IN THE TESTIMONY WHEREOF the U.S. Army Corps of Engineers have set their hands this 24th day of December, 2009.

U.S. Army Corps of Engineers

D. W. Kinard

Signature

Donald W. Kinard
Chief, Regulatory Division
Printed Name and Title

IN THE TESTIMONY WHEREOF the U.S. Fish and Wildlife Service have set their hands this 14th day of August, 2009.

U.S. Fish and Wildlife Service

Signature

Field Supervisor
Title

Bank Enabling Instrument Signature Page
Sweetwater Mitigation Bank, SAJ-2007-02664 (IP-MLH)

IN THE TESTIMONY WHEREOF Mr. James Maulden has set his hands this 23rd day of December, 2009.

Mr. James Maulden

James Maulden
Signature

James Maulden
Printed Name and Title

Bank Enabling Instrument Signature Page
Sweetwater Mitigation Bank, SAJ-2007-02664 (IP-MLH)

Ecological Resource Consultants, Inc.

Federal Mitigation Banking Instrument
December 23, 2009

Project: Sweetwater Mitigation Bank

Corps# SAJ-2007-2664(MB-MLH)

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I. INTRODUCTION

The Sweetwater Mitigation Bank (hereafter SMB) is intended for general use and will serve the mitigation needs of the approved service area as described in Section IIIA. There is a need for consolidated and well managed mitigation options in this service area to offset wetland impacts as a result of increasing development pressure.

The proposed mitigation bank will serve the St. Andrew Bay watershed, and protect water quality for a significant portion of Bay County. Restoration of the landscape through enhancement, restoration, and preservation of wetlands on this site will contribute to the sustainability of environmental resources at the ecosystem level. Using the proposed site as a mitigation bank will ensure that a continuous tract containing reticulated upland and wetland communities is preserved and enhanced in perpetuity. The proposed mitigation bank will offer "like for like" credits for the ecological communities that are typically proposed for impact within the service area. Moreover, review of mitigation requirements, permit approvals, population increases, and proposed developments within the Mitigation Service Area (MSA) indicates a growing demand for appropriate mitigation in the area (forested wetland credits and wet flatwood/wet prairie credit). The MSA is depicted on Exhibit A-1, page 46 .

Establishing the SMB will ensure that the headwaters of the St. Andrew Bay are protected from development and will protect the drinking water supply of Deer Point Lake. Headwater protection will, therefore, protect water resources in the regional watershed. The SMB site is the most appropriate site for a mitigation bank because of the diversity of ecological communities and it's similarity to the overall watershed and service area. It is optimally located adjacent to existing compensatory mitigation and land identified on the Florida Forever acquisition list making the SMB a viable site for long term management and restoration.

James Maulden is the Mitigation Bank Sponsor and can be contacted at the following address and phone number. Mr. Maulden will be responsible for both the short term and long term management of the SMB unless the management responsibility is transferred to a third party in accordance with Section IV.E of the MBI.

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A. Location and Size

The site is located in Sections 29 and 32, Township 2 South, Range 12 West, Panama City, Bay County, Florida. The site can be accessed from Highway 231 by turning east on Bear Creek Road. The SMB is approximately 850 acres. The SMB is located within the headwaters of Bayou George Creek and Bear Creek (Class I Waters of the State), which contribute to Deer Point Lake (Class I drinking water source for Bay County).

B. Bank Objectives

The Sweetwater Mitigation Bank (SMB) will protect 850 (+/-) acres of wetland and upland habitats in the St. Andrews Bay watershed in perpetuity. Pursuant to Chapter 373, Florida Statutes (F.S.), the Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks, and Section 33 Code of Federal Regulations (CFR) Parts 325 and 332, the SMB focuses on the broad public interest and restoration of ecological integrity on a regional scale. The bank will meet the following objectives in order to ensure perpetual protection of reticulated wetlands and uplands within the Service Area.

First, SMB will provide credits to satisfy Corps and FDEP compensatory mitigation requirements associated with regulatory permits for development in wetlands within the Service Area. Accordingly, SMB will provide like for like mitigation for impacts to wet flatlands, basin wetlands, and seepage wetlands within the Service Area.

Second, SMB will provide restoration, protection, and maintenance of reticulated upland and wetland habitats on 850 (+/-) acres to be managed in perpetuity. This restoration activity will result in appropriate habitat for many rare plant and animal species; create appropriate habitat for native wildlife adapted for open landscapes; and contribute to protection of headwater resources for the St. Andrews Bay watershed.

Third, the SMB will achieve mitigation success by restoring the on-site ecosystems to their historical state (Exhibit A-6). This restoration will be accomplished by implementing the following general strategies:

1. Elimination of silvicultural activities
2. Mechanical clearing to reduce canopy and subcanopy plantation species
3. Re-introduction of a prescribed burning regime
4. Hydrological enhancement through road removal, low water crossings, and ditch removal
5. Control of invasive/exotic species
6. Seed bank enrichment through direct seed application
7. Creation of herbaceous swales to improve hydrological connectivity
8. Long-term, perpetual maintenance

C. Mitigation Bank Review Team

A prospectus for the Sweetwater Mitigation Bank was first presented to the Interagency Review Team (IRT) in February 2007. In response to this initial review, the Service Area was refined, bank credits were assessed, and subsequent meetings were held. One field visit to assess ecological communities was conducted in May 2007, and a functional assessment field meeting was held in December 2007. Additional meetings were held in March and April 2008 and in the field in July 2008. The IRT is represented by two state agencies and three federal agencies (*see* Table 1, below).

Table 1. Interagency Review Team Members.

Agency	Representative	Role
USACOE	Marie Huber	Chair IRT
FDEP	Vicki Tauxe	Co-Chair IRT
USFWS	Ted Martin	IRT Member

FFWCC	Ted Hoehn	IRT Member
USEPA	Cecelia A. Harper	IRT Member
NMFS	Mark Thompson	IRT Member

* National Marine Fisheries representatives have not been present through this process.

D. Baseline Site Conditions

The site is planted in pine, fire-suppressed, and hydrologically altered. The herbaceous plants and shrub coppice in the groundcover and historically open landscape have been eliminated and replaced by either densely planted pine and/or a dense understory strata of fire suppressed woody vegetation. The dense, fire suppressed, woody vegetation that creates multiple layers above the groundcover is not appropriate habitat for Threatened and Endangered (T&E) species and suppresses and/or eliminates groundcover diversity. Historically, coppice shrub and herbaceous plants would represent the dominant life form across the majority of the site. The existing land cover is dominated by Hydric Pine Plantation and Upland Pine Plantation except in areas best described as shrub bogs and swamps that facilitate longer hydroperiods where planting has not occurred. These areas exhibit signs of fire suppression due to silvicultural management.

These alterations notwithstanding, this site includes remnant ecosystems, that when restored,will protect the biodiversity and the water quality associated with the drainage of Bear Creek and Bayou George Creek, which are both Class I tributaries of the St. Andrews Bay watershed. Water from this site provides part of the freshwater drinking supply for Bay County, Deer Point Lake (Exhibit A-9). Hydrologic alterations have resulted from the drainage effects of ditches, existing roads, and dense pine plantations. There are ditches on site associated with access roads and these roads have been constructed directly through wetland ecosystems. A specific hydrologic restoration and maintenance plan including removing ditches and removing roads that disrupt natural wetland flow is proposed and detailed below (Section II. Establishment of the Bank).

The SMB area and the majority of surrounding property are currently zoned agriculture and are used for silviculture. Since the surrounding land is used for silviculture, the management plan will allow prescribed burning into off-site areas. Using the proposed site as a mitigation bank will ensure that a continuous tract containing reticulated upland and wetland communities is preserved and enhanced in perpetuity. Further, the SMB is adjacent to 600 (+/-) acres of preservation land, placed into conservation during wetland permitting, and an additional 100,400 acres that is slated for state acquisition under the Florida Forever program.

1. Landscape Setting

The SMB is located in Bay County, Florida. The project site lies exclusively within the Gulf Coastal Lowlands geomorphic division upon the coastal, Pleistocene–Miocene formed Silver Bluff Terrace. Further, the SMB is located within the drainage basins of Bear Creek and Bayou George Creek, which are within the St. Andrew Bay Watershed (HUC #03140101) as depicted on the Service Area Map (Exhibit A-1). The St. Andrew Bay watershed consists of approximately 1,340 square miles (855,925 +/- acres) including bays, bayous, rivers, creeks, and land area; the uplands primarily consist of Sandhill, Slope Forest, Scrubby Pine Flatwoods and Mesic (Pine) Flatwoods. Wetlands within this watershed are comprised of fresh and saltwater systems ranging from Tidal Marshes to Basin Swamps. Land is primarily used for residential and industrial development, silviculture, and limited agricultural

uses. Erosion and sedimentation are main concerns throughout the watershed; animal waste, urban stormwater, and septic tanks also represent potential impacts to water resources.

The SMB is within and adjacent to land identified on the Florida Forever acquisition list. Florida Forever land acquisition priorities are developed by evaluating several GIS data layers in order to restore degraded ecosystems and increase conservation corridors. The SMB and the adjacent 600 acre mitigation project will provide important landscape corridors when combined with the 100,400 acre proposed Florida Forever acquisition land (Exhibit A-8, Surrounding Land Use Map).

2. Topography and Hydrology

Topography across the SMB is relatively flat; depressional features support wetlands with longer hydroperiods such as Shrub Bog and Basin Swamp. Natural drainage through blackwater streams and seepage across the property flows north into Bear Creek and south into Bayou George Creek before discharging into Deer Point Lake (Exhibit A-9). These streams are both headwaters of the St. Andrew Bay Watershed.

Streams on site flow intermittently; these are typically shallow blackwater drainage systems with side channels that only ephemerally contain flowing water. Stream widths vary from about 1 to 4 feet and bank heights vary from about 0 to 12 inches. On-site streams flow through Bogs, Shrub Bogs and Basin Swamps (descriptions of these vegetative communities follow). Emergent and/or aquatic vegetation were observed in on-site blackwater streams and ditches.

3. Soils

The soils have considerable influence on the distribution of flora and fauna. Compositions of the soils and their wetness and/or drainage are limiting factors in plant community development.

Soil types on site were determined and characterized following the Natural Resources Conservation Service (NRCS) Soil Survey of Bay County (USDA, 1984). Soils in the upland habitats were mapped by the NRCS as Albany Sand, Leefield Sand, and Stilson Sand. Soils in the wetland habitats were mapped by the NRCS as Pelham Sand, Alapaha Loamy Sand, Pantego Sandy Loam, and Rutlege-Pamlico Complex (*see* Table 2, below). Further, on-site soil analyses were conducted to determine the composition of the soil and verify the mapped soil units.

Table 2. USDA NRCS Soil Types within the SMB

Soil Map Unit	Soil Map Unit Name	Hydric or Not Hydric
1	Albany Sand, 0 to 2 percent slopes	Not Hydric
12	Leefield Sand	Not Hydric
15	Stilson Sand	Not Hydric
33	Pelham Sand	Hydric
36	Alapaha Loamy Sand	Hydric
39	Pantego Sandy Loam	Hydric
51	Rutlege-Pamlico Complex	Hydric

E. Existing Vegetative Communities

The on-site ecosystems exhibit signs of disturbance from fire suppression, hydrologic alteration, road construction, and ditching, which are typical of silvicultural landscapes. All of the communities on site (ecotones in particular) are adapted to periodic fire. Plant communities on site were identified by ERC following designations used by the Florida Natural Areas Inventory (FNAI, 1990) and their locations are depicted on the attached Existing and Proposed Ecological Community Maps (Exhibits A-5 and A-6). Current and target plant communities are given in Table 3 (below) and each plant community is then described.

Table 3. Current and target plant communities (following FNAI, 1990 & 2009). Communities are grouped into Credit Types by color (last column). Associated acreages and the type of restoration required are also given.

Current Plant Community	Target Plant Community	Acres	Management	Credit Type
Harvested Basin Swamp	Basin Swamp	31.21	Enhancement	Mixed Hardwood Wetland
Ditch	Basin Swamp	0.29	Restoration	Mixed Hardwood Wetland
Fire-suppressed, Harvested Shrub Bog	Shrub Bog	80.40	Enhancement	Herbaceous/Wet Prairie/Hydric Flatwoods
Road	Shrub Bog	0.70	Restoration	Herbaceous/Wet Prairie/Hydric Flatwoods
Planted Pine Bog	Bog	92.63	Enhancement	Herbaceous/Wet Prairie/Hydric Flatwoods
Fire-suppressed, Harvested Bog	Bog	161.72	Enhancement	Herbaceous/Wet Prairie/Hydric Flatwoods
Road	Bog	9.61	Restoration	Herbaceous/Wet Prairie/Hydric Flatwoods
Ditch	Bog	0.036	Restoration	Herbaceous/Wet Prairie/Hydric Flatwoods
Fire Suppressed, Harvested Wet Prairie	Wet Prairie	17.0	Enhancement	Herbaceous/Wet Prairie/Hydric Flatwoods
Planted Pine Wet Prairie	Wet Prairie	235.81	Enhancement	Herbaceous/Wet Prairie/Hydric Flatwoods
Road	Wet Prairie	5.40	Restoration	Herbaceous/Wet Prairie/Hydric Flatwoods
Ditch	Wet Prairie	1.50	Restoration	Herbaceous/Wet Prairie/Hydric Flatwoods
Planted Pine, Mesic Pine Flatwoods	Mesic Pine Flatwoods	137.45	Enhancement	Upland
Fire Suppressed Mesic Pine Flatwoods	Mesic Pine Flatwoods	52.86	Enhancement	Upland
Ditch	Mesic Pine Flatwoods	0.184	Restoration	Upland
Road	Mesic Pine Flatwoods	1.68	Restoration	Upland
Road	Road	21.52	N/A	N/A

Table 4. Each credit type is given with the associated Florida Natural Areas Inventory (FNAI) and Florida Land Use, Cover and Forms Classification System (FLUCCS) codes.

Credit Type	FNAI	FLUCCS
1. Mixed Hardwood Wetlands	Baygall, Basin Swamp, Dome Swamp, Bottomland Forest	611, 613, 614, 617, 620, 621, 622, 624, 627, 630, 631
2. Wet Prairie/ Hydric Flatwoods	Wet Prairie, Wet Flatwoods, Hydric Hammock, Seepage Slope, Bog, Shrub Bog, Depression Marsh	625, 626, 640, 643, 646, 653

Below, plant communities are organized into two wetland Credit Type categories (see also Table 3, above). Target communities (FNAI, 1990) are described, along with a discussion of current conditions. All baseline and reference measurements are from sample plots distributed along a 50 meter transect with a sample area of at least 15 square meters. All percentage coverages are approximate.

1. Mixed Hardwood Wetland Credit Type

Harvested Basin Swamp (31.20 acres).
The Basin Swamp habitat on this site is harvested, and has been affected by silvicultural practices, selective tree removal (primarily pond cypress and swamp tupelo), and fire suppression. These areas are depressions in a relatively flat landscape and are dominated by a variety of canopy, subcanopy, and shrub species. The following species were observed: black titi *(Cliftonia monophylla)*, pond cypress (*Taxodium ascendens*), swamp bay (*Persea palustris*), swamp tupelo (*Nyssa biflora*), sweetbay magnolia (*Magnolia virginiana*) and slash pine (*Pinus elliottii*). Frequently, the groundcover coverage is sparse and diversity is low, which is probably a result of intense competition.

Historically, fire would have burned through these wetlands with enough frequency to allow for the regeneration of pond cypress and pines. Because pond cypress is long lived it may only need an infrequent disturbance to reproduce, such as those created by occasional fire. Fire can create light gaps for recruitment and reduce competition from less fire tolerant species. The Basin Swamp habitat on this site contains dense woody strata in the range of 100-700 subcanopy and canopy trees per acre. Fire suppression has resulted in a high density of woody strata in the subcanopy and shrub layer of the ecotone, such as black titi *(Cliftonia monophylla)* and white titi (*Cyrilla racemiflora*). To restore these communities, management will involve removing any significant invasive exotics and allowing fire to burn into the Basin Swamps, especially the ecotones.

2. Wet Prairie / Hydric Flatwoods Credit Type

a. Wet Prairies (252.81 acres)
We have combined Wet Prairie and Seepage Slope because Seepage Slope occupies a small subset of the total wetland coverage. It is closely related to Wet Prairie based on ecology and floristics and; therefore, restoration activities for both communities will be the same. Wet Prairie is the most common herbaceous dominated wetland at this site. Currently, most of the Wet Prairie is planted with a

canopy of slash pine *(Pinus elliottii)* in dense, even-aged plantations (10-20 years of age) averaging 500-800 trees/acre. Silvicultural practices and fire suppression have produced a landscape overgrown with woody shrubs, e.g. white titi *(Cyrilla racemiflora)*, black titi *(Cliftonia monophylla)*, bitter gallberry *(Ilex coriacea)*, sweet pepperbush *(Clethra alnifolia)*, gallberry *(Ilex glabra)*, wet prairie huckleberry *(Gaylussacia mosieri)* and semi-woody shrubs such as Chapman's St. Johns-wort *(Hypericum chapmanii)*. The growth form of these dense shrubs is inappropriate (as a result of fire suppression) – their average height is over 2 meters tall and they create dense, shady strata above the groundcover. Evidence for this was found in a representative sample transect in which the woody shrubs occupy up to 80% of the relative coverage slightly above and in the same strata as herbaceous groundcover species. Currently, the shading and competition produced from the fire suppressed shrubs creates extensive bare areas of mostly duff, 80% or more in total coverage. We also observed a reduced herbaceous plant diversity of 10 or fewer species and relative coverage of less than 20%.

Pine rows are located approximately 3 to 5 meters apart with furrows approximately 15 to 35 cm deep. Absence of herbaceous plant coverage and diversity is apparent, a probable result of dense shade, thick duff, and competition for resources.

Pond cypress (*Taxodium ascendens*) and sweetbay magnolia (*Magnolia virginiana*) are sometimes present in the subcanopy. Target density of all canopy species in this community is approximately 30 or fewer trees/acre.

- *Planted Pine Wet Prairie areas* (235.81acres) have been planted with a dense canopy of slash pine *(Pinus elliottii)* in even-aged plantations (5-20 years of age) averaging 500-700 trees/acre. These landscapes are overgrown with woody shrubs such as white titi *(Cyrilla racemiflora)*, black titi *(Cliftonia monophylla)*, bitter gallberry (*Ilex coriacea*), gallberry *(Ilex glabra)*, and St. Johns-wort *(Hypericum* spp.*)*. The growth form of these dense shrubs is inappropriate, and historically they would have been reduced to coppice sprouts by periodic fires and reduced in total coverage.

  The pine rows are located approximately 3 to 5 meters apart with furrows approximately 15-30 cm deep. Absence of herbaceous coverage and diversity is apparent, a probable result of the dense shade, thick duff, and competition for resources.

  Preliminary measurements of a representative transect indicate 70% or more total coverage of bare ground/leaf litter, combined with 80% or less relative coverage of woody plants, and 20% or less relative coverage of herbaceous plants. The species richness is also depressed with fewer than 10 species per 50m transect.

- *Fire-suppressed, Harvested, Wet Prairie* areas (17 acres) contain dense, fire-suppressed woody shrubs and a sparse ground cover of herbaceous plants (graminoids and forbs). The semi-woody shrubs include Chapman's hypericum (*Hypericum chapmanii*). Other shrubs include black titi *(Cliftonia monophylla)*, bear nyssa (*Nyssa ursina*), wax myrtles (*Myrica heterophylla* and *M. inodora*), sweet gallberry (*Ilex coriacea*), gallberry *(Ilex glabra)*, myrtle leaved holly (*Ilex myrtifolia*) and white titi *(Cyrilla racemiflora)*. The growth form of dense shrubs in a strata above the groundcover is inappropriate (as a result of fire suppression)

for an ecologically functioning Wet Prairie and they should be reduced to coppice sprouts. Minus the planted pines, the overall appearance of this fire-suppressed landscape is similar to the planted pine landscapes of Wet Prairie and Bog. Field measurements of current bareground, woody plants, groundcover diversity and density were similar to Planted Pine Wet Prairie areas.

In an appropriately functioning and managed Wet Prairie, woody shrubs would be reduced to a single stratum of coppice sprouts. These would be typically less than 2 meters tall following the second growing season after a fire and occupying approximately 10% or less relative cover of the groundcover as coppice. Species diversity of herbaceous plants would be greater than 50 species and relative coverage would be approximately 80% or greater.

b. Bogs (254.35 acres)

Bogs are characterized as wetlands on deep peat substrate with moisture maintained by capillary action and soils usually saturated or inundated. They might have a sparse canopy or no canopy and they might be dominated by shrubs or resemble the herbaceous dominated groundcover of Wet Prairies. The variability of bogs is influenced by the frequency of fire and hydroperiod.

- *Planted Pine Bog areas* (92.63 acres) have been planted with a dense canopy of slash pine *(Pinus elliottii)* in even-aged plantations (10-20 years of age) averaging 500-700 trees/acre. Similar to the Wet Prairie above, they are currently overgrown with woody shrubs such as white titi *(Cyrilla racemiflora)*, black titi *(Cliftonia monophylla)*, bitter gallberry (*Ilex coriacea*), gallberry *(Ilex glabra)*, and St. Johns-wort *(Hypericum* spp.*)*. The growth form of these dense shrubs is inappropriate, and historically they would have been reduced to coppice sprouts by periodic fires.

  Like the Wet Prairie above, when planted, the Bog has pine rows that are located approximately 3 to 5 meters apart with furrows approximately 15-30 cm deep. Absence of herbaceous coverage and diversity is apparent, a probable result of the dense shade, thick duff, and competition for resources. Preliminary measurements of a representative transect indicate approximately 70-90% total coverage of bare ground/leaf litter/water, combined with 70-90% relative coverage of woody plants and 0-10% relative coverage of herbaceous plants. The species richness is also depressed with 20 species or fewer per transect.

- *Fire-suppressed, Harvested Bog* areas (161.72 acres) contain dense, fire-suppressed woody shrubs and a sparse ground cover of graminoids and forbs. The semi-woody shrubs include Chapman's hypericum (*Hypericum chapmanii*). Other shrubs include black titi *(Cliftonia monophylla)*, bear nyssa (*Nyssa ursina*), wax myrtles (*Myrica heterophylla* and *M. inodora*), sweet gallberry (*Ilex coriacea*), gallberry *(Ilex glabra)*, myrtle leaved holly (*Ilex myrtifolia*) and white titi *(Cyrilla racemiflora)*. The growth form of dense shrubs in a strata above the groundcover is inappropriate (as a result of fire suppression) for an ecologically functioning Bog and they should be reduced to coppice sprouts. Overall appearance of this fire-suppressed landscape is similar to the Wet Prairie; however, there is a longer hydroperiod that will result in a greater percent cover of water/bareground/leaf litter. Field measurements of current groundcover diversity and density were similar to Planted Pine Bog areas.

- In an appropriately functioning and managed Bog, woody shrubs would be reduced to a single stratum of coppice sprouts. Woody shrubs would be typically less than 2 meters tall following the second growing season after a fire and occupy approximately 50% or less relative cover of the groundcover as coppice. Vines are typically laurel leaf green brier (*Smilax laurifolia*) or Walter's green brier (*S. walteri*), and would not be expected to occupy more than 5% relative cover. Species diversity of herbaceous plants would be greater than 40 species and relative coverage of herbaceous plants (including bryophytes) would be approximately 60% more or less.

c. Shrub Bog (80.40 Acres)

Shrub Bogs are characterized as wetlands on deep peat substrate with moisture maintained by capillary action and soils usually saturated or inundated. Shrub Bogs are primarily vegetated with a widely spaced canopy or no canopy and a ground cover often equally divided between woody shrubs and herbaceous plants. Tussocks and hummocks are common and create microtopography, which in turn influences the plant diversity.

- *Fire-suppressed Shrub Bog* areas (80.40 acres) contain dense, fire-suppressed woody shrubs and a sparse ground cover of graminoids and forbs. The semi-woody shrubs include Chapman's hypericum (*Hypericum chapmanii*). Other shrubs include black titi *(Cliftonia monophylla*), bear nyssa (*Nyssa ursina*), wax myrtles (*Myrica heterophylla* and *M. inodora*), chokeberry (*Photinia pyrifolia*), sweet gallberry (*Ilex coriacea*), gallberry *(Ilex glabra)*, myrtle-leaved holly (*Ilex myrtifolia*) and white titi *(Cyrilla racemiflora)*. The growth form of dense shrubs in multiple strata above the groundcover is inappropriate (as a result of fire suppression) for an ecologically functioning Shrub Bog and they should be reduced to a single layer of coppice sprouts. Overall appearance of this fire-suppressed landscape is similar to the fire suppressed landscape of Wet Prairie and Bog. Evidence that these habitats were harvested can be seen on aerial photography and observed by ground truthing. Field measurements of current groundcover diversity and density of shrub bogs were similar to Fire Suppressed Bog areas.

  Like the Bog described above, Shrub Bog, when planted, has pine rows located approximately 3 to 5 meters with furrows approximately 15-30 cm deep. Absence of herbaceous coverage and diversity is apparent, a probable result of the dense shade, thick duff, and competition for resources. Preliminary measurements of a representative transect indicate approximately 70-90% total coverage of bare ground/leaf litter/water, combined with 70-90% relative coverage of woody plants and 0-10% relative coverage of herbaceous plants. The species richness is also depressed with 20 species or fewer per transect.

  In an appropriately functioning and managed Shrub Bog, woody shrubs would be reduced to a single stratum of coppice sprouts. Coppice shrubs would be typically less than 2 meters tall following the second growing season after a fire and occupy approximately 60% or less relative cover of the groundcover as coppice. Vines are typically laurel leaf green brier (*Smilax laurifolia*) or Walter's green brier (*S. walteri*), and would not be expected to occupy more than 5% relative cover. Species diversity of herbaceous plants would be greater than 40 species and relative coverage of herbaceous plants would be approximately 50% more or less.

A contingency plan is included here that will allow for the re-designation and mapping/delineation from bog defined polygons to shrub bog polygons (Attachment A, Exhibit A-6) after the site is successfully burned. This contingency will be implemented with the agreement of the IRT and Qualified Mitigation Supervisor (QMS) and applied to those areas identified as bog, that are without a doubt, trending toward the shrub bog definition as per this instrument. The trend will be determined based on visual observation and quantitative measurement of the Bogs and Shrub Bogs.

3. Uplands (190.31 Acres)

Mesic Pine Flatwoods are historically characterized by widely spaced longleaf pine (*Pinus palustris*) and slash pine (*Pinus elliottii*) at a density of approximately 30-60 trees per acre. In addition there may be a sparse to dense ground cover of graminoids, forbs, and shrubs.

- *Planted Mesic (Pine) Flatwoods* areas (137.45 acres) are currently planted with a canopy of slash pine *(Pinus elliottii)* in dense, even-aged plantations (10-20 years of age) averaging 600-700 trees/acre. Silvicultural practices and fire suppression have produced a landscape overgrown with woody shrubs. Preliminary field measurements of a representative transect indicate fire suppressed groundcover of woody shrubs creates a dense strata above remnant herbaceous species with shrubs averaging over 2 meters tall, and with a greater than 50% relative coverage in the groundcover with up to 50% or more total coverage of bare ground/leaf litter.

  Pine rows are variable, sometimes located only a few meters apart without furrows. Dense shade, enhanced competition for resources, thick duff, and the absence of periodic fire have resulted in low herbaceous coverage and diversity. Field measurements indicate approximately 40-70% total coverage of bare ground/leaf litter, combined with 50-90% relative coverage of woody plants, 0-5% relative coverage of herbaceous plants. The species richness is also depressed with only 5-15 species.

- *Fire Suppressed Mesic (Pine) Flatwoods* (52.86 acres) contain a dense canopy of slash pine *(Pinus elliottii)* and longleaf pine (Pinus palustris) in uneven-aged forests managed for pine. The slash pine averages 400-500 trees/acre and the longleaf pine is in lower densities of 1-5 saplings/acre. Like the planted pine plantations, fire suppression has produced a landscape overgrown with woody shrubs. The dense groundcover is unnaturally tall and spreading with shrubs, on average, over 1 meter tall.

  Preliminary field measurements of a representative transect indicate approximately 60% or greater relative coverage of bare ground and/or leaf litter, combined with up to 70% or more relative coverage of woody plants, 5% or less relative coverage of herbaceous groundcover. The species richness is also depressed with only 10 species.

  In an appropriately functioning and managed Mesic Flatwoods, woody shrubs would be reduced to a single stratum of coppice sprouts. These would be typically 1 meter or less in height following the second growing season after a fire

and occupy approximately 30% or less relative cover of the groundcover as coppice. Species diversity of herbaceous plants would be greater than 40 species and relative coverage of herbaceous plants would be approximately 70% or greater.

II. ESTABLISHMENT OF THE BANK

The SMB property is proximal to major development centers in Bay, Gulf, Walton, and surrounding counties. Plant communities on site are representative of those in the proposed service area. All of the plant community polygons identified on site are disturbed and can be restored. Following are descriptions of restoration methodologies that will be applied to the SMB site to initiate natural regeneration/recruitment, restore ecologic functions, create the appropriate plant community structure and restore the hydrology. These methodologies are followed by a summary of quantitative measurements that will be employed to measure restorative success.

A. Types of Mitigation

To begin a successful mitigation project, historic and current plant communities are identified, described and analyzed to determine restoration potential. Data sources utilized for this analysis include historic aerial photographs, soils series classifications, remnant vegetative species composition, ground-truthing on site, comparison with similar restoration projects, expert opinions and analysis of similar landscapes by restoration practioners from the State of Florida and the US Forest Service. There are three primary categories of mitigation activity that will be employed to protect the natural community types on site and return them to a more natural condition: *Preservation, Enhancement, and Restoration.*

1. *Preservation* (850+/- acres)
The entire property will be placed in a perpetual conservation easement deeded to the FDEP and recorded in the official Bay County records. Preservation will ensure that the landscapes will be protected from development pressure in perpetuity. Special conditions will be offered to promote long-term maintenance of the natural landscape. The conservation easement deed is included in Attachment K.

2. *Restoration* (19.40 acres)
The mitigation bank also contains areas of historical dredging and filling of wetlands. This fill exists in the form of roads and berms. We propose removing the fill from wetlands and regrading ditches as part of wetland restoration. Because the areas immediately adjacent to fill roads and ditches are dominated by native wetland species, natural recruitment of vegetation will result after the areas are regraded. If natural processes fail to produce adequate groundcover vegetation coverage, then supplemental plantings/seepage will be used.

3. *Enhancement* (809.08 +/- acres)
The most significant ecological changes to the ecosystems on this site have been the suppression of natural fire and silvicultural activities associated with planted pine. To replace these natural processes and re-establish naturally functioning ecosystems on site, we propose an adaptive but structured methodology.

There are five primary categories of direct treatment employed to restore north Florida habitats to a more natural condition: a) Mechanical treatment, b) Prescribed burning, c) Herbicide treatment, d) Revegetation, and e) Hydrologic enhancement/ restoration. Specific methods of treatment may vary within each category according to the particular characteristics and needs of a particular plant community. Important secondary effects of these treatments are increased biodiversity, increased coverage of appropriate plants with appropriate life form, and the shift in hydrological character of the site as a result of alterations to the floral composition (e.g. removing bedded and planted pines).

Note
These methodologies have been tested successfully in similar ecosystems, specifically Tate's Hell State Forest, Apalachicola National Forest, Devils Swamp Mitigation Bank, Breakfast Point Mitigation Bank, and the St. Joe Buffer Preserve. Our methods were generated with close attention to this restoration work (Haddock, 2001; Kindell, 1997; Kindell, 2000; Huffman, 2006; Moyers, 2007, Johnson, 2008, Hess, 2008).

a. Mechanical Treatment

Mechanical treatments can be used to prepare a landscape for a prescribed burn by compressing and drying fuel loads and placing these close to the ground for a more complete burn. Mechanical work is also used for cutting firebreaks. There are five types of mechanical treatment typically employed:

- *Mowing / "bush hogging"*– used as a secondary tool or follow up treatment after prescribed burning. This method will be used primarily to maintain roads.

- *Mulching/Chipping "Gyrotracking"* –a method of reducing woody shrubs and vegetation prior to prescribed burn. This equipment has a rotating head with large rotating/grinding teeth that effectively mulches woody species. Use of this technique results in minimal soil disturbance and reduces shrubs to a layer of wood chips above the soil. Mulching/Chipping will be used along with fire to reintroduce disturbance of the landscape, particularly when fire alone cannot be used to manage woody vegetation (e.g. to reduce fire suppressed woody shrubs and especially titi that has reached sub-canopy). This management technique is used to reduce the risk of a crown fire and will only be used along roads.

- *Chopping* – a method of site preparation and fuel compression. Chopping is used in landscapes where woody vegetation is less than 15 cm in diameter and the density is typically less than 500 trees per acre. This methodology involves a large drum affixed with blades that is pulled behind a bulldozer, placing and compressing woody and herbaceous fuels in a layer that will carry fire. A prescribed burn will be conducted within 2 months of treatment. Chopping will be used to augment disturbance of the landscape, particularly when fire alone cannot be used to manage woody vegetation (e.g. to reduce fire suppressed woody shrubs and especially titi that has reached sub-canopy). This management technique is used to reduce the risk of a crown fire. This method will be used where trees are 15 cm or less in diameter.

- *Walkdown* – a method of site preparation and fuel compression. Walkdown is used in landscapes where woody vegetation is typically denser than 500

trees per acre and/or where there are sensitive wetland soils that will not support chopping equipment. Chopping requires dragging a heavy weight drum through the landscape, while the walkdown technique allows the bulldozer to walk over and compress the woody vegetation without disturbing the soils. Soil tip over around the larger roots is minimal and is temporary. A prescribed burn will be conducted within 2 months of treatment. Walkdown will be used in areas where either vegetation has become too large to use a chopper or where soils are too wet to support a chopper. This management technique is used to reduce the risk of a crown fire. This method will be used where trees are 15 cm or greater in diameter. Walkdown will be used perpendicular to the beds to knock down the beds.

- *Harvesting* – suggested in areas where the timber is merchantable. The timber will be thinned to a desired tree density of approximately 30 trees per acre (tpa) based on plant community type and performance standards. Harvesting will be completed within six months of issuance of the final MBI. Best management practices for timber harvesting will be used at all times. Harvesting will not take place in wet conditions and machinery used within wetlands will be fitted with wide wheel bases to evenly distribute the pressure on the surface to prevent rutting. Any extraordinary rutting caused by the harvesting will be documented and restored to original grade using the disturbed soil. Harvesting machinery will be used perpendicular to the beds to knock down the beds.

The canopy will be reduced incrementally beginning with a reduction to 100 trees or less/acre and ultimately towards the target of 30-60 trees or less per acre. Gradual tree reduction is done as a means to retain fuel produced as pine needle cast. If after 4 years of management and prescribed fire the canopy has not met the target density of 30-60 trees/acre, additional trees may be mechanically reduced before reaching final success. The site will be harvested incrementally within sections to track progress and ensure compliance with BMPs, the entire site will be completely harvested within six months of issuance of the final MBI. All management activities, including harvesting activities, are dependent on the weather. In order to avoid impacting the on-site wetlands (e.g. rutting and siltation), the site will not be timber harvested during times of heavy rain and/or when wetland soils are sensitive to rutting. Further, road removal will be accomplished after initial harvesting and the first prescribed burn to facilitate access to all portions of the site.

Where trees can be harvested, typical forestry equipment (e.g. Feller-Buncher) will be used to harvest the timber. Harvested trees will be cut to stump height (approximately 0-15 cm) and the stumps will remain in the ground. The timber will be hauled off the site with skidders. The following conditions will apply:

- Best management practices will be followed at all times.
- If disturbances occur within wetlands, the sponsor will be contacted within 24 hours.
- The sponsor or designated QMS is responsible for contacting the IRT members.

- A remedial plan to restore the disturbed wetland will be prepared by the QMS within 30 days of wetland disturbance.

b. Prescribed Burning

- In general, prescribed burns are the best strategy for mimicking natural fire regimes and restoring a more natural and historically based ecological equilibrium to the communities on site. Initial burns are intended to reduce woody vegetation, while subsequent burns will maintain a more open landscape, maintain appropriate life forms, and select for fire dependent species. As a result, shrubs will be reduced to coppice, intermediate strata below the canopy will be removed, and light will penetrate to the ground. The physical disturbance created by fire will selectively increase the number of species, increase overall density, and increase coverage of fire-dependent groundcover plant species, which are appropriate for this landscape and will create habitat for native fauna.

- Restoring the natural ecosystems will require an intensive prescribed fire sequence as detailed below. The initial burning regime will be integral for successful enhancement.

  i. Mechanically treat vegetation in early spring (Jan-April) – year one
  ii. Allow the vegetation to dry by late spring (April-May) – year one
  iii. Prescribe burn as soon as mechanically treated vegetation dries (May-June) – year one
  iv. After the initial burn, allow vegetation to grow throughout the summer (July-November) – year one
  v. Vegetation in groundcover is dormant (Dec-Feb) – year one, beginning of year two
  vi. Vegetation is allowed to grow throughout spring and early summer (March-June) – year two
  vii. If vegetation is not adequate to carry fire, the site will be roller chopped (June)
  viii. Second prescribed burn (June-August) – year two
  ix. Mechanically treat vegetation as needed year two
  x. Allow vegetation to grow in year three and four after burning and mechanical work in year two
  xi. Prescribe burn as soon as conditions allow (Jan-June) – year five

  Note: Allow for selective burning and mechanical treatment of any areas that might need supplemental treatments throughout all years of management. In addition, specific burn frequencies for particular plant communities will begin after the initial intensive prescribed burn sequence.

Fire management on site has been discussed with consultation from James Beach and Tommy Beach from B&L Land Development (both are certified foresters and experienced burn bosses), and Chuck Hess, US Forest Service – Restoration Ecologist, Apalachicola National Forest. Event-specific prescriptions will be drafted and filed prior to each burn, and may change at the discretion and judgment of the Prescribed Burn Manager. Burn coverage of 80% of the burnable area is generally accepted as a realistic and acceptable coverage to maintain fire

dependent ecosystems of northwest Florida. Efforts will be made to limit crown fires.

c. Chemical treatment
Exotic plant species and inappropriately dense woody plants will be controlled primarily through mechanical treatments and burning, but some may require specific attention. Targeted mechanical treatments or chemical applications may be necessary. Monitoring protocols (below) will help to identify the need for removing exotic species and reducing the coverage of woody species. Exotic or invasive species found on site will be removed throughout the restored conservation area.

d. Revegetation (Seed Application and Supplemental Planting)
Under most circumstances, the native seed bank will be sufficient to provide the appropriate biodiversity to restore the natural habitat. These species will be favored and/or facilitated by the application of mechanical treatments and prescribed fire. In highly disturbed areas such as where selective harvesting and road removal and ditch recontouring will take place, supplemental seeding and planting may be necessary to create a habitat where it did not exist before. A revegetation plan has been prepared as Attachment G. Supplemental seed dispersal will also be used to enhance the existing seed bank as depicted in Attachment G, Figure G-1.

Control plots will be set up in selected restoration areas, 2 pairs of plots will be placed in each of the four plant communities (Mesic Pine Flatwoods, Wet Prairie, Bog, and Shrub Bog), for a total of 8 pairs of plots. Each pair will consist of (2) 1m x 3m plots. One plot of each pair will be used to measure an un-seeded area (control) and one will be used to measure a seeded area. The species richness, and quantitative coverage of herbaceous species will be measured in each 1m x 3m plot. Revegetation will be deemed successful when more than 50% of the ground is covered by native herbaceous wetland vegetation after an annual growing season. In areas with less than 50% coverage, additional seedage will be applied annually until more than 70% of the ground is covered by native plants.

e. Hydrological Maintenance
Five activities will contribute to appropriate hydrological maintenance of the site, as follows:

• *Road Removal* - Selected logging roads through wetland plant communities will be removed mechanically to restore sheetflow within the SMB. Roads will be mechanically removed and the roadside ditches will be recontoured with the roadbed material. Plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H).

• *Ditch Recontouring* – Ditches through the wetland communities will be recontoured and revegetated to decrease hydrological alteration of the wetlands. Plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H).

- *Planted Bed Removal* – Bedding from existing pine plantation will be knocked down during management activities. This will reestablish natural sheetflow throughout the SMB.

- *Low-Water Crossings* – Low water crossings will be installed at specified locations to restore sheetflow between the wetland communities. Plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H).

- *Mechanical Treatment / Prescribed Burning* – Fire-suppressed woody vegetation in the subcanopy and canopy will be mechanically treated prior to burning. Maintaining these woody species in their appropriate growth forms with subsequent prescribed fires will increase water availability across the site and restore the natural hydrological regime.

B. Implementing Mitigation Activities

Specific objectives and strategies for restoring and maintaining each plant community are presented in Section III.C. In general, a combination of community-specific mechanical treatments, prescribed burns, and hydrological adjustments will be used to carry out restoration of the site.

The site will be restored to the historic condition as illustrated by plant community signatures in the 1953 aerial photo (Exhibit A-7). This historic condition was characterized by an open landscape, scattered canopy in both uplands and wetlands with diversity and appropriate life forms for the herbaceous groundcover. The planted pine canopy and fire suppressed shrub strata will be reduced to appropriate densities and life forms for each plant community; and the herbaceous groundcover will increase in diversity and coverage. Natural hydrology will return as the vegetation is restored by management and the ditches are graded and/or filled.

C. Implementation Timeline

Management treatments will be completed as indicated in Table 5 (below). All mechanical treatment will be accomplished within six months from issuance of the final MBI (depending on weather). The site will be harvested using skidders to a density of approximately 30-60 trees per acre. After harvesting is complete, fire-suppressed ecotones will be walked down to facilitate prescribed fire. When the walkdown is complete, the first prescribed fire will be commenced. The hydrological improvements will not be completed until after the first prescribed fire to maximize equipment maneuverability within the site during the burn. Road removal activities will follow.

Mechanical treatments and prescribed burns will be conducted as necessary in each year. Timing of these treatments can be affected by weather and logistical concerns. Hydrological improvements will involve road removal and ditch contouring and will be implemented within the first two years of bank operation - hydrological changes will be assessed during monitoring in subsequent years.

Annual monitoring will occur between September and December of each year, after landscape treatments have been conducted. In Year 2009, prior to landscape treatments, baseline data will be collected against which to compare subsequent post-treatment years. Semiannual progress reports of activities will be provided twice each year, and a comprehensive annual report will be provided at the end of each year.

Table 5. Management implementation schedule. Management activities are given for each year with approximate dates of implementation.

Activity	Approx. Due Date based on date of issuance
Execution of Conservation Easement	1-3 months
Establishment of Financial Assurances	1-3 months
Selection of Approved QMS	1-3 months
Installation of Gates and CE Signs	1-6 months
Baseline Monitoring / Reporting	1-6 months
Initial Harvesting and Mechanical Treatment	1-8 months
Semi-Annual Inspection/Reporting every 6 months	Long-Term
First Prescribed Fire	6-12 months
Hydrological Improvements	8 months - 1.5 yr.
Road and Ditch Revegetation	9 month - 1.5 yr.
1st Annual Monitoring / Reporting	1 year
Mechanical Preparation for Burn (if needed)	1 year - 1.5 year
2nd Prescribed Fire	1 year - 2 years
2nd Annual Monitoring / Reporting	1 year after previous
Establishment of Seeding Transect	2 years to 2.5 years
Seed Dispersal	2 years to 2.5 years
Longleaf Planting	2.5 years - 3 years
3rd Annual Monitoring / Reporting	1 year after previous
Exotic / Invasive Review	3 years - 3.5 years
Mechanical maintenance (if necessary)	3 years - 4 years
3rd Prescribed Fire	3 years - 4 years
Additional annual Monitoring / Reporting until success	annually

*Mechanical treatments and prescribed fire will be employed as often as needed pending appropriate weather and site conditions.

D. Financial Assurances

The Sponsor shall provide FDEP and Corps with the financial responsibility mechanisms for the Bank (or phase thereof) as required by Rule 62-342.700 F.A.C and 33CFR, Parts 325 and 332. (Attachment L, Financial Assurances). The Sponsor shall secure financial assurance for construction activities, monitoring, maintenance, and reporting prior to achieving performance standards, and for long-term management activities after the Bank has reached these standards.

1. *Implementation Phase*

The Sponsor shall establish FDEP and the Corps approved financial assurance for construction and implementation at least 30 days prior to the initial release of credits. The cost estimate used to establish the financial assurance amount is included in

Attachment M. This assurance shall be in a form to be determined by the IRT. The Sponsor may request a partial reduction in the amount of the construction assurance after successful completion of implementation activities and submittal of a revised cost estimate. The Sponsor may request a release from its construction financial assurance obligation upon the determination that the SMB has reached performance standards and that the long-term management has been properly funded.

2. *Perpetual Management Phase*
Thirty days prior to the initial release of credits, the bank sponsor shall establish an account to be funded by either a bond, letter of credit, or cash in an amount to be determined. This account shall be in FDEP and Corps approved form for such mechanisms to implement the terms of the perpetual management plan for the bank.

3. *Adjustments*
The Sponsor shall be the responsible party for adaptive and long-term management until the permit and the fully funded long-term management trust are transferred to a different long-term manager. The Sponsor shall provide the FDEP and the Corps with proof of permit and trust compliance prior to such a transfer. All cost estimates shall be reviewed and appropriate financial responsibility instruments adjusted every two years in accordance with Rule 62-342.700 (11) F.A.C.and 33 CFR Parts 325 and 332. In addition, the Sponsor shall conduct another cost estimate during the establishment of final construction plans, accounting for any changes in construction and implementation costs required by other permits or conditions, weather, contractors' costs, or other such costs due to adaptive management procedures. A significant change in the cost estimate (>10%) may result in a modification to the required deposits into the financial responsibility instruments.

III. OPERATION OF THE BANK

A. Service Area

1. Description
The proposed mitigation bank service area (MSA) is comprised of approximately 365,940 acres in total land area, and includes portions of the St. Andrew/St. Joseph Bay Watershed (HUC #03140101) as depicted on the Service Area Map (Exhibit A-1). The MSA is bounded on the south by the Intracoastal Waterway and the St. Andrew Bay. The eastern boundary is demarcated by the St. Andrew Watershed boundary. The northern property boundary is formed by the transition of the ecosystem types from coastal flatwoods communities to those more indicative of the Sandhill region. The western boundary is the Bay/Walton County line. Based on the Bay County Comprehensive Plan (BCCP), the Deer Point Protection Zone (DPPZ) was excluded from the service area because wetland impacts within the DPPZ, as defined in Chapter 6.11.1 of the BCCP, must be mitigated within the DPPZ. All information indicates that the Service Area is highly representative of the ecological communities present on the SMB. The SMB will offer "like for like" credits for the ecological communities that are proposed for impact.

Development pressure within these counties, especially along the coastal areas Bay, County, suggests that a mitigation bank to service this area will be essential to meet regulatory permitting requirements in the near future. A review of mitigation requirements, permit approvals, population increases, and proposed developments

demonstrated the growing demand for appropriate mitigation in the area (see Mitigation Bank Prospectus).

To evaluate the capacity for the SMB to provide "like for like" mitigation within the proposed Service Area, new and existing information on soils, hydrology, ecological communities, and land use within the St. Andrew Bay Watershed were evaluated. New data was collected in targeted areas throughout the watershed to evaluate the current state of ecological communities and/or to corroborate existing information.

ERC analyzed existing GIS data including:

- Soil survey data for Bay, Washington, Calhoun, and Gulf Counties
- Florida Land Use, Cover, and Forms Classification System (FLUCCS) data
- Twelve digit Hydrologic Unit Code (HUC) watersheds
- Existing Mitigation Bank location and Service Area data

Further, ERC collected field data to evaluate actual Service Area/watershed land cover, ecological community and structural changes, and on-site ecological communities. All existing and newly collected data were compiled and compared to produce an appropriate (and up-to-date) delineation of Service Area boundaries for the SMB.

All information indicates that the Service Area is highly representative of the ecological communities present on the SMB. Natural communities in the Service Area range from estuarine wetland systems to spring-fed, freshwater wetland systems. The majority of wetland impacts occur to wetlands classified by FNAI as Basin Wetlands, Wet Flatlands, and Seepage Wetlands. These large natural community groups contain Wet Prairie, Wet Flatwoods, Basin Swamps, Baygalls, Seepage Slopes, and Freshwater Marshes. Wetland impacts to deeper wetland systems (e.g. Seepage Streams, Blackwater Streams, Tidal Sloughs, and Floodplain Forests) are typically limited to activities that do not require mitigation, such as bridges, boardwalks, and docks.

2. Restrictions on Bank Use

Bank credits shall not be used to offset impacts to estuarine resources such as tidal marsh, which contain vegetative cover dominated by halophytes, i.e. black needlerush (*Juncus romerianus*) and saltmarsh cordgrass (*Spartina alterniflora*). Further, bank credits shall not be used to offset impacts within the Deer Point Lake Protection Zone, as indicated on the Service Area Map.

Generally, no credits will be allowed for purchase outside of the MSA with the possible exception of the following:

- Projects with adverse impacts partially located within the MSA.
- Linear projects, such as roadways, transmission lines, distribution lines, pipelines, or railways which are at least partially located in the MSA.

B. Bank/Credit Assessment Methodology

The Uniform Mitigation Assessment Methodology (UMAM) was used to determine the credits for the SMB. The FDEP and the Corps use UMAM as the preferred functional

assessment methodology pursuant to 62-345, F.A.C. This same protocol is used to determine functional loss under the Wetland Resource Permitting guidelines (62-312, F.A.C.) and Clean Water Act, Section 404 permit review. The SMB is allotted 178.33 Federal credits based on the agreed upon UMAM scoring. The summary of credit releases is detailed in Section III.C of this plan. Under no circumstances may the same credits be used to provide mitigation for more than one permitted activity.

The UMAM scoring was established during field visits and meetings between May 2007 and October 2008. The deltas and scoring summaries are provided as Attachment D, and resulted in 178.33 credits.

C. Objectives and Final Performance Standards

The mitigation bank sponsor is responsible for the successful restoration of the mitigation area to a natural state. Restoring (as described in Section II.A., above) and adaptively managing (Section IV.D, below) a landscape requires a system of measurable objectives combined with a scientifically valid and defensible monitoring program. Regular monitoring and a variety of restoration activities will be required. Objectives and performance standards are given separately for plant communities and for prescribed fire.

1. Plant Community Objectives/Standards

Measurable objectives for *each target plant community* are enumerated and explained below, and each is followed by strategies for achieving that objective. Specific performance standards are also necessary if we are to measure restoration success and adjust accordingly. *Performance standards* are given after each objective below (see also Table 8, below).

a. Basin Swamp (31.20 acres)

This habitat shows evidence of fire suppression in the ecotones. Currently the published range of fire frequency for a Basin Swamp is approximately 5-150 years (FNAI, 1990). We do expect fire to burn into the ecotone of the Basin Swamp and in drier years fire is expected to burn throughout all landscapes of the SMB. Currently a fire frequency of approximately 2-3 years is being used to manage similar landscapes in the ANF. We propose using a fire interval of 2-3 years. Restoring this plant community to its natural condition will require meeting the following objectives:

<u>Objective 1</u>. Reduce woody vegetation in the ecotone to coppice

Historically, the ecotones of Basin Swamp were more open landscapes with a canopy of scattered pond cypress and a mixture of coppice shrubs and herbaceous growth in the groundcover. Fire suppression allows woody vegetation to create layers or strata that negatively effect the normal growth and reproduction of the herbaceous and coppice shrub layer of the groundcover. There are several strategies for removing this unwanted woody vegetation.

Strategies

a. Mechanical treatment

When vegetation is too dense or too near human habitation to conduct a safe prescribed burn, some form of mechanical removal must be employed to reduce the woody fire-suppressed vegetation. Any planted pines will be removed. In

areas where pines are too small to harvest, the site will be roller chopped and/or pushed down.

b. Prescribed burning
Burning is the preferred method to reduce woody vegetation to coppice in the ecotone of the Basin Swamp and will be used as a first option. Initially burning will be on a 1 to 3 year schedule or whenever a prescribed burn can be scheduled to maintain the 1 to 3 year average burn schedule. This schedule is more intensive (with greater burn frequency) than the final burn schedule and is required for the first few years to allow for the maximum number of burns to encourage redevelopment of the ground cover and maintain shrubs as coppice. Fire intervals can be lengthened to 2-3 years, once the shrubs have been reduced to coppice and the groundcover vegetation of the ecotone will support prescribed fires.

Performance Standard: Woody shrubs shall be reduced to coppice and not exceed 2 meters in height, and 60% aerial coverage.

Objective 2. Eradicate and control invasive non-native plant species
The ecotone habitat is vulnerable to infestation by invasive non-native plant species.

Strategies
a. *Remove invasive non-native plant species.*
Non-native, invasive plants will be removed mechanically, by hand, or by application of herbicide. Any observation of invasive, non-native species will be georeferenced in the field and treated. Prescribed burning will favor the growth of native species.

Performance Standard: Coverage by category I and II invasive exotic plant species (pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org) not to exceed 1% total coverage.

Objective 3. Restore Hydrology
There are several impacts to the natural hydrology at the SMB. Dirt logging roads are established throughout the site, ditches have been created to obtain fill for logging roads and to drain wetlands, and the site is planted with a dense canopy of slash pine. Direct hydrological improvement will result from structural changes to the landscape and secondary hydrological improvement will result from the removal of fire-suppressed woody vegetation. Removal of the fire-suppressed vegetation will have considerable impact on ground water availability due to decreases in evapotranspiration rates.

Strategies
a. Road Removal
Selected logging roads through wetland plant communities will be removed mechanically to restore sheet flow within the SMB. Roads will be mechanically removed and the roadside ditches will be recontoured with the roadbed material.

b. Ditch Recontouring

Ditches through the wetland communities will be recontoured and revegetated to decrease hydrological alteration of the wetlands. Material from existing roadbeds will be used to create shallow swale systems through the wetlands.

c. Planted Bed Removal
Bedding from existing pine plantation will be knocked down to reestablish natural sheet flow through the SMB.

d. Low-Water Crossings
Low water crossings will be installed at specified locations to restore sheet flow between the wetland communities.

d. Mechanical Treatment / Prescribed Burning
Fire-suppressed woody vegetation in the subcanopy and canopy will be mechanically cleared prior to burning. Maintaining these woody species in their appropriate life stages with subsequent prescribed fires will increase water availability across the site and restore the natural hydrological regime.

Performance Standard: Hydrology within each polygon shall be evident by the presence of hydric soils per the Natural Resource Conservation Service, and having a hydroperiod suitable for the wetland community type according to the soil survey of Bay County (as outlined in Table 7 below).

***b. Bog* (254.35 acres)**
This habitat has been both 1) harvested and is fire suppressed, and 2) planted in pine plantations and is fire-suppressed (Attachment A, Exhibit A-5). Once intensive prescribed burning has been completed and performance standards have been met, a burn frequency in perpetuity will be determined with consultation of the IRT and QMS. The published range of fire frequency for a bog is approximately 4-20 years (FNAI, 1990) and currently, a fire frequency of approximately 2-3 years is being used to manage similar landscapes in the ANF. We propose using a fire interval of 2-3 years. Restoring this plant community to its natural condition will require meeting the following objectives:

<u>Objective 1</u>. Reduce woody vegetation (shrubs) in the groundcover to coppice
Historically, these ecosystems were open landscapes with or without a sparse canopy of scattered pond cypress and/or slash pine and a mixture of dense to sparse herbaceous vegetation and coppice shrubs in the groundcover. Fire suppression allows woody vegetation to create layers or strata that negatively affect the normal growth and reproduction of the herbaceous and coppice shrub layer of the groundcover. Prescribed fire will reduce the fire suppressed shrubs to coppice and stimulate seed germination from the seed bank. There are several strategies for reducing the shrubs to coppice and encouraging growth of herbaceous species.

Strategies
a. Mechanical treatment
Mechanical treatment (harvesting, walkdown, and/or chopping) will be used to prepare this polygon for prescribed fire and woody vegetation reduction only when

fire is not allowed by Florida Division of Forestry (DOF). Mechanical treatment will not be used to replace fire as a primary enhancement tool.

b. Prescribed burning
Burning is the preferred method to reduce woody vegetation to coppice in the Shrub Bog and will be used as a first option. Initially burning will be on a 1 to 3 year schedule or whenever a prescribed burn can be scheduled to maintain the 1 to 3 year average burn schedule. This schedule is more intensive (with greater burn frequency) than the final burn schedule and is required for the first few years to allow for the maximum number of burns to encourage redevelopment of the ground cover and maintain shrubs as coppice. Fire intervals can be lengthened to 2-3 years, once the shrubs have been reduced to coppice and the groundcover vegetation will support prescribed fires.

Performance Standard: Woody plants in the groundcover and strata below the canopy will be reduced to coppice sprouts and 30% or less relative coverage by coppice. Coppice will occupy a single stratum and average no more than 2 m tall or the average height of woody shrubs following the second growing season after prescribed fire.

Objective 2. Canopy management
The bogs are fire suppressed and are dominated by thickets of titi and may or may not contain pond cypress and/or slash pine. In areas where the pines are too small to harvest and/or areas without canopy but containing fire suppressed woody grow, the site will be roller chopped and/or pushed down. With or without planted pines the canopy density for the bog will be adjusted to less than 100 trees per acre. All existing pond cypress will be left during canopy management and supplemental pond cypress will be replanted according to the revegetation plan (Attachment G).

Strategies
a. *Mechanical treatment*
Canopy management of pines is accomplished by mechanical means (harvesting, walkdown, or chopping). Pines that are large enough for harvesting will be harvested as needed to achieve appropriate density.

Performance Standard: Canopy will be reduced to less than 50 slash pine per acre. No existing pond cypress will be intentionally removed.

Objective 3. Re-establish appropriate groundcover
In a Bog, the plant diversity is found in the groundcover, including the shrub layer. To restore and maintain the plant diversity, it is important to restore conditions to the appropriate groundcover that will allow plants to reproduce normally. Herbaceous ground cover species are expected to flower and seed from existing plants. Management activities will result in increased reproduction of existing plants and new seedling germination from the augmented and existing seed bank. The proposed management in conjunction with a prescribed fire will reduce canopy density, reduce shrubs to coppice, stimulate existing native herbaceous plants to reproduce, and encourage seed germination from the seed bank.

Strategies

a. *Mechanical Treatment*

When vegetation is too dense or too near human habitation to conduct a safe prescribed burn, some form of mechanical removal must be employed to select for appropriate groundcover species and life forms. Mowing and other mechanical means can be used to select for the appropriate species. Further mechanical treatment (harvesting, walkdown, and/or chopping) will be used to prepare this polygon for prescribed fire.

b. *Prescribed burning*

The best way to re-establish the appropriate groundcover is by prescribed burning. Burning will allow the appropriate species in the seed bank to reestablish. Initially burning will be on a 1 to 3 year schedule or whenever a prescribed burn can be scheduled to maintain the 1 to 3 year average burn schedule. This schedule is more intensive (with greater burn frequency) than the final burn schedule and is required for the first few years to allow for the maximum number of burns to encourage redevelopment of the ground cover and maintain shrubs in coppice. Fire intervals can be lengthened to 4-10 years, once the shrubs have been reduced to coppice several times and the groundcover vegetation (including coppice and herbaceous species) will support prescribed fires. This determination to lengthen the fire interval will be made after 5 years of active management and consultation with the IRT.

c. *Revegetation*

Some seeding and/or planting may be necessary to reestablish the appropriate species. The seed bank will be enhanced by spreading seeds along transects within areas that are not trending towards success.

Performance Standard: Forty or more native groundcover species (including coppice shrubs) per transect with herbaceous groundcover trending toward 60% or greater relative coverage. Total coverage of bareground/leaf litter/open water will be 20% or less. An appropriate species list is included as Attachment F.

Objective 4. Restore Hydrology

There are several impacts to the natural hydrology at the SMB. Dirt logging roads are established throughout the site, ditches have been created to obtain fill for logging roads and to drain wetlands, and the site is planted with a dense canopy of slash pine. Direct hydrological improvement will result from structural changes to the landscape and secondary hydrological improvement will result from the removal of fire-suppressed woody vegetation. Removal of the fire-suppressed vegetation will have considerable impact on ground water availability due to decreases in evapotranspiration rates.

Strategies

a. Road Removal

Selected logging roads through wetland plant communities will be removed mechanically to restore sheet flow within the SMB. Roads will be mechanically removed and the roadside ditches will be recontoured with the roadbed material.

b. Ditch Recontouring

Ditches through the wetland communities will be recontoured and revegetated to decrease hydrological alteration of the wetlands. Material from existing roadbeds will be used to create shallow swale systems through the wetlands.

c. Planted Bed Removal
Bedding from existing pine plantation will be knocked down to reestablish natural sheet flow through the SMB.

d. Low-Water Crossings
Low water crossings will be installed at specified locations to restore sheet flow between the wetland communities.

d. Mechanical Treatment / Prescribed Burning
Fire-suppressed woody vegetation in the subcanopy and canopy will be mechanically cleared prior to prescribed burning. Maintaining these woody species in their appropriate life forms with subsequent prescribed fires will increase water availability across the site and restore the natural hydrological regime.

Performance Standard: Hydrology within each polygon shall be evident by the presence of hydric soils per the Natural Resource Conservation Service, and having a suitable hydroperiod for the wetland community type according to the soil survey of Bay County (as outlined in Table 7 below).

Objective 5. Eradicate and control invasive non-native plant species
The Bog habitat is vulnerable to infestation by invasive non-native plant species.

Strategies
a. *Remove invasive non-native plant species.*
Non-native, invasive plants will be removed mechanically, by hand, or by application of herbicide.

Performance Standard: Coverage by category I and II invasive exotic plant species (pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org) will not exceed 1% total coverage.

***c. Shrub Bog* (80.40 +/- acres)**
This habitat has not been planted in pine plantations; however, it is fire-suppressed throughout (Attachment A, Exhibit A-5). Shrub Bog is closely related to a Bog ecologically, hydrologically, and floristically. Once intensive prescribed burning has been completed and performance standards have been met, a burn frequency in perpetuity will be determined with consultation of the IRT and QMS. The range of fire frequency for a Shrub Bog is approximately 10-20 years (Shrub Bog description, FNAI, 2008). Currently a fire frequency of approximately 2-3 years is being used to manage similar landscapes in the ANF. We propose using a fire interval of 2-3 years. Restoring this plant community to its natural condition will require meeting the following objectives:

Objective 1. Reduce woody vegetation (shrubs) in the groundcover to coppice
Historically, these ecosystems were open landscapes with a canopy of scattered pond cypress and/or slash pine and a mixture of dense to sparse herbaceous

vegetation and a dominance by coppice shrubs in the groundcover. Fire suppression allows woody vegetation to create layers or strata that negatively affect the normal growth and reproduction of the herbaceous, light dependent species in the groundcover. Prescribed fire will thin the canopy density, reduce shrubs to coppice, and stimulate seed germination from the seed bank. There are several strategies for reducing the shrubs to coppice and encouraging growth of herbaceous species.

Strategies

a. Mechanical treatment

When vegetation is too dense or too near human habitation to conduct a safe prescribed burn, some form of mechanical removal must be employed to reduce the woody invasives. Further mechanical treatment (walkdown and/or chopping) will be used to prepare this polygon for prescribed fire.

b. Prescribed burning

The best way to reduce woody vegetation to coppice in the shrub bog is to use prescribed fire. By mimicking natural fire, a natural landscape can be restored. This may require repeated burns in subsequent years. In the first 5 years of management, burning will be more intensive (with greater burn frequency) on a 1 to 3 year schedule or whenever a prescribed burn can be scheduled to maintain the 1 to 3 year average burn schedule. Flexibility in burn scheduling is required for the first few years to allow for the maximum number of burns to maintain shrubs as coppice and create a mosaic of life forms representing coppice and herbaceous plants. Fire intervals can be lengthened to 2-3 years, once the shrubs have been reduced to coppice several times and the groundcover vegetation (including coppice and herbaceous species) will support prescribed fires. This determination to lengthen the fire interval will be made after five years of active management in consultation with the IRT.

Performance Standard: Woody shrubs shall be reduced to coppice, not to exceed 2 meters in height and 40 percent aerial coverage.

Objective 2. Canopy management

The Shrub Bogs are fire suppressed and may or may not contain pond cypress and/or slash pine. Canopy, if present, will ultimately be managed for approximately 30 or less trees per acre. Because the canopy is typically sparse in Shrub Bogs, the fire suppressed woody growth will be carefully removed by chopping and/or walkdown, leaving scattered canopy trees (primarily pond cypress and slash pine). The canopy density for the Shrub Bog will be adjusted to approximately 30-100 or less trees/acre.

Strategies

a. *Mechanical treatment*

Canopy management is accomplished by mechanical means. Pines that are large enough for harvesting will be harvested as needed to achieve the appropriate density.

Performance Standard: Ultimately the canopy will be reduced to less than 100 trees per acre. No existing pond cypress will be intentionally removed.

Objective 3. Re-establish appropriate groundcover

In a Shrub Bog, the plant diversity is found in the groundcover including the shrub layer. To restore and maintain the diversity it is important to restore conditions to the groundcover that will allow plants to reproduce normally. Herbaceous ground cover species are expected to seed from existing plants stimulated to flower and fruit from management activities and grow from the seed bank. The proposed management in conjunction with a prescribed fire will thin the canopy density, reduce shrubs to a single layer of coppice, and stimulate existing herbaceous groundcover species to reproduce and germinate from the seed bank. Because Shrub Bogs have a longer hydroperiod and consequently tend to burn with less frequency when compared with Bogs and Wet Prairies, we expect similar plant diversity in both habitats but greater coverage and average height of coppice in Shrub Bogs.

Strategies

a. *Mechanical Treatment*

When vegetation is too dense or too near human habitation to conduct a safe prescribed burn, some form of mechanical removal must be employed to select for appropriate groundcover species and life forms. Mowing and other mechanical means can be used to select for the appropriate species. Further mechanical treatment (walkdown and/or chopping) will be used to prepare this polygon for prescribed fire.

b. *Prescribed burning*

The best way to re-establish the appropriate groundcover is by prescribed burning. Burning will allow the appropriate species in the seed bank to reestablish. Initially burning will be on a 1 to 3 year schedule or whenever a prescribed burn can be scheduled to maintain the 1 to 3 year average burn schedule. Flexibility in burn scheduling is required for the first few years to allow for the maximum number of burns to encourage redevelopment of the ground cover and maintain shrubs in coppice.

c. *Revegetation*

Some seeding and/or planting may be necessary to reestablish the appropriate species. The seed bank will be enhanced by directly seeding the polygon and hardwood species will be planted to simulate natural canopy recruitment.

Performance Standard: Forty or more native groundcover species (including coppice shrubs) per transect with herbaceous plants occupying 50% or less relative cover. Total coverage of bareground/leaf litter/open water will be 30% or less. Because Shrub Bogs occupy a wetter position in the landscape we expect that they will have larger areas of water/leaf litter/bare ground when compared to a Bog. Bog and Shrub Bog contain the same native species, this list is included as Attachment F.

Objective 4. Restore Hydrology

There are several impacts to the natural hydrology at the SMB. Dirt logging roads are established throughout the site, ditches have been created to obtain fill for logging roads and to drain wetlands, and the site is planted with a dense canopy of slash pine. Direct hydrological improvement will result from structural changes to the landscape and secondary hydrological improvement will result from the

removal of fire-suppressed woody vegetation. Removal of the fire-suppressed vegetation will have considerable impact on ground water availability due to decreases in evapotranspiration rates.

Strategies

a. Road Removal

Selected logging roads through wetland plant communities will be removed mechanically to restore sheet flow within the SMB. Roads will be mechanically removed and the roadside ditches will be recontoured with the roadbed material.

b. Ditch Recontouring

Ditches through the wetland communities will be recontoured and revegetated to decrease hydrological alteration of the wetlands. Material from existing roadbeds will be used to create shallow swale systems through the wetlands.

c. Planted Bed Removal

Bedding from existing pine plantation will be knocked down to reestablish natural sheet flow through the SMB.

d. Low-Water Crossings

Low water crossings will be installed at specified locations to restore sheet flow between the wetland communities.

d. Mechanical Treatment / Prescribed Burning

Fire-suppressed woody vegetation in the subcanopy and canopy will be mechanically cleared prior to prescribed burning. Maintaining these woody species in their appropriate life forms with subsequent prescribed fires will increase water availability across the site and restore the natural hydrological regime.

Performance Standard: Hydrology within each polygon shall be evident by the presence of hydric soils per the Natural Resource Conservation Service, and having a suitable hydroperiod for the wetland community type according to the soil survey of Bay County (as outlined in Table 7 below).

Objective 5. Eradicate and control invasive non-native plant species

The Shrub Bog habitat is vulnerable to infestation by invasive non-native plant species.

Strategies

a. *Remove invasive non-native plant species.*

Non-native, invasive plants will be removed mechanically, by hand, or by application of herbicide.

Performance Standard: Coverage by category I and II invasive exotic plant species (pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org) will not exceed 1% total coverage.

***d. Wet Prairie* (252.81 acres)**

Wet Prairies and Seepage Slopes are similar communities, typically found in areas of low relief with poorly drained sandy soils or on gradual slopes where seepage creates wetland conditions. Wet Prairie is the most dominant habitat on the site while

Seepage Slopes are localized in areas of ecotone adjacent to Mesic (Pine) Flatwoods. Both Wet Prairie and Seepage Slope are related floristically and were both historically characterized as landscapes with sparse to no canopy and with sparse to dense ground cover of grasses and forbs. In their current condition, silviculture and fire suppression have created a dense coverage of woody species in all strata. Once intensive prescribed burning has been completed and performance standards have been met, a burn frequency in perpetuity will be determined in consultation with the IRT and QMS. Currently the published range of fire frequency for a Wet Prairie is approximately 2-3 years (FNAI, 1990). Restoration practitioners managing similar landscapes in the ANF recommend burning Wet Prairies whenever they can be safely burned, which might result in burn intervals shorter than 2-3 years. Restoring this plant community to its natural condition will require meeting the following objectives:

Objective 1. Reduce the total coverage of woody vegetation (shrubs) in the groundcover and reduce fire suppressed shrubs to coppice

Woody vegetation creates strata or layers that reduce the amount of sunlight reaching the groundcover and herbaceous layer of vegetation. Without the intense sunlight, typical Wet Prairie and Seepage Slope species are not able to thrive and reproduce. There are several strategies for removing this unwanted woody vegetation.

Strategies

a. Mechanical treatment

When vegetation is too dense or too near human habitation to conduct a safe prescribed burn, some form of mechanical removal must be employed to reduce the woody invasive plants.

b. Prescribed burning

The best way to reduce woody vegetation to coppice and promote coverage and diversity of herbaceous plants in the Wet Prairie is by using prescribed fire. This may require repeated burns in subsequent years. In the first 5 years of management, burning will be more intensive (with greater burn frequency) on a 1 to 3 year schedule or whenever a prescribed burn can be scheduled to maintain the 1 to 3 year average burn schedule. Flexibility in burn scheduling is required for the first few years to allow for the maximum number of burns to maintain shrubs as coppice and enhance herbaceous plants. Fire intervals can be lengthened to 2-3 years, once the shrubs have been reduced to coppice several times and the groundcover vegetation (including coppice and herbaceous species) will support prescribed fires. This determination to lengthen the fire interval will be made after five years of active management in consultation with the IRT.

Performance Standard: Woody shrubs shall be reduced to coppice, not exceed 2 meters in height and 10% or less aerial coverage.

Objective 2. Reduce canopy

The Wet Prairies are fire suppressed and are dominated by thickets of titi and may or may not contain pond cypress and/or planted slash pine. Ultimately the planted pines, if present, will be reduced by mechanical means and other management techniques to approximately 30 or less trees/acre. In areas where the pines are too small to harvest and/or areas without canopy but containing fire suppressed woody

growth, the site will be roller chopped and/or pushed down. With or without planted pines the canopy density for the wet prairie will be adjusted to approximately 30 or fewer trees per acre. All existing pond cypress will be left during canopy management and supplemental pond cypress will be replanted according to the revegetation plan (Attachment G).

Strategies

a. *Mechanical treatment*

Canopy management of pines is accomplished by mechanical means (harvesting, walkdown, or chopping). Pines that are large enough for harvesting will be harvested as needed to achieve the appropriate density.

Performance Standard: Canopy will be reduced to 30 or fewer slash pine per acre.

Objective 3. Re-establish native groundcover

Much of the species diversity lies in the groundcover and it is important to ensure that an appropriate combination of species is present.

Strategies

a. *Mechanical Treatment*

When vegetation is too dense or too near human habitation to conduct a safe prescribed burn, some form of mechanical removal must be employed to select for appropriate groundcover species and life forms. Mowing and other mechanical means can be used to select for the appropriate species.

b. *Prescribed burning*

The best way to re-establish the appropriate groundcover is by prescribed burning. Burning will allow the appropriate species in the seed bank to re-establish. Prescribed fire is the preferred method to reduce woody shrubs in the groundcover.

c. *Revegetation*

Some seeding and/or planting may be necessary to reestablish the appropriate species, which will be determined during the Year 2 annual monitoring.

Performance Standard: Fifty or more native groundcover species per transect with herbaceous plants occupying 80% or more relative coverage and woody plants occupying 20% or less relative cover. Total coverage of bareground/leaf litter will be10% or less. An appropriate species list is included as Attachment F.

Objective 4. Restore Hydrology

There are several impacts to the natural hydrology at the SMB. Dirt logging roads are established throughout the site, ditches have been created to obtain fill for logging roads and to drain wetlands, and the site is planted with a dense canopy of slash pine. Direct hydrological improvement will result from structural changes to the landscape and secondary hydrological improvement will result from the removal of fire-suppressed woody vegetation. Removal of the fire-suppressed vegetation will have considerable impact on ground water availability due to decreases in evapotranspiration rates.

Strategies

a. Road Removal

Selected logging roads through wetland plant communities will be removed mechanically to restore sheet flow within the SMB. Roads will be mechanically removed and the roadside ditches will be recontoured with the roadbed material.

b. Ditch Recontouring

Ditches through the wetland communities will be recontoured and revegetated to decrease hydrological alteration of the wetlands. Material from existing roadbeds will be used to create shallow swale systems through the wetlands.

c. Planted Bed Removal

Bedding from existing pine plantation will be knocked down to reestablish natural sheet flow through the SMB.

d. Low-Water Crossings

Low water crossings will be installed at specified locations to restore sheet flow between the wetland communities.

d. Mechanical Treatment / Prescribed Burning

Fire-suppressed woody vegetation in the subcanopy and canopy will be mechanically cleared prior to burning. Maintaining these woody species in their appropriate life forms with subsequent prescribed fires will increase water availability across the site and restore the natural hydrological regime.

Performance Standard: Hydrology within each polygon shall be evident by the presence of hydric soils per the Natural Resource Conservation Service, and a suitable hydroperiod for the wetland community type according to the soil survey of Bay County and outlined in Table 7 below.

Objective 5. Eradicate and control invasive non-native plant species

Wet Prairie community types are vulnerable to infestation by invasive non-native plant species.

Strategies

a. *Remove invasive non-native plant species.*

Non-native, invasive plants will be removed mechanically, by hand, or by application of herbicide.

Performance Standard: Coverage by category I and II invasive exotic plant species (pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org) will not exceed 1% total coverage.

Table 6. Summary of Objectives and Final Performance Standards.

a. **Entire Site**:
1) Cover of Category I and II invasive exotic plant species (pursuant to the FEPPC) shall not exceed 1% total coverage per acre. 2) Hydrology shall be evident by the presence of hydric soils per the NRCS, and the depth to the water table shall be measured to ensure an adequate hydroperiod per the Bay County Soil Survey. 3) All planted slash pines shall be thinned to an appropriate density LESS THAN 100 TREES per acre depending on ecological community (Attachment C and below) 4) Woody shrubs shall be maintained in coppice not to exceed 2 meters in height 5) *Hydrology for Wet Prairie, Bog, Shrub Bog and Basin Swamp*: The presence, morphology, and distribution of SHS, SHI, and/or hydric soil indicators sufficient to confirm that the appropriate saturation or innundation depths are maintained or achieved for the target ecosystem
b. **Wet Prairie** (Wet Prairie / Flatwoods Credit)
1) Woody shrubs aerial cover 10% or less 2) 50 or more native, non-canopy, wetland (FACW or OBL) species per transect (including coppice shrubs) 3) *Total Cover*: 10% or less bareground/leaf litter/water 4) *Relative Cover:* 80% or more herbaceous species, 20% or less woody plants 5) LESS THAN 30 SLASH PINE per acre, excluding cypress 6) Wiregrass will be in the top five total coverage of herbaceous species
c. **Bog** (Wet Prairie / Flatwoods Credit)
1) 40 or more native, non-canopy, wetland (FACW or OBL) species per transect (including coppice shrubs) 2) *Total Cover*: 20% or less bareground/leaf litter/water 3) *Relative Cover:* 60% or more herbaceous, 30% or less woody shrubs 4) LESS THAN 50 SLASH PINE per acre, excluding cypress
d. **Shrub Bog** (Forested Wetland Credit)
1) Woody shrubs aerial cover 40% or less 2) 40 or more native species per transect (including coppice shrubs) 3) *Total Cover*: 30% or less bareground/leaf litter/water 4) *Relative Cover*: 50% or less herbaceous

e. **Compliance:**
1) Final success cannot be released until after 3rd prescribed fire. 2) All low water crossings and ditch fill areas have been installed to the satisfaction of the Department and are stabilized and showing no signs of erosion. 3) Road removal areas are appropriately vegetated with no signs of erosion and meet the final success of the appropriate ecological community. 4) The permittee has conducted inspections, monitoring and management, including the appropriate schedule of prescribed burns, as defined herein and in the attachments, and has submitted all required reports to the satisfaction of the Department.

Table 7. Hydroperiod Chart. Depth of water table and typical months of soil saturation or inundation are given for each plant community based on predominant soil mapping units from the Bay County Soil Survey (USDA-NRCS, 1983).

Target Community Type	Depth of Water Table* (ft.)	Months
Bog and Shrub Bog	0 - 1.0**	Dec - May
Basin Swamp	+1.0 - 0**	Dec - May
Wet Prairie	0.5 - 1.5**	Dec - May

* 0 represents soil surface. A "+" indicates a level above the soil surface and a "-" indicates a level below the soil surface.
** The sponsor will not be responsible for meeting hydroperiod requirements during times of natural catastrophes such as flood and drought.

2. Prescribed Fire Objectives/Standards

Because this is a large site, it has been divided into three burn units to facilitate management and tracking of the burn activities. In general, objectives include:

- Burn coverage of the majority of each unit
- Limited occurrence of crown fire and survival of a majority of the trees.

a. Performance Standards

A successful burn that achieves the objectives above will meet the following standards:

1) First Burn - 70% of the burnable area has been burned in any given burn unit (Table 8, below; see also Attachment A: Exhibit 11 – Fire Management Plan Map).

Table 8. Burnable Area per Burn Management Unit

Unit	Total Acres	Burnable Acres	Successful Burn Acres*
1	190	178	125
2	430	410	287
3	229	227	159

* Successful Burn = 0.7 x Burnable Acres

2) Subsequent burns will be considered successful if the fire carries over 70% of the Wet Prairie, Bog, and Mesic Flatwoods and over 40% of the Shrub Bog.

b. Assessment Methods

Two methods will be employed to assess success with respect to the performance standards above:

1) Burnable Area: Low-flown planes will take aerial photographs after each burn. Photographs will be georeferenced using ArcGIS and used to determine the total acreage burned.

2) Tree Survival: Estimates of the number of trees affected by crown scorch* will be documented and the locations will be georeferenced using sub-meter GPS equipment. Tree survival within each unit will be documented during semi-annual or annual monitoring events, depending on the timing of the burn (e.g. dormant season or growing season burn).

*In the unlikely even of complete crown scorching through deep wetland systems, the IRT will be notified within sixty days and an appropriate contingency plan will be developed if needed.

c. General Safety Considerations

Numerous safety zones are present including roads throughout the mitigation bank and deep swamps located along the boundary. A permanent firebreak that utilizes existing features will be maintained along the entire mitigation boundary. In light of the ecological objectives of this management activity, disking or gyrotracking will be utilized in lieu of plowing. Disking will cause minimal soil disturbance while exposing enough mineral soil to serve as a firebreak. All personnel present at the burn will carry Personal Protective Equipment (PPE). All radio communications will utilize plain language. Signs will be available for posting on U.S. Highway 231 in the event conditions cause low visibility on this roadway. This prescription will pass smoke screening provided that wind prescriptions for each burn unit are employed. Based on fuel type and burn unit area, a smoke-sensitive radius of 5 miles is warranted. Highway 231 and a public school are within the smoke-sensitive radius. All prescriptions for the burn units are sensitive to the Highway and schools.

D. Interim Performance Standards

Release of credits must be evaluated on an annual basis, based upon progress toward final performance standards. Incremental standards have been established for each year, as appropriate, to assess sufficient progress toward meeting final performance standards. Progressive environmental enhancement or trending toward success

provides environmental lift for which credit may be released incrementally prior to achieving all the final success criteria defined above. Trending is defined as Basin Swamp not being degraded, an appreciable decrease (approximately 10% from baseline or previous year) in bareground, an appreciable increase (approximately 10% from baseline or previous year) in relative herbaceous cover, and an increase in species diversity – OR – criteria are approaching or have met final success. Credits will be released annually whenever representative inspection and monitoring data provided in Annual Reports indicated that the following interim performance standards will be attained according to the credit release schedule:

Table 9. Interim performance standards by ecological community.

1. Exotic species are maintained or trending towards 1% cover or less.
2. Harvesting and mechanical clearing has been conducted.
3. Prescribed fires have commenced and are being conducted.
4. To attain third year interim success, at least two prescribed fires must have been conducted and quantitative measurements must show at least 30% trend toward achieving final success criteria.
5. Woody shrubs have been reduced and maintained in coppice.
6. The overall cover of herbaceous species is trending toward or attaining success.
7. The overall species diversity is trending toward or attaining success.
8. Road removal, ditch filling/plugging, and low water crossings have been installed.

IV. Maintenance and Monitoring

The sponsor will be responsible for oversight, implementation, and monitoring of the SMB in perpetuity. Management activities will be conducted to meet the performance standards identified in the MBI (Section III.C., above). The sponsor will be responsible for coordinating all maintenance activities including mechanical removal, prescribed fire, and herbicide application with certified contractors; however, the sponsor maintains full responsibility for all activities conducted at SMB.

A. Maintenance Provisions

The sponsor will maintain the SMB in perpetuity or until management and financial assurances are transferred to an approved third-party organization. This transfer will be coordinated with the IRT and will not occur until after final performance standards have been achieved.

The SMB is expected to trend toward success following initial mechanical clearing and the first prescribed fire. Subsequent prescribed fire and herbicide application will ensure compliance with the performance standards. To maintain the property the following maintenance activities will be completed:

1. Fire breaks will be constructed according to the fire management plan (Attachment I).

2. Water soluble herbicide approved for use in wetland areas will be used to control invasive/nuisance/exotic vegetation.
3. Signs demarcating the SMB as a mitigation bank will be posted at 1,000 foot intervals surrounding the site and at the entrances to the property (Attachment C, Security Plan).
4. Roads not proposed for removal will be maintained in drivable condition to accomplish restoration objectives and provide perpetual site access.
5. Trees will be removed following silvicultural best management practices (BMPs) to protect the native surface and sub-surface soils.
6. Mechanical clearing will be conducted to minimize impacts to wetlands and limit adverse affects that may affect successful restoration.

B. Monitoring Provisions

The SMB will be monitored each year to determine whether the bank is trending toward success according to the interim and final performance standards. The SMB will be quantitatively and qualitatively monitored at the locations specified in the Monitoring Plan (Attachment B). When the sponsor believes the SMB has met interim or final performance standards, a credit release report will be prepared for the IRT. This report will include a description of the credits to be released, monitoring data, a summary of the interim or final performance standards, and photographs of the ecological community types.

The IRT will have full access to the SMB to perform inspections; however, advanced notice may be necessary in order to ensure that all gates are open. The sponsor will coordinate on-site inspections with the entire IRT following management of the site and after credit release reports are submitted.

1. Credit Release Procedure

Initial credit release is based on completing and recording legal documents and initiation of management activities. Future releases are contingent upon completion of specific management activities and interim/final performance standards, as shown in Table 5 and Table 9 (above).

Table 10. Credit Release Schedule

Release Activity	% Credits Released	Proposed Time*	Total Credits	WP/WF Credit	Forested Credits
Record Conservation Easement / Prepare Financial Assurances / Security Mechanism Installed	15	1 month	26.75	23.92	2.83
Logging/Mechanical Clearing	15	6 months	26.75	23.92	2.83
Hydrological Improvements	5	12 months	8.92	7.97	0.94
First Prescribed Burn	10	12 months	17.83	15.95	1.89

Release Activity	% Credits Released	Proposed Time*	Total Credits	WP/WF Credit	Forested Credits
1st Interim Performance Standard	10	1 year	17.83	15.95	1.89
Second Prescribed Burn	5	1.5-2 years	8.92	7.97	0.94
2nd Interim Performance Standard	10	2 years	17.83	15.95	1.89
3rd Interim Performance Standard	10	3 years	17.83	15.95	1.89
4th Interim Performance Standard	10	4 years	17.83	15.95	1.89
Final Performance Standards	10	5 years	17.83	15.95	1.89
Total	**100**	**N/A**	**178.33**	**159.45**	**18.88**

2. Credit Ledger

The sponsor will maintain a credit ledger listing available and potential mitigation bank credits. A draft copy of the ledger has been prepared as Attachment E. After each debit or credit transaction, the ledger will be updated and copies will be sent to the FDEP and the Corps.

3. Conditions on Debiting

Credits will be publicly available and will be withdrawn during the standard State Wetland / Environmental Resource Permit process pursuant to 62-312, F.A.C. and 62-346 F.A.C.*, and the Federal wetland permitting process pursuant to the CWA, Section 404. The sponsor will coordinate the sale of mitigation bank credits with the applicant; however, the approval for use of the SMB will be negotiated between the applicant, the FDEP, and the Corps. The sponsor will coordinate information related to the MBSA with each applicant during the permitting process. Under no circumstances may the same credits be used to provide mitigation for more than one permitted activity.

James Maulden/the sponsor is required to establish and maintain a ledger to account for all credit transactions. Each time an approved Federal credit transaction occurs, the sponsor must notify the district engineer in accordance with the notification requirements of the Federal authorization. Included with that notification must be a copy of the applicable portion of the Federal authorization requiring the credit purchase. The Corps will verify all changes to the credit balance and revise the SMB ledger accordingly.

*62-346, F.A.C. will not be implemented in Northwest Florida until 2009; however, the SMB MBI will pertain to permits issued by the Northwest Florida Water Management District.

C. Reports and Record Keeping
The sponsor will ensure that semi-annual progress reports and annual monitoring reports are submitted to the IRT. Reports will be submitted according to Table 5 (above).

1. Progress Reports
Beginning after permit issuance and until final success determination of the bank, the Sponsor shall submit semi-annual progress reports, by January and July of each year, containing the following information:

- Date permitted activities were begun or are anticipated to begin;
- Brief description and extent of work completed since the previous report or since the MBI was issued;
- Copies of drawings indicating areas where work has been completed;
- A description of problems encountered and solutions undertaken;
- A brief description of the work and/or site management the Sponsor anticipates commencing, continuing or completing in the next six months; and
- Site management undertaken, including the type of management and dates each type was undertaken.

2. Annual Reports
Annual Reports will summarize the annual monitoring events and document the degree to which the bank is attaining success. These reports shall be submitted by January of each year. Annual reports shall be submitted annually until the SMB has been determined to be successful. Semi-annual progress reports shall be included as a section in the Annual Report. The Annual Report that requests a determination of final success (Table 6) shall also include the following information:

- A summary of all previous Annual Reports, including timeline graphics, as appropriate.
- A list of each performance standard and documentation of how and when it was attained.
- A notation of problems encountered in attaining the performance standard and how the problems were solved, and a notation of any exceptionally successful management activity.
- A summary of compliance and/or enforcement submittals or actions during the implementation of the bank.
- Miscellaneous information helpful for the continued success of the mitigation.

D. Contingency Plans

Adaptive management will be used to ensure long-term success of the SMB. A variety of factors may influence management activities at SMB; however, once these factors are identified, an appropriate contingency plan with a remedial action will be established. During the initial operation of SMB, contingency planning activities will be documented during site inspections and described in the semi-annual progress reports. Any proposed adaptive management not specified in the MBI will be approved by the IRT.

E. Long-term Management Responsibility

The sponsor, in conjunction with a QMS, will be responsible for meeting the final performance standards of the SMB. Following a determination of final success, long-term management of the SMB will be conducted by the sponsor or an approved third-party organization qualified to manage the SMB in perpetuity. The transfer of management responsibility will not be initiated until after the final performance standards have been met and 100% of the credits have been released. The Corps and the FDEP must be notified of the change in ownership or person responsible for long-term management. Legal responsibility for providing the compensatory mitigation lies with the sponsor once a permittee secures credits from the sponsor.

To ensure that the SMB is managed appropriately in perpetuity, the Sponsor will ensure that the following conditions are met:

1. Semi-annual inspections of the property for signs of trespassing, poaching, or dumping;

2. Immediate reporting and timely maintenance, restoration or repair of any damaged equipment, systems or property identified in the semi-annual inspection;

3. Exotic and nuisance plant control, as necessary, to maintain performance standards. At no time shall the cover of these species exceed 1% cover/acre prior to remedial eradication activities;

4. Prescribed burns at a frequency and season optimal to promote desirable vegetation and wildlife, as specified in the mitigation plan;

5. Hunting and other recreational activities will follow the plans provided in Attachment J.

V. Responsibility of IRT

The government agencies comprising the IRT (*see* Table 1, above) shall assume the following responsibilities:

A. The agencies represented on the IRT agree to provide appropriate oversight in carrying out provisions of this MBI/Permit.

B. The agencies represented on the IRT agree to review, comment, and approve, as appropriate, all project plans, monitoring reports, credit review reports, adaptive management plans, and necessary permits for the Bank in a timely manner.

Comments on the monitoring reports and credit review reports will be reviewed within 30 calendar days from the date of complete submittal, or, for minor modification requests, in accordance with Chapter 120 F.S. guidelines, except for good cause.

C. The agencies represented on the IRT agree to review and confirm reports on evaluation of performance standards prior to approving credits within each phase of the bank.

D. The agencies represented on the IRT shall conduct compliance inspections, as necessary, as determined by the authorizing agencies in consultation with the Sponsor, to verify credits available in the mitigation bank, recommend corrective measures (if any), until the terms and conditions of this MBI/Permit have been determined to be fully satisfied.

VI. Other Provisions

The following are additional provisions stipulated by the US Army Corps of Engineers and Florida Department of Environmental Protection.

A. Additional Corps Requirements

1. ***Force Majeure***: The sponsor will not be responsible for bank failure that is attributed to natural catastrophes such as flood, drought, disease, regional pest infestation, etc. that the IRT, acting through the Chair, determines is beyond the control of the Sponsor to prevent or mitigate.

2. ***Dispute Resolution***: Resolution of disputes about application of this Banking Instrument shall be in accordance with those stated in CFR 33 Parts 332 and 352.

3. ***Validity, Modification, and Termination of the Banking Instrument***: This Banking Instrument will become valid on the date of the last signatory's signature. This Banking Instrument may be amended or modified with the written approval of all signatory parties. Any of the IRT members may terminate their participation upon written notification to all signatory parties. Participation of the IRT members will terminate 15 days after written notification.

4. ***Specific Language of Banking Instrument Shall Be Controlling***: To the extent that specific language in this document changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the Banking Instrument by reference, and that are not legally binding, the specific language within the Banking Instrument shall be controlling.

5. ***Termination or Suspension:*** The Corps reserves the right to terminate or suspend the SMB MBI due to performance issues.

6. ***Success Determination:*** The Corps reserves the right to waive, reduce, or extend monitoring depending on attainment of success or if adaptive management is required.

7. ***Default and Closure:*** If for any reason the work specified in this MBI is not completed and a conservation easement has not been recorded, the MBI will expire within 5 years of the date of issuance. Otherwise the MBI shall be perpetual unless revoked or modified. Once all credits are sold, the Sponsor will follow the Long-Term management responsibilities outlined in Section IV.E, above.

8. ***Compensatory Mitigation:*** The legal responsibility for providing the compensatory mitigation lies with the Sponsor once a permittee secures credits from the Sponsor.

B. Additional FDEP Requirements

1. ***Commencement requirements***: At least 48 hours prior to commencement of work authorized by this permit, the Sponsor shall notify the following entities in writing of this commencement:

   - FDEP of Environmental Protection, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida, 32399

   - Submerged Lands and Environmental Resources Compliance and Enforcement Section, Suite 308, Northwest District Office, 160 Governmental Center, Pensacola, Florida 32502-5794

2. ***Notices:*** Unless otherwise specified, all reports and other information required for this permit shall be submitted to the Florida Department of Environmental Protection, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

3. ***Commencement:*** The Sponsor shall not commence any construction activities authorized by this permit until the following requirements are completed and FDEP has been notified in writing:

   - A copy of the recorded clerk-of-the-court certified Conservation Easement has been received by FDEP (Attachment K)

   - A Qualified Mitigation Supervisor is retained

   - Proof of financial responsibility is obtained as required in Part III, Section D.

4. ***Permit Expiration:*** This mitigation bank permit shall automatically expire five years from the date of issuance if the Sponsor has not recorded a conservation easement in accordance with the permit and Rule 62-342.750 (2) F.A.C. Except as provided above, this mitigation bank permit shall be perpetual unless revoked or modified.

5. ***Project Oversight:*** Prior to commencement of any construction activities, the Sponsor shall retain a Qualified Mitigation Supervisor (QMS) (a person or persons) to oversee all aspects of mitigation bank site implementation,

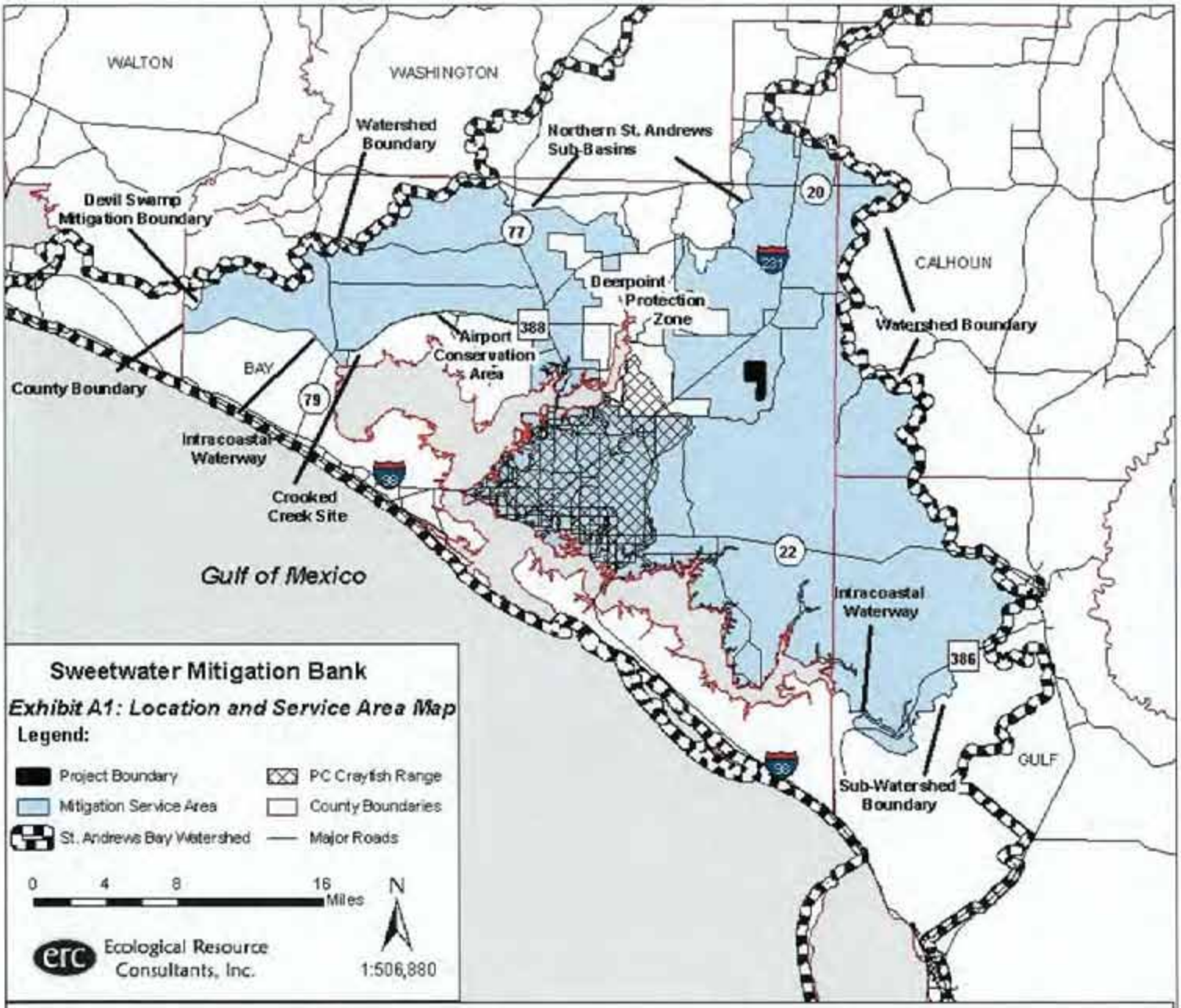
management, monitoring, and corrective actions in this permit until final performance standards are met, as follows:

- The QMS shall have the responsibility to ensure that the mitigation bank work is conducted in accordance with the permit.

- Within 30 days of issuance of this permit, the Sponsor shall submit the name of the QMS retained to oversee the mitigation work and provide supporting documentation demonstrating that the QMS is qualified to oversee this work. FDEP must approve the QMS prior to commencement of the mitigation bank work. FDEP shall complete such approval within 30 days of receipt of a written request from the Sponsor for QMS approval.

- Within 30 days of the discharge of any approved QMS, the Sponsor shall submit the name and supporting documentation of a new QMS to FDEP for its review and approval.

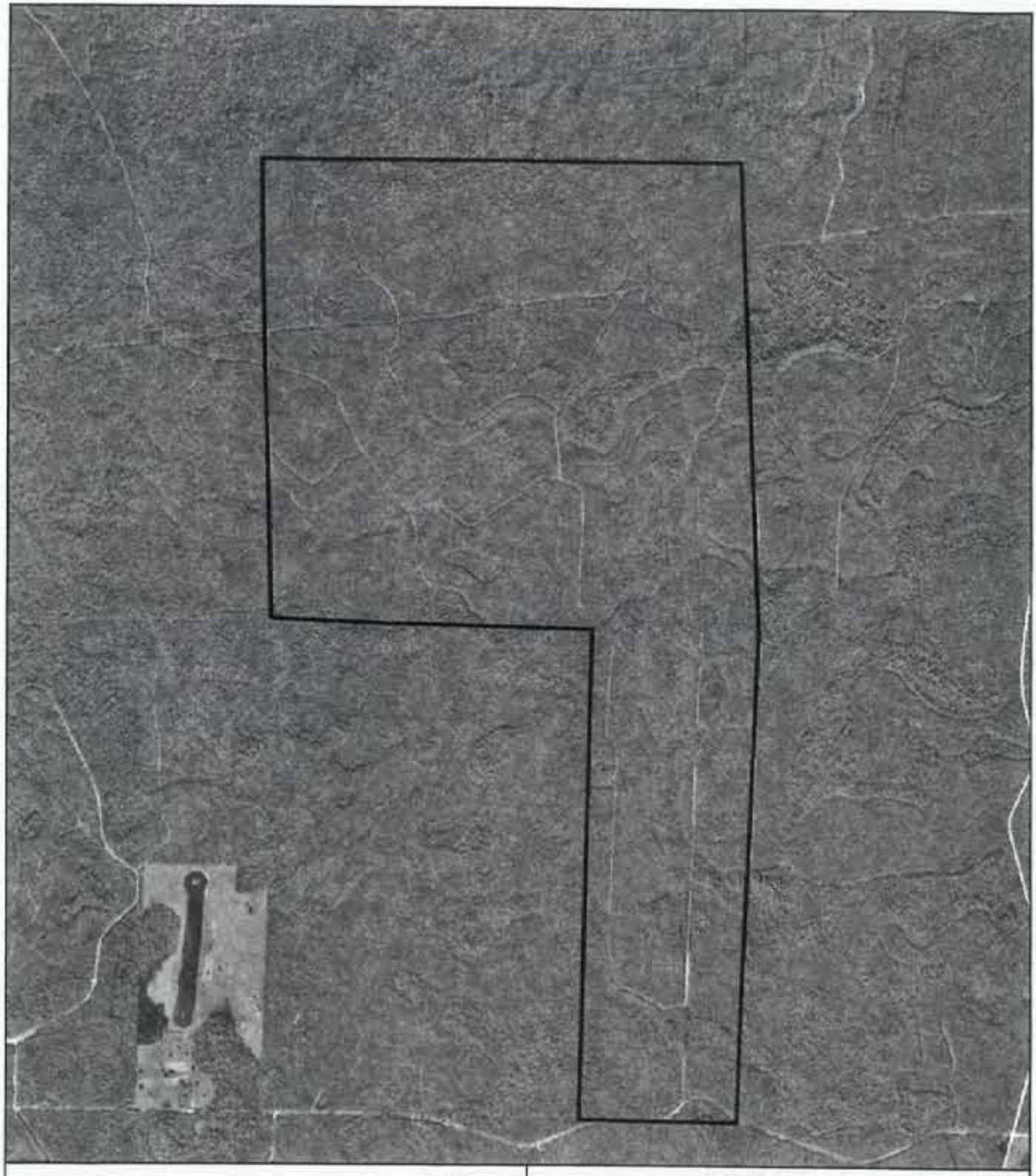
- The Sponsor shall have the approved qualified QMS review the conditions of this permit that pertain to environmental improvement. The purpose of this review is to ascertain whether any criteria need to be modified to ensure ecological success. If FDEP concurs that any proposed modifications would improve the likelihood of mitigation success, these changes shall be incorporated into this permit as a minor modification.



1. This bank is not appropriate for use as compensatory mitigation for the following:
- impacts to estuarine or saltwater habitats
- impacts outside of the service area with the possible exception of linear project impacts when a portion of those impacts are within the service area
- impacts within the Deerpoint Lake Protection Zone

2. Although an impact may occur within the service area, this bank may not be appropriate for use as compensatory mitigation for the following.
- direct impacts to sensitive habitat such as that of the Panama City Crayfish
- impacts to the critical habitat of Federally listed species where that habitat is not found on the bank site
- impacts to habitats entirely unlike those that exist on the bank site
- impacts that the Corps project manager determines the bank would not be capable of offsetting due to particular aquatic functions eliminated by an impact

3. The bank is most appropriate for use as compensatory mitigation to offset those unavoidable and minimized impacts to freshwater forested and non-forested systems with habitats similar to those present on the bank site. Aquatic freshwater habitats present onsite include the following systems:
- Mixed Hardwood Wetlands, including Basin Swamps
- Herbaceous/Wet Prairie/Hydric Flatwoods, including Shrub Bogs and Bogs



Legend:

Project Boundary

N

0 500 1,000 2,000 3,000 Feet

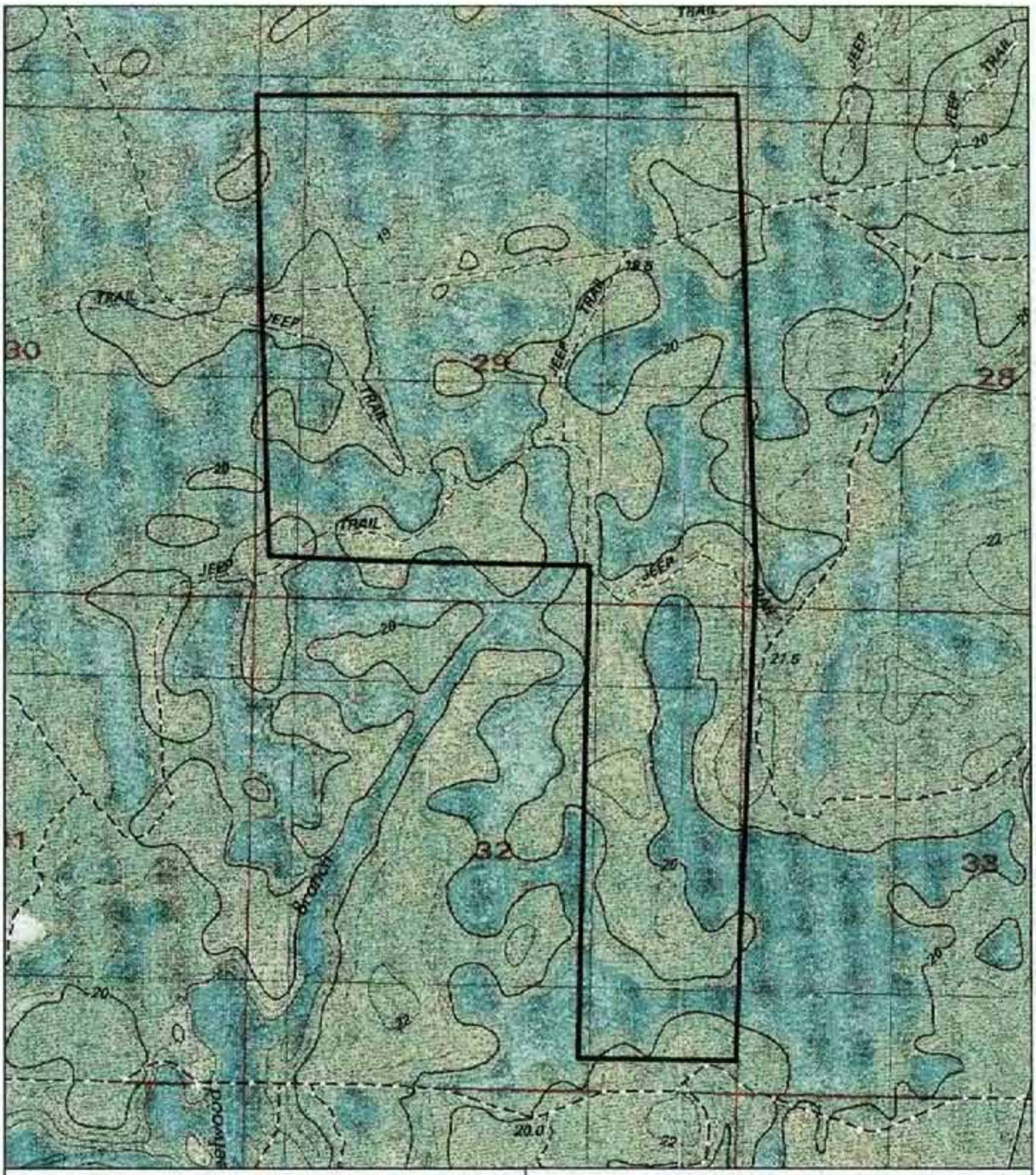
1:18,000

Exhibit A-2:
2007 Aerial Photograph Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

JJL 5-21-08
ERC# 06-405



Legend:

Project Boundary

0 750 1,500 3,000 Feet

N

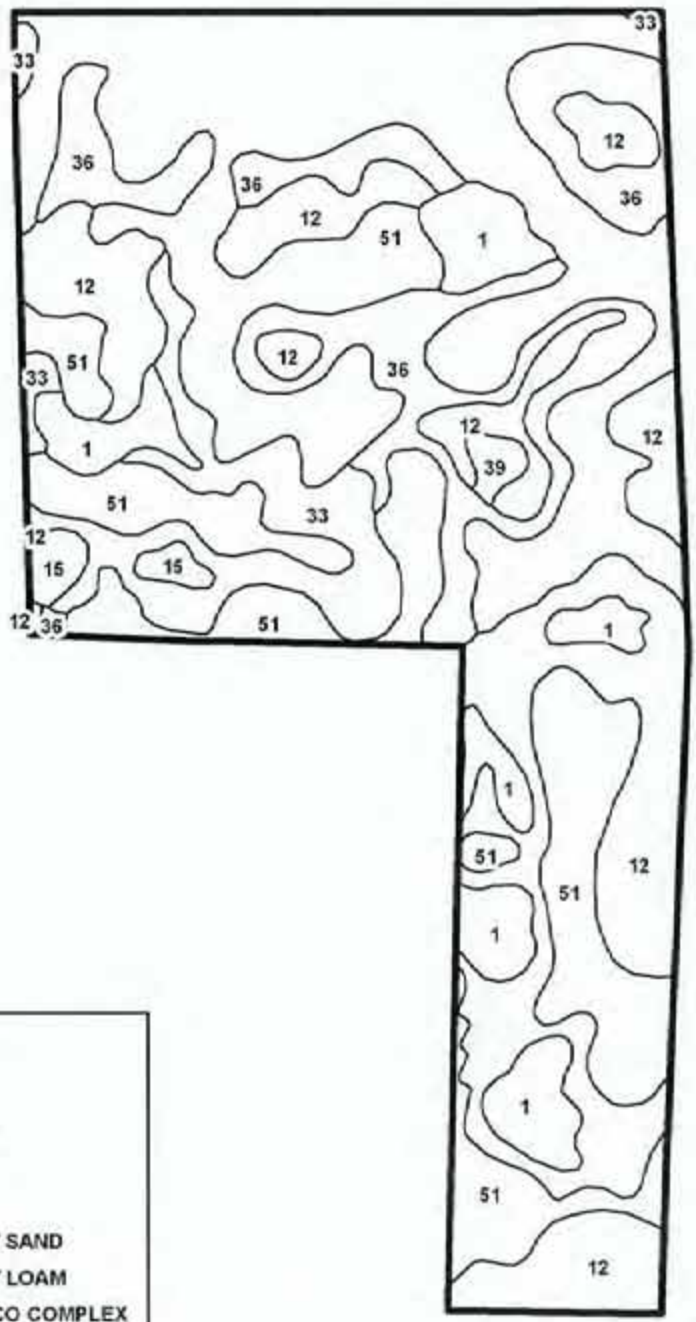
1:18,000

Exhibit A-3: Quad Topography Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

MKS 07.10.07
ERC# 06-405



Soils:

- 1, ALBANY SAND
- 12, LEEFIELD SAND
- 15, STILSON SAND
- 33, PELHAM SAND
- 36, ALAPAHA LOAMY SAND
- 39, PANTEGO SANDY LOAM
- 51, RUTLEGE-PAMLICO COMPLEX

SOURCE: USDA-NRCS
Soil Survey of Bay County, Fl. 1984

Legend:

Project Boundary

N

0 750 1,500 3,000 Feet

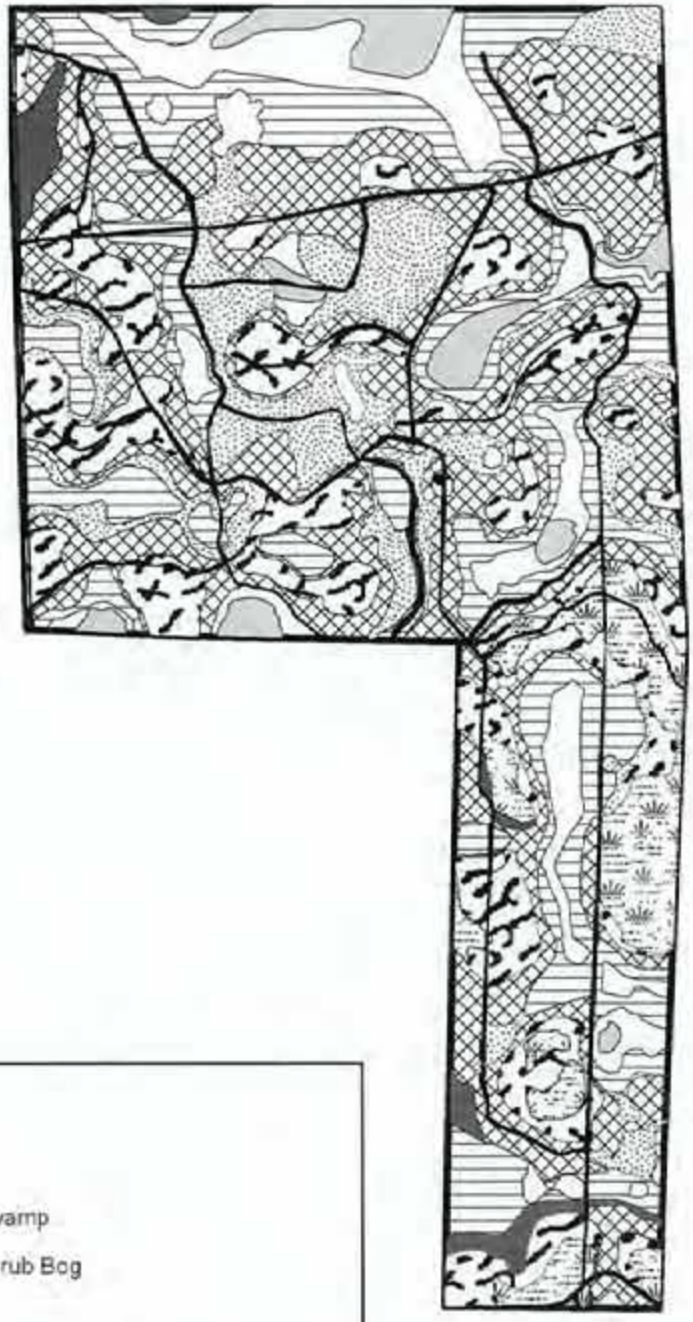
1:18,000

Exhibit A-4: Soils Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

MKS 07.10.07
ERC# 05-405



Legend:

- Project Boundary
- Harvested Basin Swamp
- Fire Suppressed Shrub Bog
- Planted Pine Bog
- Fire Supressed Harvested Bog
- Planted Pine Wet Praire
- Fire Suppressed Harvested Wet Prairie
- Planted Pine Mesic Pine Flatwoods
- Fire Suppressed Mesic Pine Flatwoods
- Road

0 750 1,500 3,000 Feet

1:18,000

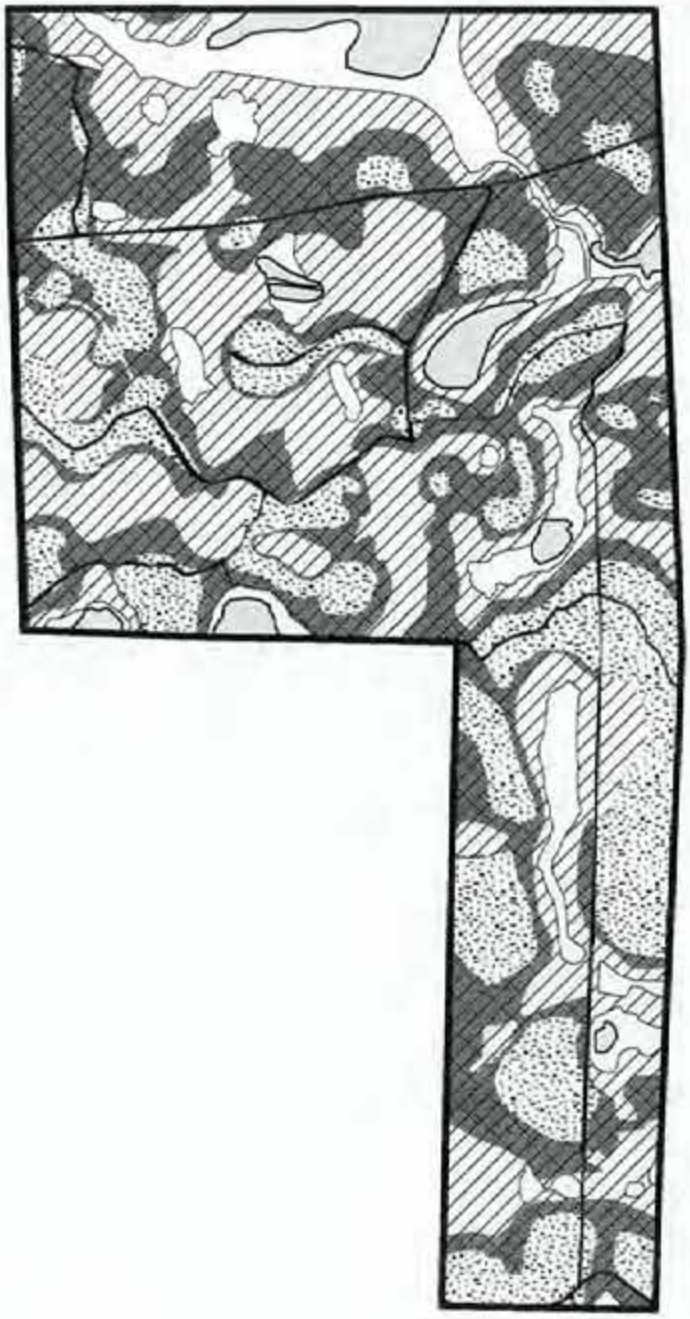
N

Exhibit A-5: Existing Ecological Communities Map

Sweetwater Mitigation Bank

Ecological Resource Consultants, Inc.

JJL 5-22-08
ERC# 05-405



Legend:

Project Boundary
MPF
Road
BOG
SB
BS
WP

0 750 1,500 3,000 Feet

1:18,000

N

Exhibit A-6. Proposed Ecological Communities Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

JJL 5-22-08
ERC# 06-405

Legend:

Project Boundary

N

1953 Historical Aerials

0 750 1,500 3,000 Feet

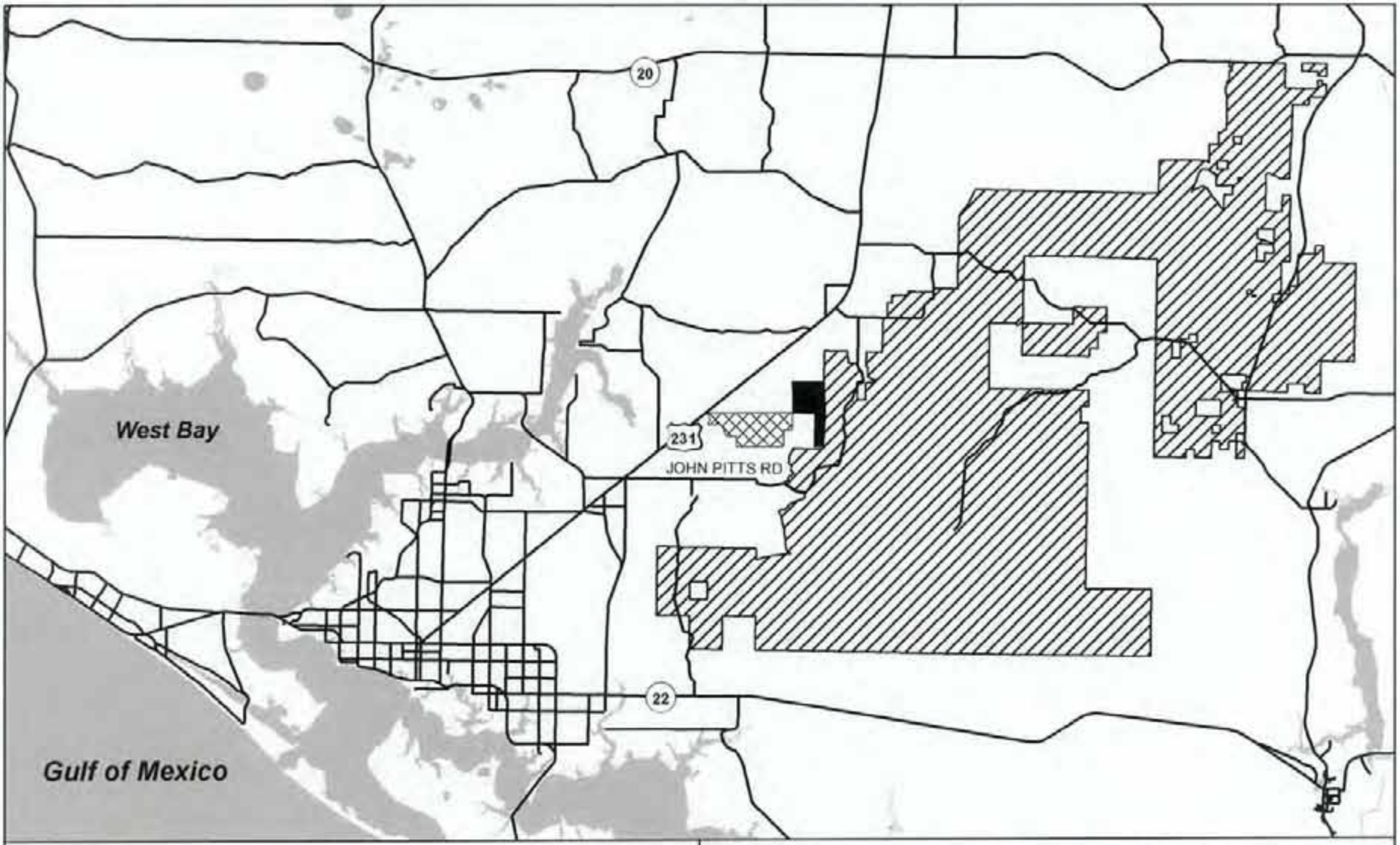
1:18,000

Exhibit A-7: 1953 Historical Aerial Photograph

Sweetwater Mitigation Bank

Ecological Resource Consultants, Inc.

MKS 07.10.07
ERC# 05-405



Legend:

- Project Boundary
- Bear Creek Forever Florida BOT Project
- Conservation Easement
- Roads

0 1.25 2.5 5 7.5 10 Miles

N

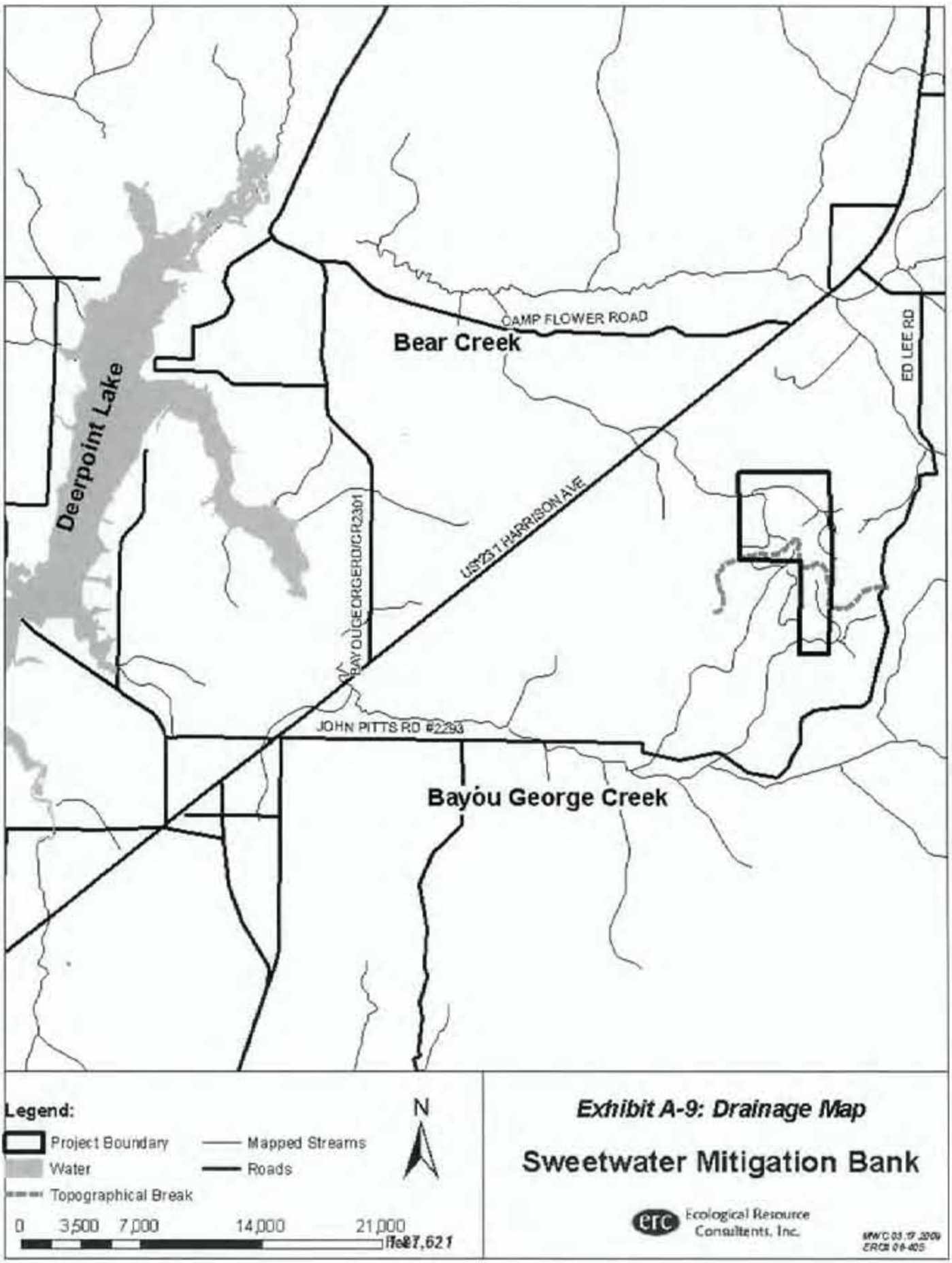
1:268,600

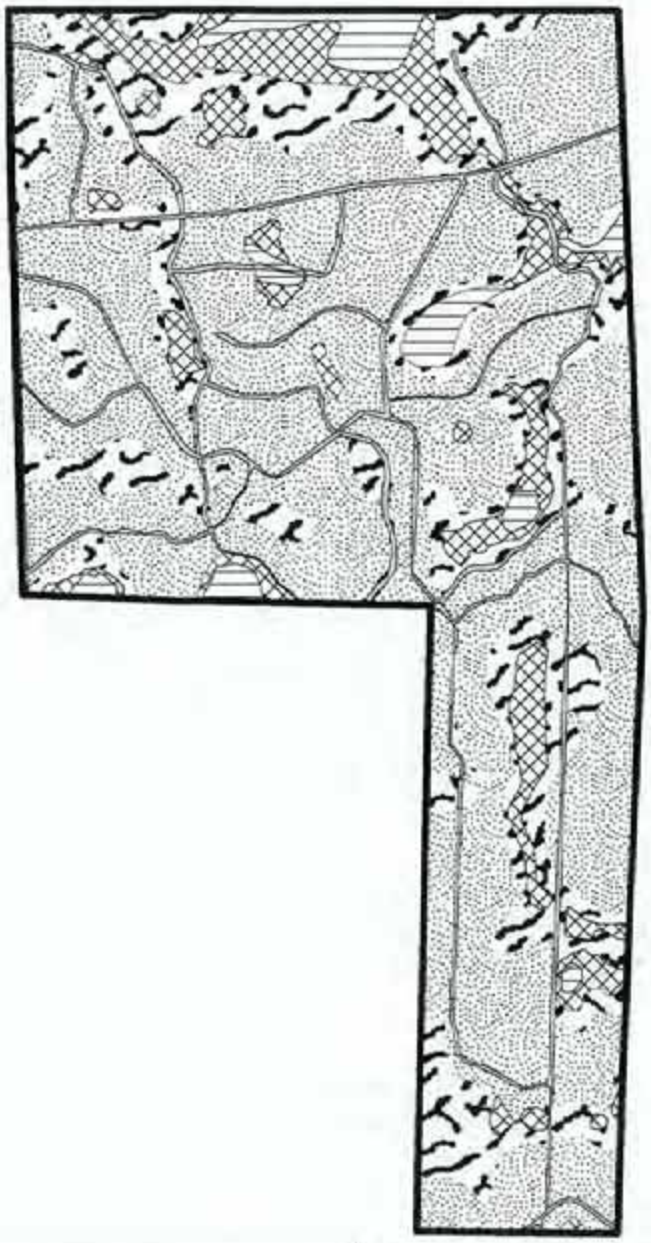
Exhibit A-8: Surrounding Land Use Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

MKS 07.10.07
ERC# 06-405


CAMP FLOWER ROAD
Bear Creek
ED LEE RD
Deerpoint Lake
US 231 HARRISON AVE
BAYOU GEORGE RD/CR 2301
JOHN PITTS RD #2293
Bayou George Creek
Legend:
Project Boundary
Water
Topographical Break
Mapped Streams
Roads
N
0 3,500 7,000 14,000 21,000
Feet
7,621
Exhibit A-9: Drainage Map
Sweetwater Mitigation Bank
erc Ecological Resource Consultants, Inc.
MWD 03.17.2009
ERCI 06-405



Legend:

- Project Boundary
- Mulching and Mowing/Chopping-Roads
- Prescribed Fire
- Prescribed Fire and Harvesting
- Prescribed Fire and Walkdown
- Prescribed Fire, Walkdown and Chopping

0 750 1,500 3,000 Feet

1:19,124

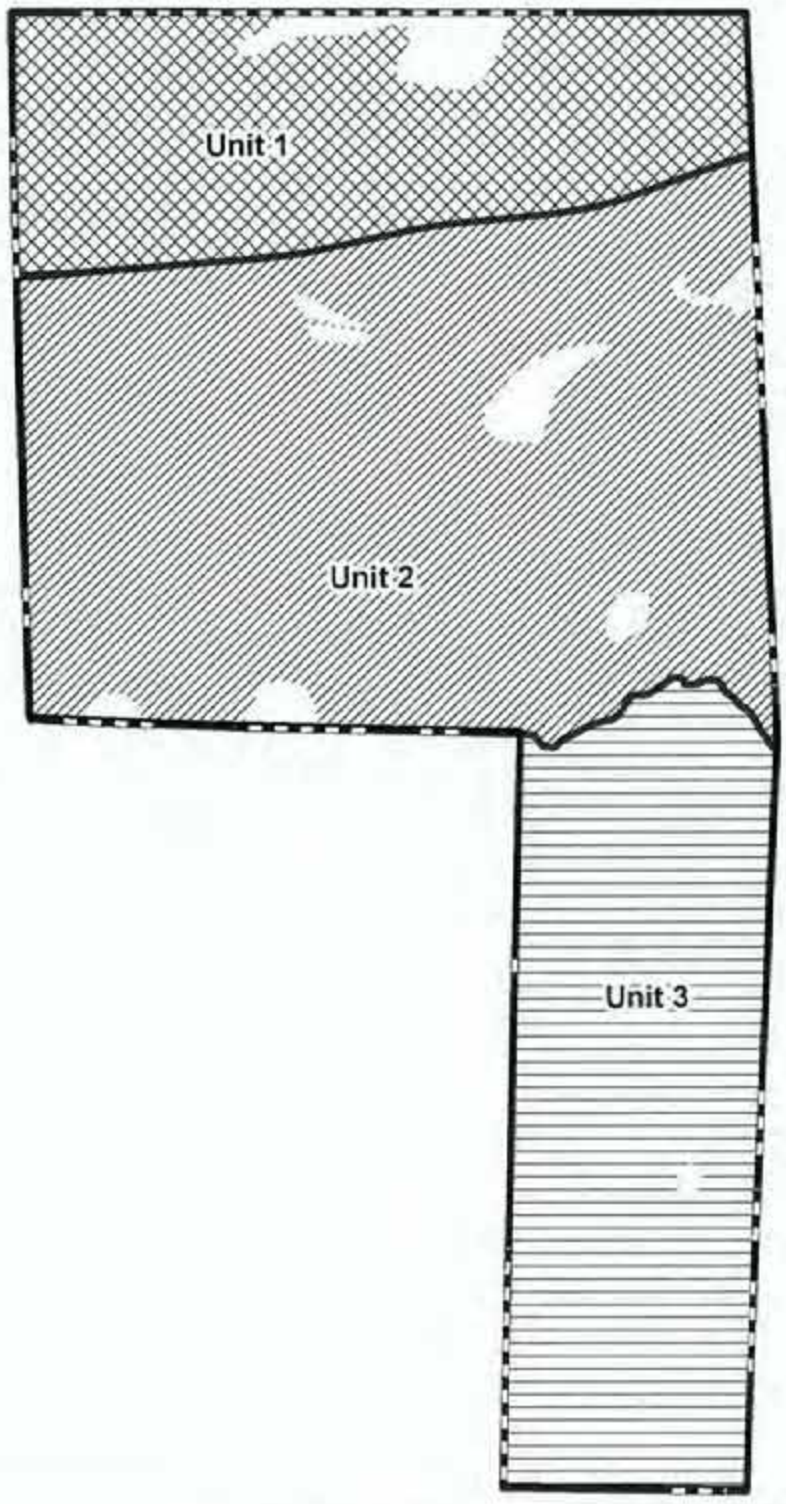
N

Exhibit A-10: Management Plan Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

JUL 8-21-08
ERC# 05-405



Legend:

- Project Boundary
- Gyrotracking and Disking
- Burnable Area Unit 1
- Burnable Area Unit 2
- Burnable Area Unit 3

N

0 660 1,320 2,640 Feet

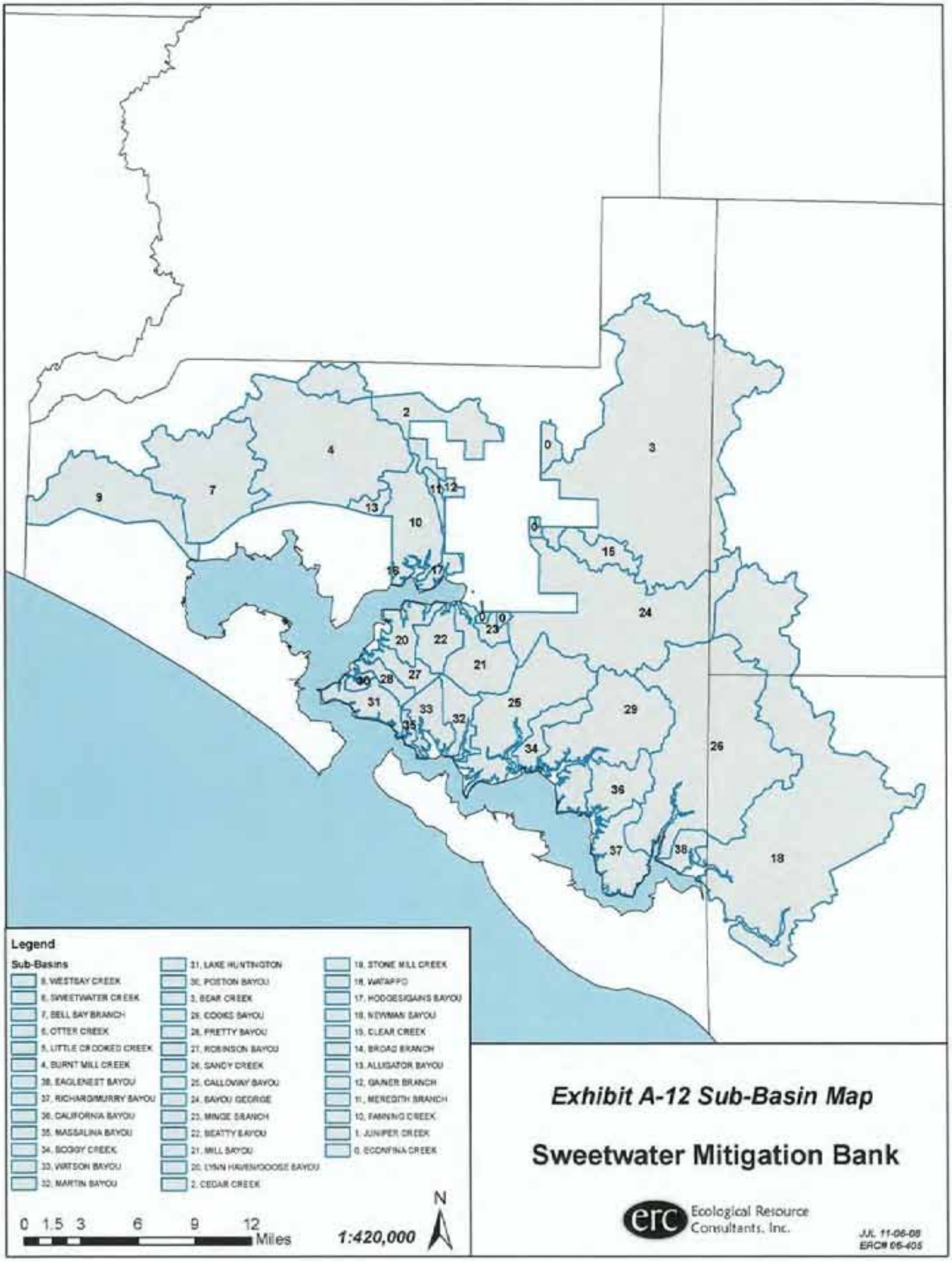
1:15,840

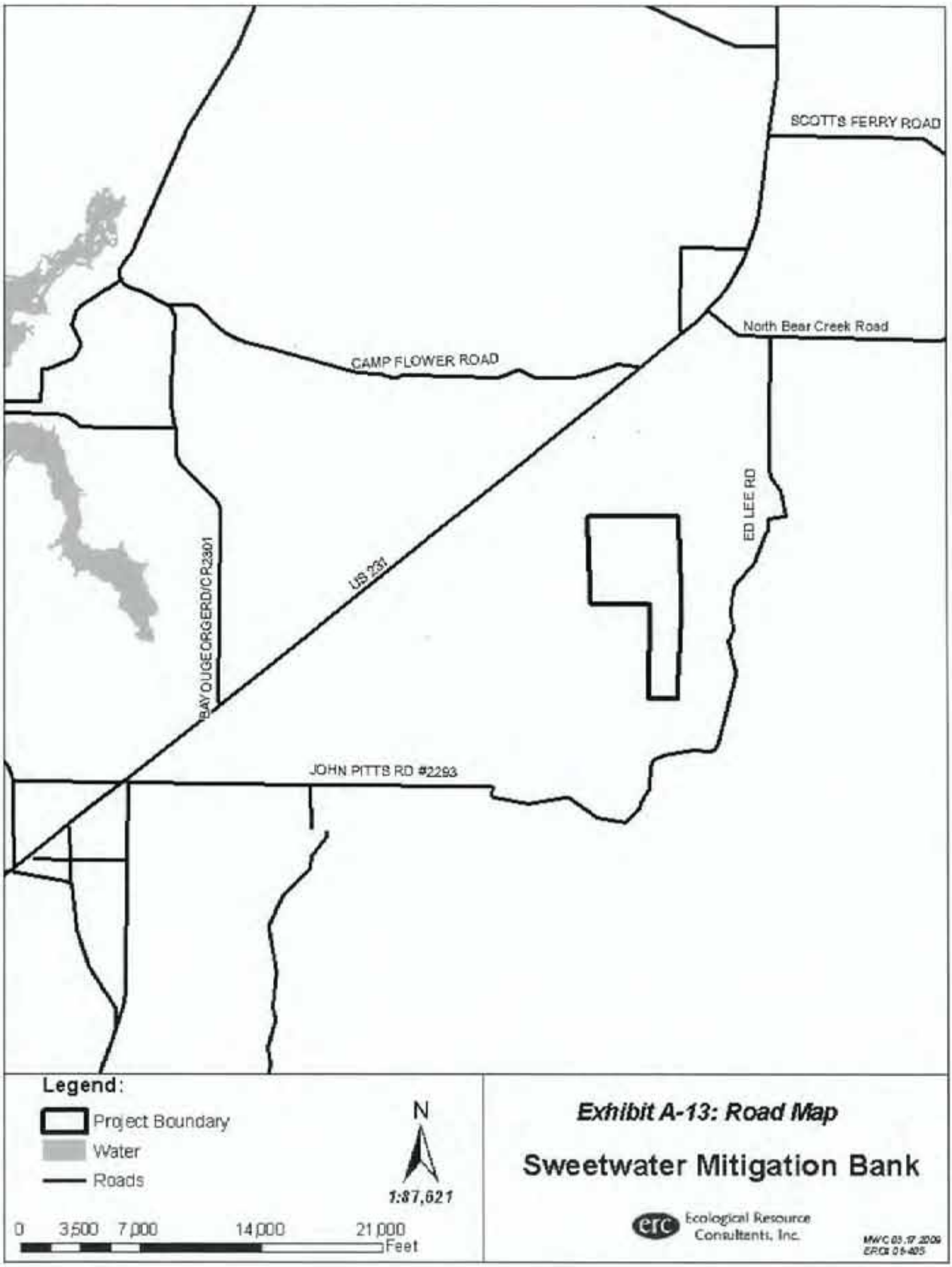
Exhibit A-11. Fire Management Plan Map

Sweetwater Mitigation Bank

Ecological Resource Consultants, Inc.

jh 10.18.07
ERC# 05-405


Legend
Sub-Basins
8. WESTBAY CREEK
6. SWEETWATER CREEK
7. BELL BAY BRANCH
6. OTTER CREEK
5. LITTLE CROOKED CREEK
4. BURNT MILL CREEK
39. EAGLENEST BAYOU
37. RICHARD/MURRY BAYOU
36. CALIFORNIA BAYOU
35. MASSALINA BAYOU
34. SOGGY CREEK
33. WATSON BAYOU
32. MARTIN BAYOU
31. LAKE HUNTINGTON
30. POSTON BAYOU
3. BEAR CREEK
29. COOKS BAYOU
28. PRETTY BAYOU
27. ROBINSON BAYOU
26. SANDY CREEK
25. CALLOWAY BAYOU
24. BAYOU GEORGE
23. MINGE BRANCH
22. BEATTY BAYOU
21. MILL BAYOU
20. LYNN HAVEN/GOOSE BAYOU
2. CEDAR CREEK
19. STONE MILL CREEK
18. WATAPPO
17. HODGES/GAINS BAYOU
16. NEWMAN BAYOU
15. CLEAR CREEK
14. BROAD BRANCH
13. ALLIGATOR BAYOU
12. GAINER BRANCH
11. MEREDITH BRANCH
10. FANNING CREEK
1. JUNIPER CREEK
0. ECONFINA CREEK
0 1.5 3 6 9 12 Miles
1:420,000
N
Exhibit A-12 Sub-Basin Map
Sweetwater Mitigation Bank
Ecological Resource Consultants, Inc.
JJL 11-06-08
ERC# 06-405


SCOTTS FERRY ROAD
North Bear Creek Road
CAMP FLOWER ROAD
ED LEE RD
US 231
BAYOU GEORGE RD/CR 2301
JOHN PITTS RD #2293
Legend:
Project Boundary
Water
Roads
N
1:87,621
0 3,500 7,000 14,000 21,000
Feet
Exhibit A-13: Road Map
Sweetwater Mitigation Bank
Ecological Resource Consultants, Inc.
MWC 03.17.2009
ERC# 05-405

ATTACHMENT B – Monitoring Plan

Summary
To evaluate the success of the restoration methods, a systematic and scientifically defensible monitoring protocol is necessary. Annual monitoring provides quantitative and qualitative information that can be objectively analyzed. The results of the analysis allow for interpretations and conclusions to be made with respect to the adequacy of the ecological response to restoration – methods can then be adaptively adjusted as necessary.

Ecological monitoring or sampling techniques as described in this monitoring plan allow for the objective determination of species composition, species richness, and proportional distribution for each of three main structural habitat forms (groundcover, shrubs and vines, and canopy). Further, this plan provides assessment methodologies for evaluating the hydrological improvements and prescribed fires.

I. Vegetative Monitoring

A. Quantitative Methods

The initial quantitative monitoring will be carried out, pre-restoration, in the late summer/fall and annually thereafter until success criteria are attained as specified in the permit and on Exhibit B-2. The primary methodology for describing changes in each plant community is a quantitative transect-based series of procedures to objectively measure changes in habitat structure. Habitat structural categories are evaluated and include groundcover, shrubs, and trees (with notes regarding vines and subcanopy when present). Specific quantitative methods for evaluating each category are described below.

1. Groundcover, Shrubs, and Vines

a) Identify and choose polygons to represent each habitat type.
A particular habitat type may not be contiguous throughout the site, and thus may be represented by more than one polygon. The most representative polygon for each habitat type is chosen. There will be a total of forty-two 50 meter long transects across the site distributed by acreage of habitat as depicted on Figure B-1.

Basin Swamp (31 acres) –	2 transects
Bog (253 acres) –	12 transects
Shrub Bog (81 acres) –	4 transects
Wet Prairie (257 acres) –	12 transects
Mesic Flatwoods (190 acres) –	8 transects
Road → Wet Prairie –	1 transect
Road → Bog –	1 transect
Road →Shrub Bog –	1 transect
Road → Basin Swamp –	1 transect

b) Establish two permanent 50 meter linear transects in each sampling polygon as exhibited on the attached map (Figure B-1).Two 50 meter transects will be

established to best capture the total species diversity within the polygon All transects will be located and recorded on a GPS unit, marked with metal poles and photographed for visual reference.

c) Establish sample points every 10 meters per transect, for a total of five (5) sampling points per transect. For each transect, the first sampling point is located at 10 meters and the fifth point is located at 50 meters. Each point is georeferenced and permanently marked by inserting an iron stake. Each plot is photographed to provide visual support to the quantitative data collected.

d) Measure and apply three adjacent 1m X 1m quadrats (plots).
Three quadrats are placed perpendicular to the transect at each of the five sample points. In total, 15 quadrats are used to sample each transect. The plots are arranged in a rectangular sampling area of 3 square meters perpendicular to the transect. At the next point the process is repeated by placing the first plot on the left hand side of the transect. This methodology samples 3 square meters at each point for a total of 15 square meters per 50 meter transect.

e) Identify and estimate coverage for each species.
All groundcover, shrub, and vine species are identified. Data collected for each plot includes species name, percent cover by species, percent bare ground, and any notes. The total coverage of each species within the plot is estimated using the following percentage classes: 100%, 75%, 50%, 25%, 12%, 6%, 3%. These classes represent successive divisions of the square by one-half (after 75%), and are readily and consistently applied in the field. Bare ground/leaf litter and/or open water will also be recorded using the same coverage classes listed above.

2. Trees

A direct measurement of canopy coverage, while sometimes estimated, is difficult in trees. Alternatively, the basal area is generally accepted by the scientific community as proportionate to coverage; however, this is not useful when the canopy is young because the desired basal area is based on a mature natural forested ecosystem with mixed age classes of canopy species. For the purposes of restoration and management of the plant communities found on this site, it is more informative to measure the density of trees per acre. Within this landscape, allowing the appropriate tree species to mature at the appropriate density will eventually result in the desired basal area. To record the change in the canopy resulting from management, a Tenth Acre Plot will be established at one, representative point along each 50 meter transect. Trees will be identified, counted within the tenth acre plot, and a diameter tape will be used to measure the trunk of each tree species at breast height (or 1.5 m above the ground). Trees will be defined and separated from the other vegetative categories as follows:

a) Trees include all woody plants with a main trunk greater than 10 cm (4 in) diameter at breast height (1.5 m) and have a stem at least 3 m tall. Diameter at breast height (DBH) of trees are determined from trunk circumference measured 1.5 m above the ground.

b) Tenth Acre Plot Method – Two samples or plots are established, one at each end of each transect. Each plot is a circle with a radius of 37.2 ft (11.34m). The area of a circle of this radius is equivalent to a tenth of an acre. Within each plot,

the species and DBH of each tree are recorded. To calculate the number of trees per acre the total number of trees measured per plot is multiplied by 10.

3. Diagram
A diagram depicting the 50 meter transects, 1x3 meter groundcover sampling plots, and the 37.2 foot diameter tree plots is attached to this plan as Figure B-3.

B. Qualitative Monitoring.
The initial qualitative monitoring will be carried out, pre-restoration, in the late summer/fall and annually thereafter through the time period as specified in the permit. Qualitative monitoring includes walking transects to record species diversity and observations on the overall health, fecundity, distribution, and wildlife usage and natural history, as well as sightings of invasive exotics. The five (5) qualitative transects are depicted on the attached map, Figure B-1. The walking paths are designed to ensure maximal coverage of all typical landscape/plant community types. Permanent points are established in each plant community where data is collected annually and photos are taken to show landscape changes at the same landscape position annually.

The specific parameters to be observed and recorded on the walking transects for all polygons include the following:

1. Type of plant community sampled.
2. Date, time and weather conditions.
3. Estimate of aerial coverage of plants in the canopy, subcanopy and shrub strata and identification of the three dominant species in the canopy, subcanopy and shrub strata.
4. Estimated coverage of graminoids (grasses, sedges and rushes) and total coverage of groundcover including graminoids and forbs, based on the following cover classes as per a modified Braun/Blanquet scale (Barbour, et al., 1999): 1= 0-1%; 2= 1-5%; 3=5-25%; 4=25-50%; 5=50-75%; 6=75-100%.
5. Identification of the four dominant species in the groundcover.
6. Estimated abundance of weedy or ruderal species based on the following scale: 1 =absent; 2= occasional <5% of a given area; 3-5% of a given area.
7. Notes on the wildlife usage and natural history.
8. Identification of exotic species and estimated coverage of exotics as per Braun/Blanquet scale (Barbour, et al., 1980).
8. Estimate of appropriateness of tree density and health.
9. Notes on surface waters and hydrologic indicators.
10. Notes on the general aspect of the site and how adaptive management techniques might be used to better move toward restoration target/goals.

C. Plot Sampling Statistics

1. Methodology
From the raw data and for each separate transect sum separately
(1) the % coverage of each species from all plots
(2) the # of individuals of each species from all plots
also sum
(3) all the % cover of all species sampled in plots
(4) the #'s of individuals of all species sampled in plots

2. Relative Coverage
To calculate the **Relative Coverage**, divide the total coverage of each species by the total coverage of all species.

RC= (1)/(3)

3. Relative Density
To calculate the **Relative Density**, divide the total # of individuals of each species by the total #'s of individuals of all species

RD= (2)/(4)

4. Relative Frequency
To calculate the **Relative Frequency**, first calculate the frequency for each species (5). This is the total number of sample plots in which a species occurred divided by the total number of plots sampled. Next, sum the frequencies of each species (6). The **Relative Frequency** is obtained by dividing the frequency of each species by the total frequencies of all species.

RF= (5)/(6)

5. Importance Value
The **Importance Value** is the sum of all Relative values for each species.

Importance Value = RC+RD+RF

The **Importance Value Percentage** is the **Importance Value** multiplied by 100

Importance Value Percentage = Importance Value * 100

II. Prescribed Fire
Two methods will be employed to assess success with respect to the performance standards above:

A. Burnable Area
Low-flown planes will take aerial photographs after each burn. Photographs will be georeferenced using ArcGIS and used to determine the total acreage burned.

B Tree Survival
Estimates of the number of trees affected by crown scorch* will be documented and the locations will be georeferenced using sub-meter GPS equipment. Tree survival within each unit will be documented during semi-annual or annual monitoring events, depending on the timing of the burn (e.g. dormant season or growing season burn).

*In the unlikely even of complete crown scorching through deep wetland systems, this will be reported to the Interagency Review Team within sixty days and an appropriate contingency plan will be developed if needed.

III. Hydrological Monitoring –

Soil Morphology is used by soil scientists to infer physical, chemical, biological and hydrological properties in the soil. Important indicators that can be observed in the field to infer hydrology include organic matter percent, thickness of O and A horizons (types of topsoil layers), and color and color patterns in each horizon. Hydrologic conclusions include depth to seasonal high saturation (SHS) within the soil profile, inundation (seasonal high inundation, SHI), evidence of flooding, and confirmation that the soil is hydric. Morphologic indicators in soils that predict hydrologic status are called Redoxoimorphic Indicators or features. Redoximorophic indicators persist during wet and dry periods; however, practices that disturb the soil such as tillage, site preparation, excavation or other forms of anthropedoturbation (disturbance and or mixing of the soil by humans) can dilute or redistribute components of hydromorphic indicators sufficiently that they cannot easily be observed. Redoximorphic features allow estimation of SHS or SHI by their mere presence, the intensity of their development, their color, the distinctness of their boundaries, their abundance, and the depth at which they begin in the soil profile.

At each well sampling point, a transect will be established across the landscape beginning at an ecotone and five sampling wells will be evaluated. At each sampling well, soil profiles will be fully described to a minimum depth of at least 12 inches deeper than the appearance of redoximorphic features but no less than 12 inches from the soil surface. The profiles will be described for each well site on an annual schedule. Hydric soil indicators will be reported per Field Indicators of Hydric Soils in the United States (USDA, 2006) or an updated version released and additionally The Fieldbook for Sampling and Describing Soils, (USDA, 2002).

During the monitoring period required for bank success, the criteria for success will be the presence, morphology and distribution of SHS, SHI and/or hydric soil indicators sufficient to confirm that the appropriate saturation or innundation depths are maintained or achieved for the target ecosystem as outlined in the following table:

Table 1. Hydroperiod Chart. Depth of water table and typical months of soil saturation or inundation are given for each plant community based on predominant soil mapping units from the Bay County Soil Survey (USDA-NRCS, 1983).

Target Community Type	Depth of Water Table* (ft.)	Months
Bog and Shrub Bog	0 - 1.0**	Dec - May
Basin Swamp	+1.0 - 0**	Dec - May
Wet Prairie	0.5 - 1.5**	Dec - May

* 0 represents soil surface. A "+" indicates a level above the soil surface and a "-" indicates a level below the soil surface.
** The sponsor will not be responsible for meeting hydroperiod requirements during times of natural catastrophes such as flood and drought.

The properties of redoximorphic features used to infer the depth of SHS/SHI will be obtained from The Hydric Soils Handbook of Florida: Using Soil Morphology For The

Identification of Seasonal High Saturation. (Hurt, GW, Watts, FC and Galbraith, JM, Florida Association of Environmental Soil Scientist, 2007)

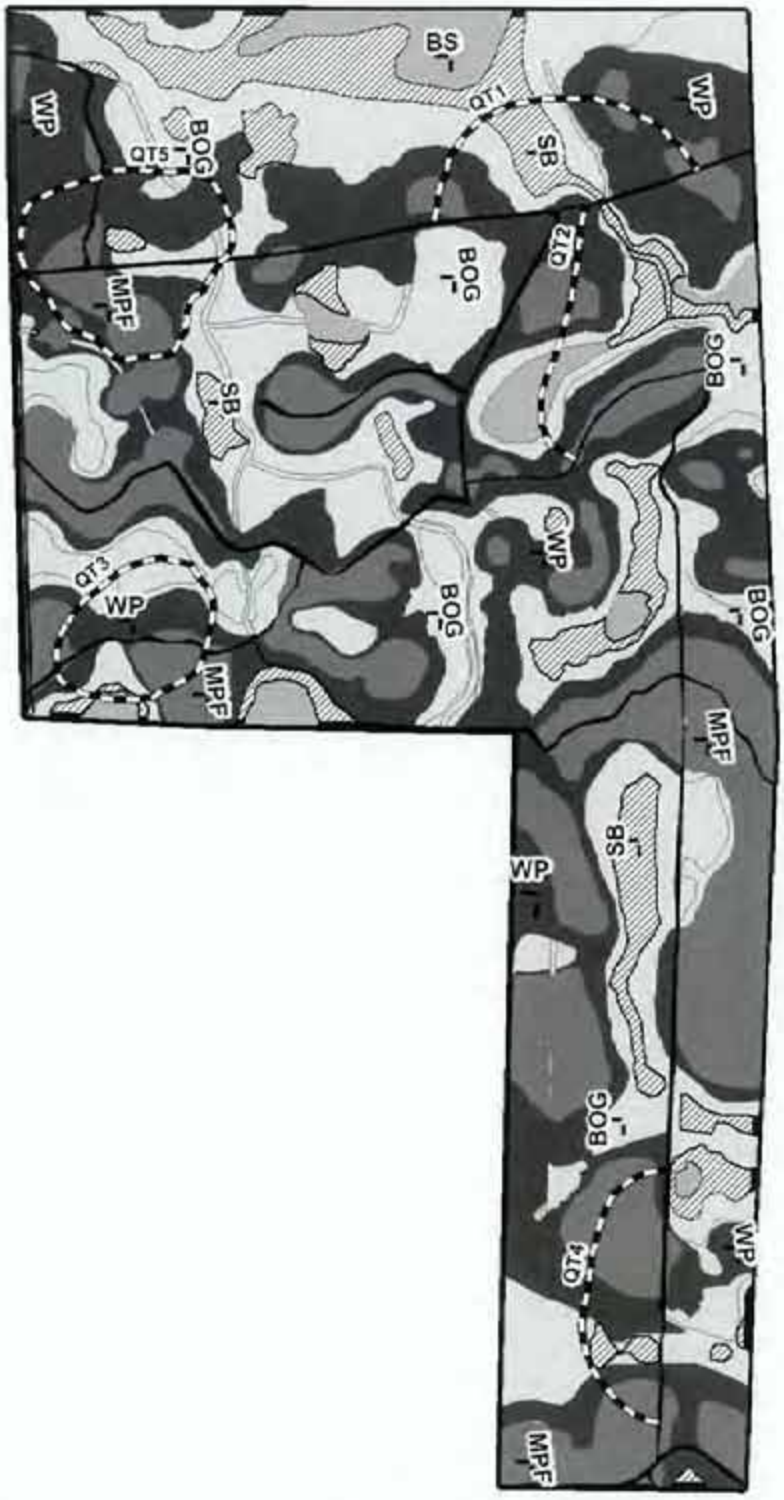
An additional requirement shall be a detailed analysis of any changes in soil morphology that occur during the monitoring period.

IV. Compliance Inspections

Compliance inspections will be conducted following major activities such as harvesting, mechanical clearing, prescribed fires, road removal, and ditch plugging. The site will be visited at least once per month to document compliance with BMPs and the proposed work schedule. A compliance monitoring checklist has been developed as part of this monitoring plan to track site progress and maintain compliance with the specific conditions. Additional checklists have been prepared for event-specific compliance inspections including harvesting, road removal, low water crossing installation, and prescribed fire. The checklists will be used to prepare both the Semi-Annual Progress Reports and Annual Reports.

V. List of Figures and Checklists

Figure B-1 Monitoring Plot Location Map
Figure B-2 Depiction of Ecological Communities with summary of success criteria
Figure B-3 Monitoring Plot Diagram
Low Water Crossing checklist
Road Removal checklist
Harvesting / Mechanical Work checklist
Prescribed Fire checklist



Legend

Site Boundary
BS-2
SB-6
BOG-12
WP-12
MPF-8
Road - 4
Qualitative Transects
Quantitative Transects - 50 meter

N

0 660 1,320 2,640 Feet

1:15,840

Figure B-1. Monitoring Plot Location Map

Sweetwater Mitigation Bank

Ecological Resource Consultants, Inc.

JUL 5-23-08
ERC# 06-405

Restoration Targets	WP	BOG	SHRUB/BOG	BASIN SWAMP	SHRUB/BOG	MPF
Relative Cover Herbaceous Groundcover	*80% or more*	*60% or more*	*50% or less*	*no performance requirement*	*50% or less*	*70% or more*
Relative Cover Woody Shrubs	*20% or less*	*30% or less*	*no performance requirement*	*no performance requirement*	*10-60% or more*	*30% or less*
Total Cover Bareground/ Leaf Litter	*10% or less*	*20% or less*	*30% or less*	*no performance requirement*	*30% or less*	*10% or less*
Species Diversity	*50 or more species*	*40 or more species*	*40 or more species*	*no performance requirement*	*40 or more species*	*40 or more species*
Woody Shrub Coverage (as coppice)	*10% or less*	*no performance requirement*	*40% or less*	70% reduced to coppice in ecotone	*40% or less*	*no performance requirement*
Trees/Acre	*30 or fewer excluding pond cypress*	*30-50 trees excluding pond cypress*	*no performance requirement*	*no performance requirement*	*no performance requirement*	*30-70 trees with at least 10% longleaf pine*
Fire Frequency	*approximate fire interval 2-3 years*	*approximate fire interval 2-3 years*	*approximate fire interval 2-3 years*	*ecotone burns on average every 2-3 years*	*approximate fire interval 2-3 years*	*approximate fire interval 2-3 years*

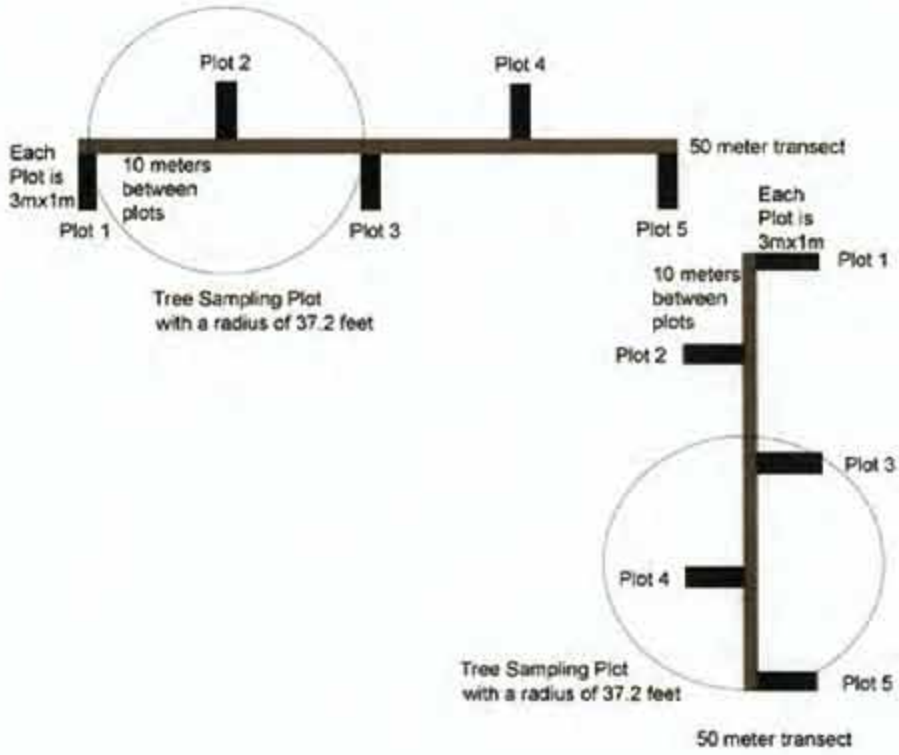


Figure B-3 Diagrammatic arrangement of two, 50 meter transects with five, 3mx1m plots, used to measure herbs and shrubs; and two circular tree sample plots with a radius of 37.2 feet, used to measure all trees 10 cm or greater in diameter at breast height.

Checklist for low water crossing/culvert/piezometer **Purpose of work: improve hydrology**

Site Name: Sweetwater Mitigation Bank **Observation Date:** / /

Phase Number: all one phase at SMB **GPS recon** point taken: yes or no
Description of location:

Type of Plant Community: MPF WP BOG SHRUB BOG BASIN SWAMP
other:_____

Type of work: 1. low water crossing 2. culvert 3. piezometer installation
Operations period - date activity began: / / **Date when activity ends:** / /

Equipment storage in uplands yes no
Soil grading: 1) soils level 2) soils sloped, if sloped **give relative angle of slope** 1) 0-10 degrees or 2) greater

Draw a rough cross section of low water crossing/culvert construction - do not need to illustrate piezometer

Are soils hydric? yes no **If hydric describe**

Depth of water table in soil profile:

Is the water being impounded? yes no

Regeneration of wetland dependent plants: yes no

Hydrologic Indicators (circle those that apply): 1) algal mats 2) aquatic mosses and liverworts 3. aquatic plants 4. aufwuchs 5. drift lines and rafted debris 6. elevated lichen lines 7. evidence of aquatic fauna 8. morphological plant adaptations 9. secondary flow channels 10. Sediment deposition 11. vegetated tussocks or hummocks 12. water marks

Low water crossing contains appropriate substrate: yes no

Low water crossing is functioning appropriately: yes no

Evidence of sheet flow between wetlands on either side of road: yes no

Additional notes:

Checklist for road removal / revegetation **Purpose of work: improve hydrology**

Site Name: Sweetwater Mitigation Bank **Observation Date:** / /

Phase Number: all one phase at SMB **GPS recon** point taken: yes or no
Description of location:

Type of Plant Community: MPF WP BOG SHRUB BOG BASIN SWAMP other:_____
Stage of work: 1. road removal 2. ditch filling 3. low water installation 4. culvert install 5. revegetation
Operations period - date activity began: / / **Date when activity ends:** / /

Equipment storage in uplands yes no

Planting date: / / **Plants fertilized at planting:** yes no

Approximate area of planting/revegation: _____ **square feet or** _____ **acres**

Density of planting e.g. 3 ft centers or 10 ft centers or more _____ ft centers

Starting size of plant material 1) plugs 2) quart 3) gallon 4) 3 gallon 5) ____ gallon

Health of plants, overall appearence 1) excellent 2) good 3) fair 4) poor 5) dead

Survivorship: 1) 0-25% 2) 26-50% 3) 51-75% 4) 76-100%
Estimated total coverage of all plants: 1) 0-25% 2) 26-50% 3) 51-75% 4) 76-100%
List 5 of the most common plants in the revegetated area and estimated coverage
1._____ % cover_____
2. _____ % cover_____ 3. _____ % cover_____
4. _____ % cover_____ 5. _____ % cover_____
After plants have been in the ground: notes on plant health related to site conditions: 1) soil excessively dry; 2) soil excessively wet; 3) herbivory damage; 4) excessively hot; 5) frost damaged

Plants reproducting normally: yes no
List 5 of the most common plants in the revegetated area
1._____
2. _____ 3.

Draw a rough cross section of restored landscape

Checklist for Harvesting/Mechanical Work associated with Vegetation Management

Site Name: Sweetwater Mitigation Bank **Observation Date:** / /

Phase Number: all one phase at SMB **GPS recon** point taken: yes or no
Description of location:

Type of Plant Community: MPF WP BOG SHRUB BOG BASIN SWAMP
other:_____

Type of work: 1. gyrotrac 2. roller chop 3. walk down 4. mowing 5.
other:_____

Purpose of work: 1. fuel reduction/fuel concentration (walk down, roller chop, fire lines) 2. mechanical vegetation management (gyro or bushhogging and road mowing) 3. canopy reduction (timbering and chipping) **circle all that apply**

Operations period - date activity began / / **Date when activity ends** / /

Density of trees/acre - used tenth acre plot: _____ trees in 1/10 ac plot x 10=_____ trees/acre

List 5 of the most common trees (with % coverage) found in the canopy

1._____ % cover_____
2. _____ % cover_____ 3. _____ % cover_____
4. _____ % cover_____ 5. _____ % cover_____

Mechanical work done in wetlands: ruts: present / absent **ruts:** typical of silviculture: yes or no

Slash piles appropriately distributed: yes no **slash piles in wetlands:** yes no

Loading area located in uplands: yes no

Mechanical work outside the SMZ Special Management Zone yes no

Fireline Construction: were BMPs followed? yes no

Was mechanical work done perpendicular to existing bedding: yes no

Equipment storage in uplands: yes no

Checklist for Prescribed Fire

Site Name: Sweetwater Mitigation Bank **Observation Date:** / /

Phase Number: all one phase at SMB **GPS recon** point taken: yes or no
Description of location:

Type of Plant Community: MPF WP BOG SHRUB BOG BASIN SWAMP
other:_____

Type of work associated with fire preparation: 1. gyrotrac 2. roller chop 3. walk down 4. mowing 5. other:_____
Operations period - date activity began / / **Date when activity ends** / /
Density of trees/acre - used tenth acre plot: _____ trees in 1/10 ac plot x 10=_____ trees/acre
Percentage of burnable area burned: 0-10 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-90 91-100

Mechanical work done in wetlands: ruts: present / absent **ruts:** typical of silviculture: yes or no
Fireline Construction: were bmps followed? yes no **Equipment storage in uplands** yes no

Burn photographs taken at established points? yes no

Burn plant submitted to FL Division of Forestry by burn boss? yes no

Where all burn safety percautions followed? yes no

Copies of burn plan obtained from the burn boss? yes no

Burn method: 1) aerial ignition 2) backing 3) strip head

Hazard reduction burn completed? yes no
Percentage of trees scorched trees: 0-10 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-90 91-100
Percentage of trees killed by fire: 0-10 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-90 91-100
Percentage of shrubs burned: 0-10 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-90 91-100
Percentage of groundcover burned: 0-10 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-

ATTACHMENT C – SECURITY PLAN

The Sweetwater Mitigation Bank is located in Bay County. The area will be adequately posted and access will be controlled via the establishment and maintenance of security gates to reduce the threat of trespassing.

Gates

All entrance roads will be gated to control access as detailed on Figure C2. Gates will be constructed of 4-inch steel channel, painted blaze orange, and equipped with reflective tape. Gates will be locked and access will be permitted only for bank sponsor James Maulden and contractors, agency representatives, and hunting lease members and guests. Security housing around locks will be used to reduce the threat of illegal entry into the area.

Gates will be monitored bi-weekly by the applicant. Further, hunt club members will monitor security breeches when they enter and exit the site. Hunt club members will contact bank sponsor James Maulden (850-896-1709) within 24 hours of discovering a breach in gate security. Security gate damage will be repaired immediately. During non-hunting season, the sponsor will monitor the site at least twice per month for signs of trespassing and/or security breaches.

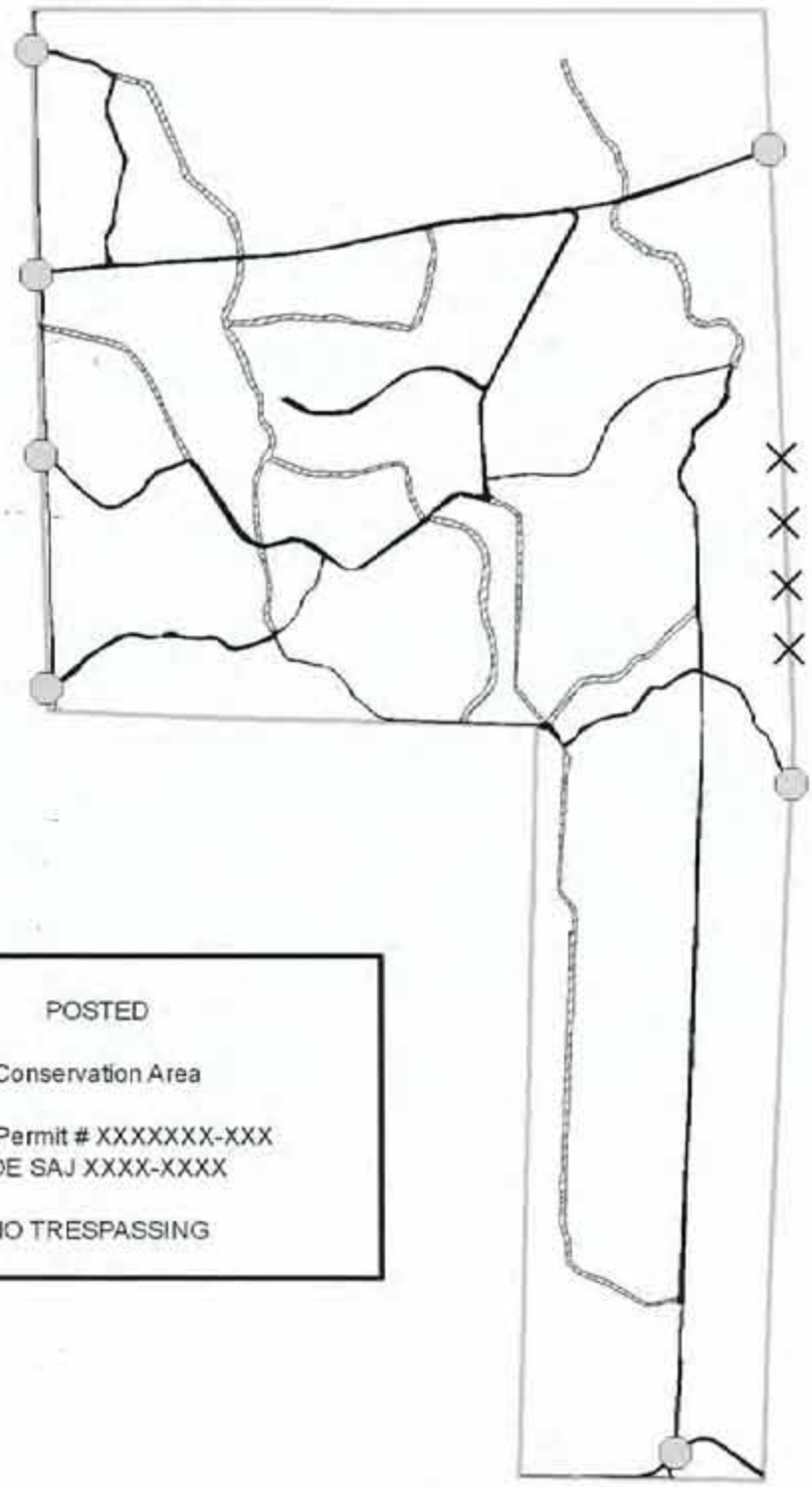
Signs

The area boundary will be adequately posted with the sign shown in Figure 1. Signs will be posted at each entry point. All designated roads will be posted with signs. Hunt clubs are responsible for placement of road signs. The condition of entry and road signs will be evaluated during bi-weekly security inspections by the applicant. The same reporting protocol for gate security will also apply to sign checks.

Additional

All unauthorized persons, signs of trespassing, and/or signs of illegal activities or disturbances (e.g., dumping, off-road driving, disturbance of restoration areas) observed by hunt club members within the mitigation bank will be reported to bank sponsor James Maulden (850-896-1709) within 24 hours of discovery.

Figure C1. Example of sign to be used to post boundary of Sweetwater Mitigation Bank.



POSTED

Conservation Area

FDEP Permit # XXXXXXX-XXX
COE SAJ XXXX-XXXX

NO TRESPASSING

Legend:

Gates Pre / Post

C.E. Signs every 1,000 ft along border

Project Boundary

Road Removal

Road

0 660 1,320 2,640 Feet

N

2005 True Color Aerial

1:15,840

Figure C-2. Security Map

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

ape 07-05-07
ERC# 06-405

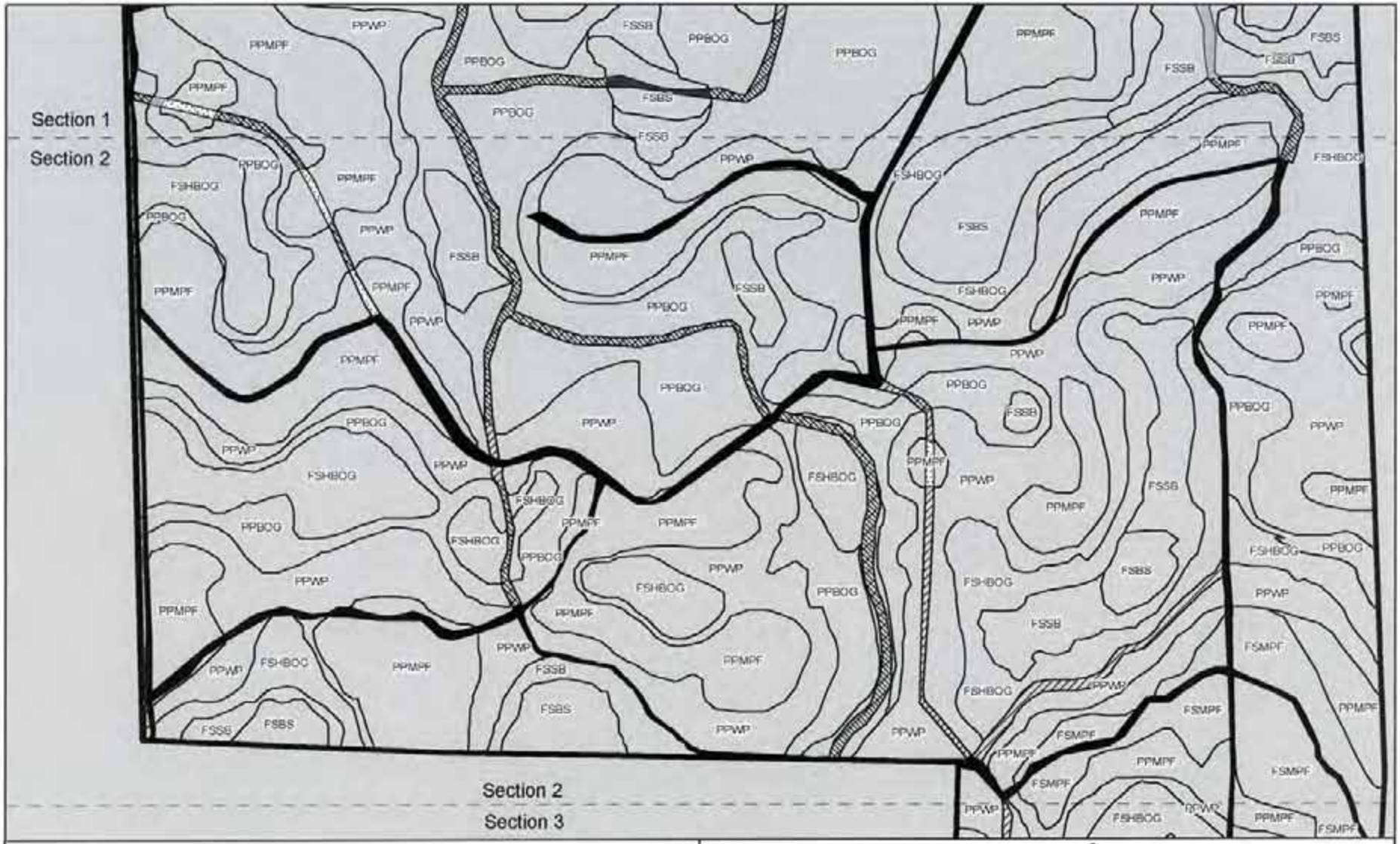
ATTACHMENT D - Credit Assessment - Corps UMAM

Sweetwater Mitigation Bank - UMAM Assessment 8.19.08

Assessment Area	AREA (acres)	SCORE						UMAM W/OUT MIT.	UMAM WITH MIT.	DELTA	TIME LAG	RISK	P	RFG	CREDIT
		LOCATION AND LANDSCAPE		WATER ENVIRONMENT		COMMUNITY STRUCTURE									
		W/OUT or CUR.	WITH MIT.	W/OUT or CUR.	WITH MIT.	W/OUT or CUR.	WITH MIT.								
Hydric Pine Plantation to Wet Flatwoods/ Prairie	235.81	6.00	9.00	6.00	9.00	3.00	9.00	0.50	0.90	0.40	1.0696	1.25		0.30	**70.55**
Hydric Pine Plantation to Bog	92.63	6.00	9.00	6.00	9.00	3.00	9.00	0.50	0.90	0.40	1.0696	1.25		0.30	**27.71**
Harvested Bog/Prairie Enhancement	178.72	6.00	9.00	7.00	9.00	3.00	9.00	0.53	0.90	0.37	1.0696	1.25		0.27	**49.01**
Shrub Bog Enhancement	80.40	7.00	9.00	7.00	9.00	5.00	9.00	0.63	0.90	0.27	1.0696	1.25		0.20	**16.04**
Basin Swamp Preservation	31.21	9.00	9.00	8.00	9.00	7.00	9.00	0.80	0.90	0.10	1.0696	1.00	0.70	0.07	**2.18**
Road/Ditch Restoration	19.80	0.00	9.00	0.00	9.00	0.00	8.00	0.00	0.87	0.87	1.0696	1.25		0.65	**12.83**
TOTALS**		**638.57**													**178.33**

Yellow = direct wet flatwoods/ wet prairie credits

Green = direct forested wetland credits



Legend:

- POLY 1=PPWP
- POLY 2=FSHWP
- POLY 3=PPBOG
- POLY 4=FSHBOG
- POLY 5=FSBS
- POLY 6=FSSB
- POLY 7=FSMPF
- POLY 8=PPMPF
- POLY 9=Road To WP
- POLY 10=Road To BOG
- POLY 11=Road To SB
- POLY 12=Road To SS
- POLY 13=Road To MPF
- Road
- Project Boundary
- Matchline

0 300 600 1,200 Feet

N

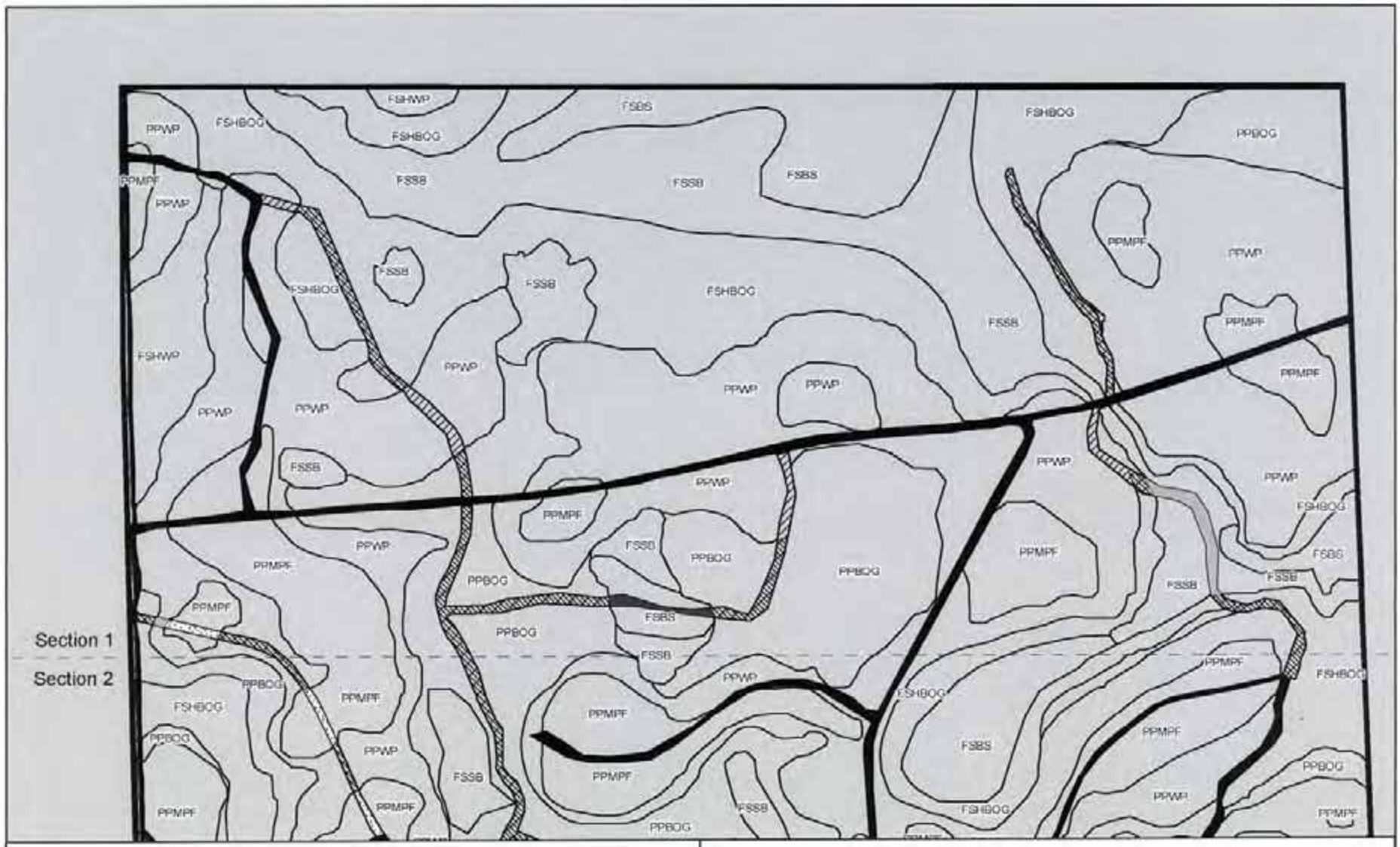
1:7,200

UMAM Polygon Map #2

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

JUL 5-30-08
ERC# 06-405

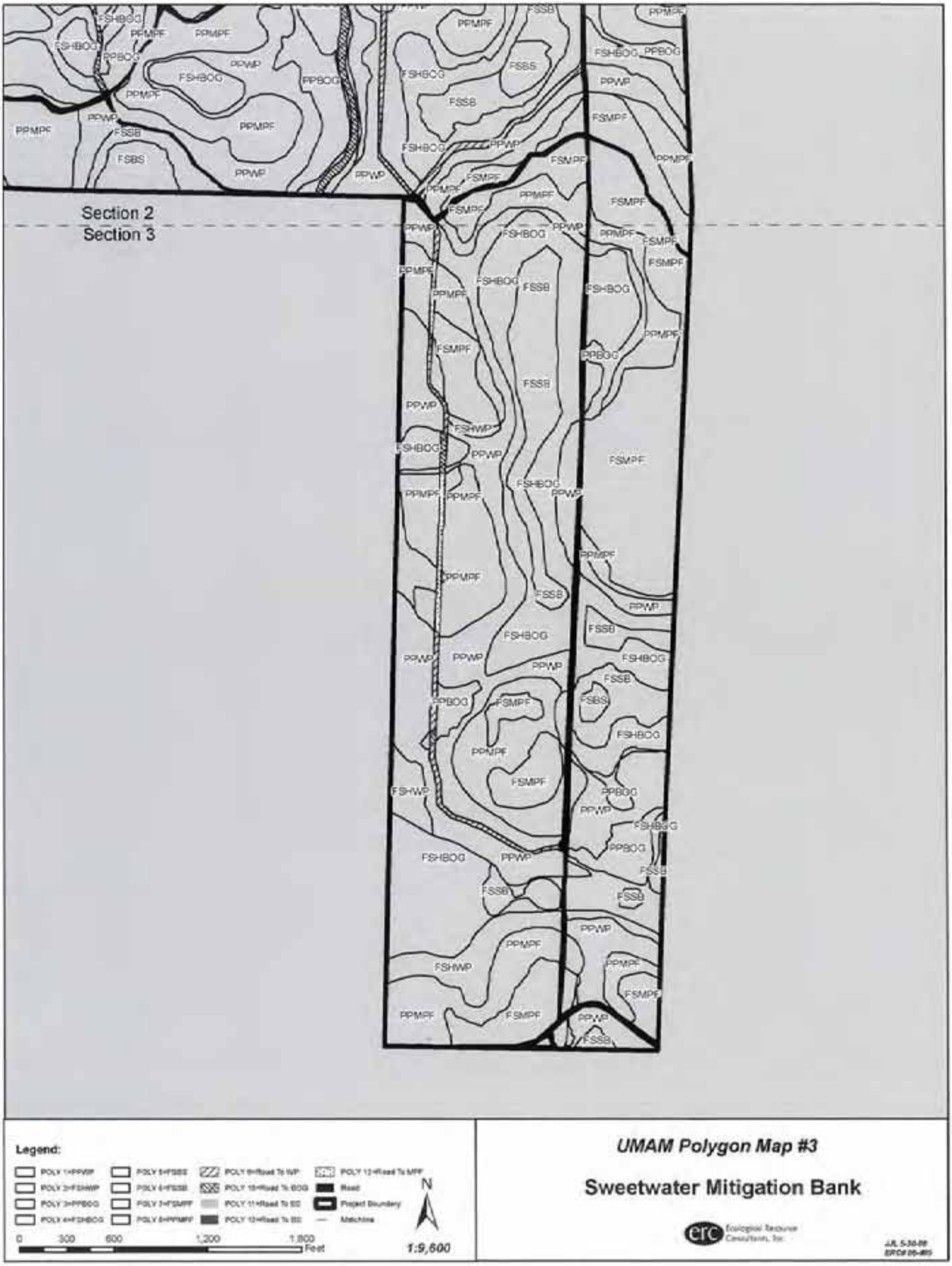


UMAM Polygon Map #1

Sweetwater Mitigation Bank

Ecological Resource Consultants, Inc.

JJL 5-30-08
ERC# 05-405


Section 2
Section 3
Legend:
POLY 1=PPWP
POLY 2=FSHWP
POLY 3=PPBOG
POLY 4=FSHBOG
POLY 5=FSBS
POLY 6=FSSB
POLY 7=FSMPF
POLY 8=PPMPF
POLY 9=Road To IWP
POLY 10=Road To BOG
POLY 11=Road To SS
POLY 12=Road To MPF
Road
Project Boundary
Matchline
N
0 300 600 1,200 1,800 Feet
1:9,600
UMAM Polygon Map #3
Sweetwater Mitigation Bank
erc Ecological Resource Consultants, Inc.
J.R. 5-30-08
ERC# 05-005

ATTACHMENT E.

WETLAND MITIGATION BANK LEDGER
FOR
Sweetwater Mitigaiton Bank
Corps file #SAJ-2007-2664

SUMMARY OF CREDIT HISTORY AND CREDIT AVAILABILITY FOR BANK			
Maximum Potential Credits which can be Generated by this bank = 0		Total number of Credits released	0.000
Balance of Max Potential Credits that remain to be Generated = 0.000 (Balance =Max Potential Credits minus Credits Released)		Total number of Credits sold to date	0.000
		Available Balance of Released Credits	0.000

Transaction number	Permittee/Credit Recipient Name or CREDIT RELEASE	Identification: DOA permit/Legal document/WRDA project	Date of sale/release (Use Format daymonthyear)	Type of Credit (Palustrine, Estuarine, Marine, Riverine, or Lacustrine)	Credits Debited (-)	Credits Released (+)	Available Balance of Released credits
0							0
1	CREDIT RELEASE						0.000
2							0.000
3							0.000
4							0.000
5							0.000
6							0.000
7							0.000
8							0.000
9							0.000
10							0.000
11							0.000
12							0.000
13							0.000
14							0.000
15							0.000
16							0.000
17							0.000
18							0.000
19							0.000
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22							0.000
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25							0.000
26							0.000
27							0.000
28							0.000
29							0.000
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36							0.000
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44							0.000
45							0.000
46							0.000
47							0.000
48							0.000
49							0.000
50							0.000
51							0.000
52							0.000
53							0.000
54							0.000
55							0.000
56							0.000
57							0.000

Attachment F. Desirable Plant List by Plant Community

Basin Swamp

Scientific Name	Common Name
Acer rubrum	Red maple
Ariseama spp.	Jack in the pulpit, green dragon
Aronia arbutifolia	Red chokeberry
Bidens mitis	Beggar-ticks
Boehmeria cylindrica	Small-spike false nettle
Canna flaccida	Golden canna
Carex spp.	Sedge
Cephalanthus occidentalis	Buttonbush
Cladium jamaicense	Sawgrass
Cliftonia monophylla	Black titi
Cornus foemina	Swamp dogwood
Crinum americanum	Southern Swamplily
Cyperus spp.	Flatsedge
Cyrilla racemiflora	Titi
Decodon verticillatus	Swamp -loosestrife
Dichanthelium spp.	Panic grass
Drosera spp.	Sundew
Echinochloa spp.	Cockspur grass
Eriocaulon spp.	Pipewort
Eupatorium spp.	Fennel
Fraxinus caroliniana	Pop ash
Hypericum spp.	St. John's-wort
Ilex spp.	Holly
Iris spp.	Iris
Itea virginica	Virginia willow
Juncus spp.	Rush
Justicia spp.	Thickleaf waterwillow
Lemna spp.	Duck weed
Lindernia spp.	False pimpernel
Lyonia spp.	Fetter-bush
Lobelia spp.	Lobelia
Ludwigia spp.	Seedbox
Lycopodium spp.	Clubmoss
Lythrum spp.	Lythrum
Magnolia virginiana	Sweetbay magnolia
Mayaca spp.	Mayaca
Micromeria spp.	Micromeria
Micranthemum spp.	Mudlower
Mikania scandens	Climbing hempvine
Myrica spp.	Wax myrtle
Nymphaea spp.	Water-lily
Nyssa spp.	Tupelo
Onoclea sensibilis	Sensitive fern
Orontium aquaticum	Golden club
Osmunda spp.	fern
Panicum spp.	Panic grass
Persea palustris	Swamp bay
Peltandra virginica	Arrow arum
Physostegia spp.	dragon head
Pinguicula spp.	butterwort

Pinus elliottii	Slash pine
Platanthera spp.	orchid
Pluchea spp.	Camphor weed
Polygonum spp.	Smartweed
Proserpinaca spp.	Mermaidweed
Psilocarya spp.	bald-rush
Ptilimnium capillaceum	Bishop-weed
Rhexia spp.	Meadow-beauty
Rhynchospora spp.	Beak sedge
Rubus spp.	Blackberry
Sacciolepis spp.	Cupscale grass
Sagittaria spp.	Arrow-head
Samolus spp.	Pimpernel
Sarracenia spp.	Pitcherplant
Saururus cernuus	Lizard's tail
Salix spp.	Willow
Scleria spp.	Nutrush
Senecio spp.	Grass-leaf groundsel
Smilax spp.	Breenbriar
Solidago spp.	Goldenrod
Sphagnum spp.	Sphagnum Moss
Spirodela spp.	Duckmeat
Stillingia aquatica	Corkwood
Styrax americana	Storax
Taxodium spp.	Pond cypress
Thelypteris spp.	Shield fern
Tillandsia usneoides	Spanish Moss
Toxicodendron radicans	Poison ivy
Triadenum spp.	Marsh St. John's-wort
Utricularia spp.	Bladderwort
Vaccinium spp.	Blueberry
Viburnum spp.	Possum-haw
Viola spp.	Violet
Vitis spp.	grape vine
Wolffia spp.	Water meal
Wolffiella spp.	Mud-midget
Woodwardia spp.	Chainfern
Xyris spp.	Yellow-eyed grass

Mesic Pine Flatwoods

Botanical Name	Common Name
Acer rubrum	Red maple
Acalypha spp.	Threeseed mercury
Agalinus spp.	False-foxglove
Agrostis spp.	bentgrass
Aletris spp.	Colic-root
Amphicarpum muhlenbergianum	Goobergrass
Andropogon spp.	Broomsedge
Aristida spp.	Three-awn grass
Aronia arbutifolia	Red chokeberry
Asclepias spp.	Milkweed
Asimina spp.	Pawpaw
Astragalus sp.	milkvetch
Aster spp.	Aster
Aureolaria spp.	Yellow false-foxglove
Axonopus spp.	Carpet grass
Baccharis spp.	False-willow
Baptisia spp.	Wild Indigo
Bidens spp.	Beggar-ticks
Callicarpa americana	Beauty bush
Carex spp.	Sedge
Carphephorus spp.	Chaff head
Cassia spp.	Partridge pea
Ceanothus americanus	New Jersey tea
Centella asiatica	Coinwort
Centrosema virginianum	Butterfly pea
Chaptalia tomentosa	Sunbonnet
Clitoria mariana	Butterfly pea
Cirsium spp.	Thistle
Coelorachis spp.	Wrinkled jointgrass
Commelina spp.	Dayflower
Conyza canadensis	horseweed
Conoclinium coelestinium	Mistflower
Coreopsis spp.	Tickseed
Cnidosculus stimulosus	Stinging spurge
Crotalaria spp.	Rattle pea
Croton spp.	Croton
Crotonopsis spp.	Pineland croton
Cyperus spp.	Flatsedge
Cuphea spp.	Cuphea
Cuscuta spp.	Dodder
Desmodium spp.	Begger ticks
Dichanthelium spp.	Panic grass
Dichondra carolinensis	Ponyfoot
Digitaria spp.	*Crabgrass*
Diodia teres	Poor joe
Drosera spp.	Sundew
Elephantopus spp.	Elephants foot
Eragrostis spp.	Lovegrass
Erechtites hieracifolia	Fireweed
Erianthus spp.	Plumegrass
Erigeron spp.	Daisy fleabane
Eryngium spp.	Snake root
Eupatorium spp.	Fennel

Euphorbia spp.	Spurge
Eustachys spp.	Fingergrass
Euthamia spp.	Goldenrod
Evolvulus sericeus	Trailing evolvulus
Galactia spp.	Flatwoods milkvetch
Galium spp.	Bedstraw
Gaylussacia spp.	Huckleberry
Gelsimium sempervirens	Yellow Jasimine
Gratiola spp.	Hedge hyssop
Hedyotis spp.	Bluet
Helenium spp.	Sneezeweed
Helianthus spp.	Sunflower
Helianthemum carolinianum	Pineland Rockrose
Hibiscus aculeatus	Pineland mallow
Hieracium gronovii	Hawkweed
Hydrocotyle spp.	Pennywort
Hypericum spp.	St. John's-wort
Hypoxis spp.	Yellow eye grass
Ilex glabra	Gallberry
Ilex opaca	American holly
Ipomoea pandurata	Wild yam
Juncus spp.	Rush
Kalmia hirsuta	Flatwoods laurel
Kyllinga spp.	Low spikesedge
Lachnanthes caroliniana	Redroot
Lachnocaulon spp.	Bogbutton
Lechea spp.	Pinweed
Lespedeza spp.	Bush clover
Liatris spp.	Blazing star
Lygodesmia aphylla	Roseling
Lyonia lucida	Fetter-bush
Lyonia ferruginea	Fetter-bush
Ludwigia spp.	Seedbox
Marshallia spp.	Barbara's button
Myrica cerifera.	Wax myrtle
Osmunda cinnamomea	Cinnamon fern
Oxalis spp.	Oxalis
Panicum spp.	Panic grass
Paspalum spp.	Paspalum
Penstemon spp.	Penstemon
Petalostemon spp.	Petalostemon
Phoebanthus tenuifolia	Phoebanthus
Pinus elliottii	Slash pine
Pinus palustris	Longleaf pine
Pinus serotina	Pond pine
Pityopsis spp.	Golden aster
Polygonum spp.	Smartweed
Polygala spp.	Milkwort
Polypremum procumbens	Rustweed
Psoralea spp.	Snakeroot
Pterocaulon pycnostachyum	Blackroot
Pteridium aquilinum	Bracken fern
Quercus hemispheaerica	Laurel oak
Quercus incana	Bluejack oak
Quercus minima	runner oak
Quercus pumilia	runner oak

Rhexia mariana	Meadow-beauty
Ruellia caroliniensis	Wild petunia
Rhus copallina	Winged sumac
Rhynchosia spp.	Rhynchosia
Rhynchospora spp.	Beak sedge
Rubus spp.	Blackberry
Rudbeckia spp.	coneflower
Rumex spp.	Dock
Sabatia spp.	Marsh pink
Salvia spp.	Salvia
Schizachyrium spp.	Bluestem
Scleria spp.	Nutrush
Scoparia dulcis	Goatweed
Scutellaria spp.	Skullcap
Serenoa repens	Saw palmetto
Sesbania spp.	Rattle-bush
Setaria spp.	bristle grass
Seymeria cassinoides	Pineland senna
Schrankia microphylla	Sensitive Brier
Silphium spp.	Compass plant
Sisyrinchium spp.	Blue-eyed grass
Smilax spp.	Breenbriar
Solidago spp.	Goldenrod
Spiranthes spp.	Ladie's tresses
Sporobolus sp.	Dropseed grass
Stillingia sp.	Stillingia
Stylisma spp.	Trailing stylisma
Symphyotrichum spp.	Aster
Syngonanthus spp.	Bantam-buttons
Tragia urens	Nose burn
Tridens spp.	Tridens grass
Tofieldia racemosa	Coastal false asphodel
Viola spp.	Violet
Vaccinium myrsinites	Blueberry
Xyris spp.	Yellow-eyed grass

Wet Prairie, Bog, and Shrub Bog

Botanical Name	Common Name
Aeschynomene spp.	Meadow joint-vetch
Agalinus spp.	False-foxglove
Aletris spp.	Colic-root
Ammania coccinea	Toothcup
Amphicarpum muhlenbergianum	Goobergrass
Andropogon spp.	Broomsedge
Apios americana	Groundnut
Acer rubrum	Red maple
Aristida spp.	Three-awn grass
Arnoglossum ovatum	Indian Plantain
Aronia arbutifolia	Red chokeberry
Asclepias spp.	Milkweed
Aster spp.	Aster
Axonopus spp.	Carpet grass
Baccharis spp.	False-willow
Bacopa spp.	Blue hyssop
Balduina angustifolia	Yellow buttons
Bidens spp.	Beggar-ticks
Bigelowia nudata	Rayless goldenrod
Boehmeria cylindrica	Small-spike false nettle
Bulbostylis spp.	Capillary hairsedge
Canna flaccida	Golden canna
Calamovilfa curtissii	Curtiss' reedgrass
Carex spp.	Sedge
Carphephorus spp.	Chaff head
Centella asiatica	Coinwort
Chaptalia tomentosa	Sunbonnet
Cirsium spp.	Thistle
Cladium jamaicense	Sawgrass
Cliftonia monophylla	Black titi
Coelorachis spp.	Wrinkled jointgrass
Commelina spp.	Dayflower
Conoclinium coelestinium	Mistflower
Conyza canadensis	horseweed
Coreopsis spp.	Tickseed
Crinum americanum	Southern Swamplily
Cyperus spp.	Flatsedge
Cyrilla racemiflora	Titi
Decodon verticillatus	Swamp -loosestrife
Dichanthelium spp.	Panic grass
Dichromena spp.	White top sedge
Diodia spp.	Poor joe
Drosera spp.	Sundew
Echinochloa spp.	Cockspur grass
Eclipta spp.	Upright burhead
Eleocharis spp.	Spikerush
Eragrostis spp.	Lovegrass
Erianthus giganteus	Plumegrass
Erigeron spp.	Daisy fleabane
Eriocaulon spp.	Pipewort
Eryngium spp.	Snake root
Eupatorium spp.	Fennel
Euphorbia spp.	Spurge

Eurybia eryngiifolia	Thistleleaf Aster
Eurybia spinulosa	Pinewoods Aster
Eustachys spp.	Fingergrass
Euthamia spp.	Goldenrod
Fraxinus caroliniana	Pop ash
Fimbrystylis spp.	Fringe-rush
Fuirena spp.	Umbrella-sedge
Galium spp.	Bedstraw
Gaylussacia spp.	Huckleberry
Gordonia lasianthus	Loblolly bay
Gratiola spp.	Hedge hyssop
Habeneria spp.	Rein orchid
Hedyotis spp.	Bluet
Helenium spp.	Sneezeweed
Helianthus heterophyllus	Variableleaf sunflower
Helianthus radula	Stiff Sunflower
Hibiscus spp.	Marsh mallow
Hydrolea spp.	False fiddle-leaf
Hydrocotyle spp.	Pennywort
Hymenocallis spp.	Spider-lily
Hypericum spp.	St. John's-wort
Hyptis alata	Musky mint
Ilex spp.	Holly
Iris tridentata	Iris
Juncus spp.	Rush
Justicia spp.	Thickleaf waterwillow
Lachnanthes caroliniana	Redroot
Lachnocaulon spp.	Bogbutton
Leersia spp.	Southern cutgrass
Liatris spp.	Blazing star
Limnobium spongia	Frog's bit
Lindernia spp.	False pimpernel
Lyonia spp.	Fetter-bush
Lobelia spp.	Lobelia
Lophiola americana	Golden crest
Ludwigia spp.	Seedbox
Lycopodiella spp.	Clubmoss
Lythrum spp.	Lythrum
Magnolia virginiana	Sweetbay magnolia
Marshallia spp.	Barbara's button
Micromeria spp.	Micromeria
Micranthemum spp.	Mudlower
Mikania scandens	Climbing hempvine
Mitreola spp.	Miterwort
Myrica spp.	Wax myrtle
Nelumbo lutea	Lotus
Nuphar spp.	Spatter dock
Nymphaea spp.	Water-lily
Nyssa biflora	Swamp tupelo
Nyssa ursina	Bear tupelo
Osmunda spp.	Royal fern, Cinnamon fern
Oxypolis spp.	cowbane
Panicum spp.	Panic grass
Paspalum spp.	Paspalum
Persea palustris	Swamp bay
Peltandra virginica	Arrow arum

Physostegia spp.	dragon head
Pinguicula spp.	butterwort
Pinus elliottii	Slash pine
Pinus palustris	Longleaf pine
Pinus serotina	Pond pine
Pityopsis oligantha	Bog golden aster
Platanthera spp.	Orchid
Pleea tenuifolia	Rush featherling
Pluchea spp.	Camphor weed
Polygonum spp.	Smartweed
Polygala spp.	Milkwort
Proserpinaca spp.	Mermaidweed
Psilocarya spp.	bald-rush
Ptilimnium capillaceum	Bishop-weed
Rhexia spp.	Meadow-beauty
Rhynchospora spp.	Beak sedge
Rotala ramosior	Toothcup
Rubus spp.	Blackberry
Rudbeckia spp.	coneflower
Sabatia spp.	Marsh pink
Saccharum spp.	Sugarcane plumegrass
Sacciolepis spp.	Cupscale grass
Sagittaria spp.	Arrow-head
Samolus spp.	Pimpernel
Sarracenia spp.	Pitcherplant
Saururus cernuus	Lizard's tail
Schizachyrium spp.	Bluestem
Scirpus spp.	Bulrush
Scleria spp.	Nutrush
Scutellaria spp.	Skullcap
Senecio spp.	Grass-leaf groundsel
Sesbania spp.	Rattle-bush
Setaria spp.	bristle grass
Sisyrinchium spp.	Blue-eyed grass
Smilax spp.	Breenbriar
Solidago spp.	Goldenrod
Sphagnum spp.	Moss
Spilanthes americana	Creeping spotflower
Spiranthes spp.	ladie's tresses
Sporobolus sp.	dropseed grass
Seymeria cassinoides	Pineland senna
Serenoa repens	Saw palmetto
Stillingia aquatica	Corkwood
Symphyotrichum spp.	Aster
Syngonanthus spp.	Bantam-buttons
Taxodium ascendens	Pond cypress
Thelypteris spp.	Shield fern
Triadenum spp.	Marsh St. John's-wort
Tridens spp.	Tridens grass
Tofieldia racemosa	Coastal false asphodel
Utricularia spp.	Bladderwort
Viola spp.	Violet
Viburnum spp.	Possum-haw
Vaccinium spp.	Blueberry
Woodwardia spp.	Chainfern
Xyris spp.	Yellow-eyed grass

ATTACHMENT G – Revegetation Plan

With appropriate management, all restored landscapes will progress naturally through ecological succession with the existing seed bank; however, the site will be assessed using the following methods to determine if natural regeneration is occurring from the existing seedbank as expected. Further, this revegetation plan describes contingencies if the observations do not show sufficient coverage of groundcover, wiregrass, and / or longleaf pine.

1. Seeding -
All areas considered for revegetation will be qualitatively monitored along seed dispersal transects (Figure G1 – Additional Enhancement Areas Map) so as to locate areas that contain greater than 50% cover of bare ground or leaf litter. Whenever the total coverage of coppice and herbaceous species in the groundcover is less than 50%, i.e. there is more than 50% coverage of bare ground/leaf litter; we will disperse seeds of native species appropriate to the particular plant community along the seed dispersal transects shown in Figure G-1. Seeds of native species collected in restored landscapes at SMB and other sites within Bay County will be the seed source for supplemental seeding. We will hand collect seeds of all species fruiting in late summer-fall and scatter the seeds by hand. Table G1, below, includes a list of all plants that may be collected and used as a seed source.

2. Wiregrass
The progress of the wiregrass restoration will be assessed in Mesic Flatwoods and Wet Prairie along the longleaf pine and wiregrass assessment transects (Figure G-2 Longleaf Longleaf Pine and Wiregrass Assessment Transect Map). Along these transects at intervals of 1,000 feet, 1/10 acre plots will be monitored after the second prescribed burn. The wiregrass total coverage will be estimated. It will be determined whether the current wiregrass coverage is less than or greater than 15%. If the total coverage of wiregrass is determined to be less than 15%, at least 25 wiregrass plugs will be planted within the 1/10 acre plot. This should facilitate the distribution of this species across the bank, assure that it is present in areas where it has been extirpated, and provide a seed source for this keystone species to colonize these two plant communities as ecological restoration of the site progresses.

3. Longleaf Pine
The distribution of Longleaf pine will be monitored within the Mesic Flatwoods polygons along the longleaf pine and wiregrass assessment transects. As described in the above section the, 1/10 acre plots will be distributed every 1,000 feet along the assessment transects and will be monitored after the second prescribed burn. Within 1/10 acre plots, the canopy species will be identified and recorded. The percentage of longleaf pine will be determined. If the presence of longleaf pine is less than 10% of the total trees in the plot, supplemental planting of longleaf pine will occur.

Supplemental planting will occur in the plant community that is not regenerating appropriately in long leaf at a density of 30-70 trees per acre. To determine which plant community is not regenerating, the 1/10 acre plot data will be compared with the pre-restoration plant communities. For example, if the majority of the 1/10 acre plots that do not have greater than 10% longleaf pine are located within the Planted Pine Mesic Pine Flatwoods (PPMPF) polygons, all the PPMPF polygons will be planted. The same

comparison will be made for the Fire Suppressed Mesic Pine Flatwoods. After planting, the trees will be monitored to ensure at least 80% survival of planted species.

List of Figures
Figure G1 – Additional Enhancement Areas Map
Figure G2 – Longleaf Pine and Wiregrass Assessment Map

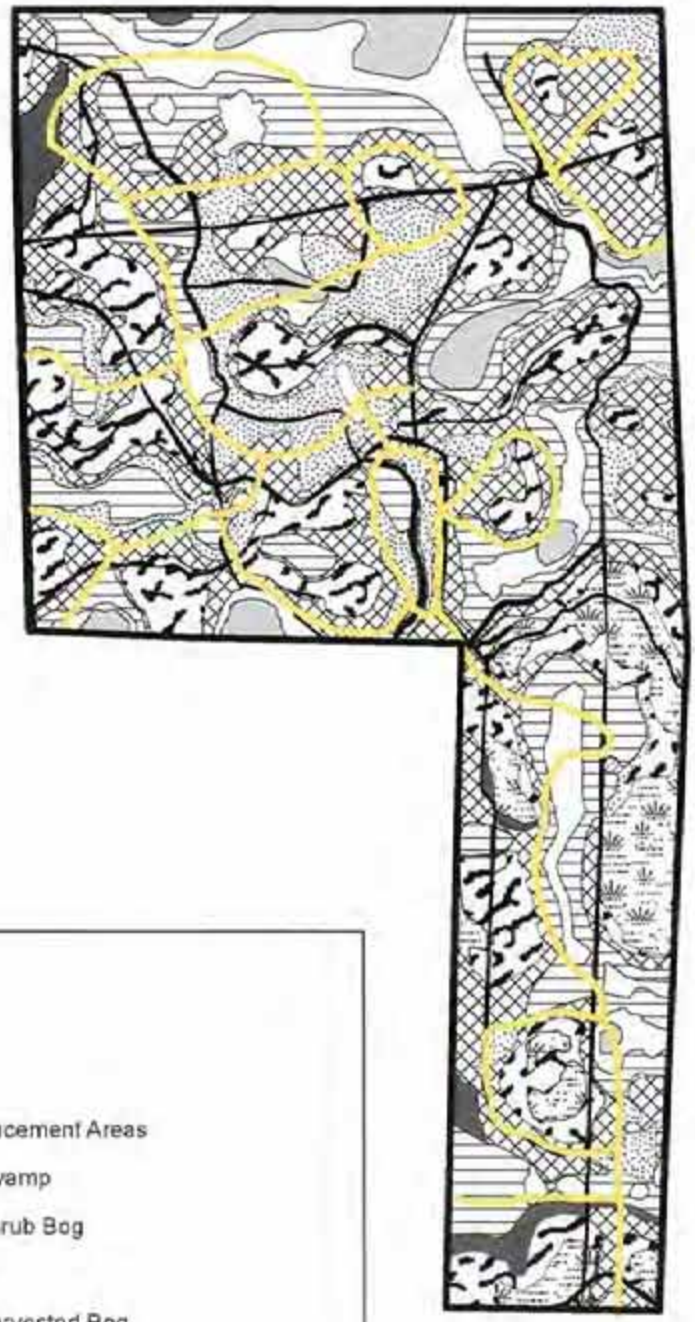
Table G1. Plant List

Botanical Name	Common Name
Aeschynomene ssp.	Jointvetch
Agalinis ssp.	False-foxglove
Ageratina aromatica	Snakeroot
Aletris ssp.	Colicroot
Amianthium muscaetoxicum	Flypoison
Anthaenantia rufa	Purple Silkyscale
Ammania coccinea	Toothcup
Amphicarpum muhlenbergianum	Goobergrass
Andropogon ssp.	Broomsedge
Apios americana	Groundnut
Aristida ssp.	Threeawn
Arnoglossum ssp.	Indian Plantain
Asclepias ssp.	Milkweed
Aureolaria ssp.	False foxglove
Bacopa ssp.	Blue hyssop
Balduina ssp.	Honeycombhead
Baptisia ssp.	Gopherweed
Bartonia ssp	Screwstem
Berlandiera pumila	Greeneyes
Bidens ssp.	Beggar-ticks
Bigelowia nudata	Rayless goldenrod
Boehmeria cylindrica	Small-spike false nettle
Bulbostylis ssp.	Hairsedge
Carex ssp.	Sedge
Carphephorus ssp.	Chaff head
Ceanothus microphyllus	Littleleaf Buckbrush
Centella asiatica	Spadeleaf
Chamaecrista ssp.	Partridge pea
Chaptalia tomentosa	Sunbonnet
Chrysopsis ssp.	Goldenaster
Cirsium ssp.	Thistle
Coelorachis ssp.	Jointgrass
Coreopsis ssp.	Tickseed
Croptilon divaricatum	Slender Scratchdaisy
Crotalaria ssp.	Rattlebox
Croton ssp.	Croton
Ctenium aromaticum	Toothache grass
Cyperus ssp.	Flatsedge
Dalea ssp.	Summer Farewell

Decodon verticillatus	Swamp -loosestrife
Desmodium ssp.	Ticktrefoil
Dichanthelium ssp.	Witchgrass
Diodia ssp.	Poor Joe
Drosera ssp.	Sundew
Echinochloa ssp.	Cockspur grass
Eclipta ssp.	Upright burhead
Eleocharis ssp.	Spikerush
Eragrostis ssp.	Lovegrass
Erigeron ssp.	Daisy fleabane
Eriocaulon ssp.	Pipewort
Eriogonum tomentosum	Wild Buckwheat
Eryngium ssp.	Snake root
Erythrina herbacea	Coralbean
Eupatorium ssp.	Fennel
Eupatorium ssp.	Thoroughwort
Euphorbia ssp.	Spurge
Eurybia ssp.	Aster
Eustachys ssp.	Fingergrass
Euthamia ssp.	Flattop Goldenrod
Fimbrystylis ssp.	Fringe-rush
Froelichia floridana	Cottonweed
Fuirena ssp.	Umbrella-sedge
Gaylussacia ssp.	Huckleberry
Gratiola ssp.	Hedge hyssop
Habeneria ssp.	Rein orchid
Hedyotis ssp.	Bluet
Helenium ssp.	Sneezeweed
Helianthus ssp.	Sunflower
Heterotheca subaxillaris	Camphorweed
Hibiscus ssp.	Marsh mallow
Hieracium gronovii	Queen-devil
Hydrocotyle ssp.	Pennywort
Hydrolea ssp.	False fiddle-leaf
Hymenocallis ssp.	Spider-lily
Hypericum ssp.	St. John's-wort
Hypoxis ssp.	Yellow Stargrass
Hyptis alata	Musky mint
Iris tridentata	Iris
Juncus ssp.	Rush
Justicia ssp.	Thickleaf waterwillow
Krigia ssp.	Dwarfdandelion
Lachnanthes caroliniana	Redroot
Lachnocaulon ssp.	Bogbutton
Lechea ssp.	Pinweed
Lespedeza ssp.	Lespedeza
Liatris ssp.	Blazing star
Lobelia ssp.	Lobelia
Lophiola americana	Golden crest
Ludwigia ssp.	Seedbox
Lupinus ssp.	Lupine

Lycopodiella ssp.	Clubmoss
Lythrum ssp.	Lythrum
Marshallia ssp.	Barbara's button
Mitchella repens	Partridgeberry
Osmunda ssp.	Royal fern, Cinnamon fern
Oxypolis ssp.	Cowbane
Panicum ssp.	Panic grass
Paronychia ssp.	Nailwort
Paspalum ssp.	Paspalum
Peltandra ssp.	Arrow arum
Penstemon multiflorus	Beardtongue
Phlox ssp.	Phlox
Physostegia ssp.	Dragonhead
Pieris phyllyreifolia	Fetterbush
Pinguicula ssp.	Butterwort
Pinguicula ssp.	Butterwort
Pleea tenuifolia	Rush featherling
Pluchea ssp.	Camphorweed
Polygala ssp.	Milkwort
Polygonella ssp.	Jointweed
Polygonum ssp.	Smartweed
Proserpinaca ssp.	Mermaidweed
Psilocarya ssp.	Bald-rush
Pteridium aquilinum	Bracken fern
Pterocaulon pycnostachyum	Blackroot
Ptilimnium capillaceum	Bishop-weed
Rhexia ssp.	Meadow beauty
Rhynchospora ssp.	Beak sedge
Rubus ssp.	Blackberry
Rudbeckia ssp.	Coneflower
Sabatia ssp.	Marsh pink
Saccharum ssp.	Sugarcane plumegrass
Sacciolepis ssp.	Cupscale grass
Sagittaria ssp.	Arrowhead
Samolus ssp.	Pimpernel
Sarracenia ssp.	Pitcherplant
Saururus cernuus	Lizard's tail
Schizachyrium ssp.	Bluestem
Scleria ssp.	Nutrush
Scutellaria ssp.	Skullcap
Senecio ssp.	Grass-leaf groundsel
Serenoa repens	Saw palmetto
Sericocarpus tortifolius	Whitetop
Seymeria cassioides	Pineland Senna
Sisyrinchium ssp.	Blue-eyed grass
Smilax ssp.	Greenbriar
Solidago ssp.	Goldenrod
Spiranthes ssp.	Ladies' tresses
Sporobolus ssp.	Dropseed grass
Stylisma ssp	Dawnflower
Syngonanthus flavidulus	Yellow hatpins

Symphyotrichum ssp.	Aster
Syngonanthus ssp.	Bantam-buttons
Tephrosia ssp.	Hoarypea
Thelypteris ssp.	Shield fern
Tofieldia racemosa	Coastal false asphodel
Triadenum ssp.	Marsh St. John's-wort
Tridens ssp.	Tridens grass
Verbesina chapmanii	Chapman's crownbeard
Viola ssp.	Violet
Woodwardia ssp.	Chainfern
Xyris ssp.	Yellow-eyed grass
Zigadenus densus	Crowpoison



Legend:

- Project Boundary
- Seed Source Enhancement Areas
- Harvested Basin Swamp
- Fire Suppressed Shrub Bog
- Planted Pine Bog
- Fire Suppressed Harvested Bog
- Planted Pine Wet Prairie
- Fire Suppressed Harvested Wet Prairie
- Planted Pine Mesic Pine Flatwoods
- Fire Suppressed Mesic Pine Flatwoods
- Road

0 750 1,500 3,000 Feet

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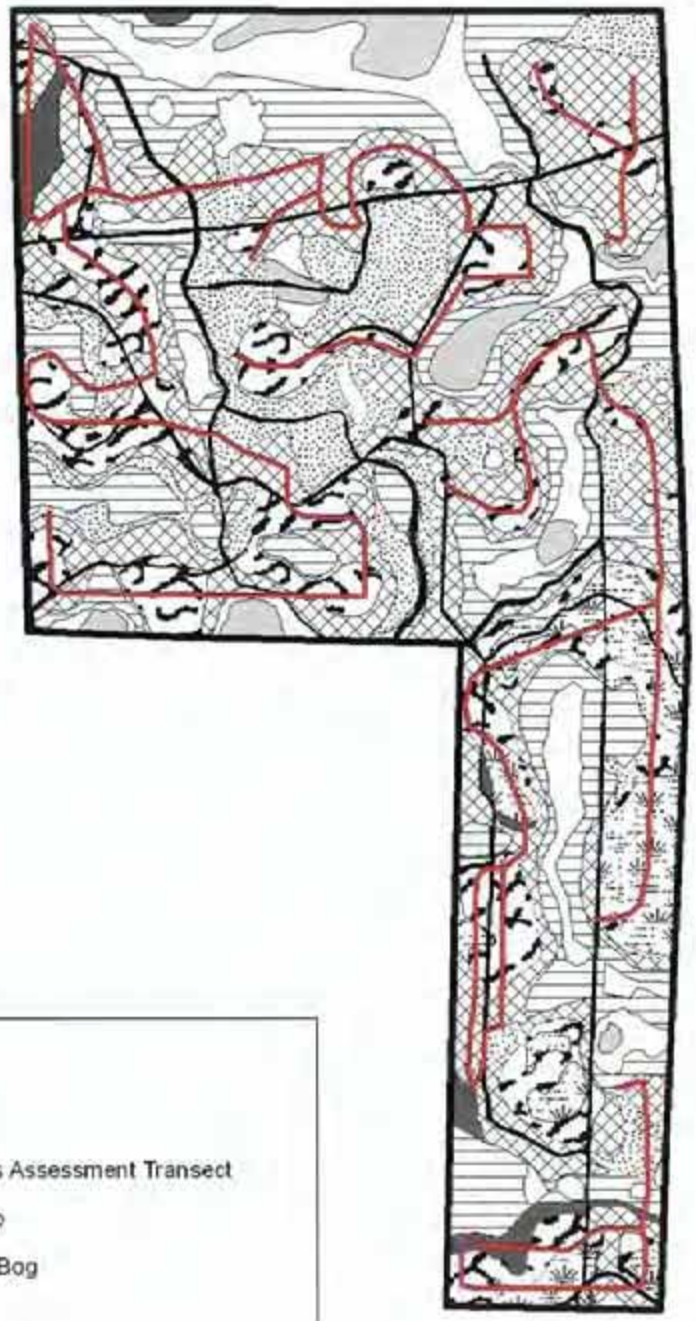
N

Figure G-1 Additional Enhancement Areas

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

JUL 5-22-08
ERC# 06-405



Legend:

- Project Boundary
- Longleaf Pine Wiregrass Assessment Transect
- Harvested Basin Swamp
- Fire Suppressed Shrub Bog
- Planted Pine Bog
- Fire Suppressed Harvested Bog
- Planted Pine Wet Prairie
- Fire Suppressed Harvested Wet Prairie
- Planted Pine Mesic Pine Flatwoods
- Fire Suppressed Mesic Pine Flatwoods
- Road

0 750 1,500 3,000 Feet

1:18,000

N

Figure G-2 Longleaf Pine and Wiregrass Assessment Transect Map

Sweetwater Mitigation Bank

Ecological Resource Consultants, Inc.

MWC 05.28.2009
ERC# 08-405

Attachment H – Hydrologic Enhancement Plan

Summary

The hydrology on the Sweetwater Mitigation Bank (SMB) site has been altered due to site management for silivicultural purposes. The site is comprised of 850 acres and 470 acres are planted in pine. The site is located in the headwater drainages of Bear Creek and Bayou George Creek, which supply freshwater to Deerpoint Lake (Class I Waters of the State). ERC has evaluated the site for hydrological alteration and has developed a plan to restore water table fluctuation and sheetflow across the site. The hydrologic enhancements will also restore the water budget (inflows and outflows) to normal conditions. Finally, success criteria have been proposed and a specific monitoring plan has been created to evaluate the success of the enhancements. The hydrologic plan contained herein provides the methodology used to support the issuance of the SMB MBI.

1. Hydrologic Alteration

The site is hydrologically altered by roads without adequate culverts and ditches. Where the roads traverse wetlands, they function much like levees, eliminating sheet flow and redirect natural flow into ditches. Water that would have accumulated in wetland basin features and/or moved by sheet flow across the site is now pooling in the ditches.

Silvicultural activities have also altered the hydrology. The unnaturally dense canopy of pines, up to 500-700 trees per acre combined with the fire suppressed understory have created a landscape of amplified evapotranspiration. Unnaturally dense vegetation has been shown to adversely deplete groundwater (Bliss and Comerford, 2002*; Sun, et. al. 2000). This action will shorten the hydroperiod of ephemeral wetlands and lower the water table in the soil column. Reducing hydroperiod of ephemeral pools disrupts aquatic life histories of water dependent amphibians and invertebrates.

In addition the troughs between silvicultural beds function as a series of parallel ditches that move water off the areas of active pine plantation and into the ditches while the beds effectively increase the distance between the groundwater table and the land surface. Bedding increases the surface flow and reduces the soil infiltration. Pine rows are approximately 3 to 5 meters apart and furrows are approximately 6 to 12 inches deep and they traverse uplands and wetlands.

2. Baseline Hydrology

Baseline hydrologic conditions will be measured by two methodologies.
1) Wet season groundwater table elevations will be measured using evalutation of redoximorphic features and other morphological indicators of seasonal high saturation (SHS) or seasonal high inundation (SHI). 2) Water table wells will be installed and monitored per guidelines in Installing Monitoring Wells in Soils (Sprecher, 2008*). The wells will be installed at locations based upon the distribution of soil types reported by the data obtained by ERC and reported in the Soil Survey of Bay County, Florida and per the guidelines in Sprecher, 2008. On ground locations will be sited to avoid both beds and troughs. Down-well transducers or capacitance-based sensors will be used to measure water tables in the wells continuously and instrumentation will be checked bimonthly to verify operational status. Soil profiles will be fully described for each well site per The Fieldbook for Sampling and Describing Soils, (USDA, 2002). The depth and

properties of each soil horizon including soil texture will be considered for specific well design.

3. Proposed Hydrologic Enhancement

Six activities will contribute to appropriate hydrological maintenance of the site, as follows:

1) *Road Removal* - Selected logging roads through wetland plant communities will be removed mechanically to restore sheet-flow within the SMB. Roads will be mechanically removed and the roadside ditches will be recontoured with the roadbed material. Location of road removal sites is shown on Figure I-2. In addition plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H, Engineer Exhbits).

RR1/DR1 - remove a road through a bog, a wet prairie and a mesic pine flatwoods
RR2/DR2 - remove a road through a bog and a wet prairie
RR3/DR3 - remove a road through a bog and a wet prairie
RR4/DR4 - remove a road through a bog and a wet prairie
RR5/DR5 - remove a road through a bog, a wet prairie and a basin swamp
RR6/DR6 - remove a road through a shrub bog, a bog and a wet prairie

2) *Ditch Recontouring* – Ditches through the wetland communities will be recontoured and revegetated to decrease hydrological alteration of the wetlands. Ditches are found in association with roads, see 1) above. Location of the ditch recontouring sites is shown on Figure H-2. In addition plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H, Engineer Exhibits).

3) *Planted Bed Removal* – Bedding from existing pine plantation will be knocked down to grade during management activities.

4) *Low-Water Crossings* – Low water crossings will be installed at specified locations to restore sheet-flow between bogs and shrub bogs. Plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H, Engineer Exhibits).

5) *Culvert addition* – Culverts will be installed at specified locations to restore connectivity and sheet flow between the bogs. Plan view, cross sectional, and NPDES exhibits are included (*see* Attachment H, Engineer Exhibits).

6) *Mechanical Treatment / Prescribed Burning* – Fire-suppressed woody vegetation in the subcanopy and canopy will be mechanically treated prior to burning. Maintaining these woody species in their appropriate growth forms with subsequent prescribed fires will increase water availability across the site and restore the natural hydrological regime.

4. Monitoring Plan

Soil profiles will be fully described for each well site per The Fieldbook for Sampling and Describing Soils, (USDA, 2002) on an annual schedule for each well monitoring site. Since hydric soil morphology is definitive for wetland ecosystems, changes in near surface soil morphology will be monitored closely. Hydric soil indicators will be reported per Field Indicators of Hydric Soils in the United States (USDA, 2006) or an updated version released. The distribution of hydric soil indicators will be correlated to SHI/SHS indicators to determine if appropriate saturation or innundation depths are being

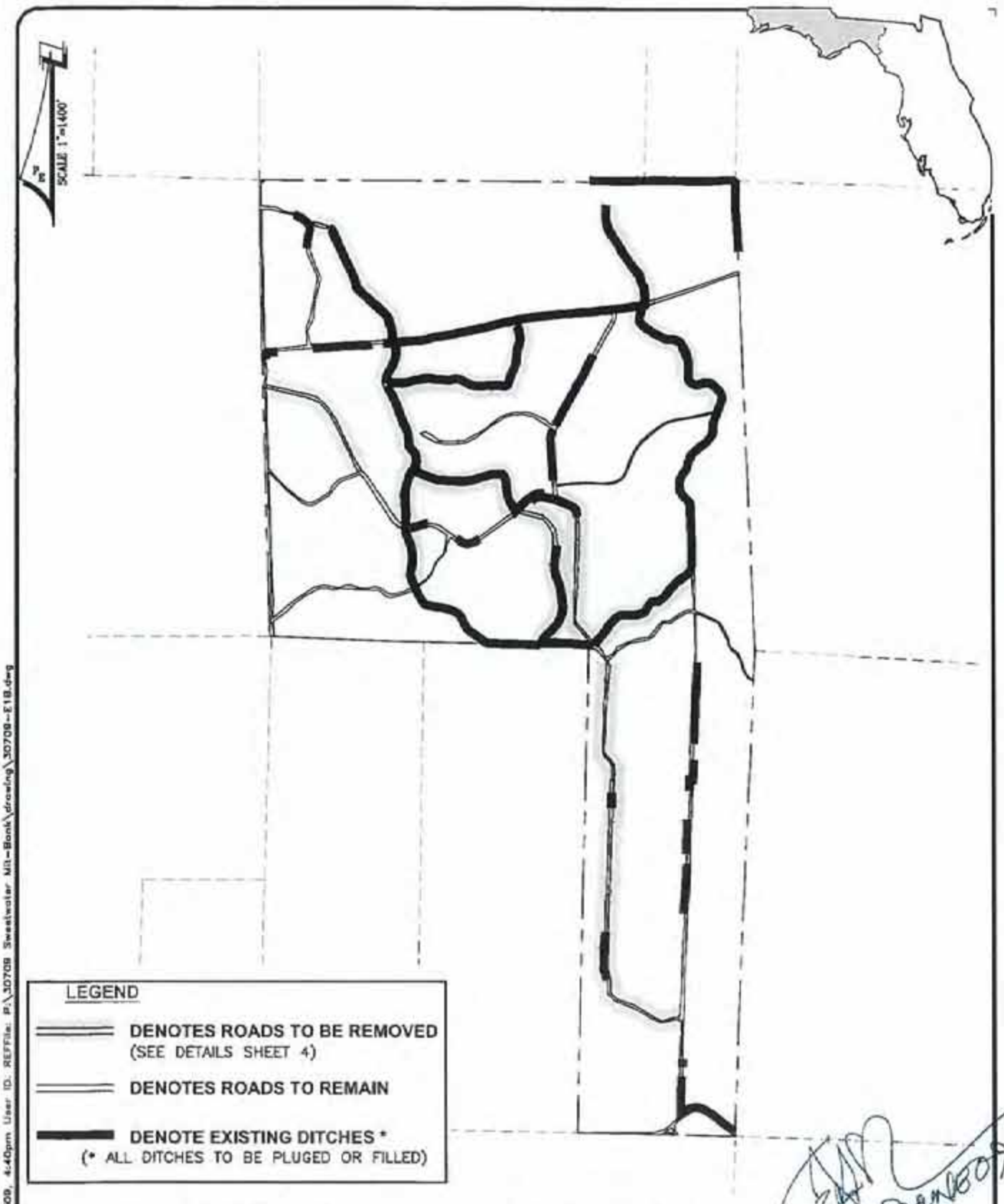
achieved for the target ecosystem as outlined in Table 9 – Hydroperiod Chart of the SMB MBI, Page 35.

References:

* C.M. Bliss and N.B. Comerford, 2002. Forest Harvesting Influence on Water Table Dynamics in a Florida Flatwoods Landscape. Soils. Sci. Soc. Am. J. 66:1344-1349.

*Sprecher, S.W. 2008. Installing monitoring wells in soils (Version 1.0). National Soil Survey Center, Natural Resources Conservation Service, USDA, Lincoln, NE.

* G. Sun, et. al. 2000. Ground water table rise after Forest Harvesting on Cypress – Pine Flatwoods in Florida. Wetlands. Vol. 20, No. 1. The Society of Wetland Scientists.



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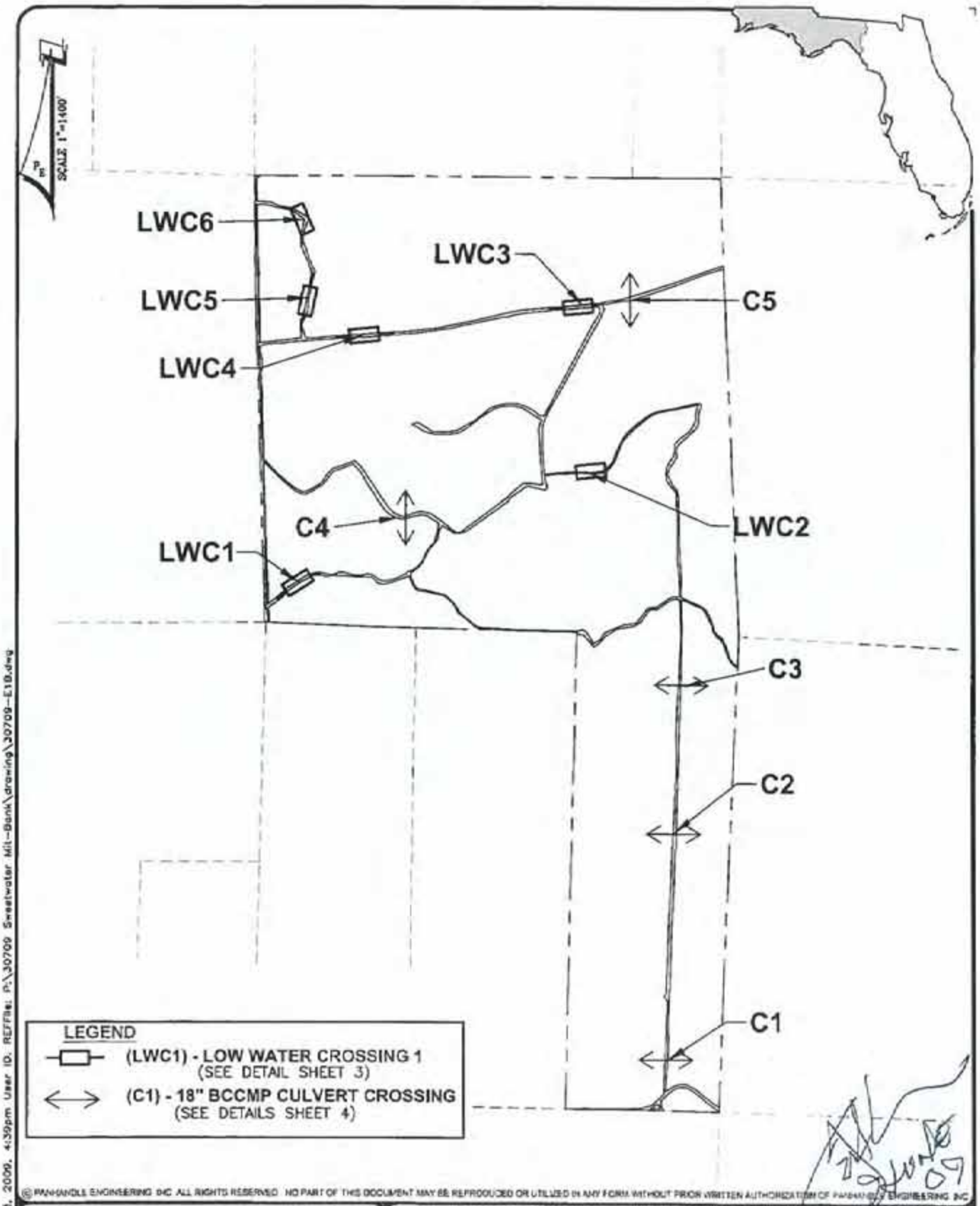
SWEETWATER MITIGATION BANK
OVERALL EXISTING CONDITIONS AND AND ROAD REMOVAL LAYOUT PLAN
BAY COUNTY, FLORIDA

DWG FILE: 30709-E1B
DWG BY: REF/JHS
DATE: 27 OCT 08
SHEET NO: 1 OF 5
PROJECT NUMBER
30709

Date: Jun 08, 2009, 4:40pm User ID: REFFile: P:\30709 Sweetwater Mit-Bank\drawing\30709-E1B.dwg



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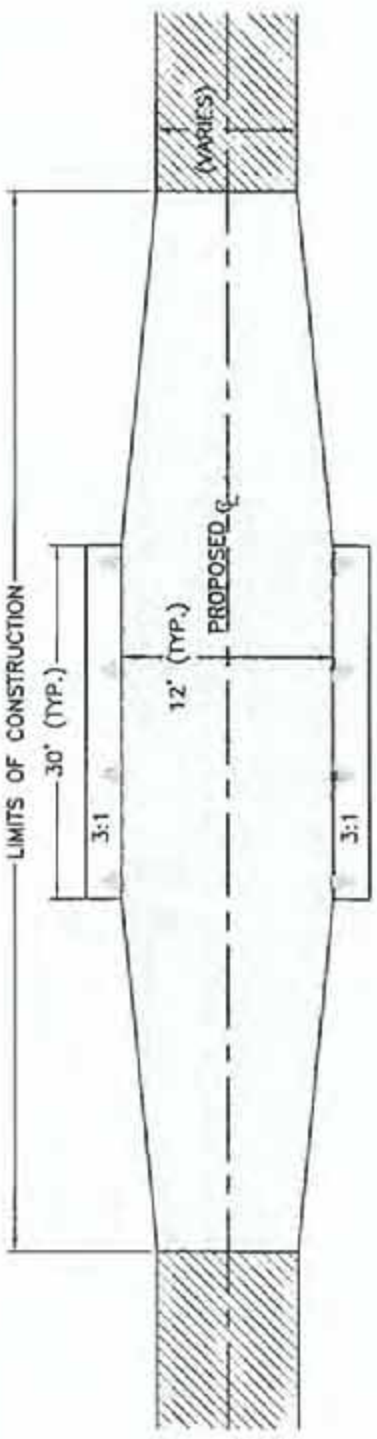
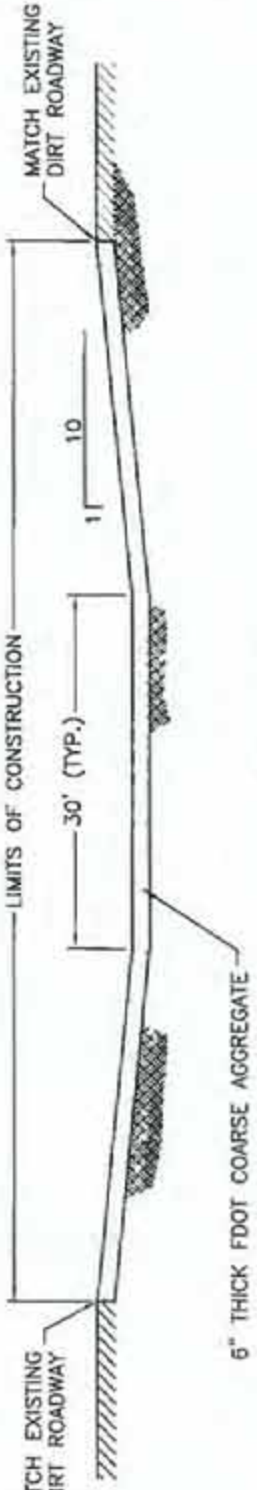
SWEETWATER MITIGATION BANK
OVERALL LAYOUT PLAN AND
PROPOSED IMPROVEMENT LOCATIONS
BAY COUNTY, FLORIDA

CAD FILE: 30709-E1B
DESIGN BY: REF LIHS
DATE: 22 OCT 08
SHEET NO. 2 OF 5
PROJECT NUMBER
30709

Date: Jun 08, 2009, 4:39pm User ID: REFfile: P:\30709 Sweetwater Mit-Bank\drawing\30709-E1B.dwg



PLAN VIEW (LWC1–6)
NOT TO SCALE



PROFILE VIEW (LWC1–6)
NOT TO SCALE

PANHANDLE ENGINEERING, INC.
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3005 South Highway 77 Lynn Haven, Florida 32444
(850)763-5200 Fax (850)769-0730 panhandleengineering.com

SWEETWATER MITIGATION BANK
LOW WATER CROSSING DETAIL
BAY COUNTY, FLORIDA

CAD FILE: 30709-E1B
DWG BY: REFUHS
DATE: 09 OCT 08
SHEET NO: 3 OF 5
PROJECT NUMBER: 30709

Date: Jun 08, 2009, 3:00pm User ID: REFHs P:\30709 Sweetwater Mit-Bank\drawing\30709-E1B.dwg

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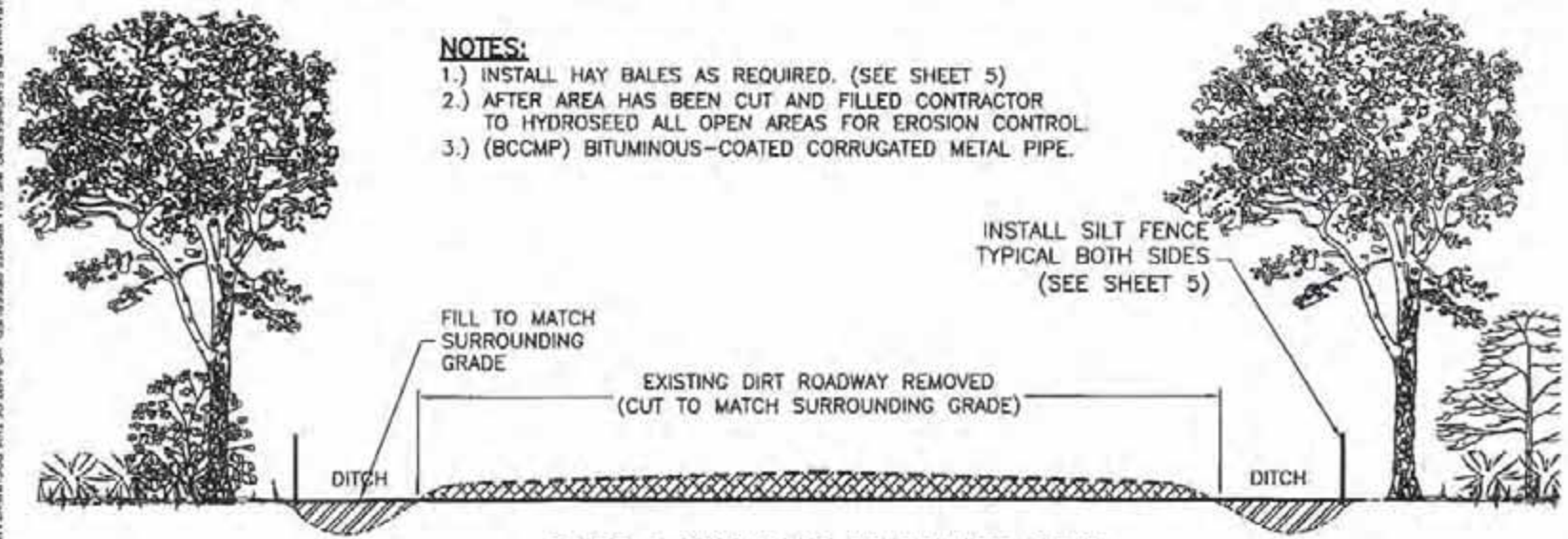
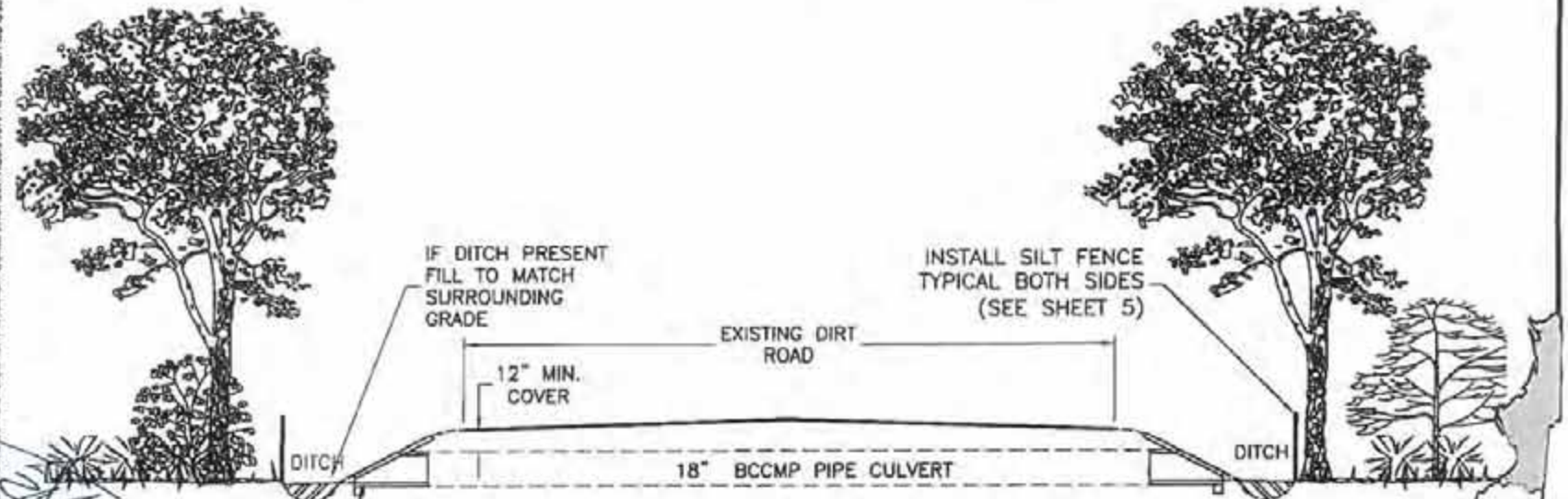
NOTES:
1.) INSTALL HAY BALES AS REQUIRED. (SEE SHEET 5)
2.) AFTER AREA HAS BEEN CUT AND FILLED CONTRACTOR TO HYDROSEED ALL OPEN AREAS FOR EROSION CONTROL.
3.) (BCCMP) BITUMINOUS-COATED CORRUGATED METAL PIPE.



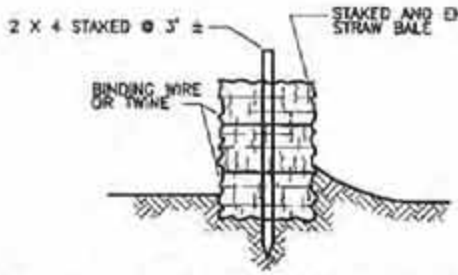
ROADS & DITCHES TO BE REMOVED DETAIL
NOT TO SCALE



ROAD CULVERT CROSSING DETAIL (C1-5)
NOT TO SCALE

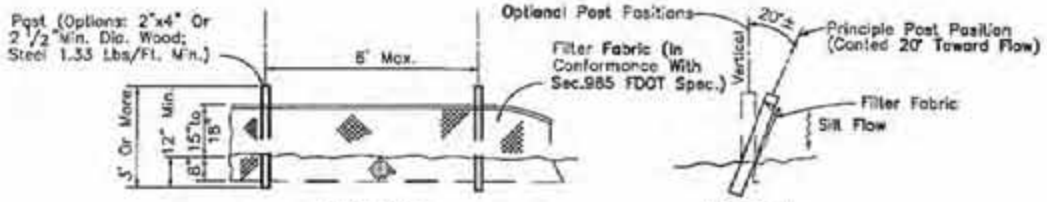
SWEETWATER MITIGATION BANK
ROAD & DITCH REMOVAL AND CULVERT CROSSING DETAILS
BAY COUNTY, FLORIDA

DWG FILE	30709-E18
DWN BY	REP
CHK BY	JHS
DATE	27 OCT 09
SHEET NO	4 OF 5
PROJECT NUMBER	30709



STRAW BALE BARRIER INSTALLATION DETAIL

NOT TO SCALE



Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE

NOT TO SCALE

ENVIRONMENTAL SEQUENCE

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL SILT FENCES AND HAY BALES, AS REQUIRED.
2. CONTINUE CLEARING AND GRUBBING.
3. STOCKPILE TOP SOIL IF REQUIRED.
4. PERFORM PRELIMINARY GRADING ONSITE, AS REQUIRED.
5. STABILIZE DENUDED AREA AND STOCKPILES AS SOON AS PRACTICABLE.
6. INSTALL 6" COARSE AGGREGATE AT LWC.
7. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
8. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/ SOD, AS REQUIRED.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND TURBIDITY CONTROL PLAN.

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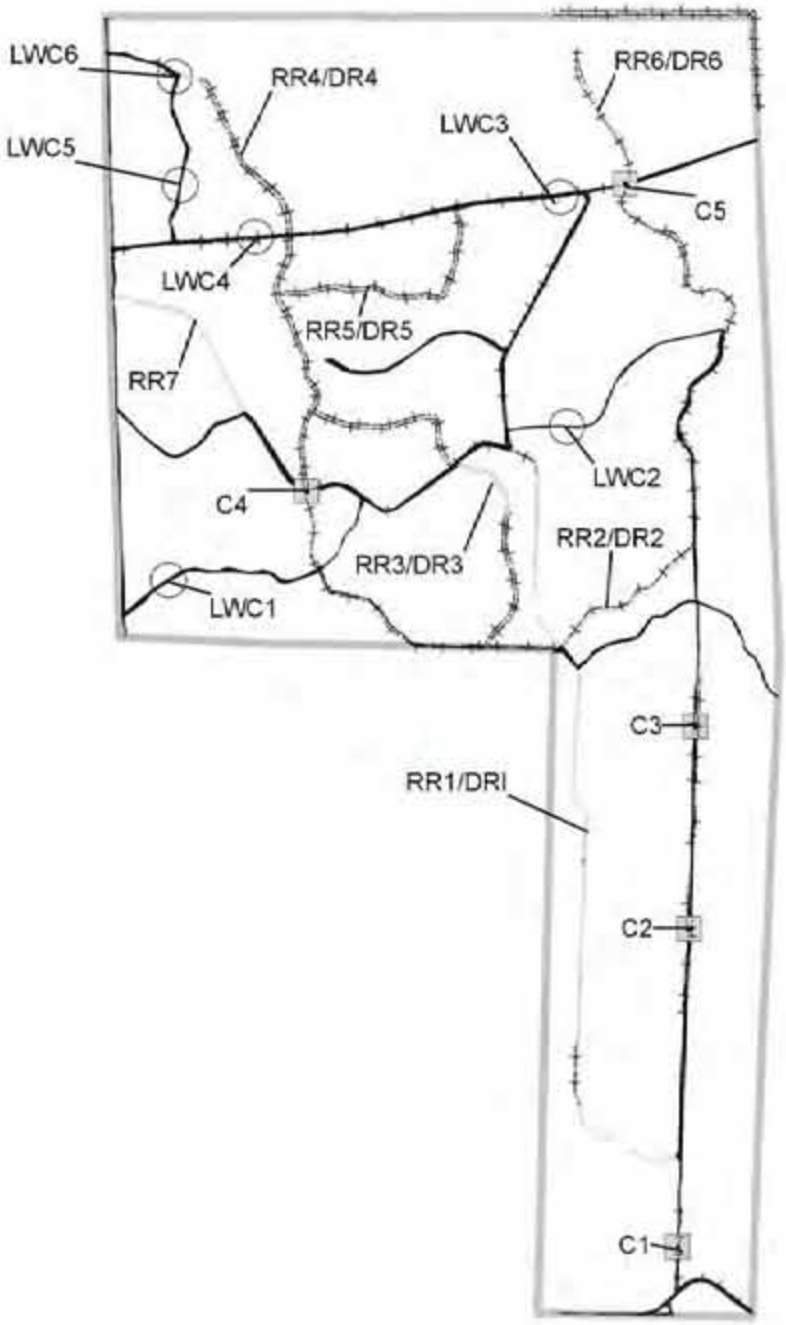
SWEETWATER MITIGATION BANK
EROSION CONTROL NOTES & DETAILS
BAY COUNTY, FLORIDA

CAD FILE: 30709-E1B
DWN BY: REF/JHS
DATE: 22 OCT 08
SHEET NO: 5 of 5
PROJECT NUMBER: 30709

Date: Jun 08, 2009, 3:02pm User ID: REFFile: P:\30709 Sweetwater Mit-Bank\drawing\30709-E1B.dwg



Legend

- Project Boundary
- Road Removal
- Road
- Low Water Crossing
- Culverts
- Ditches*

0 750 1,500 3,000 Feet

*All ditches will be recountoured or plugged.

1:18,000

N

Figure H-2. Hydrologic Improvements

Sweetwater Mitigation Bank

erc Ecological Resource Consultants, Inc.

MKS 07.11.07
ERC# 06-405

Attachment I – Fire Management Plan

Summary

In general, prescribed burns are the best strategy for mimicking natural fire regimes and restoring a more natural and historically based ecological equilibrium to the communities on site. Initial burns are intended to reduce woody vegetation, while subsequent burns will maintain a more open landscape, maintain appropriate life forms, and select for fire dependent species. As a result, shrubs will be reduced to coppice, intermediate strata below the canopy will be removed, and light will penetrate to the ground. The physical disturbance created by fire will selectively increase the number of species and overall density and coverage of fire-dependent groundcover plant species, which are appropriate for this landscape and create habitat for native fauna.

I. Burning Sequencing

A. Restoring the natural ecosystems will require an intensive prescribed fire sequence as detailed below. The initial burning regime will be integral for successful enhancement.

1. Mechanically treat vegetation in early spring (Jan-April) of year one
2. Allow the vegetation to dry by late spring (April-May) of year one
3. Prescribe burn as soon as mechanically treated vegetation dries (May-June) of year one
4. After the initial burn, allow vegetation to grow throughout the summer (July-November) of year one
5. Vegetation in groundcover is dormant (Dec-Feb) year one, beginning of year two
6. Vegetation is allowed to grow throughout spring and early summer (March-June) of year two
7. If vegetation is not adequate to carry fire, the site will be roller chopped (June)
8. Second prescribed burn (June-August) of year two
9. Mechanically treat vegetation as needed in year two
10. Allow vegetation to grow in year three and four after burning and mechanical work in year two
11. Prescribe burn as soon as conditions allow (Jan-June) in year five

> Note: Allow for selective burning and mechanical treatment of any areas that might need supplemental treatments throughout all years of management. In addition specific burn frequencies for particular plant communities will begin after the initial intensive prescribed burn sequence.

B. Units

The site has been divided into three large burn units (see Exhibit A-11, page 56 and Table 1, below). The burn units were established by following the site boundary and the existing roads on the SMB site. Large burn units are possible on this site because fire breaks will only be established along the site boundaries, not internally between the plant communities. There will be multiple ignition points within each burn unit (e.g. on both sides of the roads used for the fire breaks) to ensure that the success criteria of 70% burnable area is achieved.

II. Site Preparation

A. Burn Management

Fire management on site has been discussed with James Beach and Tommy Beach, from B&L Land Development (both are certified foresters and experienced burn bosses), and Chuck Hess, US Forest Service – Restoration Ecologist, Apalachicola National Forest. Event-specific prescriptions will be drafted and filed prior to each burn, and may change at the discretion and judgment of the Prescribed Burn Manager. Burn coverage of 70% of the burnable area is generally accepted as a realistic and acceptable coverage to maintain fire dependent ecosystems of northwest Florida. Limiting crown fire and ensuring a sufficient level of tree survival is also critical.

B. Safety Considerations

Numerous safety zones are present including roads throughout the mitigation bank and deep swamps located along the boundary. A permanent firebreak that utilizes existing features will be maintained along the entire mitigation boundary. In light of the ecological objectives of this management activity, disking or gyrotracking will be utilized in lieu of plowing. Disking will cause minimal soil disturbance while exposing enough mineral soil to serve as a firebreak. All personnel present at the burn will carry Personal Protective Equipment (PPE). All radio communications will utilize plain language. Signs will be available for posting on U.S. Highway 231 in the event conditions cause low visibility on this roadway. This prescription will pass smoke screening provided that wind prescriptions for each burn unit are employed. Based on fuel type and burn unit area, a smoke-sensitive radius of 5 miles is warranted. Highway 231 and a public school are within the smoke-sensitive radius. All prescriptions for the burn units are sensitive to both Hwy 231 and the public school.

III. Prescribed Fire Objectives/Standards

Because this is a large site, it has been divided into three burn units to facilitate management and tracking of the burn activities. In general, objectives include:

- Burn coverage of each unit
- Limited occurrence of crown fire, and survival of a majority of trees.

A. Performance Standards

A successful burn that achieves the objectives above will meet the following standard:

i. First Prescribed Fire - 70% of the burnable area (Mesic Pine Flatwoods, Wet Prairie, Bog, and Shrub Bog) has been burned in any given burn unit (Table 1, below; see also Exhibit A-11).

Table 1. First Prescribed Fire: Burnable Area per Burn Management Unit

Unit	Total Acres	Burnable Acres	Successful Burn Acres*
1	190	178	124
2	430	410	287
3	229	227	159

* Successful Burn = 0.7 x Burnable Acres

ii. Second and Third Prescribed Fires – 70% of the Mesic Pine Flatwoods, Wet Prairie, and Bog have been burned in any given burn unit. 40% of the Shrub Bog has been burned in any given burn unit.

B. Assessment Methods

Two methods will be employed to assess success with respect to the performance standards above:

1. Burnable Area: Low-flown planes will take aerial photographs after each burn. Photographs will be georeferenced using ArcGIS and used to determine the total acreage burned.

2. Tree Survival: Estimates of the number of trees affected by crown scorch* will be documented and the locations will be georeferenced using sub-meter GPS equipment. Tree survival within each unit will be documented during semi-annual or annual monitoring events, depending on the timing of the burn (e.g. dormant season or growing season burn).

*In the unlikely event of complete crown scorching through deep wetland systems, this will be reported to the IRT within sixty days and an appropriate contingency plan will be developed if needed.

C. Reporting

Documentation of the prescribed burn will be included within the semi-annual and/or annual monitoring report. Any catastrophic events, such as complete crown scorching through the deep wetland systems will be reported to the IRT within sixty days and an appropriate contingency plan will be developed. The contingency plan must contain the following:

1. Area disturbed by the prescribed burning event
2. Percent coverage of canopy species disturbed by crown fire
3. Remedial plan including specific planting schemata to restore the disturbed area
4. Measure of success based on survival of planted species
5. Percentage of credits affected by disturbed area

ATTACHMENT J –HUNTING AND RECREATION PLAN

The Sweetwater Mitigation Bank is located in Bay County. The area will be adequately posted and access controlled via the establishment and maintenance of security gates to reduce the threat of trespass. ***Permission to access property must be obtained from Mr. James Maulden and/or the QMS.*** Further, the following specific hunting and recreational conditions will be followed:

I. Hunting

A. Hunting Leases

If at any point the mitigation bank property will be used as part of a hunting club lease, the lease must be approved by the IRT to ensure that it is in compliance with the goals and conditions of the mitigation bank permit.

B. Conditions

1. The hunting pressure is limited to no more than 4 hunters on the site at one time, with a maximum weekly limit of 6 hunters. This limit will help control and manage deer, hog, and turkey populations.

2. All hunting must follow Florida Fish and Wildlife Conservation Commission regulations. Further hunting is restricted to the following species:
    a. White-tailed deer
    b. Feral hog
    c. Wild turkey

3. Only these species may be hunted. No other game or non-game species may be hunted, taken, harassed or otherwise disturbed. This applies to all other species, including reptiles and amphibians.

4. The use of dogs to hunt deer is prohibited.

5. Only adult male turkeys are legal to take.

6. There is no size restriction, bag limit or season on the taking of feral hogs.

7. Permanent hunting plots and baiting are prohibited.

8. Additional harvest restrictions may be established depending on harvest reports.

9. Semi-annual (2 per year) harvest reports must be submitted to bank sponsor James Maulden no later than June 1st and December 31st of each year. This harvest report must be reviewed by the QMS and submitted to the IRT as part of the required semi-annual monitoring protocol

II. Recreational Conditions

Recreation is limited to the following activities pedestrian activities, equestrian activities, bird watching, passive wildlife observation, beekeeping activities, sustainable seed collection for restoration, and educational field trips. Any educational field trips will be moderated and guided by the QMS or the permittee. Field trips will not exceed more than two visits per month. Attendees must follow the guidelines specified in this attachment.

IV. Restrictions and Notifications
A. Restrictions

1. No modification or disturbance of habitats is allowed.

2. ATV four wheeler vehicles are prohibited, and ***all*** vehicle use is restricted to remaining roads only. The only allowable uses for vehicles are hunting, monitoring, enhancement/restoration activities, and security checks.

3. Equestrian activities are limited to remaining roads that are not proposed for restoration. Five horses are allowed on site at a time. Loading and unloading areas will be limited to remaining roads. All equipment and trash must be removed from the site after the activity is complete. A security supervisor will be notified of the site visit by the sponsor and will conduct a site inspection following use of the site for equestrian activities to ensure compliance with the recreational activity conditions.

4. Destruction of, or taking of, Threatened and Endangered Species is prohibited. If damage occurs to any species protected under the Endangered Species Act, Chapter 5B-40, F.A.C., or Rule 68A-27, F.A.C., Mr. James Maulden must be contacted within 24 hours.

5. The sponsor will create a pamphlet stating the rules and restrictions as contained in this plan and provide it to all persons or groups entering the property for hunting or recreational purposes. The pamphlet will state what can be done on the site, what cannot be done on the site, and who must be notified of any deviations.

B. Notification
All unauthorized persons, signs of trespassing, signs of illegal activities or disturbances, and violations of hunting terms must be reported to bank sponsor James Maulden within 24 hours of discovery. If any activities contrary to the goals of the SMB are observed on site, the sponsor must be notified within 24 hours. A remedial plan will be developed by the sponsor or QMS within 30 days and submitted to IRT.

The sponsor must maintain a list of people or groups visiting the site for hunting, recreation, and educational purposes. This list must be available for review at the request of the IRT.

Prepared by:
Amelia Savage
Hopping Green & Sams
P.O. Box 6526
Tallahassee, FL 32314

CONSERVATION EASEMENT

THIS CONSERVATION EASEMENT is given this _____ day of _____ 20____, by James Maulden, Dorothy F. Simmons, individually and as trustee of the Dorothy F. Simmons Revocable Trust dated June 9, 1998, and as successor trustee of the Donald P. Simmons Revocable Trust dated June 9, 1998, and as trustee of the "Family Trust" created under the Donald P. Simmons Revocable Trust dated June 9, 1998, having an address at 2704 Maulden Road, Southport, Florida, 32409 (collectively Grantor) to the STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (Department), whose address is Department of Environmental Protection, Submerged Lands and Environmental Resources, 2600 Blair Stone Road, MS 2500, Tallahassee, Florida 32399 (Grantee). As used herein, the term Grantor shall include any and all heirs, successors or assigns of the Grantor, and all subsequent owners of the Property (as hereinafter defined) and the term Grantee shall include any successor or assignee of Grantee.

WITNESSETH

WHEREAS, the Grantor is the sole owner in fee simple of certain lands situated in Bay County, Florida, more specifically described in Exhibit A attached hereto and incorporated herein (Property);

WHEREAS, the Grantor desires to implement the Sweetwater Mitigation Bank (Project) at a site in Bay County, which is subject to the regulatory jurisdiction of the Department under the provisions of Part IV of Chapter 373 of the Florida Statutes; and

WHEREAS, Department Permit No. 03-0281744-001 (Permit) authorizes certain activities which affect waters in or of the State of Florida;

WHEREAS, the U.S. Army Corps of Engineers (Army Corps) Permit No SAJ 2007-2664 (Corps Permit) authorizes certain activities in the waters of the United States and requires this conservation easement over the Property as part of the Mitigation Bank Instrument (MBI) number SAJ-2007-2664(MB-DEB);

WHEREAS The Army Corps is not authorized to hold conservation easements and the Department has agreed the State of Florida Department of Environmental Protection will hold this conservation easement on behalf of the Army Corps; and

WHEREAS, the Grantor grants this conservation easement as a condition of the Permit issued by the Department to offset and prevent adverse impacts to water quality

and natural resources, such as fish, wildlife, and wetland or other surface water functions. Specifically, this conservation easement is intended to protect the mitigation area.

NOW THEREFORE, to achieve these purposes, and in consideration of the above and the mutual covenants, terms, conditions and restrictions contained herein, together with other good and valuable consideration, the adequacy and receipt of which is hereby acknowledged, Grantor hereby voluntarily grants and conveys a perpetual conservation easement, as defined in Section 704.06, Florida Statutes, for and in favor of the Grantee upon the Property which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature and character of this conservation easement shall be as follows:

1. Purpose. The purpose of this conservation easement is to retain land and water areas in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife. Those wetland or upland areas included in the conservation easement that are to be enhanced or created pursuant to the Permit shall be retained and maintained in the enhanced or created conditions required by the Permit. The Permit, as modified from time to time, is incorporated in the conservation easement by reference as though fully set forth herein, and is available from the Department on request.

2. Rights of Grantee. To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. The right to take action to preserve and protect the environmental value of the Property;

b. The right to prevent any activity on or use of the Property that is inconsistent with the purpose of this conservation easement, and to require the restoration of areas or features of the Property that may be damaged by any inconsistent activity or use;

c. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times, including the right to use vehicles and all necessary equipment to determine if Grantor is complying with the provisions of this conservation easement; and

d. The right to enforce this conservation easement by injunction or proceed at law or in equity to enforce the provisions of this conservation easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities hereinafter set forth, and the right to require Grantor to restore such areas or features of the Property that may be damaged by any inconsistent activity or use.

3. Prohibited Uses. Any activity on or use of the Property inconsistent with the purpose of this conservation easement is prohibited. Without limiting the foregoing, the

following activities and uses are expressly prohibited, except for restoration, creation, enhancement, maintenance, and monitoring activities authorized by the Permit:

a. Construction or placing of structures on, above, or below the ground, including but not limited to: buildings, roads, docks, piers, billboards or other advertising; utilities, signs(other than those marking the conservation easement), or other structures;

b. Dumping or placing of soil or other substances as land fill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Removal or destruction of trees, shrubs, or other vegetation, except nuisance, invasive, exotic, or nonnative species upon prior written approval by the Grantee;

d. Planting or seeding of exotic or nuisance species or other plants that are outside their natural range or zone of dispersal and have or are able to form self-sustaining, expanding, and free-living populations in a natural community with which they have not previously associated;

e. Exploration for or extraction of oil or gas, and excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;

f. Surface use except for purposes that allow the land or water area to remain in its natural or created, restored or enhanced condition under the provisions of the Permit;

g. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking, dredging, consumptive water use and fencing, except as may be provided in the Permit;

h. Acts or uses detrimental to such aforementioned retention and maintenance of land or water areas, except as provided in the Permit;

i. Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites, except as provided in the Permit, or properties of historical, architectural, archaeological, or cultural significance;

j. The use of All-Terrain Vehicles, except as may be provided in the Permit.

4. Reserved Rights. Subject to the provisions of the Permit, as modified from time to time, the rights granted to the Grantee herein and the prohibited activities defined in this conservation easement, the Grantor reserves to itself, its successors or assigns all rights as owner of the Property, including the right to engage in uses of the Property that are not inconsistent with the provisions of the Permit, the Corps Permit, Department rules, or the

intent and purposes of this conservation easement. The following resource based recreational uses are not contrary to the purposes of this conservation easement upon prior written approval by the Department:

a. Controlled burning.

b. Machine clearing of fire lines and fire breaks as part of fire fighting, fire suppression, or controlled burns.

c. Installation of fences for land management or habitat protection purposes.

d. Removal or extermination of nuisance or exotic animal species.

e. Hunting of deer, quail, and other indigenous animal species under a properly issued hunting license and in accordance with all local ordinances.

f. Installation of signs for land management or for habitat protection purposes.

5. Public Access. No right of access by the general public to any portion of the Property is conveyed by this conservation easement.

6. Responsibilities of Parties. Grantor on behalf of its successor or assigns hereby agrees to bear all costs or liabilities related to the operation, upkeep or maintenance of the Property and Grantor does hereby indemnify and hold harmless the Grantee from same. In addition, Grantee, its successors or assigns, shall have no responsibility for any costs or liabilities related to the operation, upkeep or maintenance of the Property.

7. Taxes. Grantor, its successors or assigns, shall pay before delinquency any and all taxes, assessments, fees, and charges of whatever description levied on or assessed by competent authority on the Property, and shall furnish Grantee with satisfactory evidence of payment upon request.

8. Liability. Grantor shall be responsible for any and all liability for any loss, damage, expense, judgment, or claim (including a claim for attorney fees) arising out of any negligent or willful action or activity resulting from Grantor's use and ownership of or activities on the Property or the use or activities by Grantor's agents, guests, lessees, or invitees and shall indemnify and hold Grantee harmless from same. Furthermore, the Grantor, its successors or assigns shall indemnify and hold harmless Grantee for all liability, any injury or damage to the person or property of third parties which may occur on the Property.

9. Hazardous Waste. Grantor covenants and represents that no hazardous substance or toxic waste exists nor has been generated, treated, stored, used, disposed of, or deposited in or on the Property, and that there are not now any underground storage tanks located on the Property. Grantor, its successors or assigns, further indemnify the Grantee for any and all liability arising from any subsequent placement or discovery of hazardous

or toxic material on the property. In the event such material is discovered, Grantor, its successors or assigns, shall be responsible for bringing the Property into compliance with all environmental laws related to hazardous substances and toxic wastes.

10. Enforcement Discretion. Enforcement of the terms, provisions and restrictions of this conservation easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach by Grantor, shall not be deemed or construed to be a waiver of Grantee's rights.

11. Rights of U.S. Army Corps of Engineers. The Corps shall have all the rights of the Department under this easement. The Corps shall approve any modification, alteration, release, or revocation of the conservation easement, and shall review and approve as necessary any additional structures or activities that require approval by the Department. The Grantor shall provide the Corps (District Engineer) at least 60 days advance notice in writing before any action is taken to alter or revoke this Conservation Easement.

12. Venue and Enforcement Costs. Venue to enforce the terms of this conservation easement shall be in Leon County, Florida. In the event the Army Corps takes enforcement action, venue shall be in a state or federal court of competent jurisdiction. If the Grantee prevails in an enforcement action, it shall be entitled to recover costs, including expert witness fees, as well as the reasonable cost of restoring the land to the natural vegetative and hydrologic condition existing at the time of execution of the conservation easement or to the vegetative and hydrologic condition required by the aforementioned Permit. These remedies are in addition to any other remedy, fine or penalty which may be applicable under Chapters 373 and 403, Florida Statutes.

13. Assignment of Rights. Grantee agrees to hold this conservation easement exclusively for conservation purposes and that it will not assign its rights and obligations under this conservation easement except to another organization qualified to hold such interests under applicable state laws.

14. Recording in Land Records. Grantor shall record this conservation easement and any amendments hereto in a timely fashion in the Official Records of Bay County, Florida. Grantor shall pay all recording costs and taxes necessary to record this conservation easement in the public records.

15. Successors. The covenants, terms, conditions and restrictions of this conservation easement shall be binding upon, and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors and assigns and shall continue as a servitude running in perpetuity with the Property.

16. Notices. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest, and referencing the Permit Name and Number.

17. Subsequent Deeds. Grantor shall insert the terms and restrictions of this conservation easement in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in the Property. Grantor further agrees to give written notice to Grantee of the transfer of any interest at least twenty days prior to the date of such transfer. The failure of Grantor to perform any act required by this paragraph shall not impair the validity of this conservation easement or limit its enforceability in any way.

18. Severability. If any provision of this conservation easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this conservation easement shall not be affected thereby, as long as the purpose of the conservation easement is preserved.

19. Alteration or Revocation. This conservation easement may be amended, altered, released or revoked only by permit modification as necessary and written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be filed in the public records in Bay County.

20. Controlling Law. The interpretation and performance of this conservation easement shall be governed by the laws of the State of Florida.

21. Baseline Documentation Report. The specific conservation values of the property are documented in the Baseline Documentation Report associated with this conservation easement. The Baseline Documentation Report consists of reports, maps, photographs, and other documentation that the parties agree provide, collectively, an accurate representation of the property at the time of this grant, and which is intended to serve as an objective information baseline for monitoring compliance with the terms of this grant. The Baseline Documentation Report is maintained in the offices of the Florida Department of Environmental Protection and is incorporated by this reference. A copy of the Baseline Documentation Report is available from the Department on request.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purpose imposed with this conservation easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said Property in fee simple; that the Property is free and clear of all encumbrances that are inconsistent with the terms of this conservation easement and all mortgages have been joined or subordinated; that Grantor has good right and lawful authority to convey this conservation easement; and that it hereby fully warrants and defends the title to the conservation easement hereby conveyed against the lawful claims of all person whomsoever.

IN WITNESS WHEREOF, the Grantor has executed this Conservation Easement on the day and year first above written.

Signed, sealed and delivered
in our presence as witnesses:

_____
Signature of Witness

_____
Printed/Typed Name

_____
James W. Maulden

_____
Signature of Witness

_____
Printed/Typed Name

_____
Dorothy F. Simmons, individually and as trustee of the Dorothy F. Simmons Revocable Trust dated June 9, 1998, and as successor trustee of the Donald P. Simmons Revocable Trust Dated June 9, 1998, and as trustee of the "Family Trust" created under the Donald P. Simmons Revocable Trust dated June 9, 1998

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by James W. Maulden who is personally known to me or has produced a driver's license as identification.

(SEAL)

_____
Notary Public Signature

_____
Printed/Typed Name of Notary

Commission No. _____
Commission Expires _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Dorothy F. Simmons, individually and as trustee of the Dorothy F. Simmons Revocable Trust dated June 9, 1998, and as successor trustee of the Donald P. Simmons Revocable Trust Dated June 9, 1998, and as trustee of the "Family Trust" created under the Donald P. Simmons Revocable Trust dated June 9, 1998 who is personally known to me or has produced a driver's license as identification.

(SEAL) _____

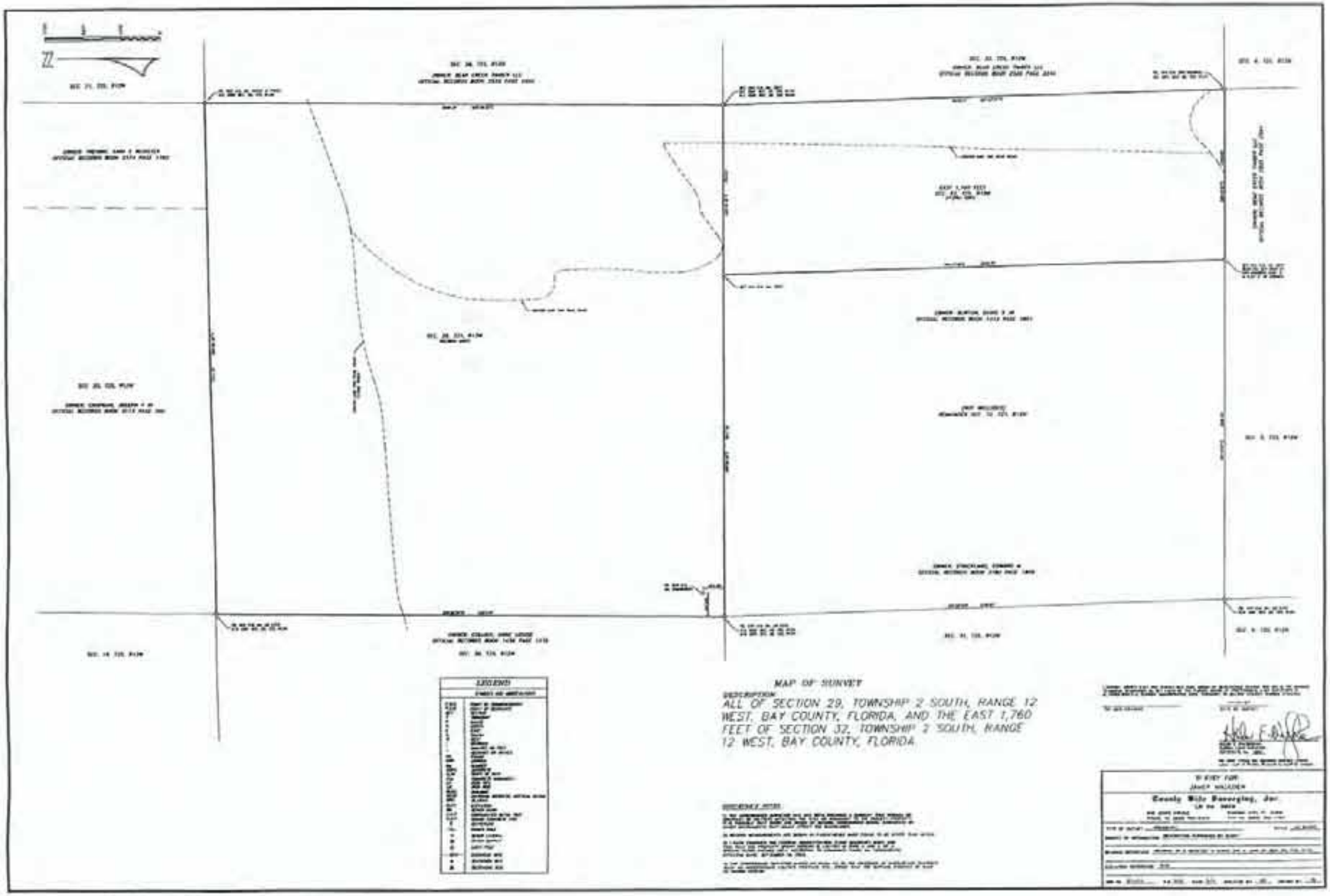
Notary Public Signature

_____
Printed/Typed Name of Notary

Commission No. _____
Commission Expires _____

Exhibit A

All of Section 29, Township 2 South, Range 12 West, Bay County, Florida and the East 1,760 feet of Section 32, Township 2 South, Range 12 West, Bay County, Florida.



MAP OF SURVEY

DESCRIPTION:
ALL OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 12 WEST, BAY COUNTY, FLORIDA, AND THE EAST 1,760 FEET OF SECTION 32, TOWNSHIP 2 SOUTH, RANGE 12 WEST, BAY COUNTY, FLORIDA.

Baseline Documentation Report

Project Name: Sweetwater Mitigation Bank Application No. 03-0281744-001

PART I: PROPERTY LOCATION AND ACREAGE

Lat/Long 30 °- 16' - 57" / 85 ° - 27 - 39
County(ies) Bay (03)
Section(s) 29 / 32 / ____ / ____ Township/Range 2 South / 12 West
General location description (nearest road, town ,etc.) The site can be accessed from Highway 231 by turning east on Bear Creek Road.

Approximate acreage(s) of parcel(s):
The Sweetwater Mitigation Bank (SMB) is approximately 850 acres.

ECOLOGICAL FEATURES

1. Describe the type and condition of vegetation on site, the hydrologic regime, and other notable ecological features that this conservation easement is meant to protect. Please attach and reference any supporting photographs, maps, diagrams as requested in the checklist, or other reports.

The SMB is located within the drainage basins of Bear Creek and Bayou George Creek (Class 1 Waters of the State), which are within the St. Andrew Bay Watershed (HUC #03140101). The site is planted in pine, fire-suppressed, and hydrologically altered. The herbaceous plants and shrub coppice in the groundcover and historically open landscape has been eliminated and replaced by either densely planted pine and/or dense understory strata of fire suppressed woody vegetation. The dense, fire suppressed, woody vegetation that creates multiple layers above the groundcover is not appropriate habitat for T&E species and suppresses and/or eliminates groundcover diversity. Historically, coppice shrub and herbaceous plants would represent the dominant life form across the majority of the site. The existing land cover is dominated by Hydric Pine Plantation and Upland Pine Plantation except in areas best described as bogs and swamps that facilitate longer hydroperiods where planting has not occurred. However, these areas exhibit signs of fire suppression due to silvicultural management.

These alterations notwithstanding, this site includes remnant ecosystems, that when restored ,will protect the biodiversity and the water quality associated with the drainage of Bear Creek and Bayou George Creek, which are two tributaries of St. Andrews Bay watershed. Water from this site provides part of the freshwater drinking supply for Bay County, Deer Point Lake. Hydrologic alterations have resulted from the drainage effects of ditches, existing roads, and dense pine plantations. There are ditches on site associated with access roads, and roads have been constructed directly through wetland ecosystems. A specific hydrologic restoration and maintenance plan including removing

ditches and removing roads that disrupt natural wetland flow is proposed and detailed below.

2. Enhancement and Restoration Activities

The project includes the restoration, enhancement, and preservation of five distinct ecological communities (Basin Swamp, Shrub Bog, Bog, Wet Prairie, and Mesic Pine Flatwoods). Restoration and enhancement will be accomplished by filling and recontouring ditches, retirement and regrading 18 (+/-) acres of logging roads, installation of low water crossings, the removal of planted pine, removal of planting beds, reestablishment of historic fire regimes, seed bank enhancement with native seeds, the controlling of erosion, treating and managing exotic and nuisance species, and the implementation of a long-term management program including frequent prescribed burns.

3. List any state or federal endangered, threatened, and/or species of special concern known to occur on this property.

Observed on-site species include spreading pogonia (*Cleistes divaricata*), water sundew (*Drosera intermedia*), Catesby lily (*Lilium catesbaei*), yellow-flowered butterwort (*Pinguicula lutea*), swamp butterwort (*Pinguicula planifolia*), parrot pitcher plant (*Sarracenia psittacina*), and decumbent pitcher plant (*Sarracenia purpurea*).

4. Existing Roads, fences, structures, and proposed additions or removal.

The site currently contains 38 (+/-) acres of roadways that have been installed for the purpose of silvicultural management. There are currently no access gates at any of the entry points or fences. To restore hydrology across the site, 18 (+/-) acres of roads will be removed and restored to historical ecological conditions. As a security measure, security access gates will be placed at all proposed points of entry to the site and signs stating that the site is a conservation easement will be placed at intervals along the property boundary.

5. Adjacent area description, proximity to public lands, pollution sources, etc. .

The SMB area and the majority of surrounding property are currently zoned agriculture and are used for silviculture. Since the surrounding land is used for silviculture. The SMB is adjacent to 600 (+/-) acres of preservation land placed into conservation during wetland permitting and an additional 100,400 acres that is slated for state acquisition under the Florida Forever program. The SMB and the adjacent 600 acre mitigation project will provide important landscape corridors when combined with the 100,400 acre proposed Florida Forever acquisition land

6. Proposed public use if any.

Recreational activities and hunting will be allowed on the SMB, but are limited to the activities described in the Recreational and Hunting Plans included as attachments in the mitigation bank instrument.

7. Previous Impacts

There has been no dumping of trash, other wastes or soil on site. There has been no removal or destruction of trees, shrubs, or other vegetation except as related to silvicultural activities. There has been no removal of soil, rock, peat, gravel or other material substance

8. Long Term Management considerations

The sponsor, in conjunction with a Qualified Mitigation Supervisor (QMS), will be responsible for meeting the final performance standards of the SMB. Following a determination of final success, long-term management of the SMB will be conducted by the sponsor or an approved third-party organization qualified to manage the SMB in perpetuity. The transfer of management responsibility will not be initiated until the final performance standards are met and 100% of the credits have been released.

STATE OF FLORIDA

MITIGATION BANK IRREVOCABLE LETTER OF CREDIT
TO DEMONSTRATE CONSTRUCTION/IMPLEMENTATION FINANCIAL ASSURANCE

Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, Florida 32399

First National Bank of Florida
17005 Emerald Coast Parkway
Destin, Florida 32541

Dear Sir or Madam:

We hereby establish our Irrevocable Letter of Credit No._____in your favor, at the request and for the account of Mr. James Maulden, whose address is 2704 Maulden Road, Southport, Florida 32409, up to the aggregate amount of seven hundred twenty-two thousand one hundred fifty-seven U.S. dollars and seventy cents ($722,157.70), available upon presentation of

(1) your sight draft, bearing reference to this letter of credit No._____, and either:

(2) a Certificate issued by the Florida Department of Environmental Protection in the form of Certificate I attached hereto and made a part hereof; or

(3) a Certificate issued by the Florida Department of Environmental Protection in the form of Certificate II attached hereto and made a part hereof.

This letter of credit may be drawn on to cover construction and implementation activities of the Sweetwater Mitigation Bank as authorized and required by Department permit number 03-0281744-001 as such permit may be amended and including all plans approved by such permit.

This letter of credit may not be drawn on to cover any of the following:

a) Any obligation of Mr. James Maulden under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

b) Bodily injury to an employee of Mr. James Maulden arising from, and in the course of employment by Mr. James Maulden;

c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Mr. James Maulden that is not the direct result of the construction or implementation of the Sweetwater Mitigation Bank pursuant to Department permit number 03-0281744-001;

e) Bodily injury or property damage for which Mr. James Maulden is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

This letter of credit is effective as of _____ and shall expire on _____ but such expiration date shall be automatically extended without amendment for additional periods of one year from the present or future expiration date unless, at least 120 days before an expiration date, we notify both you and Mr. James Maulden by certified mail that we have decided not to extend this letter of credit for any such additional period. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Mr. James Maulden as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the _____, in accordance with your instructions.
Name of Trust Fund

We certify that the wording of this letter of credit is substantially similar to the wording specified in Form No. 62-342.900(2) which has been adopted by reference in section 62-342.900 of the Florida Administrative Code, as such regulations were constituted on the date shown immediately below.

_____
Signature(s), Title(s) of Official(s) of Issuing Institution Date

_____

_____

This credit is subject to the Uniform Commercial Code.

CERTIFICATE I
TO
_____ BANK OF _____
IRREVOCABLE LETTER OF CREDIT NO._____

First National Bank
17005 Emerald Coast Parkway
Destin, Florida 32541

Date:_____, 20__

Mr. James Maulden
2704 Maulden Road
Southport, Florida 32409

Ladies and Gentlemen:

The undersigned _____, the Secretary of the Florida Department of Environmental Protection (the "Department"), hereby certifies to First National Bank (the "Bank") and Mr. James Maulden, with reference to Irrevocable Letter of Credit No. _____, dated _____, (the "Letter of Credit"), issued by the Bank in favor of the Department as follows:

1. The Department has heretofore provided written notice by U.S. Mail to Mr. James Maulden of the Department's present right to draw upon the Letter of Credit in accordance with the provisions of that certain Mitigation Bank Permit #03-0281744-001, dated _____, issued by the Department in favor of Mr. James Maulden.

2. Mr. James Maulden has failed to comply with the terms and conditions of the Permit.

Funds paid pursuant to the provisions of the Letter of Credit shall be transferred to _____, as Trustee (the "Trustee") under the certain Mitigation Bank Standby
Trustee's Name
Trust Fund Agreement to Demonstrate Construction/Implementation Financial Assurance, dated as of _____,
between Mr. James Maulden and the Trustee for the benefit of the Department in accordance with the following instructions:

_____
_____
_____

IN WITNESS WHEREOF, this Certificate has been duly executed and delivered on behalf of the Department as of this _____ day of _____, 20__.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

By:_____
Name:

CERTIFICATE II
TO
_____ OF FLORIDA
IRREVOCABLE NONTRANSFERABLE STANDBY
LETTER OF CREDIT NO._____

First National Bank
17005 Emerald Coast Parkway
Destin, Florida 32541

Date:_____, 20__

Mr. James Maulden
2704 Maulden Road
Southport, Florida 32409

Ladies and Gentlemen:

The undersigned _____, the Secretary of the Florida Department of Environmental Protection ("the Department"), hereby certifies to First National Bank (the "Bank") and Mr. James Maulden, with reference to Irrevocable Letter of Credit No. _____, dated _____, (the "Letter of Credit"), issue by the Bank in favor of the Department, as follows:

1. The Bank has heretofore provided written notice to the Department and Mr. James Maulden of the Bank's intent not to renew the Letter of Credit following the present Expiration Date thereof.

2. The Department has provided prior written notice by U.S. Mail to Mr. James Maulden of the requirement that Mr. James Maulden provide the Department with substitute Financial Assurance in compliance with the provisions of that certain Mitigation Bank Permit #03-0281744-001, dated _____, (the "Permit"), issued by the Department.

3. Mr. James Maulden has failed to provide the Department with substitute Financial Assurance in compliance with the provisions of the Permit within the ninety (90) days of receipt of the notice described in paragraph 1 above.

Funds paid pursuant to the provisions of the Letter of Credit shall be transferred to _____, as Trustee (the "Trustee") under that certain Mitigation Bank Standby
Trustee's Name
Trust Fund Agreement to Demonstrate Financial Assurance for Construction and Implementation, dated as of _____, between Mr. James Maulden and the Trustee for the benefit of the Department, in accordance with the following instructions:

_____
_____
_____

IN WITNESS WHEREOF, this Certificate has been duly executed and delivered on behalf of the Department as of this _____ day of _____, 20__.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

By:_____
Name:

STATE OF FLORIDA

MITIGATION BANK STANDBY TRUST FUND AGREEMENT TO DEMONSTRATE CONSTRUCTION/IMPLEMENTATION FINANCIAL ASSURANCE

TRUST AGREEMENT, the "Agreement," entered into as of _____ by and between Mr. James Maulden (the Grantor,) and First National Bank, 17005 Emerald Coast Parkway, Destin, Florida 32541 (the Trustee.)

WHEREAS, Grantor is the owner of certain real property in Bay County, Florida, and has received from the Florida Department of Environmental Protection ("Department") that certain permit number 03-0281744-001 ("Mitigation Bank Permit") which authorizes the construction and implementation of the Sweetwater Mitigation Bank;

WHEREAS, the Department, a Florida agency created under section 20.255 of the Florida Statutes, has established certain regulations applicable to the Grantor, requiring that a Mitigation Bank permittee shall provide assurance that funds will be available when needed for corrective action if Grantor fails to construct and implement that Mitigation Bank,

WHEREAS, the Grantor has elected to establish a Letter of Credit to provide all or part of such financial assurance for the Sweetwater Mitigation Bank identified herein and is required to establish a standby trust fund able to accept payments from that instrument,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means Mr. James Maulden who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the First National Bank the Trustee who enters into this Agreement and any successor Trustee.

(c) The term "Department" means the Florida Department of Environmental Protection, a public entity in the State of Florida or any successor thereof.

(d) The term "investment obligations" means:

(i) United States of America Treasury and Federal agency securities or other obligations issued or unconditionally guaranteed as to principal and interest by the United States of America, in each case with maturities of not more than one year from the date acquired;

(ii) Demand deposits, certificates of deposit, bankers acceptances and time deposits of any bank organized or licensed to conduct a banking business under the laws of the United States of America or any state thereof having capital, surplus and undivided profits of not less than $100,000,000, and whose deposits are insured by the Federal Deposit Insurance Corporation or any successor thereof;

(iii) Securities of entities incorporated under the laws of the United States of America or any State thereof commonly known as "commercial paper" that at the time of purchase have been rated and the ratings for which are not less than "P1" if rated by Moody's Investors Services, Inc., and not less than "A1" if rated by Standard and Poor's Corporation, in each case with maturities of not more than one year from the date acquired;

(iv) State or local government securities, which debt obligations at the time of purchase are rated investment grade by one or more nationally recognized rating agencies, in each case with maturities of not more than one year from the date acquired;

(v) Repurchase obligations with any banking or financial institution described in clause (ii) above which are fully collateralized at all times by any of the foregoing obligations;

(vi) Corporate fixed income securities whose ratings at the time of purchase are rated not less than "A-" if rated by Standard and Poor's Corporation and "A3" if rated by Moody's Investors Services, Inc. in each case with maturities of not more than one year from the date acquired; and

(vii) Investments in any one or more professionally managed money market funds generally regarded as investment grade with a portfolio size of not less than $100,000,000.

Section 2. Identification of Cost Estimates. This Agreement pertains to the cost estimate for construction and implementation of the Sweetwater Mitigation Bank identified in Attachment A hereto.

Section 3. Standby Trust. This trust shall remain dormant until funded with the proceeds from the financial mechanism listed on Attachment "A". The Trustee shall have no duties or responsibilities beyond safekeeping this Document. Upon funding this trust shall become active and be administered pursuant to the terms of this instrument.

Section 4. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund (the Fund), for the benefit of the Department. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as a standby to receive payments and shall not consist of any property. Payments made by the Grantor pursuant to the Department's instructions are transferred to the Trustee and referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST for the benefit of the Department, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 5. Initial Payments Comprising the Fund. Initial Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee and shall consist initially of proceeds from the Letter of Credit identified in Attachment A hereto.

Section 6. Additional Payments to the Fund. After the initial deposit of principal into the Fund, the Grantor shall increase the principal if so required by the Department pursuant to its administrative regulations and the requirements of the Mitigation Bank Permit. Such deposit may be in cash or securities acceptable under Section 1(d) hereof.

Section 7. Payment for Completing Construction and Implementation. The Trustee shall make payments from the Fund as the Secretary of the Department, or the Secretary's designee, or the District Engineer of the U.S. Army Corps of Engineers' Jacksonville District (the "District Engineer") shall direct in writing to provide for the payment of the costs of construction and implementation of the Mitigation Bank covered by this Agreement pursuant to the requirements of the Mitigation Bank Permit. The Trustee shall reimburse persons specified by Grantor, or the Department, or the District Engineer from the Fund for construction and implementation expenditures in such amounts as Grantor, or the Department, or the District Engineer shall direct in writing. In the event of conflicting instructions from Grantor, and the Department, and the District Engineer, the Department's instructions shall prevail. The Trustee shall not make any payments from the principal of the Fund pursuant to Grantor's direction without the Department's written consent. The Trustee shall cease honoring Grantor's instructions if so directed by the Department in writing. I n addition, the Trustee shall refund to Grantor such amounts as the Department specifies in writing as unnecessary or excessive corpus for purposes of the trust. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

The Fund may not be drawn upon to cover any of the following:

(a) Any obligation of Grantor under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of Grantor arising from, and in the course of employment by Grantor;

(c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others by Grantor of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Grantor that is not the direct result of the construction and implementation of the Mitigation Bank; or

(e) Bodily injury or property damage for which Grantor is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

Section 8. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund in one or more investment obligations and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the trust fund solely in the interest of the beneficiary and with the

care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) Securities or other obligations of the Grantor, or any other owner or operator of the Mitigation Bank, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a state government;

(b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and

(c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 9. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 10. Express Power of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to

deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 11. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 12. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the fund. The failure of the Grantor or the Department to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 13. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 14. Trustee Compensation. Grantor shall pay the Trustee any necessary fees for services rendered. Where the Grantor is no longer in existence, the Trustee is authorized to charge against the Trust its published Trust fee schedule in effect at the time services are rendered. However, all Trustee compensation charged against the Trust shall be paid from trust income, unless the Department authorizes in writing payment from the trust principal.

Section 15. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor is approved by the Department, and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Department may nominate a successor. If the Department does not act, the Trustee may apply to a court of competent

jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 14.

Section 16. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by Mr. James Maulden or such other designees as the Grantor may designate by amendment to this agreement. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by the Department's Secretary, or the Secretary's designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 17. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist.

Section 18. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 17, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered pursuant to the written agreement terminating the trust or, where Grantor has ceased to exist, then to the Department. The Corps shall be notified in writing at least 120 days in advance of any termination or revocation of this Agreement.

Section 19. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 20. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Florida.

Section 21. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

_____	_____
Signature of Grantor	Signature of Trustee
Mr. James Maulden	_____
	Title
Attest:	Attest:
_____	_____
Title	Title
Seal	Seal

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2009, by _____, the _____ of _____, a Florida corporation, on behalf of the corporation. Such person did not take an oath and:

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

_____
Signature of Notary

(Notary Seal)

_____
Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2009, by _____, the _____ of _____ Bank, on behalf of the corporation. Such person did not take an oath and:

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

_____
Signature of Notary

(Notary Seal)

_____
Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

ATTACHMENT A

[NAME OF SURETY BOND OR LETTER OF CREDIT]

STATE OF FLORIDA

MITIGATION BANK STANDBY TRUST FUND AGREEMENT TO DEMONSTRATE PERPETUAL MANAGEMENT FINANCIAL ASSURANCE

TRUST AGREEMENT, the "Agreement," entered into as of _____ by and between Mr. James Maulden (the Grantor,) and First National Bank, 17005 Emerald Coast Parkway, Destin, Florida 32541 (the Trustee.)

WHEREAS, Grantor is the owner of certain real property in Bay County, Florida, and has received from the Florida Department of Environmental Protection ("Department") that certain permit number 03-0281744-001 ("Mitigation Bank Permit") which authorizes the construction and implementation of the Sweetwater Mitigation Bank;

WHEREAS, the Department, a Florida public entity created under Chapter 373, Florida Statutes, has established certain regulations applicable to the Grantor, requiring that a mitigation bank permittee shall provide assurance that funds will be available when needed for corrective action if Grantor fails to perpetually manage that mitigation bank pursuant to the requirements of the mitigation bank permit,

WHEREAS, the Grantor has elected to establish a Letter of Credit to provide all or part of such financial assurance for the Sweetwater Mitigation Bank identified herein and is required to establish a standby trust fund able to accept payments from that instrument,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means Mr. James Maulden who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the First National Bank the Trustee who enters into this Agreement and any successor Trustee.

(c) The term "Department" means the Florida Department of Environmental Protection a public entity in the State of Florida or any successor thereof.

(d) The term "investment obligations" means:

(i) United States of America Treasury and Federal agency securities or other obligations issued or unconditionally guaranteed as to principal and interest by the United States of America, in each case with maturities of not more than one year from the date acquired;

(ii) Demand deposits, certificates of deposit, bankers acceptance and time deposits of any bank organized or licensed to conduct a banking business under the laws of the United States of

America or any state thereof having capital, surplus and undivided profits of not less than $100,000,000, and whose deposits are insured by the Federal Deposit Insurance Corporation or any successor thereof;

(iii) Securities of entities incorporated under the laws of the United States of America or any State thereof commonly known as "commercial paper" that at the time of purchase have been rated and the ratings for which are not less than "P1" if rated by Moody's Investors Service, Inc., and not less than "A1" if rated by Standard and Poor's Corporation, in each case with maturities of not more than one year from the date acquired;

(iv) State or local government securities, which debt obligations at the time of purchase are rated investment grade by one or more nationally recognized rating agencies, in each case with maturities of not more than one year from the date acquired;

(v) Repurchase obligation with any banking or financial institution described in clause (ii) above which are fully collateralized at all times by any of the foregoing obligations;

(vi) Corporate fixed income securities whose ratings at the time of purchase are rated not less than "A-" if rated by Standard and Poor's Corporation and "A3" if rated by Moody's Investors Service, Inc. in each case with maturities of not more than one year from the date acquired; and (vii) Investments in any one or more professionally managed money market funds generally regarded as investment grade with a portfolio size of not less than $100,000,000.

Section 2. Identification of Cost Estimates. This Agreement pertains to the cost estimate for perpetual management of the Sweetwater Mitigation Bank identified in Attachment A hereto.

Section 3. Standby Trust. This trust shall remain dormant until funded with the proceeds from the financial mechanism listed on Attachment "A". The Trustee shall have no duties or responsibilities beyond safekeeping this document. Upon funding this trust shall become active and be administered pursuant to the terms of this instrument.

Section 4. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund (the Fund), for the benefit of the Department (hereafter sometimes referred to as the "Beneficiary") The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as a standby to receive payments and shall not consist of any property. Payments made by the Grantor pursuant to the Department 's instructions are transferred to the Trustee and referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, for the benefit of the Department as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department .

Section 5. Initial Payments Comprising the Fund. Initial payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee and shall consist solely of proceeds from the Letter of Credit identified in Attachment A hereto.

Section 6. Additional Payments Into the Fund. After the initial deposit of principal into the Fund, the Grantor shall increase the principal if so required by the Department pursuant to its administrative regulations and the requirements of the mitigation bank permit. Such deposit may be in cash or Securities acceptable under Section 1(d) hereof.

Section 7. Payment for Undertaking Perpetual Management Activities. The Trustee shall make payments from the Fund as Grantor, or the Secretary of the Department, or the Secretary's designee, or the District Engineer of the U.S. Army Corps of Engineers' Jacksonville District (the "District Engineer") shall direct in writing to provide for the payment of the costs of undertaking activities to provide for the perpetual management of the Mitigation Bank covered by this Agreement pursuant to the requirements of the Mitigation Bank Permit. The Trustee shall reimburse persons specified by Grantor, or the Department, or the District Engineer from the Fund for perpetual management expenditures in such amounts as Grantor, or the Department, or the District Engineer shall direct in writing. In the event of conflicting instructions from Grantor, and the Department, and the District Engineer, the Department's instructions shall prevail. The Trustee shall not make any payments from the principal of the Fund pursuant to Grantor's direction without the Department's written consent. The Trustee shall cease honoring Grantor's instructions if so directed by the Department in writing. In addition, the Trustee shall refund to Grantor such amounts as the Department specifies in writing as unnecessary or excessive corpus for purposes of the trust. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

The Fund may not be drawn upon to cover any of the following:

(a) Any obligation of Grantor under a workers' compensation, disability benefits, or unemployment compensation law or other similar law:

(b) Bodily injury to an employee of Grantor arising from, and in the course of employment by Grantor.

(c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others by Grantor of any aircraft, motor vehicle, or watercraft:

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Grantor that is not the direct result of the construction and implementation of the mitigation bank;

(e) Bodily injury or property damage for which Grantor is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

Section 8. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund in one or more investments and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the trust fund solely in the interest of the Department and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) Securities or other obligations of the Grantor, or any other owner or operator of the mitigation bank, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a state government;

(b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and

(c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 9. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 10. Express Power of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 11. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 12. Annual Valuation. The Trust shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the fund. The failure of the Grantor or the Department to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 13. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 14. Trustee Compensation. Grantor shall pay the Trustee any necessary fees for services rendered. Where the Grantor is no longer in existence, the Trustee is authorized to charge against the Trust its published Trust fee schedule in effect at the time services are rendered. However, all Trustee compensation charged against the Trust shall be paid from trust income unless the Department authorizes payment from the trust principal in writing.

Section 15. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor is approved by the Department, and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Department may nominate a successor. If the Department does not act, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department , and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 12.

Section 16. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by Mr. James Maulden or such other designees as the Grantor may designate by amendment to this agreement. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by the Department's Secretary, or the Secretary's designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 17 Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist.

Section 18. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department , if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered pursuant to the written agreement terminating the trust or, where Grantor has ceased to exist, then to the Department. The Corps shall be notified in writing at least 120 days in advance of any termination or revocation of this Agreement.

Section 19. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 20. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Florida.

Section 21. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

_____	_____
Signature of Grantor	Signature of Trustee
Mr. James Maulden	_____
	Title
Attest:	Attest:
_____	_____
Title	Title
Seal	Seal

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2009, by _____, the _____ of _____, a Florida corporation, on behalf of the corporation. Such person did not take an oath and:

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

_____
Signature of Notary

(Notary Seal)

_____
Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2009, by _____, the _____ of _____ Bank, on behalf of the corporation. Such person did not take an oath and :

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

_____
Signature of Notary

(Notary Seal)

_____
Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

ATTACHMENT A

SURETY BOND OR IRREVOCABLE LETTER OF CREDIT

STATE OF FLORIDA

MITIGATION BANK IRREVOCABLE LETTER OF CREDIT
TO DEMONSTRATE PERPETUAL MANAGEMENT
FINANCIAL ASSURANCE

Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, Florida 32399

First National Bank of Florida
17005 Emerald Coast Parkway
Destin, Florida 32541

Dear Sir or Madam:

We hereby establish our Irrevocable Letter of Credit No._____in your favor, at the request and for the account of Mr. James Maulden, whose address is 2704 Maulden Road, Southport, Florida 32409, up to the aggregate amount of one hundred twenty-seven thousand seven hundred twenty-seven U.S. dollars and forty-one cents ($127,727.41), available upon presentation of

(1) your sight draft, bearing reference to this letter of credit No._____, and either:

(2) a Certificate issued by the Florida Department of Environmental Protection in the form of Certificate I attached hereto and made a part hereof; or

(3) a Certificate issued by the Florida Department of Environmental Protection in the form of Certificate II attached hereto and made a part hereof.

This letter of credit may be drawn on to cover perpetual management activities of the Sweetwater Mitigation Bank as authorized and required by Department permit number 03-0281744-001 as such permit may be amended and including all plans approved by such permit.

This letter of credit may not be drawn on to cover any of the following:

a) Any obligation of Mr. James Maulden under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

b) Bodily injury to an employee of Mr. James Maulden arising from, and in the course of employment by Mr. James Maulden;

c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Mr. James Maulden that is not the direct result of the construction or implementation of the Sweetwater Mitigation Bank pursuant to Department permit number 03-0281744-001;

e) Bodily injury or property damage for which Mr. James Maulden is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

This letter of credit is effective as of _____ and shall expire on _____ but such expiration date shall be automatically extended without amendment for additional periods of one year from the present or future expiration date unless, at least 120 days before an expiration date, we notify both you and Mr. James Maulden by certified mail that we have decided not to extend this letter of credit for any such additional period. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Mr. James Maulden as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the _____, in accordance with your instructions.
Name of Trust Fund

We certify that the wording of this letter of credit is substantially similar to the wording specified in Form No. 62-342.900(2) which has been adopted by reference in section 62-342.900 of the Florida Administrative Code, as such regulations were constituted on the date shown immediately below.

_____
Signature(s), Title(s) of Official(s) of Issuing Institution Date

_____

_____

This credit is subject to the Uniform Commercial Code.

CERTIFICATE I
TO
_____ BANK OF _____
IRREVOCABLE LETTER OF CREDIT NO._____

First National Bank
17005 Emerald Coast Parkway
Destin, Florida 32541

Date:_____, 20__

Mr. James Maulden
2704 Maulden Road
Southport, Florida 32409

Ladies and Gentlemen:

The undersigned _____, the Secretary of the Florida Department of Environmental Protection (the "Department"), hereby certifies to First National Bank (the "Bank") and Mr. James Maulden, with reference to Irrevocable Letter of Credit No. _____, dated _____, (the "Letter of Credit"), issued by the Bank in favor of the Department as follows:

1. The Department has heretofore provided written notice by U.S. Mail to Mr. James Maulden of the Department's present right to draw upon the Letter of Credit in accordance with the provisions of that certain Mitigation Bank Permit #03-0281744-001, dated _____, issued by the Department in favor of Mr. James Maulden.

2. Mr. James Maulden has failed to comply with the terms and conditions of the Permit.

Funds paid pursuant to the provisions of the Letter of Credit shall be transferred to _____, as Trustee (the "Trustee") under the certain Mitigation Bank Standby
Trustee's Name
Trust Fund Agreement to Demonstrate Perpetual Management Financial Assurance, dated as of _____,
between Mr. James Maulden and the Trustee for the benefit of the Department in accordance with the following instructions:

_____
_____

IN WITNESS WHEREOF, this Certificate has been duly executed and delivered on behalf of the Department as of this _____ day of _____, 20__.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

By:_____
Name:

CERTIFICATE II
TO
_____ OF FLORIDA
IRREVOCABLE NONTRANSFERABLE STANDBY
LETTER OF CREDIT NO._____

First National Bank
17005 Emerald Coast Parkway
Destin, Florida 32541

Date:_____, 20__

Mr. James Maulden
2704 Maulden Road
Southport, Florida 32409

Ladies and Gentlemen:

The undersigned _____, the Secretary of the Florida Department of Environmental Protection ("the Department"), hereby certifies to First National Bank (the "Bank") and Mr. James Maulden, with reference to Irrevocable Letter of Credit No. _____, dated _____, (the "Letter of Credit"), issue by the Bank in favor of the Department, as follows:

1. The Bank has heretofore provided written notice to the Department and Mr. James Maulden of the Bank's intent not to renew the Letter of Credit following the present Expiration Date thereof.

2. The Department has provided prior written notice by U.S. Mail to Mr. James Maulden of the requirement that Mr. James Maulden provide the Department with substitute Financial Assurance in compliance with the provisions of that certain Mitigation Bank Permit #03-0281744-001, dated _____, (the "Permit"), issued by the Department.

3. Mr. James Maulden has failed to provide the Department with substitute Financial Assurance in compliance with the provisions of the Permit within the ninety (90) days of receipt of the notice described in paragraph 1 above.

Funds paid pursuant to the provisions of the Letter of Credit shall be transferred to _____, as Trustee (the "Trustee") under that certain Mitigation Bank Standby
Trustee's Name
Trust Fund Agreement to Demonstrate Financial Assurance for Perpetual Management, dated as of _____, between Mr. James Maulden and the Trustee for the benefit of the Department, in accordance with the following instructions:

_____
_____
_____

IN WITNESS WHEREOF, this Certificate has been duly executed and delivered on behalf of the Department as of this _____ day of _____, 20__.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

By:_____
Name:

Attachment B - Sweetwater Mitigation Bank Cost Estimate

SECTION 1 - LEGAL/SECURITY			2009		2010		2011		2012		2013		2014	
ITEM	DESCRIPTION	UNIT	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUANTIT	TOTAL	QUANTIT	TOTAL
1	Conservation Easement Recording	LS	1	$ 500.00										
2	Conservation Easement Signs	EA	50	$ 5,000.00										
3	Installation	EA	50	$ 1,000.00										
4	Security Gates	EA	4	$ 10,000.00										
				$ 16,500.00		$ -		$ -		$ -		$ -		$ -

SECTION 2 - LAND CLEARING			2009		2010		2011		2012		2013		2014	
ITEM	DESCRIPTION	UNIT	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL
1	Harvesting	AC	466	$ -										
2	BMP Oversight	HR	40	$ 5,800.00										
				$ 5,800.00		$ -		$ -		$ -		$ -		$ -

SECTION 3 - FIRE MANAGEMENT			2009		2010		2011		2012		2013		2014	
ITEM	DESCRIPTION	UNIT	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL
1	Walkdown	AC	312	$ 31,200.00	0	$ -								
2	Fire Breaks	LF	9,800	$ 12,250.00	4,900	$ 4,900.00			4,900	$ 4,900.00				
2	Prescribed Fire Application	AC	796.98	$ 39,849.00	796.98	$ 39,849.00			796.98	$ 39,849.00				
3	Oversight	HR	24	$ 7,440.00	16	$ 4,960.00			16	$ 4,960.00				
4	Monitoring	HR	16	$ 4,960.00	16	$ 4,960.00			16	$ 4,960.00				
5	Aerial Photograph	EA	1	$ 2,500.00	1	$ 2,500.00			1	$ 2,500.00				
				$ 98,199.00		$ 57,169.00		$ -		$ 57,169.00		$ -		$ -

SECTION 4 - HYDROLOGICAL IMPROVEMENT			2009		2010		2011		2012		2013		2014	
ITEM	DESCRIPTION	UNIT	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL
1	Low Water Crossing	EA	6.00	$ 7,200.00										
2	Culverts (18")	EA	4	$ 6,000.00										
3	Road Removal	AC	17.00	$ 4,250.00										
4	Ditch Fill (48,663 lf)	CY	1,400	$ 14,000.00										
5	Monitoring Wells	EA	6.00	$ 1,500.00										
6	BMP Oversight	HR	24	$ 7,440.00										
				$ 40,390.00		$ -		$ -		$ -		$ -		$ -

SECTION 5 - VEGETATIVE ENHANCEMENT			2009		2010		2011		2012		2013		2014	
ITEM	DESCRIPTION	UNIT	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL
1	Mechanical	AC			224	$ 22,400.00			224	$ 22,400.00				
2	Exotic Species Field Inspection	HR			12	$ 1,980.00	12	$ 1,980.00	12	$ 1,980.00				
3	Herbicide Application	AC					20	$ 5,000.00	20	$ 5,000.00				
4	Herbicide Management	HR					8	$ 1,320.00	4	$ 660.00				
5	Seeding Transects	HR			80	$ 23,200.00	40	$ 11,600.00						
6	Seeding Monitoring (16 3m plots)	HR			40	$ 11,600.00	40	$ 11,600.00	40	$ 11,600.00	40	$ 11,600.00		
7	Seed Collection	HR			8	$ 2,480.00	8	$ 2,480.00						
5	BMP Oversight	HR			36	$ 5,940.00			24	$ 3,960.00				
				$ -		$ 67,600.00		$ 33,980.00		$ 45,600.00		$ 11,600.00		

SECTION 6 - MONITORING/REPORTING			2009		2010		2011		2012		2013		2014	
ITEM	DESCRIPTION	UNIT	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL	QUAN	TOTAL
1	Quantitative Monitoring	HR	108	$ 33,480.00	72	$ 22,320.00	88	$ 27,280.00	72	$ 22,320.00	72	$ 22,320.00	72	$ 22,320.00
2	Qualitative Monitoring	HR	16	$ 4,640.00	16	$ 4,640.00	16	$ 4,640.00	16	$ 4,640.00	16	$ 4,640.00	16	$ 4,640.00
3	Monitoring Wells	HR	16	$ 2,640.00	16	$ 2,640.00	16	$ 2,640.00	16	$ 2,640.00	16	$ 2,640.00	16	$ 2,640.00
4	Technical Report	EA	1	$ 13,980.00	1	$ 11,100.00	1	$ 11,100.00	1	$ 11,100.00	1	$ 11,100.00	1	$ 11,100.00
				$ 54,740.00		$ 40,700.00		$ 45,660.00		$ 40,700.00		$ 40,700.00		$ 40,700.00
[illegible]		$		213,829.00	$	165,467.00	$	79,640.00	$	142,889.00	$	72,300.00	$	40,700.00
GRAND TOTAL		$		697,207.00										
110% Financial Assurances Amount		$		766,927.70										

SECTION 7 - PERPETUAL MAINTENANCE								
ITEM	DESCRIPTION	UNITS	QUAN	UNIT PRICE	TOTAL	YEAR	YEARLY TOTAL	
1	Fire Breaks	LF	2000	$ 1.00	$ 2,000.00	3	$ 666.67	
2	Herbicide Application	AC	25	$ 250.00	$ 6,250.00	3	$ 2,083.33	
3	Burning ($15 first 50 and $12 after)	AC	796.98	$ 12.19	$ 9,715.19	3	$ 3,238.40	
4	Security Repair (Gates and Signs)	EA	1.00	$ 2,500.00	$ 2,500.00	2	$ 1,250.00	
5	Hydrological Repair	EA	1.00	$ 1,500.00	$ 1,500.00	15	$ 100.00	
6	Semi-Annual Compliance Inspection	HR	32.00	$ 145.00	$ 4,640.00	1	$ 4,640.00	
7	Contingency / General Repair	EA	1.00	$ 1,000.00	$ 1,000.00	5	$ 200.00	
[illegible]							$ 72,173.40	$ 202,973.26

Based on 6% rate of return per year

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