

**BELLEAIR COUNTRY CLUB**

**SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT**  
**ERP APPLICATION - ENVIRONMENTAL NARRATIVE**

**JANUARY 2020**

**Prepared by:**



**Birkitt Environmental Services, Inc.**  
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**Safety Harbor, FL 34695**

**Belleair Country Club**  
**SWFWMD ERP Application – Environmental Narrative**  
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## **1.0 INTRODUCTION**

The Belleair Country Club West Golf Course project is a private golf course redesign that incorporates sustainable golf course practices such as xeriscaping, as well as the restoration of some portions of the course to match original existing conditions. The golf courses on the site were originally designed and constructed prior to 1900. This project is located within Sections 20, 21, 28 and 29 of Township 29 South, Range 15 East of Pinellas County, Florida, bounded by Bayview Drive on the south and Indian Rocks Road on the east.

In addition, the applicant is applying for authorization from the United States Army Corps of Engineers (USACE) concurrently with this application.

## **2.0 DESCRIPTION OF THE PROJECT**

### **2.1 Project Location**

The project is located in Section 21, Township 29 South, Range 15 East, Section 28, Township 29 South, Range 15 East, and Section 29, Township 29 South, Range 15 East within the Upper Coastal Drainage Basin. It is in the Town of Belleair, Pinellas County, Florida (Figure 1.0 – Location Map). It is located west of Indian Rocks Rd. and north of Bayview Dr.

### **2.2 Property Ownership**

The project area is comprised of two (2) parcels. The majority of the project area is encompassed under Parcel No. 21-29-15-06480-000-0100, which is owned by the Belleview Biltmore Country Club Corp (Applicant). The other smaller parcel is owned by the Town of Belleair (Co-Applicant), Parcel No. 29-29-15-00000-110-0100.

### **2.3 Project Description**

The entire 18-hole west golf course will be regraded, excepting the existing ditch/creek areas. The existing land use will not change. Greens, tees and fairways will be relocated, and a new subsurface drainage system and irrigation system will be installed to accommodate the new grading and critical features. All existing cart paths will be removed and new cart paths constructed, adding 0.51 acres of impervious surface.

Existing ponds located in areas of regrading were installed post 1984 to provide storage for irrigation water. Reclaimed irrigation water supplied from the Town of Belleair will now be pumped around the west course and stored in the primary reclaimed storage pond located on the east course. Proposed grading reflects pre-pond conditions with reestablishment of meandering ditching in the southern area of the site.

The course will be expanded to the southwest into the peninsula area that is half owned by the Country Club and the remaining half is owned by the Town of Belleair. Permissions to utilize this property for the purposes of extending the golf course are by lease from the Town. The peninsula area contains two small areas of existing wetlands which will be removed for the course redevelopment.

A request for modification to the Country Club's Water Use Permit has been submitted and is awaiting further review from the Southwest Florida Water Management District (SWFWMD). The club would like to withdrawal water from Rattlesnake Creek upstream of the existing weir for use in irrigation water blending to provide better quality. As part of this project a small manhole wet well structure will be installed on the upper bank of the creek with a small diameter pipe and box screen inserted in the pooling are of the creek.

The site will be restored in accordance with the landscaping plan. Areas identified to be restored with native plants will not require fertilization. The overall area to be fertilized post-construction will be reduced from approximately 83 acres to less than 66 acres

### **3.0 EXISTING ECOLOGICAL CONDITIONS**

The wetlands and existing conditions onsite were evaluated by first performing a desktop analysis of the site using true-color aerial imagery, photo-interpretation, and publically available data accessible through the online databases. Desktop research included the analysis of readily available data accessible through state online databases including Florida Land Use Cover and Forms Classification System (FLUCFCS – see attached Figure 2.0), Natural Resources Conservation Service (NRCS – Figure 3.0) hydric soils data, and National Wetlands Inventory (NWI – Figure 4.0) data. The assessment also consisted of a review of historic aerial imagery to determine the history of onsite wetlands/surface waters.

Following the desktop evaluation, Birkitt staff conducted a site visit on November 15, 2019 in order to delineate the extents of on-site wetlands (see Attachment A – Wetland/Surface Water Plan). The delineation was implemented according to the criteria found in the F.A.C. 62-340 – “Delineation of the Landward Extent of Wetlands and Surface Waters”.

#### **3.1 Wetlands**

##### **Wetland 1**

Wetland 1 is approximately 0.20 acres and is located in the southwest portion of the project. This herbaceous wetland (FLUCFCS 641) is dominated by nuisance/exotic species including Peruvian primrosewillow (*Ludwigia peruviana*), cattail (*Typha spp.*), and Brazilian pepper (*Schinus terebinthifolia*). It appears to receive seepage flow from the adjacent golf course and it is hydrologically connected to the adjacent Gulf of Mexico via an underground pipe.

##### **Wetland 2**

Wetland 2 is approximately 0.02 acres and is located in the southwest portion of the project just north of Wetland 1. This herbaceous wetland (FLUCFCS 641) is dominated by nuisance/exotic species including Peruvian primrosewillow (*Ludwigia peruviana*), cattail (*Typha spp.*), and torpedograss (*Panicum repens*). It is hydrologically isolated and does not share a connection with any adjacent wetlands or surface waters. Compliance with ERP Applicant's Handbook (Vol. 1) Sections 10.2.2 through 10.2.3.7 and 10.2.5 through 10.3.8 is not required for impacts to this wetland pursuant to Section 10.2.2.1.

### 3.2 Other Surface Waters

The project area contains a total of four (4) open surface water ponds totaling approximately 5.02 acres. Pond 4 is part of a permitted stormwater management system (ERP No. 19267.001) and is exempt based on 62-340.700(a). Ponds 1, 2, and 3, were constructed for the purpose of stormwater treatment prior to a construction permit being required under Chapter 403 F.S. and are therefore exempt pursuant to 62-340.700(b). The ponds are hydrologically connected via a culvert system which also connects to the surface water/ditch and creek and drain offsite to Clearwater Harbor.

**Table 1.0 – Surface Waters (Ponds)**

<b>Surface Water ID</b>	<b>Size (Acres)</b>
Pond 1	2.17
Pond 2	1.91
Pond 3	0.27
Pond 4	0.67
<b>Total (Ponds)</b>	<b>5.02</b>

In addition, the west golf course contains a creek (Rattlesnake Creek) that runs through the northeast portion and one surface water/ditch located within the west central portion of the property.

**Table 2.0 – Surface Waters (Creeks and Ditches)**

<b>Surface Water ID</b>	<b>Size (Acres)</b>
Creek 1 (Rattlesnake Creek)	0.18
Ditch 1	0.27
<b>TOTAL (Creek/Ditch)</b>	<b>0.45</b>

### 3.3 Uplands

The majority of the project area contains uplands previously developed as part of the existing golf course. These areas are dominated by upland golf course turf grasses with some limited forested coverage of landscaping species. The golf course clubhouse, along with recreational facilities including tennis courts and a swimming pool, are located in the north-central portion of the project area.

### 3.4 Soils

According to the United States Department of Agriculture National Resources Conservation Service (NRCS) Web Soil Survey and the Hydric Soils of Florida Handbook, the entirety of the site contains non-hydric soils. The majority of the site is comprised of Myakka soils and Urban land, with smaller areas of Immokalee soils and Urban land in the western portion of the site, Matlacha and St. Augustine soils and Urban land and EauGallie soils and Urban land in the northern portion of the site, and Tavares fin sand-Urban land complex, 0 to 5 percent slopes in the southeastern portion of the site.

### 3.5 State Listed Species

The presence of and potential occurrence of listed species and their habitat were evaluated based on literature and field inspections of the property. Resources that were reviewed include but, are not limited to the Florida Natural Area Inventory (FNAI) Biodiversity Matrix, the FWC Bald Eagle Nest Locator, and FWC Wood Stork Nesting Colony and Core Foraging Area data. Based on the assessment, it was determined that the species listed in Table 1.0 below have the potential to occur on or adjacent to the project area.

**Table 3.0 – Potentially Occurring Listed Species in the Project Area**

Common Name	Scientific Name	State Status
Eastern indigo snake	<i>Drymarchon couperi</i>	ST
Florida Burrowing Owl	<i>Athene cunicularia floridana</i>	ST
Gopher Tortoise	<i>Gopherus polyphemus</i>	ST
Red-cockaded Woodpecker	<i>Picoides borealis</i>	FE
Wood Stork	<i>Mycteria americana</i>	FT

*C*(Candidate Species), *SSC* (State Species of Special Concern), *ST* (State-designated Threatened), *SE* (State-designated Endangered), *FT* (Federally-designated Threatened), *FE* (Federally-designated Endangered)

Birkitt scientists performed pedestrian surveys of the project site to record observations of any listed species potentially present within the area. One bald eagle was observed within the project area. No other endangered, threatened, or protected plant or animal species or indications of the presence of these species were observed within the area. The potential does exist for protected wading bird species, including wood storks (*Mycteria americana*), to utilize the ponds within the project area for foraging, however none of these species were observed and no nests were located.

The bald eagle is currently protected under the Bald and Golden Eagle Protection Act and therefore a review of the FWC Bald Eagle Nest Locator database was performed; subsequently there are no documented bald eagle (*Haliaeetus leucocephalus*) nests on or immediately adjacent to the project area. The nearest documented nest is located approximately 2.4 miles east of the site. During the site visit, a bald eagle was observed hunting fish from ponds within the east golf course, however no nests were observed. No impacts to the bald eagle are anticipated for the project.

Based on the FWC Wood Stork - Forage Areas and Wood Stork – Nesting Areas databases, the project is located within a wood stork core foraging area. The nearest documented nesting colony is located approximately 7.3 miles northeast of the site. Impacts to Suitable Foraging Habitat will be less than 0.5 acres and all habitat will be replaced by the proposed mitigation. Therefore, the affect for the wood stork was determined to be “Not Likely to Adversely Affect” (NLAA) for USFWS.

Based on the assessment, it is not likely that any protected species, including the Florida burrowing owl, red-cockaded woodpecker, gopher tortoise, and Eastern indigo snake inhabit the

the project site. Therefore, it is not anticipated that any impacts to these species will occur as a result of the project.

#### **4.0 PROPOSED ECOLOGICAL CONDITIONS/SURFACE WATER IMPACTS**

Potential impacts to onsite wetlands were quantified and are included as part of this application. Based on the footprint of the proposed site plan (see Attachment A) construction of the proposed project will result in a total of approximately 0.22 acres of permanent impact to the on-site wetlands. Table 2.0 contains a summary of the permanent impacts to the wetland communities associated with this project.

**Table 4.0 – Project Wetland Impact Summary**

<b>Wetland Name</b>	<b>Wetland Type</b>	<b>Impact Size (Ac.)</b>
Wetland 1	Freshwater Herbaceous	0.20
Wetland 2	Freshwater Herbaceous	0.02
<b>Project Totals</b>		<b>0.22</b>

#### **5.0 ELIMINATION AND REDUCTION OF WETLAND/SURFACE WATER IMPACTS**

Elimination and reduction of impacts to the on-site wetlands and surface waters were evaluated as part of the development of the site plan. Impacts to Rattlesnake Creek were avoided during the preparation of the plan, however impacts to the wetlands on the on-site peninsula were unavoidable due to their location within the interior of the proposed green.

The peninsula, located to the southwest of Belleair Country Club's West Course, approximately half of which is owned by the club and the other half by the Town of Belleair, is critical to the success of the Belleair CC renovation project. The West Course has been in its current footprint since it was originally constructed in 1915, which includes the spacing between the golf holes. Additionally, throughout decades past, the current clubhouse, parking, entry drives, tennis courts, pool complex and more was added into the interior of the course, taking up safety buffer space originally dedicated to the golf courses. Much has changed in recent golf playing technology since then, with golf shots being hit longer, and longer off-line. This increase in golf club and golf ball technology brought the buffer spaces into play much more often, compromising safety. The addition of a par 3 onto the peninsula, along with the elimination of another interior Par 3, allows for an increase in the spacing of golf holes thus making the course generally safer. This includes player safety, as well as car and pedestrian safety around the clubhouse.

Another benefit is that a new Par 3 onto the peninsula would create a truly world-class golf hole, significantly raising the beauty, strategy, and prominence of the golf course. In an age when many golf courses struggle, the addition of such a golf hole can have a very large, positive long-term impact on the golf facility. There is no question that would happen for Belleair Country Club.

Unfortunately, there is no feasible way of utilizing the peninsula without impacting the wetlands. The peninsula is the perfect size for a Par 3 golf hole, but if trying to avoid all or part(s) of the wetlands the space would become unusable.



## 6.0 PUBLIC INTEREST ASSESSMENT

The following public interest assessment was conducted pursuant to 62-330.302 F.A.C. The proposed impacts are not within an Outstanding Florida Water (OFW), therefore based on this rule the project must not be contrary to the public interest.

1. *Whether the activities will adversely affect the public health, safety, or welfare or the property of others;*

The proposed project will not adversely affect the public health, safety, or welfare of others.

2. *Whether the activities will adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats;*

Based on the protected species assessment discussed in Section 3.5, above, it is not anticipated that the project area includes any significant habitat for endangered or threatened species. In addition, all benefits provided to wildlife by these areas will be replaced by similar or higher quality habitat as part of the proposed mitigation. It is, therefore, not anticipated that the project will adversely affect the conservation of fish and wildlife.

3. *Whether the activities will adversely affect navigation or the flow of water or cause harmful erosion or shoaling;*

The proposed project includes a stormwater management system that will ensure that post-development runoff does not exceed pre-development conditions. During the construction of the proposed project, a Stormwater Pollution Prevention Plan (SWPPP) will be implemented, including Best Management Practices (BMPs) that will ensure that construction does not result in harmful erosion. It is, therefore, anticipated that the project will not adversely affect navigation or the flow of water or cause harmful erosion or shoaling.

4. *Whether the activities will adversely affect the fishing or recreational values or marine productivity in the vicinity of the activity;*

There are no marine or estuarine waters proposed for impact. It is anticipated that the Project will result in no change in the quality of waters flowing from the site, and therefore, it is not anticipated to adversely affect the fishing or recreational values or marine productivity in the vicinity.

5. *Whether the activities will be of a temporary or permanent nature;*

The project will be of a permanent nature.

6. *Whether the activities will adversely affect or will enhance significant historical and archaeological resources under the provisions of Section 267.061, F.S.; and*

It is not anticipated that the project will affect any significant historical and archeological resources. The project includes the re-alignment of the existing golf course only.

*7. The current condition and relative value of functions being performed by areas affected by the proposed activities.*

Compensatory mitigation via the purchase of mitigation bank credits is being provided. It is, therefore, not anticipated that the current condition and relative value of functions will be adversely affected by the proposed activities.

Based on the above public interest assessment, it is not anticipated that the project will be contrary to the public interest.

## **7.0 UMAM ANALYSIS AND PROPOSED MITIGATION**

### **7.1 UMAM Analysis**

The Uniform Mitigation Assessment Method (UMAM) (Chapter 62-345, F.A.C.) is the state of Florida's standardized methodology utilized to determine the amount of mitigation required to offset adverse impacts to wetlands and other surface waters. In assessing wetland function, UMAM considers three primary functional categories: location and landscape support, water environment, and community structure. A UMAM analysis was performed for the impacts associated with the construction of the proposed project to determine the level of functional loss to the on-site surface water. This assessment also determined how many mitigation units would be required to provide the level of functional gain needed to offset these impacts.

Based on the analysis, the total functional loss associated with on-site impacts is 0.08 UMAM credits (Table 3.0) for approximately 0.20 acres of impacts to Wetland 1. No mitigation is proposed for impacts to Wetland 2 pursuant to ERP Applicant's Handbook (Vol. I) 10.2.2.1. This assessment also determined how many mitigation credits would be required to provide the level of functional gain needed to offset these impacts. See Attachment B for Part I and II UMAM forms.

**Table 5.0 – UMAM Functional Loss**

<b>Wetland Type</b>	<b>Impact Type</b>	<b>Impact Acreage</b>	<b>Functional Loss</b>
Freshwater Herbaceous (PEM)	Direct	0.20	0.08
<b>Total</b>		0.20	0.08

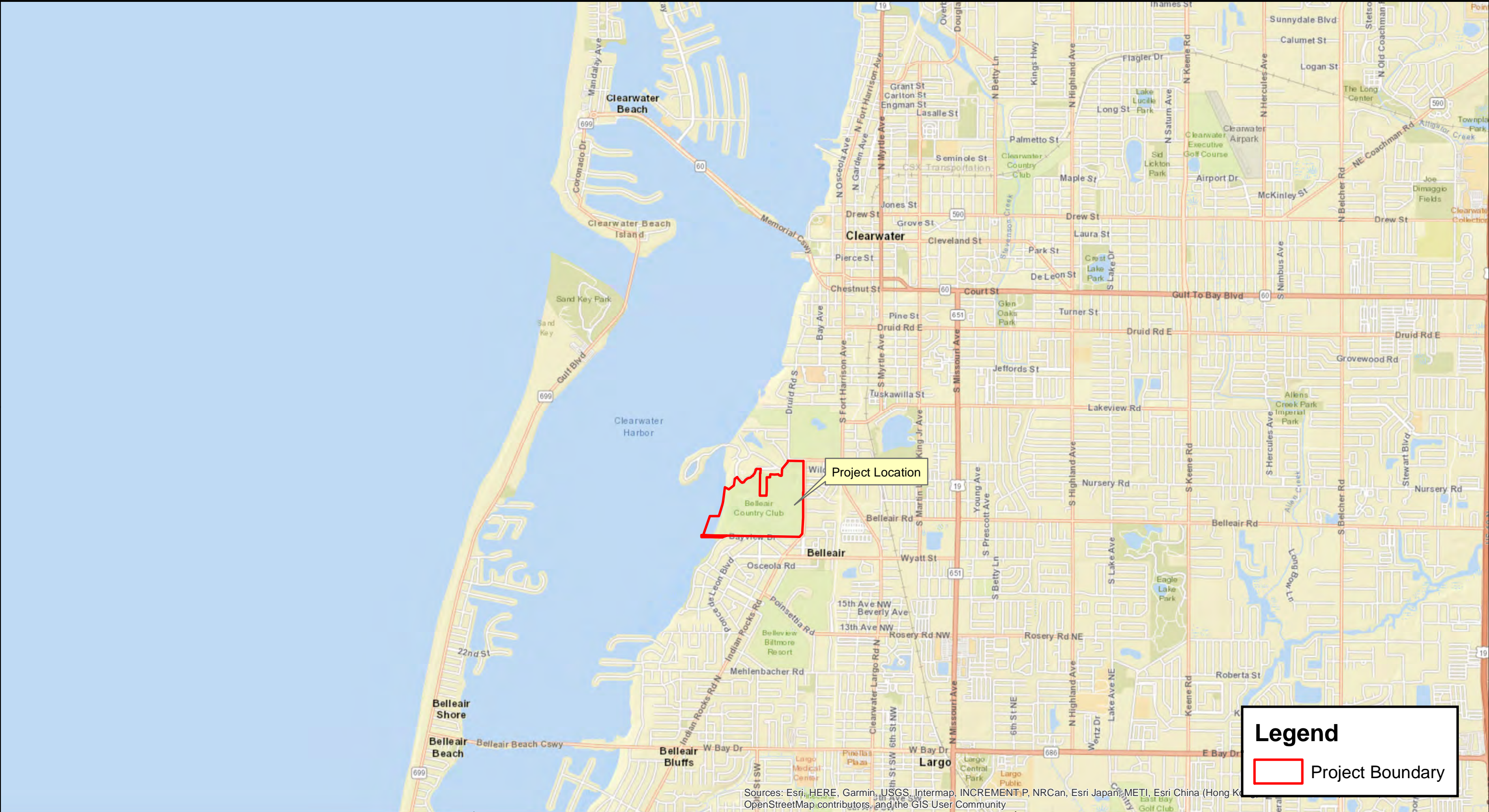
### **7.2 Proposed Mitigation**

In order to provide compensatory wetland mitigation in accordance with Chapter 62-345, F.A.C., the applicant proposes the purchase of 0.08 freshwater herbaceous credits from the Old Florida Mitigation Bank (OFMB). The project is located within the Mitigation Service Area (MSA) of this bank and sufficient credits are currently available.



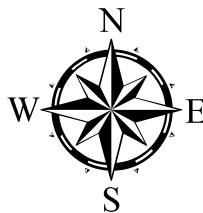
## FIGURES





Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox, OpenStreetMap contributors, and the GIS User Community

**Figure 1.0**  
**Project Location**  
Belleair Country Club  
Pinellas County, Florida



0 0.25 0.5 1 Miles  
NAD 83, State Plane Florida West [Feet]



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







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Source: StreetMap USA  
Creation Date: 12/18/18  
Author: Birkitt GIS Department (RT)  
File Path: T:\Belleair CC\Maps\SWFWMD\  
Fig 1.0 Location

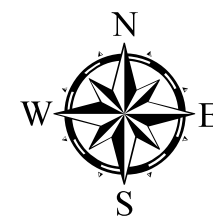




**Legend**

-  Project Boundary
-  BAYS AND ESTUARIES
-  COMMERCIAL AND SERVICES
-  GOLF COURSES
-  HARDWOOD CONIFER MIXED
-  INTERMITTENT PONDS
-  RECREATIONAL
-  RESERVOIRS
-  RESIDENTIAL HIGH DENSITY

**Figure 2.0**  
**FLUCFCS**  
Belleair Country Club  
Pinellas County, Florida



1 inch = 350 feet  
0 187.5 375 750 Feet  
NAD 83, State Plane Florida West [Feet]



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Source: Aerial (FDOT 2017); FLUCFCS (SWFWMD '11)  
Creation Date: 12/18/19  
Author: Birkitt GIS Department (RT)  
File Path: T:\Belleair CC\Maps\SWFWMD  
Fig 2.0 FLUCFCS



Legend

Project Boundary

Eauggalie Soils and Urban Land

Immokalee Soils and Urban Land

Matlacha and St. Augustine Soils and Urban Land

Myakka Soils and Urban Land

Tavares Soils and Urban Land, 0 to 5 Percent Slopes

Waters of the Gulf of Mexico

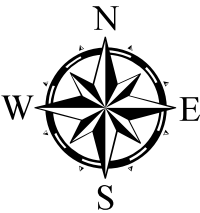


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Figure 3.0  
**NRCS Soils**  
  
Belleair Country Club  
Pinellas County, Florida

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Source: Aerial (FDOT 2017); Soils (NRCS)  
Creation Date: 12/18/19  
Author: Birkitt GIS Department: (RT)  
File Path: T:\Belleair CC\Maps\SWFWMD  
Fig 3.0 Soils



1 inch = 350 feet  
0 187.5 375 750 Feet  
NAD 83, State Plane Florida West [Feet]




Legend

Project Boundary

ESTUARINE AND MARINE DEEPWATER

FRESHWATER POND





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ENVIRONMENTAL

SERVICES, INC.

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Figure 4.0

NWI

Belleair Country Club

Pinellas County, Florida

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Source: Aerial (FDOT 2017); NWI (USFWS '11)

Creation Date: 12/18/19

Author: Birkitt GIS Department; (RT)

File Path: T:\Belleair CC\Maps\SWFWMD

Fig 4.0 NWI

N

W

E

S

0185370740

Feet

1 inch = 350 feet

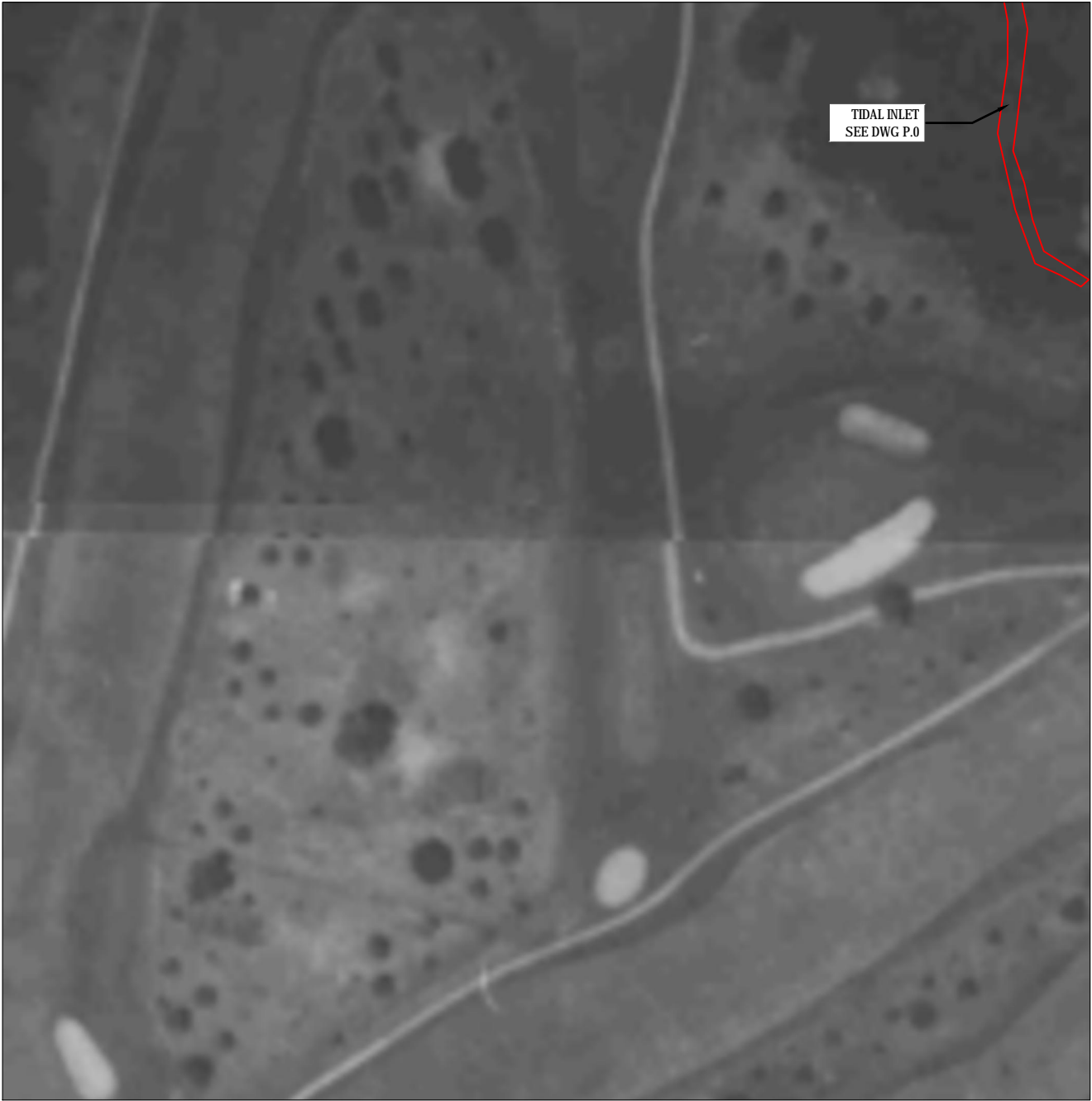
NAD 83, State Plane Florida West [Feet]



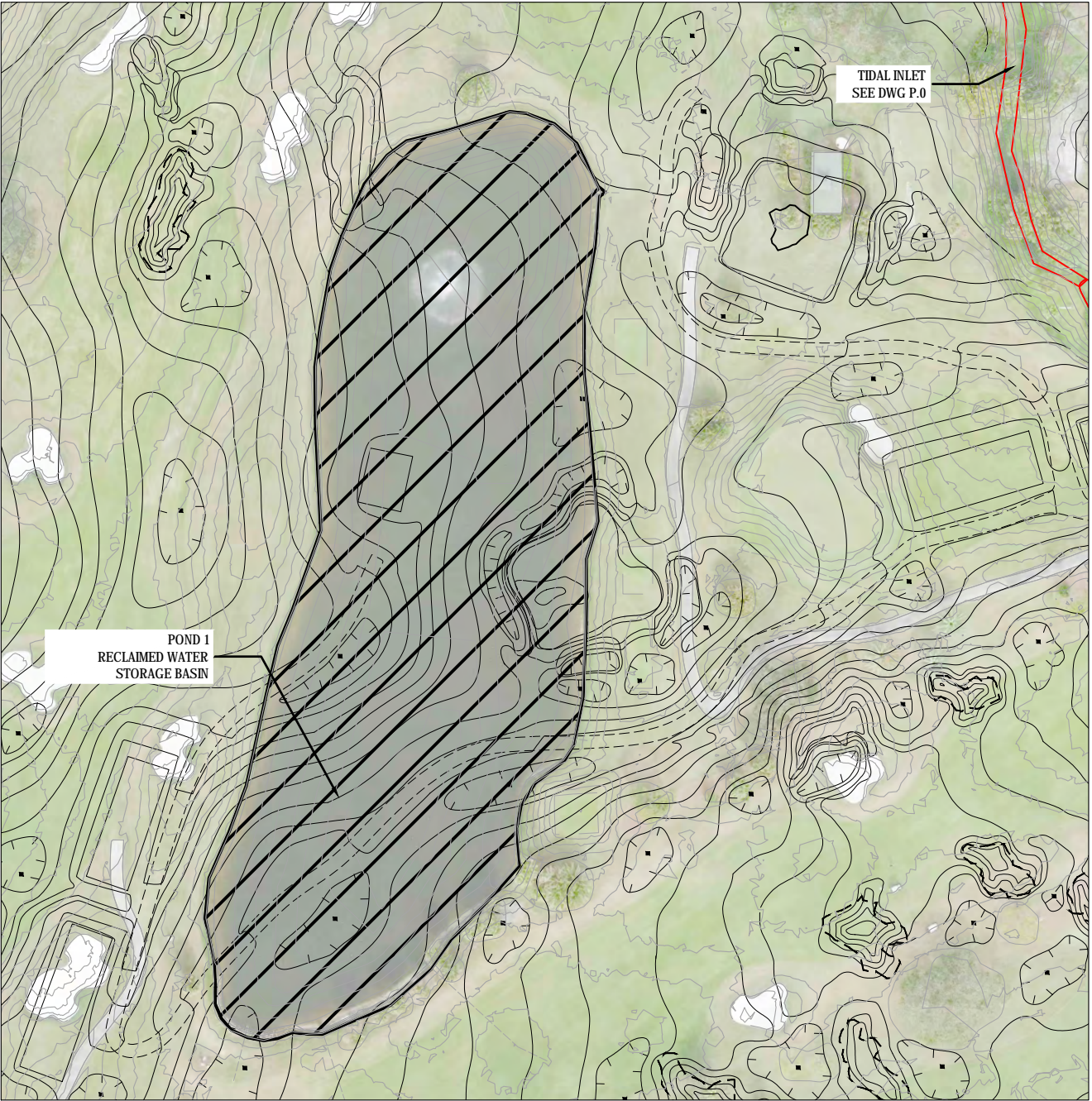
**ATTACHMENT A**  
**Wetland/Surface Water Plan**



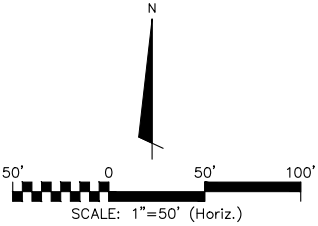
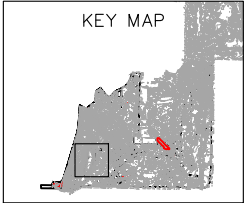




**AERIAL - 1984**  
**EXISTING AREA = 0.00 ACRES**



**AERIAL - 2018**  
**EXISTING AREA: 2.17 ACRES**  
**FILL AREA: 2.17 ACRES**  
**REMAINING AREA: 0.00 ACRES**



REV. NO.	DESCRIPTION	DATE
REVISIONS		

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**BELLEAIR COUNTRY CLUB  
WEST COURSE IMPROVEMENTS**

**SURFACE WATER PLAN  
POND 1**

PROJ. START DATE:	01/16/20
MCE PROJ. #	07334-0001
DRAWN	TLW
DESIGNED	TLW
CHECKED	PJL
PROJ. MGR.	TLW

STATUS:

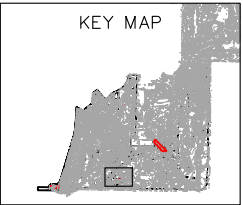
SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

**P.1**

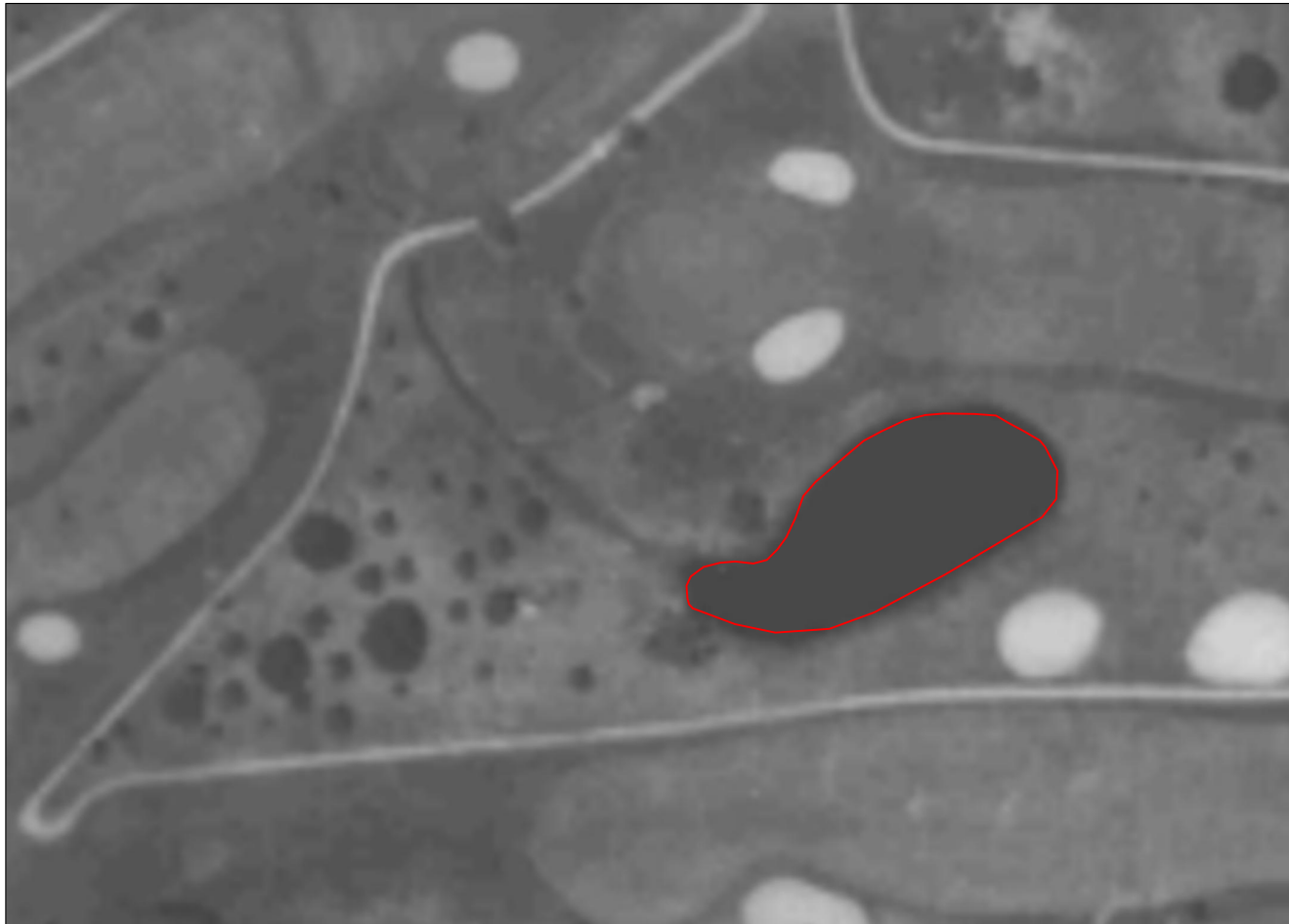
DRAWING NUMBER

REVISION





PROPOSED CREEK TO TIDAL INLET  
SEE DWG P.0

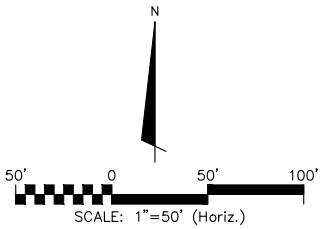


**AERIAL - 1984**  
**EXISTING AREA = 0.29 ACRES**



FILL AREA: 1.62 ACRES

**AERIAL - 2018**  
**EXISTING AREA: 1.91 ACRES**  
**FILL AREA: 1.62 ACRES**  
**REMAINING AREA: 0.29 ACRES**  
**DREDGED AREA 0.29 ACRES**



REV. NO.	DESCRIPTION	DATE
REVISIONS		

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**BELLEAIR COUNTRY CLUB  
WEST COURSE IMPROVEMENTS**

**SURFACE WATER PLAN  
POND 2**

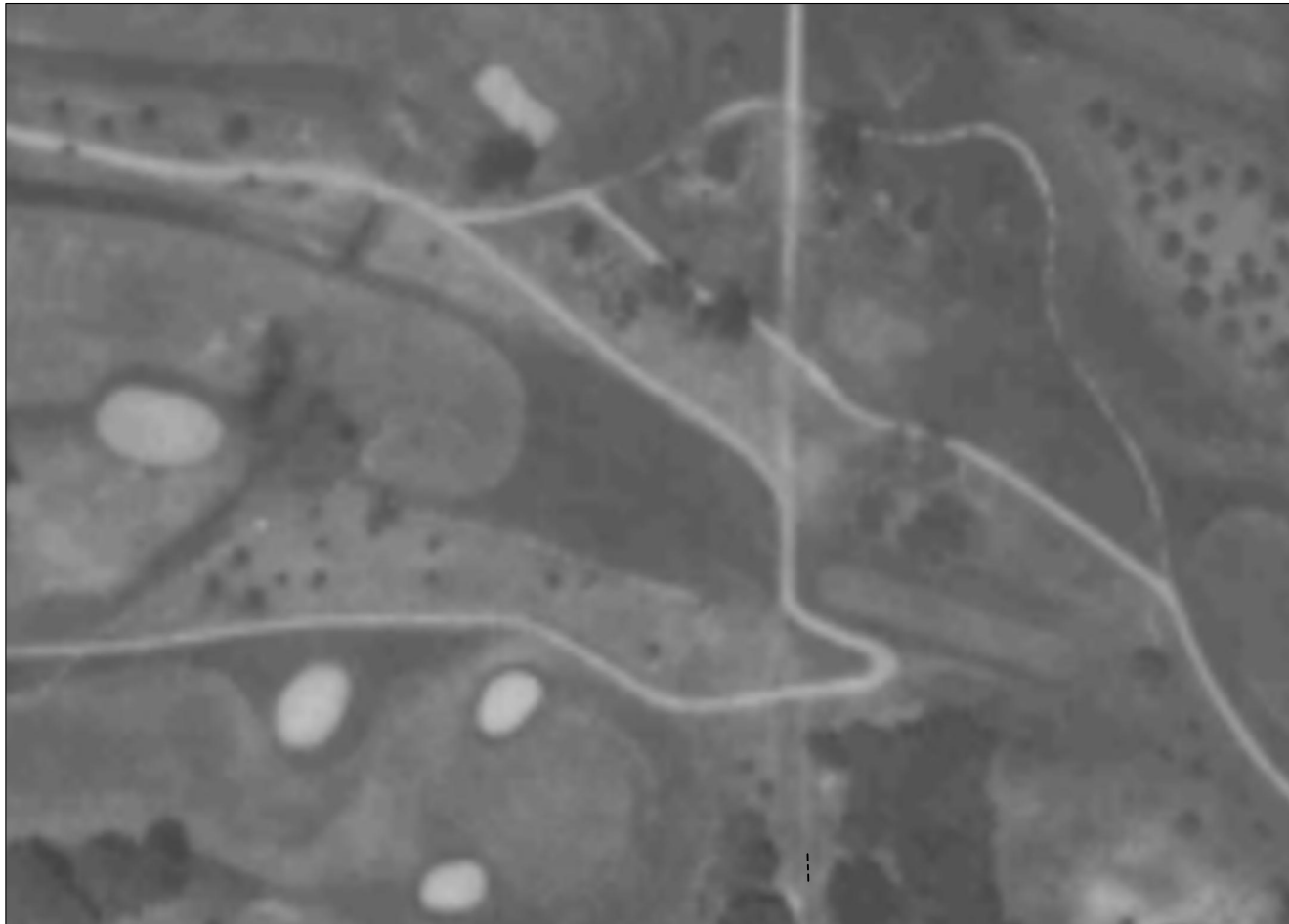
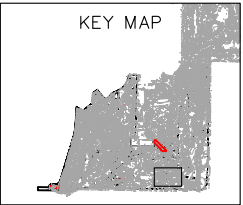
PROJ. START DATE: 01/16/20  
MCE PROJ. # 07334-0001  
DRAWN TLW  
DESIGNED TLW  
CHECKED PJL  
PROJ. MGR. TLW

STATUS:

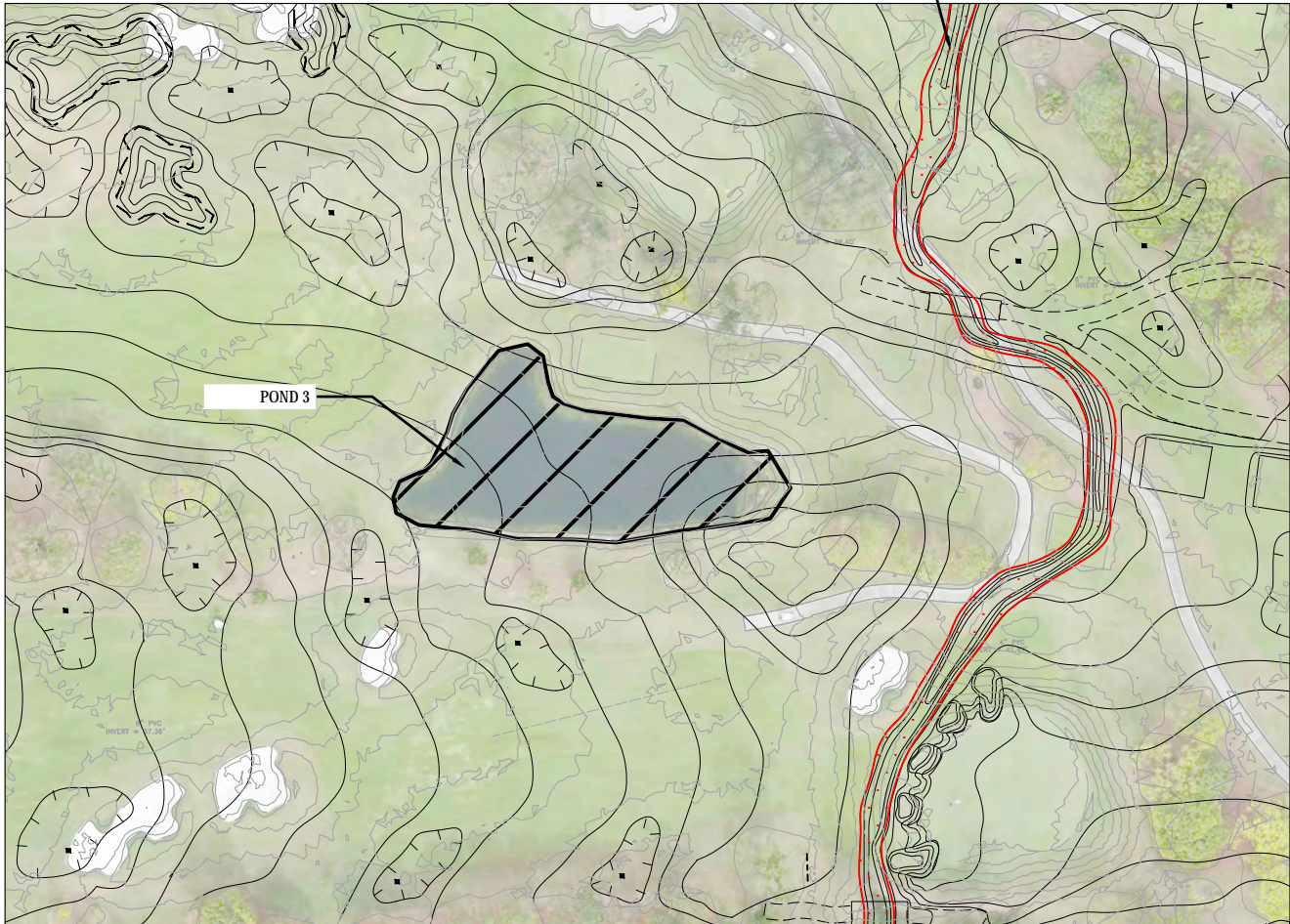
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VERTICAL: N/A

**P.2**  
DRAWING NUMBER  
REVISION

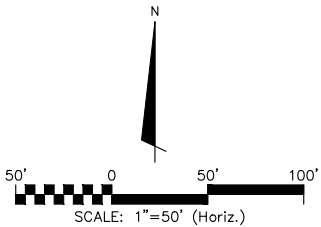




**AERIAL - 1984**  
**EXISTING AREA = 0.00 ACRES**



**AERIAL - 2018**  
**EXISTING AREA: 0.27 ACRES**  
**FILL AREA: 0.27 ACRES**  
**REMAINING AREA: 0.00 ACRES**



REV. NO.	DESCRIPTION	DATE
REVISIONS		

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**BELLEAIR COUNTRY CLUB  
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**SURFACE WATER PLAN  
POND 3**

PROJ. START DATE:	01/16/20
MCE PROJ. #	07334-0001
DRAWN	TLW
DESIGNED	TLW
CHECKED	PJL
PROJ. MGR.	TLW

STATUS:

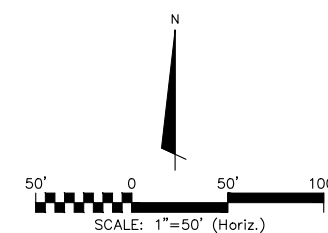
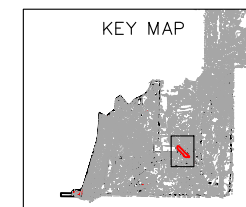
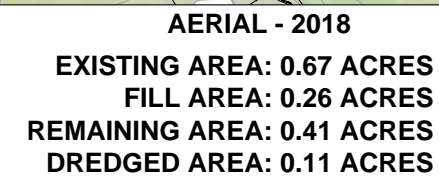
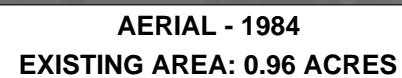
SCALE
HORIZONTAL:
AS NOTED
VERTICAL:
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**P.3**

DRAWING NUMBER

REVISION



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## BELLEAIR COUNTRY CLUB WEST COURSE IMPROVEMENTS

## SURFACE WATER PLAN

### POND 4

PROJ. START DATE:	01/16/20
MCE PROJ. #	07334-0001
DRAWN	TLW
DESIGNED	TLW
CHECKED	PJL
PROJ. MGR.	TLW

STATUS:

SCALE
HORIZONTAL: <b>AS NOTED</b>
VERTICAL: <b>N/A</b>

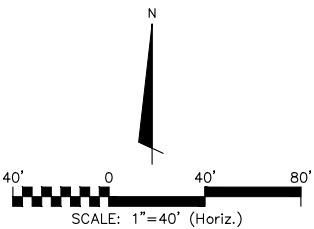
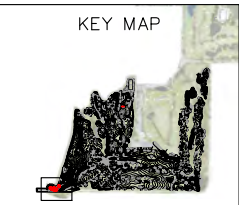
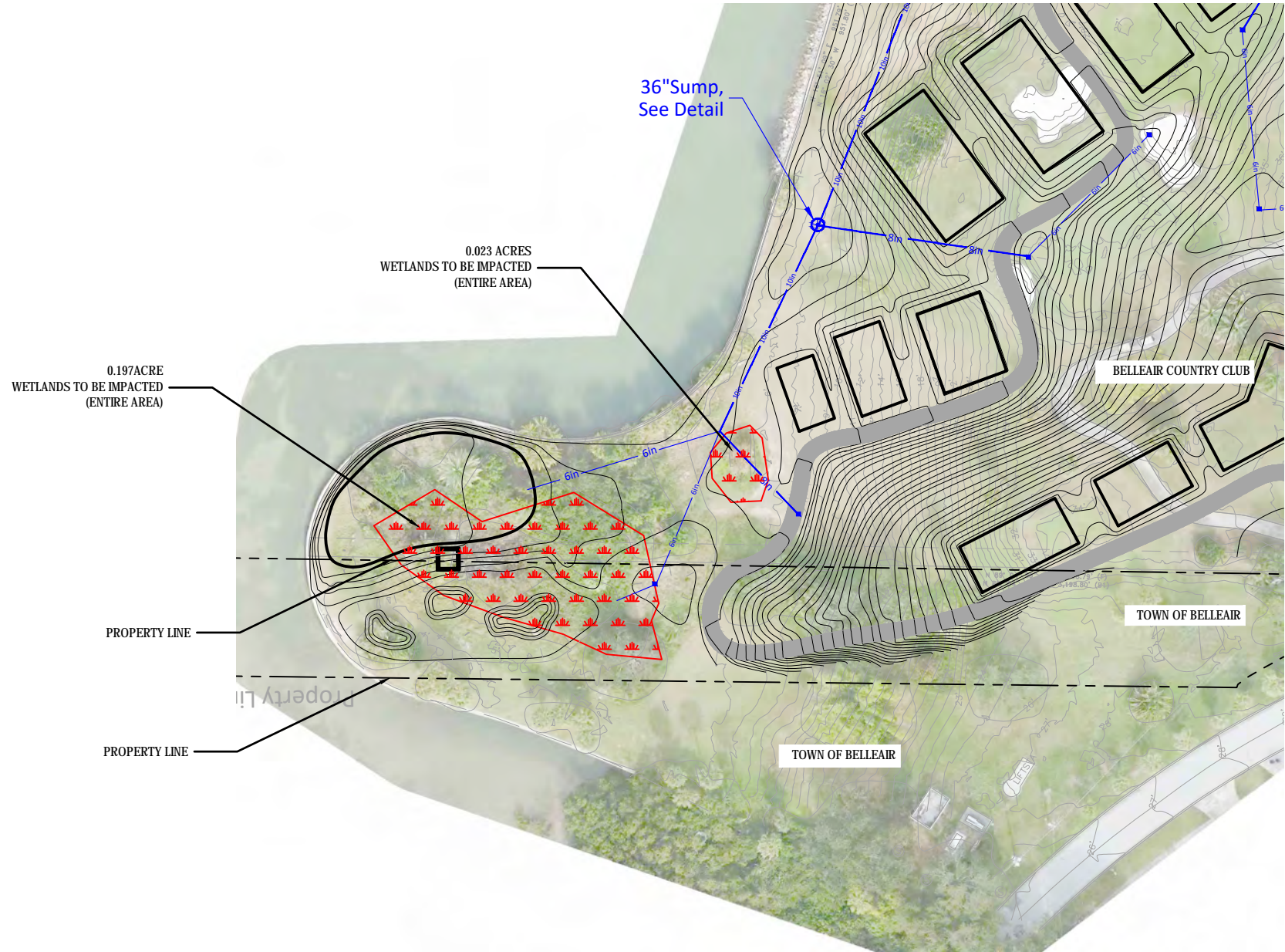
**P.4**

DRAWING NUMB

## ■ CONCLUSION

**NOT FOR CONSTRUCTION**





REV. NO.	DESCRIPTION	DATE
REVISIONS		

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BELLEAIR COUNTRY CLUB  
WEST COURSE IMPROVEMENT

SURFACE WATER PLAN  
WETLANDS

PROJ. START DATE: 01/16/20  
MCE PROJ. # 07334-0001  
DRAWN TLW  
DESIGNED TLW  
CHECKED PJL  
PROJ. MGR. TLW

SCALE  
HORIZONTAL: AS NOTED  
VERTICAL: N/A

P.5  
DRAWING NUMBER  
REVISION

STATUS:

**ATTACHMENT B**  
**UMAM Forms**



**UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT**  
**Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)**

Site/Project Name <b>Belleair Country Club</b>		Application Number		Assessment Area Name or Number <b>Freshwater Marsh</b>	
FLUCCs code <b>641</b>		Further classification (optional)		Impact Type <b>Direct Impact</b>	
Assessment Area Size <b>0.20 Acres</b>					
Basin/Watershed Name/Number <b>Upper Coastal</b>		Affected Waterbody (Class) <b>III</b>		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands					
<p>The onsite wetland is surrounded by the Intercoastal Waterway to the west, residential development to the east, and south and by the existing golf course and country club to the north. Indian Rocks Rd is immediately to the east and Bayview Dr. is immediately to the south. The wetland is hydrologically connected to adjacent coastal waters by an underground pipe.</p>					
Assessment area description					
<p>This herbaceous wetland (FLUCFCS 641) is dominated by nuisance/exotic species including Peruvian primrosewillow (<i>Ludwigia peruviana</i>), cattail (<i>Typha</i> spp.), and Brazilian pepper (<i>Schinus terebinthifolia</i>). It appears to receive seepage flow from the adjacent golf course and it is hydrologically connected to the adjacent Gulf of Mexico via an underground pipe.</p>					
Significant Nearby Features				Uniqueness (considering the relative rarity in relation to the regional landscape.)	
<b>Belleair Country Club, Intercoastal Waterway (Gulf of Mexico)</b>				<b>Common in the regional landscape</b>	
Functions				Mitigation for previous permit/other historic use	
<b>May provide some level of wildlife habitat and stormwater retention via sheet flow from adjacent residential properties.</b>				<b>N/A</b>	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found )				Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)	
<p>This type of wetland may be utilized by raccoons, woodpeckers, hawks, kites, frogs, snakes, and anoles. However, wildlife utilization is impacted by adjacent wildlife barriers including high traffic roadways, fences, commercial and residential development and traffic noise.</p>				<p>This type of wetland may be utilized by listed wading bird species including herons and woodstorks,</p>	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):					
<b>No evidence of wildlife utilization was observed.</b>					
Additional relevant factors:					
Assessment conducted by:				Assessment date(s):	
<b>Birkitt Environmental Services, Inc</b>				<b>11/15/19</b>	

**UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT**  
**Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name: <b>Belleair Country Club</b>	Application Number: <b>-</b>	Assessment Area Name or Number: <b>Freshwater Marsh</b>
Impact or Mitigation: <b>Impact</b>	Assessment Conducted by: <b>Birkitt Environmental Services, Inc</b>	Assessment Date: <b>11/15/19</b>

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

Enter Notes below (do NOT score each subcategory individually)

.500(6)(a) Location and Landscape Support		a. Quality and quantity of <b>habitat support</b> outside of AA.	Minimal
		b. <b>Invasive plant species.</b>	Brazilian pepper, cogongrass
		c. <b>Wildlife access</b> to and from AA (proximity and barriers).	Restricted by fences, roads, development
		d. <b>Downstream benefits</b> provided to fish and wildlife.	Minimal
		e. Adverse impacts to wildlife in AA from <b>land uses</b> outside of AA.	Impacted by adjacent development
		f. <b>Hydrologic connectivity</b> (impediments and flow restrictions).	Connected via underground pipe
<b>Current</b>	<b>With Impact</b>	g. <b>Dependency</b> of downstream habitats on quantity or quality of discharges.	None
		h. Protection of wetland functions provided by uplands ( <b>upland</b> AAs only).	N/A
		Additional Notes: Wildlife access and usage is restricted by surrounding development including the adjacent golf course which serves as a predator barrier. It is hydrologically connected to adjacent coastal waters, however it is not anticipated that it provides any significant downstream benefits. Adjacent areas include coverage by Brazilian pepper and cogon grass.	
<b>4</b>	<b>0</b>		

.500(6)(b) Water Environment (n/a for uplands)		a. Appropriateness of <b>water levels and flows.</b>	Appropriate levels, no flow
		b. Reliability of <b>water level indicators.</b>	Reliable
		c. Appropriateness of <b>soil moisture.</b>	Appropriate
		d. <b>Flow rates</b> /points of discharge.	None observed
		e. <b>Fire frequency/severity.</b>	No indications of fire
		f. <b>Type of vegetation.</b>	Appropriate
		g. <b>Hydrologic stress</b> on vegetation.	None observed
		h. <b>Use by animals</b> with hydrologic requirements.	None observed
		i. <b>Plant community composition</b> associated with water quality (i.e., plants tolerant of poor WQ).	Appropriate
		j. <b>Water quality of standing water by observation</b> (i.e., discoloration, turbidity).	No discoloration or turbidity observed.
<b>Current</b>	<b>With Impact</b>	k. <b>Water quality data</b> for the type of community.	See below
		l. <b>Water depth, wave energy, and currents.</b>	Appropriate
		Additional Notes: Water levels within the assessment area appeared appropriate for this type of wetland system and there were no observations of hydrological stress on vegetation. No discoloration or turbidity was observed, however this wetland receives untreated sheet flow/seepage from the adjacent golf course. No usage by animals with hydrologic requirements was observed and there is no evidence of recent fire.	
<b>5</b>	<b>0</b>		

.500(6)(c) Community Structure  <div style="display: flex; justify-content: space-between;"> <span>X Vegetation</span> <span>_____ Benthic</span> <span>_____ Both</span> </div>		I. Appropriate/desirable species	Minimal
		II. Invasive/exotic plant species	Significant - see below.
		III. Regeneration/recruitment	Appropriate
		IV. Age, size distribution.	Typical
		V. Snags, dens, cavity, etc.	Minimal
		VI. Plants' condition.	Typical
		VII. Land management practices.	Adjacent areas mowed
		VIII. Topographic features (refugia, channels, hummocks).	Standing water
		IX. Submerged vegetation (only score if present).	N/A
		X. Upland assessment area	N/A
<b>Current</b>	<b>With Impact</b>	Additional Notes:	
		This herbaceous wetland (FLUCFCS 641) is dominated by nuisance/exotic species including Peruvian primrosewillow ( <i>Ludwigia peruviana</i> ), cattail ( <i>Typha</i> spp.), and Brazilian pepper ( <i>Schinus terebinthifolia</i> ).	
<b>3</b>	<b>0</b>		

<b>Raw Score</b> = Sum of above scores/30 (if uplands, divide by 20)	
<b>Current</b>	<b>With Impact</b>
0.4	0

<b>Impact Acres</b> =	0.20
-----------------------	------

<b>Functional Loss (FL)</b> [For Impact Assessment Areas]:	
<b>FL</b> = ID x Impact Acres =	0.080

<b>Impact Delta (ID)</b>	
Current - w/Impact	0.4

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigation bank.

Additional Notes:

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