03/07), HS-CPL0018(11/15), HS-CPL0019(03/07), HUD-CPL0044(02/18), HUD-CPL0045(02/18), HUD-MSE(04/14), PHNFL, HUDPN2013, HUDPP2013, SS-FL(9/09)

Total Premium	$ 1,595.00
Policy Fee	$ 35.00
Surplus Lines Tax	$ 81.50
Stamping Fee	$ 1.63
FHCF	$
Total Policy Premium	$ 1,713.13

Paul L. Kornya *FFB*
14180 Metropolis Ave., Fort myers FL 33912
LIC#A144926
Date of Issue: 08/31/2018

Countersigned by: Surplus Lines Agent #A305417
X _____
Licensed Resident Agent or Authorized Representative

Endorsement No.:	1
This endorsement effective:	09/01/2018
Forms a part of policy number:	PSFAL000921-01
Issued to:	DAVID E WIDENER CYNTHIA D WIDENER
By:	Hudson Specialty Insurance Company

SCHEDULED INSURED ENDORSEMENT

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.
COMPREHENSIVE PERSONAL LIABILITY

SCHEDULE*

Name And Address Of Person Or Organization
LEE COUNTY BOCC
P.O. BOX 398
FORT MYERS, FL 33902
Location
E/12 OF E1V2 SEC 9+E1/2 OF E1/2 OF SEC16+E1/2 OF E1/2 OF SEC4, FORT MYERS, FL 33905
*Entries may be left blank if shown elsewhere in this policy for this coverage.

DEFINITIONS

The definition of "insured" is extended to include the person or organization identified in the Schedule above, but only with respect to the location shown in the Schedule above. The addition of the "insured" on the above Schedule does not increase the Company's limit of liability.

EXCLUSIONS

If an "insured" identified on the above Schedule is required by any law to provide workers' compensation coverage to "employees", any coverage extended by this Endorsement does not apply to any claim made or suit brought against that "insured" for "bodily injury" to an "employee", "residence employee" or a temporary employee furnished to any "insured" to substitute for a permanent "residence employee" arising out of or in the course of such person's employment by the person or organization.

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.

Imp Marsh #334

LICENSE AGREEMENT FOR CATTLE GRAZING

This AGREEMENT made this 8th day of August, 2018, by and between LEE COUNTY, a political subdivision and charter county of the State of Florida, whose address is P.O. Box 398, Fort Myers, Florida 33902-0398, (Licensor); and Barry Stinson, an individual, whose address is 190 Matanzas St., Fort Myers Beach, FL 33931 ("Licensee").

WHEREAS, Licensor is the owner of property situated in Lee County and depicted and described in attached Exhibit A; and

WHEREAS, Licensor, in consideration of the fees paid and the covenants and agreements set forth herein to be kept and performed by the Licensee, does hereby grant to the Licensee a license solely for the grazing of cattle on Licensors lands as depicted/described in attached Exhibit B (Licensed Property).

NOW, THEREFORE, in consideration of the covenants and conditions set forth below, the parties agree as follows:

1. Recitals. The above recitals are true and correct and incorporated herein as though fully set forth below.

2. License. Licensor hereby grants to Licensee a revocable, non-exclusive License to graze cattle on the property described in attached Exhibit B.

3. License Fee. Licensee agrees to pay Lee County $58.50 per year for each license term or portion thereof is due in advance or before September 15th 2018. Payment may be provided to the Conservation 20/20 Supervisor for appropriate processing.

4. Term. This License begins on the date it is fully executed and ends September 30, 2019. The term of this license may be extended for one additional year, beginning October 1, 2019 and ending September 30, 2020 upon mutual agreement of the parties. Licensee must request the extension by August 31, 2019.

5. Revocation, Expiration, Termination or Cancellation. Licensor may revoke the License at any time with 30 days written notice to Licensee. Upon termination of the License, Licensee must remove all cattle and return the property to Licensor in as good or better condition that when it was first licensed.

The parties understand and agree that this License Agreement may be canceled upon 48 hours written notice to the Licensee, if any of the Licensees cattle are not kept within the confines of the Licensed Property as described on Exhibit B. Cattle may be transferred between adjacent or adjoining property, provided the properties are both the

1. Along all road frontage the fencing must be, at minimum, a 5-strand barbed wire fence.

2. Along non-road frontage license boundaries the fencing must be, at minimum, a 4-strand barbed wire fence.

3. The fencing must be maintained in good repair and must effectively prevent cattle from roaming beyond the boundaries of the Licensed Property at all times during the term of this license.

b. At the end of the license period stated in this Agreement, Licensee must turn over the Licensed Property with the fencing in good repair. In the event the fencing is not in good repair, Lee County may take one or more of the following actions: repair the fencing and send an invoice for the repair costs to Licensee; refuse to License County property to Licensee (including any entity involving the Licensee) in the future; or, take any other action the County deems appropriate.

8. Survey monuments. All section corners, quarter corners, and other survey monuments lying in the premises will be properly flagged by the Licensor. Licensee agrees to bear any survey costs for resetting these monuments in the event they are disturbed by the Licensee in any way.

9. Indemnification. Licensee hereby indemnifies and releases the Licensor from any and all claims for damages to both persons and property as the result of the cattle grazing; and, holds Licensor harmless from all damages during the term of this Agreement to include all reasonable fees, costs and expenses incurred for litigation in any forum resulting from damage claimed by third parties as a result of the Licensee's use of the property described in Exhibit "B".

10. Insurance. Licensee must maintain Premises Liability Insurance coverage through the license term and provide proof of insurance to Lee County Parks and Recreation for the duration of the license. The policy must provide minimum limits of $1,000,0000 (combined Single Limit of Bodily Injury and Property Damage). Lee County must be named as a Certificate Holder and Additional Insured on the insurance policy. (A copy of the insurance certificate is attached as Exhibit C.)

11. Personal property taxes. Licensee covenants and agrees to file an annual personal property tax return with the County of Lee, State of Florida, as required by law.

12. Assignment. This License is not assignable or otherwise transferable to any other party.

13. Notices. The contact information for the parties is as follows:

Lee County, Licensor
Director of Parks and Recreation
3410 Palm Beach Boulevard
Fort Myers, FL 33916
239-533-7275

Barry Stinson, Licensee
190 Matanzas St.
Fort Myers Beach, FL 33931
(239) 344-6178

14. Amendment. This is the entire agreement between the parties and may only be amended in a writing executed with the same formality.

15. Governing law. This Agreement will be construed in accordance with the laws of the state of Florida. Venue for any court proceedings is in Lee County.

16. Severability. In the event any portion or provisions of this License Agreement is deemed invalid, the remaining provisions will not be affected and will remain in full force and effect.

[Balance of page intentionally left blank.]

Licensee:

Witness: Denise Potter

Print Name: Denise Potter

By: Barry Stinson

Printed Name: Barry STINSON

Witness: Laurie Goslorn

Print Name: Laurie Goslorn

Lee County Parks and Recreation:

Witness: KLewin

Print Name: Katia Lewin

By: Alise Flanjack

Jesse Lavender, Director

X Alise Flanjack, Deputy Director

Witness: Cynthia C. Mitar

Print Name: Cynthia C. Mitar

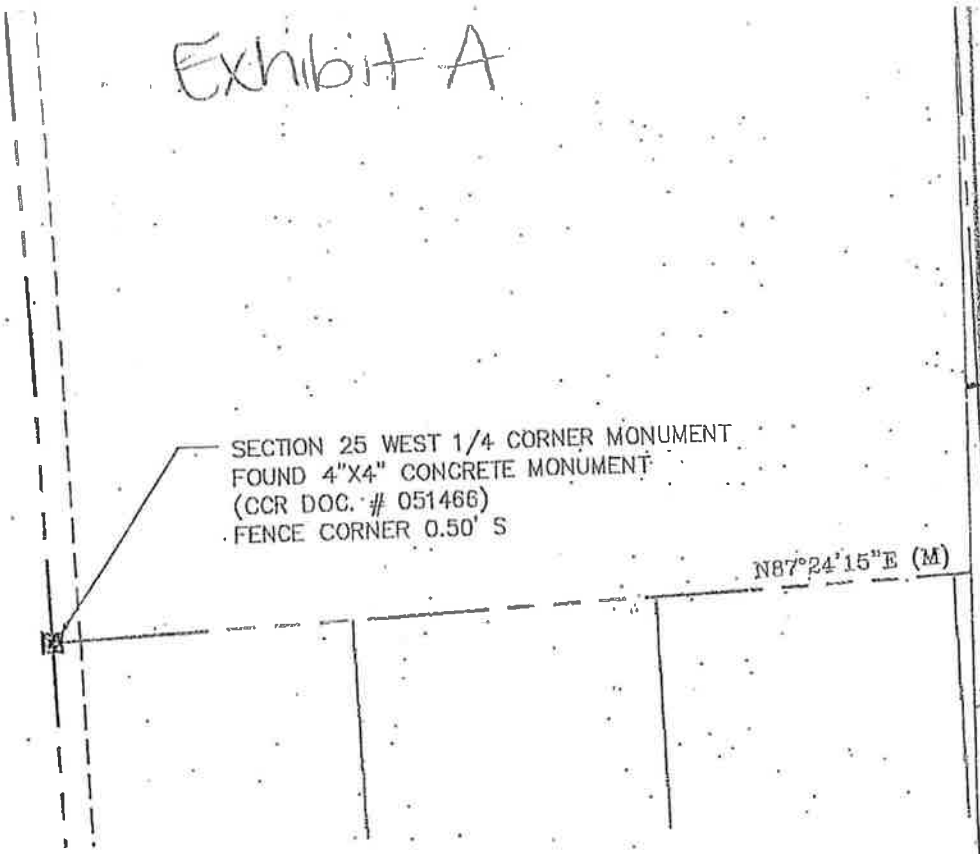
Approved as to form for the reliance of Lee County only:

By: John J. Fuglar

Lee County Attorney's Office

[The Board of County Commissioners delegated authority to the Director of Parks and Recreation to enter short term leases/licenses for cattle grazing on Conservation 2020 lands and other lands managed by Lee County pursuant to Bluesheet #19990807 adopted on August 17, 1999.]

Exhibit A



LEGAL DESCRIPTION:

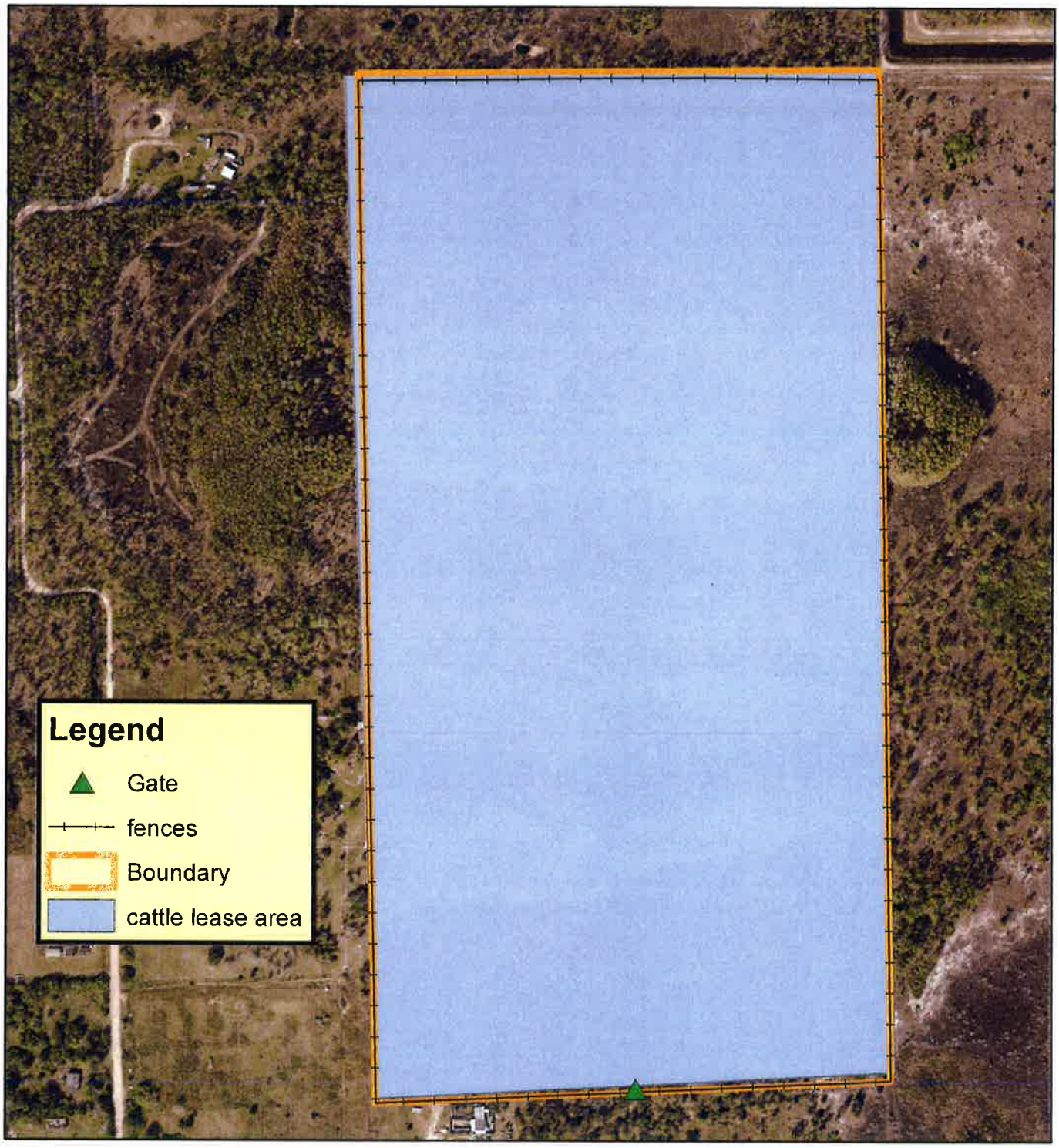
THE EAST ONE-HALF (E1/2) OF THE NORTHEAST ONE-QUARTER (NE1/4) OF SECTION 25, TOWNSHIP 45 SOUTH, RANGE 26 EAST, LEE COUNTY, FLORIDA.

S:\20076916\BOUNDARY-SURVEY.dwg (BD BOUNDARY) kic May 17, 2007 - 11:46am

LEGEND:

POC	= POINT OF COMMENCEMENT	MON.	= MONUMENT
POB	= POINT OF BEGINNING	PRM	= PERMANENT REFERENCE MONUMENT
OR	= OFFICIAL RECORD BOOK	PCP	= PERMANENT CONTROL POINT
PB	= PLAT BOOK	C.B.S.	= CONCRETE BLOCK & STUCCO
PG	= PAGE	FD.	= FOUND
R/W	= RIGHT-OF-WAY	W/	= WITH
C/L	= CENTER LINE	A/C	= AIR CONDITIONING
BOC	= BACK OF CURB	COR.	= CORNER
		S.R.	= STATE ROAD

Imperial Marsh Preserve Cattle Lease Map Site 334
Exhibit B



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/23/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
DeSoto Moulton, LLC
243 N. Brevard Ave
P. O. Box 880
Arcadia, Florida 34265-0880
Phone: (863)494-2242
Fax: (863)494-1991

CONTACT NAME: Marsha McMillan
PHONE (A/C, No, Ext): (863)494-2242 **FAX (A/C, No):**
E-MAIL ADDRESS: msm@desotomoulton.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Southern-Owners Insurance Company	10190
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Barry Stinson
190 Matanzas St
Ft. Myers Beach, FL 33931

COVERAGES **CERTIFICATE NUMBER:** 2512 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	✓ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ✓ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ✓ POLICY ☐ PRO-JECT ☐ LOC OTHER:			20710126	7/25/2018	7/25/2019	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 50,000 $ 5,000 $ 1,000,000 $ 1,000,000 $ 1,000,000
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
	☐ UMBRELLA LIAB ☐ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N ☐ (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					☐ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

LEE COUNTY HOMES ASSOCIATES III LLLP is listed as Additional insured
LEE COUNTY BOCC - is listed as additional insured.
Sec 20, TWP 45, RGE 27 - - Lehigh Acres - Florida
Sec 25 Twp 45S Rge 26E - - Lehigh Acres - Florida

CERTIFICATE HOLDER
Holder's Nature of Interest : Certificate Holder
Lee County BOCC
Parks & Recs., Conservation 2020
3410 Palm Beach Blvd.
Ft. Myers, FL 33916

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Imperial Marsh #334

LEE COUNTY PARKS AND RECREATION
DEPOSIT RECEIPT

PROGRAM: Cattle lease DATE: 08.17.18

NAME: Cindy Mitan PHONE #: 533-7414

CHECK	CASH	NAME ON CHECK	DEPOSIT INTO ACCOUNT NAME & NUMBER	AMOUNT
2151		Patricia A. Stinson		$58.50
		KH5N2203010S.347290908 11		
		Imperial Marsh #0240		

PATRICIA A. STINSON
190 MATANZAS ST.
FT MYERS BEACH, FL 33931

2151
63-9138/2631

8-8-18
Date

PAY to the order of B.O.C.C. $ 58.50

Fifty-eight dollars + 50/100 Dollars

Photo Safe Deposit® Details on back

BB&T BRANCH BANKING AND TRUST COMPANY
1-800-BANK BBT BBT.com

For cow lease Signature Patti Stinson MP

⑆263191387⑆ 1000012674911 02151

Harland Clarke

SIGNATURE C. Mitan TOTAL $58.50

Inter-Department Agreement between Parks and Recreations – Conservation 20/20 and Lee County Utilities to Exchange Land

This Inter-Department Agreement between Parks and Recreations – Conservation 20/20 (20/20) and Lee County Utilities (LCU) is for the purpose of memorializing the following described land exchange between these two County departments.

20/20 has a 31.89+/- acres parcel of land that is part of Wild Turkey Strand (Conservation 20/20 Nomination 90). This parcel is heavily disturbed and not desirable for conservation purposes. It is located along the north side of Alico Road, near the location where Alico Road curves to Corkscrew Road, further described in Exhibit "A" attached hereto. 20/20 will be provided access over and across this property to enter the adjoining Wild Turkey Strand Preserve.

LCU has a 48.5+/- acre parcel of land previously purchased to support the Corkscrew Water Treatment Plant (CWTP) well field, further described in Exhibit "B" attached hereto. Since its purchase, the property surrounding it has been rezoned and approved for residential use, a development known as "The Place". The abutting property is designated as preserve, making LCU's property more appropriate for a 20/20 conservation use, thus creating a continuous uninterrupted preserve corridor for approximately four (4) miles. The parcel is located along the north side of Corkscrew Road, east of the CWTP and has a groundwater source well located upon its southerly boundary. LCU will retain the southerly 250 feet, less the easterly and westerly 60 feet, totaling 4.02 +/- acres. Also, LCU retains the subsurface use of the easterly and westerly 60 feet for infrastructure to connect to, pass through and continue underground operations.

<u>The land area calculations are as follows:</u>

Net parcel size of LCU's exchange parcel is 44.56 acres (48.58 acres - 4.02 acres being retained by LCU)

20/20 Parcel size is 31.89 acres

LCU's exchange parcel is 12.67 acres greater than the 20/20 parcel

To offset for the difference, 20/20 will transfer $100,000 to LCU reserves account

Exhibit "A"

1 of 2

LEGAL DESCRIPTION

TO BE DETERMINED

Exhibit "A"

2 of 2

EXISTING SITE

LEE COUNTY PUBLIC WORKS UTILITIES DIVISION

APRIL 18, 2017

Exhibit "B"

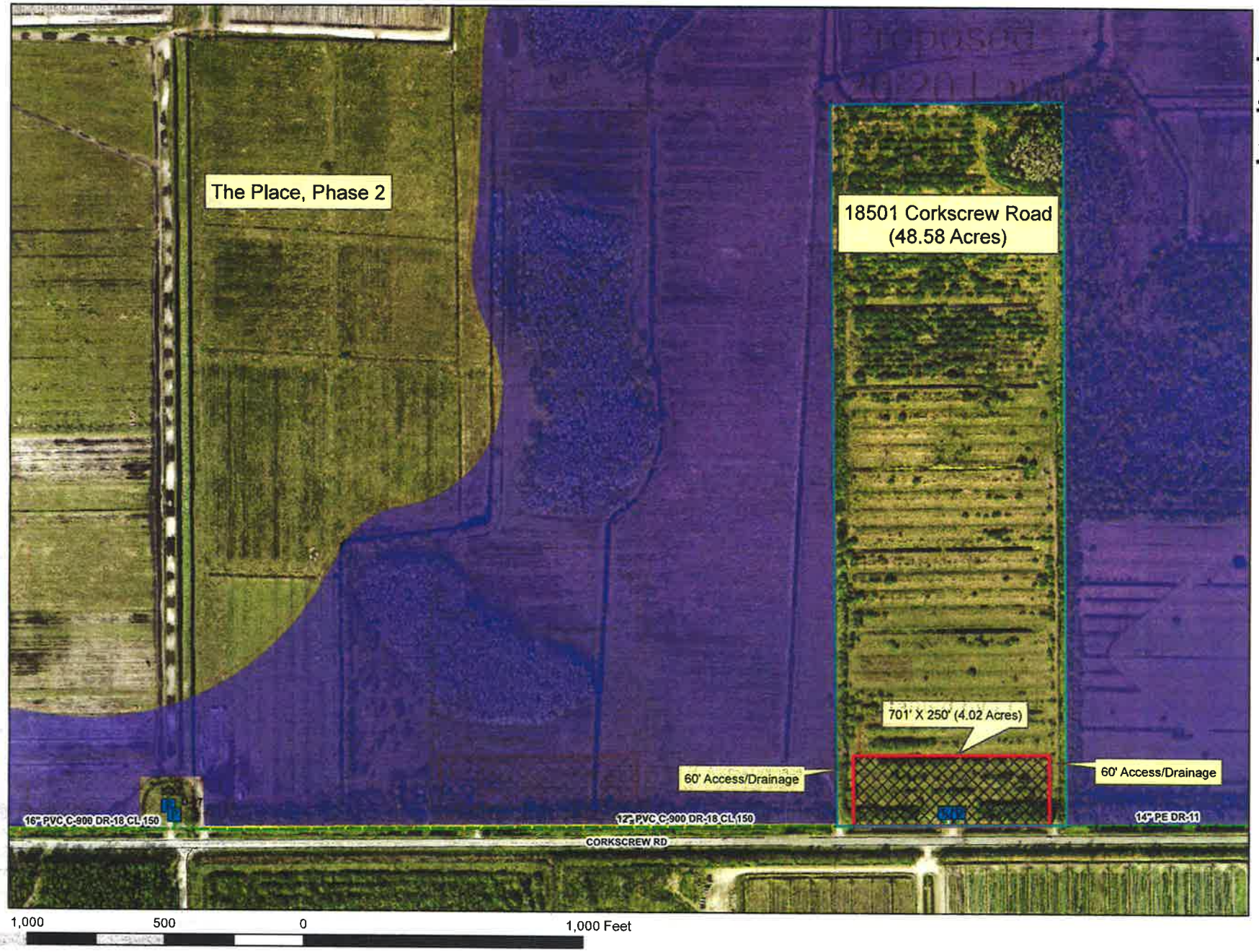
1 of 2

The West one-half (W ½) of the following described property: The South one-half (S ½) of the West three-quarters (W ¾) of Section 19, Township 46 South, Range 27 East, Lee County, Florida. Less the West 2310 feet thereof and less any portion which lies within the Right-of-Way of Corkscrew Road;

Also, less the South 250 feet (North of Corkscrew Road's Northerly right of way), less the Easterly and Westerly 60 feet of the aforementioned South 250 feet.

Exhibit "B"

2 of 2



Proposed 20/20 Land Swap

Legend

Raw Water Well

SUBTYPE

Raw Water Main

Easements

TYPE1

Utility

Conservation

Retained by LCU

N

W E

S

MEMORANDUM OF UNDERSTANDING
BETWEEN LEE COUNTY, FLORIDA
AND THE
LEE COUNTY PORT AUTHORITY
FOR THE USE OF CONSERVATION 20/20 LANDS
FOR AVIATION-RELATED AIRPORT PROJECT MITIGATION

This Memorandum of Understanding is made this 5th day of April, 2011, by and between **LEE COUNTY**, a charter county and political subdivision of the State of Florida, ("County") and **LEE COUNTY PORT AUTHORITY ("LCPA")**, a special district and political subdivision of the State of Florida.

WHEREAS, the Lee County Board of County Commissioners holds title to all Lee County Lands, including lands designated as Conservation 20/20 Lands, the Southwest Florida International Airport and Page Field General Aviation Airport; and

WHEREAS, under the authority granted by Chapter 63-1541 Laws of Florida and Lee County Ordinance (LCO) No. 01-14, the LCPA is responsible for managing Lee County airport lands in accordance with airline and other agreements, as well as Federal Aviation Administration (FAA), Florida Department of Transportation (FDOT), and other federal and state regulatory requirements; and

WHEREAS, the Lee County Conservation 20/20 Lands Program (Conservation 20/20) was established in 1997 as a local program for the "acquisition and management of environmentally critical or sensitive lands for the protection of natural flood plains, marshes or estuaries, for surface water management and water supply, for the restoration of altered ecosystems; and to provide wildlife management areas and recreation opportunities; and the conservation of said natural resources"; and

WHEREAS, after Lee County purchases property under the Conservation 20/20 program, a management plan is adopted and actions are taken to restore the property consistent with an adopted Land Stewardship Plan; and

WHEREAS, the acquisition, restoration, and management costs for Conservation 20/20 lands are funded by an annual Lee County property tax levy; and

WHEREAS, in accord with LCO 05-17, ten percent of the annual amount collected as a result of the levy is set aside in trust to enable the restoration and perpetual maintenance of, and public access to, the lands purchased under the Conservation 20/20 Lands program; and

WHEREAS, in addition to the funds set aside in trust, Lee County also seeks other sources, such as grant funding, in order to restore and maintain the lands purchased in accordance with the adopted Land Stewardship Plans; and

C9a
4-5-11

WHEREAS, the LCPA is responsible for providing aviation transportation infrastructure that is essential to the economic prosperity of southwest Florida and proposed aviation-related airport projects are anticipated to require environmental mitigation to offset project impacts; and

WHEREAS, LCPA is willing to assist the County in restoring and maintaining certain Conservation 20/20 lands, in a manner consistent with the adopted Land Stewardship Plans, as a means of discharging the environmental mitigation obligations imposed by state and federal permitting agencies for future aviation-related development on Airport Lands; and

WHEREAS, this Memorandum of Understanding is intended to set forth the basic process, procedure and agreements applicable to LCPA restoration and maintenance of Conservation 20/20 Lands in a manner sufficient to allow this activity to satisfy environmental permit mitigation obligations imposed with respect to future aviation-related projects pursued by LCPA; and

WHEREAS, the Board of County Commissioners believes that a mutual benefit to LCPA, LCPA's partner airlines, the County and its citizens will be achieved by entering into this Memorandum of Understanding in that it will serve to reduce costs to Lee County taxpayers for restoration and enhancement of Conservation 20/20 Lands while reducing project costs for the LCPA and their partner airlines.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, County and LCPA agree as follows:

1. The recitals stated above are true and correct, and by reference are incorporated as a material part of this Memorandum of Understanding.

2. LCPA may restore and maintain Conservation 20/20 Lands in order to discharge aviation-related airport project mitigation obligations imposed by State and federal permitting agencies in accordance with the terms of this Memorandum of Understanding.

3. LCPA understands and agrees that restoration and maintenance activity conducted on Conservation 20/20 Lands will be accomplished consistent with the adopted Land Stewardship Plan, any grant conditions, or as otherwise specifically approved by Conservation 2020 staff. The parties recognize that Federal Aviation Administration (FAA) environmental guidelines seek to achieve goals that may be considered inconsistent with established Conservation 20/20 Land restoration and management goals. Consequently, the County and LCPA specifically agree to work together to fashion a mutually acceptable restoration and mitigation plan that will achieve, to the greatest extent possible, the goals of both entities.

4. LCPA agrees that the constraints with respect to "unmitigated or full" compliance with guidelines adopted by FAA, Florida Department of Transportation (FDOT) or other permitting entities on Conservation 202/20 Lands will be fully disclosed at the inception of the permitting process; and,

that County must be provided a meaningful opportunity to provide comments and input regarding the environmental restoration and maintenance program to be approved on Conservation 20/20 Lands.

5. LCPA will submit a "Conservation 20/20 Lands—Aviation-Related Airport Project Mitigation Request" ("Airport Mitigation Request") to Lee County Conservation 20/20 staff for each aviation-related airport project mitigation proposal desired by LCPA. The request must include, at minimum, the following information:

a. An overview of the specific project that the proposed mitigation is intended to support.

b. An estimate of the mitigation that will be required to support the proposed project.

c. Identification of the exiting Conservation 20/20 Lands the airport seeks to restore and maintain to discharge the estimated mitigation requirement.

d. An estimate as to when the proposed aviation-related project will be commenced.

e. An estimate as to when the mitigation on Conservation 20/20 Lands will be commenced and completed through the restoration phase.

f. The time period LCPA desires to have the designated Conservation 20/20 Lands set-aside for LCPA's benefit to meet its environmental mitigation obligation for the specified project.

6. Each "Airport Mitigation Request" will initially be presented to Conservation Lands Acquisition and Stewardship Committee (CLASAC) Management Subcommittee (MSC). The MSC will provide comments to County Conservation 20/20 staff for inclusion in the staff's report and recommendation to the full CLASAC. After CLASAC has considered the "Airport Mitigation Request, the request along with the Conservation 20/20 staff recommendation will be forwarded to LCPA for presentation to the Airports Special Management Committee and the Board of Port Commissioners. LCPA will provide sufficient notice to Conservation 20/20 staff regarding the scheduling of the County recommendation before the ASMC and the Port Commissioners to allow attendance and participation at these meetings. Once review by ASMC and Port Commissioners is complete, the Conservation 20/20 staff recommendation and any comments provided by ASMC and Port Commissioners will be considered by the BOCC, who will take the final action upon the request. This process is intended to be similar to how other airport related land items are handled and will allow the Port Board action to be followed by the BOCC action at the same meeting.

7. Each BOCC approved "Airport Mitigation Request" will serve to reserve Conservation 20/20 lands for aviation-related airport mitigation for the designated period of time as identified in the BOCC approval.

8. Once an "Airport Mitigation Request" is approved by the BOCC, LCPA will work with County Conservation 20/20 staff and the regulatory permitting agencies to develop a Restoration and Management Plan" consistent with the BOCC approval and paragraph 3 above. The Restoration and Management Plan will specifically detail the activities to be conducted on the Conservation 20/20 Lands as mitigation supporting LCPA permit approval for the specified aviation-related project. The Restoration and Management Plan provisions will also be based on applicable permit conditions, outline

the restoration/mitigation to be performed, address recreational use and public access to the property, establish maintenance plans and responsibilities of Lee County and the LCPA as well as other issues pertinent to the perpetual maintenance and management of the property as Conservation 20/20 Lands.

9. Each "Restoration and Management Plan" established will be consistent with the adopted Conservation 20/20 Land Stewardship Plan, FAA and other jurisdictional agency regulations including restrictions regarding the creation or enhancement of wildlife attractants near airports to the extent reasonably possible and as mutually agreed between LCPA and Conservation 20/20 staff. Each "Restoration and Management Plan" will also be approved by the appropriate County and LCPA committees and Boards.

10. All enhancement, restoration, and mitigation work on Conservation 20/20 lands will be paid for and performed by the LCPA. LCPA will be permitted to "use" Conservation 20/20 lands to support permit approvals for aviation-related development on airport property without reimbursement to the Conservation 20/20 Lands program.

11. No authority or right to grant an easement or otherwise encumber the title to Conservation 20/20 Lands is granted to the LCPA under this Memorandum of Understanding beyond the ability to indentify certain Conservation 20/20 Lands as "Conservation 20/20—Aviation-Related Airport Project Mitigation" as set forth herein.

12. Any Conservation 20/20 lands used for aviation-related airport project mitigation may be designated as "Conservation20/20--Aviation-Related Airport Project Mitigation" on the Airport Layout Plan and Conservation 20/20 Land maps. The intent of these maps is to identify the Conservation 2020 Lands "used" to satisfy aviation-related airport project permit mitigation requirements. This label/designation does not change Lee County's ownership of the Lands as Conservation 20/20 Land, eliminate the requirement for the lands to be managed consistent with Conservation 20/20 principles, or make any Conservation 20/20 Lands "airport" property.

13. Compliance with all airport project permit conditions including long term/perpetual maintenance within the "Airport Mitigation Request" areas will be the primary responsibility of the LCPA. This provision contemplates full physical and financial responsibility to maintain any lands identified as "Conservation 20/20—Aviation-Related Airport Project Mitigation" on the Airport Layout Plan or Conservation 20/20 Land maps even after LCPA meets the permit success criteria.

14. Recreational and other uses of "Airport Mitigation Request" areas will be in accordance with regulatory permits and the Conservation 20/20 Lands Program principles. LCPA understands and agrees that public access to Conservation 20/20 Lands is an important aspect of the Conservation 20/20 Lands program; and, restoration and maintenance of Conservation 20/20 Lands under the terms of this Memorandum of Understanding will not prevent public access to any property identified as "Conservation 20/20—Aviation-Related Airport Mitigation Project".

15. Nothing in this memorandum obligates County to allow use of Conservation 20/20 Lands for any airport project mitigation and nothing in this memorandum prevents the LCPA from utilizing other mitigation options to satisfy permit requirements.

16. The parties agree that this Memorandum of Understanding will remain in effect for a period of 20 years.

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have executed this agreement on the date first above written.

By: _____
Chair, Board of County Commissioners

ATTEST:
CHARLIE GREEN, CLERK

By: _____
Deputy Clerk

APPROVED AS TO FORM:

_____
Lee County Attorney's Office

LEE COUNTY, FLORIDA

By: _____
Chair, Board of Port Commissioners

ATTEST:
CHARLIE GREEN, CLERK

By: _____
Deputy Clerk

APPROVED AS TO FORM:

_____
Port Authority Attorney's Office

LEE COUNTY PORT AUTHORITY

CONSERVATION 20/20 LANDS
AVIATION-RELATED AIRPORT PROJECT MITIGATION REQUEST
#1
SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
I-75 ACCESS ROADWAY SYSTEM

In accordance with the Memorandum of Understanding between Lee County and the Lee County Port Authority dated 4/5/11 regarding the use of Conservation 20/20 Lands for an Airport Mitigation Project , the following Conservation 20/20 Lands—Aviation-Related Airport Project Mitigation Request is submitted for consideration:

Background:

The Southwest Florida International Airport (RSW) is a medium hub commercial service airport serving Southwest Florida. RSW provides intermodal transportation facilities to accommodate nearly 8 million passengers per year with over 30 airlines, direct international service to Canada and Germany, and provides over $3.6 billion of economic impact to the region each year and supports over 64,000 jobs, with 4,000 people currently working at the airport.

As the two largest and significant transportation facilities in southwest Florida, a more direct connection between I-75 and the Southwest Florida International Airport (RSW) is needed. Ben Hill Griffin Parkway/Treeline Avenue currently serves as the primary entrance roadway serving RSW. With the projected growth of the surrounding area and FGCU, the current and projected congestion on I-75 and the project passenger growth of RSW, Ben Hill Griffin Parkway/Treeline Avenue is expected to experience congestion in the near future. A direct connection will serve to offset the projected congestion.

The project is currently under design and is programmed for construction by FDOT.

Requested Use of Conservation 20/20 Preserves:

The LCPA has assessed several Lee County Conservation 20/20 Lands Program parcels as potential mitigation for the RSW Interstate 75 (I-75) CD Access Project. The proposed project is to construct a new interchange and east/west alignment to provide direct access to and from the RSW Terminal Access Road to I-75. Five C20/20 parcels have been identified that potentially meet the mitigation requirements for the SWFIA I-75 CD Access Project. Two of the parcels, identified as Nos. 321 and 334, are part of the overall Imperial Marsh Preserve and abut the LCPA's Mitigation Park. The other three parcels are part of the Six Mile Cypress Slough Preserve and are identified as Nos. 53, 239, and 347. An aerial delineating the potential mitigation parcels is attached as Exhibit 1-A.

C20/20 Parcel Nos. and Acreages for SWFIA I-75 CD Access Project

Lee County 20/20 Parcel No.	Acreage
Parcel No. 53	35.01
Parcel No. 239	105.64
Parcel No. 321	155.45
Parcel No. 334	78.18

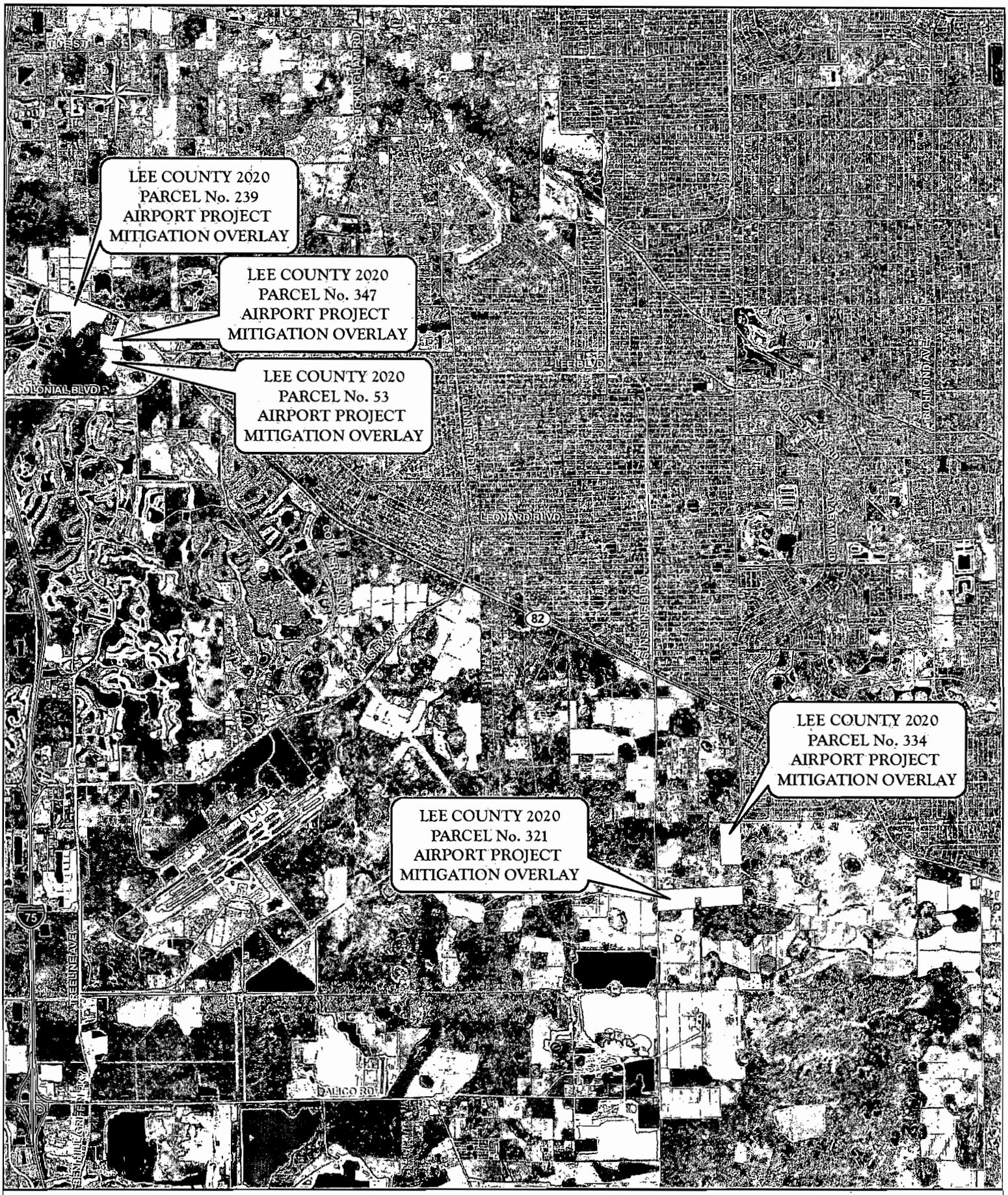
C20/20 Parcel Nos. and Acreages for SWFIA I-75 CD Access Project (Continued)

Lee County 20/20 Parcel No.	Acreage
Parcel No. 347	38.00
Total	**412.28**

The primary emphasis of the proposed mitigation plan for the three parcels will be the eradication and maintenance of exotic and nuisance species in accordance with the future permit requirements. Hydrological restoration will take place, and planting of native vegetation may be installed in areas where dense stands of exotics have been removed. A prescribed burn plan will be implemented targeting ecological objectives after the initial treatment and removal of exotic and nuisance plant species has been completed. The prescribed burn plan for mitigation areas will be a program that mimics the natural fire cycle for the various habitat types identified. Portions of the fallow farm fields on Parcel Nos. 321 and 334 may be restored to historic habitat types or utilized for wetland creation. Maintenance, monitoring, and management will be the responsibility of the LCPA. The overall mitigation plan will adhere to the goals identified in the respective Land Stewardship Plans.

Reservation Period: The Lee County Conservation 20/20 Lands shown in Exhibit A will be identified as "Approved Airport Mitigation Request Area" and reserved for this use from the date of final approval of this request by the Board of Port Commissioners and Board of County Commissioners until the date specified by the Board of County Commissioners or January 1, 2015, whichever occurs first. This request may be extended, modified or cancelled at any time by written agreement of the parties in accordance with the procedure identified in the Memorandum of Understanding.

INSERT EXHIBIT 1-A



LEE COUNTY PORT AUTHORITY
Southwest Florida
International Airport

EXHIBIT 1-A
SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
I-75 ACCESS ROADWAY SYSTEM
AIRPORT PROJECT MITIGATION

DRAFT

Conservation 20/20 Staff Recommendation
Airport Aviation-Related Mitigation Request #1
SWFIA I-75 CD ACCESS PROJECT
March 2011

Due to the programmed construction of the SWFIA I-75 CD Access Project, as indicated in the Port Authority submittal, the Port Authority is pursuing its first Aviation-Related Airport Project Mitigation Request in conjunction with the adoption of the underlying Memorandum of Understanding between Lee County and Lee County Port Authority (MOU). This initial request loosely followed the protocol set forth in the MOU. [For example: Request #1 did not provide the level of detail contemplated by MOU paragraph 5 or the full review, recommendation and approval process set forth in MOU paragraph 6]. Given the Port Authority's expressed immediate need for identified/reserved aviation-related mitigation areas, Conservation 20/20 (C20/20) staff recommends Board approval of Request #1 as follows:

1. Port Authority will directly involve the C20/20 staff in the permitting process with respect to C20/20 Lands "used/reserved" to support the mitigation requirements necessary to support the SWFIA I-75 CD Access Project. This will include meaningful opportunities for input on the type, timing and approval of the mitigation requirements supporting state and federal permit approvals related to the environmental mitigation for the SWFIA I-75 CD Access Project.

2. The following parcels, identified using C20/20 nomination numbers 53, 239, 321, 334 and 347, will be labeled on C20/20 maps and other County and Airport maps and documents as "*Tentative* Conservation 20/20 Lands-Aviation-Related Airport Project Mitigation" until such time as the local, state and federal permits are issued to conduct the proposed mitigation for the SWFIA I-75 CD Access Project (allowing "*Tentative*" to be removed) or January 1, 2015 (when the full label may be removed), whichever occurs first. Any request to extend the "reservation" period beyond January 1, 2015 will be based upon review of the progress in achieving the required permits for the SWFIA I-75 CD Access Project and must be formally approved by the Board of County Commissioners.

3. The mitigation approved, as part of the permitting process, must be consistent with the provisions set forth in the MOU including, but limited to, those pertaining to compliance with C20/20 principles and adopted Land Stewardship Plans, Federal Aviation Administration guidelines and other applicable regulations.

4. The "Restoration and Management Plan" established as a result of the permitting process for the "reserved" parcels will be reviewed and approved by the Board of County Commissioners prior to its implementation.

5. The use of the lands for airport aviation-related mitigation may not be transferred to another aviation-related project without submittal of a new request complying with all aspects of the adopted MOU.

CONSERVATION 20/20 LANDS
AVIATION-RELATED AIRPORT PROJECT
MITIGATION REQUEST #2
SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
FPL TRANSMISSION LINE RELOCATION PROJECT

In accordance with the Memorandum of Understanding (MOU) between Lee County and the Lee County Port Authority (LCPA) dated April 5, 2011 regarding the use of Conservation 20/20 Lands for an Airport Mitigation Project, the following Conservation 20/20 Lands Aviation-Related Airport Project Mitigation Request is submitted for consideration:

Background:

The Southwest Florida International Airport (SWFIA) is a medium hub commercial service airport servicing Southwest Florida. SWFIA provides intermodal transportation facilities to accommodate nearly 8 million passengers per year with over 30 airlines with direct international service to Canada and Germany, and it provides over $3.6 billion of economic impact to the region each year and supports over 64 thousand jobs, with 4 thousand people currently working at the airport.

The proposed expansion of the future Parallel Runway at SWFIA will require the relocation of Florida Power & Light (FPL) Transmission Lines within the Runway Protection Zone (RPZ) and the eastern end of the approach slope. A portion of the FPL Transmission Line Relocation Project falls within the boundary of the Lee County Conservation 20/20 Wild Turkey Strand Preserve (WTSP).

The FPL Transmission Line Relocation Project is acknowledged in the WTSP Land Stewardship Plan (LSP) (2010 Second Edition). Specifically, the WTSP LSP states that based on existing airport plans, limitations including land use restrictions, tree height maintenance, periodic tree trimming, and possible future land acquisition for expansion of the airport (including the relocation of existing FPL power lines) may occur within a triangular portion of 229± acres of WTSP.

Requested Use of Conservation 20/20 Preserves:

The five parcels previously evaluated under Airport Mitigation Request #1 have been incorporated into this new mitigation request and include Parcel Nos. 53, 239, 321, 334, and 347. Parcel Nos. 321 and 334 abut the LCPA's Mitigation Park. The other three parcels are part of the Six Mile Cypress Slough Preserve and are identified as Nos. 53,239, and 347. An aerial delineating these parcels is attached as Exhibit 1-A. Also, a table summarizing the parcels by number and acreage is provided below.

C20/20 Parcel Nos. and Acreages for FPL Transmission Line Relocation Project

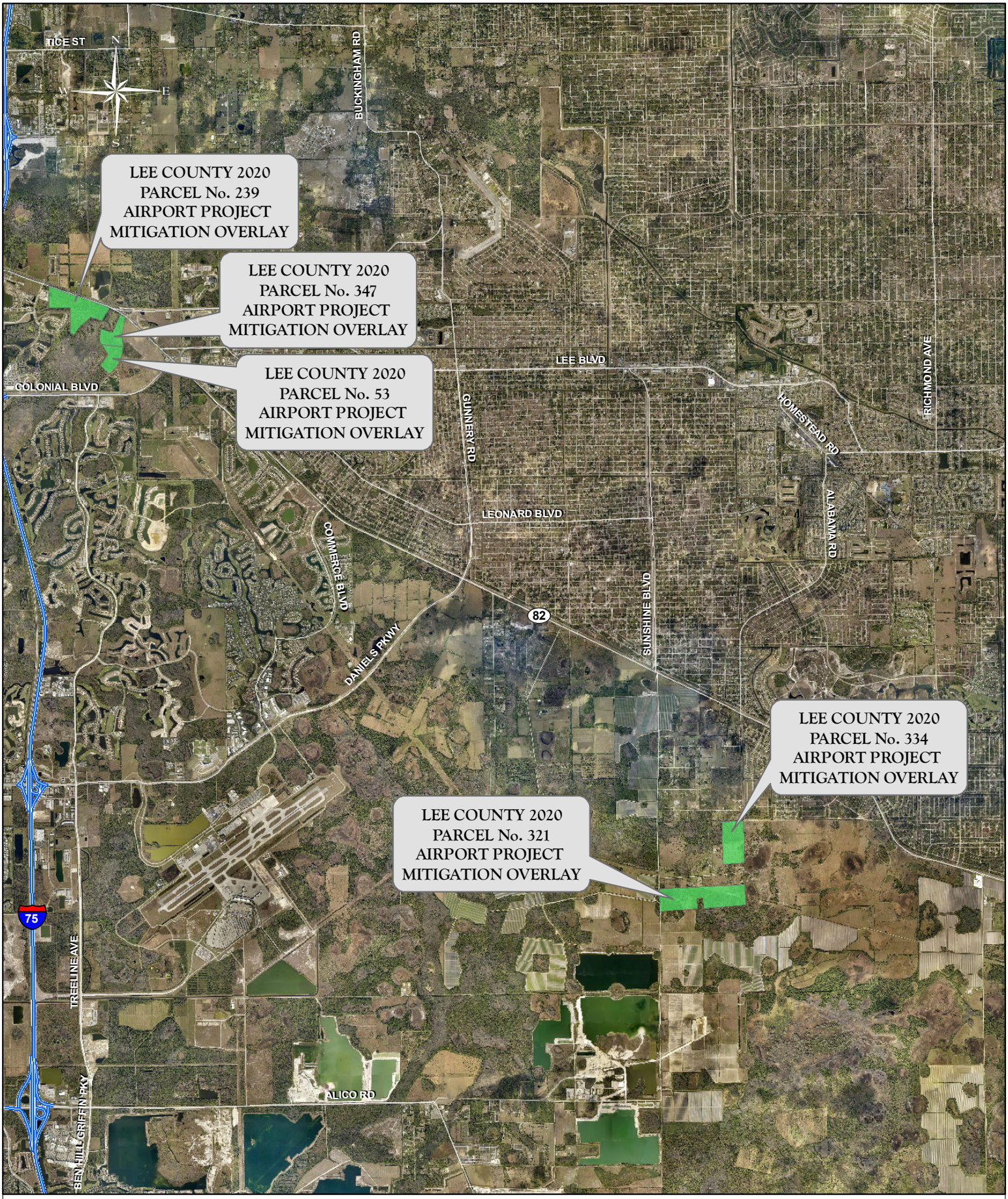
Lee County 20/20 Parcel No.	Acreage
Parcel No. 53	35.01
Parcel No. 239	105.64

C20/20 Parcel Nos. and Acreages for FPL Transmission Line Relocation Project (Continued)

Lee County 20/20 Parcel No.	Acreage
Parcel No. 321	155.45
Parcel No. 334	78.18
Parcel No. 347	38.00
Total	**412.28**

The primary emphasis of the proposed mitigation plan for the five parcels will be the eradication and maintenance of exotic and nuisance species in accordance with the future permit requirements. Hydrological restoration will take place and planting of native vegetation may be installed in areas where dense stands of exotics have been removed. A prescribed burn plan will be implemented targeting ecological objectives after the initial treatment and removal of exotic and nuisance plant species has been completed. The prescribed burn plan for mitigation areas will be a program that mimics the natural fire cycle for the various habitat types identified. Maintenance, monitoring, and management will be the responsibility of the LCPA. The overall mitigation plan will adhere to the goals identified in the respective LSP.

Reservation Period:
The Lee County Conservation 20/20 Lands shown in Exhibit 1-A will be identified as "Approved Airport Mitigation Request Area" and reserved for this use from the date of final approval of this request by the Board of Port Commissioners and Board of County Commissioners until the date specified by the Board of County Commissioners or January 1, 2021, whichever occurs first. This request may be extended, modified, or cancelled at any time by written agreement of the parties in accordance with the procedure identified in the MOU.



J:\2007\07DMJT10\GIS\2014\Environmental Working Group Presentation\Figures\Exhibit 1-A Aerial with Parcels 53_239_321_334_347.mxd - 5/1/2014 @ 2:27:29 PM

LEE COUNTY PORT AUTHORITY
Southwest Florida International Airport

EXHIBIT 1-A
SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
FPL TRANSMISSION LINE RELOCATION