

Mitigation Attachment

State Road 300 Multiuse Path (from St. George Island Bridge to US 98)

FDOT 433568-1

December 7, 2015

Wetland

Impact: 0.26 acres of tidal marsh wetlands / 0.16 UMAM functional loss

Proposed

Mitigation: Southgate / Sandridge Road Hydrologic Enhancement (one Low-Water-Crossing) of Sawgrass Marsh Wetlands at St. Joseph Bay State Buffer Preserve (29.6865° N, -85.3017° W)

USACE

Permit: SAJ-2015-02153

Scope

The St. Joseph Bay State Buffer Preserve (Buffer Preserve) owns and manages for ecological integrity over 5,000 acres of generally high-quality natural habitat for the express purpose of protecting the aquatic resources of St. Joseph Bay (St. Andrew Bay watershed; HUC 03140101) and Money Bayou (Apalachicola Bay watershed; HUC 03130014). Conservation and restoration of environmentally sensitive ecosystems is the key goal of the Buffer Preserve.

Southgate / Sandridge Road, a dirt road raised above natural grade and necessary for Buffer Preserve management access, bisects a sawgrass-dominated wetland marsh and disrupts the natural hydrology of adjacent wetlands by restricting surface flows within the marsh system. Construction of this road predates establishment of the Buffer Preserve, and was apparently installed for silviculture activities.

This mitigation project seeks to offset the wetland functional loss (reported by the USACE as a UMAM functional value of 0.16) associated with FDOT construction of a multiuse path adjacent to SR 300 (from St. George Island Bridge to US 98) by enhancing the hydrologic function of 6.49 acres of sawgrass-dominated marsh wetlands. Enhancement of wetland function will be accomplished by replacing approximately 150 linear feet of road fill within the marsh wetland with installation of one (1) low-water-crossing at the Southgate / Sandridge Road site. Installation of this low-water-crossing will lower the road surface elevation to that of the adjacent wetlands and will remove constrictions to surface water flows within the sawgrass

marsh. These wetlands are contiguous with tidal marsh wetlands in Money Bayou.

Development of this plan is guided by compliance with the 12 components of a compensatory mitigation plan as outlined in 33 CFR §332.4(c)(2)–(14) of the 2008 EPA Final Rule (Compensatory Mitigation for Losses of Aquatic Resources).

1—Objectives [§332.4(c)(2)]

The objective of this project is to enhance the hydrologic function of an estimated 6.49 acres of sawgrass-dominated marsh wetlands (FLUCCS 6410 – Freshwater Marshes) by removing a manmade barrier to natural surface water flows. Enhancement will be accomplished by removing approximately 150 linear feet of existing road fill and constructing one (1) low-water-crossing on Southgate / Sandridge Road, a raised dirt road used for Buffer Preserve management access.

Pre-Restoration Habitat Cover—Freshwater Marshes Wetlands (FLUCCS 6410); 6.49 acres. The site is dominated by sawgrass (*Cladium jamaicense*), although there are inclusions of cattail (*Typha spp.*, <5% cover) and willow (*Salix spp.*, <10% cover).

Post-Restoration Habitat Cover—Freshwater Marshes Wetlands (FLUCCS 6410); 6.49 acres. Post-restoration cover is not expected to change to any significant degree in the near term. However, improved hydrologic function will enhance the existing sawgrass marsh system.

Delineating the area enhanced by construction of the low-water-crossing is based on the expectation that approximately 6.49 acres of sawgrass marsh wetlands will be hydrologically enhanced by construction of the low-water-crossing. This assumption is based on extensive experience by the NFWFMD implementing hydrologic enhancements in Tates Hell State Forest and other locations, as applied to the specific conditions onsite, and has been previously accepted by the USACE for multiple restoration projects including two prior projects at the Buffer Preserve.

2—Site Selection Criteria [§332.4(c)(3)]

This site was selected as offsetting mitigation for the SR 300 Multiuse Path (from St. George Island Bridge to US 98) impacts for the following reasons:

- The impacts are not within the service area of any existing or planned mitigation bank or in-lieu fee program.
- The mitigation is hydrologically connected to tidal marsh wetlands in the watershed that the impacts occur (HUC 03130014).
- The mitigation addresses ecological needs of St. Joseph Bay and Money Bayou (a component of HUC 03130014).
- The mitigation will enhance sawgrass marsh wetlands by removing manmade restrictions to surface water flows; will improve natural hydrology, especially during high water; will

improve wildlife connectivity within the marsh; and may improve water quality functions by removing a manmade barrier between the east and west portions of the marsh.

- The mitigation enables the St. Joseph Bay State Buffer Preserve to implement wetland enhancements to a marsh system that would otherwise be unfunded.

When complete, the mitigation will be self-sustaining and managed for ecological integrity in perpetuity by a Florida Acquisitions and Restoration Council (ARC)-approved St. Joseph Bay State Buffer Preserve management plan.

3—Site Protection Instrument [§332.4(c)(4)]

The mitigation area is located on state-owned (fee simple) preservation lands. It will be preserved in perpetuity in a natural condition, and will be managed for ecological integrity in accordance with an ARC-approved St. Joseph Bay State Buffer Preserve management plan. The Buffer Preserve (>5,000 acres) was acquired by the Florida Department of Environmental Protection's (FDEP) Office of Coastal and Aquatic Managed Areas (CAMA) with a "designated single use of the property" as conservation and preservation. Per Florida Statutes, CAMA has assessed the property and determined that no lands at the Buffer Preserve would be suitable for surplus. The Buffer Preserve limits public access to uses that do not conflict with the goals of conservation and preservation.

4—Baseline Information [§332.4(c)(5)]

The Southgate / Sandridge Road mitigation area at the St. Joseph Bay State Buffer Preserve consists of a dirt road raised above natural grade with fill material (up to three feet thick) that bisects a sawgrass-dominated freshwater marsh wetland. This road disrupts natural hydrologic functions by restricting surface flows within the marsh. Existing road fill in the marsh wetland is up to three feet thick. One 18" diameter concrete culvert is present.

The marsh to be hydrologically enhanced is dominated by sawgrass, with <10% willow cover and <5% cattail cover. A total of 23 vegetation species were identified (see table below).

Vegetation Species List for Southgate / Sandridge Road Mitigation Area (11/12/2015)					
Scientific Name	Common Name	Tree	Shrub	Vine	Herb
<i>Acer rubrum</i>	Red maple	X			
<i>Andropogon virginicus</i>	Broom sedge				X
<i>Cephalanthus occidentalis</i>	Buttonbush		X		
<i>Cladium jamaicense</i>	Sawgrass				X
<i>Eleocharis sp.</i>	Spikerush				X
<i>Helianthus angustifolia</i>	Swamp sunflower				X
<i>Hibiscus moscheutos</i>	Crimson-eyed rose mallow		X		
<i>Ipomoea sagittata</i>	Salt marsh morning glory			X	
<i>Ludwigia sp.</i>	Rattlebox				X
<i>Myrica cerifera</i>	Wax myrtle		X		
<i>Osmunda regalis</i>	Royal fern				X
<i>Pinus elliotii</i>	Slash pine	X			
<i>Pluchea purpurescens</i>	Annual salt marsh fleabane				X
<i>Polygonum punctatum</i>	Dotted smartweed				X
<i>Sabal palmetto</i>	Sabal palm	X			
<i>Sagittaria lancifolia</i>	Lance-leaved arrowhead				X
<i>Salix caroliniana</i>	Coastal plain willow		X		
<i>Solidago stricta</i>	Wand goldenrod				X
<i>Smilax sp.</i>	Greenbriar			X	
<i>Stillingia aquatica</i>	Corkwood		X		
<i>Typha latifolia</i> *	Cattail				X
<i>Vitis rotundifolia</i>	Muscadine grape			X	
<i>Woodwardia virginica</i>	Virginia chain fern				X

*Nuisance native species

Observed wildlife (11/12/2015):

- Great blue heron
- Kingfisher
- Fish crow

The NRCS classifies the soil of the sawgrass marsh (i.e. the area to be hydrologically enhanced) as Maurepas muck, frequently flooded (Gulf County, Florida; Map Unit Symbol 23). This soil type is set on marine terraces, has slopes of 0-1%, and has a salinity profile of nonsaline to slightly saline (0.0 to 4.0 mmhos/cm).

Maps and Figures (see attached)

- Location of the proposed Southgate / Sandridge Road hydrologic enhancement project at the St. Joseph Bay State Buffer Preserve, in relation to the SR 300 Multiuse Path impact site.
- Wetland hydrologic enhancement area polygons for UMAM scoring.
- Map of mitigation area with photo insets (A – D).
- Enlargements of photos insets (A – D).
- 2013 DOQ of Southgate / Sandridge Road mitigation area.

- 1953 B&W aerial of Southgate / Sandridge Road mitigation area.
- 1942 B&W aerial of Southgate / Sandridge Road mitigation area (low resolution).
- LiDAR of Southgate / Sandridge Road mitigation area.
- Soils (NRCS) for Southgate / Sandridge Road mitigation area.
- Low-water-crossing engineering drawing typical.

Historically, the Buffer Preserve was primarily a mix of hydric pine flatwoods, saltmarsh, and mesic flatwoods. During the 20th century, forestry, turpentine operations, and open range cattle grazing were conducted on portions of the property. Acquired by the state of Florida in multiple purchases from 1995 – 2002, management has included prescribed fire, thinning of pine, treatment of exotic vegetation, and hydrologic enhancements.

5—Determination of Credits [§332.4(c)(6)]

The estimated lift to wetland function that this project will generate was derived using the Uniform Mitigation Assessment Method (UMAM), and is based on hydrologic enhancement to the existing sawgrass marsh system. Assessments by NFWFMD staff suggest that enhancements to the hydrology of this wetland will yield 0.19 UMAM credits of functional lift.

Determination of wetland area enhanced for UMAM scoring purposes is based on extensive experience in Tates Hell State Forest and at other locations using protocols previously accepted by the USACE. NFWFMD staff estimate the LWC would enhance 6.49 acres. The USACE has accepted similar methods and estimates for other hydrologic enhancement projects implemented by the NFWFMD at the Buffer Preserve.

6—Detailed Work Plan[§332.4(c)(7)]

The Southgate / Sandridge Road low-water-crossing (LWC) site is located in a low-energy hydraulic environment, will not be subject to significant scour potential, and will typically only contain water under wet weather conditions. Existing road fill at the LWC site will be excavated to natural grade with approaches at a maximum 4% grade, a geotextile woven fabric (conforming to FDOT Design Standards, Index 199, Class D-1 or D2) lain down with a minimum fabric overlap of 2 ft., and covered with a 12 inch thick coarse aggregate base consisting of limestone or granite 2-6 inches in diameter ($D_{50} = 4$ inches). A 12 inch thick rock apron consisting of 6-10 inch diameter material ($D_{50} = 8$ inches) may be placed on each side of the LWC as determined by the project engineer. Road fill excavated from LWC construction will be stored or disposed in an appropriate area on the Buffer Preserve; it will not be placed into any wetland area or upland area that is managed in a natural state. LWC dimensions are estimated at approximately 25 FT x 150 FT. Cut & fill is estimated at approximately ~200-300 yd³.

Construction activities are anticipated to take approximately one week, and to be completed in 2016, depending on weather, site conditions, and other circumstances outside the control of the NFWFMD. Construction will be performed during dry weather and will be temporarily suspended during periods of heavy rainfall or high water levels. Grading and excavation activities are anticipated to be performed using heavy equipment such as backhoes, small bulldozers or excavators.

Best Management Practices (BMPs) for turbidity, sedimentation and erosion control will be implemented and maintained at all times during construction to prevent siltation and turbid discharges into waters of the state. Silt and sedimentation control measures may be installed as necessary and properly maintained at all points where runoff from disturbed areas could result in water quality violations of Chapter 62-302, F.A.C.

Staging of Construction Activities. The excavation and moving of soil materials will be scheduled in stages, as necessary or appropriate, to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time.

Protection of Desirable Vegetation. Stockpiling, vehicular parking and excessive foot or vehicular traffic will not be allowed within wetland areas. Material storage, fueling and servicing equipment, undertaking equipment maintenance, and cleaning will not be performed in or immediately adjacent to wetland areas. Erosion and sediment controls, such as silt fences, may be implemented as needed around the perimeter of stockpiles to prevent the transportation of soils from the area.

Best Management Practices. Erosion control measures which will minimize impacts to wetlands and wetland vegetation will be used during construction activities. This can be accomplished by various methods including the use of floating turbidity barriers, floating silt screen/curtains, sediment basins, earthen berms, and straw, geotextile or similar bale or log barriers which are free of exotic or noxious weed species. The use of staked silt fences is not recommended except to contain stockpiles in areas such as roadbeds that are outside wetland areas. Erosion controls where flowing water may be present, such as low water crossings, will require best management practices appropriate for the field conditions. Straw or similar bales or logs may not be appropriate where flowing water is present. Floating turbidity barriers or silt screen/curtains and temporary earthen berms are best management practices that may be used to prevent the transport of sediment in ditches, streams, and wetland waterways.

Stabilization of Disturbed Areas. Prompt stabilization of all disturbed areas will be undertaken during and after completion of the project. All disturbed areas will be stabilized within two weeks of disturbance. Suitable methods for stabilization include grading, establishment of a vegetative cover by mulching and/or seeding, and the use of geo-textiles. If seeding and mulching is implemented, Brown Top Millet seed or similar (free of exotic or noxious weed species) will be applied to disturbed areas and covered with approximately one (1) inch thick organic mulch of wheat straw (free of exotic or noxious weed species). Steep slopes are more susceptible to erosion than flatter slopes, so temporary mulching and quick establishment of vegetation may be implemented as appropriate. Jute mats, or similar devices, may be used on steep slopes until the vegetation has become established to prevent erosion.

Suspension of Work During Inclement Weather. Construction will be carried out during dry weather conditions to the extent practical, and appropriate erosion and sedimentation control measures will be implemented. Excavations and other construction activities will be suspended during periods of inclement weather or high water levels if there is potential for environmental damage.

Inspection and Maintenance of Erosion and Sedimentation Control. Routine inspection and maintenance of any erosion and sedimentation control features used will be provided until the project is complete. Barriers, if used, will be regularly maintained to insure their effectiveness. Sediments may be cleaned out periodically and before major predicted rainfall events.

Removal of Sediment and Erosion Control Measures. All temporary erosion control measures, whether temporary sediment basin, silt fence, straw bales, or other measures, will be removed following the successful establishment of vegetation or when otherwise appropriate.

Eastern Indigo Snake Protection/Education Plan. All work will be implemented in accordance with an “Eastern Indigo Snake Protection/Education Plan” approved by the USACE, which shall be compliant with the US Fish and Wildlife Service’s “Standard Protection Measures for the Eastern Indigo Snake” (2/12/2004).

7—Maintenance Plan [§332.4(c)(8)]

After hydrologic enhancements are implemented, this site will be maintained in perpetuity by the St. Joseph Bay State Buffer Preserve in accordance with their ARC-approved (Acquisition and Restoration Council) management plan.

The hydrology of the enhanced sawgrass marsh will be maintained solely by natural processes without any human manipulation of water levels.

8—Performance Standard [§332.4(c)(9)]

Hydrological conditions are demonstrated to be in general conformation with those specified in this mitigation plan. Water flows restricted or blocked by the pre-existing road are now freely flowing across the low-water-crossing.

9—Monitoring [§332.4(c)(10)]

Monitoring protocols to ensure that the hydrologic enhancements are maintained will be conducted annually for a minimum of five years from the start of mitigation activities or as required by USACE permit conditions. Monitoring will be performed by NFWFMD staff or qualified consulting firms. All monitoring reports, expected to consist of general photos and site condition notes, will be posted at www.NFWFMDwetlands.com (or any successor website). Corrective measures will be taken if necessary.

10—Long-term Management [§332.4(c)(11)]

The hydrologically enhanced sawgrass marsh wetlands will be managed long-term by the St. Joseph Bay State Buffer Preserve in accordance with their ARC-approved (Acquisition and Restoration Council) management plan. The Buffer Preserve emphasizes prescribed fire and treatment of exotic vegetation as a management tools.

11—Adaptive Management Plan [§332.4(c)(12)]

If changes in the implementation of this mitigation plan become necessary due to the stochastic nature of ecological processes, the NFWFMD will first obtain approvals from the USACE.

12—Financial Assurances [§332.4(c)(13)]

The NFWFMD is a governmental entity created by the Florida Water Resources Act of 1972 with the mission of protecting water resources protection and ecosystem integrity. Funds from FDOT are specifically earmarked to implement and maintain mitigation.

As of 8/31/2015, the NFWFMD had \$16,454,513.15 in a dedicated mitigation fund. This fund was established to receive payment from sales of mitigation credits and to ensure adequate funding for the implementation and long-term management of mitigation sites, in accordance with 62-342.850 FAC.

Other Information [§332.4(c)(14)]

Uncertainty and Risk. The uncertainty and risk associated with implementation of this type of hydrologic enhancement is very low. Once the low-water-crossing is in place, the hydrologic enhancement is complete—water levels and flows are controlled by natural processes with no human intervention. Because of the low energy environment, failure of the low-water-crossing is unlikely. Blockage of the low-water-crossing by debris is also unlikely (e.g., non-beaver habitat).

Size and ecological value of parcel / watershed approach. The wetland enhancement polygon (6.49 acres) is part of a larger wetland marsh system that grades from sawgrass marsh to saltmarsh within Money Bayou. In addition to enhancing surface hydrologic flows, construction of the low-water-crossing will also improve habitat connectivity.

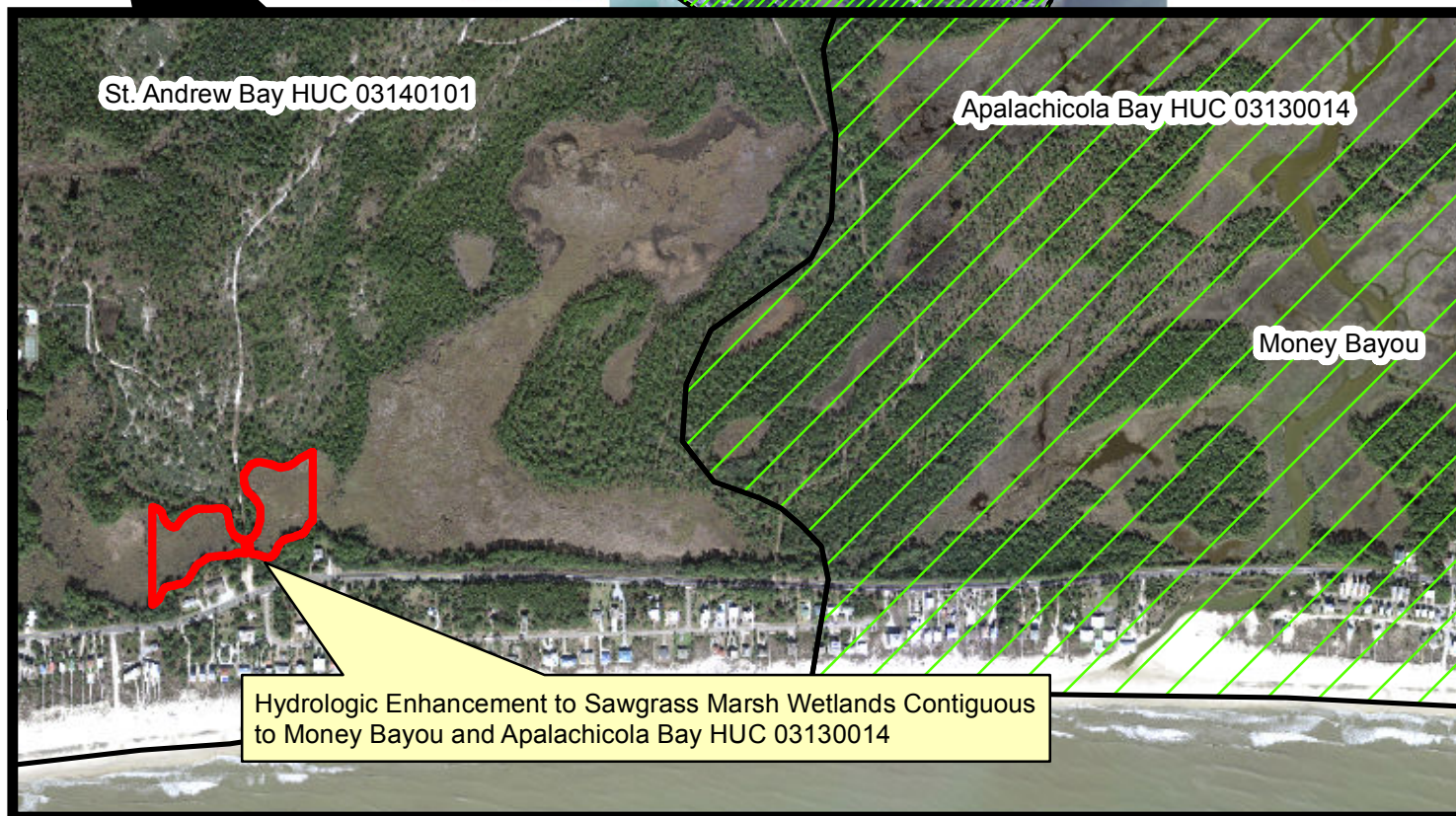
Temporal loss. There will be no temporal lag between installation of the low-water-crossing and attainment of functional lift. Once the low-water-crossing is in place, the hydrologic lift has been obtained.

Scientific/technical analysis, planning, and implementation. Over the past twenty years, the NFWFMD has gained extensive experience installing low-water-crossings to enhance wetland hydrology. Specific to the Buffer Preserve, the NFWFMD has installed seven low-water-crossings as wetlands mitigation projects. Other locations where the NFWFMD has installed low-water-crossings to improve wetland hydrology include Tates Hell State Forest (Apalachicola watershed), and NFWFMD lands on the Choctawhatchee River, Escambia River, and Perdido River floodplains. Staff includes licensed professional engineers, biologists, geographers, planners, and GIS specialists. Contracts are also in place for outside consultants as needed.

Long-term viability of the mitigation site. The Buffer Preserve is being preserved and managed for ecological integrity in perpetuity by the Coastal and Aquatic Managed Areas (CAMA) office, Florida Department of Environmental Protection. Mitigation funds will be available for future monitoring and maintenance as needed.

Any additional information requested by the USACE to determine the appropriateness, feasibility, and practicability of this compensatory mitigation project will be provided.

SR 300 Multiuse Path and Proposed Mitigation at St. Joseph Bay State Buffer Preserve

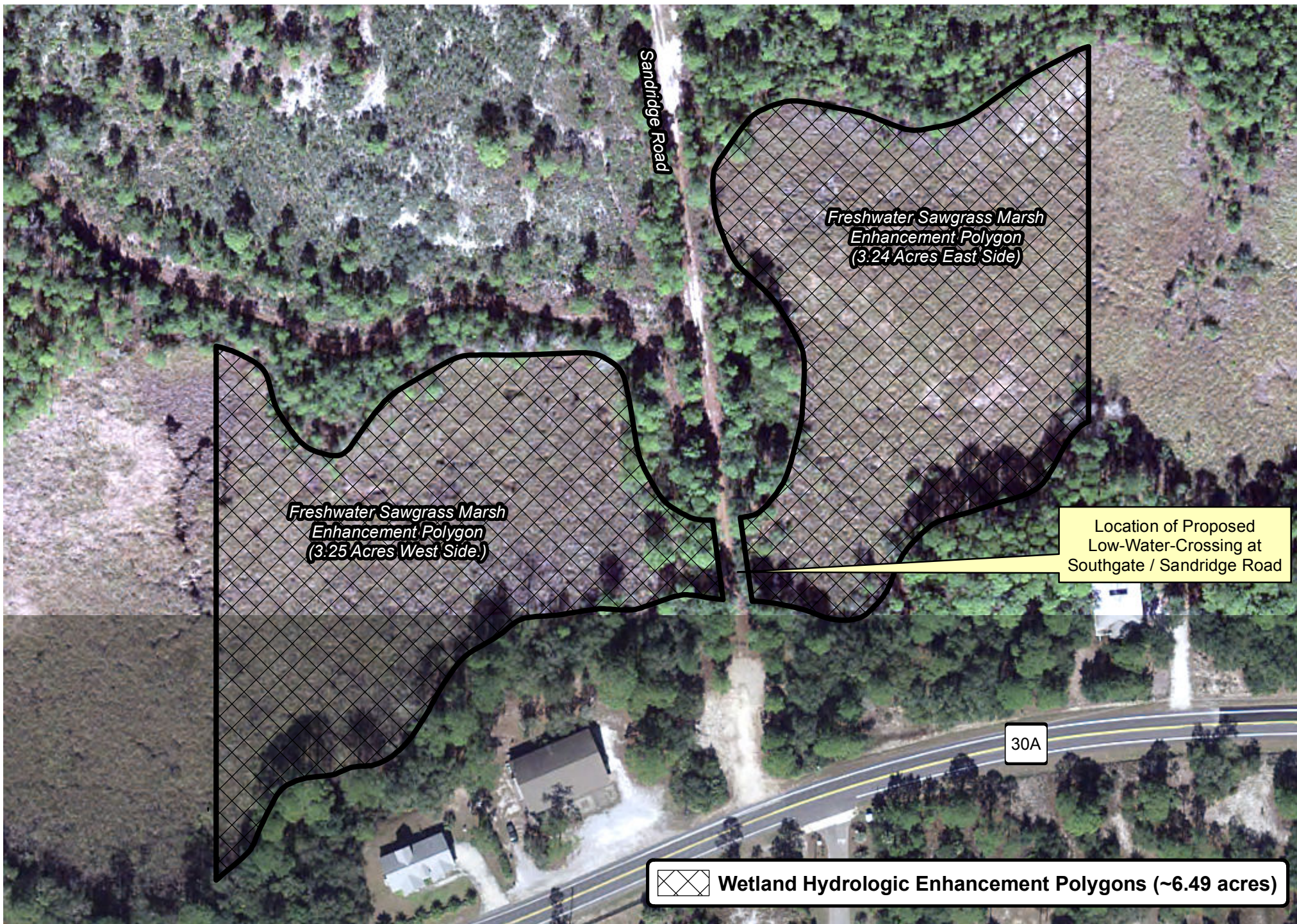


0 2 4 Miles

2013 DOQ



Southgate / Sandridge Road - Wetland Hydrologic Enhancement Polygons



2013 DOQ

0

250

500

Feet



Southgate / Sandridge Road - Ground Photos (11/12/2015)



2013 DOQ

0

250

500

Feet



Southgate / Sandridge Road Ground Photos (11/12/2015)



Photo A (Looking South along West Side of Proposed LWC)



Photo B (Looking East to Proposed LWC; Road Fill Depth Approximately 3 Feet)



Photo C (Looking East to Proposed LWC)

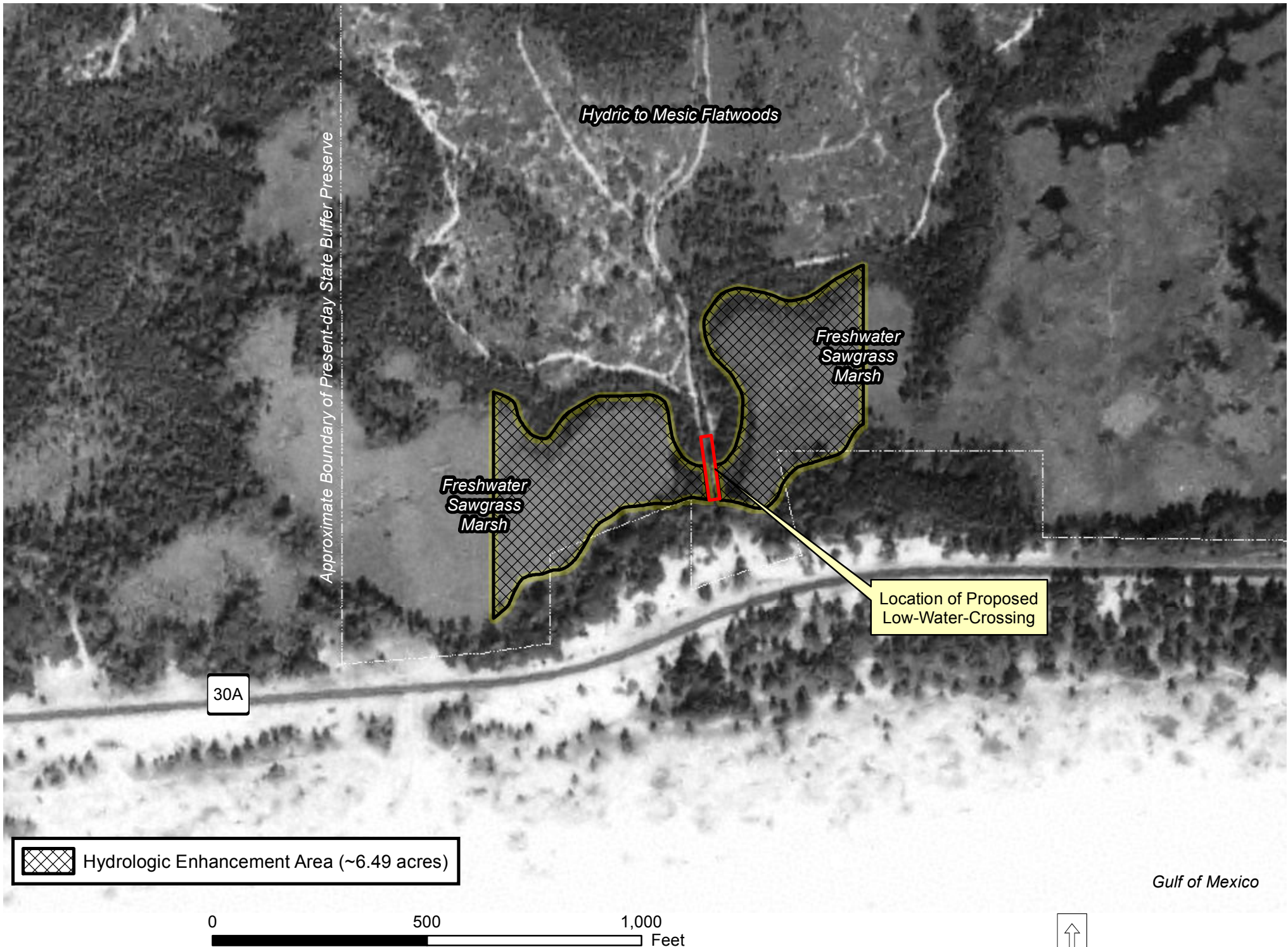


Photo D (Looking West to Proposed LWC)

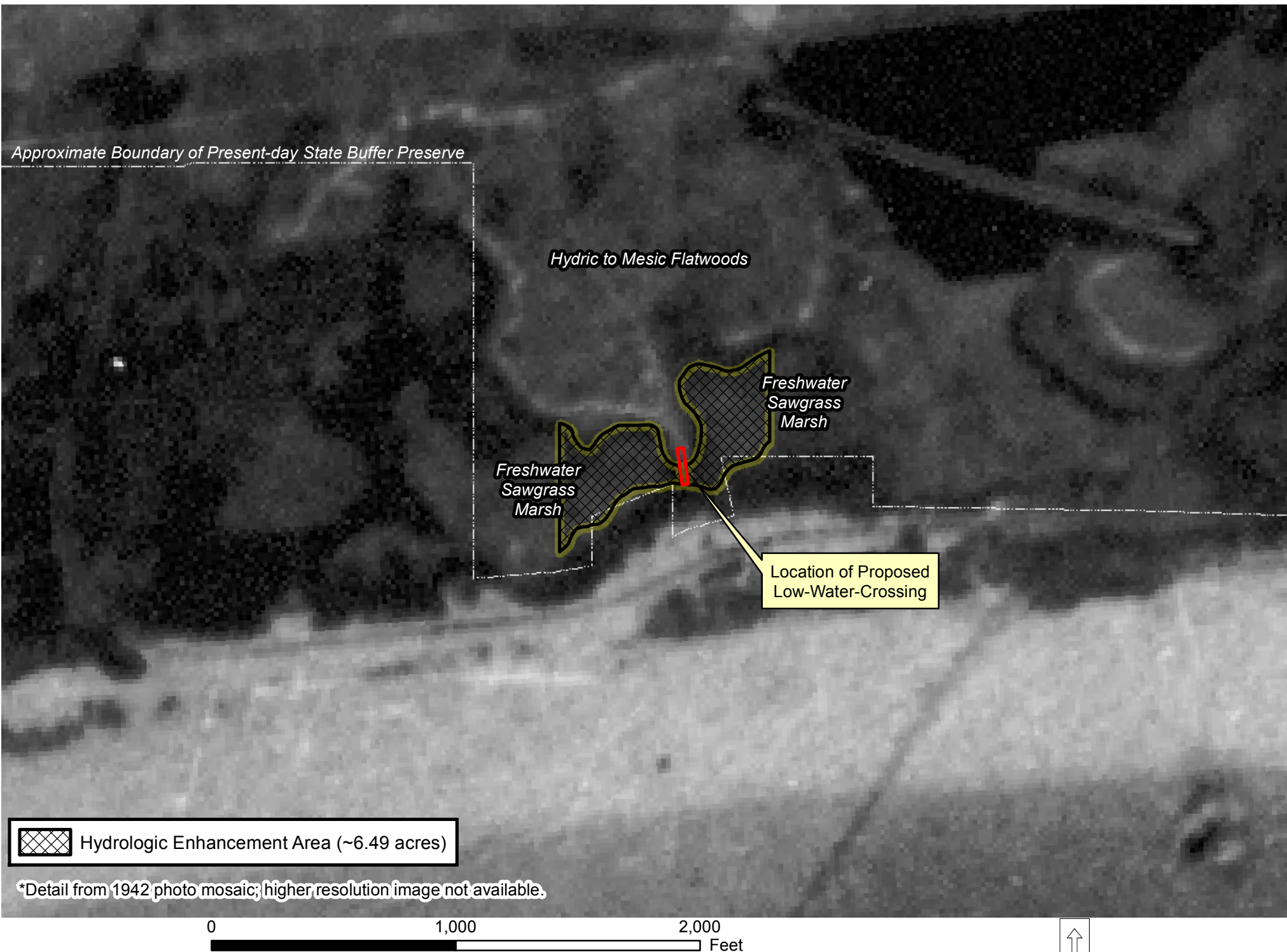
Southgate / Sandridge Road Hydrologic Enhancement - 2013 DOQ



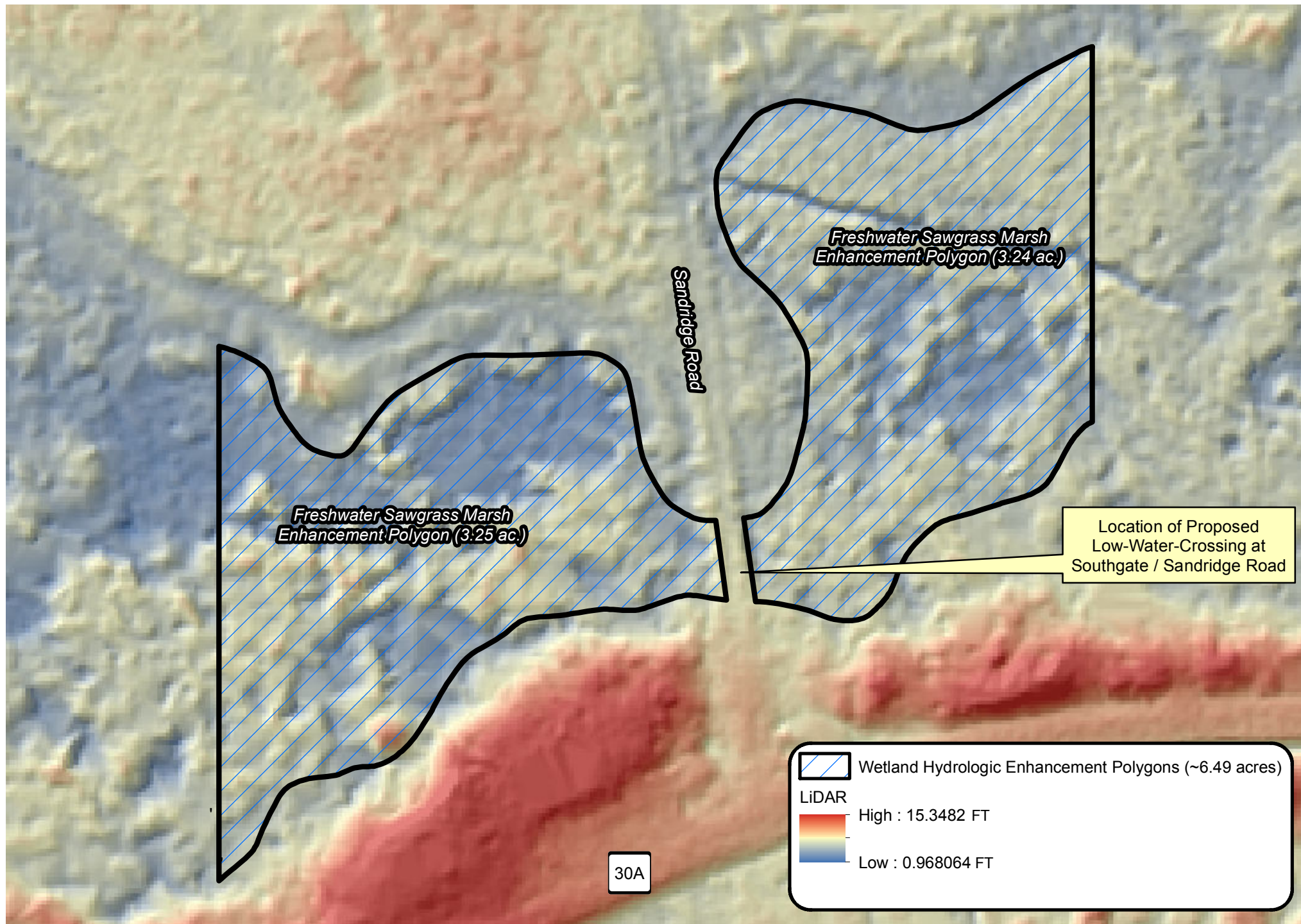
Southgate / Sandridge Road Hydrologic Enhancement - 1953 B&W Aerial



Southgate / Sandridge Road Hydrologic Enhancement - 1942 B&W Aerial*



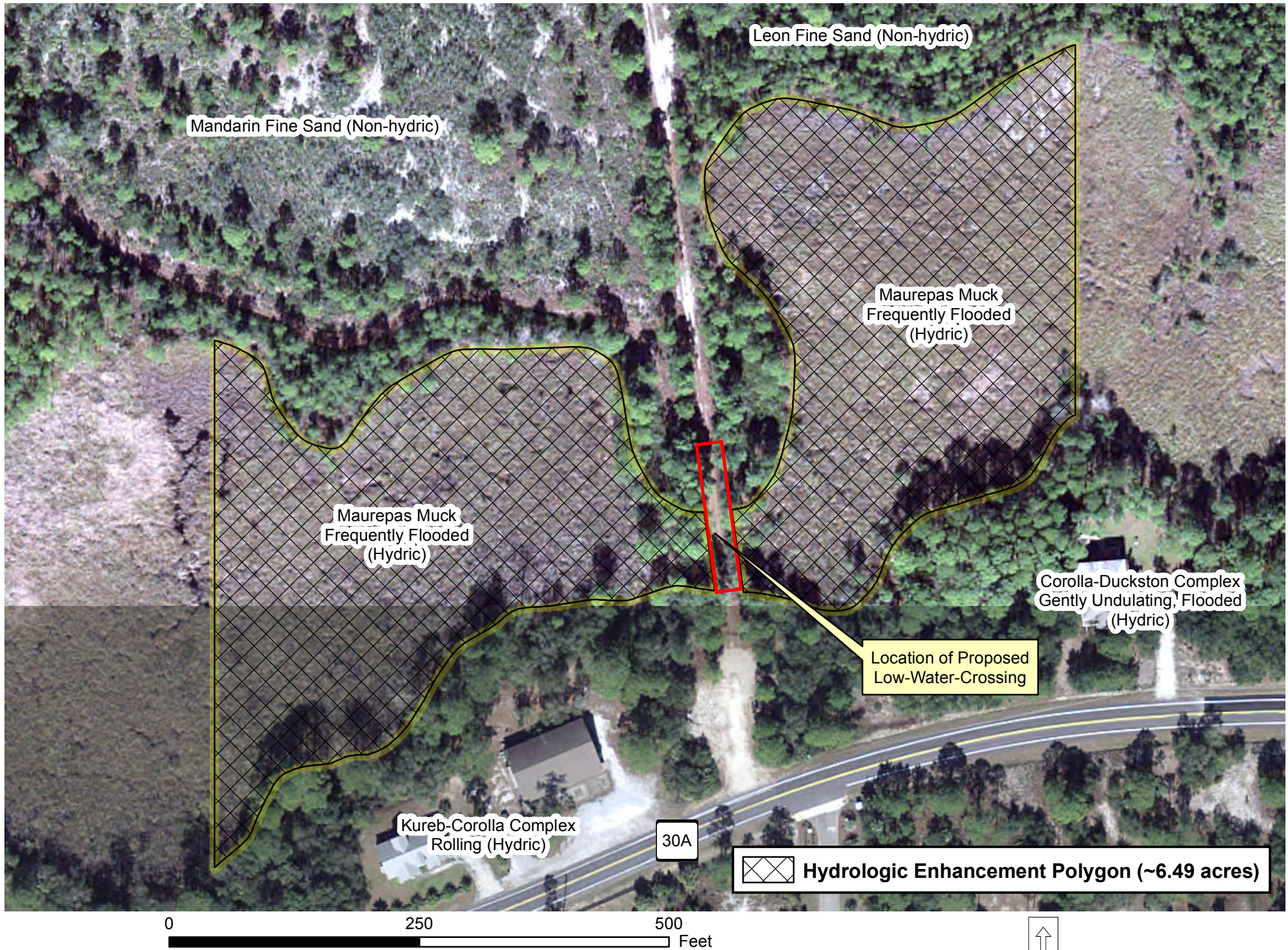
Southgate / Sandridge Road - LiDAR



0 250 500 Feet



Southgate / Sandridge Road Hydrologic Enhancement - NRCS Soils



**Southgate / Sandridge Road Wetland Hydrologic Enhancement
(Saint Joseph Bay State Buffer Preserve)
UMAM Functional Gain Estimate - 12/1/2015**

Polygon	UMAM Acres	L1	L2	W1	W1	C1	C2	W/Out	With	Raw Delta	Time Lag	P Factor	Risk	Adjusted Delta	UMAM Credits
A	6.49	8	8	7	8	9	9	0.80	0.83	0.03	1	1	1	0.03	0.19
6.49 (Wetland Acreage Total)														(Total UMAM Credit)	0.19

Polygon "A" is centered on the proposed Low-Water-Crossing (LWC) on Southgate / Sandridge Road at the St. Joseph Bay State Buffer Preserve. Delineating an area that is ecologically enhanced by construction of a LWC is inherently arbitrary. UMAM assumptions used here are that a LWC will enhance the hydrology of 6.49 acres of wetlands (this assumption is based on extensive experience implementing hydrologic enhancements in Tates Hell State Forest and other locations, and has been previously accepted by the USACE for multiple restoration projects).

UMAM Acres - Area of assessment polygon.

L1 - Location and Landscape Support score (Pre-Mitigation).

L2 - Location and Landscape Support score (Post-Mitigation).

W1 - Water Environment score (Pre-Mitigation).

W2 - Water Environment score (Post-Mitigation).

C1 - Community Structure score (Pre-Mitigation).

C2 - Community Structure score (Post-Mitigation).

W/Out - UMAM Functional Value Pre-Mitigation (0 = No Value, 1 = 100% Functional Value).

With - UMAM Functional Value Post-Mitigation (0 = No Value, 1 = 100% Functional Value).

Raw Delta - "With" minus "W/Out" (the raw functional lift from implementation of the mitigation).

Time Lag - Lag between when mitigation is implemented and when target ecological conditions are achieved.

P Factor - Preservation Factor (only used for preservation-only mitigation projects).

Risk - Risk that mitigation project will fail.

Adjusted Delta - Functional lift of mitigation project adjusted for Time Lag, Risk, and Preservation Factor.

UMAM Credits - Functional UMAM Credits generated from mitigation project.

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name Southgate/ Sandridge Road (St. Joseph Bay Buffer Preserve)		Application Number Not Applicable		Assessment Area Name or Number A	
FLUCCS code 6410		Further classification (optional) ---		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 6.49 Acres	
Basin/Watershed Name/Number St. Andrew Bay SWIM Basin		Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) ---	
<p>Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands</p> <p>Dense sawgrass wetlands contiguous to Money Bayou estuarine wetlands (Apalachicola Bay SWIM basin) and Saint Joseph Bay (a component of the Saint Andrew Bay SWIM basin).</p>					
<p>Assessment area description</p> <p>Freshwater Marsh Wetlands (FLUCCS 6410) dominated by sawgrass (Cladium jamaicense). <5% cover of cattail (Typha spp.), and <10% cover willow (Salix spp.). Natural hydrologic flows are restricted by Southgate / Sandridge Road (a raised dirt road originally used for logging and now maintained for management access by the St. Joseph Bay State Buffer Preserve).</p>					
Significant nearby features Money Bayou (Apalachicola Bay SWIM basin). Gulf of Mexico. St. Joseph Bay State Buffer Preserve. SR 30A.		<p>Uniqueness (considering the relative rarity in relation to the regional landscape.)</p> <p>Not unique in regional landscape, though in decline statewide due to altered hydrologic regimes, habitat fragmentation, altered fire regimes, nutrient loadings, and other stresses.</p>			
Functions Water storage; water quality; floral and faunal habitat.		<p>Mitigation for previous permit/other historic use</p> <p align="center">None</p>			
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Birds (e.g., snipe, red-winged blackbird). Mammal usage may include mice and raccoon. Herpetofauna such as snakes and frogs.		<p>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> <p>Several listed bird species (e.g., Limpkin SSC; Little blue heron SSC; Tricolored heron SSC) may potentially use this area for foraging. Intensity of use is anticipated to be low.</p>			
<p>Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.)</p> <p>Crayfish burrows; raccoon tracks.</p>					
<p>Additional relevant factors</p> <p>Similar hydrologic enhancements to wetlands (approved by the USACE as mitigation for FDOT impacts) have been recently implemented at two other sites on the St. Joseph Bay State Buffer Preserve (i.e., Island Road located 1/2 mile east of this proposed project, and Treasure Road two miles north).</p>					
Assessment conducted by NWFWMD Staff			Assessment date(s) 12/1/2015		

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name Southgate / Sandridge Road (St. Joseph Bay Buffer Preserve)	Application Number Not Applicable	Assessment Area Name or Number A
Impact or Mitigation Mitigation	Assessment conducted by: NWFWMD Staff	Assessment date: 12/1/2015

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10) Condition is optimal and fully supports wetland/surface water functions	Moderate(7) Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal (4) Minimal level of support of wetland/surface water functions	Not Present (0) Condition is insufficient to provide wetland/surface water functions
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.500(6)(a) Location and Landscape Support		<u>Without Mitigation</u> - Southgate / Sandridge Road bisects a freshwater sawgrass marsh wetland. Highway SR 30A is approximately 100 FT to the south of the site. <u>With Mitigation</u> - Installation of low-water-crossing should improve wetland habitat connectivity, although no increase in Location and Landscape Support value is claimed.	
w/out mit	w/mit		
8	8		

.500(6)(b)Water Environment (N/A for Uplands)		<u>Without Mitigation</u> - The Southgate / Sandridge Road bisects the sawgrass marsh system and restricts natural, hydrologic surface flows. <u>With Mitigation</u> - The road is lowered to the natural elevation of the adjacent sawgrass marsh system, which removes the restriction to surface flows and enhances the hydrologic regime of adjacent marsh.	
w/out mit	w/mit		
7	8		

.500(6)(c)Community structure		<u>Without Mitigation</u> - Vegetation community within assessment polygon (sawgrass marsh, with <10% willow cover and <5% cattail cover) is managed for ecological integrity by St. Joseph Bay State Buffer Preserve. However, long-term disruption of hydrologic flows may negatively affect long-term trajectory of vegetation community. <u>With Mitigation</u> - Continued management by Buffer Preserve. Enhancement of hydrologic flows may improve long-term vegetation community trajectory, although no increase in Community Structure function is claimed.
Vegetation and/or Benthic Community		
w/out mit	w/mit	
9	9	

Score = sum of above scores/30 (if uplands, divide by 20)	
w/out mit	w/mit
0.80	0.83
Raw Delta = [w/mit - w/out mit]	
0.03	

Preservation Adjustment Factor (PF) = 1	
Time Lag Factor = 1	
Risk Factor = 1	
Adjusted Delta [(Raw Delta * PF) / (T * R)] = 0.03	

UMAM Functional Assessment	
Polygon Acreage = 6.49	
Functional Gain w/Mitigation (Adjusted Delta * Acres) =	0.19