

**FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT FOUR'S WETLAND
MITIGATION PORTFOLIO: INVESTING TODAY FOR TOMORROW'S
TRANSPORTATION IMPROVEMENT PROJECTS**

Report Prepared by:

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ABSTRACT

Approaches to wetland mitigation have progressed greatly, from being a roadside scrape down area planted with wetland vegetation to a private industry. These changes to wetland mitigation have been in response to the desire to accelerate project delivery and conduct business in a fiscally responsible manner. The Florida Department of Transportation's (FDOT) Wetland Mitigation Program is a central component of FDOT's project delivery process. Compliance with laws and goals represents a chief component of our agency's state and federal responsibilities and is also a requirement for most state and federal permits and approvals. Late identification and understanding of the need for wetland mitigation can create unnecessary project delivery delays. With over 11 million acres of wetlands, the number of transportation improvement projects that require wetland mitigation has challenged FDOT to be creative in how to best provide mitigation. The State protects wetlands by regulating development in wetland areas, acquiring wetlands and land adjacent to wetlands, and requiring local governments to produce long-range plans for wetland protection. Because FDOT is able to cost effectively provide wetland mitigation, we are able to enhance our ability as a Department to meet both of the objectives we have as the State Transportation Agency – to deliver a safe and efficient transportation system while encouraging the economic growth and quality of life of our State's communities, citizens, and visitors. This conference is an opportunity to share this information with others in the industry.

INTRODUCTION

Wetland mitigation has two important effects on transportation improvement projects – time and money. Both of these effects depend upon the transportation improvement project’s type and amount of impacts it has on the resource. From sidewalk installation to new bridge crossings, impacts to wetlands are sometimes unavoidable, especially in Southeast Florida where there are approximately 5,500 acres of wetlands. These wetlands range from fresh water herbaceous marshes to estuarine forested mangrove swamps to sea grass beds.

In this paper, the different means by which FDOT accomplishes wetland mitigation are discussed. These means include regional, long range planning using offsite mitigation areas, the purchase of wetland mitigation bank credits, and project-specific wetland mitigation. The ability to utilize several different scenarios to provide wetland mitigation for one project is also discussed.

DISCUSSION

In the past, FDOT would wait until 60% plans were developed, a permit application was submitted, and the resource agencies commented on the permit application before wetland mitigation was discussed. Because these wetland mitigation discussions occurred late in the transportation improvement process, the project schedule was often affected, thus requiring the need to identify a funding source immediately.

In the early 90’s, District 4 FDOT partnered with the South Florida Water Management District (SFWMD) on a conservation area known as the DuPuis Reserve, located in Martin County, Florida. There were 850 acres of wetland mitigation credits created for FDOT use but it was limited to 2 of the 5 counties within the District 4 boundary. At a cost of \$4,000 an acre, and 850 acres of freshwater wetland mitigation credits at the ready, this started District 4 FDOT on the way to long-range forecasting of wetland mitigation needs.

Since that time, FDOT has broadened its ability to plan for wetland mitigation through legislative means by putting in place the ability to achieve “regional, long range wetland mitigation planning rather than on a project by project basis” through Section 373.4137, Florida Statutes (F.S.). This statute allows FDOT to identify projects requiring wetland mitigation, determine a cost associated with the mitigation, and place funds into an escrow account within the Florida Transportation Trust Fund. The list of wetland mitigation needs is reviewed by the Water Management Districts, the entity given the authority to permit wetland impacts for the Florida Department of Environmental Protection (FDEP). If the WMDs choose to do so, they can request the funds in escrow to develop and implement wetland mitigation projects on behalf of FDOT. The Consumer Price Index dictates the cost per acre, currently at \$106,000/acre. Unfortunately, of the two Water Management Districts who can participate in this program, only one is willing to take on wetland mitigation projects for FDOT. Therefore, we still have to continue to develop other options.

Important to note is the Florida Water Resources Act (F.S. Chapter 373), which dictates the environmental permitting practices in Florida. When Florida's population began to grow rapidly in the 1950s, policymakers and water managers began to argue for a more cohesive solution to water quality and quantity problems, and for a more integrated regulatory structure at the state level. In 1972, the Florida legislature met during one of Florida's periodic, extended droughts to address growing concerns about deficiencies in the institutional mechanisms for water management. The 1972 legislature responded by enacting the Florida Water Resources Act of 1972. Water resources in Florida are held in public trust; there are no property interests in the resource and a permit is required by the State for any work below the mean high water line.

Also available to FDOT is the private Wetland Mitigation Banking Industry. These private sector banks establish the wetland mitigation bank permit; and restore, monitor and maintain the property through the Florida Mitigation Bank Statute (F.S. 373.4136) and the Mitigation Bank Rule (Florida Administrative Code 62-342). In an effort to conduct business in a fiscally responsible manner, District 4 FDOT advertised an Invitation to Bid on the MyFlorida Market Place website, the website used to purchase commodities for all of Florida's State Agencies. Banks were required to competitively bid against each other by submitting a cost per credit by county and wetland habitat type (freshwater herbaceous, freshwater forested, estuarine mangrove, and sea grass). Seven bidders participated, and 6 contracts were awarded based upon the low bid by county and habitat type. Currently, these credits are not assigned to any particular project. All permitting agencies agreed that when the time comes to assign the credits to a project, it will be allowed as long the drainage basin and habitat type are consistent. This bid package allowed District 4 FDOT to purchase 105 credits at \$3.9 million.

Several habitat types and one county were void of banking opportunities – Broward County currently has no mangrove or sea grass wetland bank opportunities. Currently, District 4 FDOT is working on a Broward County survey to determine the feasibility of sea grass and mangrove mitigation in a metropolitan county that has utilized almost all of its urban boundary. We are looking for FDOT-owned surplus waterfront property, privately owned lots and local agency opportunities for the development of a Regional, Offsite Mitigation Area (ROMA) that would provide estuarine wetland restoration opportunities.

The shortfall of sea grass mitigation opportunities is not new to District 4. In the past, District 4 entered into a project-specific sea grass mitigation site known as SL 15 located in St. Lucie County. This was a spoil island generated when the Intracoastal Waterway (ICWW) was dredged in order to maintain the Intracoastal Waterway (ICWW) navigation channel, and it was considered publically owned land. This spoil island was completely surrounded by lush sea grass beds, so the potential for recruitment of grasses into the scrape down area was high. The problems encountered with this FDOT mitigation project stemmed from confusion of land ownership and a bid protest from the Design/Build contractors interested in constructing the mitigation site. Once these concerns were resolved, construction commenced and the site became a living laboratory. FDOT entered into a research contract with the University of

Florida, Soil and Water Science Department to conduct an Environmental Pedology study. The study involved documenting soil morphologies as they relate to seagrass species, density, and geography; characterizing physical and chemical properties of soils supporting seagrasses and investigating spatial and temporal variability of soils and seagrasses. The results of this study have been used by other FDOT Districts in identifying locations that are appropriate sea grass restoration projects, thus reducing the risk of a failed seagrass restoration project. Although this site was successful and the agencies lifted the monitoring and maintenance requirements in 5 years, it was an expensive venture with many delays.

In 2005, District 4's Work Program listed 5 bridge replacement projects that had the potential to require sea grass restoration for unavoidable impacts to tidally influenced waters. These bridge replacement projects were to be under construction by 2011, so impacts to sea grasses and the cost to mitigate for the impacts had to be analyzed immediately. Once the acres of sea grass impacts were determined, funds were set aside along with the Long Range Estimate (LRE) for the construction of the projects. FDOT was fortunate to identify an opportunity to partner with the Palm Beach County Environmental Resources Management (ERM) on a Lake Worth Lagoon seagrass restoration project. Unlike most local government ERMs, this agency's focus is on restoration of natural areas throughout the county and they have done this with great success. FDOT became a joint applicant in the state and federal permitting process, gaining access to much needed seagrass mitigation credits. The Snook Island Natural Area was an unfinished restoration project that had already produced 100 acres of restored wetland habitat in the Lake Worth Lagoon. In the 1920s, dredging and filling along the edge of this lagoon left deep holes, which over time had accumulated sediments, become devoid of oxygen, and provided little marine habitat value. ERM set about filling deep holes with 1.2 million cubic yards of sand from Peanut Island that had been previously dredged to maintain the ICWW and inlets. Not only does this facility provide wetland mitigation credits, it also provides the following recreational benefits - a 600 foot boardwalk and gazebo, a 650 foot fishing pier, 2 educational kiosks, and three small day-use docks to accommodate six boats including a water taxi. Partners in the project include Palm Beach County, City of Lake Worth, Florida Inland Navigation District, and the Metropolitan Planning Organization/FDOT. With the contribution of \$5 million, FDOT will receive over 7 acres of seagrass mitigation, and one acre of mangrove credits. Because 2 of the 5 bridges were designed to completely avoid seagrass impacts, any credits that are not applied to the original 5 bridges will be banked for future transportation improvement projects. This is considered a ROMA and will provide credits into the future.

BENEFITS

There are times when using a combination of the wetland mitigation options provides the most efficient and cost effective approach. An example of this would be the Indian Street Bridge in Martin County, a new bridge construction project that required an Final Environmental Impact Statement (FEIS). In order to permit the new bridge construction, District 4 used wetland mitigation credits from the DuPuis Reserve, a long range wetland mitigation project, a county-

owned offsite wetland mitigation project, an onsite wetland mitigation restoration project and wetland mitigation bank credits. FDOT was the designated non federal agency representing Federal Highway Administration (FHWA) for this Martin County project, and the county was willing to be a co-applicant on the permit applications. The County had restored a site within the vicinity of the new bridge and they were willing to use the credits from this site toward their new bridge construction project. District 4 had purchased wetland mitigation bank credits from a mangrove restoration project so these credits could be used toward the Indian Street Bridge project. Due to a commitment in the FEIS, onsite mitigation had to be provided along the corridor. A mangrove planter was designed along the shoreline of the waterway at the base of the bridge. Having several different mitigation options available to FDOT at one time allowed us to permit the new bridge crossing in less than one year. The bridge is currently under construction with a completion date of October 2013. The Advance Notification was sent out in March 2001. This is a new bridge crossing that went through the NEPA process in 12 years.

CONCLUSION

The several different wetland mitigation options available to District 4 FDOT ensure timely delivery of transportation improvement projects in a fiscally responsible manner. The time is now to plan for wetland impacts. There is no reason to wait for the permitting process to begin. Advertising to purchase wetland mitigation bank credits does not require a project; the competitive bidding process gets the best price per credit to be used on future projects. Partnering with agencies that have proven success in wetland restoration puts the work in the hands of the experts and allows for projects to be constructed independent of roadway construction schedules.

BIOGRAPHICAL SKETCH

Ann Broadwell has served as the Florida Department of Transportation District 4 Environmental Administrator since 2003. She is responsible for all NEPA aspects of transportation improvement projects. Part of her responsibilities are the coordination with regulatory agencies concerning listed species and wetland mitigation. She led a team of transportation professionals who were the recipients of the Federal Highway Administration's 2011 Exemplary Environmental Initiative for the Coastal Roadway Environmentally Sensitive Lighting Initiative. Prior to taking on the EA responsibilities, Ann served as the District Construction Environmental Coordinator and Project Manager of the FDOT Sea Turtle Friendly Roadway Lighting project. She has a Masters Of Biology Degree from Florida Atlantic University and has worked for FDOT for 21 years.