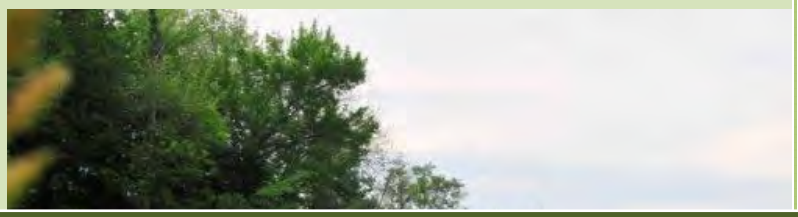

2017

Collier County RESTORE Multi-Year Implementation Plan

6/15/2017

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RESTORE ACT Direct Component Multiyear Plan Narrative

Department of the Treasury

OMB Approval No. 1505-0250

Directions: Use this form for the Initial Multiyear Plan and any subsequent amendments to an accepted Multiyear Plan. For amendments, include only new and/or materially modified activities.

Multiyear Plan Version (Initial or Amendment Number):	Initial
Date of Initial Multiyear Plan Acceptance:	
Date of Last Multiyear Plan Revision Acceptance:	

Eligible Applicant Name:	Collier County/Rookery Bay National Estuarine Research Reserve Comprehensive Watershed Improvement Plan Project Development and Permitting
Name and Contact Information of the Person to be contacted (POC) on matters concerning this Multiyear Implementation Plan:	
POC Name:	Gary McAlpin
POC Title:	Manager, Collier County Coastal Zone Management
POC Email:	GaryMcAlpin@Colliergov.net
POC Phone:	(239)252-5342

NARRATIVE DESCRIPTION:

1. A description of each activity, including the need, purpose, objective(s), milestones and location. Include map showing the location of each activity.

Project Description:

The Collier County/Rookery Bay National Estuarine Research Reserve Comprehensive Watershed Improvement Plan Project Development and Permitting is a planning assistance project for project development and permitting of restoration projects identified in the Collier County's Comprehensive Watershed Improvement Plan (Attachment 1).

Need: Approximately 70% of Collier County's 2,300 sq. miles has been altered since the 1950's in order to accommodate coastal development. In addition to shoreline modifications, extensive canal construction for urban and agricultural drainage has changed the timing and quantity of freshwater inflows to coastal waters. These changes have dramatically affected water quality and quantity of many County estuaries. Prior to intense development, rainfall either infiltrated into the surficial aquifer or flowed through extensive wetlands into the coastal waters of the County. The project development and permitting of this project will be the first step in rehydrating and restoring at least a portion of the historical flows within the region helping to reestablish historical wetland hydroperiods to some degree.

Purpose: The purpose or intent for the watershed improvements outlined below is to develop the conceptual design of the Collier County Comprehensive Watershed Improvements Plan (CCCWIP) to a level that will allow the County to apply for the appropriate federal and state permit(s) and provide adequate site analysis to develop a preliminary design that is demonstrated to be constructible, permitable and does not create adverse impacts to the surrounding properties or environmental and water resources.

The County and its consultants would meet with various agencies with all available data compiled in a useful format for such meetings, to determine what, if any, additional data are necessary for project permitting. This phase is necessary to determine which permits and regulatory requirements may or may not be necessary for the project. The Permitting Needs Assessment will consist of the following activities:

1. Preliminary data compilation

a. Development of background information, including a detailed project description, site location and anticipated environmental issues

b. Compilation of relevant available data (including GIS data) to coordinate with regulatory agencies in identifying potential environmental issues and permitting requirements

2. Agency coordination

a. Coordination and meetings with state and federal regulatory agencies for necessary monitoring and permitting requirements for species, habitats and wetlands and may include:

i. Meeting with Florida Forestry Service (FFS), U.S. Fish and Wildlife Service (USFWS), FFWCC and NMFS to review listed species and habitats potentially impacted by the proposed project and develop list of species for which surveys should be implemented and discuss permitting requirements

ii. Meet with U.S. Army Corps of Engineers (USACE) and Florida Department of Environmental Protection (FDEP) to review preliminary wetland data (GIS based) and determine level of effort for wetlands delineation and anticipated permitting

iii. Meet with USACE and the U.S. Environmental Protection Agency (EPA) to determine the level of effort for NEPA analysis

b. Participation in design plans to identify potential environmental permitting issues and action alternatives

3. Coordination with Regulatory Agencies regarding model comparisons

a. It is anticipated that the nearby restoration efforts for Picayune Strand have the potential to complicate the permitting associated with the County's project. While the South Florida Water Management District (SFWMD) Big Cypress Basin (BCB) has been fully aware of the County's project on a staff level, projects being completed by state and federal agencies need to be coordinated, at a technical and staff level, with the County's project. This effort would involve maintaining close coordination between the County's modeling team and the BCB and others as related to the use of the USACE's Gridded Surface/Subsurface Hydrologic Analysis (GSSHA; aka "Geisha") model.

4. Evaluate Project Effects on Groundwater Elevation

a. In coordination with the ongoing coordination effort of the County and other agencies modeling efforts, this project would help the County in the permitting stages of project development. This effort could require modification of prior estimates of the amount of change in groundwater elevations and working those refinements into the County's model (and gaining consensus with other agencies). This effort would focus on refining estimates of changes in groundwater elevations in the following locations (see map below):

i. Northern flow way
ii. I-75 Canal and South Belle Meade spreader
iii. Picayune Strand State Forest and Picayune Strand Restoration Project
iv. Six L's agricultural area
v. Urban areas along Henderson Creek and south of U.S.41

5. Preliminary data collection to evaluate changes in habitat, actual rates of infiltration and evapotranspiration and changes in water quality associated with project implementation

a. Florida Forestry Service highlighted the fact that it will be vital for the County to know the impacts of its own project on things like water levels, habitat and water quality. As such, this effort is anticipated to be designed as a Before and After, Control and Impact (BACI) study design and would involve setting up a series of randomly located sampling locations in areas likely to be impacted by project components (the Impact stratum) as well as areas outside of the footprint of the project (the Control stratum). As well, data would be collected both Before project completion, as well as After project completion. Collected data would be used in any required modifications of the modeling effort. The following components would be involved:

i. Site selection of 60 locations, to be distributed as 30 random locations within the area likely to be impacted by project implementations, as well as 30 sites likely outside the influence of the project. Sampling locations will be surveyed in.

ii. At each of the 60 locations, bi-annual and quantitative sampling of the vegetation
1. Species richness
2. Species diversity
3. Percent native vs. non-native

iii. At each of the 60 locations, quarterly recording of water levels and/or groundwater levels
1. Via use of piezometers and/or staff gages

iv. At each of the 60 locations, quarterly collection of water quality data (for surface water samples) for the following parameters
1. Water temperature
2. pH
3. Dissolved oxygen
4. Specific conductance
5. Total nitrogen
6. Total phosphorous

6. Coordinated efforts of other entities
a. Coordination between the County, the City of Naples and Rookery Bay National Estuarine Research Reserve (RBNERR)

Objective: To plan and permit the CCCWIP.

Milestones: Project development to the 30% design level.

Location: Collier County is located in southwest Florida with a 43-mile coastland along the Gulf of Mexico. The County is one of the state's largest counties (land area), yet more than half is underdeveloped and in conservation. The project locations within Collier County will begin to rebalance two (2) ecosystems - Naples Bay and Rookery Bay National Estuarine Research Reserve (110,559 acres) while rehydrating a significant portion (10,000 of the 78,615 acres) of the Picayune Strand State Forest.

Funds Requested: Collier County is requesting $1,506,359.18 to begin the project development and permitting of the CCCWIP.

2. How the applicant made the multiyear plan available for 45 days for public review and comment, in a manner calculated to obtain broad-based participation from individuals, businesses, Indian tribes, and non-profit organizations, such as through public meetings, presentations in languages other than English, and postings on the Internet. The applicant will need to submit documentation (e.g., a copy of public notices) to demonstrate that it made its multiyear plan available to the public for at least 45 days. In addition, describe how each activity in the multiyear plan was approved after consideration of all meaningful input from the public and submit documentation (e.g., a letter from the applicant's leadership approving submission of the multiyear plan to Treasury or a resolution approving the applicant's multiyear plan).

During the past year, Collier County conducted a highly participatory process to review and gain approval and support for the multi-year implementation plan. This included multiple presentations to the City of Naples City Council and the Collier County Board of County Commissioners as an information item.

The legal advertisement was published in the Naples Daily News (a newspaper of local circulation) on Thursday, June 15,

2017 in both English and Spanish requesting public comments during a 45 day comment period from Thursday, June 15, 2017 to July 31, 2017. In addition, Collier County Communication Support Division will distribute a Notice of Public Meeting that will go to the community at large and all the local media. The notice will also be posted on the County's website at www. Colliergov.net and on the media board in the Communication Support Division.

Collier County Coastal Management Section will host a public meeting to discuss the plan on Thursday, June 22, 2017 at 2800 North Horseshoe Drive, Suites 609/610 (Growth Management Office) at 5:30 p.m. There were ___ interested citizens and representatives from local agencies in attendance (sign in sheet attached).

In addition, Collier County has worked diligently to gain the support and partnership of a number of other interested local groups and organizations. The groups/organizations include:

Audubon of the Western Everglades/Audubon Florida
South Florida Water Management District - Big Cypress Basin
City of Naples
Conservancy of Southwest Florida
Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Service
Florida Wildlife Federation
Florida Forestry Service
Collier County Watershed Technical Advisory Committee
Collier County Board of County Commissioners

The Coastal Management Section Manager, Gary McAlpin, has provided public information presentations to the community through numerous meetings with the following:

Comprehensive Watershed Improvement Program (CWIP) Technical Advisory Ad Hoc Committee
July 8, 2016 (Item 7)

Collier County Board of County Commissioners
September 27, 2016 (Item11B)
May 23, 2017 (Item 16A18)

City of Naples
September 19, 2016 (Item 8)

Note to Staff: Send to Treasury AFTER the 45 day comment period, describe how the activity in the multiyear plan was approved after consideration of all meaningful input from the public)

3. How each activity included in the applicant's multiyear plan matrix meets all the requirements under the RESTORE Act, including a description of how each activity is eligible for funding based on the geographic location of each activity and how each activity qualifies for at least one of the eligible activities under the RESTORE Act.

The Collier County/Rookery Bay National Estuarine Research Reserve Comprehensive Watershed Improvement Plan Project Development and Permitting project meets the RESTORE Act criteria of planning assistance as defined in 31 CFR

34.201(j) of the RESTORE Act. The project development and permitting funding is planning for the eligible activity of Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region per 31 CFR 34.201(a).

Collier County improvement projects will be carried out in the Gulf Coast region including any adjacent land, water and watersheds within 25 miles of those coastal zone areas identified in 33 U.S.C. subsection 1321(a)(1)(33)(B) and further by Treasury regulation 31 CFR 34.201. Improving the health of the County's watershed areas will restore near shore and eventually offshore water quality. Improved water quality (both freshwater and saltwater) provides protection to the entire marine ecosystem, including seagrass beds and the benthic and pelagic species and habitat they depend on.

4. Criteria the applicant will use to evaluate the success of the activities included in the multiyear plan matrix in helping to restore and protect the Gulf Coast Region impacted by the Deepwater Horizon oil spill.

The following milestones shall be marked as measures of success for this project:

Preliminary data compilation
Agency coordination
Coordination with Regulatory Agencies regarding model comparisons
Evaluation of Project Effects on Groundwater Elevation
Preliminary data collection to evaluate changes in habitat, actual rates of infiltration and evapotranspiration and changes in water quality associated with project implementation
Coordination between the County, the City of Naples and Rookery Bay National Estuarine Research Reserve (RBNERR)

A portion of this project verifies and establishes pre-project conditions for water quality, vegetation, surface water, groundwater saturation, habitat studies, monitoring regimes and success criteria will be established through permit development and issuance through the responsible federal, state and location permitting agencies. A monitoring program will be a requirement of permit issuances. Post construction monitoring and scope modifications will be a requirement of each regulatory agency.

5. How the activities included in the multiyear plan matrix were prioritized and list the criteria used to establish the priorities.

Collier County has selected this planning project as their top priority for use of RESTORE Direct Component funding. Collier County's Comprehensive Watershed Improvement Plan (CCCWIP), located in Southwest Florida, utilized 10 major

studies and reports commissioned by various local, state and regulatory agencies over the past 15 years to reduce freshwater flows into Naples Bay, restore fresh water flows into Rookery Bay, improve water quality and re-hydrate approximately 10,000 acres of the Picayune Strand State Forest/South Belle Meade area by linking hydrologic and ecological restoration project that will function on a regional basis. The project borders Federal CERP-Picayune Strand Restoration Project currently being executed by the US Army Corp of Engineers and South Florida Water Management District, and, once completed, will allow the County to manage its natural resources in a more holistic and comprehensive manner.

These projects have been confirmed by the CCCWIP study (Attachment 1) that the Naples Bay has been adversely impacted by an abundance of freshwater from the Golden Gate Canal while Rookery Bay is adversely impacted by too little freshwater inflow. Approximately 70% of Collier County's 2,300 square miles has been altered for development over the years. Prior to development rainfall either infiltrated into the surficial aquifer or flowed through extensive wetlands into the coastal waters of the County. Most of the alterations were due to the coastal development since the early 1950s, as dredge and fill became the established method to meet the growing post war demand for waterfront housing. In addition to shoreline modifications, extensive canal construction for urban and agricultural drainage has changed the timing and quantity of freshwater inflows to coastal waters. These changes have dramatically affected water quality and quantity in County estuaries. In additional to the impacts to Naples Bay and Rookery Bay, over time there have been noticeable impacts to the Picayune Strand State Forest. There is general consensus that the Belle Meade area of the Picayune Strand State Forest is in need of rehydration. With the implementation of these improvements at least a portion of the historical flows would be restored within the region helping to reestablish historical wetland hydroperiods to some degree.

6. If applicable, describe the amount and current status of funding from other sources (e.g., other RESTORE Act contribution, other third party contribution) and provide a description of the specific portion of the project to be funded by the RESTORE Act Direct Component.

The County intends to pledge all of the RESTORE Direct Component funds ($6,500,000) and Spill Impact Component funds ($12,000,000) to design, permit and construct the projects associated with the planning project. The County is also requesting additional RESTORE funds from Florida Department of Environmental Protection (FDEP), RESTORE Comprehensive Plan Component and future funding from the RESTORE Direct Component for projects including in any amended multiyear implementation plan.

Collier County
Growth Management Department
Capital Project Planning, Impact Fees & Program Management Division

Collier County Comprehensive Watershed Improvement Plan

Attachment 1

ATKINS

Collier County Comprehensive Watershed Improvement Plan

Co-sponsored by
Rookery Bay National Estuarine Research Reserve

September 23, 2016

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Appendices

Tables

Figures

Acronyms

BA	Biological Assessment
BMSMMP	Belle Meade Area Stormwater Management Master Plan
CBC	Concrete Box Culvert
CERP	Comprehensive Everglades Restoration Project
CCCWIP	Collier County Comprehensive Watershed Improvement Plan
CCWMP	Collier County Watershed Management Plan
cfs	Cubic Feet per Second
CWA	Clean Water Act
DBHYDRO	SFWMD hydrometeorologic, water quality, and hydrogeologic data retrieval system
DEM	Digital Elevation Model
ECM	Existing Conditions Model
ERP	Environmental Resource Permit
ESA	Endangered Species Act
EXP	Exponent
FDOT	Florida Department of Transportation
FFS	Florida Forest Service
FPL	Funded Priorities List
FWC	Florida Fish and Wildlife Commission
GGC	Golden Gate Canal
GGWIP	Golden Gate Watershed Improvement Program
GIS	Geographical Information System
NAVD88	North American Vertical Datum of 1988
NFWF	National Fish and Wildlife Foundation
NSM	Natural Systems Model
NRD	Natural Resource Damages
NNC	Numeric Nutrient Criteria
NGVD29	National Geodetic Vertical Datum of 1929
ppt	Parts Per Thousand
PSRP	Picayune Strand Restoration Project
PSSF	Picayune Strand State Forest
Q	Flow
RCW	Red-cockaded Woodpecker
RFMU	Rural Fringe Mixed Use
SFWMD	South Florida Water Management District
SWIM	Stormwater Improvement Plan
TDR	Transferrable Development Rights
TN	Total Nitrogen
TP	Total Phosphorous
Regional NSM	Big Cypress Basin Natural Systems Model
SEP	State Expenditure Plan

Executive summary

History of the Region

Collier County encompasses over 2,300 sq miles and is located in southwestern Florida. Approximately 70 percent of Collier County (ca. 1,400 sq miles) has been altered by human modifications of the local hydrology (Atkins 2011). Prior to human alterations, rainfall either infiltrated into the surficial aquifer or flowed through extensive wetland features into the coastal waters of Collier County. Most of these hydrologic alterations were due to coastal development in Collier County since the early 1950s, as dredge-and-fill became the established method to meet the growing post-World War II demand for waterfront housing. The canals served to create waterfront property, increasing access for boating, and provided fill material needed for the creation of buildable lots (Antonini et al 2002).

In addition to shoreline modifications, extensive canal construction for urban and agricultural drainage has changed the timing and quantity of freshwater inflows to coastal waters. These changes have dramatically affected water quality and quantity of many of Collier County's estuaries. For example, the construction of the Golden Gate Canal (GGC) network increased the size of the Naples Bay watershed and freshwater flows to Naples Bay, as lands that originally drained southward into the Rookery Bay watershed were redirected. Consequently, the Rookery Bay watershed is now much smaller and, combined with alterations in drainage pathways and changes in wet and dry season storage capcities, receives less freswater inflow than it did historically. These altered freshwater inflow patterns have been identified as the most important threat to the natural biodiversity of Rookery Bay. **Figure ES-1** shows the current extents of these watersheds in Collier County.

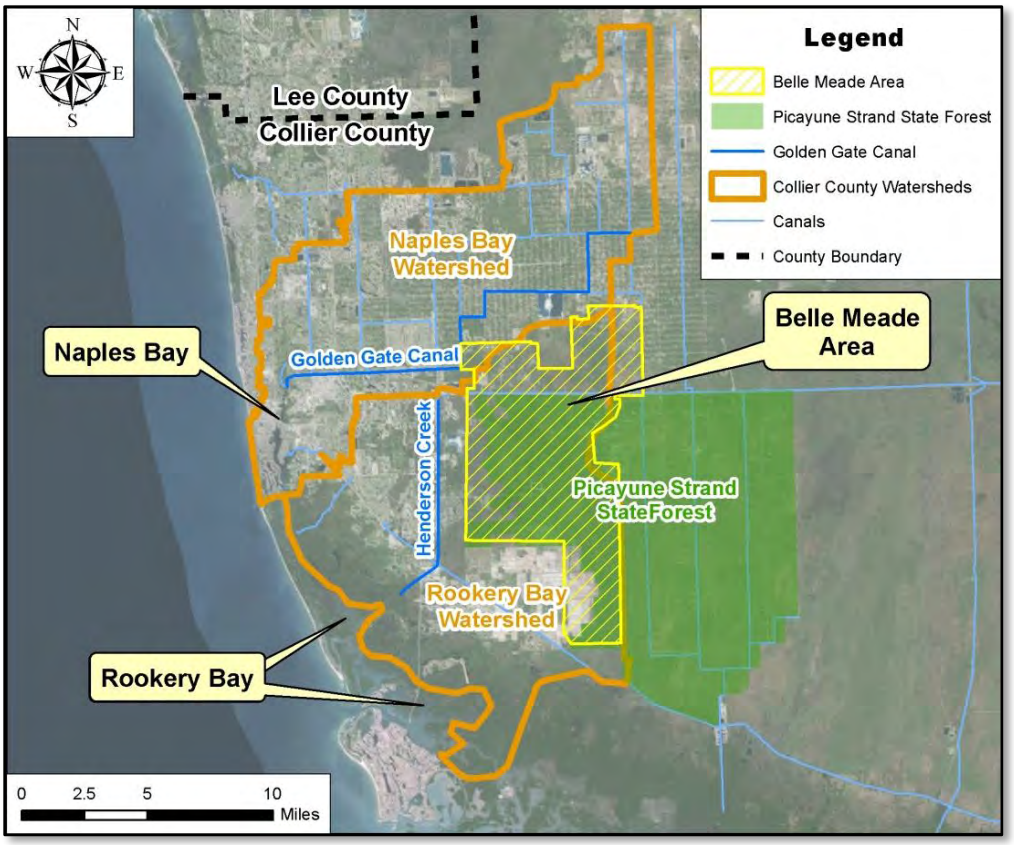

Figure ES-1 Watershed Location Map

Modifications to drainage patterns have resulted in significant impacts throughout the watersheds in Collier County. The historic areal extents of oyster bars and seagrass beds have been reduced by salinity alterations, reduced water clarity, and increased sediment loads. Tidal mangrove habitat has also been affected by coastal development and hydrologic alterations. Changes in the timing and amount of freshwater inflows into coastal waters, drainage alterations, and urbanization have also lowered groundwater levels, degraded or eliminated wetlands, altered wildlife distribution patterns or reduced populations, and increased the delivery of nutrients and other pollutants to coastal waters. This plan has been developed to address these conditions.

In addition to the altered hydrology of Naples Bay and Rookery Bay caused by the hydrologic alterations within Collier County, the natural systems of the Belle Meade area within the Picayune Strand State Forest (PSSF) have also been impacted by hydrologic alterations. In 1985, Conservation and Recreation Land (CARL) funds under the Save Our Everglades Project were used to start the purchase of properties which became the PSSF in 1996. These lands were purchased to help promote hydrologic and ecologic restoration and encourage passive recreation in this area.

While there is broad scientific consensus that Naples Bay is adversely impacted by excessive freshwater inflow, and that the Rookery Bay estuary is adversely impacted by too little freshwater inflow, the location of any proposed freshwater diversion (restoration) has not received as much attention. Existing management plans may have used the location of Henderson Creek as a default location for waters diverted out of the GGC system. However, more recent modeling work has suggested that areas farther east would benefit the most from flow diversions. As such, current information suggests that the benefit of a freshwater flow diversion out of the Naples Bay watershed from the Golden Gate Canal and into the Rookery Bay watershed would be greatest if freshwater was diverted through the Belle Meade region of the PSSF, rather than via Henderson Creek. Hydrologic restoration projects focusing on diversions in the Belle Meade region are included in both the Belle Meade Area Stormwater Management Master Plan (Parsons 2006) and the Collier County Watershed Management Plan (Atkins 2011). Such actions thus represent both project types and locations that are consistent with both the historical literature and the most recent modeling efforts.

Project Background

Recently, Collier County and the City of Naples developed the Golden Gate Watershed Improvement Program Initiative. The goal of this initiative is to foster the implementation of recommended projects based on environmentally sustainable management system strategies aimed at protecting, preserving, and restoring the resource in areas that have experienced the highest impact due to human activity, while encouraging efficient urban development in areas with the highest existing and potential urban development in the County.

To further implement the Golden Gate Watershed Improvement Program Initiative, the Collier County Comprehensive Watershed Improvement Plan (CCCWIP) was created. The purpose of this project, described herein, is to identify and develop a specific series of linked projects identified in the previous watershed management plans that will have the largest impacts to hydrologic and ecologic recovery within the County. The goals of this CCCWIP report are to:

- identify and address all of the critical issues related to each project;
- identify any issues that could possibly derail a project;
- utilize existing studies as the basis for the overall project concept;
- develop each project such that it is comprehensive, feasible, fundable and can be completed within the next 10 years ;
- validate that recommended projects can be accomplished ; and
- develop projects consistent with objectives of the RETORE Act

The CCCWIP is being co-sponsored by the Rookery Bay National Estuarine Research Reserve (RBNERR). RBNERR has been involved from the very beginning of project development and are represented on the Technical Advisory Committee for Collier County Watershed Management Plans. This project is, in part, based on the modeling that the Rookery Bay National Estuarine Research Reserve has recently completed. In addition, Collier County has worked diligently to gain the support and partnership of all other interested local groups/organizations. These groups/organizations include the following:

- Audubon of the Western Everglades/ Audubon Florida
- Big Cypress Basin/South Florida Water Management District
- City of Naples
- Conservancy of Southwest Florida
- Florida Fish and Wildlife Conservation Commission
- Fish and Wildlife Service
- Florida Wildlife Federation
- Florida Forest Service
- Collier County Watershed Technical Advisory Committee

Diverted Flow Capacity

This project included an evaluation of the availability of flows to be diverted from the GGC and the capacity of the downstream (Rookery Bay) watershed and estuary to receive additional flows (which includes the Belle Meade portion of the PSSF). Both the Collier County Watershed Management Plan and the Restoring the Rookery Bay Estuary (Henderson Creek Watershed Engineering Research Project) modeling results were used to evaluate existing flows to estuary systems in comparison to estimates of pre-development flow rates.

The flow analysis focused on defining the appropriate diversion flow rate for the project based on the ability of Rookery Bay to assimilate additional flows. The constraint in the system is, then, the receiving water body, the Rookery Bay. Previous studies considered various pumping rates to divert water from the GGC and reduce flows to Naples Bay. Although these studies indicated larger pumps would have a greater benefit on Naples Bay via great diversions, they would likely result in too much water to the receiving wetland systems and Rookery Bay. Review of the data indicated that a 100 cubic feet per second (cfs) pump station would divert enough water from the GGC to benefit both Naples Bay and Rookery Bay.

Project Conceptual Plan

Figure ES-2 presents an overview of the primary set of recommended projects for the CCCWIP. This set of projects has been carefully planned out with respect to potential effects to both Naples Bay and receiving wetlands (in the PSSF major road crossings (in Florida Department of Transportation right-of-ways), agricultural lands and Rookery Bay. These projects have also been developed in concert with the governmental, non-governmental and citizen groups (mentioned above) that will be directly impacted by the implementation of this plan, as to be consistent with the Golden Gate Watershed Improvement Program. A brief description of how the overall system would work is described below.

The projects start in the north where a 100 cfs pump station (Pump Station A) will be constructed on County-owned property along the GGC, appromixately one mile east of Collier Blvd. and upstream of the GG-3 structure. The pump station would start pumping when the gate for the GG-3 structure is lowered to elevation 6.5 ft NAVD88, which roughly corresponds to elevation 8.0 ft NAVD88 in the Golden Gate Canal. The pump station would then pump to a one-mile long channel flow-way (linear pond) controlled by outfall structures. The linear pond flow-way would be designed with wetland plantings to improve water quality and have a multi-use recreational trail amenity. This would divert flows south, under White Lake Blvd. to the north I-75 cross canal. Once flows enter the I-75 north canal, flows would be converyed through the existing box culverts under this section of I-75 to the south canal. Operational structures or ditch blocks would be designed to contain the flows within the west segment of the canals. The I-75 south canal is not contiguous, so portions between the ditch segments would need to be excavated to convey flows the entire to the next pump station intake.

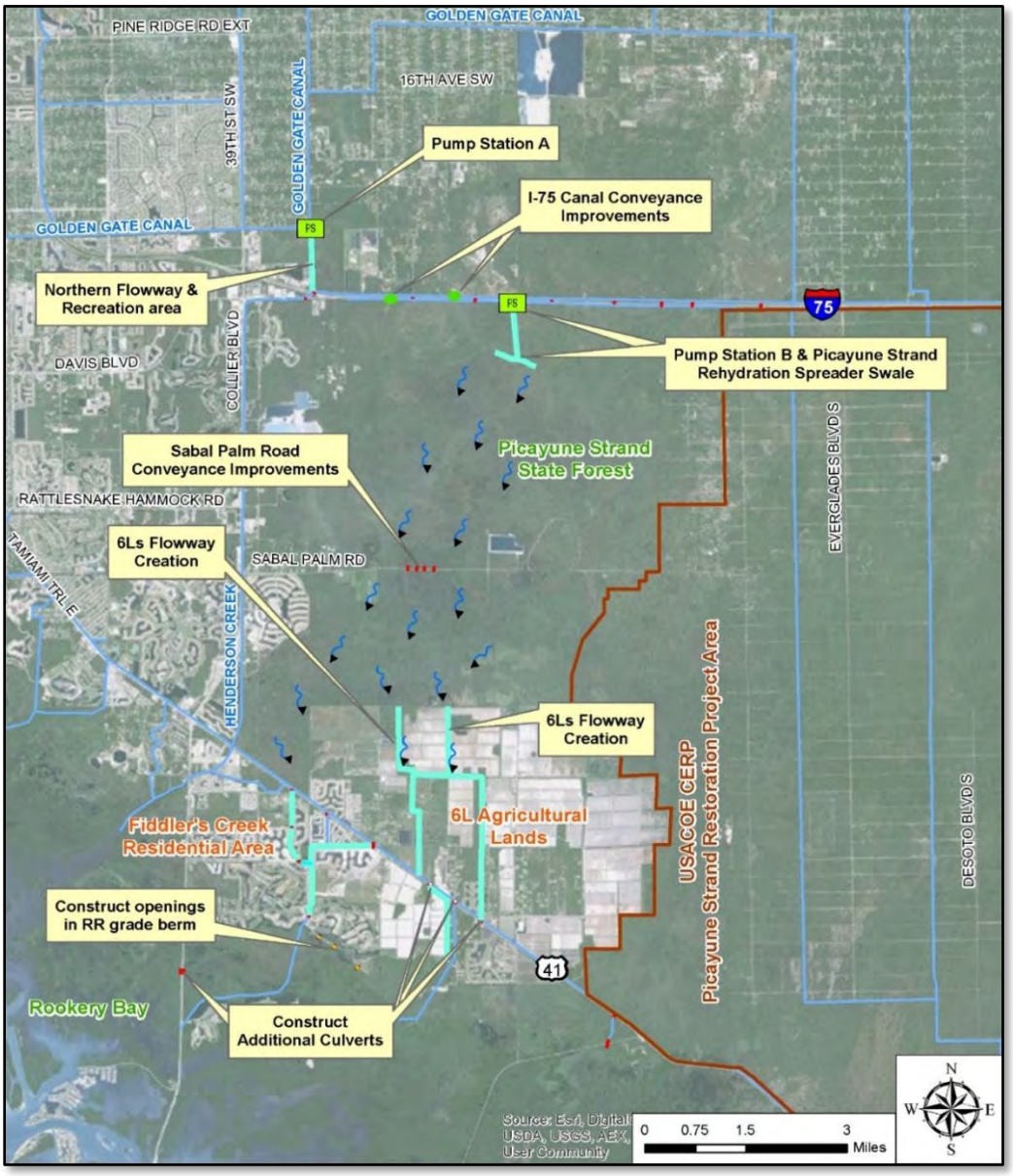

Figure ES-2 Overall Project Concept

A second pump station (Pump Station B) will be constructed on the south side of the I-75 south canal, also with a 100 cfs capacity, and would start pumping when water begins flowing into the north I-75 canal. The pump station would pump into a 4,000 foot (dry) channel flow-way which would convey flows south to a spreader swale that would discharge flows south through the Belle Meade wetland area flow-way. This flow would continue south to Sabal Palm Road where additional siphon culvert cross drains would be constructed to convey the additional flow under the road and south through the flowway.

As diverted flow continues south, it would flow in one of three directions. Some flow could circumvent the Six L's agricultural lands to the west, while the majoity would flow into one of two control structures, each with a designed flow-way that would take flows through the Six L's lands. All flows would continue to the existing north US 41 drainage system, where additional culverts would be installed under US 41. From there the flows would continue south through the Fiddler's Creek residential area stormwater system and ultimatelty to Rookery Bay.

Critical Issues

One of the primary goals of this report was to determine the critical issues associated with implementing the CCCWIP, particularly the issues that could derail the project, and to identify and/or perform the preliminary analyses needed to resolve these issues. The following are the critical issues that were identified and evaluated as part of this study:

- Flow Capacity through the I-75 corridor
- Flows through the Picayune Strand State Forest (Particularly the effects on RCW habitat)
- Picayune Strand Restoration Project (PSRP) Coordination
- South Belle Meade Property Evaluation
- Six L's Agricultural Area Plan and Future Coordination
- Flow Capacities through US 41 to Rookery Bay

Project Benefits

The water quality in Naples Bay, specifically salinity, has been drastically impacted within the last 50 years, particularly from the construction of the canal system. The impacts of the magnitude of freshwater surplus and the extreme freshwater "shock loads" to the bay during the wet season, have been long documented. The benefit to Naples Bay by diverting flows south during the wet season is not necessarily as large as previous studies concluded, but the volume of freshwater that can be diverted represents a significant enhancement to the Naples Bay estuary.

On average, the proposed project would operate 42 days per year. On those days when operating, it would divert approximately 19 percent of flows to Naples Bay (18.78 percent). The amount diverted would equal about 9.5 percent of the wet season inflows to Naples Bay, and 8 percent of the total inflow each year. The amount of water diverted from Naples Bay would average 2,688 million gallons per year (2.7 billion gallons per year), which is equivalent to 8,250 acre-feet per year, or just over 10 billion liters per year.

The vegetation in the PSSF has shifted over the past 50 years due to hydrologic alterations and subsequent impacts to wetlands in general swamp forest in particular. Hydroperiods and water depths in this area have declined and there is general consensus that the Belle Meade area of the PSSF is in need of rehydration. This is validated by the forest's Ten-Year Resources Management Plan (dated 8/15/2008) under Goal 1, Objective 3, *"Evaluate and develop work plan for restoring hydrology"*. With the implementation of the CCCWIP, at least a portion of the historical flows would be restored within the region helping to re-establish historical wetland hydroperiods to at least some degree and assisting the Florida Forest Service with their goals for the PSSF. Although full restoration would likely include more than 100 cfs of additional wet season flow diversions, it has been shown that the limitations of the system that are now in place (Red-cockaded Woodpecker habitat, Picayune Strand Restoration Project and Rookery Bay), currently prevent more than the 100 cfs based on the conservative and preliminary analyses conducted as part of this project.

The CCCWIP also significantly benefits Rookery Bay. When comparing the areas within the Rookery Bay estuary that have flow deficits, to the location(s) of the diverted flows to the estuary from the CCCWIP project, it can be seen that these areas correspond, indicating the diverted flows are going to the areas that need water. Not only do diverted inflow locations correspond to the locations of inflow deficits, but diverted flow volumes (approximately 50 cfs from the preliminary modeling estimates) are also consistent with the documented inflow deficit volumes in corresponding areas of Rookery Bay.

Project Costs

The preliminary opinion of probable construction costs for the projects is presented below in **Table ES-1**. These estimates are based on best available information for quantities and unit prices for the year 2016, and are equivalent to a 15 percent design level. Sources for these estimates include the current Florida Department of Transportation tabulated costs for item average unit cost; and local bid tabs for similar projects in Collier County and throughout the South Florida Water Management District and the Southwest Florida Water Management District. Costs for any property acquisition (if needed) are not included. Construction costs include 2 percent for Maintenance of Traffic (MOT), 10% for Mobilization and a 30% contingency.

Additional costs are presented in the overall CCCWIP project cost estimate including a more detailed project development (5%), design/plans preparations (10%), permitting (5%) and mitigation (5%). An estimated cost is also included for monitoring and SCADA telemetry systems. Considering that this project has a ten-year planning horizon (approximate) for completion of construction, a cost escalation factor of 23% (3% per year compounded over 7 years) has also been included. Also included in the overall cost is funding for other minor projects that may be necessary or beneficial to enhance the system and for the future phase projects (North Belle Meade Flow-way and the Six L's Area Masterplan).

Table ES-1 Planning-Level Opinion of Probable Costs

Project Element	Estimated Cost
Total Construction Cost	$18,800,000
Project Development	$1,000,000
Design/Engineering/Permitting/Mitigation (20%)	$3,800,000
Monitoring and SCADA Telemetry Systems	$1,000,000
Associated Projects, Engineering and Master Planning	$3,000,000
Cost Escalation over 7 years (3% per year)	$4,400,000
Total	**$32,000,000**

System Operations Management

Additional planning and analysis will be required to accurately manage the flow diversions throughout the project area. Although preliminary analysis has been completed to determine how and where the diverted water will flow, including a modeling analysis using the MIKE SHE/MIKE-11 2D surface water/groundwater model, some level of uncertainty remains as to the flow direction. Collier County recognizes this uncertainty and the need for further analysis and plans additional in-depth analyses in future planning phases prior to project design. For this reason, this project includes an adaptive management approach to operating the diversion system.

Adaptive mnagement is a structured and systematic process for continually improving decisions, management policies and practices by learning from the outcomes of decisions previously taken, and changing operations accordingly, as needed. In this manner, the operational protocol for the system will be continuously refined and optimized such that maximum benefit can be obtained while eliminating or minimizing any impacts. Monitoring sites will be set up throughout the project area that would encompass not just hydrologic monitoring, but wetland and habitat monitoring as well. The results and careful evaluation of these monitoring efforts will help drive the future operations and management of the system. These monitoring efforts will be defined as part of the future project development phase and will address system optimization and permitting needs.

1. Introduction

1.1. History of the Region

Collier County encompasses over 2,300 sq miles and is located in southwestern Florida. Approximately 70 percent of Collier County (ca. 1,400 sq miles) has been altered by human modifications of the local hydrology (Atkins 2011). Prior to human alterations, rainfall either infiltrated into the surficical aquifer or flowed through extensive wetland features into the coastal waters of Collier County. The majority of these hydrologic alterations resulting from coastal development in Collier County began in the early 1950's, as dredge-and-fill became the established method to meet the growing post-World War II demand for waterfront housing. The canals served to create waterfront property, increase access for boating, and provided fill material needed for the creation of buildable lots (Antonini et al 2002).

In addition to modifications along the shoreline, extensive canal construction for urban and agricultural drainage has changed the timing and quantity of freshwater inflows to coastal waters. These changes have dramatically affected the health of many of Collier County's estuaries . For example, the construction of the Golden Gate Canal (GGC) network dramatically increased the size of the Naples Bay watershed (Atkins 2011). As a result, Naples Bay now receives much more freshwater inflow than in pre-development times, as lands that originally drained southward into the Rookery Bay watershed have now been redirected. Consequently, the Rookery Bay watershed is now much smaller than it was historically. Combined with alterations in drainage pathways and changes in wet and dry season storage capcities, Rookery Bay now receives less freswater inflow than it did historically, paticularly in specific locations. These altered freshwater inflow patterns have been identified as the most important threat to the natural biodiversity of Rookery Bay (Shirley et al., 2004). **Figure 1-1** shows the locations of these watersheds within Collier County.

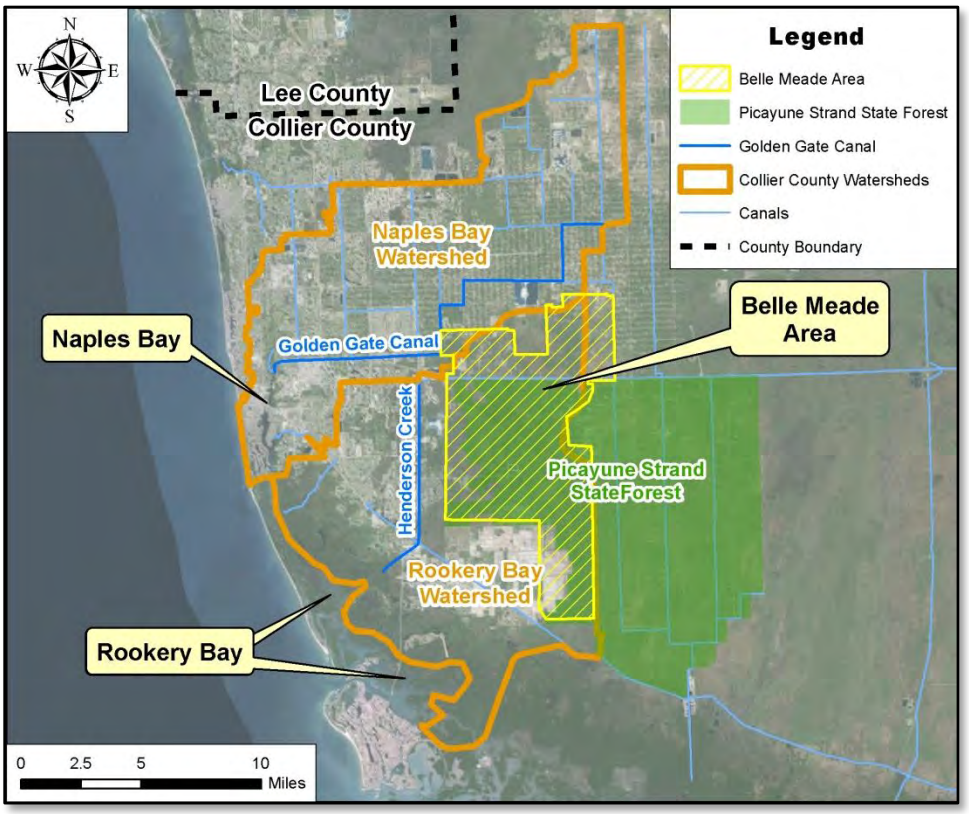

Figure 1-1 Watershed Location Map

Significant impacts have been experienced throughout the watersheds of Collier County as a result of the modifications to drainage patterns. The historic areal extents of oyster bars and seagrass beds have been reduced by salinity alterations, reduced water clarity, and smothering from increased sediment loads. Tidal mangrove habitat has also been affected by coastal development and hydrologic alterations as well. Changes in the timing and amount of freshwater inflows into coastal waters, drainage alterations and urbanization have also lowered groundwater levels, damaged wetlands, altered wildlife distribution patterns, and increased the delivery of nutrients and other pollutants to coastal waters. These impacts generated the need for a plan(s) to improve these conditions.

1.2. Future Challenges and Guidance Documents

Collier County's population is expected to continue to grow at a rapid rate, highlighting the need for a comprehensive approach to address the issues of flood protection, protecting water supplies, and preserving or restoring water quality and natural habitats. As far back as 1980, the need for restoring the historical water flows was identified. Over the past thirty-five (35) years, there have been many studies that looked at restoring the historic flow-way from the Naples Bay watershed (sometimes referred to as the Naples Bay-GGC watershed) to Rookery Bay. Some of these studies include:

- Golden Gate Water Management Plan (Johnson Engineering for SFWMD-BCB, 1980)
- Big Cypress Basin Water Management Plan (SFWMD BCB 1998)
- Belle Meade Area Stormwater Management Master Plan (Parsons, 2006)
- SWIM Plan for Naples Bay (SFWMD 2007)
- Horsepen Strand Conservation Area Feasibility Study Phase 1 (Collier County, 2008)

With all of this prior work that had been accomplished, the groundwork was laid for the Collier County Watershed Management Plan (CCWMP) which developed a holistic approach to protecting and/or restoring the altered hydrology of the priority watersheds of the Cocohatchee River and Corkscrew Swamp; Golden Gate Canal and Naples Bay; Rookery Bay and its watershed; and the watersheds and estuaries of the Ten Thousand Islands. The plan was subsequently adopted by the Board of County Commissioners in 2011. The CCWMP identified a number of linked hydrologic and ecological restoration projects that would function on a regional basis to allow the County to manage its natural resources in a more holistic manner. More than 100 potential projects were identified in the CCWMP (Atkins 2011). The plan was presented at a number of public workshops and was reviewed for technical accuracy by staff from Collier County, the Florida Department of Environmental Protection, and the South Florida Water Management District.

Projects from the CCWMP were preliminarily screened for their ability to be permitted and constructed. Twenty-seven (27) projects were recommended for further detailed evaluation. After a final detailed evalution, ten (10) projects were determined to be capable of being permitted and constructed. The CCWMP prioritized these capital improvements projects (structural projects) for each of the County's main watersheds based on a methodology that evaluated potential projects on their viability to be permitted and constructed; the benefits yielded though performance measures; estimated cost; and calculated benefit versus cost (B/C) ratio. Additionally, the CCWMP proposed complementing the recommended structural projects with non-structural initiatives in order to achieve the plan's restoration goals.

More recently, Collier County and the City of Naples developed the Golden Gate Watershed Improvement Program (GGWIP) initiative. The goal of this initiative is to foster the implementation of recommended projects based on environmentally sustainable management system strategies aimed at protecting, preserving, and restoring the resource in areas that have experienced the highest impact due to human activity, while encouraging efficient urban development in areas with the highest existing and potential urban development in the County.

The proposed series of linked projects outlined in this report are consistent with both the CCWMP and the GGWIP. In addition, the implementation of these proposed projects is also consistent with the goals of the RESTORE Act. The bipartisan RESTORE Act was passed by the U.S. Congress on June 29, 2012 and signed into law on July 6, 2012 by President Obama. The purpose of the Act is to optimize the distribution and use of Clean Water Act fines paid by the parties responsible for the Deepwater Horizon oil spill to improve the

ecology and economies of the Gulf of Mexico area. Among the five Gulf States impacted by the oil spill, Florida is unique in terms of the significant role played by County governments.

1.3. Goals of this Report

To further implement the GGWIP inititive, the Collier County Watershed Improvement Project (CCCWIP) was created. The purpose of this project, described herein, is to identify and develop a specific series of linked projects idenitified in the previous watershed management plans that will have the largest impacts to hydrologic and ecologic recovery within the County. The goals of this report are to:

- identify and address all of the critical issues related to each project
- identify any issues that could possibly derail a project
- utilize existing studies as the basis for the overall project concept
- develop each project such that it is comprehensive, feasible, fundable and can be completed within the next 10 years
- validate that recommended projects can be accomplished
- develop projects consistent with objectives of the RETORE Act

2. Studies Completed and Summary of Findings

2.1. Overview of Impacts to Coastal Waters and Ecosystems

Historically, Naples Bay was a shallow estuarine system containing mangrove islands that were surrounded by oyster reefs and seagrass beds. Extensive oyster bars were found along the shorelines and at the mouths of various tidal creeks and seagrass beds were likely more limited in their distrubion, compared to oysters and mangroves (Schmid et al 2006). The combination of hardened shorelines and newly dug residential canals resulted in an increase in the amount of shoreline in Naples Bay of nearly 50 percent between 1927 and 1965, followed by an additional 11 percent increase between 1965 and 1978 (Schmid et al 2006). While the Naples Bay shoreline may have increased significantly over the past few decades, the direct and indirect impacts of this level of development resulted in a 90 percent decline in seagrass habitat and an 80 percent decline in the amount of oyster reef habitat over the same time period (Schmid et al 2006). Schmidt et al also reported that 70 percent of the fringing mangrove shoreline of Naples Bay had been converted to residential development. More recent assessments have verified the magnitide of the loss of these important habitats in Naples Bay (Atkins 2011). Along the shoreline of Rookery Bay, there has been a net loss of 2,170 acres of mangrove/tidal marsh habitat, or 12 percent of the pre-development quantity, with losses occurring primarily due to conversion to urban land uses (Atkins 2011).

In addition to direct impacts to coastal ecosystems, the natural resoruces of both Naples Bay and Rookery Bay have been adversely impacted by changes to the quantity, quality, and timing of freshwater inflows to their coastal waters. For example, the Naples Bay watershed increased from approximately 10 square miles to 120 square miles in size, due to various land drainage activities (SFWMD 2007). As a result, Naples Bay now receives much more freshwater inflow than in pre-development times. Consequently, the Surface Water Improvement and Management (SWIM) Plan for Naples Bay highlighted the need to reduce freshwater inflows into Naples Bay from its expanded watershed (SFWMD 2007). As much of the increase in the Naples Bay watershed came from land that originally drained southward, Rookery Bay's watershed is now smaller than it was historically. The salinity regime of the Naples Bay and Rookery Bay estuaries are more influenced by canal management than by tides or rainfall, and altered freshwater inflow has been identified as the most important threat to the natural biodiversity of these coastal waters (e.g., SFWMD 2007, Shirley et al. 2004, 2005). Rubec et al. (2006) concluded that Rookery Bay's ecological health is impacted by altered hydrology, and Lewi et al. (undated manuscript) concluded that "…a number of estuarine species would benefit from more freshwater inflow into the Rookery Bay system during the latter part of the wet season…" However, Shirley et al. (2004 and 2005) concluded that Rookery Bay, and in particular the tidal portions of Henderson Creek, was impacted by both too little freshwater inflow in the dry season, as well as too much freshwater inflow in the wet season.

Oyster reefs are critical to the estuarine ecosystems of southwest Florida, as they provide the foundation on which mangrove islands develop and also serve as habitat for many fish and shellfish species. In addition, the eastern oyster (*Crassostrea virginica*) is the primary suspension feeder in the area's estuaries, which helps to reduce the impacts of sediments and algal blooms in estuarine waters. As many of Southwest Florida's estuaries lack large seagrass beds, oyster reefs (which are sensitive to the impacts of increased freshwater discharges) have been promoted as being a superior indicator of estuarine health and a bio-indicator of the efficacy of various restoration and management efforts (Savarese et al. 2003).

Studies in the Faka Union Bay, the Blackwater River estuary and the tidal portions of Henderson Creek have shown that excessive amounts of freshwater inundation have adversely affected oysters and oyster reef development, and that greater mortality of juvenile oysters occurs in estuaries that receive excessive amounts of freshwater inflow (Savarese et al. 2003).

2.2. Overview of Impacts to the Watersheds

The CCWMP confirmed prior reports of widespread impacts to the vegetative communities of the Naples Bay and Rookery Bay watersheds. The approach taken was to build upon prior documentation of impacts by developing an assessment of the potential for increased wet weather storage, if appropriate, associated with some of these changes. This task was accomplished by comparing two data sets: 1) historical vegetation maps developed by the South Florida Water Management District (SFWMD), as summarized by Duever (2004), and 2) recent vegetation data based on SFWMD Land Use/Land Mapping data from 2004, as updated to reflect changes through 2007. Changes in vegetation types were then interpreted based on likely hydrologic causes for such changes, based on established relationships between vegetation and the combination of water depths and hydroperiods (Atkins 2011, as informed by Duever 2004). In this way, vegetation changes could be associated with the hydrologic impacts that likely caused such changes. The amount of wet weather storage capacity available in these areas could thus be determined. However, it should be noted that output from these comparisons represent "average" conditions for each of the ecological communities and that the differences between historical and current hydrology would vary from year to year due to differences in rainfall, as well as short and long-term flood and drought cycles.

In the Naples Bay-GGC watershed, the CCWMP concluded that the ecological health of the vegetative communities was quite low, mostly due to the finding that 67 percent of the watershed had been converted to urban or agricultural land uses. However, the eastern portion (approximately one-third) of the watershed was less impacted by development, although impacts were evident due to altered hydrology from the extensive canal systems (Atkins 2011).

In the Rookery Bay watershed, impacts of reduced wet season water depths and shorter hydroperiods were found in the areas of Belle Meade and near Henderson Creek. However, since only 27 percent of the Rookery Bay watershed had been converted to urban or agricultural land uses, the vegetative communities of the Rookery Bay watershed were mostly healthier than those in the adjacent Naples Bay-GGC watershed. The most significant impact to the vegetative communities of the Rookery Bay watershed was found to be hydrologic alteration, particularly in those portions of the watershed north of Belle Meade.

2.3. Proposed Restoration Projects to Address Hydrologic Alterations

The ecological impacts associated with alterations in the amount, quantity and timing of freshwater inflows into Collier County's estuaries have been noted for at least 30 years (e.g., Yokel, 1975; Browder et al. 1988, Shirley et al. 2004, 2005, and multiple references within). As a result, resource management plans have attempted to build upon the general consensus of diagnosed problems in Naples Bay and Rookery Bay to develop resource management projects to act on those problems.

For example, the latest SWIM Plan for Naples Bay included a budget request for $2,500,000 for a project to divert water from the GGC into Henderson Creek, which would then flow to Rookery Bay (SFWMD 2007). This proposed project was intended to not only address the well-documented problem of excess freshwater inflow into Naples Bay, but it would also address the goal to "…provide a more natural timing and variation in patterns of freshwater inflow into Henderson Creek, thereby creating more suitable habitats for various species' life stages" (Rubec et al. 2006). In a report produced for the Florida Department of Environmental Protection (FDEP), the water quality responses of both Naples Bay and Rookery Bay were modeled based on the scenarios of 50 and 100 cubic feet per second (cfs) diversions of water out of the GGC and into Henderson Creek (Weisberg and Zhang 2007).

The CCWMP included a list of priority actions for the County to consider implementing, including the proposed project to take water out of the GGC system and divert those flows into Henderson Creek (Atkins 2011). More recently, a report for the City of Naples stated that "diversion of GGC flow from Naples Bay to the Henderson Creek watershed to restore a more natural salinity regime is a major focus of Naples Bay restoration" (Cardno 2015) which is consistent with the project description included in the Naples Bay SWIM Plan (SFWMD 2007).

While there is a scientific consensus that Naples Bay is impacted by too much freshwater inflow, and that Rookery Bay is impacted by too little inflow, there has not yet been the same level of consensus on the specific locations for diversions of freshwater inflow. Although the SWIM Plan for Naples Bay (SFWMD 2007), the CCWMP (Atkins 2011) and the Naples Bay Water Quality and Biological Analysis Project (Cardno 2015) all focus on diversions of water out of the GGC system and then into Henderson Creek, there is some disagreement about the need for a diversion of flows into Henderson Creek, versus other locations in the Rookery Bay watershed.

2.4. Location of Freshwater Diversion

Although a diversion of freshwater inflows from the expanded Naples Bay watershed to the diminished (in size) Rookery Bay watershed has been called for in various resource management plans and research papers, the need for a diversion out of the GGC and into Henderson Creek is perhaps an assumption of the most beneficial location for added flows to the Rookery Bay watershed. And while prior studies have concluded that Rookery Bay is impacted by reduced freshwater inflows (e.g., Rubec et al. 2006, Lewi et al., undated manuscript) there is evidence that Henderson Creek in particular may not be similarly impacted. Shirley et al. (2004 and 2005) concluded that water management activities in the Henderson Creek watershed were strongly influenced by weir operations, rather than simply changes in the size of the watershed. Henderson Creek was determined to suffer from both too little freshwater inflow when water control structures are closed in the dry season (to prevent saltwater intrusion) and too much freshwater inflow when these same structures are opened in the wet season (to prevent flood damage). Thus, Henderson Creek was thought to be impacted by too little inflow, too much inflow, and too variable a salinity regime (Shirley et al. 2004 and 2005). This is a more complex understanding of the impacts to Henderson Creek than that outlined by Rubec et al. (2006) and Lewi et al. (undated manuscript).

Within the CCWMP, two different techniques were used to determine if the coastal waters of the County were impacted by hydrologic alterations, and if so, what was the general pattern of impact? The two methods used were empirical (aka statistical) approaches, based on deriving flow vs. salinity relationships for coastal waters and using Fakahatchee Bay as a “reference” site (as in Yokel 1975, Browder et al. 1988, Shirley et al. 2004, 2005) vs. the use of a combined surface water and groundwater model (MIKESHE/MIKE 11). For Faka Union Bay, Naples Bay and the Cocohatchee River / Wiggins Pass estuary, the two techniques (empirical vs. mechanistic model) gave very similar findings. However, for Henderson Creek, the empirical model suggested freshwater inflow deficits in both the wet and dry season, while the mechanistic model concluded that inflow deficits were restricted to the dry season alone.

In a summary of recent findings from a separate modeling exercise run for the Rookery Bay National Estuarine Research Reserve (Interflow, 2014), it was concluded that overall flows into Rookery Bay via Henderson Creek have stayed “about the same…” when comparing current conditions to modeled flows from a pre-disturbance landscape (slide 26 in presentation by Tabitha Whalen Stadler, Principal Investigator). However, the same model output concluded that freshwater inflows into the wider Rookery Bay estuary had decreased from historical conditions in the vicinity of Belle Meade and in that portion of the Rookery Bay estuary’s watershed east of Belle Meade and west of County Road 92 (slide 26).

Thus, while the portion of the Rookery Bay watershed that would benefit from increased freshwater inflow might have been given as Henderson Creek as a sort of default location in various management plans, more recent work suggests that diversions might be more appropriate into portions of the Rookery Bay watershed located farther east than Henderson Creek. Fortunately, freshwater diversions from the GGC system into that portion of the Rookery Bay watershed near Belle Meade appear to be consistent with prior hydrologic restoration project planning efforts (e.g., Parsons 2006, Atkins 2011).

In the CCWMP, a comparison was made between the hydrological characteristics of pre-development and current (2007) vegetation communities throughout the County (Atkins 2011). This assessment concluded that there were several areas that had untapped potential for additional wet season water storage. The largest opportunity for storage, based strictly on the difference in hydrological characteristics between pre-development and 2007 vegetation, was the central and eastern portion of the Rookery Bay watershed, which includes the south Belle Meade area within the Picayune Strand State Forest (PSSF). In that region, there

were found (at the time) to be over 20,000 acres that had capacity for additional wet season storage, with a range between 0.5 feet up to more than 2.5 feet. **Figure 2-1** below shows the potential for additional wet weather storage in select Collier County watersheds based on the comparison of the historical (Deuver) and 2007 (SFWMD) vegetation maps.

A diversion of water from the GGC system into the Belle Meade region could thus be done without overwhelming the existing wetland systems in the Rookery Bay watershed, as long as the additional water would not exceed the tolerances in terms of water depths and hydroperiods for those currently impacted wetlands. A diversion of freshwater from the GGC system into the wetlands of the Rookery Bay watershed thus could have several advantages over previously discussed diversions into Henderson Creek: 1) diversions into Henderson Creek would not benefit the impacted wetlands of the Rookery Bay watershed, while a diversion into the Belle Meade region could benefit those wetlands, 2) diversions into Henderson Creek may not have the same amount of freshwater inflow loss as a diversion into the impacted wetlands of Belle Meade, and as such might not allow for as much diversion from the Naples Bay watershed without adversely impacting Rookery Bay, and 3) diversions into Henderson Creek would not allow for as much nutrient assimilation prior to entering Rookery Bay, as opposed to discharges into the types of wetland systems found in South Florida (i.e., Rudnick et al. 1999). Furthermore, a Henderson Creek diversion would not allow for additional water quality enhancements or the re-hydration of wetland areas within south Belle Meade.

2.5. Conclusion

While there is broad scientific consensus that Naples Bay is adversely impacted by too much freshwater inflow, and that the Rookery Bay estuary is adversely impacted by too little freshwater inflow, the location of any proposed freshwater diversion has not received as much attention. Existing management plans may have used the location of Henderson Creek as a default location for waters diverted out of the GGC system. However, more recent modeling work has suggested that areas farther east would benefit the most from flow diversions. As such, current information suggests that the a diversion of freshwater inflows out of the Naples Bay watershed from the GGC and into the Rookery Bay watershed would be most advantageous if such a diversion would take place in the Belle Meade region of the PSSF, rather than via Henderson Creek. Hydrologic restoration projects focusing on diversions in the Belle Meade region are included in both the Belle Meade Area Stormwater Management Master Plan (Parsons 2006) and the Collier County Watershed Management Plan (Atkins 2011). Such actions thus represent both project types and locations that are consistent with both the historical literature and the most recent modeling efforts.

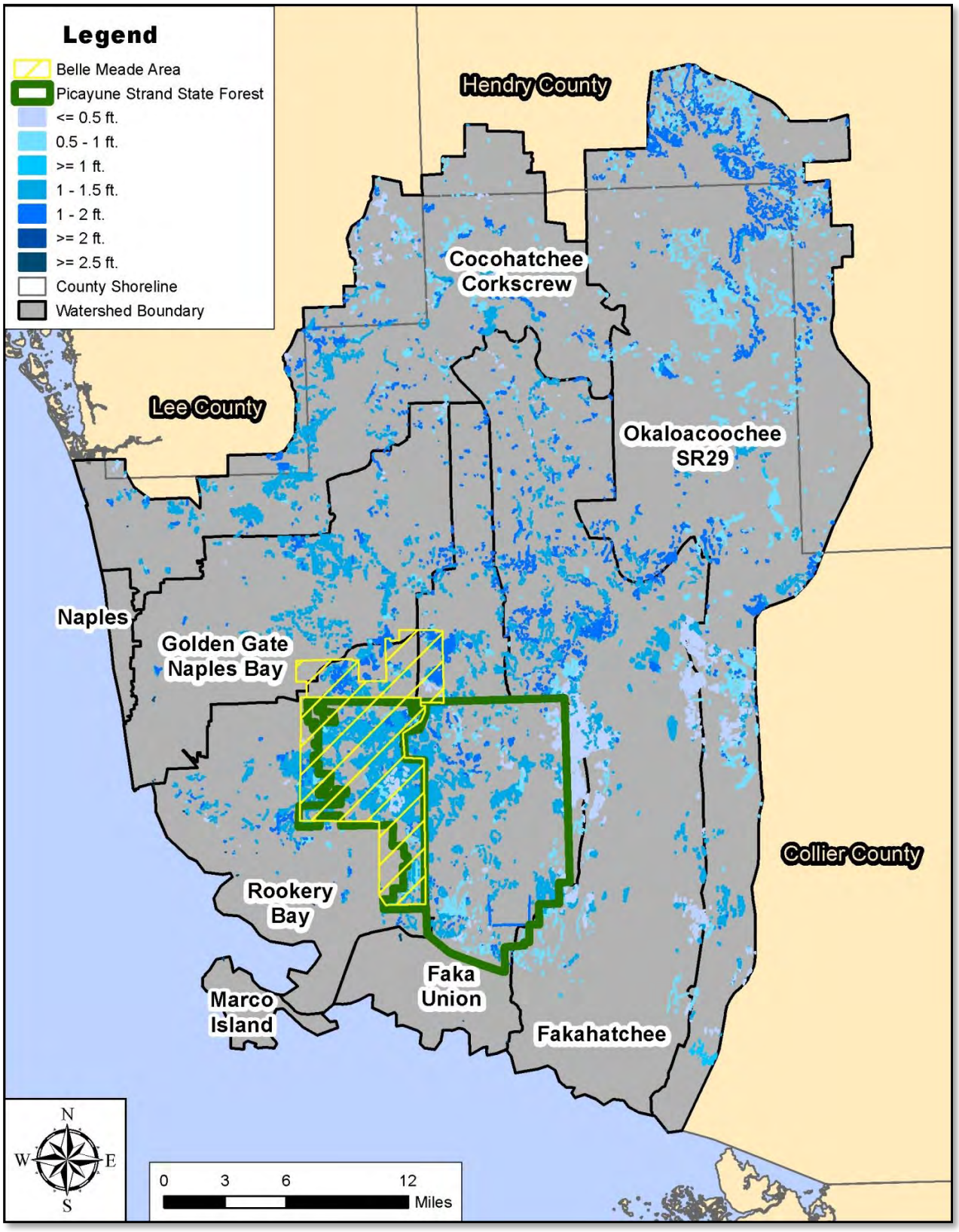

Figure 2-1 Potential for additional wet weather storage in select Collier County watersheds

3. Evaluation of Diverted Flow Capacity

Just as there were some differing views on the location of the freshwater diversion from the GGC, there was also differing views for the magnitude of the potential flow diversion. This section outlines the availability of flows to be diverted from the GGC and the capacity of the downstream (Rookery Bay) watershed and estuary to receive additional flows. Both the CCWMP and the Restoring the Rookery Bay Estuary (Henderson Creek Watershed Engineering Research Project) modeling results were used to evaluate existing flows to estuary systems in comparison to estimates of pre-development flow rates.

3.1. Collier County Watershed Management Plan Model

The CCWMP evaluated the existing conditions in terms of volume and timing of fresh water discharges to the Naples and Rookery Bay estuary systems from the contributing watersheds by comparing them to a baseline, which was represented by the predevelopment condition. The evaluation consisted of comparing the results of a MIKE SHE/MIKE11 Existing Conditions Model (ECM) to those of a MIKE SHE/MIKE11 Natural Systems Model (NSM) to define the monthly water surplus or deficit in each estuary. The ECM was a model updated specifically for the CCWMP, whereas the NSM, or pre-development model, was developed as part of the USACE Southwest Florida Feasibility Study. A full description of the NSM can be found in the report titled "Final Report, Natural Systems Model (NSM) Scenario Southwest Florida Feasibility Study" (SDI, 2007).

The ECM represents the 2007 land use condition in Collier County and was calibrated against measured flow and stage data in the canal network, as well as measured groundwater head elevation data. The simulation period for this model was January 2002 through October 2007. The primary drainage system and most of the secondary drainage system was explicitly represented in the model. The average monthly flow to each estuary was extracted from the model results for comparison purposes.

The NSM was developed as part of the Unites States Army Corps of Engineers Southwest Florida Feasibility Study by modifying the original SFWMD Big Cypress Basin (BCB) model in terms of land use and conveyance systems to represent pre-development conditions. The NSM simulation period extended from 1976 to 1986. The NSM uses overland flow to predict the movement of water across the ground surface and into the estuaries. The average monthly flow to each estuary was extracted from the model results for comparison purposes.

3.2. Restoring the Rookery Bay Estuary Project Model

As part of the Restoring the Rookery Bay Estuary project, two local scale MIKE SHE/MIKE11 models were developed and are documented in the technical report, Henderson Creek Watershed Engineering Project (Interflow, 2014). The first model was a Local Scale - Existing Conditions Model (Existing LSM) developed from the existing Collier County Existing Conditions Model (CC-ECM). The Existing LSM was developed with a refined model domain covering 167 square miles, at a grid-cell size of 375-ft. Features added to local scale MIKE11 network included the Marco Island Utilities Lakes, Winding Cypress Subdivision, and three branches which were deemed to contribute flows to Henderson Creek. Each of these branches run east/west south of Sabal Palm Road. Another revision to the MIKE11 network, was the removal of the Belle Meade Flow-Way. While the Belle Meade Flow-Way is still represented within the MIKE-11 model, it is now simulated explicitly in the overland flow portion of the MIKE SHE. This model was run for the 2002 – 2012 time period.

The second model, a Local-Scale - Historical Conditions Model (Historical LSM), was also prepared for the Henderson Creek / Rookery Bay watershed study for the purpose of estimating the changes in volumes and timing of freshwater inflows to Rookery Bay that have occurred over the past several decades due to anthropogenic impacts. These changes in flow were estimated by comparing the results of the Existing LSM with the results of the Historical LSM. Development of the Historical LSM utilized components of the Existing LSM model in conjunction with the BCB Natural Systems Model (Regional NSM) provided by the SFWMD (District). The Historical LSM was run using the same rainfall data (2002 – 2012) as the Existing LSM model.

3.3. Modeling Results for Naples Bay

Modeling results for Naples Bay are only available from the CCWMP model as the Restoring the Rookery Bay Estuary model only includes the Rookery Bay watershed. **Figure 3-1** shows a comparison of the average monthly volume of fresh water discharge to the Naples Bay Estuary from the Golden Gate-Naples Bay watershed as predicted by the CCWMP. The results indicate a significant increase in the magnitude of water volume released to the estuary, particularly in the wet season. The results do not indicate a significant change in the timing of discharges. The increased discharges are primarily attributed to construction of the GGC that resulted in an increase of the watershed's drainage area from approximately 10 square miles to approximately 120 square miles. It is apparent from **Figure 3-1** that increases of freshwater flow volumes to Naples Bay are significant. Based on estimates and preliminary assessments from the previous studies (Belle Meade Stormwater Management Mater Plan, CCWMP and others) it was presumed that diversions of 200 cfs (or higher) would be available from the GGC to divert south through the historical flow-way. These presumptions were based strictly on the flow data from the existing conditions and natural systems (historical conditions) model comparisons from these projects. **The diversion flow rates (200 cfs or higher) from these previous studies were never explicitly modeled in scenarios, or coordinated with the SFWMD in terms of groundwater impacts from withdrawing water from the GGC.**

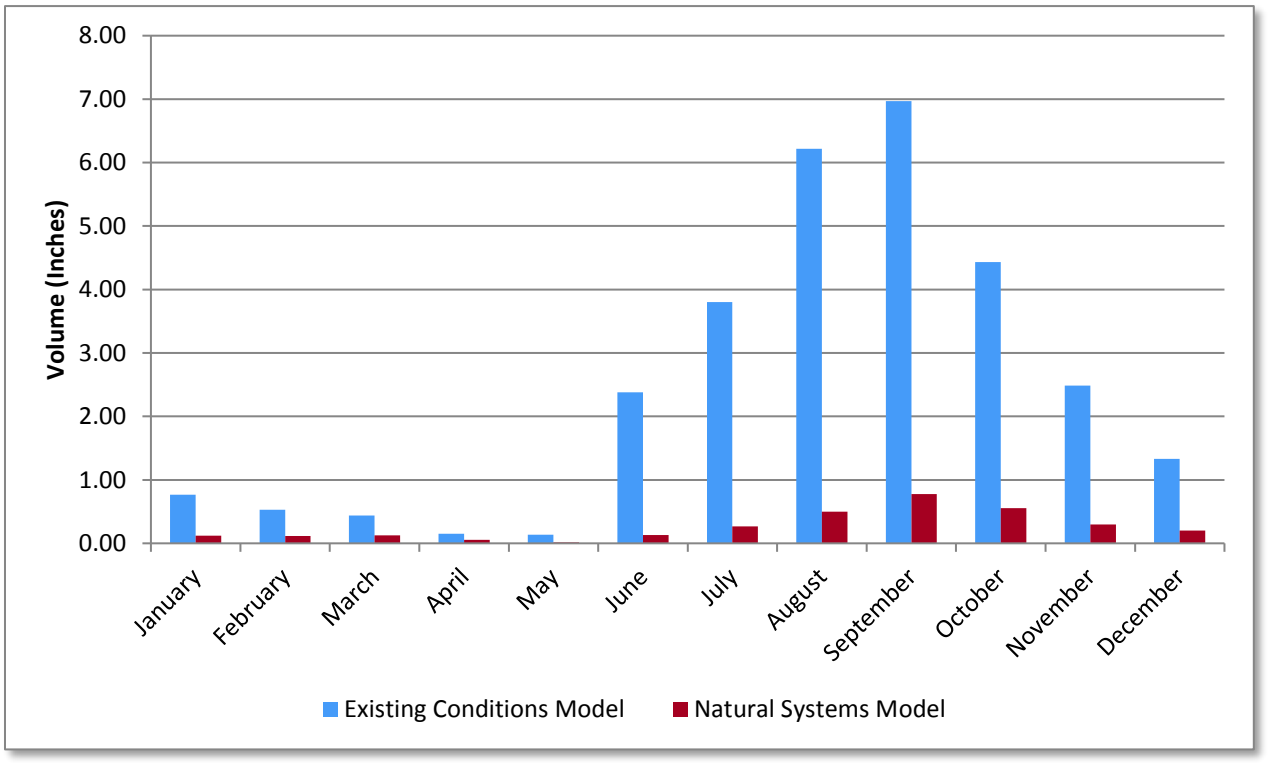

Figure 3-1 Comparison of the NSM vs. ECM Average Monthly Discharge to Naples Bay Estuary

3.4. Modeling Results for Rookery Bay

Modeling results for Rookery Bay were available from both the Restoring the Rookery Bay Estuary model and the CCWMP model. The models gave similar overall results, although the Rookery Bay model completed a more detailed analysis as the results were analyzed by distinct inflow locations to the estuary. **Figure 3-2** shows a comparison of the average monthly volume of fresh water discharge to the Rookery Bay Estuary as predicted by the ECM and NSM models developed for the CCWMP. The results indicate a small increase in the total volume of water released to the estuary, primarily in the early part of the wet season. It is noted that the ECM model tended to over-predict wet season flows at the Henderson Creek monitoring station, so the wet season flows for the ECM may be over-estimated. The CCWMP also completed a salinity-based flow

evaluation of the inflows to Rookery Bay to confirm the seasonal flow patterns shown by the ECM vs. NSM comparison. The results of the salinity based analysis are shown in **Figure 3-3** and confirm the magnitude of the flow volume surplus to Naples Bay, but actually predict a wet season flow deficit in Rookery Bay, opposing the model results.

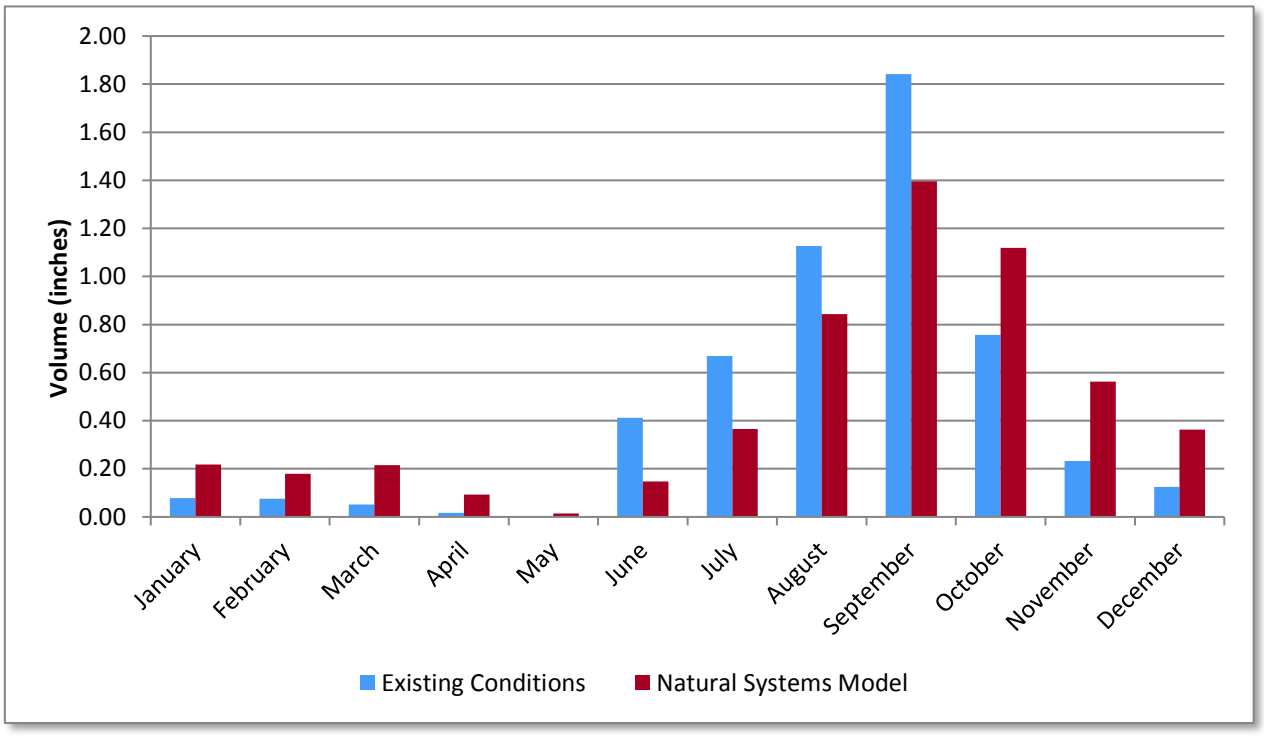

Figure 3-2 Comparison of the NSM vs. ECM Average Monthly Discharge to Rookery Bay Estuary

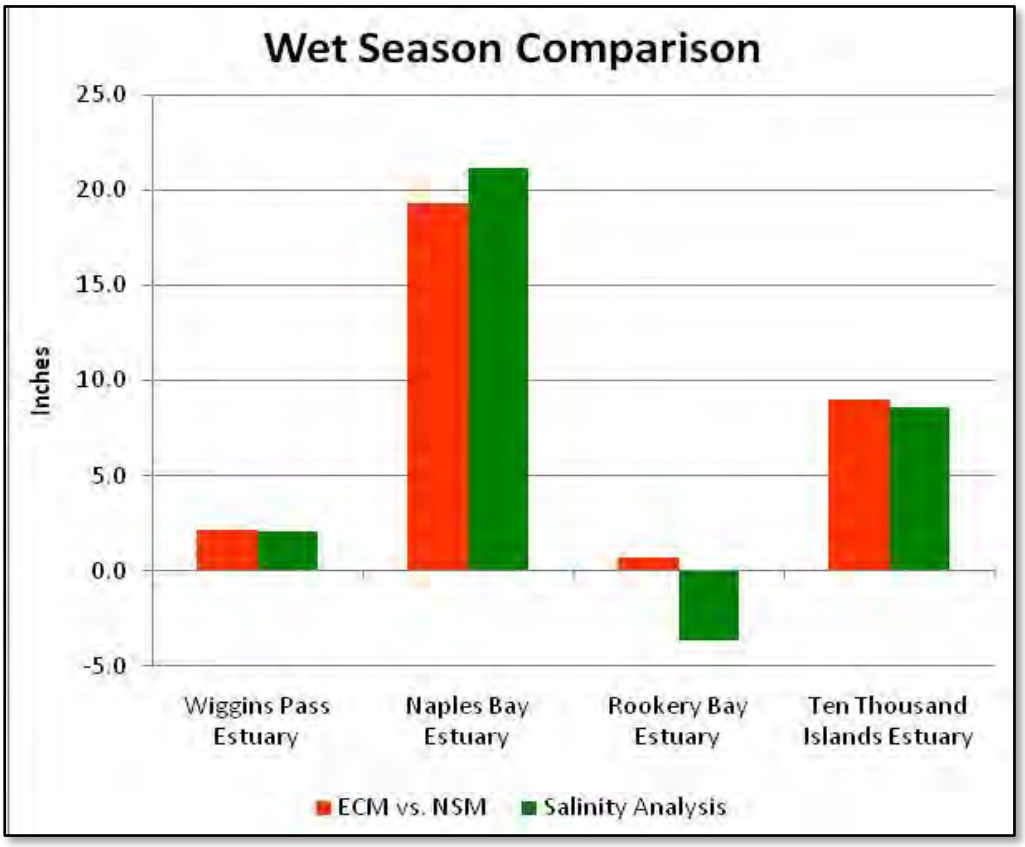

Figure 3-3 Comparison of the Modeling Results to Salinity-Based Analysis Results for Rookery Bay Estuary

The Restoring the Rookery Bay Estuary model included a more detailed analysis of flow to Rookery Bay from each of six sub-basins in the watershed. The analysis included comparisons of surface water flows to Rookery Bay and the surrounding estuarine waters for specific locations within the estuary. **Table 3-1** below shows a summary of the difference in flows calculated by subtracting the Historical LSM results from the Existing LSM results. **Figure 3-4** shows the locations of the MIKE-11 model inflow points as well as the alignment of their corresponding coastal transects (summarized in the table below) based upon upstream contributing basins (Lely Main, Lely Manor, Henderson Creek, BelleMeade-9, US-41 Outfall Swale No-2, and Bridge 37). A negative value indicates that natural system flows exceed existing condition flows.

Table 3-1 Comparison of Wet Season Model Predicted Flows

Transect	Flow Difference (cfs) (Calculated as Existing LSM – Historical LSM)			
	July	August	September	October
Lely Main	5	3	3	8
Lely Manor	3	0	0.25	4
Henderson Creek	-10	12	25	20
Belle Meade-9	-8	-10	-23	-4
US 41 Outfall Swale No-2	0	4	-1.5	2
Bridge 37	-8	-11	-25	-10
Totals	**-3**	**-2**	**-21.25**	**20**

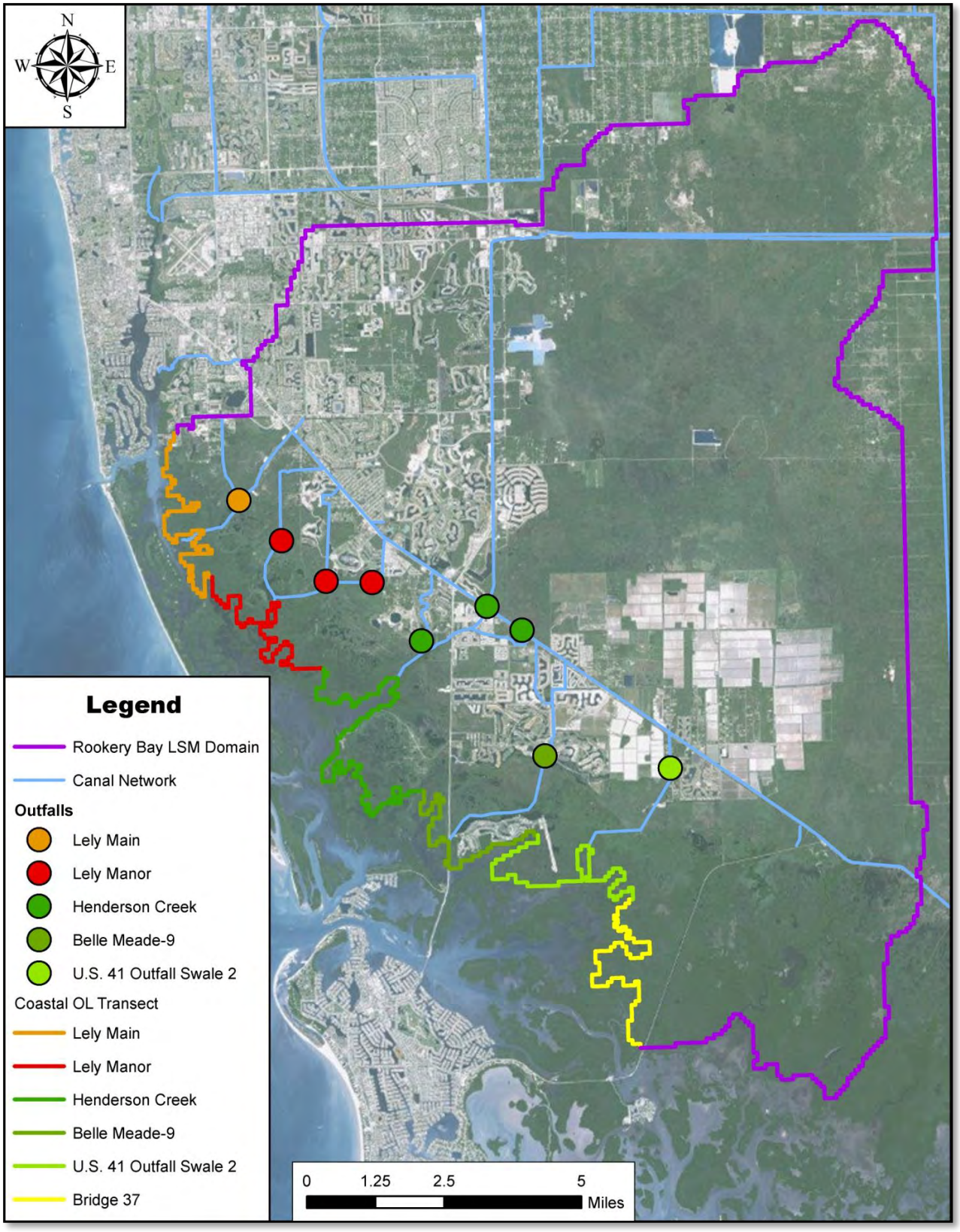

Figure 3-4 Transect Locations for Inflow Comparisons to Rookery Bay

As **Table 3-1** indicates, the modeling analysis shows an overall flow deficit under existing conditions, which also agrees with the salinity flow analysis from the CCWMP. It also shows that specific locations have flow deficits while others have a flow surplus, particularly the Belle Meade 9 and Bridge 37 locations which show a combined 50 cfs flow deficit. **It should be noted that this analysis also shows a flow surplus at Henderson Creek, further indicating that Henderson Creek is not the optimal discharge location for a freshwater diversion project.**

3.5. Preliminary Flow Diversion Modeling and Flow Availability

Considering the results of the previous studies, in terms of Rookery Bay's capacity to receive additional flows from a flow diversion project, it was appropriate to simulate the downstream effects of pumping water from the GGC, through the Belle Meade area within the PSSF, and down to Rookery Bay. The MIKE SHE/MIKE 11 model from the CCWMP was used simulate various pumping scenarios with the focus being on the availability of Rookery Bay to receive additional flows. Because it is recognized that not all of the diverted flows will make it to Rookery Bay due to the hydrologic losses of storage, infiltration and evapotranspiration, the MIKE SHE/MIKE 11 model is the best way to make reasonable estimates of the portion of the diverted flows that are likely to discharge to Rookery Bay and where in Rookery Bay they would go to. Model simulations of 100 cfs and 200 cfs were simulated to obtain some preliminary results. Model results indicated that, in general, about 50 cfs of diverted flows would go to losses. For the 100 cfs pumping scenario, that meant that roughly 50 cfs would make it to Rookery Bay, corresponding to the flow deficit identified in the Restoring the Rookery Bay Estuary project. These preliminary results indicated that a flow rate of 100 cfs was a feasible diversion rate.

To continue the due diligence on selecting the most appropriate flow rate, a flow availability analysis was completed for the GGC in terms of diverting freshwater flows during the wet season. This analysis and results were completed in coordination with the SFWMD to assure flow diversion would not affect groundwater stages for local water use. The results of the analysis determined, at least at this time, that flows could only be diverted when the GGC GG-3 weir structure is lowered to elevation 6.5-feet NAVD88. Based on this elevation and the available data from the structure gage (from 2009-2014), water could be diverted, on average, 40 days per year at 100 cfs. This diversion protocol is considered conservative and appropriate at this time considering the project is still in the preliminary phase.

3.6. Conclusion

This chapter focused on defining the appropriate diversion flow rate for the project based on the limiting constraint of the system. This constraint is the receiving water body, the Rookery Bay. Previous studies considered various pumping rates to divert water from the GGC in order to reduce flows to Naples Bay. Although these studies indicated that larger pumps would provide a greater impact to Naples Bay, they would likely provide too much water to the wetland systems and Rookery Bay. **Review of the data indicate that a 100 cfs pump station used to divert water from the GGC will provide a benefit to Naples Bay, while hydrating wetlands in the PSSF and providing an appropriate volume of water to Rookery Bay.**

4. Project Goals and Approach to Project Design

Based on the findings from the previous studies, the overwhelming consensus is that Naples Bay is adversely impacted by too much freshwater inflow and that Rookery Bay is adversely impacted by too little freshwater inflow. As such, a project (or set of projects) that would divert flow from the GGC (Naples Bay watershed) to Rookery Bay would serve to enhance both estuaries. A regional project (or set of projects) of this magnitude would certainly have a high potential for overarching impact to Collier County. For this reason, the set of projects developed in this report focuses specifically on those projects. In previous studies, various diversion volumes and flow-way configurations through the Belle Meade area have been investigated. This section briefly describes the previous study efforts and an overview of the recommended set of projects based on the previous work, new information and the evaluation of the most recent data and information.

4.1. Use of Existing Studies

As discussed in **Chapter 1**, this area of Collier County has had many studies completed that have identified ecologic and hydrologic restoration projects, specifically, that include flow diversions through the north and south Belle Meade areas. Because so much time and effort have already been spent on studying this area, the goal of this report is to build upon that which has already been accomplished and not “reinvent the wheel”.

In all of the previous studies (listed in **Chapter 1**), identified projects were very conceptual and all analysis were very preliminary in nature. Further evaluation was still needed to determine the optimal set of projects that would maximize project benefits while considering the system’s hydrological and ecological constraints. That being said, these projects provided a great “starting point” and are the basis for the proposed set of projects discussed in detail in **Chapter 6** of this report.

4.2. Changes that Affect Previous Concepts

Since the completion of the above-mentioned studies, not a lot has changed in terms of land use (development). While development has not significantly changed, more data and information has been acquired in terms of the availability and use of lands, as well as hydrological and ecological constraints of the system. The subsections below describe each of the major changes that have occurred relative to previous project assumptions.

4.2.1. Use of the North Belle Meade Area for Flow-way Conveyance

In previous studies (particularly the CCWMP and the Belle Meade Area Stormwater Management Master Plan), it was presumed that a significant portion of the north Belle Meade area, which are natural wetland areas and are predominantly sending lands in the County’s Transferrable Development Rights (TDR) program (see **Section 5.4** for more discussion on sending lands and the TDR program), could be used to convey flows south via a spreader swale system. After some further investigation by Collier County, it appears that these lands will likely not be available within the immediate project timeframe, although they may become available in the future. This project concept assumes the lands are not available, but the possibility of adding a north Belle Meade spreader system as a future phase is discussed later in the report **(Chapter 8).**

4.2.2. Limitation of Rookery Bay to Accommodate Excess Flows

In the previous reports, pumping diversions at flow rates of 400 cfs up to 800 cfs were evaluated (Northern Golden Gate Estates Flow-way Restoration Project). In some of these evaluations, the downstream impacts of conveying that much flow were not fully investigated. The most recent research into the overall system indicates that flow rates of 400 – 800 cfs would likely be problematic to the ecology of not only the south Belle Meade area, but also Rookery Bay itself. Further research and analysis concluded that diverting that much water into the south Belle Meade area and ultimately Rookery Bay could have negative effects to habitat and water quality in the receiving estuary. As concluded in **Chapter 3**, analysis of flow receiving areas (PSSF) and

estuary systems (Rookery Bay), and preliminary modeling results indicate a pumping rate of 100 cfs is more practical.

4.2.3. APAC mining pits

In previous reports, the use of the existing APAC mining pit located just south of the GGC in north Belle Meade could be used as a location for the pump withdrawals to divert water. Additionally, the area to the south of the mining pit was to be used as part of the location for the north Belle Meade spreader swale. Based on the most recent information acquired by Collier County, APAC plans to expand the mining operations to the south and does not desire to have their property used as part of this project.

4.3. Conceptual Design Approach

In the studies previously mentioned, project concepts were identified that have become the basis for the conceptual project design described herein. The goal of this report was to take the concepts from the previous efforts, re-eveluate and re-configure them, and turn them into a series of implementable and constrcutable projects that provide a significant benefit to Naples Bay, PSSF and Rookery Bay while also holistically improving hydrology and ecology throughout the Collier County region. The goal of the conceptual designs in this report is to provide a thorough and comprehensive evaluation of each project component, and sketch out project concepts that are conservative, realistic, feasible and can become the foundation for full project designs in the future. Designs are completed such that cost estimates are practical for establishing preliminary project budgets to secure future project funding.

Conceptual design project elements were developed using best available information. This includes the Collier County digital elevation model (DEM) for ground elevation references. No survey was accomplished as part of the project development. Generally available soil survey information was used to estimate soil infiltration characteristics and depths to water tables. Existing groundwater well information was also used to estimate groundwater information. No geotechnical work was performed during his project. Property data was obtained from Collier County's latest GIS property boundary information. Predicted surface water elevations and flows through the region for pumping scenarios were based on the latest MIKE SHE/MIKE-11 model. This model is the County-accepted model and is the best information for simulating such a complex set of projects. Conceptual design details are presented by project area in **Chapter 6** and Engineer's opinions of probable cost (at a 15% design level) are included in **Chapter 9**.

4.4. Project Overview

Figure 4-1 presents an overall view of the primary set of recommended projects for the CCCWIP. This set of projects has been carefully planned out, considering its effects to not only Naples Bay, but also to receiving wetlands (in the PSSF), major road crossings (in FDOT right-of-ways), agricultural lands and Rookery Bay. These projects have also been developed in concert with the governmental, non-governmental and citizen groups that will be directly impacted by the implementation of this plan, as to be consistent with the GGWIP. A brief description of how the system would work in the five major project areas is descrbed below. The overall project concept is described in more detail in **Chapter 6**.

The projects start in the north where a 100 cfs pump station (North Belle Meade Pump Station) will be constructed on County-owned property along the GGC, appromixately one mile east of Collier Blvd. and upstream of the GG-3 structure. The pump station would start pumping when the gate for the GG-3 structure is lowered to elevation 6.5 ft NAVD88, which roughly corresponds to elevation 8.0 ft NAVD88 in the GGC. The pump station would then pump to a one-mile long channel flow-way (linear pond) controlled by outfall structures. The linear pond flow-way would be designed with wetland plantings to improve water quality and have a multi-use recreational trail amenity. This would convey flow diversions south, under White Lake Blvd to the north I-75 cross canal. Once flows enter the I-75 north canal, flows would be converyed through the existing box culverts under this section of I-75 to the south canal. Operational structures or ditch block would be designed to contain the flows within the west segment of the canals. The I-75 south canal is not contiguous, so portions between the ditch segments would need to be excavated to make the south canal contiguous.

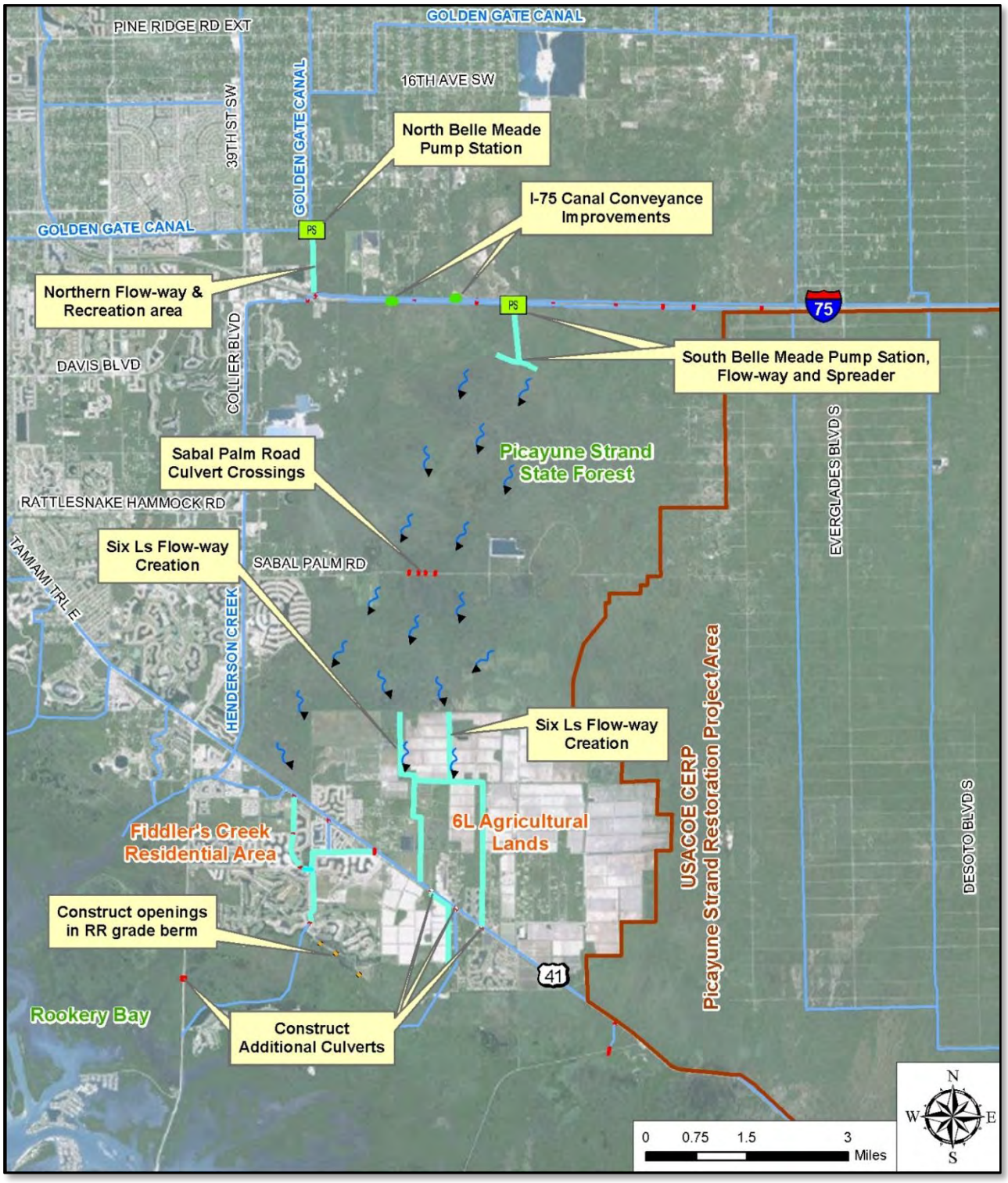

Figure 4-1 Overall Project Concept

A second pump station (South Belle Meade Pump Station) will be constructed on the south side of the I-75 south canal, also with a 100 cfs capacity, and would start pumping when water begins flowing into the north I-75 canal. The pump station would pump into a 4,000 foot (dry) channel flow-way which would convey flows south to a spreader swale that would discharge flows south through the south Belle Meade wetland area flow-way. This flow would continue south to Sabal Palm Road where additional siphon culvert cross drains would be constructed to convey the additional flow.

As diverted flow continues south, it would flow in one of three directions. Some flow will circumnavigate the Six L's agricultural lands to the west, while the remaining flows would flow into one of two control structures, each with a designed flow-way that would take flows through the Six L's lands. All flows would continue to the north US 41 drainage system, where additional culverts would be installed under US 41. From there the flows would continue south through the Fiddler's Creek residential area stormwater system and ultimatelty to Rookery Bay.

5. Critical Issues

As mentioned previously in **Chapter 1**, one of the primary goals of this report was to determine the critical issues associated with implementing the CCCWIP, particularly the issues that could derail the project, and to identify or perform the preliminary analyses needed to resolve these issues. The following sub-sections discuss these issues, the evaluation(s) and analyses performed during this phase, as well as what actions would need to be taken during the next phases of the CCCWIP project development.

5.1. Flow Capacity through the I-75 corridor

The proposed flow diversion from Naples Bay will start with pumping water from the GGC. The proposed pump station at the GGC and the downstream flow-way are proposed on a County-owned property. These elements can be designed to meet the flow rate capacity proposed, so conveying the diverted flows from the GGC south to the I-75 canal system should be without issue. Once the diverted flow discharges to the north I-75 canal from the designed flow-way, it must pass through a Florida Department of Transportation (FDOT)-owned property. **Figure 5-1** shows the general location of the project relative to the I-75 corridor. Because this property is not County-owned (or controlled), measures must be taken to assure the additional flows to the I-75 do not cause adverse impacts.

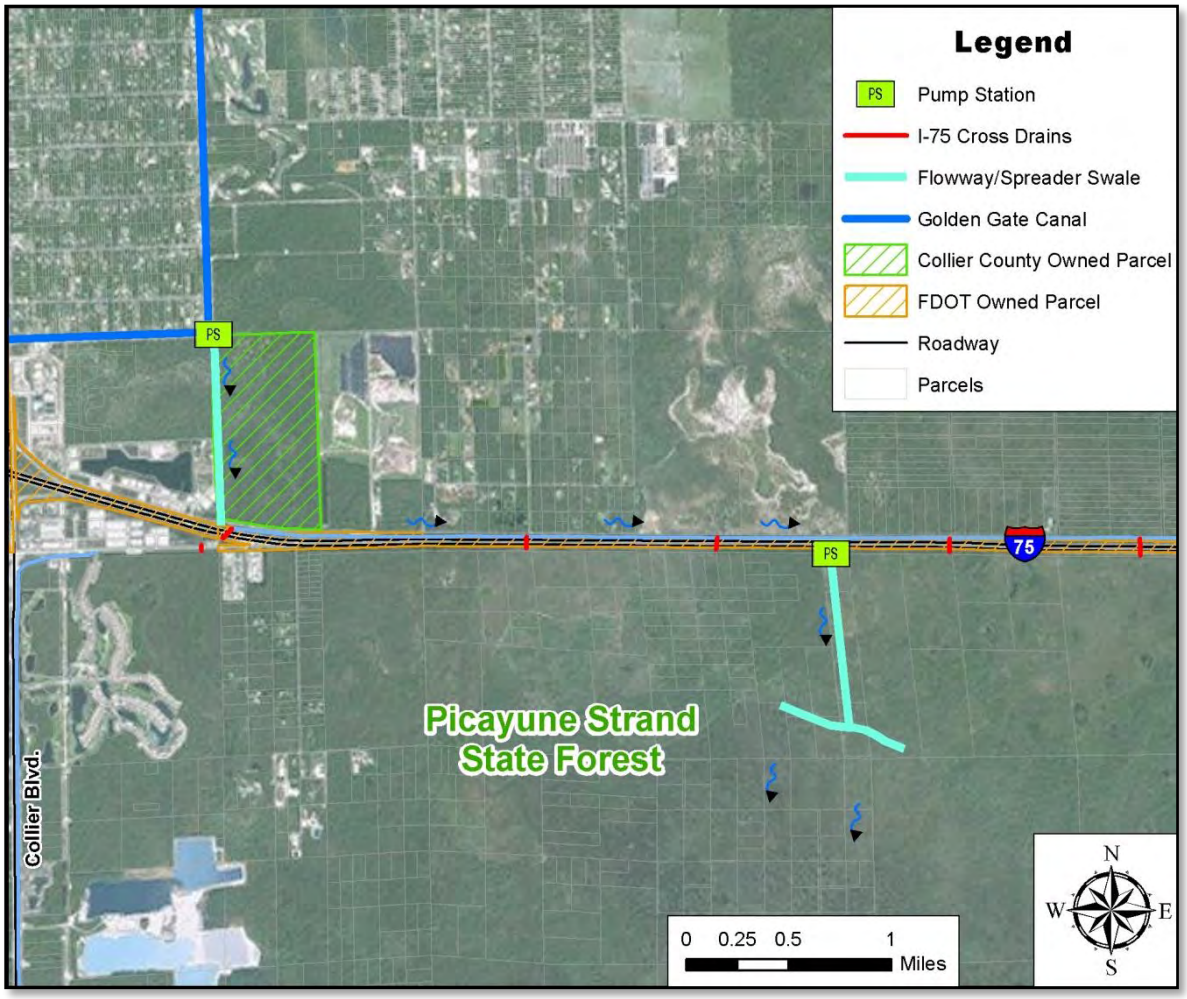

Figure 5-1 I-75 Corridor Area Map

In the CCCWIP conceptual plan, diverted flows would enter the north I-75 canal south of White Lake Blvd, just east of the location where the north I-75 canal crosses under I-75. When diverted flows are discharging to the canal, an operable weir structure would force water to the east and prevent flows from heading south under I-75. East of this location there are four concrete box culverts (CBC) within the project area that connect the north and south canals, equalizing stages within the two canals. The CCCWIP concept proposes to pump flows to the north canal and utilize the existing CBC cross drains to convey flows to the south canal where the second pump station will withdraw flows to continue the diversion to the south through Belle Meade. Preliminary analysis using the CCWMP existing conditions MIKE SHE/MIKE 11 model showed minimal changes in water levels in the two canals under pumping scenarios, indicating that the existing CBCs under I-75 will be sufficient to convey flows during normal flow conditions. Conveyance improvements within the canals themselves would need to be conducted to optimize canal conveyance in terms of clearing vegetation and silt (or ditch blocks).

A phone meeting was held with the FDOT District 1 Drainage Engineer on April 7, 2016 to inform them of this potential project and to start open communications. The FDOT was supportive of the project and indicated they would be cooperative in future phases of the project. The CCCWIP project would need to obtain a FDOT drainage connection permit and demonstrate that the project would not impact any of the FDOT's facilities. It should be noted that a more complete and detailed modeling analysis would need to be conducted in a future project development phase to define operable weir configurations and refine model analysis.

5.2. Picayune Strand State Forest (PSSF)

The PSSF is the fourth largest state forest in Florida and is named after the largest of several cypress strands that once occupied much of the eastern portion of the property. The 78,000-acre forest is comprised of two tracts, the South Golden Gates Estates Tract to the east and the Belle Meade Tract to the west. It is located in southwest Florida in eastern Collier County, approximately 2 miles east of Naples. **Figure 5-2** shows the location of the PSSF. The PSSF is a critical element in the CCCWIP project concept. Because flow diversions would travel through the Belle Meade portion of the PSSF, coordination efforts and preliminary analyses are necessary to determine the effects and benefits of diverting flows through the PSSF.

The forest is currently undergoing hydrologic restoration, similar to the CCCWIP initiative, from the Picayune Strand Restoration Project (PSRP) in the South Golden Gates Estates Tract. The improvements proposed as part of the CCCWIP has many of the same goals and actually compliments the work being accomplished in the PSRP. Not only does the CCCWIP compliment the PSRP, it is also consistent with the PSSF overall management plan. However, the CCCWIP project described in this report is strictly limited to the Belle Meade Tract of the PSSF, and coordination with the PSRP during future project development will be necessary (the PSRP is discussed later in this section). Because the hydrology and ecology of the PSSF in Belle Meade has changed since the construction of the interstate and canal systems in the 1950`s, several critical issues must be addressed. The following sub-sections discuss these issues and the actions taken during this phase to address them.

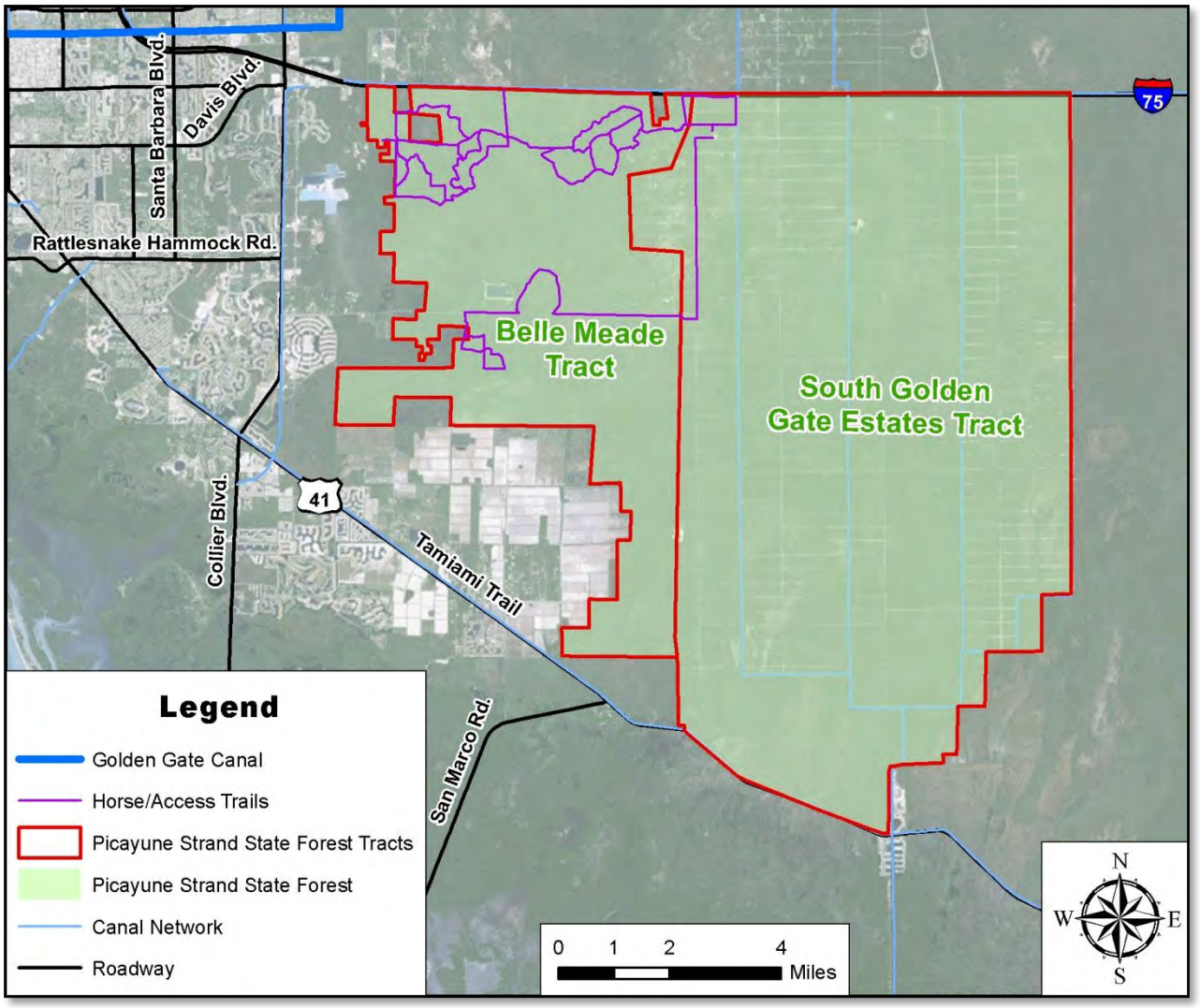

Figure 5-2 Picayune Strand State Forest (PSSF) Area Map

5.2.1. Vegetation Community Changes (2007 vs. Historical)

Because of the regional hydrologic alterations from development, the vegetation communities within the PSSF have changed as well. These changes need to be understood in order to fully optimize project benefits and prevent project impacts. This section provides a comparison of the pre-development (historic) vegetation versus the 2007 vegetation (land use). An area around the South Belle Meade project area within the PSSF was defined for the purpose of this comparison. **Figure 5-3** shows the distribution of land use vegetation for the pre-development and 2007 land cover conditions.

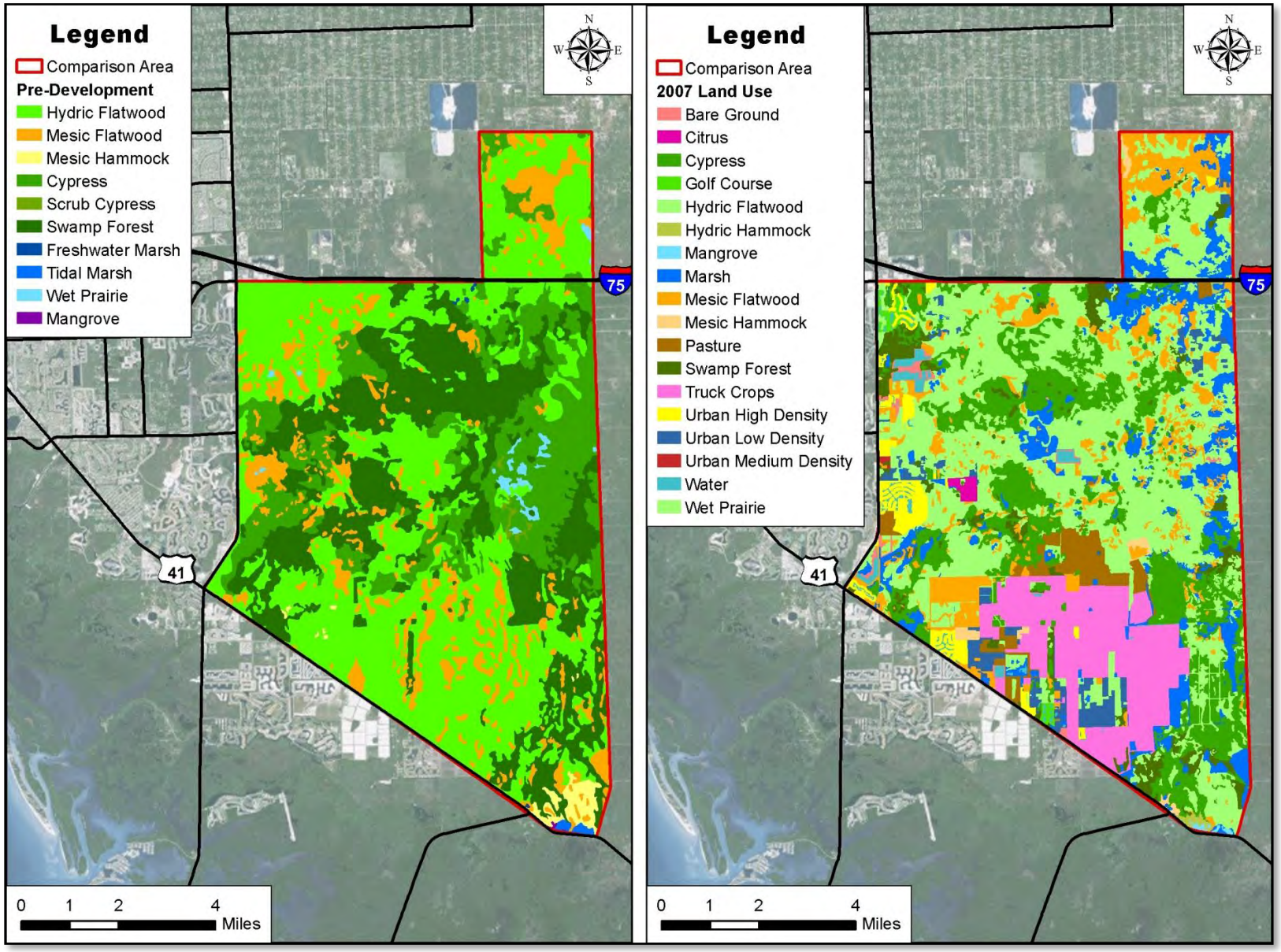

Figure 5-3 Belle Meade Area Historical & 2007 Land Use Comparison

A visual inspection of **Figure 5-3** indicates that large areas of Mesic and Hydric Flatwood have been converted to agriculture and urban land uses. It is also clear the general hydrology of the area has changed. Large areas of pre-development Swamp Forest that would typically have a hydroperiod of 8 – 10 months have changed to Cypress or Hydric Flatwood, which have hydroperiods of 6 - 8 months and 1 – 2 months, respectively (Deuver). **Table 5-1** shows a comparison of land use classification for the pre-development and 2007 periods. The total acreage of urban and agricultural land uses is approximately 10,600 acres which is almost equal to the loss of Swamp Forest lands.

Table 5-1 Comparison of Land Use Types by Acres

Land Use Type	Historical Land Use		2007 Land Use	
	Area (ac.)	**Percent of Area (%)**	**Area (ac.)**	**Percent of Area (%)**
Bare Ground	0	0	254.9	0.5
Citrus	0	0	137.8	0.3
Cypress	8,897.9	17.9	8,939.1	18.0
Golf Course	0	0	194.1	0.4
Hydric Flatwood	21,076.4	42.4	16,654.9	33.4
Mangrove	34.2	0.1	50.7	0.1
Marsh	139.4	0.4	4,871.6	9.8
Mesic Flatwood	6,111.8	12.4	5,339.9	10.7
Pasture	0	0	1,416.5	2.8
Swamp Forest	13,200.5	26.6	2,006.8	4.0
Truck Crops	0	0	5,336.4	10.7
Urban	0	0	2,720.3	5.5
Water	0	0	571.4	1.2
Wet Prairie	347.8	0	1,313.6	2.6
Totals	**49,808**	**100**	**49,808**	**100**

The increase in marsh lands appears to be related to the construction of roads and berms in the area. The construction activities appear to prevent the natural sheet flow that would have occurred in the pre-development condition. The total areas of Cypress, Hydric Flatwood and Mesic Flatwood in 2007 are approximately equal to the pre-development areas; however, the areas have shifted to lands that previously were considered to be Swamp Forest. Generally, it is apparent that the overall land cover within the Belle Meade area has shifted to vegetation types with shorter hydroperiods and shallower water depths. This indicates that increased flows to this area would serve to rehydrate areas similar to pre-development conditions.

5.2.2. Wildlife

The PSSF is home to many species of flora and fauna. Confirmed sightings of wildlife in the forest currently listed as endangered, threatened or of special concern include the eastern indigo snake, Florida black bear, Florida panther, gopher tortoise, Red-cockaded woodpecker, Florida bonneted bat and wood stork. All of these species will need special attention during the development of the CCCWIP project. Because there are known endangered species within the forest, a full Biological Assessment (BA) will have to be performed to conform with Section 7 of the Endangered Species Act (ESA). The purpose of a BA is to describe proposed actions and their effects on ESA-listed species. No BA was completed as part of this project, but preliminary discussions with the Florida Fish and Wildlife Commission (FWC) took place and the project concept was developed using their guidance.

During the project concept development, it was noted that there are large colonies of Red-cockaded woodpeckers (RCWs) within the Belle Meade area. Considering that the scope of this project is to increase flows through to forest, slightly increasing wetland depths and hydroperiods, the RCWs became the species of biggest concern for this project in terms of the location and the amount of flows that could be diverted to the PSSF. RCWs make their nests within the Mesic Flatwood areas of the PSSF and it is critical that the existing trees that have established active nests/colonies are not impacted. For this reason, preliminary modeling efforts were accomplished to determine the effects (changes in water depths and hydroperiods) to wetland areas with the Belle Meade area of the PSSF. **Figure 5-4** shows the locations of the RCW colonies relative to the project rehydration area.

The modeling analysis was accomplished using the MIKE SHE/MIKE 11 model from the Restoring the Rookery Bay Estuary project (discussed in **Chapter 3**). The results of the preliminary modeling analysis concluded that the most significant changes to water depths and hydroperiods in wetlands would be to Cypress and Hydric Flatwoods. In areas of Mesic Flatwood, minimal changes were observed with average water surface depth increases of less than one inch and hydroperiods increases of 5-10 days. These are both very small numbers and would likely not impact Mesic Flatwood areas. Furthermore, all of the active RCW colonies actually lie outside the "project flow-way area" based on the modeled pumping scenarios. Based on this analysis, it appears no RCW habitat would be impacted by the proposed pumping flow rates through the PSSF.

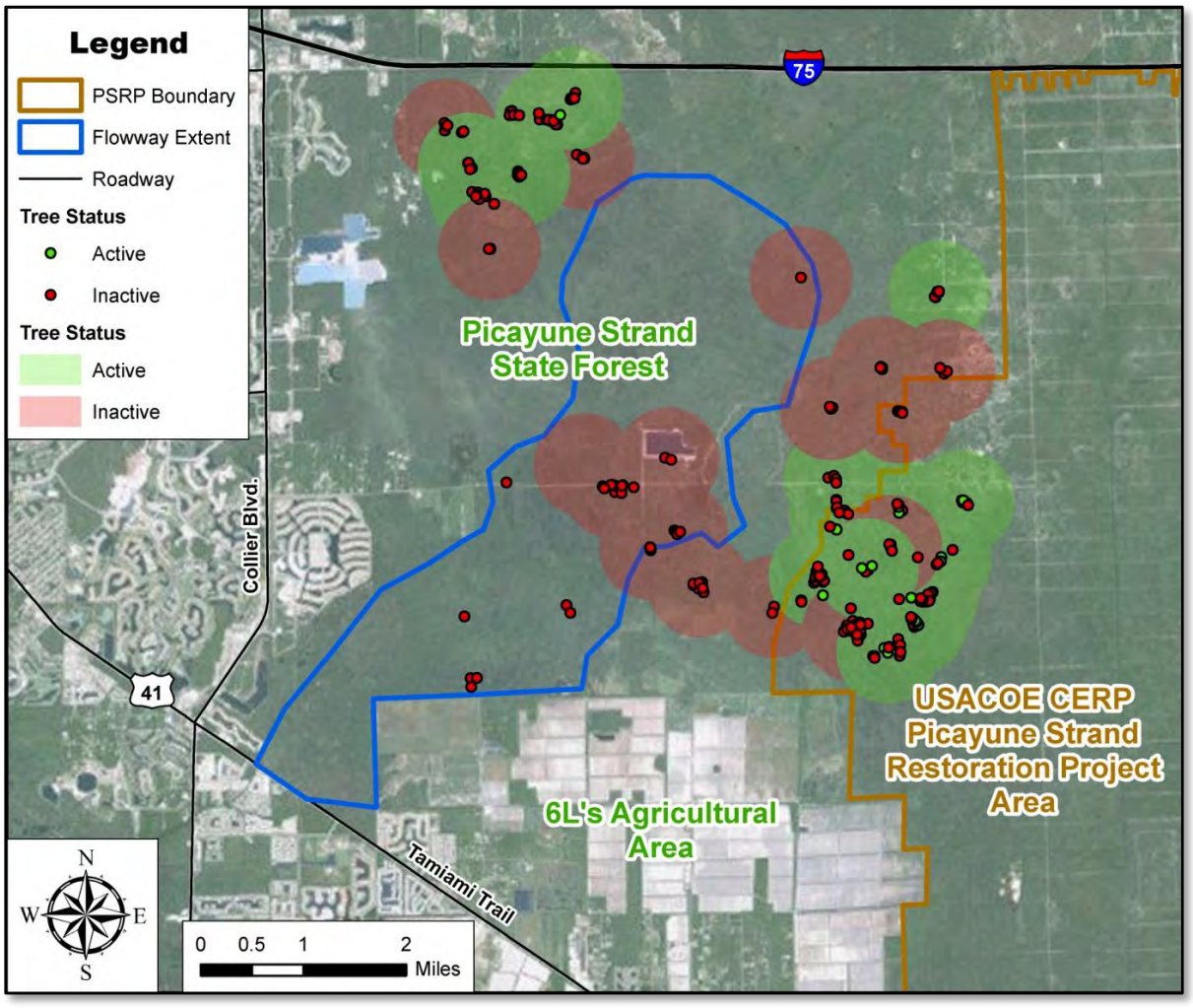

Figure 5-4 Red-cockaded Woodpecker Habitat

5.2.3. PSSF Hiking/Horse Trails

Over 25 miles of trails exist within the Belle Meade tract of the PSSF (see **Figure 5-2**). These trails are used for a variety of recreational activities including hiking and equestrian and are one of the primary reasons that attract the public to the PSSF. The Florida Forest Service (FFS) staff also uses these trails frequently for maintenance access during their daily activities. Several coordination meetings were held with forest staff to garner input on the CCCWIP project concept. One of the concerns that was raised by the staff was maintaining trail connectivity. A portion of the project area involves constructing a large conveyance swale and spreader swale to convey flows from the I-75 canal through some high ground and discharge them to the cypress wetlands to the south. This would be constructed through two of the primary trails. It was agreed that any earthen features constructed through the existing trails would be designed such that they would either be reconstructed at the nearest location or have a crossing installed as part of the design.

5.2.4. Sabal Palm Road

Sabal Palm Rd is primarily a dirt road that essentially bisects the Belle Meade tract of the PSSF. It runs east to west between Collier Blvd (to the west) and Miller Blvd (to the east). The road is paved for the first mile and a half from the Collier Blvd intersection and is dirt from there on. The road serves as the primary entrance to the PSSF and most of the hiking/horse/access trails are connected to Sabal Palm Rd. Although the road can be accessed from both ends, at roughly its half way point the road is usually impassable due to soggy conditions and the road is therefore often closed by forest service staff. Sabal Palm Rd has several siphon culvert cross drains at its low points along the west segment that allow flow to continue south during the wet season when the water table is high. As part of the CCCWIP project concept, additional siphon culverts would be installed adjacent to the recently installed existing culverts to convey the additional flows. During coordination meetings, staff members indicated that it is critical to add these culverts and keep Sabal Palm Rd. drivable as it is often the best or only road to access the forest during the wet season.

5.3. Picayune Strand Restoration Project (PSRP) Coordination

The PSRP was the first Comprehensive Everglades Restoration Project (CERP) to begin construction. The project involves plugging of almost 50 miles of drainage canals, removing 250 miles of roads, and constructing three large-scale pump stations that restore the natural surface flow to 85 sq. miles of natural Florida habitat. The project is led by the US Army Corps of Engineers (USACE) in partnership with the SFWMD. The intent of the project is to restore historic flows to benefit coastal estuaries, recharge the aquifer, and protect water supply. The project is being constructed within the South Golden Gates Estates tract within the PSSF.

Three pump stations will be constructed as part of this project: the Merritt Pump Station, the Faka Union Pump Station and the Miller Pump Station. Currently only the Merritt Pump Station is operational, but all three stations will be online within the next two years. Because the PSRP is directly adjacent to the CCCWIP conceptual project, it is important to coordinate the planning efforts. Meetings have been held with SFWMD staff to begin this process. The input from SFWMD staff indicated that no flows (surface water or groundwater) from the CCCWIP project can impact the PSRP area. Considering this input from the SFWMD, preliminary modeling analyses were conducted to determine what flows, if any, could possibly impact the PSRP.

Again, the MIKE SHE/MIKE 11 model from the Restoring the Rookery Bay Estuary project was used for the modeling analysis. It should be noted that the modeling analysis conducted did not incorporate any information from the PSRP pumping, as no information was available at the time of this report. **Figure 5-5** shows that preliminary model results, without PSRP pumping, do indicate the potential for a small increase of water stages on the fringe of the PSRP boundary. However, these results do not include the effects of the Miller Pump Station which will be online within the next few years and capable of pumping 1,250 cfs. A review of the groundwater data from the Merritt Pump Station (which started full-scale pumping in August 2015) shows that average groundwater elevations increased by than one foot after pumping started. It is anticipated that when the Miller Pump Station begins pumping activities (before the CCCWIP project would be permitted) that similar groundwater increases would be observed and the adjacent groundwater effects

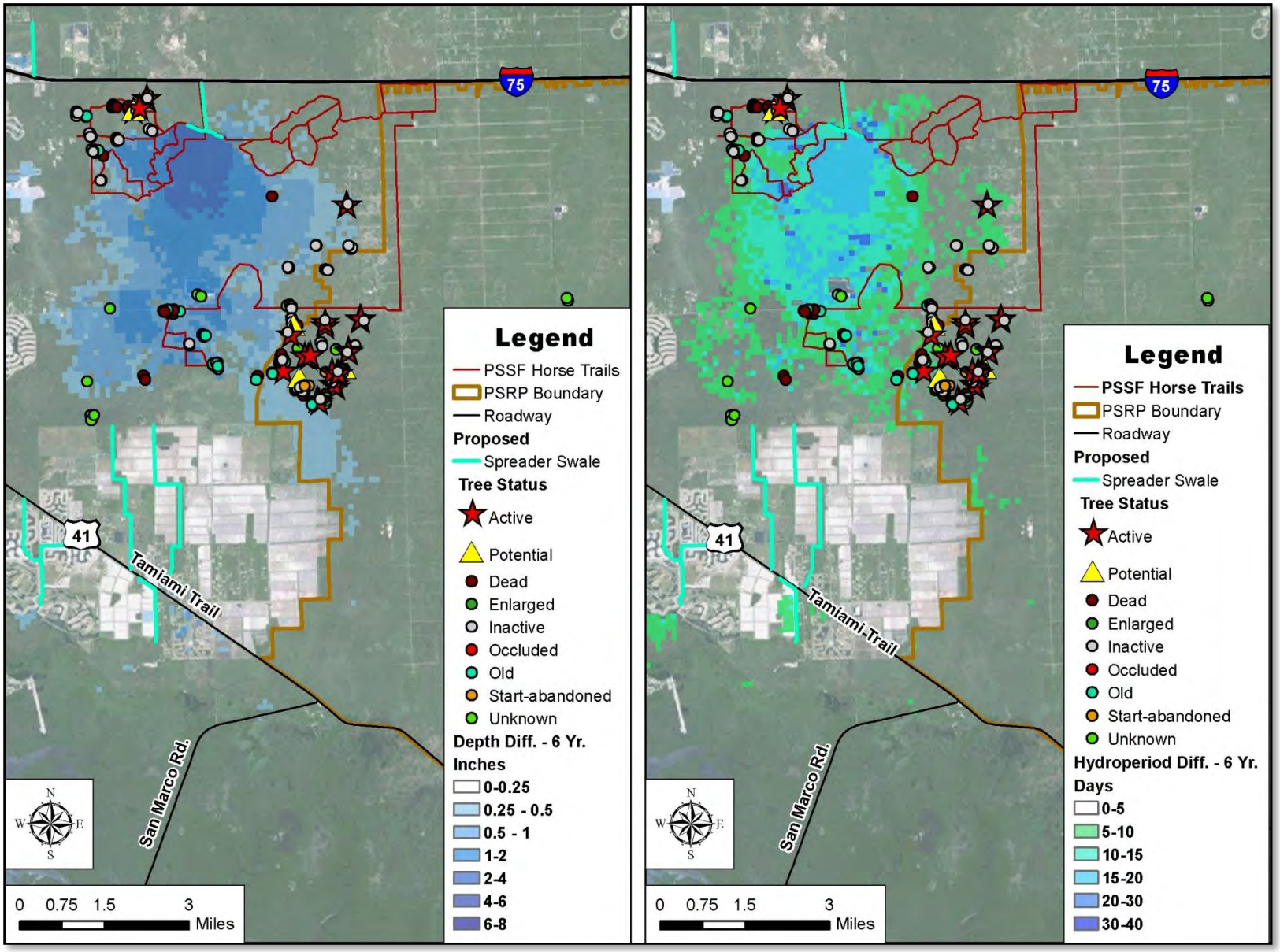

Figure 5-5 Water Depth and Hydroperiod Changes During Model Pumping Scenarios

would prevent water from “leaking” to the PSRP project area, whereby meeting the SFWMD requirements. Currently the PSRP is building a model that will incorporate pumping from all the pump stations. Once that model is available, the data can be used to refine the MIKE SHE/MIKE 11 boundary conditions and re-analyze the results.

5.4. South Belle Meade Property Evaluation

The project area within the PSSF encompasses about 8,000 acres, most of which is publically-owned lands. There are, however, several tracts of privately-owned land. **Figure 5-6** shows the project rehydration area and the privately-owned parcels that are within the project boundary (flow-way extent). Collier County has several options in dealing with these properties. In addition to potentially avoiding the properties by controlling pumping or constructing protection features, the County could bring them into the Transferable Development Rights (TDR) program. Because these private parcels lie within the PSSF, Collier County has designated them as “Sending Lands” and eligible for the TDR program. *By owning Sending Land property, a property owner can retain use of the land for limited permitted and conditional uses as listed in the Collier County Growth Management Plan’s Rural Fringe Mixed Use (RFMU) District Sending Lands, while gaining some monetary benefit from selling off the development rights. Market conditions will determine the price between a willing seller and buyer (Collier County Growth Management Plan)*. Once the property owner sells the development rights, the property enters the TDR program and the property could be used for public purposes. Collier County is currently in the process of assisting these property owners in entering the TDR program which would ultimately benefit the CCCWIP project. Currently there are 61 private parcels within the project area: 16 are already in the TDR program and there are 45 parcels for which the TDRs must be addressed. There is also some new development occurring at this time in the most south-western portion of the project area. Coordination efforts need to be taken in the future to fully determine the effects, if any, of this development on the CCCWIP. It is anticipated that the majority of the flows will discharge through the Six L’s agricultural lands, so the effects will likely be minimal or none.

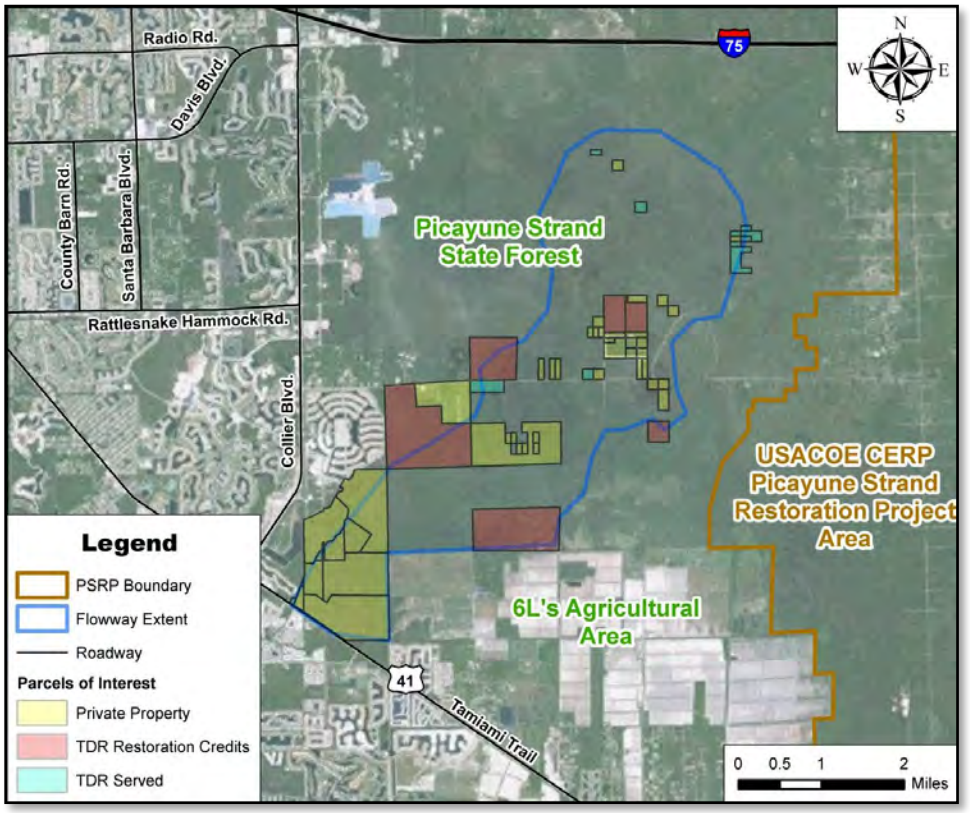

Figure 5-6 Properties of Interest within the Picayune Strand State Forest

5.5. Six L's Area Plan and Future Coordination

The Six L's agricultural lands encompasses almost 10 square miles in southern Collier County. The properties generally lie north of US 41 about five (5) miles south of the Collier Blvd/US 41 intersection, see **Figure 5-7**. The properties have grown tomatoes and vegetables for the Six L's Packing Co. for about 50 years, and are one of the largest tomato producers in the United States. The property lies in a strategic area in terms of surface water flows from the Belle Meade area to Rookery Bay. . This area was identified in the Belle Meade Area Stormwater Management Master Plan (BMSMMP) as an area that contains historical flow-ways for surface water flows from the Belle Meade area to Rookery Bay. The BMSMMP identified these flow-ways using overlay analysis that utilized historical soils data, wetlands inventory and historical aerial imagery dating back to the 1940's. See **Figure 5-7** for the identified flow-ways and alignments from the BMSMMP.

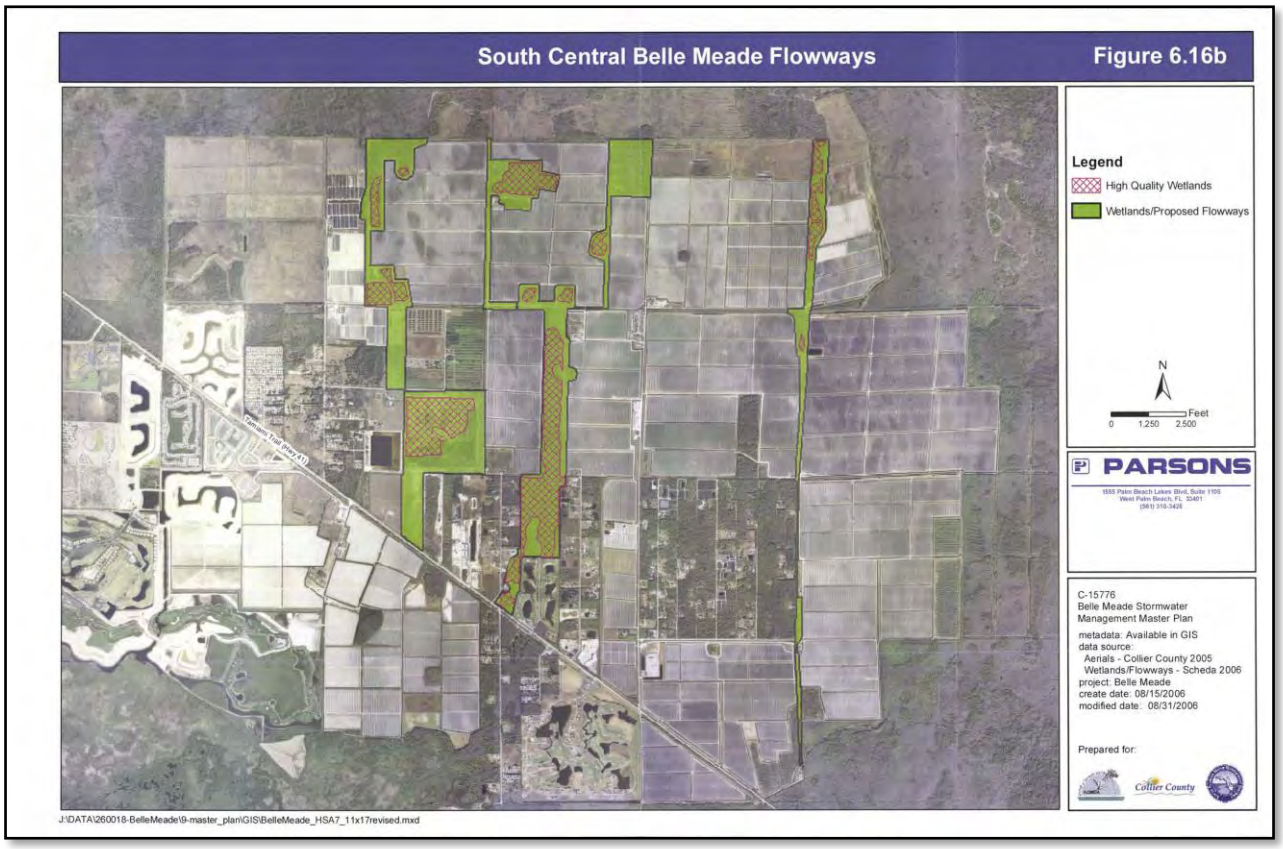

Figure 5-7 Identified Historical Flow-ways from the BMSMMP (Figure from the BMSMMP Report)

Because the Six L's agricultural lands lie in such a strategic location, it is critical to the CCCWIP that, at least, a portion of these historical flow-ways be re-established. The County has already begun preliminary discussions with Six L's representatives. The County's plan is to work together with the Six L's group and develop a plan for this project that would allow the County to obtain the much needed easements within the area over the next ten (10) years, while not interfering with the current operations on the properties, and potentially benefitting the Six L's group if/when the properties transition to development in the future.

5.6. Flow Capacities through US 41 to Rookery Bay

US 41 (Tamiami Trail E) lies south of the Six L's agricultural area and north of Rookery Bay. The state road runs diagonally from northwest to southeast through the overall project flow-way. **Figure 5-8** shows the overall area. The County understands that additional conveyance is needed to convey the diverted flows through US 41. Once diverted flows pass through the Six L's properties area, they must pass under US 41 and through the Fiddler's Creek area. The segment of US 41 between Collier Blvd and Greenway Rd has already been widened from 2 lanes to six lanes by the FDOT as development along this stretch of road has increased dramatically over the last 10 years. The next segment of US 41 to the south is from Greenway Rd to Six L's Farm Rd and is currently in design by the FDOT. The County has already been in contact with the FDOT about adding additional cross drains under US 41 as part of the road widening design for this section, as well as adding additional crossings under the existing Collier Blvd/Greenway Rd segment.

In addition to constructing the additional culverts under US 41 to improve conveyance, it is recognized that the roadside ditch/canal on the north side of US 41 would need conveyance improvements as well. This canal is contiguous, but there are several locations along this 5 mile stretch of canal that have very thick vegetation, and removal of these flow obstructions will likely be necessary. After flows pass under US 41 the majority of the additional flows would traverse through the Fiddler's Creek outfall system, which is considerable in size. Preliminary modeling analysis of pumping scenarios indicate the system would have capacity to pass additional water during normal wet season flows (non-storm events), but a more comprehensive modeling is needed in future phases. Additional flow-way conveyance improvements will likely be needed as well and the County has developed a preliminary plan to incorporate them.

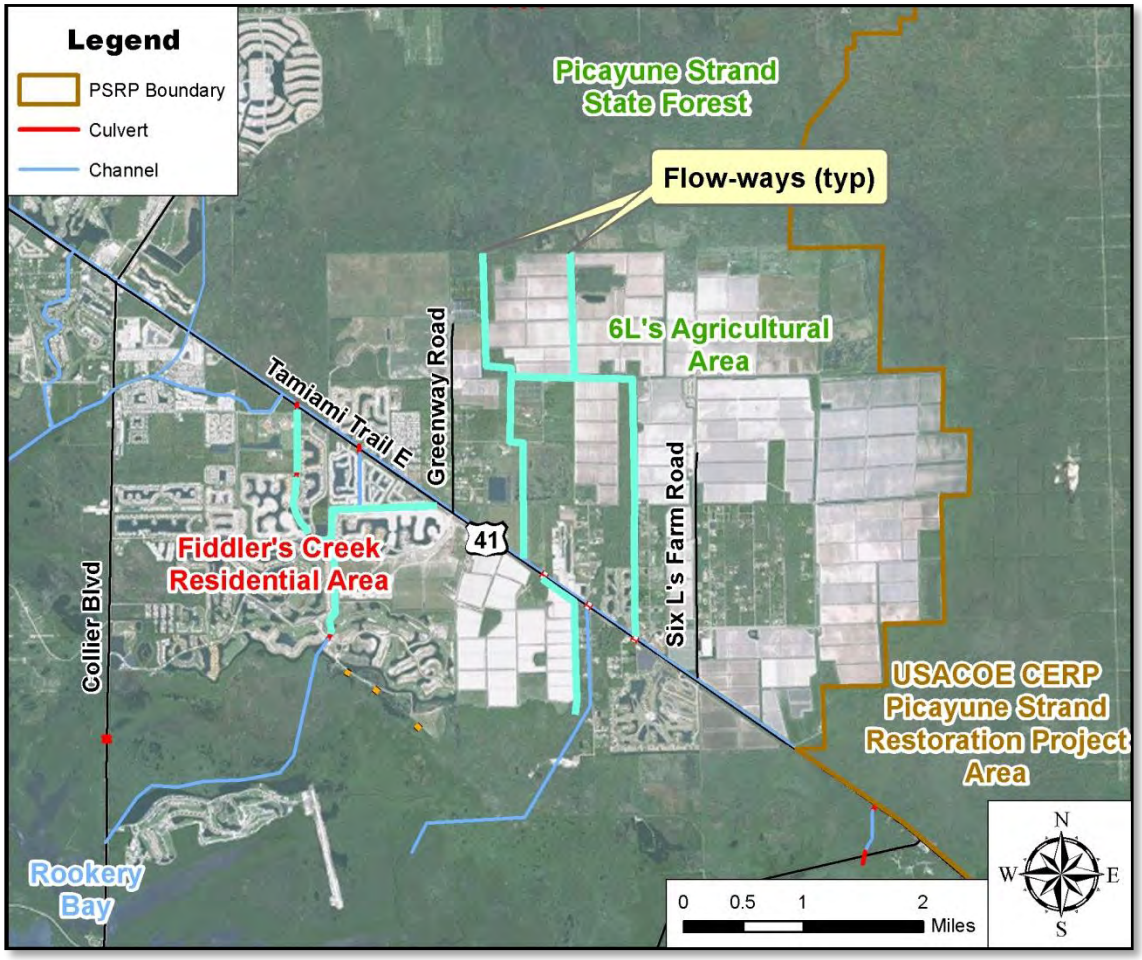

Figure 5-8 Six L's/US 41/Fiddler's Creek Area Map

5.7. Adaptive Management

Additional planning and analysis will be required to accurately manage the flow diversions throughout the project area. Although preliminary analysis has been completed to determine how and where the diverted flows will go, including a modeling analysis using the MIKE SHE/MIKE-11 2D surface water/groundwater model, there is still some some level of uncertainty of where a portion of the water may go. Collier County understands this, and realizes there is more analysis needed, and the County intends on completing more, in-depth analyses in future planning phases prior to project design. At the same time, the County is confident in the preliminary model results and that any future challenges or issues that may arise can be overcome. The series of projects proposed in this report does involve diverting millions of gallons of freshwater flows through more than 15 miles of flow-ways. These flows will traverse through channel flow-ways, existing cross-canals, portions of the PSSF and several other existing water conveyance features. These flows will constantly be interacting with groundwater in the wet season and be subject a significant evepotraspiration during its path. Because of this, the County realizes that, to better operate the system, they must adopt management techniques that allow for a better understanding and adapt the system operations accordingly. For this reason, this project will adopt an adaptive management approach to operating the diversion system.

Adaptive mnagement is essentially a structured and systematic process for continually improving decisions, management policies, and practices by learning from the outcomes of decisions previously taken, and changing operations accordingly. In this manner, the operational protocol for the system will be continuously refined and optimized such that maximum benefit can be obtained while eliminating or minimizing any impacts. **Figure 5-9** shows an illustration of the typical adaptive management process. Monitoring and evaluation are the key steps in the adaptive management process. Once the series of projects have been designed and implemented, monitoring sites will be set up throughout the project area. This effort would encompass not just hydrologic monitoring, but wetland and habitat monitoring as well. The results and careful evaluation of these monitoring efforts will help drive the future operations and management of the system. These monitoring efforts will be defined in the future project development phase and will consider not just system optimization, but also be consistent with permitting requirements.

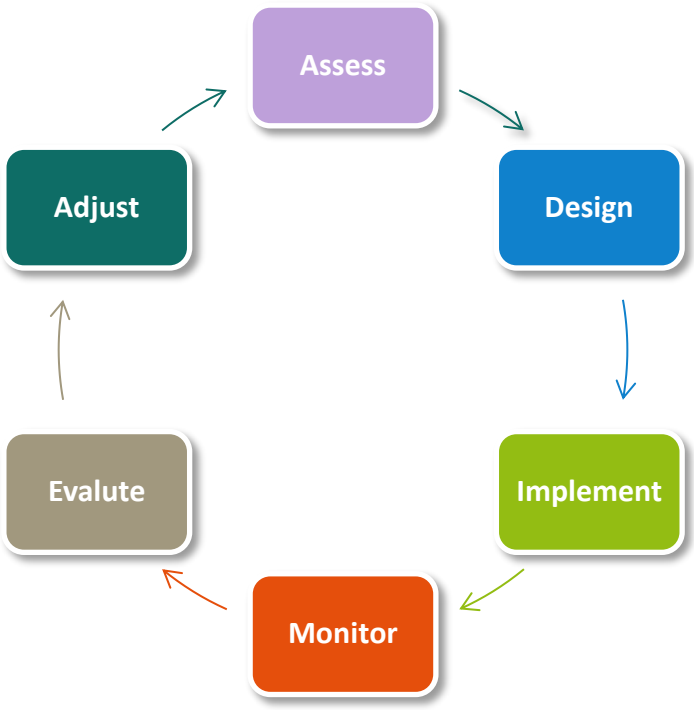

Figure 5-9 Typical Adaptive Management Process

6. Overall Project Scope & Plan

As briefly discussed in **Chapter 4**, this project can be broken down into 5 major areas. A preliminary conceptual design for each project element has been prepared using the best available information. It should be noted that no topographical or geotechnical surveys were conducted as part of the development of these conceptual designs, but best available data (including the latest digital DEM) was used and is adequate to develop realistic and feasible project design concepts. Site-specific ground thruthing and surveys would need to be accomplished during the next project phase. The following subsections present the conceptual designs for each project component and discusses the assumptions and details associated each component. Project components are listed in order from north to south (and upstream to downstream) for reference. See **Figure 4-1** for an overview of all project components.

6.1. Project Area A (North Belle Meade Pump Station and Flow-way Recreational Area)

The first component in Project Area A is a pump station that initiates the flow diversion from the GGC. The pump station, shown in the project conceptual plan set in sheets A-1 – A-3 in **Appendix A**, would be located on the east side of the bend of the GGC located about 5,000 feet east of Collier Blvd and 3,000 feet east of the GG-3 strucure. The pump station would, initially, be equipped with 2 – 50 cfs variable speed electric pumps (100 cfs total) that would pump water from the GGC into a 4,500 foot channel flow-way that would convey flows to the south. Each pump would draw water from the GGC (when stages in the canal allowed, per system pumping protocol) through an intake pipe that would discharge south to a 60-foot armorred section at the north end of the channel flow-way. Pumps would be remotely operated either by telemetry or user operations. The pump station would be accessed by a constructed access road that runs north from White Lake Blvd. and be equipped with fence protection and stabilized areas for parking and station access.

The pump station would also be designed to easily expand to a 200 cfs facility by installing pipe, conduits and pump housing infrastructure during the original construction. As discussed eariler in the report (**Chapter 3**) initial evaluations indicate pumping (diverting) 100 cfs from the GGC south towards Rookery Bay is optimal and conservative based on preliminary analysis. It should be noted that, additoinal flow diversions may be allowable in the future depending on hydrologic system response and results of future monitoring. Designing the pump station for possible future expansion would be financially judicious and additional costs would be relatively minimal compared to the overall cost of the project and much less expensive than expanding the existing facility later without the existing infrastructure.

The second component in Project Area A is a 4,500 foot long channel flow-way that would start just south of the pump station, and continue southward to White Lake Blvd. Both the pump station and the channel flow-way would be constructed in a 230 foot wide section on the western side of the County-owned parcel fronting White Lake Blvd. The channel would convey the diverted flows from the pump station south to the I-75 canal system. The channel would be armorred with fabric formed concrete rip rap on the very north end where the pump outfall pipes discharge to prevent erosion. The channel would be designed as a dry channel with the bottom elevation at approximately ground level (9.5 ft - 12.0’ ft NAVD88). The flow-way would have a 100 foot top width at typical water surface when pumping and a 62 foot bottom width. Typical water surface elevations when pumping would be about elevation 13.5 ft. NAVD88. The channel flow-way would have 6:1 sideslopes and a top-of-bank at elevation of 15.0 ft. NAVD88. The channel flow-way would contain a series of created wetalnd islands planted with Cypress trees and other wetland plantings that can become habitat for local wildlife. **The flow-way design will also function as a linear pond, and combined with the wetland planted islands will provide significant water quality benefits to the diverted flows, with expected nutrient removals of 29 and 62 percent for nitrogen and phosphorus, respectively**. The flow-way parcel would also be designed with a 10 foot wide multi-use path that would circumvent the entire channel flow-way and be a recreational park amentity. Other park features would be added including parking, shelter and additional landscape features. The flow-way channel will discharge through an outfall structure into a small ditch before crossing under White Lake Blvd. and discharing into the north I-75 canal.

6.2. Project Area B (I-75 Canals Improvements)

Once the flows from the North Belle Meade Flow-way discharge under White Lake Blvd., the water will enter the I-75 canal system. This component consists of the imperovements required along the I-75 canal system (see sheet B-1 in **Appendix A**). The segment of I-75 between north and south Belle Meade and west of the Miller canal has two large canals on either side. The north canal is approximatly 80 feet wide and is contiguous through this section of the highway. The south canal is approximately 50 feet wide but is not completely contiguous. Currently there are seven 5-ft x 10-ft concrete box cross culverts that connect these two segments of ditch from north to south. The four western-most culverts will be utilized as part of this project concept. Once the diverted flows enter the north I-75 canal the water would be free to flow west to Henderson Creek or east to the Miller canal. Because additional flows are prohibited from entering the Miller canal (as it discharges to the PSRP area, described in **Section 5.3**) and not desired to pass through Henderson Creek the north I-75 canal with be equipped with operable control structures at both ends of the canal. The west I-75 canal structure will be located just west of the North Belle Meade Flow-way outfall and the east control structure wil be located about 18,000 feet east of the North Belle Meade Flow-way location. The structures would be open during normal conditions, but would close during periods of pumping diversions. The east control structure could possibly be designed as an earthern weir (ditch block) but more pumping scenario modeling would need to be accomplished to determine if this is viable. Approximately 2,000 linear feet of canal would need to be cleared of excessive vegetation/silt at six locations and two canal ditch blocks must be removed to have contiguous canal segments and to optimize flow capacity within both the north and south canals.

6.3. Project Area C (South Belle Meade Pump Station, Flow-way and Spreader)

The next component in the overall project is a second pump station that would continue the flow diversion from the south I-75 canal. This pump station, shown sheets C-1 & C-2 in Appendix A, would be located just south of the I-75 corridor about 2.5 miles east of the intersection of Benfield Rd and Beck Blvd. The exact location of the pump station would be determined in the future, but would be located east of the north/south PSSF trail that dead end's at I-75 .The pump station would also, initially, be equipped with 2 – 50 cfs variable speed electric pumps (100 cfs total) that would pump water from the I-75 south canal into a 4,000 foot dry channel flow-way that would convey flows south to a spreader swale system. Each pump would draw water from the I-75 south canal (when diverted flows from the North Belle Meade system entere the north canal) through an intake pipe that would discharge south. Pumps would be remotely operated either by telemetry or user operations. The pump staion would be accessed either by a constructed, stabilized access road that would run along the south bank of the I-75 south canal starting at Beck Road or from I-75, and be equipped with fence protection and stabilized areas for parking and station access. Similar to the North Belle Meade Pump Station, it would also be designed to easily expand to a 200 cfs facility by installing pipe and pump housing infrastructure during the original construction phase.

A wide and shallow dry channel flow-way would receive flows from the pump station and convey them south to a 1,600 foot spreader swale. The channel flow-way would be armorred with fabric formed concrete rip rap for the first 60 feet to prevent erosion during times of pump discharges.The ditch would be nearly flat with less than a 0.001 ft/ft slope, so flow velocities would be very low. The ditch would be designed as a dry ditch which would minimize excavation but, because it is dry, would need to be maintained several times a year to prevent excessive vegetation from growing and reducing conveyance capacity. The channel would be about 4,000 feet long, have a bottom width of 100 feet (at roughly elevation 10.0 ft NAVD88) and be 3 feet deep with 4:1 sideslopes. The maintence berms would be 15 feet in width on either side for a total corridor width of about 175 feet.

The spreader swale portion of this component would be located at the end of the ditch just north of the subtle drop off in elevation to the south where the large areas of cypress are located. The swale would be approximately 1,600 feet in length and have a 50 foot wide bottom width. The spreader swale would be equipped with six 100-foot spreader concrete weirs at elevation 10.5 ft NAVD88 that would convey flows to the receiving wetlands. The spreader system would also have four 12-inch bleeder pipes that would bleed the system dry during times of no pumping. This would allow the system to dry out for maintenance activities.

The designed ditch and spreader swale system would easily convey the 100 cfs flows diverted from the GGC. As in the North Belle Meade Flow-way, the system would be designed to handle 200 cfs in the event future analysis and evaluations from monitoring determine additional flow diversions could be handled by the downstream receiving waters (south Belle Meade wetlands and Rookery Bay). Again, designing and constructing the system for expanded capacity now would be much more cost efficient than enlarging the system in the future.

6.4. Project Area D (Sabal Palm Road Culvert Crossings)

This component consists of constructing four (4) additional double 48" siphon culvert cross culverts under Sabal Palm Road that would be required to convey the increased flow from the spreader swale system (see sheet D-1 in **Appendix A**). Recently, Collier County construcuted four (4) double 48" siphon culvert cross drains under Sabal Palm Road to help restore flow through this corridor that the existing road had restricted. This component would simply mimic these structures.

6.5. Project Area E (Six L's/U.S. 41 Flow-ways and Conveyance Improvements)

The next series of project components combine to convey diverted flows through the Six L's agricultural area, US 41 and the Fiddler's Creek residential area to convey the flows to their ultimate destination of Rookery Bay (see sheet E-1 in **Appendix A**). This flow-ways concept that would be created through the Six L's agricultural area would be a slightly modified version of the South Central Belle Meade flow-ways concept identified and idealized in the BMSMMP. **Figure 6-1** shows the general flow-ways concept from the BMSMMP as developed in 2006. Several things have changed since the South Central Belle Meade flow-ways as conceptualized in the BMSMMP. The most notable concern that has impacted the CCCWIP updated design concept is the implementation of the PSRP. The PSRP, as permitted, has set strict requirements concerning additional flows entering the project area (refer to **Section 5.3** for more details about the project). Due to the PSRP, the CCCWIP flow-ways concept for this area has eliminated the eastern-most flow-way (D) from the BMSMMP concept. **Figures 5-5 – 5-7**, in the previous section, shows the proximity of this flow-way to the PSRP project area. It is essential that diverted flows avoid the PSRP area, and keeping the flow-way entries into the Six L's properties away from the PSRP helps to prevent CCCWIP flows from entering the PSRP area. Furthermore, the CCCWIP project, as conceptualized herein, is currently estimating 50 cfs of flows to convey, whereas the BMSMMP concept was designed for 200 cfs, so flow-way D conveyance in not necessary.

Sluice gate control structures would be installed at the northernmost end of the Six L's area at the inflow points of the flow-ways to control the flows into the area. The flow-ways, as conceptualized in this report, would utilize (to the extent possible) the existing canals and canal berms that currently exist along the flow-way corridors. The existing berms are typically 20 – 25 feet across and are drivable which would allow access for maintenance and construction activities. The existing berms would require inspection, and geotechnical surveys would need to be conducted to confirm their stability for use. The rim ditches around the farming cells would not be utilized and are assumed to be filled in, if/when those areas are developed in the future. In several cases, there are parallel canals that could be utilized. Multiple large culverts would be installed between them along their parallel path to equalize the flows, utilizing both as one conveyance. Installing culverts (instead of just creating berm openings) would preserve access along the berms. In some cases berms would be degraded to allow flow into adjacent wetlands, and in other cases, berms or levels would need to be constructed (or rehabilitated) to contain and direct the flows to the designed outfall locations. Additional control structure weirs would be installed at specific locations along the flow-ways to maintain groundwater elevations as they southward, and to maintain preserved wetland water surface elevations. Two outfall locations have been identified for conveyance into the large canal on the north side of US 41.

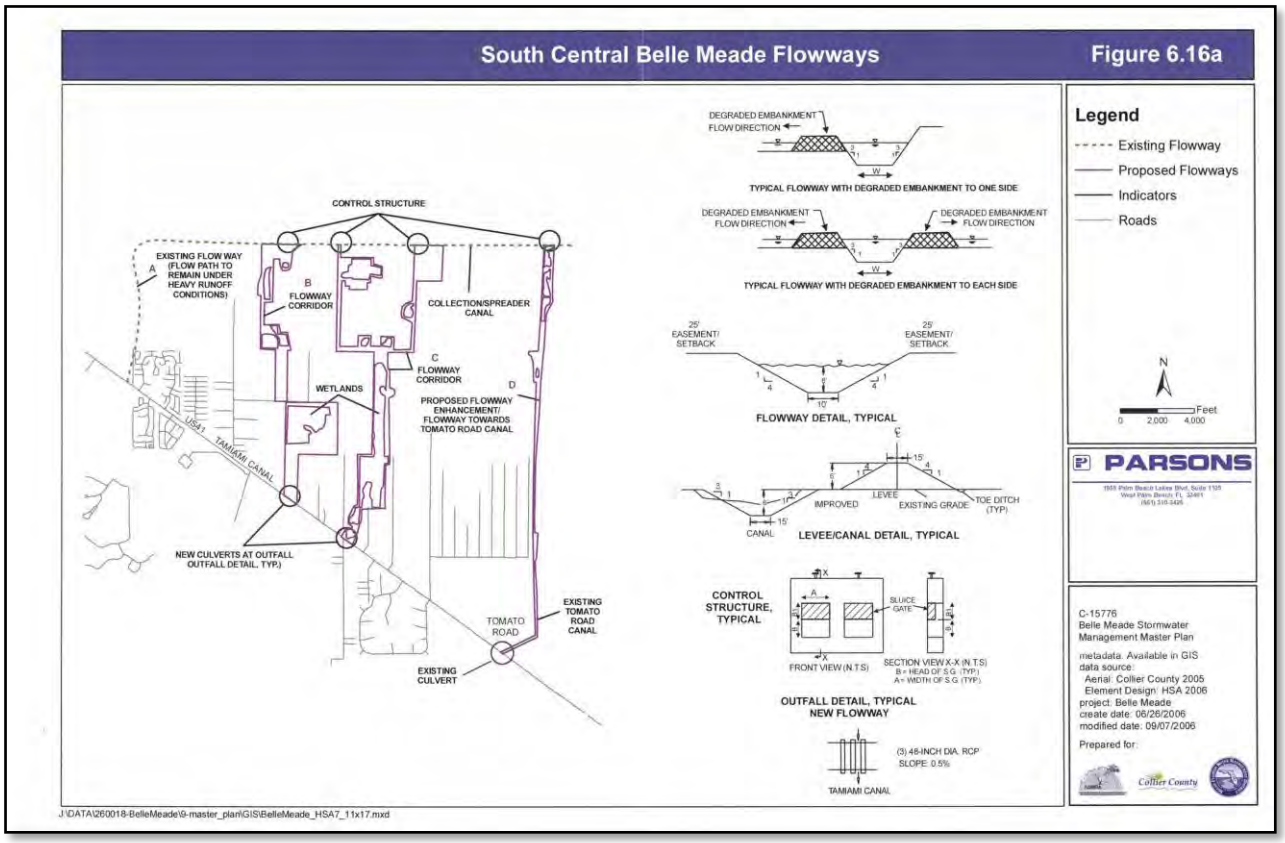

Figure 6-1 Conceptual Six L's Area Flow-ways Design from the BMSMMP (Figure from the BMSMMP Report, Parsons, 2006)

When the diverted flows leave the Six L's area, they will enter the north roadside canal of US 41. This canal extends the length US 41 across the entire project area. The canal is essentially flat and is contiguous allowing flows entering it to make their way to one of the many cross drains along these segment. Although the canal is sizeable, about 30 feet wide, in some cases the canal is fairly shallow and there are several locations along the roadside canal that have excessive vegeation. These locations would need to be cleared to allow flows entering the canal to be evenly distributed along the road and utilize all of the cross drains under US 41. Additional cross drains will be incorporated into the design of the Greenway Rd/Six L's Farm Rd segment and additional culverts will be jack and bored under the Collier Blvd/Greenway Rd segment just west of Greenway Rd.

To assist in enhancing flows discharging to Rookery Bay, a water quality treatment area would constructed on the (triangle-shaped) parcel, located north of US 41 at Manatee Blvd., and just west of Naples Reserve Blvd (see sheet E-1 in **Appendix A**). The parcel is publically-owned and was identified in the CCWMP as a prime location for water quality treatment. For this element, flows would be pumped from the US 41 canal north to north-eastern most corner of the property. These flows would be pumped to a sediment forebay where they would settle and then discharge to the south by shallow sheetflow before discharging back into the US 41 canal and then flowing south to the Fiddler's Creek area outfall systems to Rookery Bay.

Once flows pass under US 41, they will have multiple routes to take to make it to before making it to Rookery Bay. The majority of the flows will pass through the Fiddlers Creek outfall system which currently has two inflow locations (and will have a third added via jack and bore described above). A small amount of flows could also currently make it to the Henderson Creek system to the north or can go south to the agricultural area on the southern side of US 41 and near Auto Ranch Rd. A new flow-way will be added just west of Auto Ranch Rd to convey the flows from the added culverts under US 41 in this area. The existing, and sizable, Fiddler's

Creek conveyance system combined with the new flow-way will have the capacity to convey the additional 50 cfs.

When flows get through the development, a portion of the water must circumvent an old railroad embankment which runs east/west, just south of the Fiddler's Creek area. Several openigs will be created along the railroad grade to allow water to flow more freely and south to Rookery Bay. Conveyance improvements (construction of a new culvert crossing) will also be constructed along Collier Blvd (CR 951) just north of Marco Shores Country Club to permit water to flow freely to the west and allow better assimilation of fresh and saltwaters.

7. Project Benefits

7.1. Naples Bay

As discussed in **Chapters 1 & 2**, the water quality in Naples Bay, specifically in terms of salinity, has been drastically impacted within the last 50 years, particularly from the construction of the canal system. The impacts of not only the magnitude of freshwater surplus, but also the extreme freshwater "shock loads" to the bay during the wet season, have been long documented. The benefit to Naples Bay by diverting flows south during the wet season is not necessarily as large as previously conceived studies believed, but the overall enormity of the project and magnitude of freshwater that can be diverted are still significant enhancements to the Naples Bay estuary. The following subsections describe those benefits and document the methodology used to determine them.

7.1.1. Data Sources Used

The benefits of the proposed hydrologic restoration project are described below in terms of the expectations of benefits in terms of eutrophication and moderation of altered historical salinity regimes. The data set used to calculate these benefits was derived from a combination of sources:

1) flow data from the SFWMD,
2) salinity data from the City of Naples,
3) water quality data from the GGC system, and
4) empirically-derived equations relating salinity at various locations in Naples Bay to freshwater inflows from the GGC Canal system, as contained within the *Naples Bay Water Quality and Biological Analysis Project* (Cardno, 2015).

Hydrologic and water quality data were both downloaded from DBHYDRO, the public website maintained by SFWMD for the dissemination of hydrologic and water quality data. The website may be found at this address: http://my.sfwmd.gov/dbhydroplsql/show_dbkey_info.main_menu.

For the purposes of this effort, flow data were evaluated over the time period of January 1, 2011 to September 9, 2015. Water quality data from the station titled "Golden Gate Canal at White" was used to characterize the nutrient concentrations relevant for project implementation. This location is the most relevant long-term water quality sampling site in the GGC system, based on potential freshwater diversion locations outlined in the BMSMMP and the CCWMP.

Previously derived flow vs. salinity relationships at four long-term water quality sampling location in Naples Bay were used, as shown in Cardno (2015). The equations used varied between locations, but all four equations represent statistically significant relationships between inflows into Naples Bay at the GG1 structure vs. salinity, described below in more detail.

7.1.2. Methodology

Flow data from the GGC at the G1 structure represents the farthest downstream measurement of freshwater inflows into Naples Bay. Farther upstream, gate level data from the structures at GG2 and GG3 were used to determine the dates during which freshwater could be diverted out of the GGC system, and into the Rookery Bay watershed. Both the GG2 and GG3 structures are Obermeyer Weirs (overflow structures) that operate automatically to maintain upstream water levels. Since the gate crest is lowered to increase flow, the data was carefully reviewed to identify a minimum gate level that ensures excess flow over the weir. After consultation with staff at the BCB office of the SFWMD, it was agreed that the 85th percentile gate level value of 6.5 ft. NGVD29 would be used to identify days when excess flow was available upstream of the GG3 structure. If the measured gate level was greater than 6.5 ft. NGVD29, then the diversion pump could not be operated. **Figure 7-1** shows the locations of the GGC structures relative to Naples Bay and the local watersheds.

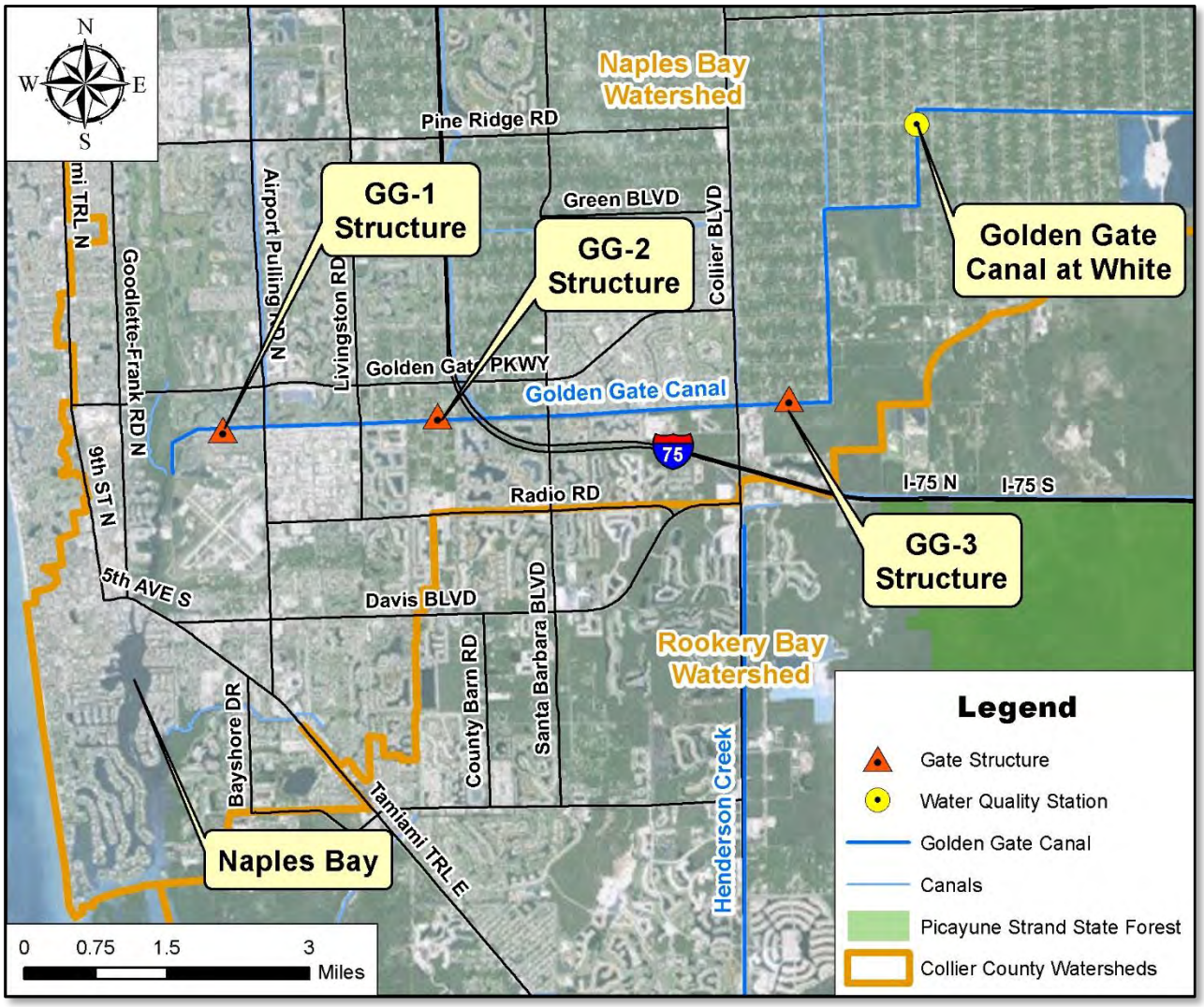

Figure 7-1 Golden Gate Canal Structures and Gages

According to the latest modeling efforts for the Rookery Bay watershed (Whalen-Statler, updated Rookery Bay presentation), the coastal waters of Rookery Bay have a freshwater inflow deficit of approximately 50 cfs when comparing historical to existing conditions. Based on model runs using an integrated surface water/groundwater model (MIKE SHE/MIKE 11) that was recently calibrated for the BCB, it was estimated that approximately 50 percent of wet weather flows added to the upper reaches of the Rookery Bay watershed would eventually reach the coast. The remaining 50 percent of additional wet weather flows would not make it to the tidal waters of Rookery Bay, as they would end up being "lost" to the atmosphere via evapotranspiration, or they would end up restoring some of the lost historical wet weather storage capacity in this altered landscape. Consequently, on those days where water could be available for diversions out of the GGC (without interfering with consumptive water use via private and public water supplies), a maximum of 100 cfs would be diverted from the GGC system so as not to exceed the 50 cfs wet weather inflow deficit for Rookery Bay.

To determine the nutrient reduction benefits to Naples Bay, water quality data from the GGC at White station were analysed (see **Figure 7-1**). Consistent with the Numeric Nutrient Concentration (NNC) criteria for Naples Bay (FAC Chapter 620-302.531), nutrients were characterized for both Total Nitrogen (TN) and Total Phosphorous (TP). To estimate the concentrations of nitrogen and phosphorous in runoff from the Rookery Bay watershed, nutrient concentrations in Rookery Bay (WBID 3278U) were compared for conditions when

concurrent values for specific conductance were lower than the highest specific conductance value from the GGC at the White water quality station. In this way, nutrient concentrations for the freshwater inflow from the existing Rookery Bay watershed were compared to the nutrient concentrations in the waters of the GGC system closest to the location of proposed diversions.

To develop estimates of the benefits of reduced freshwater inflows to Naples Bay, salinity values were derived for all days during the period of January 1, 2011 to September 9, 2015, based on the salinity vs. flow equations listed in Cardno (2015).

For the Gordon River at Rowing Club location, the relationship between inflows and salinity is represented by:

> *Salinity (ppt) = 22.4241*EXP(-0.007*Q); where Q = daily average flow (cubic feet per second; cfs) at the GG1 structure on the same day that salinity was measured.*

For the Naples Bay at City Dock location, the relationship between inflows and salinity is represented by:

> *Salinity (ppt) = =31.269*EXP(-0.003*Q) where Q = daily average flow (cfs) at the GG1 structure on the same day that salinity was measured.*

For the Naples Bay at Mid Estuary location, the relationship between inflows and salinity is represented by:

> *Salinity (ppt) = 34.359*EXP(-0.0023*Q) where Q = daily average flow (cfs) at the GG1 structure on the same day that salinity was measured.*

For the Naples Bay at Gordon Pass location, the relationship between inflows and salinity is represented by:

> *Salinity (ppt) = =34.641*EXP(-0.0004*Q) where Q = daily average flow (cfs) at the GG1 structure on the same day that salinity was measured.*

7.1.3. Results

Flow Reductions

To determine the amount of freshwater inflow that could be diverted from Naples Bay, consultations with staff at hydrologists at the BCB office of the SFWMD were made to ensure concurrence with all estimates, and the best available data to derive estimates. Based on these discussions, it was concluded that:

1) the most recent (as of January 2016) and revised flow data from site GG1 would be used as the baseline
2) the data to be used would be for the dates of January 1, 2009 up to September 16, 2014,
3) diversions would only occur on days when the measured gate levels at the GG2 or GG3 structures were below the defined elevation, indicating that excess flows were available,
4) flow diversions would be restricted to the “wet season” which was defined as the period of May 15 to October 31 of each year,
5) the list of days when diversions could be made would be dependent on meeting agreed-upon criteria to protect upstream water users, and
6) a flow diversion of 100 cfs at GG1 would equal the flow diversion benefit applied to Naples Bay.

Flow data were found to be problematic for the year 2011, as there was no flow data for the period of March 20, 2011 until August 2, 2011, a period of 137 days. As such, discussions with SFWMD staff led to the decision to exclude data from 2011 from further calculations. Also, although data from 2014 did not include the entire wet season, it included a substantial amount of the 2014 wet season, and as such it was concluded that the values from 2014 should also be used in further calculations.

The data used to estimate flow reductions with anticipated operation of the proposed freshwater diversion are shown below in **Table 7-1**.

Table 7-1 Flow diversions expected with anticipated diversion schedule in operation

Flow Reduction							
Year	Total Diversion Days	Percent of Flow Diverted when Operating (%)	Percent of Flow Diverted During the Wet season (%)	Percent of Flow Diverted for the Year (%)	Total Volume Diverted		
					Million Gallons	Acre-feet	Liters
2009	27	25.95	13.62	10.42	1,745	5,354	6,604,538,908
2010	40	20.54	7.87	5.83	2,585	7,932	9,784,502,086
2012	18	18.96	6.64	5.39	1,163	3,570	4,403,025,939
2013	90	12.64	10.45	10.10	5,816	17,848	22,015,129,693
2014*	33	15.83	8.72	8.72	2,132	6,544	8,072,214,221
Average	**41.6**	**18.78**	**9.46**	**8.09**	**2,688**	**8,250**	**10,175,882,169**

*The year 2014 data only went through September – not the entire calendar year

On average, the proposed project would operate 42 days per year. On those days when operating, it would divert approximately 19 percent of flows to Naples Bay (18.78%). The amount diverted would equal about 9.5 percent of the wet season inflows to Naples Bay, and 8 percent of the total inflow each year. The amount of water diverted from Naples Bay would average 2,688 million gallons per year (2.7 billion gallons per year), which is equivalent to 8,250 acre-feet per year, or just over 10 billion liters per year.

Nutrient Loads

Table 7-2 compares the data sets for water quality representing freshwater inflows into Rookery Bay with water quality in the GGC system.

Table 7-2 Summary of water quality data from Rookery Bay freshwater inflow and the GGC at White water quality station

Location	Specific conductance (µmhos/cm)			Total Phosphorous (mg/l)			Total Nitrogen (mg/l)		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Rookery Bay freshwater inflow	NA	620	253	0.002	0.181	0.008	0.09	1.34	0.56
Golden Gate Canal	NA	650	509	0.004	0.079	0.021	0.33	2.00	0.91

Water within the GGC system appears to have approximately twice the mineral content of typical watershed-level freshwater runoff into Rookery Bay, based on mean (average) specific conductance values of 509 and 253 µmhos/cm, respectively. However, maximum specific conductance values were similar, and maximum values from both data sets are well below the maximum allowable value for specific conductance, 1,275 µmhos/cm, for drinking water supplies in Florida (water quality standards for Class I waters; FAC 62-302).

For phosphorous, the mean value for TP in the Golden Gate Canal was 2.6 times as high as the mean value derived for runoff into Rookery Bay, at 0.021 and 0.008 mg TP / liter, respectively. For nitrogen, the mean value for TN in the Golden Gate Canal was 1.6 times higher than the mean value derived for runoff into Rookery Bay, at 0.91 and 0.56 mg TN / liter, respectively.

To calculate the estimated benefit to Naples Bay, in terms of nutrient reduction, the diverted flow volumes described above were combined with the average TN and TP estimates from the GGC at White station. Load reductions for both TN and TP were summed for each of the years of 2011, 2012, 2013, and 2014. Data from 2015 were not used, as the data set for 2015 ended in the middle of the typical wet season.

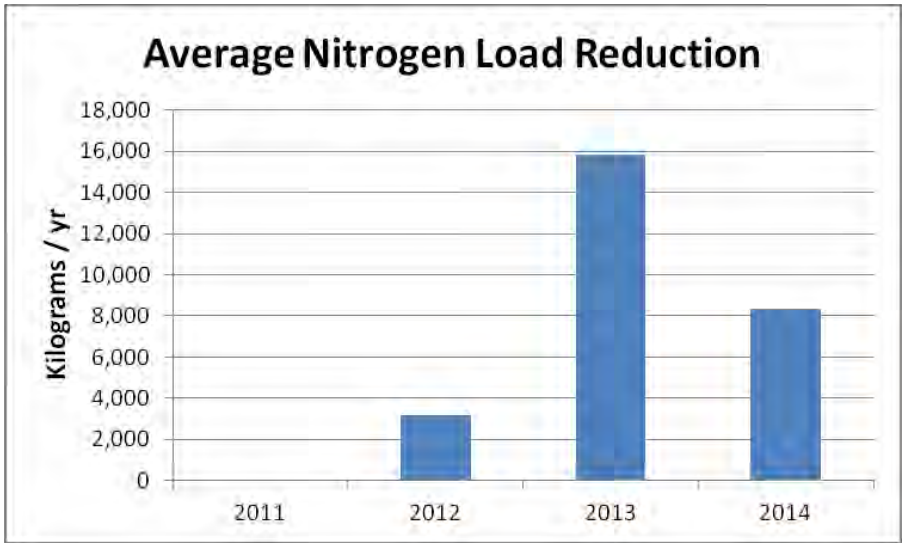

Figure 7-2 Estimated nitrogen load reduction (kg TN / yr) into Naples Bay associated with implementation of the proposed project

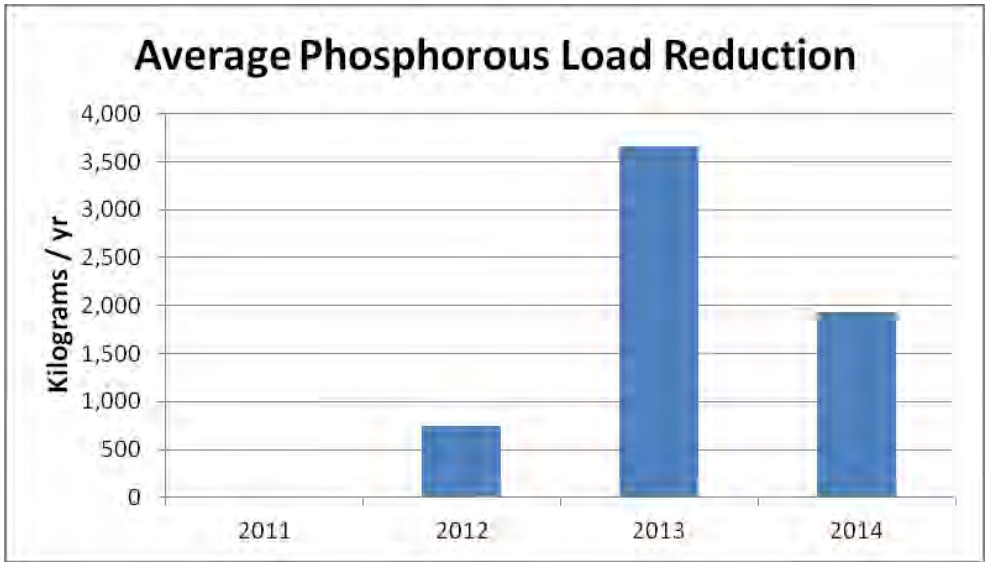

Figure 7-3 Estimated nitrogen load reduction (kg TP / yr) into Naples Bay associated with implementation of the proposed project

As shown in both **Figures 7-1 and 7-2**, no reductions in nitrogen or phosphorous loads to Naples Bay would have been expected in 2011, as a reduced amount of rainfall and lower than normal water levels in the GGC system would have precluded the diversion of water out of the GGC system at the GG3 structure. In 2012 and 2014, there was sufficient availability of water in the GGC system for substantial diversions, and thus nutrient load reductions in the range of 3,200 to 8,300 kg TN and 740 to 1,910 kg TP would occur. In the very wet year of 2013, nutrient load reductions of 15,800 kg TN and 3,700 kg TP would have been possible.

The SFWMD has previously summarized nutrient load reductions for various stormwater retrofit projects in terms of equivalent amounts of nutrients in bags of residential lawn fertilizer. Assuming a 20 pound bag of fertilizer with 32 percent nitrogen content, each bag contains approximately 6.4 pounds (2.9 kg) of nitrogen. In 2013, as an example, the proposed project would reduce nutrient loads to Naples Bay equivalent to the amount of nitrogen in more than 5,000 20-pound bags of lawn fertilizer. As many lawn fertilizers no longer contain phosphorous, a similar comparison cannot be made, although the magnitude of the nutrient load reduction to Naples Bay for phosphorous would be similarly impressive.

The nitrogen and phosphorous load reductions achievable with project implementation would be consistent with the desire of the City of Naples to continue to implement water quality improvement projects focusing on eutrophication, and to assist the City of Naples in their efforts to prevent Naples Bay from exceeding its newly established (as of 2013) numeric nutrient concentration criteria (NNC) for Naples Bay (FAC Chapter 62-302.531). The implementation of nutrient load reductions to Naples Bay is consistent with a recent report on the status and trends of water quality in Naples Bay (Cardno 2015) as well as the Surface Water Improvement and Management (SWIM) Plan for Naples Bay (SFWMD 2007).

For Rookery Bay, the proposed project is expected to have little impact, in terms of nutrient loads to coastal waters, as 50 percent of the diverted flows are not expected to reach tidal waters of Rookery Bay, and the proposed project involves the diversion of water into a vast area where it would flow overland for a considerable distance prior to encountering tidal waters. However, waters in the GGC system (**Table 7-1**) have a higher nutrient concentration than typical values for freshwater inflow into Rookery Bay. If those nutrient concentrations would not be altered during their passage from the GGC system to Rookery Bay, then the change in nutrient load would be similar to the expected change in the hydrologic load. However, prior experience in hydrologic restoration projects suggest that significant amounts of nutrient uptake and assimilation would be expected as water flows through wetland flow paths.

Quantification of expected nutrient reduction associated with the proposed freshwater diversion project was conducted using a two-step process. First, the amount of nutrient reduction associated with the Northern Flow-way (located north of I-75; see **Figure 4-1 and Appendix A**) was derived based on the size of the Northern Flowway and the previously derived relationship between nutrient removal efficiency (for both TN and TP) compared to area-normalized nutrient loads (grams / m^2 / yr). The equation used for nitrogen removal was derived from over a dozen studies, and is summarized from Richardson and Nichols (1985) as:

$$Y = -14.479 * LN(X) + 107.71$$

Where:

Y = expected nutrient removal efficiency for Total Nitrogen (TN),

14.479 = derived value from the empirical relationship,

LN = natural log,

X = area-normalized nitrogen load, in units of grams TN per square meter per year, and

107.71 = derived value from the empirical relationship.

The equation used for phosphorous removal, also from Richardson and Nichols (1985) was:

$$Y = -15.507*LN(X) + 87.399$$

Where:

Y = expected nutrient removal efficiency for Total Phosphorous (TP),

-15.507 = derived value from the empirical relationship,

LN = natural log,

X = area-normalized nitrogen load, in units of grams TP per square meter per year, and

87.399 = derived value from the empirical relationship.

These expected reductions in TN and TP concentrations were applied only to the Northern Flow-way, which is that portion of the project located north of I-75. Based on these equations, TN and TP loads would be expected to decrease by 29 and 62 percent, respectively, as diverted waters pass through the Northern Flow-way. The output from the Northern Flow-way would then become input to the rest of the project area.

To estimate additional nutrient reductions associated with the sheetflow of diverted waters across the landscape, results from Rudnick et al. (1999) were used. These authors studied water quality along a transect in the eastern Everglades, where the flow path was less than the anticipated length for those project elements located south of the Northern Flow-way. Based on Rudnick et al. (1999), it is anticipated that TN and TP loads would be further reduced by approximately 89 and 77 percent, respectively.

Combined, the passage of diverted waters into the Northern Flow-way followed by sheetflow across the remainder of the project's foot print would be expected to reduce nutrient loads by 89 and 77 percent, respectively, for TN and TP. This would likely result in reductions in nutrient concentrations of runoff into Rookery Bay and its watershed similar to that which occurs from the wider watershed. Thus, a nutrient load reduction of "X" pounds from Naples Bay does not result in an increased load to Rookery Bay of "X" pounds, as nutrient concentrations would decline based on uptake, assimilation, and (for nitrogen) denitrification as diverted volumes sheetflow across the project's landscape.

A freshwater diversion from the GGC system into Belle Meade thus has benefits of allowing for hydrologic restoration of these currently impacted wetlands without the concurrent likelihood of nutrient over-enrichment. This benefit may not arise should a diversion take place with waters added to Henderson Creek, which resembles a drainage canal in its northernmost portions.

Salinity

Based on the approach described above, differences in salinity were calculated by comparing the predicted salinity on days when diversions could occur to the same day salinities predicted without the flow reductions implemented.

At the Gordon River at Rowing Club location, the differences in salinities expected with project implementation are summarized in **Table 7-3**.

Table 7-3 Predicted salinities at Gordon River at Rowing Club during days when diversions would occur

During operation		
	Salinity (ppt) w/out project	**Salinity (ppt) w/ project**
min	0.01	0.02
max	8.92	15.62
mean	1.09	1.90
median	0.73	1.28

At the Naples Bay at City Dock location, the differences in salinities expected with project implementation are summarized in **Table 7-4**.

Table 7-4 Predicted salinities at Naples Bay at City Dock during days when diversions would occur

During operation		
	Salinity (ppt) w/out project	**Salinity (ppt) w/ project**
min	1.10	1.40
max	21.07	26.78
mean	7.44	9.46
median	7.17	9.11

At the Naples Bay at Mid Estuary location, the differences in salinities expected with project implementation are summarized in **Table 7-5**.

Table 7-5 Predicted salinities at Naples Bay at Mid Estuary during days when diversions would occur

During operation		
	Salinity (ppt) w/out project	**Salinity (ppt) w/ project**
min	2.65	3.18
max	25.38	30.51
mean	11.18	13.44
median	11.11	13.35

At the Naples Bay at Gordon Pass location, the differences in salinities expected with project implementation are summarized in **Table 7-6**.

Table 7-6 Predicted salinities at Naples Bay at Gordon Pass during days when diversions would occur

During operation		
	Salinity (ppt) w/out project	**Salinity (ppt) w/ project**
min	22.18	22.90
max	32.86	33.93
mean	28.16	29.07
median	28.46	29.39

On average, mean salinities at the Gordon River at Rowing Club location would increase 74 percent, from 1.09 to 1.90 ppt with the proposed project. However, there is little evidence that the absolute change in salinity (0.81 ppt) would have a meaningful impact on the biological communities in that portion of Naples Bay.

Although the percentage difference in mean predicted salinities at the Naples Bay at City Dock would differ by less than at the Gordon River at Rowing Club location (27 percent vs. 74 percent), the absolute difference in salinity (2.02 ppt) is potentially large enough to be detected, although ecological benefits might be expected only for the most stenohaline organisms that might occur or re-establish themselves in the uppermost portions of Naples Bay.

The percentage difference in mean predicted salinities at the Naples Bay at Mid Estuary location would be expected to differ by 20 percent with project implementation. The absolute difference in salinity (2.26 ppt) is likely large enough to be detected, with potential benefits to at least the more stenohaline organisms that might occur or re-establish themselves in this lower part of Naples Bay.

For those portions of Naples Bay from the City Dock location down to the Mid Estuary location, the predicted change in salinity during times of operation of the proposed project would average about 2 ppt. While this does not appear to be a very large change in salinity, similar changes in salinity were found to be sufficient to influence the ratio between stenohaline vs. euryhaline species of crabs, as shown in Figure 10 of Shirley et al. (2004). In that paper, the authors found that salinity changes less than 4 ppt were sufficient to bring about a change in the ratio between a stenohaline species of crab, Panopeus herbstii, and a more euryhaline species of crab, Eurypanopeus depressus (Shirley et al. 2004). For at least that portion of Naples Bay between the City Dock and Mid Estuary water quality stations, it is likely that the proposed project could bring about a change in salinity large enough to detect with a well-designed water quality monitoring program. In addition, the proposed project could potentially bring about a detectable change in the biological health of Naples Bay. The detection of an ecological benefit associated with project implementation would be dependent upon the development of a monitoring program that focuses on organisms particularly sensitive to salinity variation (e.g., Shirley et al. 2004).

In contrast, the differences in salinity predicted for the Naples Bay at Gordon Pass location are likely statistical noise, and also not likely to be large enough to have any ecological benefits.

7.2. Picayune Strand State Forest

7.2.1. Wetland Rehydration

As discussed in the previous section, the CCCWIP project proposed to divert 100 cfs, when flows are available, during the wet season months. These flows represent (at least a portion of) the flows that historically made its way to the PSSF prior to the construction of the GGC and I-75. As discussed in **Section 5.2,** and shown in **Figure 5-3** and **Table 5-1**, the vegetation in the PSSF has transformed over the past 50 years due to these hydrologic alterations (and others) causing impacts to all wetland land covers and particularly to the Swamp Forest areas. Hydroperiods and water depths in this area have changed significantly and there is general consensus that the Belle Meade area of the PSSF is in need of rehydration. With the implementation of the CCCWIP, at least a portion of the historical flows would be restored within the region helping to re-establish historical wetland hydroperiods to at least some degree. Although a true restoration would likely include more than 100 cfs of additional wet season flow diversions, it has been shown that the limitations of the system that are now in place (RCW habitat, PSRP and Rookery Bay) and discussed previously in **Chapters 3 and 5,** currently prevent more than that (100 cfs) based on the conservative and preliminary analyses conducted as part of this project.

7.2.2. Wildfire Suppression and Prevention

The Florida Forest Service (FFS) has over 1,000 employees and their mission is to protect and manage Florida's forest resources to be sure these valuable resources are available for future generations. Two key aspects of their efforts are fire prevention and suppression which help protect nearby homeowners from forest fires. The PSSF is no exception. The PSSF has had its share of wildfires during times of unusually dry weather during the past. The implementation of the CCCWIP project provides the infrastructure that can also become a tool to help reduce and/or control wildfires. Because the project uses pump stations to transfer and direct flow south directly through the middle of the Belle Meade tract of the PSSF, if water is needed at a given time to prevent the spread of wildfires, the pumps could potentially be turned on for just that purpose.

7.3. Rookery Bay

The project benefits to Rookery Bay are touched on briefly in **Chapter 3 (Evaluation of Diverted Flow Capacity)**. In that section of the report, the most recent studies that have been completed for the Rookery Bay are discussed, in terms of historical flows to the estuary relative to current conditions. Although there are minor inconsistencies with the studies, the majority of analyses (studies), including the most detailed and most recent (Restoring the Rookery Bay Estuary), conclude that Rookery Bay has a freshwater wet season inflow deficit. Furthermore, the study also indicates the specific locations of the flow deficits (as can be seen in **Table 3-1** and **Figure 3-4**), which is generally the southeastern-most area of the Rookery Bay estuary (Belle Meade-9, US 41 Outfall Swale 2 and Bridge 37). When comparing the areas within the Rookery Bay estuary that have flow deficits, to the location(s) of the diverted flows to the estuary from the CCCWIP project (**Figure 4-1**), it can be seen that these areas correspond, indicating the diverted flows are going to the areas that need water. Not only do diverted inflow locations correspond to the locations of inflow deficits, but diverted flow volumes (approximately 50 cfs from the preliminary modeling estimates) are also consistent with the documented inflow deficit volumes in corresponding areas of Rookery Bay (**Section 3.5**).

7.4. Secondary CCCWIP Project Benefits

The CCCWIP project provides a substantial hydrologic and ecologic uplift to a significantly large region within Collier County. The sub-sections above describe the primary benefits to the region which include the hydrologic and ecologic benefits. There are also secondary benefits to CCCWIP flow diversion. By sending additional water and restoring the wet season flows to a more historical regime, the project is also recharging the aquifer which, in turn, helps to protect the water supply for Collier County as this is the County's primary means of drinking water.

8. Future Phase Projects (Phase II)

The suite of projects described in detail in **Chapter 6,** together form the CCCWIP and make significant County-wide hydrologic and ecologic enhancements to Naples Bay, Rookery Bay and the PSSF. These are the projects that are feasible to construct within the next ten years. However, there are additional project components that have been identified that could increase the system capacity and enhance and expand the overall effects overall of the system. **Figure 8-1** shows the locations of these potential future phase projects relative to the primary system elements. These are additional projects that, given further analysis and years of monitoring data, could be integrated into the overall system. Details of these possible future phase projects are discussed below.

8.1. Increased Pumping Capacity

The current conceptual design discussed in **Chapter 6** includes pump stations that would convey 100 cfs, but the earthen infrastructure elements (Project Areas A & C) will be designed to accommodate 200 cfs in the primary phase of the project. Once constrcuted and operational, the system will be monitored to determine the potential for diverting as much as 200 cfs at given times. Currently the system limitations are the amount of additional flow that Rookery Bay could accommodate and the changes in wetland vegetation within the PSSF. If it turns out, through system monitoring, that hydrologic losses (storage, infiltration and evapo-transpiration) in the system are greater than expected, then more water could potentially be diverted from the GGC by adding additional pump stations and would further enhance the benefit to Naples Bay without impacting flow-ways and estuaries downstream.

8.2. North Belle Meade

Just like the south Belle Meade area within the PSSF, the north Belle Meade area has also been impacted by the construction of the GGC. Historically flows from the north flowed through this area to south Belle Meade and on to Rookery Bay. While the implementation of the CCCWIP will significantly benefit Naples Bay, Rookery Bay and south Belle Meade, it will not benefit north Belle Meade, and there will still be a need for wetland rehydration in this area. As mentioned previously (in **Section 4.2.1**), the acquisition (or use) of properties within the north Belle Meade area is not feasible within the County' desired 10-year timeframe for implementing the CCCWIP. However, because the majority of the north Belle Meade area is designated as Sending Lands in the Collier County Growth Management Plan, it is likely that these lands could be acquired in the future as many of the properties will most likely become part of the County's TDR program. As part of the CCCWIP, the County intends on planning beyond the 10-year time frame for this area by focussing on evaluating the properties while also conducting a preliminary engineering project for the North Belle Meade Flow-way based on the concept identified in the BMSMMP and the CCWMP. **Figure 8-2** shows the north Belle Meade Rydration project as conceptualized in the CCWMP. This preliminary evaluation and feasiblilty analysis would include the results of the more in-depth analysis of the overall CCCWIP flow capacity that will be conducted as part of the next phase of the CCCWIP. This will help better define the potential additional capacity of the system based on more thorough and detailed modeling and refined later based on collected monitoring data. Adding this project element to the overall system in the future, would not only rehydrate wetlands in the north Belle Meade areas but would also provide additional water quality benefits to the diverted flows by further reducing nutrient loads.

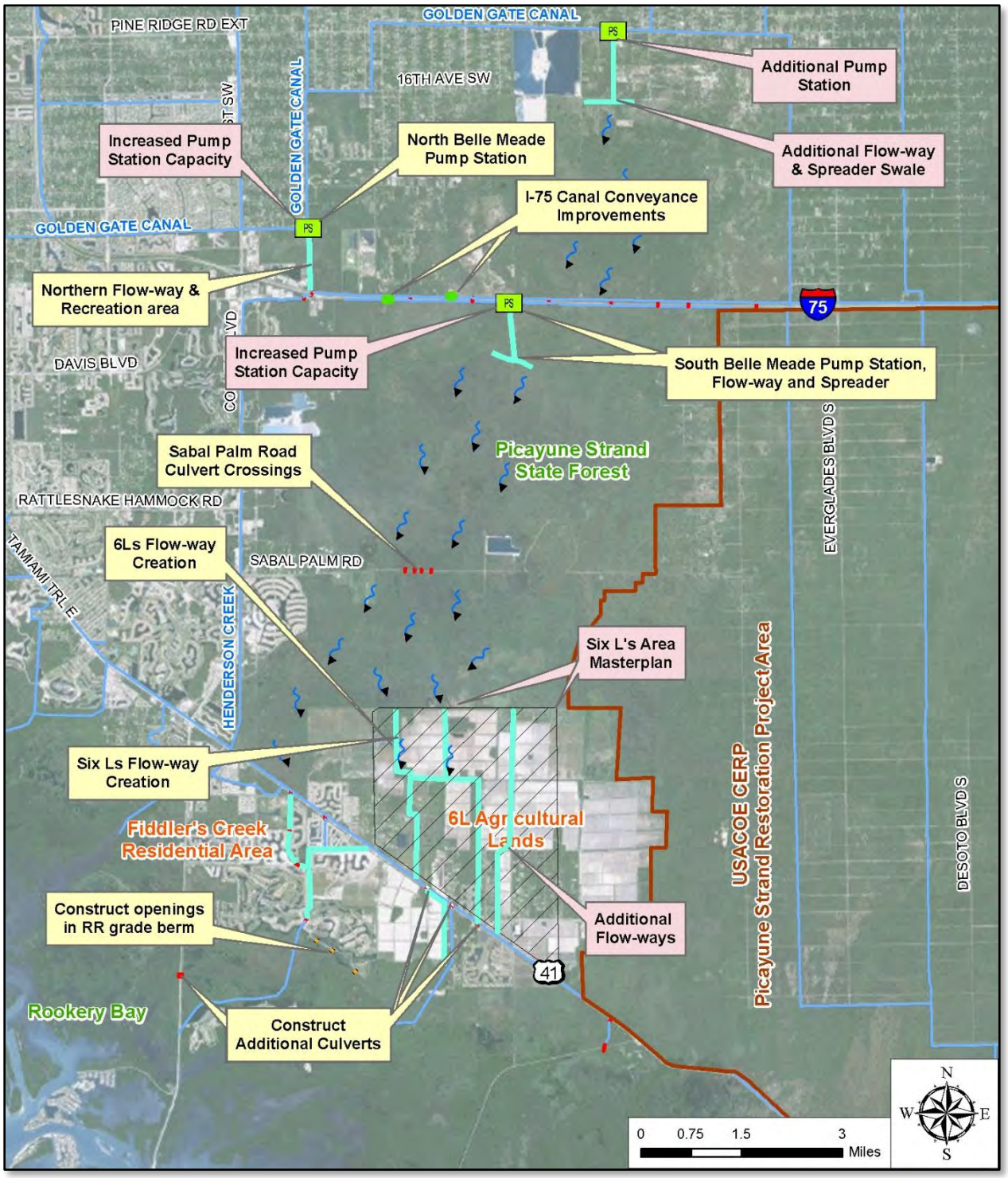

Figure 8-1 Locations of Potential Future Phase Projects

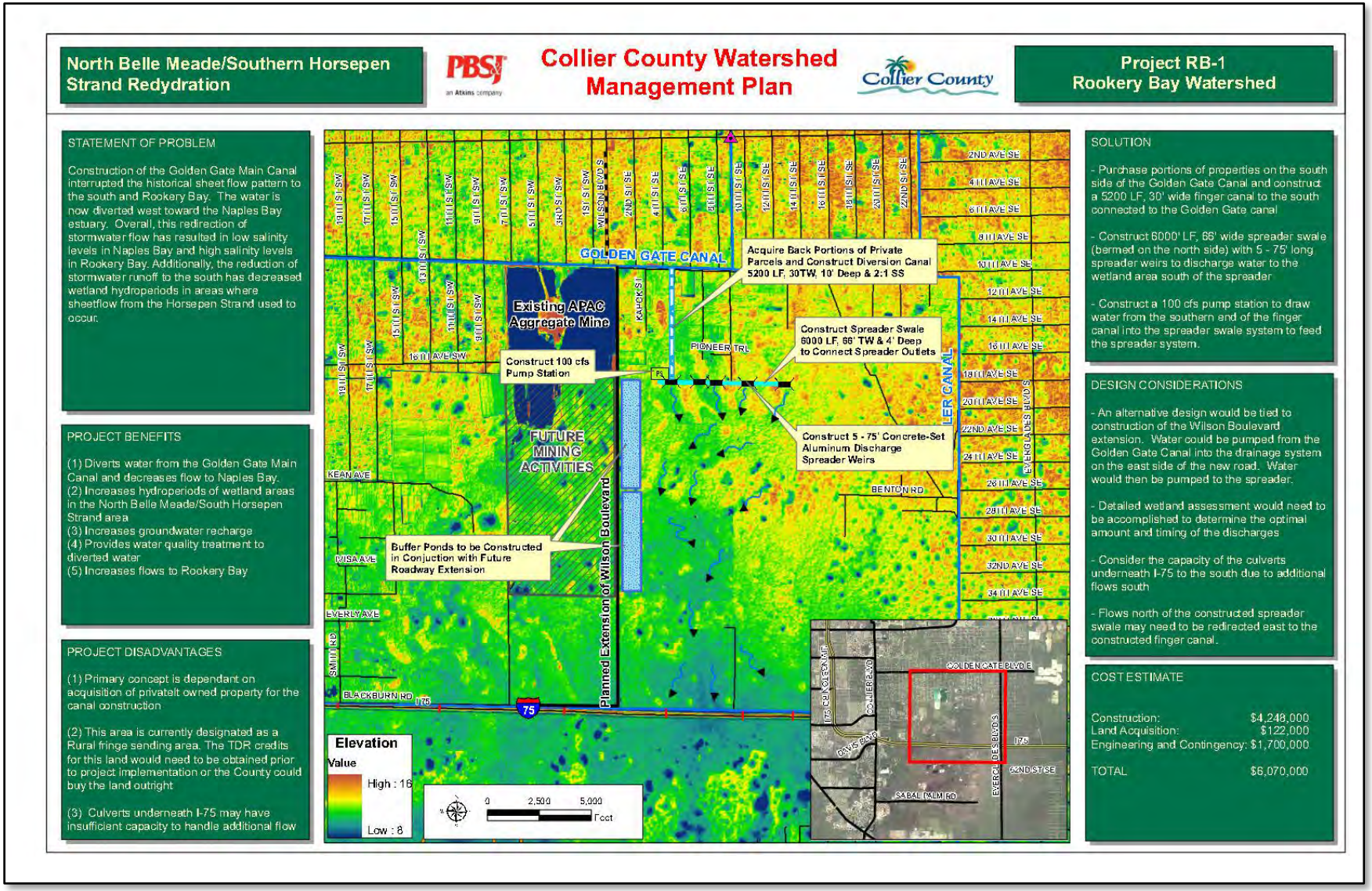

Figure 8-2 North Belle Meade Rehydration Concept from the CCWMP (Figure from CCWMP Report, Atkins/PBS&J, 2011)

8.3. Six L's Masterplan

As discussed in **Section 5.5**, the Six L's agricultural lands area lies in a strategic location, in terms of the historic flow-way for Rookery Bay. As part of the primary phase of the CCCWIP, described in **Chapter 6**, flow-ways would be re-established through the area to the extent possible and coordinated with the current land owners. These flow-ways would likely need to be constructed in coordination with the current agricultural activities (tomato farming) that exist today. If/when the properties transition to residential development in the future, further engineering and design will likely be required to develop a long-term and overall "Masterplan" for the area. This would involve augmenting or expanding the flow-ways constructed during the CCCWIP to incorporate discharges from the new development if and when that transition occurs in the future.

9. Project Costs, Schedule & Implementation

9.1. Planning-Level Opinion of Probable Costs

The preliminary opinion of probable construction costs for the projects described in **Chapter 6** and presented in **Appendix A** is presented in **Table 9-1**. These estimates are based on best available information for quantities and unit prices for the year 2016, and are equivalent to a 15% design. Sources include; current Florida Department of Transportation tabulated costs for item average unit cost, local bid tabs for similar projects in Collier County and throughout SFWMD and SWFWMD. Costs for any property acquisition (if needed) are not included. Costs include 2% for Maintenance of Traffic (MOT), 10% for Mobilization and a 30% contingency.

Additional costs are presented in the overall CCCWIP project cost estimate including, a more detailed project development (5%), design/plans preparations (10%), permitting (5%) and mitigation (5%). An estimated cost is also included for monitoring and SCADA telemetry systems. Considering that this project has a ten-year planning horizon (approximate) for completion of construction, a cost escalation factor of 23% (3% per year compounded over 7 years) has been included. Also included in the overall cost, is funding for other minor project that may be necessary or beneficial to enhance the system and for the future phase projects; North Belle Meade Flow-way and the Six L's Masterplan. **Table 9-1** presents a planning-level opinion of probable costs for the implementation of the CCCWIP.

More detailed breakdown of construction cost estimates are presented in **Appendix B**.

Table 9-1 Planning-Level Opinion of Probable Costs

Project Element	Estimated Cost
Project Area A	$5,1000,000
Project Area B	$1,400,000
Project Area C	$4,620,000
Project Area D	$160,000
Project Area E	$7,610,000
Construction Cost (Areas A-E) Total	**$18,890,000**
Project Development	$950,000
Design/Engineering (10%)	$1,890,000
Permitting (5%)	$950,000
Mitigation (5%)	$950,000
Monitoring and SCADA Telemetry Systems	$1,000,000
Additional Minor Projects	$1,000,000
North Belle Meade Preliminary Engineering	$1,000,000
Six L's Area Future Masterplan	$1,000,000
Cost Escalation over 7 years (3% per year)	$4,350,000
Total	**$32,000,000**

9.2. 10-Year Project Implementation Schedule

Collier County understands that implementing the CCCWIP project will take time and planning but the preliminary work that has been accomplished as part of this report has laid the necessary ground work and provides the foundation for successful project in the future. Considering the magnitude of the project, in terms of engineering, designing, permitting, and the planning and funding strategies that that need to be accomplished, a 10-year project schedule is the goal for project completion. **Table 9-2** below presents the desired overall project schedule for implementation of the CCCWIP.

Table 9-2 Project Implementation Schedule

CCCWIP Project Phase	Year									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Project Development										
Design										
Construction										
Permitting										

10. Funding Sources and Strategies

10.1. Introduction

This section provides an overview of various funding sources potentially applicable to the Collier County Comprehensive Watershed Management Plan (CCCWMP). In addition, an overall funding strategy for the implementation of the Watershed Management Plan is recommended.

10.2. Deepwater Horizon Oil Spill Funding Sources

While the 2010 Deepwater Horizon oil spill was a disaster for the coastal communities and living resources of the Gulf States, the resulting legal settlements with the responsible parties (Transocean and BP) have created unprecedented funding streams to effect meaningful and sustainable improvements to the ecology and economy of the Florida Gulf coast. These settlements include:

- RESTORE Act funded by Clean Water Act penalties;
- Natural Resource Damages (NRD) funded by Oil Pollution Act penalties;
- National Fish and Wildlife Foundation (NFWF) Gulf Environmental Benefit Fund funded by criminal penalties; and
- State and local economic claims.

10.2.1. Clean Water Act (CWA) and Natural Resource Damages (NRD)

In 2014, Transocean agreed to pay $1 billion to settle pending Clean Water Act penalties. These funds were deposited in the Gulf Coast Restoration Trust Fund, and beginning in 2015, a portion of these funds was subsequently allocated to Gulf Coast counties and parishes under the RESTORE Act Direct Component. Collier County's 2015 allocation under this disbursement was $982,660.

In July 2015, BP announced a tentative comprehensive $20.8 billion settlement with the U.S. Justice Department as well as the five Gulf States that would resolve pending Oil Pollution Act and Clean Water Act penalties as well as state and local economic claims. The final Consent Decree was signed on April 4, 2016, settling all remaining claims. **Table 10-1** below shows the final breakdown of the Transocean and BP legal settlements by the various components for the State of Florida.

Table 10-1 Breakdown of Transocean and BP Legal Settlements for the State of Florida

Component	Dollars
RESTORE Act Direct Component (Pot 1)	$373,000,000
RESTORE Act Spill Impact Component (Pot 3)	$293,000,000
RESTORE Act Centers of Excellence (Pot 5)	$27,000,000
Natural Resource Damages	$680,000,000
Economic Damages	$2,000,000,000
Total	**$3,373,000,000**

It should be noted that, compared to the other four Gulf States, a much greater proportion of the total Florida settlement ($2 billion) is dedicated to economic damages. Nonetheless, the RESTORE Act and NRD components of the Florida settlement earmark approximately $1,373,000,000 for environmental restoration and related monitoring and research. Furthermore, it should be noted that up to 20 percent (approximately $320,000,000) of the RESTORE Act Council Selected Component (Pot 2) could also be spent on Florida projects. Therefore, the final Transocean and BP settlements could generate up to $1,693,000,000 environmental restoration in Florida over the next 15 years.

10.2.2. Gulf Environmental Benefit Fund

The Gulf Environmental Benefit Fund was established in early 2013 as a result of two plea agreements resolving the criminal cases against BP and Transocean after the Deepwater Horizon oil spill. The agreements direct a total of $2.544 billion to NFWF over a five-year period. The funds are to be used to support projects that remedy harm to natural resources (e.g., habitats, species) where there has been injury to, or destruction of, loss of, or loss of use of those resources resulting from the oil spill (http://www.nfwf.org/gulf/Pages/home.aspx). Projects are expected to occur within reasonable proximity to where the impacts occurred, as appropriate. Consistent with the terms of the plea agreements, funding priorities include, but are not limited to, projects that contribute significantly to the following natural resource outcomes:

- Restore and maintain the ecological functions of landscape-scale coastal habitats, including barrier islands, beaches and coastal marshes, and ensure their viability and resilience against existing and future threats;
- Restore and maintain the ecological integrity of priority coastal bays and estuaries; and
- Replenish and protect living resources including oysters, red snapper and other reef fish, Gulf Coast bird populations, sea turtles and marine mammals.

The State of Florida received a $356,000,000 Gulf Environmental Benefit Fund grant from NFWF in 2013 to develop a "Restoration Strategy" and to implement identified priority projects. The Florida Fish & Wildlife Conservation Commission (FWC) is the implementing entity within Florida, and is currently conducting a planning program to identify, evaluate, and prioritize various projects, programs and activities that address NFWF programmatic goals as well as the targeted natural resource outcomes. The Florida "Restoration Strategy" document is expected to be complete in 2017, with project implementation to follow.

10.3. Program Coordination

At this time, multiple planning processes are underway to identify, evaluate, prioritize, and implement projects that address the programmatic goals and criteria of the respective programs. These processes include the following:

- County development and implementation of Multi-Year Implementation Plans (RESTORE Act Direct Component – Pot 1);
- Restoration Council development of the annual Funded Priorities List (RESTORE Act Council Directed Component – Pot 2).
- Gulf Consortium development of the Florida State Expenditure Plan (RESTORE Act Spill Impact Component – Pot 3);
- Florida Institute of Oceanography development of the Gulf Research Plan (RESTORE Act Centers of Excellence – Pot 5); and
- Federal and State (Florida Department of Environmental Protection) trustees implementation of the Florida Natural Resource Damage Assessment (NRDA) and associated restoration and remediation projects.

In addition to these ongoing coastal planning processes, the Florida Gulf Coast Water Management District's and National Estuary Programs have also turned their focus to Gulf restoration, and are exploring ways they can leverage their existing respective funding sources with the Deepwater Horizon related funding streams. For example, both the Northwest Florida Water Management District and the Suwannee River Water Management District will be utilizing grant funds from NFWF to update their Surface Water Improvement and

Management (SWIM) Plans for priority water bodies in their respective districts, and to identify and prioritize projects that contribute to the NFWF mission. In addition, the South Florida Water Management District will be updating the Naples Bay SWIM Plan, and monies from the District Cooperative Funding Program will be available for project funding.

While these coastal planning processes all have their own unique statutory focus, there is the potential for a significant amount of duplication and overlap among them. For example, a living shoreline project that crosses two county boundaries could be identified as a priority project in those county's Multi-Year Implementation Plans, in the Florida State Expenditure Plan, in the Council's Funded Priority List, and in the NRDA trustee's phased program. Including the same or similar projects in multiple coastal restoration plans could potentially lead to confusion and the potential squandering of limited financial resources. Therefore, to ensure the success of the Restoration Strategy project it will be critical to:

- Effectively communicate and coordinate with other ongoing Florida coastal restoration planning processes;
- Minimize the duplication and overlap among these processes; and
- Leverage and optimize the use of all available funding streams to effect meaningful and sustainable improvements to the ecology of the Florida Gulf coast.

If Florida coastal restoration planning efforts are well coordinated, there should be no duplication and overlap of same or similar projects in the various plans. Furthermore, it should be possible to cross-link the most ecologically significant projects in such a way as to optimize available funding sources across project phases. For instance, in the living shoreline project example discussed above, Phase 1 (project engineering design and permitting) could be funded using RESTORE Act Direct Component funds, Phase 2 (construction) could be funded under the State Expenditure Plan, and Phase 3 (success monitoring) could be funded under the Gulf Environmental Benefit Fund. The key point here is that the success of Florida Gulf coast restoration efforts in general will be dependent on the effective coordination amongst and communication between the various ongoing coastal planning efforts, and it will be incumbent upon all recipient governmental units to maintain situational awareness of the status of these efforts in order to optimize their funding opportunities.

10.4. Recommended Funding Strategy

As discussed above, there are many timely opportunities for the funding of the Collier County Comprehensive Watershed Management Plan (CCCWMP). What follows are recommended elements of an overall funding strategy.

1. **Propose the CCCWMP as Collier County's priority project for inclusion in the State Expenditure Plan (SEP).** Collier County is projected to receive approximately $12.7 million under the RESTORE Act Spill Impact Component (Pot 3), all of which could be applied to the CCCWMP. The process for SEP initial project nominations will be conducted during the summer of 2016.

2. **Identify the NRD Water Quality component as a leveraged funding source.** A total of $330 million has been set aside in Florida's NRD Water Quality component, and these funds are eligible for use throughout the entire Florida Gulf coast, not just the panhandle counties. Since the CCCWMP project is clearly water quality focused, there is strong justification for requesting leveraged funds to augment Collier County's Pot 3 allocation for its SEP project.

3. **Continue to coordinate with the FDEP with regard to inclusion of the CCCWMP in the next Funded Priorities List (FPL).** The Restoration Council is expected to open the next FPL window during the fall of 2016, and the FDEP is currently in the process of evaluating and prioritizing projects to be submitted as part of Florida's funding request. It is expected that the next suite of Florida FPL projects will be focused in peninsular Florida to provide geographic balance, so the timing is critical.

4. **Dedicate a portion of Collier County's Direct Component funds to serve as matching funds for CCCWMP implementation.** Project proposals that include matching funds from existing county funding sources are more likely to receive leveraged funds from other non-secured sources, and more likely to be ranked higher for inclusion in future FPLs.

5. **Consult with the FWC with regard to inclusion of the CCCWMP in the Florida Restoration Strategy.** Although Gulf Environmental Benefit Fund monies will be spent primarily in panhandle Florida counties that received direct environmental impacts from the oil spill, a portion of the funds will be dedicated to peninsular Florida to offset impacts to fish, shellfish and other coastal migratory species. The CCCWMP will clearly provide benefits to these wildlife guilds, and thus should be eligible for NFWF funding.

6. **Consult with the South Florida Water Management District with regard to the update of the Naples Bay SWIM Plan.** As required by statute, SWIM Plans must be periodically updated and must identify priority projects. The CCCWMP should be recognized by the District as well as well as other stakeholders such as the Rookery Bay National Estuarine Research Reserve as a high priority restoration project.

Finally, although not related to Florida's Gulf restoration efforts, there have been recent changes in Florida regulatory programs that allow for alternatives to onsite stormwater treatment systems to meet water quality treatment requirements for new development. In 2012, the Florida legislature passed HB 559 which included direction to the water management districts and FDEP to "…allow alternatives to onsite treatment, including, *but not limited to* (emphasis added) regional stormwater treatment systems." Upon the Governor's signature, this provision was enacted into law as Section 373.413(6), Florida Statutes (F.S.). Additionally, Section 5.1 of the Southwest Florida Water Management District (SWFWMD) ERP Basis of Review (BOR) states that "The applicant may also provide reasonable assurance of compliance with state water quality standards by the use of alternative methods that will provide treatment *equivalent* (emphasis added) to systems designed using the criteria specified in this section." Because this provision allows for hydrologic restoration projects to serve as alternatives to typical stormwater treatment, it may be possible for Collier County to obtain mitigation and water quality treatment "credits" for future infrastructure projects through the implementation of the Comprehensive Watershed Management Plan.

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Appendix A. CCCWIP Conceptual Plan Set

CONCEPTUAL PLANS FOR THE
COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

GROWTH MANAGEMENT DEPARTMENT
CAPITAL PROJECT PLANNING, IMPACT FEES, AND PROGRAM MANAGEMENT
COLLIER COUNTY, FLORIDA

SHEET No.	TITLE
1	COVER SHEET
2	KEY SHEET
PROJECT AREA A	
A-1	NORTH BELLE MEADE PUMP STATION AND FLOW-WAY RECREATIONAL AREA PLAN
A-2	NORTH BELLE MEADE FLOW-WAY RECREATIONAL AREA TYPICAL SECTIONS
A-3	NORTH BELLE MEADE PUMP STATION PLAN
PROJECT AREA B	
B-1	INTERSTATE 75 (I-75) CANALS IMPROVEMENTS PLAN
PROJECT AREA C	
C-1	SOUTH BELLE MEADE FLOW-WAY AND SPREADER PLAN AND TYPICAL SECTIONS
C-2	SOUTH BELLE MEADE PUMP STATION PLAN
PROJECT AREA D	
D-1	SABAL PALM ROAD CULVERT CROSSINGS
PROJECT AREA E	
E-1	SIX L'S/U.S. 41 FLOW-WAYS AND CONVEYANCE IMPROVEMENTS PLAN

BOARD OF COUNTY COMMISSIONERS

DONNA FIALA	DISTRICT NO. 1
GEORGIA A. HILLER, ESQ.	DISTRICT NO. 2
TOM HENNING	DISTRICT NO. 3
PENNY TAYLOR	DISTRICT NO. 4
TIM NANCE	DISTRICT NO. 5

OWNER ADDRESS:

STORMWATER MANAGEMENT SECTION
2685 HORSESHOE DRIVE SOUTH, STE. 103
NAPLES, FL 34104
(239) 252-5342

GARY MCALPIN, P.E.
DIRECTOR OF COASTAL ZONE MANAGEMENT

PROJECT AREA MAP
N.T.S.

ATKINS PROJECT No. 100046576
COLLIER COUNTY PROJECT No. 325-51144

SEPTEMBER 2016

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CALL SUNSHINE @ 1-800-432-4770
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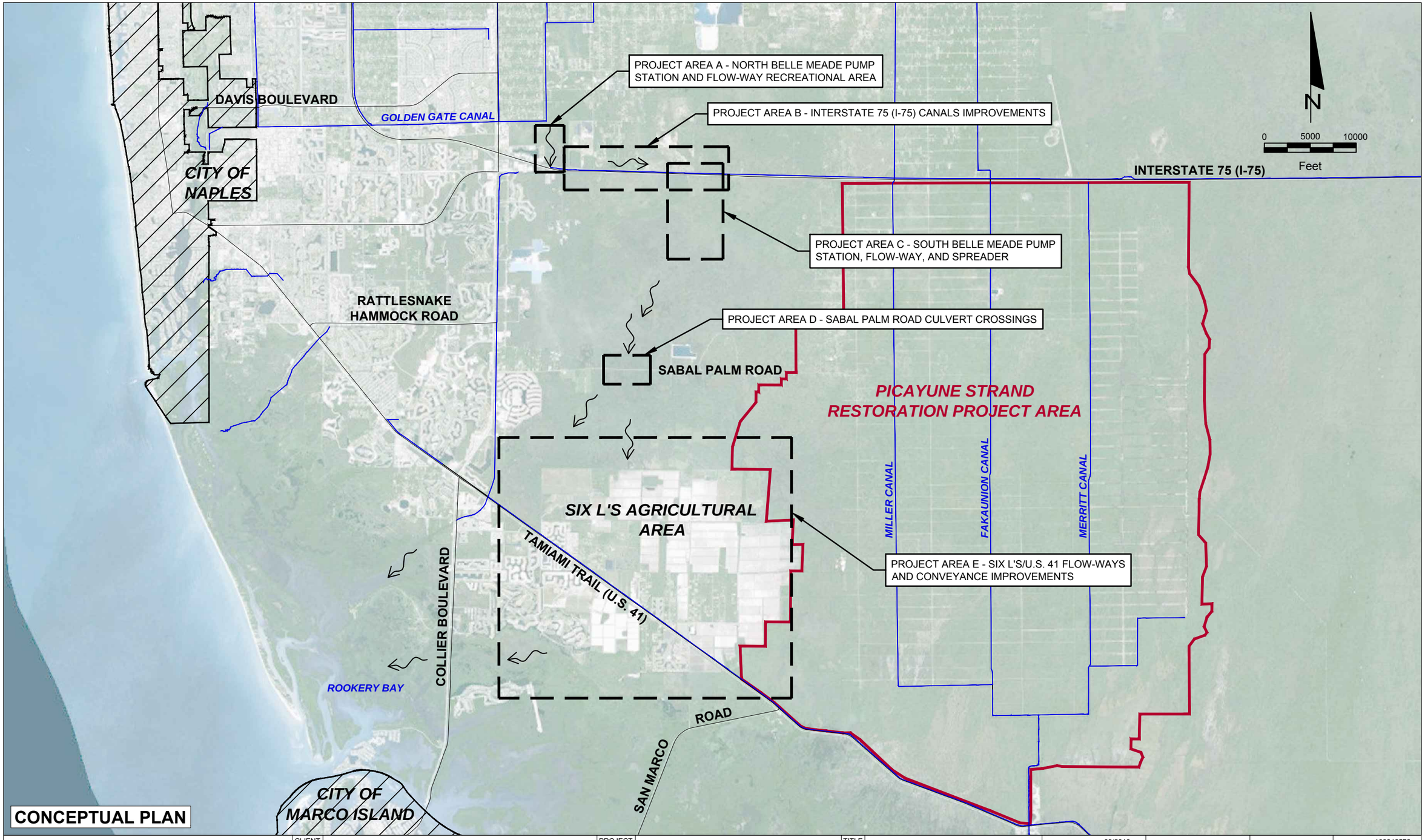
PREPARED BY:

ATKINS
CONSULTING ENGINEER
4030 W. BOY SCOUT BLVD., SUITE 700
TAMPA, FLORIDA 33607
TEL. (813) 282-7275
FAX (813) 282-9767
FBPR CERTIFICATE OF AUTHORIZATION NO. 24

MARK D. ERWIN, P.E.
FLORIDA PROFESSIONAL ENGINEER
NO. 65600

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.



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CLIENT: Collier County

PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: KEY SHEET

ORIGINAL 09/2016
REVISIONS:
1 _____ 2 _____ 3 _____ 4 _____ 5 _____
6 _____ 7 _____ 8 _____ 9 _____ 10 _____ 11 _____ 12 _____

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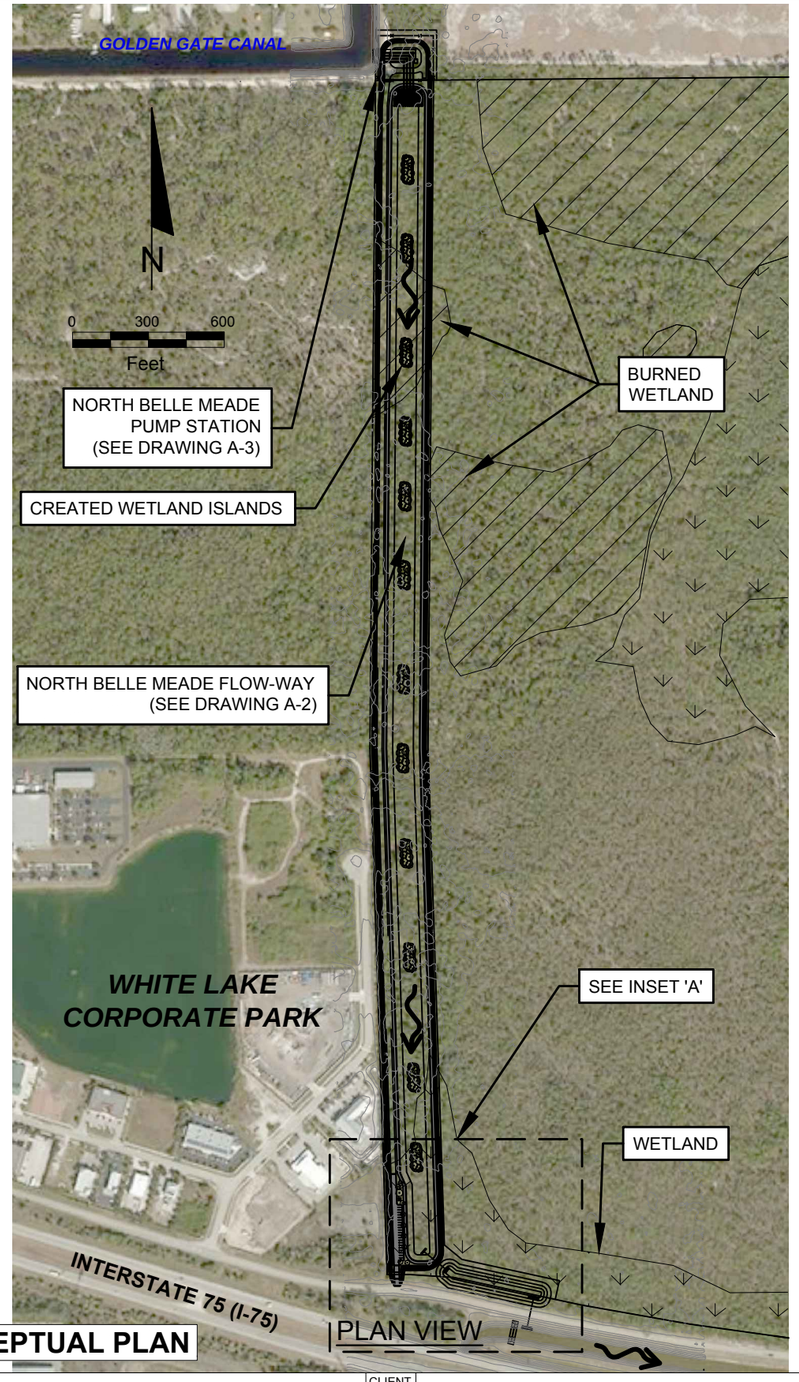

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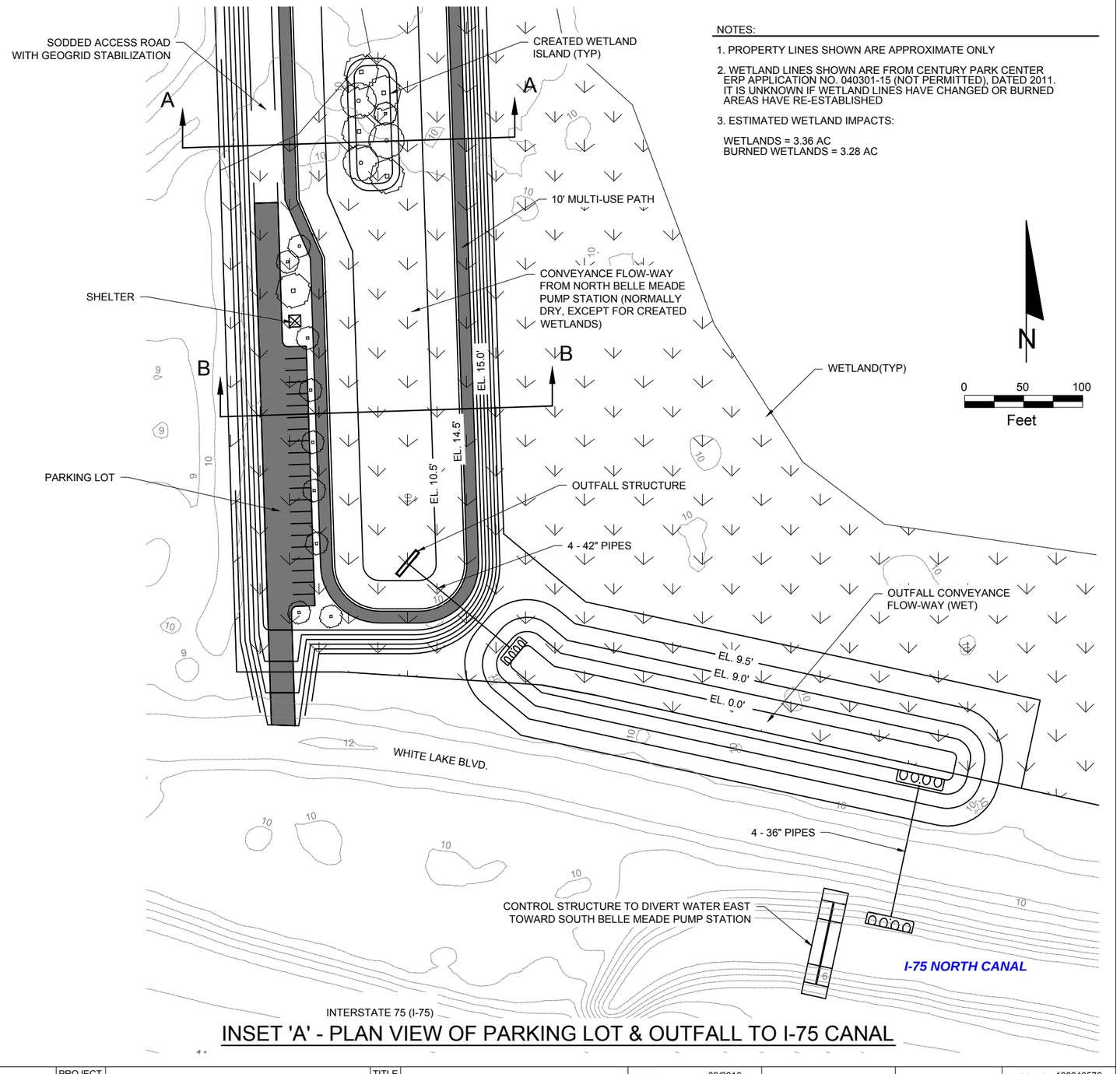

NOTES:

1. PROPERTY LINES SHOWN ARE APPROXIMATE ONLY
2. WETLAND LINES SHOWN ARE FROM CENTURY PARK CENTER ERP APPLICATION NO. 040301-15 (NOT PERMITTED), DATED 2011. IT IS UNKNOWN IF WETLAND LINES HAVE CHANGED OR BURNED AREAS HAVE RE-ESTABLISHED
3. ESTIMATED WETLAND IMPACTS:

   WETLANDS = 3.36 AC
   BURNED WETLANDS = 3.28 AC

N

0 50 100

Feet

INSET 'A' - PLAN VIEW OF PARKING LOT & OUTFALL TO I-75 CANAL

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PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: NORTH BELLE MEADE PUMP STATION AND FLOW-WAY RECREATIONAL AREA PLAN

ORIGINAL REVISIONS: 09/2016
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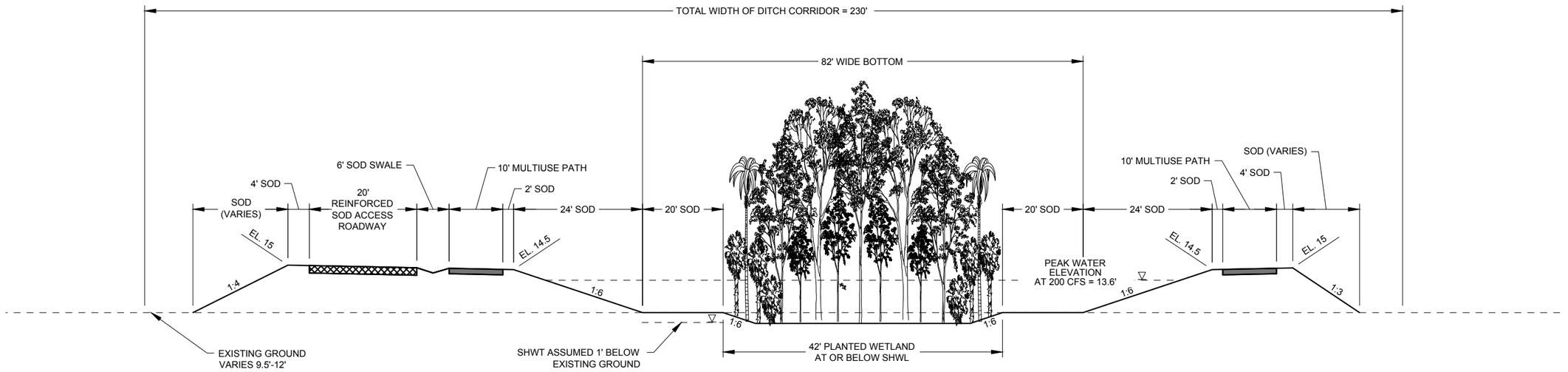

SECTION A-A OF NORTH BELLE MEADE FLOW-WAY

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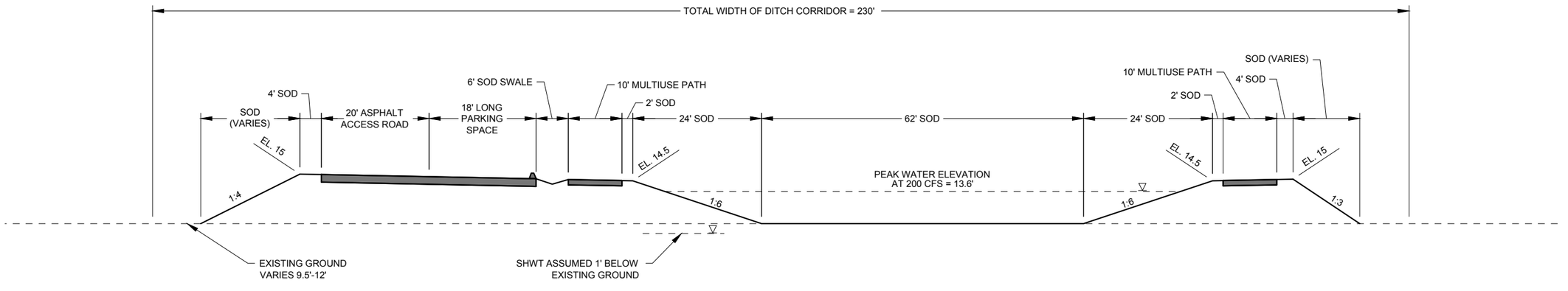

SECTION B-B OF NORTH BELLE MEADE FLOW-WAY

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PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: NORTH BELLE MEADE FLOW-WAY RECREATIONAL AREA TYPICAL SECTIONS

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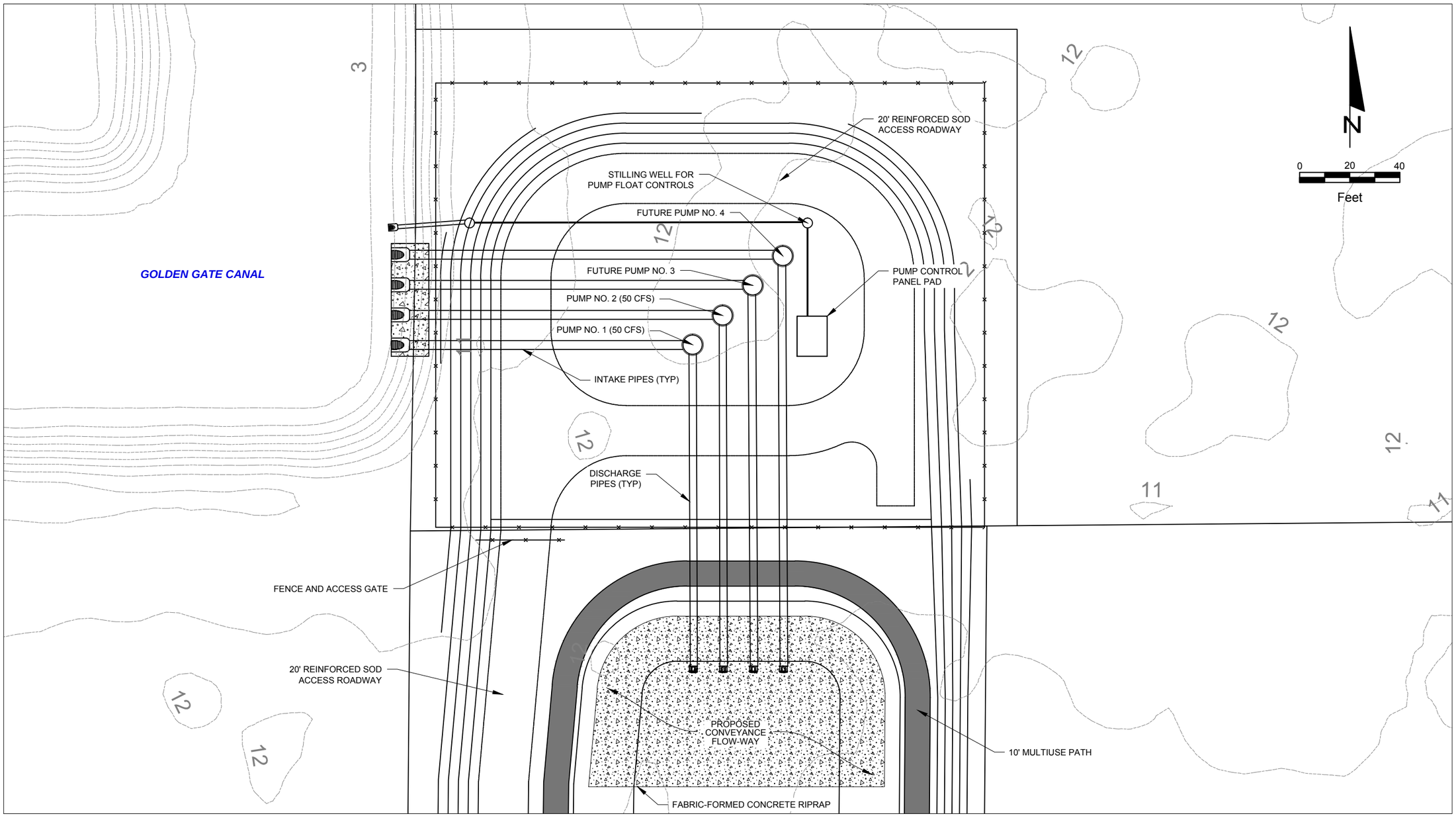

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PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: NORTH BELLE MEADE PUMP STATION PLAN

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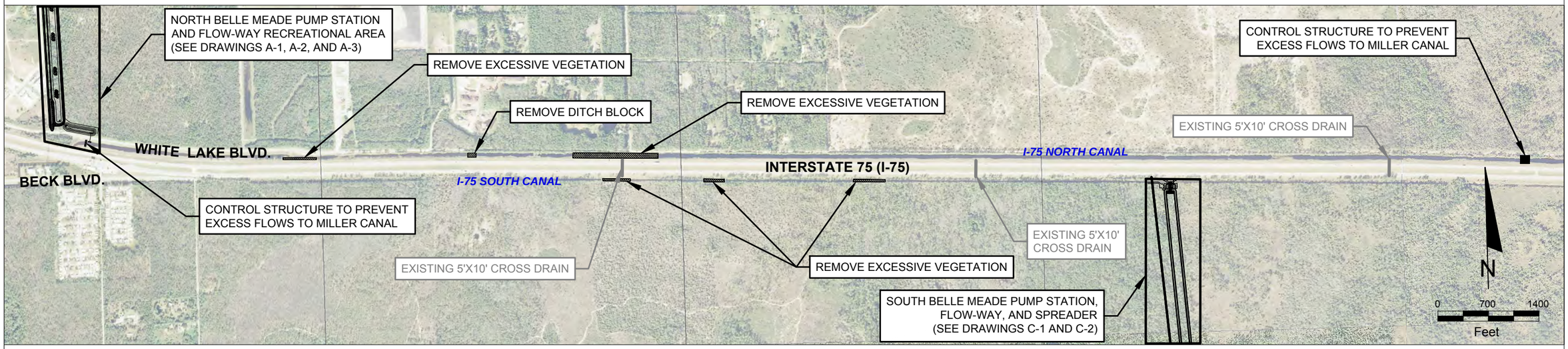

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CLIENT: Collier County

PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: INTERSTATE 75 (I-75) CANALS IMPROVEMENTS PLAN

ORIGINAL REVISIONS: 09/2016
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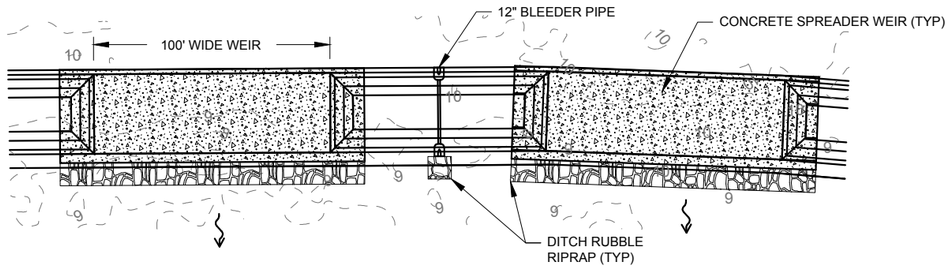

INSET 'A' - PLAN VIEW OF SPREADER SWALE WEIR

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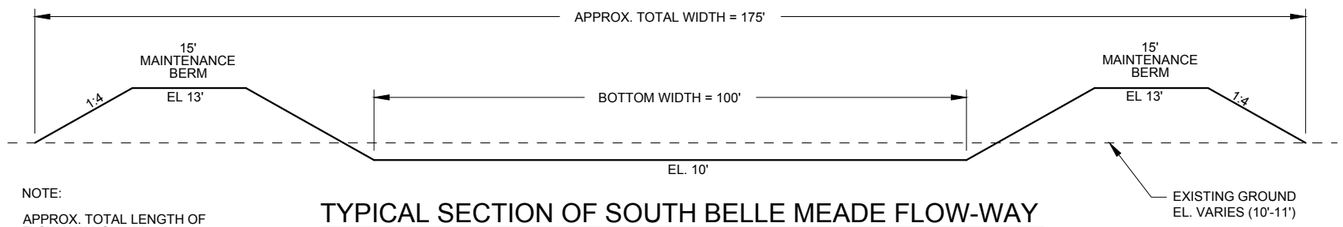

NOTE:

APPROX. TOTAL LENGTH OF FLOW-WAY IS 4,150'

TYPICAL SECTION OF SOUTH BELLE MEADE FLOW-WAY

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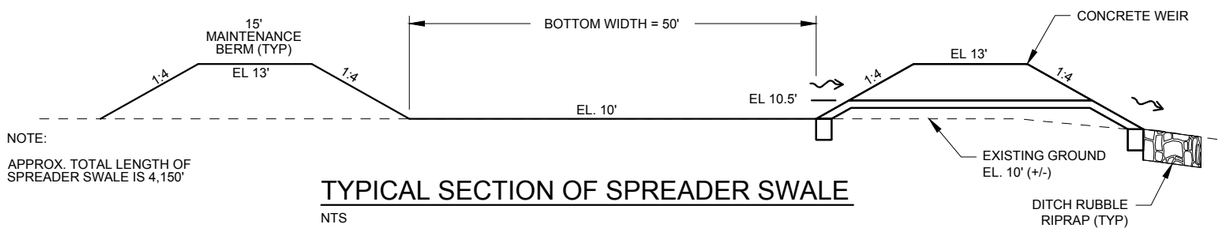

NOTE:

APPROX. TOTAL LENGTH OF SPREADER SWALE IS 4,150'

TYPICAL SECTION OF SPREADER SWALE

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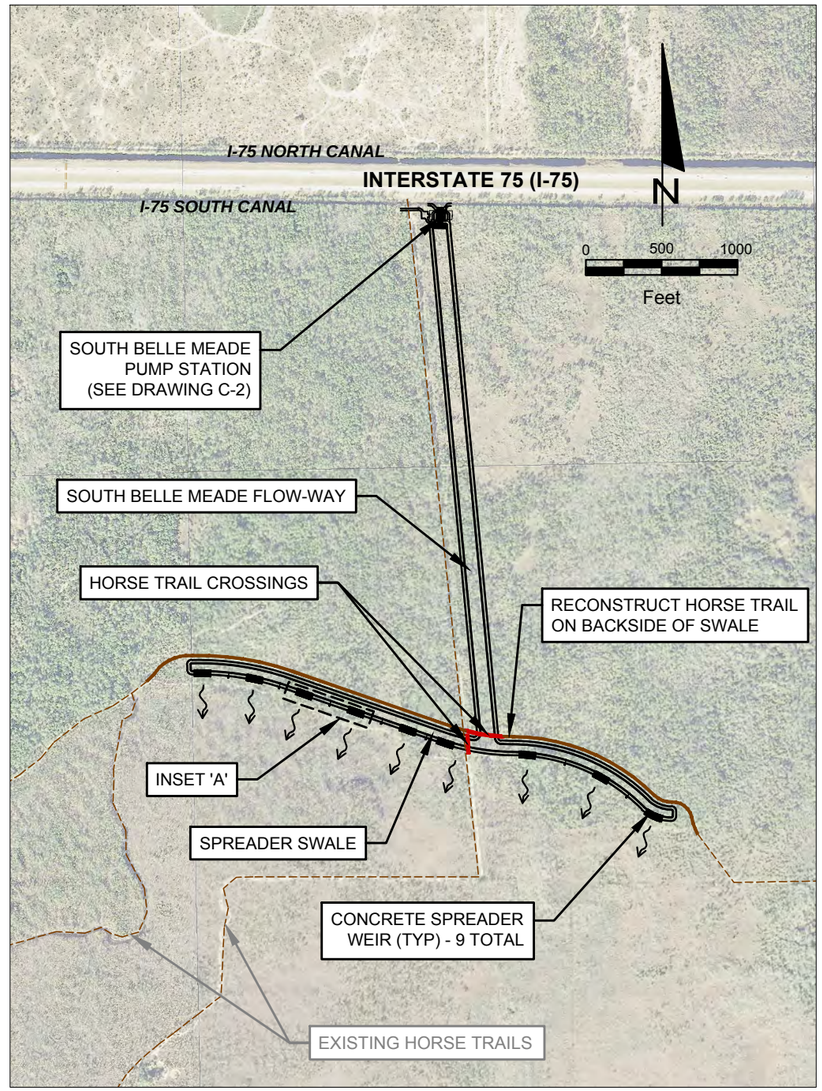

PLAN VIEW

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PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: SOUTH BELLE MEADE FLOW-WAY AND SPREADER PLAN AND TYPICAL SECTIONS

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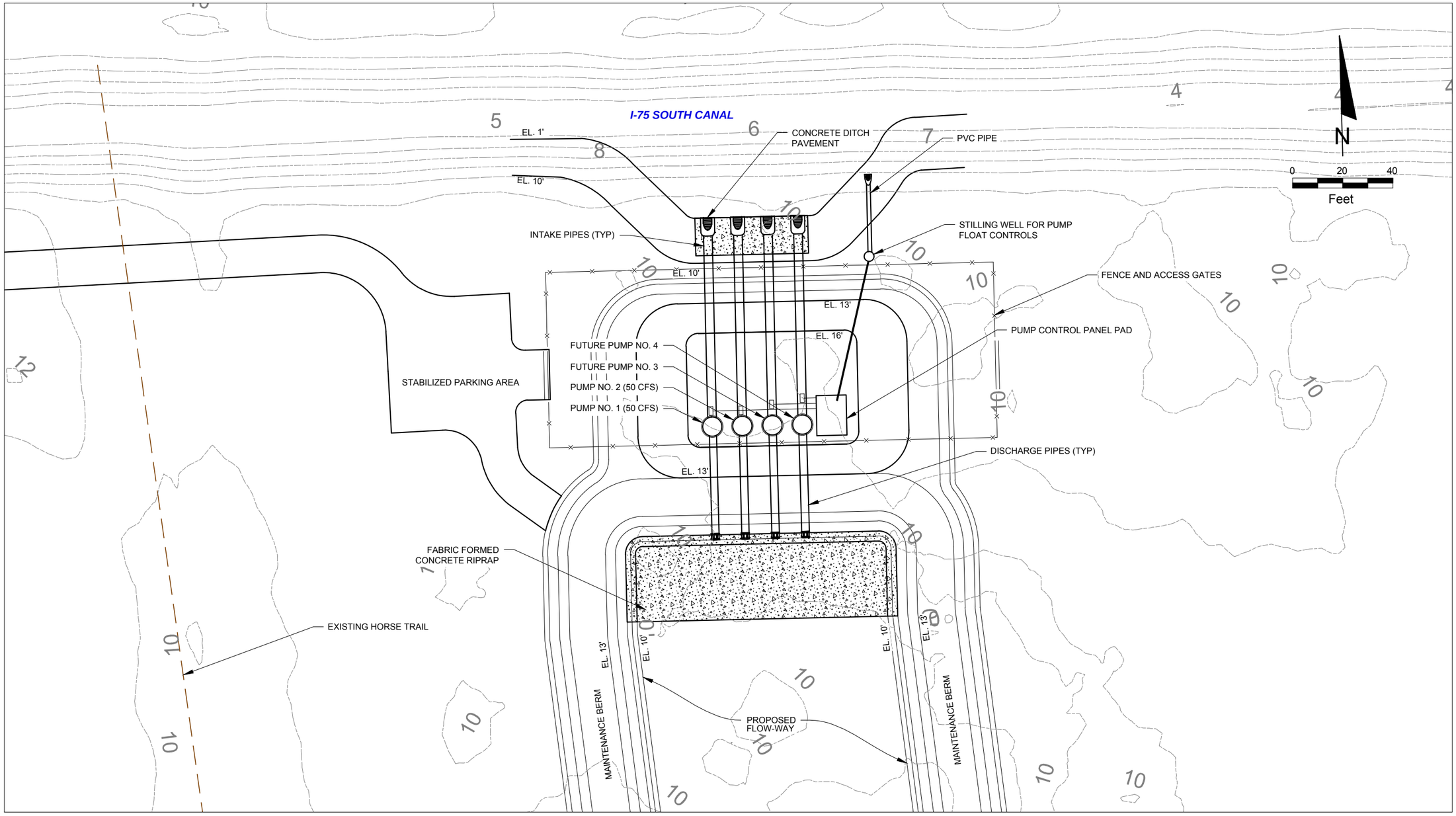

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CLIENT: Collier County

PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: SOUTH BELLE MEADE PUMP STATION PLAN

ORIGINAL REVISIONS: 09/2016
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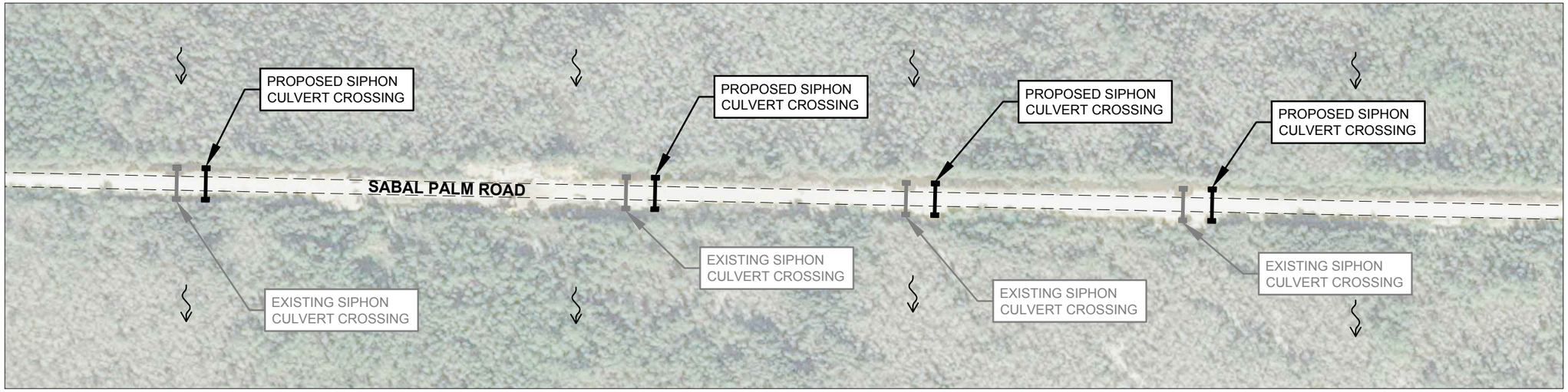

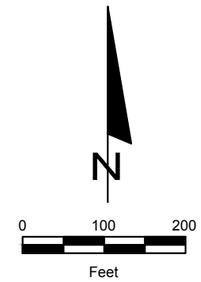

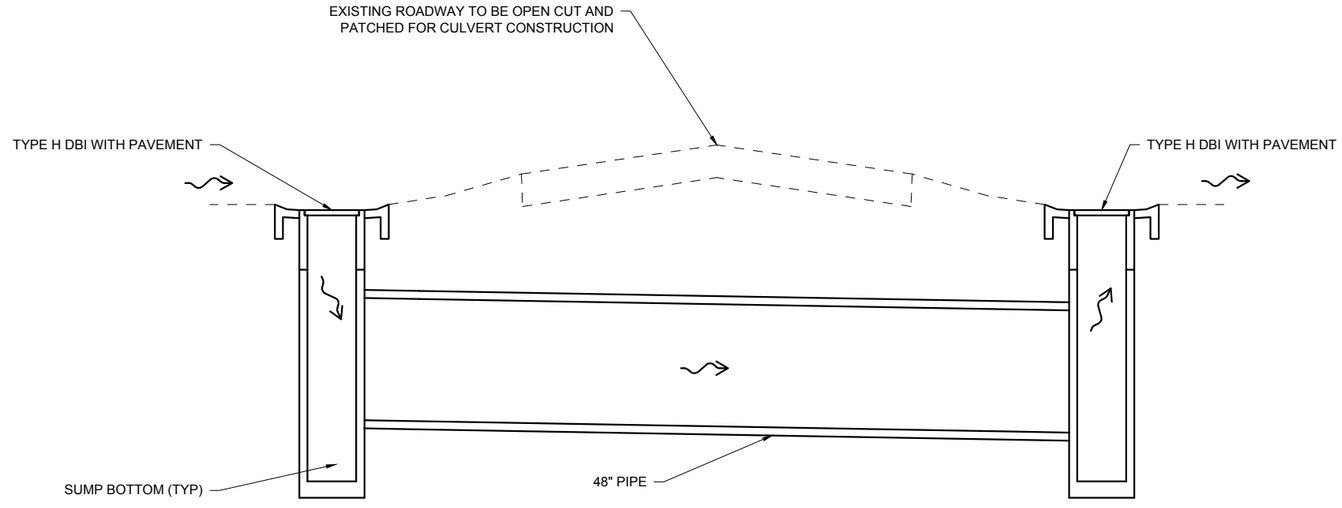

TYPICAL SECTION OF SIPHON CULVERT CROSSING

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CLIENT: Collier County

PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: SABAL PALM ROAD CULVERT CROSSINGS

ORIGINAL REVISIONS: 09/2016
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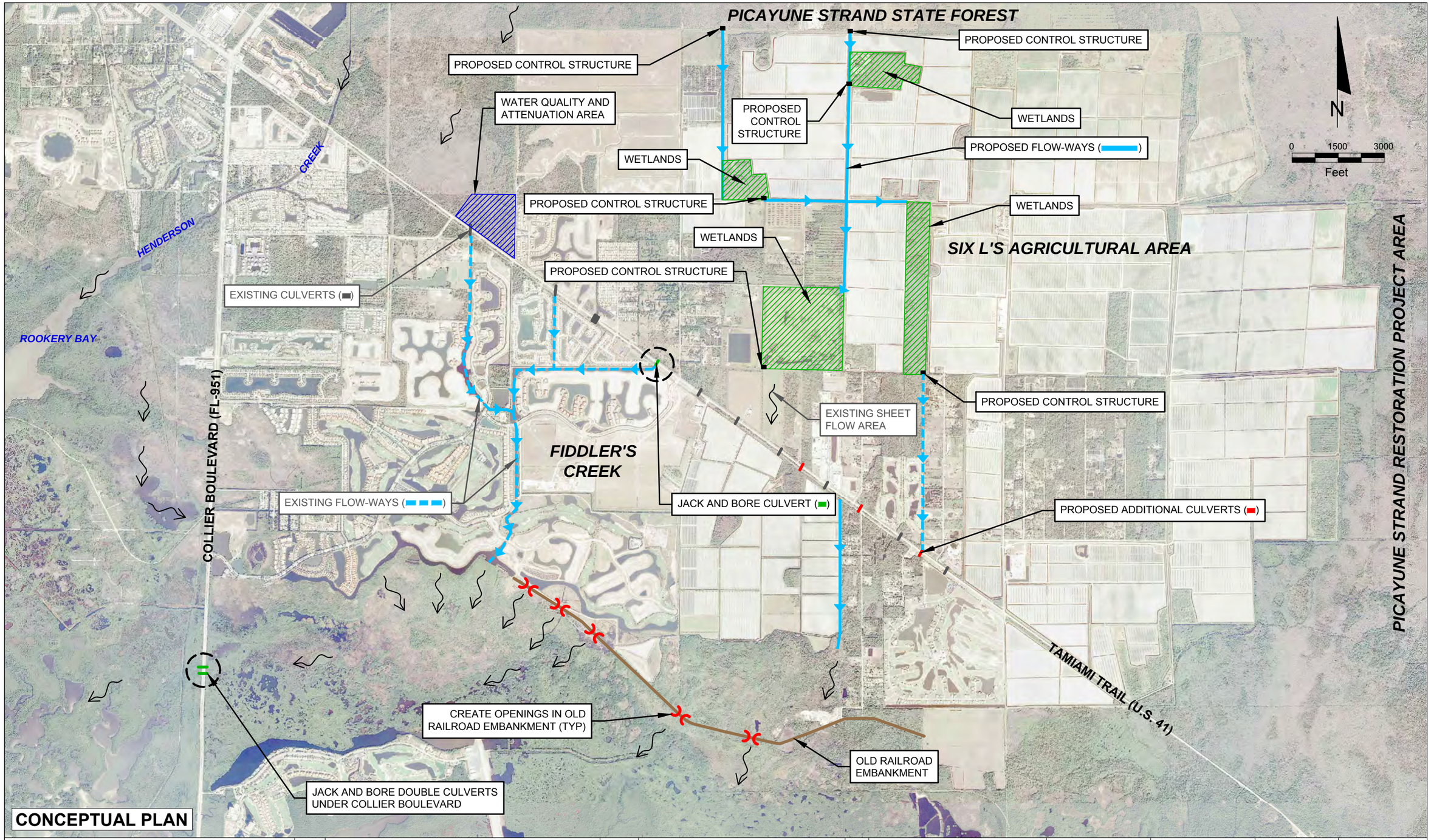

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CLIENT: Collier County

PROJECT: COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PLAN

TITLE: SIX L'S/U.S. 41 FLOW-WAYS AND CONVEYANCE IMPROVEMENTS PLAN

ORIGINAL REVISIONS: 09/2016

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FLORIDA P.E. NO. 65600

JOB NO. 100046576
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CHECKED _____
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E-1

Appendix B. Detailed Estimates of Construction Costs

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA A - NORTH BELLE MEADE PUMP STATION AND FLOW-WAY RECREATIONAL AREA						
North Belle Meade Pump Station & Flow-way						
1	01-ELEC	Electrical Equipment - (control panel, site elec.)	1	LS	$75,000.00	$75,000
2	01-ENCL	VFD Package with NEMA 3R Enclosure	4	EA	$7,317.00	$29,268
3	01-PUMP	50 CFS Vertical Axial Flow Pump powered by 60hp, 1800 rpm Electric Motor.	2	EA	$55,274.00	$110,548
4	01-STRT	Freight to the jobsite, installation and start up service	1	EA	$20,648.13	$20,648
5	104-10-3	Sediment Barrier	11,300	LF	$1.50	$16,950
6	104-11	Floating Turbidity Barrier	200	LF	$10.50	$2,100
7	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
8	104-15	Soil Tracking Prevention Device	1	EA	$2,000.00	$2,000
9	110-1-1	Clearing and Grubbing	27	AC	$15,000.00	$405,000
10	120-5	Channel Excavation	8,248	CY	$30.50	$251,564
11	120-6	Embankment	72,165	CY	$10.50	$757,737
12	145-71	Reinforcement Grid for Soil Stabilization (Access Rd & Station Parking)	10,789	SY	$6.50	$70,129
13	160-4	Type B Stabilization	12,230	SY	$3.50	$42,805
14	285-709	Optional Base Group 09	12,230	SY	$15.00	$183,450
15	334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C (220 lb/sy)	1,345	TN	$100.00	$134,530
16	337-7-43	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22 (165 lb/sy)	111	TN	$140.00	$15,538
17	400-1-25	Conc. Class I, Substructure (Electrical Pad)	4	CY	$580.00	$2,320
18	400-2-25	Conc. Class II, Substructure (Pump Support Slab)	12	CY	$667.00	$8,004
19	400-91	Dewatering (For Pump Cans)	4	EA	$20,000.00	$80,000
20	425-2-62	Manhole, P-8, >10'	1	EA	$5,000.00	$5,000
21	425-1-611	Inlets, Ditch Bottom, Type K	1	EA	$21,000.00	$21,000
22	430-174-112	Pipe Culvert, Round 12"	192	LF	$57.00	$10,944
23	430-175-136	Pipe Culvert, Round 36" (Discharge Piping, 36" PVC)	569	LF	$114.00	$64,866
24	430-175-142	Pipe Culvert, Round 42" (Intake Piping, PVC)	506	LF	$130.00	$65,780
25	430-175-142	Pipe Culvert, Round 42" (Outfall Pipes from ditch/pond)	440	LF	$130.00	$57,200
26	430-175-148	Pipe Culvert, Round 48" (Pipe from ditch to I-75 ditch)	460	LF	$160.00	$73,600
27	430-880-2	Flap Gates (36")	4	EA	$10,000.00	$40,000
28	430-982-140	Mitered End Sections, Round 42" CD	8	EA	$3,500.00	$28,000
29	430-982-141	Mitered End Sections, Round 48" CD	8	EA	$4,000.00	$32,000
30	430-984-140	Mitered End Sections, Round 42" SD (with bars)	4	EA	$6,000.00	$24,000
31	430-984-181	Mitered End Sections, Round 12" SD (with bars)	1	EA	$700.00	$700
32	455-133-1	Sheet Piling Steel, Temporary-Critical	9,000	SF	$12.50	$112,500
33	530-3-4	Riprap, Rubble, Ditch Lining (Pump Intake)	65	TN	$85.00	$5,525
34	530-74	Bedding Stone (Stabilized Parking Area - 8" Depth)	400	TN	$70.00	$28,006
35	530-7-4	Regular Excavation	8,476	CY	$5.00	$42,380
36	547-70-2	Riprap, Fabric-Formed Concrete, 10" Filter Points	826	SY	$104.00	$85,904
37	550-10-220	Fencing, Type B, 5.1-6.0', Standard	800	LF	$11.00	$8,800
38	550-60-224	Fence Gate, Type B, DBL 18.1-20' Opening	1	EA	$1,150.00	$1,150
39	570-1-2	Performace Turf (Sod) - North Canal and North Belle Meade Pump Station	114,769	SY	$2.50	$286,923
40	01-PLANT	Trees for planted wetlands (1.2 acres total)	524	EA	$50.00	$26,200
42		Electrical Service Connection	1	LS	$100,000.00	$100,000
43	01-LAND	Landscaping	1	LS	5%	$166,653
44	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$69,994
45		Mobilization (10%)	1	LS	10%	$349,972
46		Contingency (30%)	1	LS	30%	$1,175,906
Sub-total						***$5,095,600***
PROJECT AREA B - INTERSTATE 75 (I-75) CANALS IMPROVEMENTS						
I-75 Canal Excavations & Vegetation Removal						
47	110-1-1	Clearing and Grubbing (Inludes channel vegetation removal)	16	AC	$15,000.00	$240,000
48	120-5	Channel Excavation	11,054	CY	$30.50	$337,154
49	104-11	Floating Turbidity Barrier	1,780	LF	$10.50	$18,690
50	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
41	01-CANALW	Canal Weir	2	LS	$180,000.00	$360,000
51	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$19,217
52		Mobilization (10%)	1	LS	10%	$96,084
53		Contingency (30%)	1	LS	30%	$322,844
Sub-total						***$1,399,000***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA C - SOUTH BELLE MEADE PUMP STATION, FLOW-WAY, AND SPREADER						
South Belle Meade Pump Station, Flow-way, and Spreader						
54	01-PUMP	50 CFS Vertical Axial Flow Pump powered by 60hp, 1800 rpm Electric Motor.	2	EA	$55,274.00	$110,548
55	01-ENCL	VFD Package with NEMA 3R Enclosure	2	EA	$7,317.00	$14,634
56	01-STRT	Freight to the jobsite, installation and start up service	1	EA	$39,397.75	$39,398
57	01-ELEC	Electrical Equipment - (control panel, site elec.)	1	LS	$75,000.00	$75,000
58	400-1-25	Conc. Class I, Substructure (Electrical Pad)	4	CY	$580.00	$2,320
59	400-2-25	Conc. Class II, Substructure (Pump Support Slab)	12	CY	$667.00	$8,004
60	430-175-142	Pipe Culvert, Round 42" (Intake Piping, PVC)	320	LF	$130.00	$41,600
61	430-175-136	Pipe Culvert, Round 36" (Discharge Piping, 36" PVC)	200	LF	$114.00	$22,800
62	SPECIAL	5'X10' Reinforced Concrete Box Culvert	310	LF	$400.00	$124,000
63	430-880-2	Flap Gates (36")	4	EA	$10,000.00	$40,000
64	430-984-140	Mitered End Sections, Round 42" SD (with bars)	4	EA	$6,000.00	$24,000
65	430-984-181	Mitered End Sections, Round 12" SD (with bars)	1	EA	$700.00	$700
66	455-133-1	Sheet Piling Steel, Temporary-Critical	4,000	SF	$12.50	$50,000
67	524-1-29	Conc. Ditch Pavt, 4" Reinforced	410	SY	$83.00	$34,030
68	530-3-4	Riprap, Rubble, Ditch Lining (Pump Intake)	65	TN	$85.00	$5,525
69	550-10-220	Fencing, Type B, 5.1-6.0', Standard	480	LF	$11.00	$5,280
70	550-60-224	Fench Gate, Type B, DBL 18.1-20' Opening	2	EA	$1,150.00	$2,300
71	425-2-62	Manhole, P-8, >10'	1	EA	$5,000.00	$5,000
72	430-174-112	Pipe Culvert, Round 12"	100	LF	$57.00	$5,700
73	145-71	Reinforcement Grid for Soil Stabilization (Parking Area)	4,260	SY	$6.50	$27,690
74	530-74	Bedding Stone (Stabilized Parking Area - 8" Depth)	1,470	TN	$70.00	$102,879
75	120-1	Regular Excavation	9,244	CY	$5.00	$46,220
76	120-5	Channel Excavation	1,060	CY	$30.50	$32,330
77	120-6	Embankment	31,336	CY	$10.50	$329,028
78	524-1-2	Conc. Ditch Pavt, 4" Non Reinforced	406	SY	$63.50	$25,781
79	524-1-29	Conc. Ditch Pavt, 4" Reinforced	3,667	SY	$83.00	$304,361
80	530-3-4	Riprap, Rubble, Ditch Lining (Outfalls)	902	TN	$85.00	$76,670
81	110-1-1	Clearing and Grubbing (Pump Station & Spreader Swale)	29	AC	$15,000.00	$435,000
82	110-1-1	Clearing and Grubbing (Dirt Access Road)	6	AC	$15,000.00	$96,419
83		Dirt Access Road Compaction	31,111	SY	$20.00	$622,222
84	570-1-2	Performace Turf (Sod) - South Ditch and South Belle Meade Pump Station	47,768	SY	$2.50	$119,420
85	570-1-2	Performace Turf (Sod) - South Channel Bottom	52,973	SY	$2.50	$132,433
86	400-91	Dewatering (For Pump Cans)	4	EA	$20,000.00	$80,000
87	104-11	Floating Turbidity Barrier	250	LF	$10.50	$2,625
88	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
89	104-10-3	Sediment Barrier	11,600	LF	$1.50	$17,400
90		Electrical Service Connection	1	LS	$100,000.00	$100,000
91	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$63,326
92		Mobilization (10%)	1	LS	10%	$316,632
93		Contingency (30%)	1	LS	30%	$1,063,882
Sub-total						***$4,610,200***
PROJECT AREA D - SABAL PALM ROAD CULVERT CROSSINGS						
Sabal Palm Road Culvert Crossings						
94	110-1-1	Clearing and Grubbing	1	AC	$15,000.00	$15,000
95	160-4	Type B Stabilization	150	SY	$3.50	$525
96	285-709	Optional Base Group 09	150	SY	$15.00	$2,250
97	334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C (220 lb/sy)	16.5	TN	$100.00	$1,650
98	337-7-43	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22 (165 lb/sy)	2	TN	$140.00	$280
99	425-1-585	Inlets, Ditch Bottom, Type H, <10'	8	EA	$7,000.00	$56,000
100	430-175-148	Pipe Culvert, Round 48"	160	LF	$160.00	$25,600
101	570-1-2	Performace Turf (Sod)	356	SY	$2.50	$890
102	104-10-3	Sediment Barrier	400	LF	$1.50	$600
103	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
104		Mobilization (10%)	1	LS	10%	$10,280
105		Contingency (30%)	1	LS	30%	$35,422
Sub-total						***$153,500***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA E - SIX L'S / U.S. 41 FLOW-WAYS AND CONVEYANCE IMPROVEMENTS						
Tamiami Trail Conveyance Improvement (U.S. 41)						
106	110-1-1	Clearing and Grubbing	0.5	AC	$15,000.00	$7,500
107	430-185-148	Pipe Culvert, Round 48" (Jack and Bore)	70	LF	$800.00	$56,000
108	430-175-148	Pipe Culvert, Round 48"	80	LF	$160.00	$12,800
109	430-982-141	Mitered End Section, Round 48"	2	EA	$4,000.00	$8,000
110	570-1-2	Performace Turf (Sod)	556	SY	$2.50	$1,390
111	104-10-3	Sediment Barrier	100	LF	$1.50	$150
112	104-12	Staked Turbidity Barrier	200	LF	$7.00	$1,400
113	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
114		Mobilization (10%)	1	LS	10%	$8,724
115		Contingency (30%)	1	LS	30%	$30,289
Sub-total						***$131,300***
Tamiami Trail Water Quality and Attenuation Area (U.S. 41)						
116	01-PUMP	10 CFS Vertical Axial Flow Pump Station	1	EA	$40,000.00	$40,000
117	110-1-1	Clearing and Grubbing	12	AC	$15,000.00	$180,000
118	120-1	Regular Excavation	10,400	CY	$5.00	$52,000
119	120-6	Embankment (New Berms)	12,500	CY	$10.50	$131,250
120	120-SPECIAL	Finish Grading	24,000	SY	$10.00	$240,000
121	104-10-3	Sediment Barrier	7,000	LF	$1.50	$10,500
122	104-12	Staked Turbidity Barrier	100	LF	$7.00	$700
123	400-2-25	Conc. Class II, Substructure (Pump Support Slab)	12	CY	$667.00	$8,004
124	550-10-220	Fencing, Type B, 5.1-6.0', Standard	150	LF	$11.00	$1,650
125	550-60-224	Fence Gate, Type B, DBL 18.1-20' Opening	1	EA	$1,150.00	$1,150
124	570-1-2	Performace Turf (Sod)	50,000	SY	$2.50	$125,000
125	SPECIAL	Concrete Spillways	3	EA	$11,000.00	$33,000
126	SPECIAL	Outfall Weir Structure	1	EA	$30,000.00	$30,000
127	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$17,065
128		Mobilization (10%)	1	LS	10%	$85,325
129		Contingency (30%)	1	LS	30%	$286,693
Sub-total						***$1,242,300***
Old Railroad Embankment Removal (U.S. 41)						
130	110-1-1	Clearing and Grubbing	1	AC	$15,000.00	$15,000
131	120-1	Regular Excavation (Assumed RR = 12' top, 3' high, 1:3 SS)	700	CY	$5.00	$3,500
132	570-1-2	Performace Turf (Sod)	4,000	SY	$2.50	$10,000
133	104-10-3	Sediment Barrier	1,800	LF	$1.50	$2,700
134	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
135		Mobilization (10%)	1	LS	10%	$3,120
136		Contingency (30%)	1	LS	30%	$11,796
Sub-total						***$51,100***
Collier Boulevard (FL-951) Conveyance Improvement						
137	110-1-1	Clearing and Grubbing	1	AC	$15,000.00	$15,000
138	430-185-148	Pipe Culvert, Round 48" (Jack and Bore)	200	LF	$800.00	$160,000
139	430-175-148	Pipe Culvert, Round 48"	160	LF	$160.00	$25,600
140	430-982-141	Mitered End Section, Round 48"	4	EA	$4,000.00	$16,000
141	570-1-2	Performace Turf (Sod)	1,112	SY	$2.50	$2,780
142	104-10-3	Sediment Barrier	200	LF	$1.50	$300
143	104-12	Staked Turbidity Barrier	400	LF	$7.00	$2,800
144	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
145		Mobilization (10%)	1	LS	10%	$22,248
146		Contingency (30%)	1	LS	30%	$74,918
Sub-total						***$324,600***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA E - SIX L'S / U.S. 41 FLOW-WAYS AND CONVEYANCE IMPROVEMENTS (CONT'D.)						
6L's Agricultural Area Improvements						
147	104-10-3	Sediment Barrier	140,000	LF	$1.50	$210,000
148	104-11	Floating Turbidity Barrier	700	LF	$10.50	$7,350
149	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
150	110-1-1	Clearing and Grubbing	50	AC	$15,000.00	$750,000
151	120-1	Regular Excavation	7,580	CY	$5.00	$37,900
152	120-6	Embankment (New Berms)	14,710	CY	$10.50	$154,455
153	120-6	Embankment (Berm Plugs)	250	CY	$10.50	$2,625
154	120-SPECIAL	Finish Grading	27,800	SY	$10.00	$278,000
155	400-91	Dewatering (For Control Structures)	5	EA	$60,000.00	$300,000
156	425-158-9	Inlets, Ditch Bottom, Type H, Modify	10	EA	$7,500.00	$75,000
157	430-175-172	Pipe Culvert, Round 72" (Cross Drain, RCP)	400	LF	$500.00	$200,000
158	430-175-172	Pipe Culvert, Round 72" (Outfall, RCP)	500	LF	$500.00	$250,000
159	430-982-645	Mitered End Sections, Round 72" CD (with bars)	16	EA	$3,000.00	$48,000
160	455-133-2	Sheet Piling Steel, Temporary-Critical	6,000	SF	$12.50	$75,000
161	530-3-4	Riprap, Rubble, Bank and Shore (24", Cross Drains, Includes Filter Fabric)	260	TN	$85.00	$22,100
162	530-3-4	Riprap, Rubble, Bank and Shore (24", Outfalls, Includes Filter Fabric)	160	TN	$85.00	$13,600
163	530-74	Bedding Stone (8", Cross Drains, Includes Filter Fabric)	90	TN	$70.00	$6,300
164	530-74	Bedding Stone (8", Outfalls, Includes Filter Fabric)	55	TN	$70.00	$3,850
165	570-1-2	Performace Turf (Sod) - New Berms	27,550	SY	$2.50	$68,875
166	SPECIAL	Geotechnical Exploration and Berm Inspection	1	LS	$500,000.00	$500,000
167	SPECIAL	Berm Rehabilitation Allowance	1	LS	$500,000.00	$500,000
168	SPECIAL	Sluice Gates Weir Structures	2	EA	$204,000.00	$408,000
169	102-1	Maintenance of Traffic (MOT)	1	LS	5%	$195,803
170		Mobilization (10%)	1	LS	10%	$391,606
171		Contingency (30%)	1	LS	30%	$1,351,039
Sub-total						***$5,854,500***

Construction Cost Estimate Total (Project Areas A-E)	**$18,862,100**
Project Development (5%)	**$943,100**
Design/Engineering (10%)	**$1,886,200**
Permitting (5%)	**$943,100**
Mitigation (5%)	**$943,100**
Monitoring and Scada Telemetry Systems	**$1,000,000**
Additional Minor Projects	**$1,000,000**
North Belle Meade Preliminary Engineering	**$1,000,000**
Six L's Area Future Masterplan	**$1,000,000**
Cost Escalation compounded over 7 years (3% per year)	**$4,338,300**
Total Estimated Cost	**$31,916,000**

Mark Erwin, PE, CFM
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Letters of Support

BIG CYPRESS BASIN
OF THE
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. BCBB2016-0701

A Resolution of the Big Cypress Basin Board of the South Florida Water Management District conceptually supporting Collier County's RESTORE Act Funding Request; providing an effective date.

WHEREAS, the Resources and Ecosystems Sustainability Tourist Opportunities and Revived Economies of the Gulf Coast States Act (RESTORE Act) established a Gulf Coast Restoration Trust Fund to be utilized to restore and protect natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastland wetlands, and economy of the Gulf Coast region; and

WHEREAS, Collier County is seeking RESTORE Act funding to plan, develop and implement a Comprehensive Watershed Management Project restoration project in the Golden Gate/South Belle Meade/Rookery Bay watershed; and

WHEREAS, The Collier County Comprehensive Watershed Management Project for the restoration and rehydration of the Golden Gate/Belle Meade/Rookery Bay watersheds seeks to divert flows from Naples Bay, enhance water quality to local bays and estuaries and rehydrate historic wetland areas; now therefore,

BE IT RESOLVED BY THE BIG CYPRESS BASIN BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Big Cypress Basin Board conceptually supports Collier County in their pursuit of RESTORE Act funding for the overall concept of their Comprehensive Watershed Project in the Golden Gate/Belle Meade/Rookery Bay watersheds.

Section 2. This resolution shall take effect immediately upon adoption.

PASSED and **ADOPTED** this **11th** day of **July, 2016**.

Legal form approved
By:

Office of Counsel

Print name: DEREK C BROWN

BIG CYPRESS BASIN OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD
By:

Chairman

City of Naples

BILL BARNETT
MAYOR

July 25, 2016

Gary McAlpin, Manager
Coastal Zone Management
Collier County Government
2800 N. Horseshoe Drive
Naples, FL 34104
Email: GaryMcAlpin@colliergov.net

Re: Collier County RESTORE Act Funding Request
"The Golden Gate Canal Flow Diversion and Historical Flow way Restoration Project"

Dear Sir or Madam:

The City of Naples is writing in support of Collier County's application for RESTORE Act funding for its Golden Gate Canal Flow Diversion and Historical Flow way Restoration Project. This project includes the diversion of Golden Gate Canal waters away from Naples Bay and to the historic flow ways through Belle Meade.

The City supports this important project because it will significantly decrease freshwater flows into an impaired water body. Naples Bay is on the EPA 303(d) List of Impaired Waters for copper, iron, fecal coliforms and dissolved oxygen. Naples Bay provides many benefits to the region, including commercial and recreational activities that improve the quality of life for residents and attract visitors to the area. As a result of the construction of the Golden Gate Canal drainage system, the Naples Bay watershed has been drastically changed from its historic 10 square mile receiving area to its current 120 square mile receiving area. This massive increase in freshwater input has been a major stressor on Bay organisms, having a significant effect on the ecology and water quality of the Bay. Since the 1950s, Naples Bay has lost 90% of its seagrass beds, 80% of the oyster reefs and 70% of its mangrove fringe.

The City recognizes this project as one important step in the restoration of water quality and ecological systems. But, in this letter of support, the City urges Collier County to expand the restorative effort of this project by including the restoration of oyster reefs within Naples Bay. Degrading water quality is both a cause and an effect of the oyster decline, because fewer oysters mean less filtration capacity. The decrease in oyster reefs in the Bay is a direct effect of the fresh water inflows from the Golden Gate Main Canal. To this end, the City has designed a $1 million project to restore oysters in suitable areas of Naples Bay and is currently in the final stages of permitting.

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EMAIL: Mayorbill@naplesgov.com

City of Naples

The City strongly urges Collier County to include this important restoration component within the County's grant application as a part of the entire watershed improvement/restoration project.

We thank you for your time and consideration for funding this most vital part of our region's efforts to restore Southwest Florida's estuarine coastal ecosystem. Restoring our coast will not only improve the ecosystem, but will also improve the quality of life for those who live and visit our area.

Sincerely,

Bill Barnett

Mayor Bill Barnett

735 EIGHTH STREET SOUTH • NAPLES. FLORIDA 34102-6796

TELEPHONE (239) 213-1000 FAX (239) 213-1010 CELL (239) 777-7952
EMAIL: Mayorbill@ naplesgov.com

August 1, 2016

Donna Fiala, Chair, Commissioner District 1
Georgia A. Hiller, Esq., Commissioner District 2
Tom Henning, Commissioner District 3
Penny Taylor, Commissioner District 4
Tim Nance, Vice-Chair, Commissioner District 5
Collier County Board of County Commissioners
3299 Tamiami Trail East, Suite 303
Naples, FL 34112

Re: Collier County Comprehensive Watershed Management Plan RESTORE Act Project Application

Dear Chair Fiala and Commissioners:

The Conservancy of Southwest Florida conceptually supports the Collier County Comprehensive Watershed Management Plan project seeking federal funding through both the Florida Department of Environmental Protection's (FDEP) RESTORE Council for Category 2 funding and also through the Gulf Consortium for Category 3 funding.

The Conservancy has been closely involved in the process through which local governments may receive RESTORE Act Funding. Conservancy staff have served on the Collier, Lee, and Charlotte County RESTORE Act Advisory Committees and worked closely with Collier County staff in developing project ranking criteria. We are committed to supporting coastal communities in Southwest Florida in securing funds for restoration projects.

This project, once fully vetted, funded and implemented, will provide the opportunity to restore, enhance and protect priority restoration areas within Collier County. The intended benefits of the project are:

- Reduction of peak freshwater flows to Naples Bay by approximately 15% and associated nutrient pollutant reduction to Naples Bay
- Restoration of historic hydroperiods and flow patterns in South Belle Meade/Picayune Strand State Forest
- Freshwater flows of approximately 50 cubic feet per second (cfs) routed to Rookery Bay National Estuarine Research Reserve when needed

In communications with County staff, the Conservancy has preliminarily identified several components which we feel are critical to the ultimate success of the proposed project.

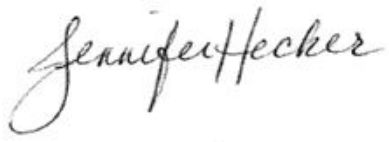
Firstly, the plan should not contribute to a decrease in water quality in Rookery Bay. Rookery Bay is currently on FDEP's impaired waters list for nutrients (chl-a), dissolved oxygen, and fecal coliform, and the project should not contribute to these, or any other water quality impairment. In order to assess and address any potential impacts, the Conservancy supports robust water quality monitoring and filtration at both the Golden Gate Canal pump station as well as at a site in the vicinity of Six L's, and prior to any discharge of water into Rookery Bay.

Secondly, the GSSHA model analysis must confirm that there are no negative impacts on native plant communities or hydroperiods, as several listed wildlife species rely on the area. Our understanding is that additional modeling and ground-truthing will be conducted in regards to this issue, when the funding is in place.

Additionally, we recommend that the County continue discussions with the Florida Department of Transportation (FDOT), to determine if the improvements made at I-75 can assist with ongoing efforts to improve panther movement between north and south Belle Meade. In this unfenced area, there have been at least 14 panthers struck and killed since 2004. FDOT is currently beginning a feasibility study with lands that overlap this project, and there may be opportunities through both the FDOT project and this proposed project that can also benefit wildlife movement and motorist safety.

In conclusion, the Conservancy of Southwest Florida strongly encourages the Collier County Board of County Commissioners to submit the Collier County Comprehensive Watershed Management Plan Project for RESTORE Act funding. The Conservancy looks forward to remaining engaged, as well as reviewing additional information in the design and implementation phases of the project regarding the topics raised above.

Sincerely,



Jennifer Hecker
Director of Natural Resource Policy

CC: Gary McAlpin, Collier County Coastal Zone Management

Florida Fish and Wildlife Conservation Commission

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MyFWC.com

August 2, 2016

Gary McAlpin, Manager
Collier County Coastal Zone Management
2800 N. Horseshoe Drive
Naples, FL 34104
GaryMcAlpin@colliergov.net

Re: Golden Gate Canal Flow Diversion and South Belle Meade Hydration Project, Technical Assistance Request, Collier County

Dear Mr. McAlpin:

Florida Fish and Wildlife Conservation Commission (FWC) staff has participated in initial planning meetings for the above-mentioned project. We offer the following comments and recommendations as technical assistance at your request based on our initial review of the proposed project and in accordance with Chapter 379, Florida Statutes.

Project Description

The proposed project would divert inflows out of the Golden Gate Canal, when sufficient water is available (June – October), through the Belle Meade region via proposed water control features to increase freshwater flows into Rookery Bay. The primary goals are to reduce the excessive amount of freshwater flows to Naples Bay, to rehydrate wetlands in the Belle Meade region, and to reestablish historical freshwater inflow quantities into Rookery Bay, while improving the associated estuarine habitat. The project aims to improve the balance, timing and distribution of fresh and salt water in both Naples Bay and Rookery Bay.

Collier County has proposed an adaptive management approach with hydrologic, wetland and habitat monitoring, and has noted that the system will be flexible, with the ability for the diverted flows to be decreased or the system capacity to be increased as necessary. The overall restoration plan includes the following project components:

Project Area A (north of Interstate-75 (I-75)) is comprised of a 5,000-foot flowway planted with wetland islands, a multi-use recreational trail, outfall system under Lake Boulevard to the I-75 north canal, and a 100 cubic feet per second (cfs) pump station to draw water from the Golden Gate Canal (infrastructure designed to be expanded to 200 cfs).

Project Area B (along I-75 corridor) includes removal of ditch blocks and vegetation to improve conveyance and operational control structures to control flows to Henderson Creek and the Miller Canal.

Project Area C is a conveyance flowway and spreader swale built at grade, realignment of horse trails to maintain trail connectivity, and a 100 cfs pump station to draw water from the I-75 north canal (with infrastructure designed to be expanded to 200 cfs).

Project Area D (known as Sabal Palm Road conveyance improvements) is the installation of four new siphon culvert crossings to convey additional flow and reconstruct the road to existing conditions.

Project Area E includes construction of new flowways though historical flowway areas, construction of new culvert crossings under U.S. Highway 41 and State Road 581, creation of openings in the historic railroad berm, and creation of water quality and attenuation areas on a public parcel.

Another project component is flowway corridors through the Six L agricultural lands and will be coordinated when Six L lands transition to residential development in the future.

Potentially Affected Resources

FWC staff conducted a geographic information system (GIS) analysis of the project area. Based on this analysis, the project area is located near, within or adjacent to:

- U.S. Fish and Wildlife Service (USFWS) consultation areas for:
  - Florida panther (*Puma concolor coryi*, primary and secondary zones, Federally Endangered [FE])
  - Florida scrub-jay (*Aphelocoma coerulescens*, Federally Threatened [FT])
  - Red-cockaded woodpecker (*Picoides borealis*, FE)
  - Florida bonneted bat (*Eumops floridanus*, FE)
  - Everglade snail kite (*Rostrhamus sociabilis plumbeus*, FE)

- Within one or more wood stork (*Mycteria americana*, FT) nesting colony core foraging area (CFA). The CFA constitutes an 18.6-mile radius around the nesting colony.

- Primary range for the Big Cypress population of Florida black bear (*Ursus americanus floridanus*) (South Bear Management Unit)

- Bald eagle ((*Haliaeetus leucocephalus*) nests
  - CO011
  - CO015
  - CO037
  - CO961*

  *CO961 is an unconfirmed nest reported by residents as active this year

- Potential habitat for state- and federally listed species:
  - Eastern indigo snake (*Drymarchon corais couperi*, FT)
  - Florida manatee (*Trichechus manatus latirostris*, FE)
  - Red-cockaded woodpecker

- Wood stork
- Gopher tortoise (*Gopherus polyphemus*, State Threatened [ST])
- Big Cypress fox squirrel (*Sciurus niger avicennia*, ST)
- Everglades mink (*Neovison vison evergladensis*, ST)
- Little blue heron (*Egretta caerulea*, State Species of Special Concern [SSC])
- Limpkin (*Aramus guarauna*, SSC)
- White ibis (*Eudocimus albus*, SSC)
- Snowy egret (*Egretta thula*, SSC)
- Tricolored heron (*Egretta tricolor*, SSC)

- Florida Natural Area Inventory Managed Areas:

  - Collier-Seminole State Park (Managed by the Florida Department of Environmental Protection (FDEP) Division of Recreation and Parks)
  - Rookery Bay Reserve Lands (Managed by the FDEP Florida Coastal Office)
  - Picayune Strand State Forest (Managed by the Florida Department of Agriculture and Consumer Services and Florida Forest Service)

Comments and Recommendations

FWC staff appreciate being involved with this project during the early stages of the planning process. We recommended that Collier County investigate specific measures to protect listed species and ensure that any species that may be utilizing the site are not negatively impacted by the proposed activities. FWC staff met with County staff and the U.S. Fish and Wildlife Service most recently on June 8, 2016, to discuss the project in greater detail.

As a result of the multi-agency coordination efforts, the County has addressed initial project concerns by providing the following commitments regarding the proposed project: no impact to the red-cockaded woodpecker population, the project flowway cannot impact red-cockaded woodpecker current or expansion area habitat, avoid degradation to mesic or hydric flatwoods, avoid functional decrease in recreational features or roads (no permanent earthen features), continued monitoring and adaptability, invasive species management, ensure the project is consistent with the latest management plan for Picayune Strand State Forest, and avoid impacts to the federal Picayune Strand Restoration Project. FWC staff supports the proposed project and restoration of the natural hydrology of wetlands with water levels that are compatible with the historical environment in Picayune Strand State Forest. We also support the goal of enhancing Rookery Bay and Naples Bay habitats for use by various fish, wading birds, and wildlife species. We will continue to work with the County to provide technical assistance regarding fish and wildlife resources and their habitat. We offer the following comments and recommendations for consideration as the project moves forward to help ensure protection of listed species during construction activities and project implementation.

Wildlife Surveys

To better identify the potential for impacts, surveys for listed species should be completed prior to any clearing or development. Species-specific wildlife surveys are time sensitive, and FWC staff recommends that all wildlife surveys follow established survey protocols approved by the USFWS and the FWC. Surveys should also be conducted by qualified biologists with recent documented experience for each potential species. Basic guidance for conducting wildlife surveys may be found in the Florida Wildlife Conservation Guide (FWCG) (http://myfwc.com/conservation/value/fwcg/).

Habitat/Vegetative Land Cover

The project includes pumping potentially nutrient-loaded canal water from the Golden Gate Canal to sheetflow over north and south Belle Meade natural lands to eventually flow into Rookery Bay. Materials provided by Collier County show the flowway in Project Area A will contain wetland islands that will provide water quality improvement prior to flows entering Picayune Strand State Forest. The information provided notes that further water quality treatment via sheetflow will act to reduce nutrients to ambient concentrations when the flows eventually reach Rookery Bay. Hydroperiod and nutrient load are major factors that shape vegetative communities. These vegetative communities are habitats for several listed species and significant changes may alter the habitats and wildlife usage for foraging, nesting, and denning. FWC staff recommend an adaptive management approach to this large-scale project which would include baseline wildlife and habitat mapping, specific quantifiable and measurable goals, avoidance and minimization measures, potential effects of climate change, monitoring for the associated vegetative communities within the project area, and any potential mitigation measures should negative impacts occur.

Florida Manatee

Florida manatee use of this area is limited to specific waterways within the project site. Attached is a depiction of where manatees are believed to be able to access the area of the Golden Gate Canal and South Belle Meade Hydration project. At the terminus of Henderson Creek, there is a basin that provides warm water refuge that is used regularly during the winter by a small number of manatees (3-10 individuals). The water from this basin flows approximately ¾ of a mile east down Henderson Creek, under County Road (C.R.) 951 and then continues southwest eventually flowing into Rookery Bay. Up to 20 manatees have been documented using the basin at one time and this site provides important habitat in an area with limited warm-water options for manatees. The basin is regulated as a manatee protection No Entry area, and the access route to Henderson Creek is posted Idle Speed, which becomes Slow Speed after C.R. 951.

It is difficult to tell from the information submitted what, if any, effect this project may have on this manatee refuge. As the project moves forward, FWC staff would like to stay involved in order to understand what, if any, impacts may occur to this warm-water site. In addition, it is difficult to tell if proposed structures are located in areas accessible to manatees. Changing accessibility for manatees, as well as installing structures (such as

pipes and culverts greater than 8 inches, but smaller than 8 feet in diameter that are submerged or partially submerged) may create entrapment situations, posing risks to manatees. FWC staff would like to continue discussions on project details as they become available to ensure that no inadvertent risks are created for manatees as a result of this project. Please contact the staff identified below for further coordination.

Gopher Tortoise

If gopher tortoises or their burrows may be impacted by the proposed project, we recommend that the applicant refer to the FWC's Gopher Tortoise Permitting Guidelines (Revised February 2015) (http://myfwc.com/license/wildlife/gopher-tortoise-permits/) for survey methodology and permitting guidance prior to construction. Survey methodologies require a burrow survey covering a minimum of 15 percent of potential gopher tortoise habitat to be impacted by development activities; including staging areas (refer to Appendix 4 in the Gopher Tortoise Permitting Guidelines for additional information). Specifically, the permitting guidelines include methods for avoiding impacts as well as options and state requirements for minimizing, mitigating, and permitting potential impacts of the proposed activities. Any commensal species observed during burrow excavations should be handled in accordance to Appendix 9 of the Gopher Tortoise Permitting Guidelines.

State Listed Wading Birds

The potential exists for wading bird nesting activity to occur in forested wetlands within the project area. We recommend that additional surveys for nesting wading birds be conducted during their breeding season, which extends from March through August. Basic guidance for conducting wildlife surveys may be found in the FWCG. If there is evidence of nesting during this period, we recommend that any wading bird sites be buffered by 100 meters (328 feet) to avoid disturbance by human activities. If nesting is discovered after construction has begun, or the removal or trimming of trees with active nests is unavoidable, or if maintaining the recommended buffer is not possible, we recommend that the applicant contact the FWC staff identified below to discuss potential permitting alternatives.

Hydrologic restoration can benefit state-listed wading birds. If the project results in rising and falling water levels that correspond as closely as possible to historic patterns, benefits are expected. FWC staff recommends that the County conduct the project in an adaptive management framework with clear, measurable objectives and sufficient funding for monitoring to evaluate progress toward those objectives to account for the additional benefits to state imperiled species.

Recreation

Sabal Palm Road is one of the main designated access routes for recreational users heading into Picayune Strand Wildlife Management Area and is currently listed for improvements under the proposed project. FWC staff recommends that Sabal Palm Road

and trails remain open to the public, and that the project avoid or minimize any impacts to the trails or public access in these areas wherever feasible. If closures are anticipated, please contact the FWC staff identified below for additional discussion.

Marine Fish

Freshwater flows at a natural rate into estuaries can be beneficial to estuarine fish, invertebrates, and their associated habitats. Several species of ecologic and economic importance depend on freshwater flows during important parts of their life cycle and are more abundant in areas of freshwater flow, or in years following high flows, including: red drum, spotted seatrout , shrimp, blue crab, and certain marine baitfish (Spanish sardine, round scad, and Atlantic thread herring). Oysters have an optimal salinity range of 14-28ppt; thus, a healthy state of freshwater flows are necessary for maintaining salinities within that range. These species can benefit from freshwater inputs, given natural and healthy water flow. Compared to natural flows, rapid influxes of freshwater can be damaging to estuaries. The rapid drop in salinity from a large pulse of freshwater can cause mortality for many estuarine species, including fish (spotted seatrout, white grunt, pinfish, and rainwater killifish), oysters, and seagrasses. Rapid freshwater inputs can also lead to increased nutrient loading, turbidity, sedimentation, hypoxia-induced fish kills, and light limitation to seagrasses. Reducing canal discharges to Naples Bay, while providing a more natural sheetflow to Rookery Bay, would be beneficial for the estuaries by reducing the damaging effects of having either too much water, too little water, or too poor quality of water.

Bald Eagle

Based on the GIS analysis, there are four bald eagle nest territories located within or adjacent to the project site. While the project goals may not directly impact nests, FWC staff recommend that Collier County ground truth nest locations and determine if any construction work will be occurring within 660 feet of a nest. The bald eagle has been removed from state and federal listing but is still governed by the state bald eagle rule and the federal Bald and Golden Eagle Protection Act. The FWC has developed a bald eagle management plan to further guide eagle conservation in Florida. Eagle permits are not required for activities that occur more than 660 feet from any active or alternate bald eagle nests. Not all eagle nests in Florida have been documented by the FWC, and non-documented nests receive the same level of protection as FWC documented nests. Please keep in mind that eagle nests may become reactivated at any time or eagles may establish a new nest, at which point the FWC Bald Eagle Management Plan (http://myfwc.com/media/427567/Eagle_Plan_April_2008.pdf) guidelines found in the section entitled Permitting Framework April 2008 would apply.

Hunting Timeframes

All efforts should be made by the County to schedule construction activities so they do not coincide with established hunting timeframes in the Picayune Strand State Forest. If overlap is unavoidable, the County should inform Picayune Strand State Forest staff and

the FWC of the planned construction activities as far in advance so that hunters may be notified.

Federally Listed Species

The project area may contain suitable habitat for the federally listed species identified above. We recommend the applicant coordinate with the USFWS for information regarding potential impacts to these species. The USFWS South Florida Ecological Services Office can be contacted at (772) 562-3909 to discuss any necessary federal requirements.

Florida Bonneted Bat

The project is located within the USFWS Consultation Area for the federally endangered Florida bonneted bat and potential habitat for this species may exist onsite. While specific guidance has not yet been approved by the USFWS for the Florida bonneted bat, we recommend the applicant take steps to determine if and how bonneted bats may be using the project area. This could include conducting acoustic surveys to determine presence of bonneted bats and searching for potential roost sites that could be used by any bat species, such as tree cavities or under dead palm fronds, within the project area. For any potential roost site that is located, the site should be examined by a trained wildlife professional and the area around it should be searched for signs of bats (guano, staining around the cavity entrance, chirping sounds). If bats are found roosting within or near the project site, they should be identified to species to determine if they are Florida bonneted bats. If Florida bonneted bats are identified, the applicant should immediately contact the USFWS and also provide that occurrence information to the FWC.

Red-Cockaded Woodpecker

Conservation efforts for the federally endangered red-cockaded woodpecker (RCW) are underway in Picayune Strand State Forest. The Belle Meade tract has an estimated 13 potential breeding groups of RCWs. We recommend the County continue coordination efforts with the U.S. Fish and Wildlife Service and the Florida Forest Service as this project moves forward to ensure protection of red-cockaded woodpecker habitat. The USFWS can provide additional guidance on RCW protection measures and the County may want to consider the follow recommendations during discussions with the USFWS and FWC. Surveys should be conducted before clearing or construction activities. If RCW nesting is evident, the use of heavy machinery and vehicles should be avoided entirely within 50 feet of red-cockaded woodpecker cavity trees (U.S. Fish and Wildlife Service, 2003). The use of mechanized equipment within a red-cockaded woodpecker cluster should be avoided entirely during their breeding season (April-July) (Rodgers, 1995). Please contact the USFWS South Florida Ecological Services Office for additional information.

Florida Panther

The project is located along a stretch of Interstate-75 (I-75) where FWC has documented numerous panther deaths from vehicle collisions. The Florida Department of Transportation is planning to extend the 10-foot tall panther fence through this area to help prevent future panther deaths. This fencing does not include any new wildlife crossings so there will be a seven mile stretch where the fence will prevent access onto the highway by restricting north-south movements across the road. This project may provide some opportunity for accommodating wildlife movement across the highway if new water structures are required, such as the proposed new pump station on the south side of I-75. It would be helpful to see the County's vision of how much preservation will occur north of I-75 in order to better inform any discussion regarding new wildlife crossings. Information regarding wildlife crossings should be directed towards Darrell Land, at either Darrell.Land@MyFWC.com or (239) 417-6352.

We look forward to working with Collier County staff and other agencies as the project moves forward and the adaptive management plan is developed. If you need any further assistance, please do not hesitate to contact Jane Chabre either by phone at (850) 410-5367 or by email at FWCConservationPlanningServices@MyFWC.com. If you have specific technical questions regarding the content of this letter, please contact Marissa Krueger by phone at (561) 882-5711 or by email at Marissa.Krueger@MyFWC.com.

Sincerely,

Jennifer D. Goff
Land Use Planning Program Administrator
Office of Conservation Planning Services

jdg/mk
ENV 1
Golden Gate Canal and South Belle Meade Hydration_22285_080216

Citations:

Rodgers, J.A., Jr., and H.T. Smith. 1995. Set-back distances to protect nesting bird colonies from human disturbance in Florida. Conservation Biology 9: 89-99.

U.S. Fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*): second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296pp.

cc: Heather Ferrand, Florida Forest Service, Heather.Ferrand@FreshFromFlorida.com
Kim Dryden, USFWS, kim_dryden@fws.gov

FLORIDA FOREST SERVICE
(850) 681-5800

THE CONNER BUILDING
3125 CONNER BOULEVARD
TALLAHASSEE, FLORIDA 32399-1650

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

COMMISSIONER ADAM H. PUTNAM

November 3, 2016

Gary McAlpin
Collier County Coastal Zone Management
2800 North Horseshoe Drive
Naples, Florida 34104

Dear Mr. McAlpin:

Thank you and your staff for taking the time to meet with us on October 13, 2016, to discuss working relationships, mutual commitments and support between Collier County and the Florida Forest Service (FFS) relative to conceptual approval and support of the Collier County Restore Comprehensive Watershed Improvement Project and the Picayune Strand State Forest.

We are providing our support and approval of the conceptual plan with the following changes (highlighted) as indicated below:

1. Forest access via Sabal Palm Road, road improvements and maintenance requirements – Collier County supports our residents and FFS needs for adequate access to the Picayune Stand State Forest for recreational, forest management, medical emergencies, law enforcement and fire related activities through Sabal Palm and the Triple G Loop Roads. To accomplish this, Collier County proposes that the County, FFS and the USFWS jointly develop a mutually agreeable road plan for Sabal Palm Road during the design and permitting phase of this project. If a road improvement plan can be jointly reached, then Collier County will fund these improvements as part of our Restore project. If however, road improvement cannot be agreed upon, then Collier County will install sufficient culverts under the existing road to assure no additional loss of access as a result of any increased flows from our project. Additionally, Collier County will enter into an agreement with FFS to codify maintenance activities that the County will perform once the final road improvement plan is resolved.

   As we also discussed in our meeting, it is very important to clearly identify, address and differentiate project impacts from impacts above and beyond our control, such as hurricanes, flooding or Acts of God when addressing forest accessibility. This differentiation must be clearly conveyed to the general public, residential land owners within the forest and all other related stake holders that the county and FFS are committed to identify and address project impacts from rehydration efforts but cannot be held responsible for events outside of our control.

2. Project monitoring and startup protocol – One of the critical functions that Collier County has built into this project is the use of adaptive management. During the design and permitting phase of this project, the monitoring scope and the startup protocol will be specified and documented and integrated into the permits from the USACE, FDEP and the USFWS. As an active team member, FFS will participate in the development and approval of these permit conditions. Once the permits are issued with the agreed-to requirements, Collier County will be committed to perform pursuant to that scope.

3. US 41 drainage and flowway design – During the design and permitting phase of this project, water flows along US 41 will be modeled and designed to assure proper drainage and flow design. Fiddlers Creek, Six L's and Rookery Bay will be included in the model and design. As a project team member, FFS will participate in the design review and development of the scope of work for the project. This scope will be codified in the permit conditions.

4. Water quality testing – Water quality testing and criteria will be an FDEP permit requirement that will be addressed during the design and permitting phase of this project. All water quality concerns and issues identified during the testing will be strictly adhered to by Collier County during the design, construction and monitoring phases of the project.

5. Hiking trails and non-native invasive plants – Collier County agrees to relocate the Sabal Palm Hiking Trail to a suitable location in the event that the project has a negative impact on the functionally of this trail. Collier County also agrees to fund non-native, invasive species treatments and monitoring within the physical construction footprint as outlined in the permit conditions. The treatment and monitoring is usually for a period of five (5) years. Collier County and FFS will mutually agree on the parameters of the physical construction footprint. In no case will Collier County be held to any perpetuity agreement.

6. FFS project involvement and review – As an active team member during the design, permitting and modeling phase of the project, FFS will participate in project reviews and discussions. Collier County's intention is to reach closure with our project team members and have critical design decisions resolved in project team discussions and reviews. FFS will have plenty of opportunity to participate in a team design environment and will be able to unilaterally veto designs or consensus team decisions, if/when any part of the design or consensus team decisions become incompatible or inconsistent with the Management Plan for the Forest.

7. Public involvement and participation – Both Collier County and FFS strongly agree that the review and involvement of the public will be critical to the success of this project. To that extent, Collier County will hold regularly scheduled public review meeting during the design and permitting phase of this project. To emphasize our commitment to public participation in the development of this project, in addition to the workshop meeting that Collier County held with FFS and the individual stakeholder meetings, Collier County also held at least six (6) meeting of the Golden Gate

Watershed Improvement Technical Advisory Committee where public participation was noticed, solicited and encouraged. These meeting minutes will be sent under a separate cover.

We believe as we discussed in the meeting that these commitments will demonstrate Collier County's willingness to work in partnership with FFS to fund, permit, design and construct this project.

Sincerely,

Jim Karels, State Forester
Florida Forest Service

JRK/bcjv

cc: Mike Joyner, Chief of Staff, Florida Department of Agriculture and Consumer Services
Jeff Vowell, Assistant Director – Florida Forest Service
Mike Weston, Center Manager – Florida Forest Service
Brian Camposano, Ecologist – Florida Forest Service
Heather Ferrand, Resource Administrator – Florida Forest Service

FLORIDA WILDLIFE FEDERATION

Affiliated With National Wildlife Federation

Southwest Florida Office
2590 Golden Gate Parkway, Suite 105
Naples, Florida 34105

Office Phone: (239) 643-4111
Cell: (239) 784-5119 (Call First)
Email: nancypayton@fwfonline.org

July 25, 2016

Donna Fiala, Chair
Tim Nance, Vice Chair
Tom Henning
Georgia A. Hiller, Esq.
Penny Taylor
Board of Collier County Commissioners
Naples, Florida 34112

RE: Support for RESTORE Comprehensive Watershed Management Project

Dear Commissioners:

Florida Wildlife Federation (FWF) endorses the RESTORE Comprehensive Watershed Management Project as presented by Collier County staff and urges the Board of Collier County Commissioners to submit it for RESTORE funding. This project proposes to:

1. improve freshwater flows into Rookery Bay National Estuarine Research Reserve,
2. rehydrate 10,000 wetland acres in Picayune Strand State Forest/South Belle Meade Natural Resources Protection Area,
3. help create positive conditions for habitat restoration in Naples Bay by upgrading water quality, and
4. provide funding for preliminary plans to rehydrate the North Belle Meade Natural Resource Protection Area and create a masterplan for the Six L's receiving area.

FWF's strongest area of support is for the rehydration of 10,000 wetland acres in Picayune Strand State Forest/South Belle Meade Natural Resources Protection Area. It furthers Collier County's Rural Fringe Mixed Use District goals; is in accord with the Picayune Strand Everglades Restoration Project; and understands the need to maintain healthy relationships between wetlands and uplands.

Collier County's RESTORE project will enhance 10,000 of the 21,000 acres currently in public ownership in Picayune Strand State Forest/South Belle Meade Natural Resources Protection Area. Plus the project has been crafted to complement upland habitat restoration and recovery of the endangered red-cockaded woodpecker.

FWF looks forward to working with Collier County and all interested parties as the design details of this regionally significant project are developed.

Sincerely,

Nancy A. Payton

Nancy A. Payton
Southwest Florida Field Representative

cc: Gary McAlpin

Collier County

Growth Management Department
Capital Project Planning, Impact Fees & Program Management Division

Collier County Board of County Commissioners Meeting

May 23, 2017

COLLIER COUNTY
Board of County Commissioners
Community Redevelopment Agency Board (CRAB)
Airport Authority

AGENDA

Board of County Commission Chambers
Collier County Government Center
3299 Tamiami Trail East, 3rd Floor
Naples, FL 34112

May 23, 2017

9:00 AM

Commissioner Penny Taylor, District 4 – BCC Chair
Commissioner Andy Solis, District 2 – BCC Vice-Chair
Commissioner Donna Fiala, District 1; CRAB Co-Chair
Commissioner Burt Saunders, District 3
Commissioner William L. McDaniel, Jr., District 5; CRAB Co-Chair

NOTICE: All persons wishing to speak on Agenda items must register *prior* to presentation of the Agenda item to be addressed. All registered speakers will receive up to three (3) minutes unless the time is adjusted by the chairman.

Requests to address the Board on subjects which are not on this agenda must be submitted in writing with explanation to the County Manager at least 13 days prior to the date of the meeting and will be heard under "Public Petitions." Public petitions are limited to the presenter, with a maximum time of ten minutes.

Any person who decides to appeal a decision of this Board will need a record of the proceeding pertaining thereto, and therefore may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Collier County Ordinance No. 2003-53 as amended by ordinance 2004-05 and 2007-24, requires that all lobbyists shall, before engaging in any lobbying activities (including but not limited to, addressing the Board of County Commissioners), register with the Clerk to the Board at the Board Minutes and Records Department.

If you are a person with a disability who needs any accommodation in order to participate in this proceeding, you are entitled, at no cost to you, the provision of certain assistance. Please contact the Collier County Facilities Management Division located at 3335 East Tamiami Trail, Suite 1, Naples, Florida, 34112-5356, (239) 252-8380; assisted listening devices for the hearing impaired are available in the Facilities Management Division.

Lunch Recess scheduled for 12:00 Noon to 1:00 P.M

1. INVOCATION AND PLEDGE OF ALLEGIANCE

1.A. Pastor Michael Bannon of Crossroads Community Church of Naples

2. AGENDA AND MINUTES

2.A. APPROVAL OF TODAY'S REGULAR, CONSENT AND SUMMARY AGENDA AS AMENDED (EX PARTE DISCLOSURE PROVIDED BY COMMISSION MEMBERS FOR CONSENT AGENDA.)

2.B. April 25, 2017 - BCC Regular Meeting Minutes

3. AWARDS AND RECOGNITIONS

3.A. EMPLOYEE

3.A.1. 5 YEAR ATTENDEES

3.A.2. 10 YEAR ATTENDEES

3.A.3. 15 YEAR ATTENDEES

3.A.4. 20 YEAR ATTENDEES

3.A.4.a. 20 Years Tabatha Butcher, EMS

3.A.5. 25 YEAR ATTENDEES

3.A.6. 30 YEAR ATTENDEES

3.A.6.a. 30 Years Cheryl Soter, Operations & Regulatory Management

3.A.6.b. 30 Years Maura Kraus, Parks & Recreation

3.A.6.c. 30 Years Mark Burtchin, Development Review

3.A.7. 35 YEAR ATTENDEES

3.B. ADVISORY BOARD MEMBERS

3.C. RETIREES

3.C.1. 10 Years of Service Bill Chatten, Facilities Management

3.D. EMPLOYEE OF THE MONTH

4. PROCLAMATIONS

4.A. Proclamation designating May 2017 as Trauma Awareness Month in Collier County. To be accepted by Leslie Lascheid, Member, Regional Advisory Committee on Trauma Services and Chief Executive Officer, Neighborhood Health Clinic.

4.B. **Proclamation declaring May 2017 as National Water Safety Month in Collier County. To be accepted by Konnie Purcell, Collier County Sheriff's Office, Youth Relations Bureau; Sherry Anderson, Corporal, Collier County Sheriff's Office; Patricia K. Hansen, Collier County Department of Health Nursing Program Specialist; Barry Williams, Division Director, Collier County Parks & Recreation; Anais Alvarez, Regional Manager, Collier County Parks and Recreation; Becky Wilson, Sergeant, Collier County EMS; Sue Lester, Coalition Board Vice Chair; Jaime Cunninghan, Fire Chief, North Collier Fire Control & Rescue District; Kingman Schuldt, Fire Chief, Greater Naples Fire Rescue District; and Paula DiGrigoli, Executive Director, NCH Safe & Healthy Children's Coalition.**

5. **PRESENTATIONS**

5.A. **Presentation from Patrick P. Linn, Executive Director, of the Collier Mosquito Control District, advising the Board of ongoing mosquito control efforts in the District.**

6. **PUBLIC PETITIONS**

6.A. **Public petition request from Mr. Paul Dernbach for approval to proceed for a Municipal Services Benefit Unit (MSBU) for the purposes of installing County water to properties on Cessena Road in the Pine Ridge Estates Subdivision.**

7. **PUBLIC COMMENTS ON GENERAL TOPICS NOT ON THE CURRENT OR FUTURE AGENDA**

8. **BOARD OF ZONING APPEALS**

9. **ADVERTISED PUBLIC HEARINGS**

10. **BOARD OF COUNTY COMMISSIONERS**

10.A. **Recommendation to appoint two county commissioners as regular members, and three county commissioners as alternate members, to the Value Adjustment Board.**

10.B. **Recommendation to review and discuss materials provided by staff regarding the current uses and allocations of county tourist development tax (TDT) revenues.**

11. **COUNTY MANAGER'S REPORT**

11.A. **Recommendation to award bid number 17-7056, "Imperial Golf Course Boulevard Water Main Replacement," Project Number 70134, to Quality Enterprises USA, Inc., in the amount of $1,124,529.90, and authorize the necessary budget amendment. (Tom Chmelik, P.E., PMP, Public Utilities Engineering and Project Management Division Director)**

11.B. **Recommendation to accept a Multi-Way Stop Warrant Study and approve the installation and operation of a 4-way stop control at the intersection of St. Andrews Boulevard and Warren Street at a cost of approximately $3,100. (Jay Ahmad, Director Transportation Engineering, Growth Management Department)**

11.C. **Recommendation to amend Exhibit "A" to Resolution No. 2013-239, the list of Speed Limits on County Maintained Roads, to reflect a reduction of the speed limit on St Andrews Boulevard and Augusta Boulevard, from thirty (30) miles per hour to twenty-five (25) miles per hour and authorize any necessary budget amendment to fund this and other safety related costs within project 60213 (fiscal impact for this item is approximately $650). (Jay Ahmad, Director Transportation Engineering, Growth Management Department)**

11.D. **Recommendation to consider the offer from Winchester Lakes Corporation and Francis and Mary Hussey to enter into a public private partnership with the County and ultimately transfer title to the County for the property located in Sections 29 and 32, Township 49S, Range 27E. (Toni Mott, Manager - Property Acquisition & Construction Management, Facilities Management Division)**

12. **COUNTY ATTORNEY'S REPORT**

13. **OTHER CONSTITUTIONAL OFFICERS**

14. **AIRPORT AUTHORITY AND/OR COMMUNITY REDEVELOPMENT AGENCY**

14.A. **AIRPORT**

14.B. **COMMUNITY REDEVELOPMENT AGENCY**

15. **STAFF AND COMMISSION GENERAL COMMUNICATIONS**

15.A. **Upcoming Workshop Schedule**

16. **CONSENT AGENDA**

All matters listed under this item are considered to be routine and action will be taken by one motion without separate discussion of each item. If discussion is desired by a member of the Board, that item(s) will be removed from the Consent Agenda and considered separately.

16.A. **GROWTH MANAGEMENT DEPARTMENT**

16.A.1. **This item requires that ex parte disclosure be provided by Commission members. Should a hearing be held on this item, all participants are required to be sworn in. Recommendation to approve for recording the final plat of Chatham Woods, (Application Number PL20150002912) approval of the standard form Construction and Maintenance Agreement and approval of the amount of the performance security.**

16.A.2. **Recommendation to approve the release of a code enforcement lien with an accrued value of $250,431.43 for payment of $531.43 in the code enforcement actions entitled Board of County Commissioners v. Judy S. and Silas Pacheco. Code Enforcement Board Case No. CESD20110007349 relating to property located at 1330 Golden Gate Blvd E, Collier County, Florida.**

16.A.3. **Recommendation to approve an Adopt-a-Road Program Agreement for the roadway segment of N 9th Street from SR 29 to Lake Trafford Road, with two (2) recognition signs and two (2) Adopt-a-Road logo signs at a total cost of $200 with the volunteer group, Lozano's Restaurant & Sports Bar, Inc.**

16.A.4. **Recommendation to authorize the Clerk of Courts to release a Cash Bond in the amount of $5,000 which was posted by Naples Acura as a development guarauty for an Early Construction Authorization (ECA) related to a building permit, (PRBD20160622869) for work associated with Naples Acura.**

16.A.5. **Recommendation to approve final acceptance and unconditional conveyance of the potable water and sewer utility facilities for Corsica at Talis Park, PL20150001653, and authorize the County Manager, or his designee, to release the Final Obligation Bond in the total amount of $4,000 to the Project Engineer or the Developer's designated agent.**

16.A.6. **Recommendation to approve final acceptance of the potable water and sewer facilities for Signature Club Circle Phases 1-2, PL20140002527, accept unconditional conveyance of a portion of the potable water facilities, and authorize the County Manager, or his designee, to release the Utilities Performance Security (UPS) and Final Obligation Bond in the total amount of $33,387.33 to the Project Engineer or the Developer's designated agent.**

16.A.7. **Recommendation to approve final acceptance of the potable water and sewer facilities for Cameron Commons Unit 1, Tract 5, PL2016000667, and to authorize the County Manager, or his designee, to release the Utilities Performance Security (UPS) and Final Obligation Bond in the total amount of $5,454.63 to the Project Engineer or the Developer's designated agent.**

16.A.8. **Recommendation to approve final acceptance and unconditional conveyance of the potable water and sewer utility facilities for Esplanade Golf & Country Club of Naples, Parcel A.2, PL20160000430, and authorize the County Manager, or his designee, to release the Final Obligation Bond in the total amount of $4,000 to the Project Engineer or the Developer's designated agent.**

16.A.9. **Recommendation to approve final acceptance and unconditional conveyance of the potable water and sewer utility facilities for Oyster Harbor at Fiddler's Creek, Phase 1, PL20150000330 and PL20150000708, and authorize the County Manager, or his designee, to release the Final Obligation Bond in the total amount of $8,000 to the Project Engineer or the Developer's designated agent.**

16.A.10. Recommendation to approve final acceptance of the potable water and sewer facilities for Hilton Moving Storage, PL20150002480, accept unconditional conveyance of a portion of the potable water facilities, and authorize the County Manager, or his designee, to release the Utilities Performance Security (UPS) and Final Obligation Bond in the total amount of $6,806.87 to the Project Engineer or the Developer's designated agent.

16.A.11. Recommendation to approve final acceptance and unconditional conveyance of the potable water aud sewer utility facilities for Esplanade at Hacienda Lakes, Phase 1, PL20140001232, and to authorize the County Manager, or his designee, to release the Final Obligation Bond in the total amount of $4,000 to the Project Engineer or the Developer's designated agent.

16.A.12. Recommendation to approve final acceptance and unconditional conveyance of the potable water and sewer utility facilities for Temple Citrus Grove (Marbella Isles) Phases 1-6, PL20150000819 and PL20150001483, and to authorize the County Manager, or his designee, to release the Final Obligation Bond in the total amount of $8,000 to the Project Engineer or the Developer's designated agent.

16.A.13. Recommendation to authorize the Clerk of Courts to release a Performance Bond in the amount of $915,118.13 which was posted as a guaranty for Excavation Permit Number 60.080-4, PL20140000395 for work associated with Isles of Collier Preserve Phase 2.

16.A.14. Recommendation to approve and authorize the Chairman to execute Amendment No. 2 to Contract No. 14C01 with the Florida Department of Environmental Protection Bureau of Beaches and Coastal Systems Beach Management Funding Assistance Program for Beach Renourishment and Monitoring Expenses for the Vanderbilt, Park Shore, and Naples beaches and to make a finding that this item promotes tourism.

16.A.15. Recommendation to approve and authorize the Chairman to execute Agreement No. 16CO1 with the Florida Department of Environmental Protection Bureau of Beaches and Coastal Systems Beach Management Funding Assistance Program for Beach Renourishment and Monitoring Expenses on Marco Island Public Beaches and make a finding that this item promotes tourism.

16.A.16. Recommendation to approve Category "A" Tourist Development Council Grant applications from the City of Naples, the City of Marco Island, and Collier County for FY-2017-2018 in the amount of $10,296,300; authorize the Chairman to sign Grant Agreements following County Attorney's approval; and make a finding that these expenditures will promote tourism.

16.A.17. Recommendation to approve the 10-Year Capital Planning document for Beach Renourishment and Pass Maintenance Fund (195) and the Program Management and Administration Fund (185) proposed allocation.

16.A.18. Recommendation to approve and authorize a Resolution requesting that Florida Department of Euvironmental Protection (FDEP) include the Collier County Comprehensive Watershed Improvement Project in the Agency's next round of project submittals for Restore Council (Component 2) funding.

16.A.19. Recommendation to approve an Agreement for Special Magistrate Services for Code Enforcement with the law firm of Patrick Neale & Associates.

16.A.20. Recommendation to approve a time extension to a Local Agency Program Agreement requested by the Florida Department of Transportation for closeout of the receutly completed construction of sidewalk improvements in East Naples along Lombardy Lane and Orchard Lane, FPN #430879-1-58-01, Project No. 33460.

16.B. COMMUNITY REDEVELOPMENT AGENCY

16.B.1. Recommendation that the Collier County Community Redevelopment Agency Board(CRAB) approve and authorize the Chairman to execute a Commercial Building Improvement Grant Agreement between the Community Redevelopment Agency and Leightons Garage, LLC in the amount of $3,215 plus half permit fees for property located at 2320 Linwood Avenue, within the Bayshore Gateway Triangle Community Redevelopment Area.

16.C. PUBLIC UTILITIES DEPARTMENT

16.C.1. Recommendation to authorize a budget amendment in the amount of $300,000 from utility contingency reserves to cover higher than anticipated costs for sludge hauling and other expenses to operate the Orange Tree water and wastewater facilities.

16.C.2. Recommendation to approve a $377,986 work order under Request for Quotation 14-6213-97 to Quality Enterprises USA, Inc., under Project Number 70172, "Gulf Shore Drive Asbestos Water Main Abandonment Phase 2;" and authorize the necessary bndget amendment.

16.C.3. Recommendation to authorize the Sole-Source Waiver for a period of one year for the purchase of Bioxide Plus 71, Aktivox, and VX456 from Evoqua Water Technologies LLC for use by the Public Utilities Department Wastewater Division and approve a contract for Evoqua Water Technologies LLC in the estimated amount of $500,000.

16.D. PUBLIC SERVICES DEPARTMENT

16.D.1. Recommendation to approve eight State Housing Initiatives Partnership (SHIP) Program Impact Fee release of liens in the combined amount of $63,449.50 for the associated owner-occupied affordable housing dwelling unit where the obligation has been repaid in full by the homeowner and Habitat for Humanity of Collier County, Inc.

16.D.2. Recommendation to approve four mortgage satisfactions for the State Housing Initiatives Partnership (SHIP) loan program in the combined amount of $72,556.10.

16.D.3. Recommendation to authorize the Chairman to sign the Third Amendment to the Starnes Cattle Lease Agreement.

16.D.4. Recommendation to award Invitation to Bid (ITB) 17-7095, for Collier Area Transit (CAT) Facility Radio Road Improvements Phase 3 to One Source Construction Company & Builders, Inc., for an estimated $142,097, and authorize the Chair to sign the attached agreement.

16.D.5. Recommendation to approve an award for Invitation to Bid (ITB) #17-7075 "Re-manufactured Engines and Transmissions" to World Wide Equipment and Reliable Transmission for use in existing Collier Area Transit buses, and authorize the Chair to sign the attached agreements.

16.D.6. Recommendation to approve the submittal of the attached Grant Application project proposal to the Florida Department of Transportation (FDOT) under the State Park-and-Ride Lot Program to fund a Park-and-Ride Study for the Transit System.

16.D.7. Recommendation to forgive the final lease payment for parking lot improvements from the Naples Zoo to the County, totaling $278,100, to support the construction of a new Zoo animal hospital.

16.D.8. Recommendation to approve an Agreement to participate in the Summer Food Service Program (SFSP) with Florida Department of Agriculture and Consumer Services (FDACS) to operate the SFSP at designated recreation camps with unitized meals provided by the School Board.

16.E. ADMINISTRATIVE SERVICES DEPARTMENT

16.E.1. Recommendation to approve the administrative reports prepared by the Procurement Services Division for change orders and other items as identified.

16.E.2. Recommendation to ratify Property, Casualty, Workers' Compensation and Subrogation claim files settled and/or closed by the Risk Management Division Director pursuant to Resolution 2004-15 for the second quarter of FY 17.

16.E.3. **Recommendation to approve the Partial Assignment and Amendment of the Interlocal Agreement between the State of Florida Department of Transportation, Collier County, and Greater Naples Fire Rescue District for management of the Mile Marker 63 Fire Station and authorize the necessary budget amendment in the amount of $406,000.**

16.F. COUNTY MANAGER OPERATIONS

16.F.1. **Recommendation to adopt a resolution approving amendments (appropriating grants, donations, contributions or insurance proceeds) to the Fiscal Year 2016-17 Adopted Budget.**

16.F.2. **Recommendation to accept grant funding from the United States Department of Agriculture Rural Development (USDA) and authorize the necessary budget amendments for the Rural Business Development Grant (RBDG) for commercial kitchen equipment for the Florida Culinary Accelerator @ Immokalee in the amount of a $112,536.**

16.G. AIRPORT AUTHORITY

16.G.1. **Recommendation to approve the submittal of an Airport Improvement Program (AIP) grant application to the Federal Aviation Administration requesting funds in the amount of $149,984 for Phase 1 of the Everglades Airpark Runway Rehabilitation, with a total estimated project cost of $166,650.**

16.G.2. **Recommendation to approve the submittal of an Airport Improvement Program (AIP) grant application to the Federal Aviation Administration requesting an estimated amount of $1,087,965 for Immokalee Regional Airport Taxiway B Rehabilitation Construction project with a total estimated cost of $1,208,851.**

16.H. BOARD OF COUNTY COMMISSIONERS

16.I. MISCELLANEOUS CORRESPONDENCE

16.I.1. **Board of County Commissioners Miscellaneous Correspondence Miscellaneous Items to File for Record with Action as Directed**

16.J. OTHER CONSTITUTIONAL OFFICERS

16.J.1. **Pursuant to the Board's Purchasing Ordinance 2013-69, as amended, request that the Board approve and determine valid public purpose for invoices payable and purchasing card transactions as of May 17, 2017.**

16.J.2. **To record in the minutes of the Board of County Commissioners, the check number (or other payment method), amount, payee, and purpose for which the referenced disbursements were drawn for the periods between April 27, 2017 and May 10, 2017 pursuant to Florida Statute 136.06.**

16.K. COUNTY ATTORNEY

16.K.1. **Recommendation to approve a Mediated Settlement Agreement for the total amount of $99,000 for the taking of Parcel 189RDUE in the pending case styled Collier County v. Juan E. Navarro, et al, Case No. 15-CA-154, required for the Golden Gate Boulevard Project, Project No. 60040 (From Wilson Boulevard to 20th Street East).**

16.K.2. **Recommendation to accept two Mediated Settlement Agreemeuts in the total amount of $112,972 and approve Stipulated Final Judgments for the taking of Parcels 253DE, 254DE, and 254TCE required for the Lely Area Stormwater Improvement Project ("LASIP"), Wing South portion, Project No. 51101, in the pending case styled Collier County v. Lori R. Lear, et al., Case No. 15-CA-1599.**

16.K.3. **Recommendation to appoint a member to the Coastal Advisory Committee.**

16.K.4. **Recommendation to reappoint two members to the Industrial Development Authority.**

16.K.5. **Recommendation to reappoint two members to the Health Facilities Authority.**

16.K.6. **Recommendation to reappoint a member to the Contractors Licensing Board.**

16.K.7. **Recommendation to reappoint a member to the Water and Wastewater Authority.**

16.K.8. **Recommendation to appoint a member to the Black Affairs Advisory Board.**

16.K.9. **Recommendation to waive the optional local public hearing relating to the merger of Mediterra North Community Development District and Mediterra South Community Development District pursuant to Sections 190.005 and 190.046(3), Florida Statutes.**

16.K.10. **Recommendation to authorize the County Attorney to pursue an Appeal in the Eleventh Circuit Court of Appeals in the litigation styled Collier County v. Holiday CVS, LLC and RTG, LLC, against one party, Realty Trust Group, LLC, and to settle the litigation with Holiday CVS, LLC.**

17. SUMMARY AGENDA

This section is for advertised public hearings and must meet the following criteria: 1) A recommendation for approval from staff; 2) Unanimous recommendation for approval by the Collier County Planning Commission or other authorizing agencies of all members present and voting; 3) No written or oral objections to the item received by staff, the Collier County Planning Commission, other authorizing agencies or the Board, prior to the commencement of the BCC meeting on which the items are scheduled to be heard; and 4) No individuals are registered to speak in opposition to the item. For those items which are quasi-judicial in nature, all participants must be sworn in.

17.A. **Recommendation to adopt a resolution approving amendments (appropriating carry forward, transfers and supplemental revenue) to the Fiscal Year 2016-17 Adopted Budget.**

17.B. **This item requires that ex parte disclosure be provided by Commission members. Should a hearing be held on this item, all participants are required to be sworn in. Recommendation to approve Petition VAC-PL20170000440 to disclaim, renounce and vacate the County and the public interest in a portion of the 60-foot wide road right-of-way known as 25th Avenue Northwest, approximately 665 feet in length, being a part of Tracts 1, 2 & 3, Golden Gate Estates Unit No. 21, Plat Book 7, Page 81 of the Public Records of Collier County, Florida. The subject road right-of-way is located west of 8th Street Northwest, just north of Immokalee Road in Section 21, Township 48 South, Range 27 East, Collier County, Florida.**

18. **ADJOURN**

Inquiries concerning changes to the Board's Agenda should be made to the County Manager's Office at 252-8383.

16A18

5/23/17

EXECUTIVE SUMMARY

Recommendation to approve and authorize a Resolution requesting that Florida Department of Environmental Protection (FDEP) include the Collier County Comprehensive Watershed Improvement Project in the Agency next round of project submittals for Restore Council (Component 2) funding.

OBJECTIVE: Request that FDEP formally endorse and submit in the Agency next round of project submittals the Collier County Comprehensive Watershed Improvement Project for Restore Council (Component 2) funding.

CONSIDERATIONS: On September 27, 2016, the Board of County Commissioners (Board) approved the 2016 Collier County Restore Comprehensive Watershed Improvement Conceptual Plan and provided concurrence to proceed with funding applications, design, permitting and modeling to reduce freshwater flows to Naples Bay, rehydrate approximately 10,000 acres of the Picayune Strand State Forest, restore historic freshwater flows to Rookery Bay National Estuarine Research Reserve (Rookery Bay) and improve water quality throughout the entire watershed.

FDEP is the State's representative on the Restore Council and charged with review, concurrence and submittal of all funding applications. FDEP requires concurrence from all regulatory agencies and state partners before applications are submitted to the Restore Council for funding. Collier County has already obtained support letters from the Audubon of the Western Everglades/Audubon Florida; the Big Cypress Basin/South Florida Water Management District (SFWMD); the City of Naples; the Conservancy of Southwest Florida; the Florida Fish and Wildlife Conservation Commission (FWC); the Fish and Wildlife Service; the Florida Wildlife Federation, Florida Forestry Service and the Collier County Watershed Technical Advisory Committee. Additionally, Rookery Bay National Estuarine Research Reserve has agreed to co-sponsor this program.

Collier County is projected to receive approximately $12.7M under the Restore Act Spill Impact Component (Component 3) and approximately $6M under the Restore Act Direct Component (Component 1). The balance of the funds needed or approximately $14M will be solicited from FDEP and the Restore Council (Component 2).

The Restore Council (Component 2) is expected to open the next application cycle for project funding in the fall of 2017. Collier County has submitting an application for the balance of needed funding of approximately $14M to FDEP. This Resolution will formally request that FDEP endorse and submit in the Agency next round of project submittals the Collier County Comprehensive Watershed Improvement Project for Restore Council (Component 2) funding.

FISCAL IMPACT: The balance of the funds needed or approximately $14M will be solicited from FDEP and the Restore Council (Component 2). Other funding sources that will be investigated will be the National Resources Damages Water Quality component, FWC funding with regard to inclusion of the project in the Florida Habitat Restoration strategy, and SFWMD with regard to the update to the Naples Bay SWIM plan.

GROWTH MANAGEMENT IMPACT: The Comprehensive Watershed Improvement Plan is in accordance with the goals, objectives, and policies of all applicable sections of the Stormwater Management and the Conservation and Coastal Management elements of the Growth Management Plan.

Collier County
FL

Action Item
3074

Recommendation to approve and authorize a Resolution requesting that Florida Department of Environmental Protection (FDEP) include the Collier County Comprehensive Watershed Improvement Project in the Agency's next round of project submittals for Restore Council (Component 2) funding.

Information

Department:	Capital Project Planning, Impact Fees, and Program Management	**Sponsors:**	
Category:	16.A Consent Agenda -Growth Management Dept		

Attachments

Printout
Resolution FDEP

Executive Summary

EXECUTIVE SUMMARY

Recommendation to approve and authorize a Resolution requesting that Florida Department of Environmental Protection (FDEP) include the Collier County Comprehensive Watershed Improvement Project in the Agency's next round of project submittals for Restore Council (Component 2) funding.

OBJECTIVE: Request that FDEP formally endorse and submit in the Agency next round of project submittals the Collier County Comprehensive Watershed Improvement Project for Restore Council (Component 2) funding.

CONSIDERATIONS: On September 27, 2016, the Board of County Commissioners (Board) approved the 2016 Collier County Restore Comprehensive Watershed Improvement Conceptual Plan and provided concurrence to proceed with funding applications, design, permitting aud modeling to reduce freshwater flows to Naples Bay, rehydrate approximately 10,000 acres of the Picayune Strand State Forest, restore historic freshwater flows to Rookery Bay National Estuarine Research Reserve (Rookery Bay) and improve water quality throughout the entire watershed.

FDEP is the State's representative on the Restore Council and charged with review, concurrence and submittal of all funding applications. FDEP requires concurrence from all regulatory agencies and state partners before applications are submitted to the Restore Council for funding. Collier County has already obtained support letters from the Audubon of the Western Everglades/Audubon Florida; the Big Cypress Basin/South Florida

Water Management District (SFWMD); the City of Naples; the Conservancy of Southwest Florida; the Florida Fish and Wildlife Conservation Commission (FWC); the Fish and Wildlife Service; the Florida Wildlife Federation, Florida Forestry Service and the Collier County Watershed Technical Advisory Committee. Additionally, Rookery Bay National Estuarine Research Reserve has agreed to co-sponsor this program.

Collier County is projected to receive approximately $12.7M under the Restore Act Spill Impact Component (Component 3) and approximately $6M under the Restore Act Direct Component (Component 1). The balance of the funds needed or approximately $14M will be solicited from FDEP and the Restore Council (Component 2).

The Restore Council (Component 2) is expected to open the next application cycle for project funding in the fall of 2017. Collier County has submitted an application for the balance of needed funding of approximately $14M to FDEP. This Resolution will formally request that FDEP endorse and submit in the Agency next round of project submittals the Collier County Comprehensive Watershed Improvement Project for Restore Council (Component 2) funding.

FISCAL IMPACT: The balance of the funds needed or approximately $14M will be solicited from FDEP and the Restore Council (Component 2). Other funding sources that will be investigated will be the National Resources Damages Water Quality component, FWC funding with regard to inclusion of the project in the Florida Habitat Restoration strategy, and SFWMD with regard to the update to the Naples Bay SWIM plan.

GROWTH MANAGEMENT IMPACT: The Comprehensive Watershed Improvement Plan is in accordance with the goals, objectives, and policies of all applicable sections of the Stormwater Management and the Conservation and Coastal Management elements of the Growth Management Plan.

LEGAL CONSIDERATIONS: This item is approved as to form and legality and requires majority vote for approval. - CMG

RECOMMENDATION: To approve and authorize a Resolution requesting that Florida Department of Environmental Protection include the Collier County Comprehensive Watershed Improvement Project in the Agency's next round of project submittals for Restore Council (Component 2) funding.

Prepared By: J. Gary McAlpin, P.E., Coastal Zone Management, Capital Project Planning, Impact Fees and Program Management Division

Discussion

Add Comment

RESOLUTION NO. 2017 - 88

A RESOLUTION OF THE COLLIER COUNTY BOARD OF COUNTY COMMISSIONERS REQUESTING THAT THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION ("FDEP") ENDORSE AND SUBMIT IN THE FDEP NEXT ROUND OF PROJECT SUBMITTALS THE COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PROJECT FOR RESTORE COUNCIL FUNDING (COMPONENT 2).

WHEREAS, on September 27, 2016, the Board of County Commissioners (Board) approved the 2016 Collier County Restore Comprehensive Watershed Improvement Conceptual Plan and provided concurrence to proceed with funding applications, design, permitting and modeling to reduce freshwater flows to Naples Bay, rehydrate approximately 10,000 acres of the Picayune Strand State Forest, restore historic freshwater flows to Rookery Bay National Estuarine Research Reserve (Rookery Bay), and improve water quality throughout the entire watershed; and

WHEREAS, FDEP is the State's representative on the Restore Council and charged with review, concurrence and submittal of all funding applications; and

WHEREAS, FDEP requires concurrence from all regulatory agencies and state partners before applications are submitted to the Restore Council for funding. Collier County has already obtained support letters from the Audubon of the Western Everglades/Audubon Florida; the Big Cypress Basin/SFWMD; the City of Naples; the Conservancy of Southwest Florida; the Florida Fish and Wildlife Conservation Commission (FWC); the Fish and Wildlife Service; the Florida Wildlife Federation, Florida Forestry Service and the Collier County Watershed Technical Advisory Committee. Additionally, Rookery Bay National Estuarine Research Reserve has agreed to co-sponsor this program; and

WHEREAS, Collier County is projected to receive approximately $12.7 million under the Restore Act Spill Impact Component (Component 3) and approximately $6 million under the Restore Act Direct Component (Component 1); and

WHEREAS, the Board's current request is required for the balance of the funds needed, or approximately $14 million, and will be solicited through FDEP and the Restore Council (Component 2); and

WHEREAS, the Restore Council is expected to open the next application cycle for project funding in the Fall of 2017, and this Resolution formally requests that FDEP endorse and submit

CAO

in the FDEP next round of project submittals the Collier County Comprehensive Watershed Improvement Project for Restore Council funding (Component 2).

NOW THEREFORE, BE IT RESOLVED BY THE COLLIER COUNTY BOARD OF COUNTY COMMISSIONERS, that the Board formally requests that FDEP endorse and submit Collier County's Watershed Improvement Project for Restore Council funding (Component 2) in the next round of FDEP submittals to the Restore Council expected in Fall 2017.

THIS RESOLUTION ADOPTED after motion, second, and majority vote favoring same, this 23rd day of May, 2017.

ATTEST: Dwight E. Brock, Clerk

By: _____ Deputy Clerk

Attest as to Chairman's signature only.

BOARD OF COUNTY COMMISSIONERS, COLLIER COUNTY, FLORIDA

By: _____
Penny Taylor, Chairman

Approved as to form and legality:

_____
Colleen M. Greene
Assistant County Attorney

CAO

Collier County

Growth Management Department
Capital Project Planning, Impact Fees & Program Management Division

Collier County Board of County Commissioners Meeting

September 27, 2016

COLLIER COUNTY
Board of County Commissioners
Community Redevelopment Agency Board (CRAB)
Airport Authority

AGENDA

Board of County Commission Chambers
Collier County Government Center
3299 Tamiami Trail East, 3rd Floor
Naples, FL 34112

September 27, 2016

9:00 AM

Commissioner Donna Fiala, District 1 – BCC Chair
Commissioner Tim Nance, District 5 – BCC Vice-Chair; CRAB Chair
Commissioner Georgia Hiller, District 2 – Community & Economic Development Chair
Commissioner Tom Henning, District 3 – PSCC Representative
Commissioner Penny Taylor, District 4 – CRAB Vice-Chair; TDC Chair

NOTICE: All persons wishing to speak on Agenda items must register *prior* to presentation of the Agenda item to be addressed. All registered speakers will receive up to three (3) minutes unless the time is adjusted by the chairman.

Public Comment on General Topics not on the Current or Future Agenda to be heard no sooner than 1:00 p.m., or at the conclusion of the agenda; whichever occurs first.

Requests to address the Board on subjects which are not on this agenda must be submitted in writing with explanation to the County Manager at least 13 days prior to the date of the meeting and will be heard under "Public Petitions." Public petitions are limited to the presenter, with a maximum time of ten minutes.

Any person who decides to appeal a decision of this Board will need a record of the proceeding pertaining thereto, and therefore may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Collier County Ordinance No. 2003-53 as amended by ordinance 2004-05 and 2007-24, requires that all lobbyists shall, before engaging in any lobbying activities (including but not limited to, addressing the Board of County Commissioners), register with the Clerk to the Board at the Board Minutes and Records Department.

If you are a person with a disability who needs any accommodation in order to participate in this proceeding, you are entitled, at no cost to you, the provision of certain assistance. Please contact the Collier County Facilities Management Division located at 3335 East Tamiami Trail, Suite 1, Naples, Florida, 34112-5356, (239) 252-8380; assisted listening devices for the hearing impaired are available in the Facilities Management Division.

Lunch Recess scheduled for 12:00 Noon to 1:00 P.M

1. **INVOCATION AND PLEDGE OF ALLEGIANCE**

   1.A. **Invocation by Pastor Jim Thomas of East Naples United Methodist Church**

2. **AGENDA AND MINUTES**

   2.A. **APPROVAL OF TODAY'S REGULAR, CONSENT AND SUMMARY AGENDA AS AMENDED (EX PARTE DISCLOSURE PROVIDED BY COMMISSION MEMBERS FOR CONSENT AGENDA.)**

   2.B. **September 8, 2016 BCC/Budget Hearing Meeting Minutes**

3. **SERVICE AWARDS**

   3.A. **EMPLOYEE**

      3.A.1. **20 YEAR ATTENDEES**

         3.A.1.a. **20 Year-Diana Compagnone, Building Review & Permitting**

         3.A.1.b. **20 Year-Carla Fogle, Utilities Finance**

         3.A.1.c. **20 Year-Mario Garcia, Wastewater**

         3.A.1.d. **20 Year-Keith Maycroft, Road Maintenance**

         3.A.1.e. **20 Year-Pedro Rodriguez, Road Maintenance**

   3.B. **ADVISORY BOARD MEMBERS**

   3.C. **RETIREES**

4. **PROCLAMATIONS**

5. **PRESENTATIONS**

   5.A. **Recommendation to recognize Tonia Spangler, Applications Analyst, Growth Management Department as the August 2016 Employee of the Month.**

6. **PUBLIC PETITIONS**

7. **PUBLIC COMMENTS ON GENERAL TOPICS NOT ON THE CURRENT OR FUTURE AGENDA**

   Item 7 to be heard no sooner than 1:00 pm unless otherwise noted.

8. **BOARD OF ZONING APPEALS**

   Item 8 to be heard no sooner than 1:30 pm unless otherwise noted.

9. **ADVERTISED PUBLIC HEARINGS**

Item 9 to be heard no sooner than 1:30 pm unless otherwise noted.

10. **BOARD OF COUNTY COMMISSIONERS**

10.A. **Direct County Attorney to use any necessary legal recourse to enforce the Board of County Commissioner's 2003 agreement with the South Florida Water Management District mandating all roads in the Picayune Strand State Forest are to remain open for free public access to the preserve and to authorize the Board Chairman to submit a letter of explanation to the Governor on SFWMD refusal to maintain the Picayune roadways.**

11. **COUNTY MANAGER'S REPORT**

11.A. **Recommendation to consider a request to release a parcel of land from the GAC Future Land Sales List to allow the adjacent property owner to purchase the parcel pursuant to the terms of the 1983 GAC Land Trust Agreement. (Len Price, Administrative Services Department Head)**

11.B. **Recommendation to review the status of the 2016 Collier Connty Restore Comprehensive Watershed Improvement Plan and to approve moving forward with Restore funding applications and continue project execution. (Gary McAlpin, Coastal Zone Management)**

11.C. **Recommendation to accept an update on work completed to date and to seek Board approval to proceed with Phase II of the analysis of establishing a Stormwater Utility - an alternative user fee based funding source for ongoing and future Collier County Stormwater Management related initiatives and operations. (David S. Wilkison, P.E., Growth Management Department Head)**

11.D. **Recommendation to approve the updated landscaping Best Management Practices for the Landscape Beautification Master Plan, the addition of Radio Road East (Santa Barbara to Davis Blvd.) in fiscal year 2017, and updated ranking of project installation. (David S. Wilkison, P.E., Growth Management Department Head)**

11.E. **Recommendation to complete the Annual Performance Appraisal for the County Manager. (Leo E. Ochs, Jr., County Manager)**

11.F. **Recommendation that the Board of County Commissioners extend the County Manager Employment Agreement with Leo E. Ochs, Jr., fixing the end date of the third extension term as September 30, 2019. (Leo E. Ochs, Jr., County Manager)**

12. **COUNTY ATTORNEY'S REPORT**

12.A. **The Annual Performance Appraisal for the County Attorney**

12.B. **Recommendation that the Board of County Commissioners extends the County Attorney Employment Agreement to September 30, 2019.**

13. **OTHER CONSTITUTIONAL OFFICERS**

14. **AIRPORT AUTHORITY AND/OR COMMUNITY REDEVELOPMENT AGENCY**

14.A. **AIRPORT**

14.A.1. Recommendation to approve and authorize the Chairman to execute Contract No. 16-6561 "Design Services for Marco Executive Airport Terminal" in the not-to-exceed amount of $1,209,298 to Atkins North America.

14.B. COMMUNITY REDEVELOPMENT AGENCY

15. STAFF AND COMMISSION GENERAL COMMUNICATIONS

15.A. Current BCC Workshop Schedule

16. CONSENT AGENDA

All matters listed under this item are considered to be routine and action will be taken by one motion without separate discussion of each item. If discussion is desired by a member of the Board, that item(s) will be removed from the Consent Agenda and considered separately.

16.A. GROWTH MANAGEMENT DEPARTMENT

16.A.1. Recommendation to approve a Florida Department of Transportation (FDOT) Funded Agreement (Financial Management No. 437103-1-88-01), "Collier Traffic Management Center (TMC) Operations (OPS) Fund County Wide", with the FDOT wherein FDOT will reimburse Collier County on an annual basis for the cost of monitoring, documenting and reporting signal timing changes along regionally significant corridors as determined by the County and FDOT in State Fiscal Years 2017 through 2021, in the total amount of $384,750.

16.A.2. Recommeudatiou to approve final acceptance and unconditional conveyance of the water and sewer utility facilities for Fiddler's Creek, Marsh Cove Phase 1, PL20140001994, and to authorize the County Manager, or his designee, to release the Final Obligation Bond iu the total amount of $4,000 to the Project Engineer or the Developer's designated agent.

16.A.3. Recommendation to grant final approval of the private roadway and drainage improvements for the final plat of Saturnia Falls – Phase One, Application Number AR-6124 with the roadway and drainage improvements being privately maintained, authorizing the release of the maintenance security and accepting the plat dedications.

16.A.4. Recommendation to authorize the Clerk of Courts to release a Performance Bond in the amount of $7,997, to Toll Brothers, Inc., which was posted as a guaranty for Site Development Plan (SDP) Number AR-8928 for work associated with Firano at Naples Clubhouse.

16.A.5. Recommendation to grant final approval of the private roadway and drainage improvements for the final plat of Quarry Phase 6, Application Number PL20140000127 with the roadway and drainage improvements being privately maintained and authorizing the release of the maintenance security.

16.A.6. Recommendation to authorize the Clerk of Courts to release a Cash Bond in the amount of $50,460 to KE Talis Park Properties, LLC., Which Was Posted As a guaranty for Excavation Permit Number 60.089-4, PL20150000146, for work associated with Corsica at Talis Park.

16.A.7. Recommendation that the Board approves and authorizes the Chairman to sign a Collier County Landscape Maintenance Agreement ("Agreement") between Collier County and the Raffia Preserve Master Association, Inc. for landscape and irrigation improvements within the Pristine Drive and Wolfe Road public Rights-of-Way.

16.A.8. Recommendation that the Board of County Commissioners (Board) approves and authorizes the Chairman to sign a Collier County Landscape Maintenance Agreement ("Agreement") between Collier County and the Avery Square Homeowners Association, Inc., ("Association"), for landscape and irrigation improvements within the Airport-Pulling Road public Right-of-Way.

16.A.9. Recommendation to approve an interlocal agreement with the City of Naples for a joint stormwater and sanitary sewer project between Goodlette-Frank Road and US-41 and direct the County Manager to prepare and issue a Request for Proposals for the engineering design and post desigu services for the joint project. (Project No. 60142)

16.A.10. Recommendation to authorize the Clerk of Courts to release a Cash Bond in the amount of $30,561 to Bristol Pines, LLC, as successor to Waterways Joint Venture IV which was posted as a guaranty for Excavation Permit Number 59.920-1, PL20110002180 for work associated with Bristol Pines Phase II.

16.A.11. Recommendation to approve the release of a code enforcement lien with an accrued valne of $554,500 for payment of $450 in the code enforcement action entitled Board of County Commissioners v. Gnadalupe Peralez, Code Enforcement Board Case No. CEPM20090008057 relating to property located at 5084 23rd Court SW, Collier County, Florida.

16.A.12. Recommendation to approve the release of a code enforcement lien with an accrued value of $12,450 for payment of $450 in the code enforcement action entitled Board of County Commissioners v. Pierino and Loreta Pensenti, Code Enforcement Board Case No. CEROW20100017549 relating to property located at 4110 3rd Avenue SW, Collier County, Florida.

16.A.13. Recommendation to approve the release of a code enforcement lien with an accrued value of $150,769.83 for payment of $869.83 in the code enforcement action entitled Board of County Commissioners v. Debbi J. Maschino, Code Enforcement Board Case No. 2004061160 relating to property located at 265 Rose Bonlevard, Collier County, Florida.

16.A.14. Recommendation to approve the release of a code enforcement lien with an accrued value of $17,330.86 for payment of $450 in the code enforcement action entitled Board of County Commissioners v. Martha Mendez-Cruz, Code Enforcement Board Case No. CESD20110014160 relating to property located at 3525 47th Avenue NE, Collier County, Florida.

16.A.15. Recommendation to approve an easement agreement for the purchase of a road right-of-way, drainage, and utility easement (Parcel 365RDUE) and a temporary driveway restoration easement (Parcel 365TDRE) required for the expansion of Golden Gate Boulevard from 20th Street East to east of Everglades Boulevard (Project 60145). Estimated Fiscal Impact: $13,308.

16.A.16. Recommendation to grant final approval of the private roadway and drainage improvements for the final plat of Riverstone – Plat Five, Application Number 20130000785 with the roadway and drainage improvements being privately maintained; acceptance of the plat dedications and authorizing the release of the maintenance security.

16.A.17. Recommendation to grant final approval of the private roadway and drainage improvements for the final plat of Riverstone – Plat Six, Application Number 20130002629, with the roadway and drainage improvements being privately maintained; acceptance of the plat dedications and authorizing the release of the maintenance security.

16.A.18. Recommendation to award Bid #16-6599 to Infinite Construction, LLC for the "East Naples Sidewalk Improvements" project for construction of sidewalk improvements on the west side of Lombardy Lane from Thomasson Drive for approximately 700 feet north and the east side of Orchard Lane from Thomasson Drive to Outer Drive in the amount of $269,817.78, Project 33460.

16.A.19. Recommendation to adopt a Resolution to hold a public hearing to consider vacating a portion of Tract "R", Creekside Boulevard right-of-way, being a part of Creekside Commerce Park West-Unit Two, Plat Book 35, Page 43 of the Public Records of Collier County, Florida, located in Section 27, Township 48 South, Range 25 East, Collier County, Florida. (VAC-PL20160002294)

16.A.20. Recommendation to adopt a Resolution to hold a public hearing to consider vacating Tract RW4, an approximately 100-foot wide, 1,300-foot long tract dedicated to the Connty for future right-of-way according to Naples Heritage Golf and Country Club Phase One, Plat Book 26, Page 73 of the Public Records of Collier County, Florida. The subject property is located approximately 1/2 mile east of Santa Barbara Blvd., and 1 mile south of Davis Blvd, in Section 9, Township 50 South, Range 26 East, Collier County, Florida (VAC-PL20160001403).

16.A.21. **Recommendation to approve a Transportation Post Project Maintenance Agreement with the Florida Department of Transportation (FDOT), for the maintenance of sidewalk and traffic improvements located between Trail Boulevard and the east side of U.S. 41 from north of Pine Ridge Road to south of Pelican Bay Boulevard N. upon completion of the FDOT improvements project, Financial Project No. 435040-1-52-01, and a Resolution authorizing the Chairman to sign the Agreement.**

16.A.22. **Recommendation to extend the temporary moratorium to April 11, 2017, on the acceptance, processing, and consideration of applications for development orders involving the conversion of lands zoned for golf course use and to accept white paper prepared by staff providing recommendations for Land Development Code (LDC) Amendment concepts.**

16.A.23. *****This item has been continued to the October 25, 2016 BCC Meeting*** Recommendation to adopt a Resolution to hold a public hearing to consider vacating a portion of the east end of Mainsail Drive right-of-way, being a part of Marco Shores Unit One, Plat Book 14, page 33 of the Public Records of Collier County, Florida, located in Section 26, Township 51 South, Range 26 East, Collier County, Florida (VAC-PL20160000379).**

16.B. COMMUNITY REDEVELOPMENT AGENCY

16.B.1. **Recommendation to approve an amendment to Resolution No. 2001-98, reducing the size of the Advisory Committee; defining the member affiliation requirements and updating applicable sections of the Bylaws For the Immokalee Community Redevelopment Agency (CRA) Local Advisory Board.**

16.B.2. **Recommendation that the Immokalee Community Redevelopment Agency (CRA) approve the attendance of one Immokalee Advisory Board member aud the Immokalee CRA staff at the Florida Redevelopment Association 2016 Annual Conference; authorize payment of attendees' registration, lodging, travel and per diem from the Immokalee CRA Trust Fund (Fund 186) travel budget; and declare the training received as serving a valid public purpose.**

16.B.3. **Recommendation to direct the County Attorney to work with Staff to advertise and bring back to the Board for a Public Hearing an Ordinance to implement a temporary Moratorium to stay the receipt of new applications for development orders for facilities with fuel pumps, including gas stations, along the US 41, Airport Road and Davis Boulevard corridors within the Bayshore/Gateway Community Redevelopment Area (CRA), while CRA staff updates its Redevelopment Plan and alternate land development regulations are prepared and vetted.**

16.B.4. Recommendation to accept the "Height Notice" as required in Section 7.c. and replace Exhibit E, amending the density and updating the site plan, of the Real Estate Purchase Agreement dated May 9, 2016 between Real Estate Partners International, LLC (Purchaser) and the Board of County Commissioners (Seller), acting as the authority for Bayshore/Gateway Triangle Redevelopment Area.

16.C. PUBLIC UTILITIES DEPARTMENT

16.C.1. Recommendation to approve a $705,600 work order under Request for Quotation 14-6213-73 to Mitchell & Stark Construction Company, Inc., for the North County Regional Water Treatment Plant Odor Control Blowdown Sulfuric Acid Bulk Tank and Lift Station Project 70104.

16.D. PUBLIC SERVICES DEPARTMENT

16.D.1. Recommendation to approve the purchase and installation of LED sports lighting from Musco Lighting, Inc at Golden Gate Community Park in the total amount of $520,000, and; Waive competition for this single source vendor, Project No. 80319.

16.D.2. Recommendation to accept the Conservation Collier 2015 Annual Report and Provide the Board of County Commissioners and public with an update on the Program's past activities.

16.D.3. Recommendation to approve a work order using Contract No. 13-6164 to BSSW Architects, Inc. for design and permitting of the shade structure over the championship courts at East Naples Community Park for the 2017 US Open Pickleball Championship; authorization of necessary budget amendment; and make a finding that this expenditure promotes tourism.

16.D.4. Recommendation to approve and authorize the removal of uncollectible receivables in the amount of $5,381.29 from the financial records of the Parks and Recreation Division in accordance with Resolution No. 2006-252 and authorize the Chair to execute attached Resolution.

16.D.5. Recommendation to authorize the Golden Gate Beautification Municipal Service Taxing Unit (MSTU) to accept a donation of Paver Bricks and Installation for the base of a flag pole project being coordinated with the Boy Scouts of America (BSA) as an Eagle Scout merit badge achievement.

16.D.6. Recommendation to accept a Federal Transit Administration Section 5310 Grant award in the amount of $457,557, authorize the necessary budget amendments, and approve the purchase of four paratransit vehicles and radios using those funds.

16.D.7. Recommendation to reject the sole response received for Request for Proposal No. 16-6632 East Naples Community Park Concession.

16.D.8. Recommendation to award a work order using the Annual Contract for Professional Services for Engineers and Architects Contract 13-6164 to AECOM Technical Services, Inc. for the Clam Pass Beach Park Electrical Upgrade and make a finding that this expenditure promotes tourism.

16.D.9. Recommendation to approve the FY2016-2017 State Aid to Libraries Grant Agreement, Technology Plan, and Current Year Action Plan, authorizing the Collier County Public Library to apply for State Aid to Libraries in the estimated amount of $222,978.

16.D.10. Recommendation to award a work order using fixed term Contract Number 13-6164 to Q Grady Minor & Associates, P.A., in the amount of $27,055, for the Design and Permitting of the Barefoot Beach Toll Booth replacement and make a finding that this expenditure promotes tourism.

16.D.11. Recommendation to approve the expenditure of Category "A" Beach Park Facility Tourist Tax Funds, award Invitation to Bid (ITB) #16-6673R for South Marco Parking Lot and Beach Access improvements in the total amount of $263,309.91, approve the necessary budget amendment, and make a finding that these expenditures promote tourism.

16.D.12. Recommendation to approve the expenditure of Category "A" Beach Park Facility Tourist Tax funds for repair of the boardwalk at South March Beach Access for $14,500, award request for quote (RFQ) to DSI Marine Construction, and make a finding that this expenditure promotes tourism.

16.D.13. Recommendation to approve "after-the-fact" Amendments and Attestation Statements with Area Agency on Aging for Southwest Florida, Inc. for the Community Care for the Elderly, Alzheimer's Disease Initiative and Home Care for the Elderly programs and authorize Budget Amendments to reflect the final FY 15/16 grant funding amount (Net Fiscal Impact $8,984.01).

16.D.14. Recommendation to approve after-the-fact contracts, attestation statements and budget to reflect actual award of the Community Care for the Elderly, Alzheimer's Disease Initiative, and Home Care for the Elderly grants from Area Agency on Aging for Southwest Florida, Inc. (Net Fiscal impact $119,524.44).

16.D.15. Recommendation to approve "after-the-fact" Amendment and Attestation Statements to the Community Care for the Elderly, Alzheimer's Disease Initiative and the Home Care for the Elderly programs with Area Agency on Aging for Southwest Florida, Inc. for Services for Seniors programs (No Fiscal Impact).

16.D.16. Recommendation to approve Category B Tourist Development Tax funding to the University of Florida Extension Service to conduct an eco-tourism training assessment for Collier County Convention and Visitors Bureau and make a finding that this expenditure promotes tourism.

16.D.17. Recommendation to approve a Second Amendment to the Collier County Senior Resource Center Ground Lease.

16.D.18. Recommendation to recognize FY 2016/2017 State Public Transit Block Grant additioual revenue up to $873,928, authorize the County Manager or his designee, the Public Services Department Head, to execute the notification of funding award and approved appropriate budget amendment to prevent delay of the use of grant funds for the Collier Area Transit system.

16.D.19. Recommendation to approve change order #1 in the amount of $5,683 to Q Grady Minor & Associates, PA to obtain the required permits for the City of Marco Island for the Tigertail Restroom addition and make a finding that this expenditure promotes tourism.

16.E. ADMINISTRATIVE SERVICES DEPARTMENT

16.E.1. Recommendation to award Group Vision insurance to Vision Service Plan (VSP) for a two year period effective January 1, 2017 in the estimated annual amount of $57,857.76 .

16.E.2. Recommendation to approve the purchase of Flood Insurance for Fiscal Year 2017 in the estimated amount of $381,307

16.E.3. Recommendation to approve the purchase of Liability, Automobile, Workers' Compensation, Aircraft, Airport and other insurance coverage for FY 2017 in the estimated amount of $928,062.

16.E.4. Recommendation to approve and adopt a Resolution approving the Pay and Classification Plans for the County Manager's Agency and County Attorney's Office effective October 1, 2016; to provide for a general wage adjustment of 3% effective on October 1, 2016; and to approve the creation of new classifications, modification and/or deletion of classifications and assignment of pay ranges from the proposed Pay and Classification Plans, from July 1, 2016 forward, using the existing "Archer" point-factor job evaluation system.

16.E.5. Recommendation to authorize the County Manager and staff, in accordance with the County's Procurement Ordinance 2013-69 as amended, to use the allowable Federal GSA schedules (ex: Schedule 70 and 1122 Program), the State of Florida Contracts, Agreements and Price Lists, competitively solicited contracts by US Communities, Western States Contracting Alliance, National Intergovernmental Purchasing Alliauce (NIPA), National Joint Powers Alliance (NJPA) public purchasing consortiums, competitive solicitations from State of Florida cities, counties, school districts and other public municipalities (i.e., Sheriff's Association; Transit Consortium Bus Procurement Contract; Library Purchasing Cooperative Consortium) for the efficient purchase of goods and services for the delivery of public services and for which funds were approved in operating budgets; and authorize the County Manager or their designee to sign user agreements or contracts associated with these purchases.

16.E.6. Recommendation to approve and authorize the Chairman to execute the Fifth Amendment to the Agreement for Medical Examiner Services (Contract No. 11-5776 Medical Examiner) which will extend the term of the Agreement to September 30, 2017.

16.E.7. Recommendation to approve Change Order #001 for Life Safety Upgrades in the amount of $197,476.06 to DEC Contracting Group, Inc. for Contract 15-6488, Courthouse 1st Floor Renovations, an element of Courthouse Renovations Project #50116.

16.E.8. Recommendation to accept ongoing donations of both flags ($50) and flag poles ($1,600) to be installed at selected Collier County Government locations, as determined by the County Manager, subject to budgetary limits or conflicts at the time of donation, from Woodmen of the World Omaha Woodmen Life Insurance Society A.K.A Woodmen Life.

16.E.9. Recommendation to approve the procuremeut of educational training programs for staff; authorize the Chairman to execute an agreement with the Florida Gulf Coast University (as provided through its affiliate, the Florida Institute of Government); and waive competition in the best interest of the County as authorized in Ordinance No. 13-69, as ameuded.

16.E.10. Recommendation to award RFP #16-6649 to Gaumard Scientific for the purchase of a Human Patient Simulator and related products in the amount of $79,321.

16.F. COUNTY MANAGER OPERATIONS

16.F.1. Recommendation to approve a Release of Lien for Lucy Zuniga/Lucy Salon, Inc. due to the impact fees being paid in full in accordance with the Agreement for Fee Payment Assistance Program and the Amendment to Agreement for Fee Payment Assistance Program.

16.F.2. Recommendation to approve a transfer of transportation impact fee credits in the amount of $116,044.30, held by Berkshire Equity, LLC, for the Berkshire Common Parcels 3A and 3B development to the Thomasson Place development.

16.F.3. Recommendation to approve an Interlocal Agreement with the North Collier Fire Control and Rescue District to assist and cooperate with the District in collecting the District's impact fees.

16.F.4. Recommendation to adopt a resolution approving amendments (appropriating grants, donations, contributions or insurance proceeds) to the Fiscal Year 2015-16 Adopted Budget.

16.F.5. Recommendation to approve a report covering budget amendmeuts impacting reserves and moving funds in an amount up to and including $25,000 and $50,000, respectively.

16.F.6. Recommendation to approve an Agreement between the Board of County Commissioners and Project Ice for the Advanced Long-term Productivity Program ("ALPS") Economic Incentive Award, consistent with the Board's prior approval of Project Ice as a qualified applicant for this award.

16.G. AIRPORT AUTHORITY

16.G.1. Recommendation to approve and authorize the Chairman to execute the attached Resolution authorizing execution of Joint Participation Agreement Contract No. G0E50 with the Florida Department of Transportation to fund the design, permitting and bidding of a new terminal facility with associated entrance, parking, and related safety improvements at the Marco Island Executive Airport (Fiscal Impact $783,900 FDOT and $217,628 County)

16.H. BOARD OF COUNTY COMMISSIONERS

16.I. MISCELLANEOUS CORRESPONDENCE

16.J. OTHER CONSTITUTIONAL OFFICERS

16.J.1. Tax Collector request for advance commissions in accordance with Florida Statute 192.102(1) for FY 2017.

16.J.2. Recommendation to provide approval to designate the Sheriff as the official applicant and point of contact for the U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance Edward Byrne Memorial Justice Assistance Grant (JAG) FY16 Local Standard grant, authorize after the fact, the submission of the application (submitted on August 22, 2016), accept the grant when awarded, approve associated budget amendments and approve the Collier County Sheriff's Office to receive and expend 2016 JAG Standard grant funds.

16.J.3. To provide the special interim reports for approval as detailed in Section 2c of the agreed-upon order dated July 16, 2015 by Judge James R. Shenko in the manner requested by the Board of County Commissioners (previously included in item 16.I), and that prior to payment, the Board approves these expenditures with a finding that said expenditures serve a valid public purpose and authorizes the Clerk to make disbursement.

16.J.4. To record in the minutes of the Board of County Commissioners, the check number (or other payment method), amount, payee, and purpose for which the referenced disbursements were drawn for the periods between September 1 to September 14, 2016 pursuant to Florida Statute 136.06.

16.J.5. To provide to the Board a "Payables Report" for the period ending September 14, 2016 pursuant to the Board's request

16.K. COUNTY ATTORNEY

16.K.1. **Recommendation to appoint a member to tbe Growth Management Oversight Committee.**

16.K.2. **Recommendation to approve a proposed Joint Motion for Stipulated Final Judgment in the amount of $19,800 in total compensation for the taking of Parcel 242RDUE in the pending Eminent Domain case styled Collier County v. Octavio M. Alfonso, et al., Case No. 15-CA-230, required for the widening of Golden Gate Boulevard from Wilson Boulevard to 20th Street E., Project No. 60040. (Fiscal Impact: $11,140)**

16.K.3. **Recommendation to approve a proposed Joint Motion for Stipulated Final Judgment in the amount of $22,900 in total compensation for the taking of Parcel 251RDUE in the pending Eminent Domain case styled Collier County v. Pedro E. Pena, et al., Case No. 15-CA-350, required for the expansion of Golden Gate Boulevard from west of 16th Street East to 18th Street East, Project No. 60040. (Fiscal Impact: $15,570)**

16.K.4. **Recommendation that the Board of County Commissioners reviews and approves the proposed FY 2016 - 2017 Action Plan for Jeffrey A. Klatzkow, County Attorney.**

16.K.5. **Recommendation to reject Second Offer of Judgment in the amount of $63,635 including all attorneys fees, expert witness fees and costs as full compensation for the taking of Parcel 196RDUE needed for the widening of Golden Gate Boulevard from 8th Street East to 12th Street East , Project No. 60040. (Fiscal Impact: $0)**

17. SUMMARY AGENDA

This section is for advertised public hearings and must meet the following criteria: 1) A recommendation for approval from staff; 2) Unanimous recommendation for approval by the Collier County Planning Commission or other authorizing agencies of all members present and voting; 3) No written or oral objections to the item received by staff, the Collier County Planning Commission, other authorizing agencies or the Board, prior to the commencement of the BCC meeting on which the items are scheduled to be heard; and 4) No individuals are registered to speak in opposition to the item. For those items which are quasi-judicial in nature, all participants must be sworn in.

17.A. **Recommendation to Adopt an Ordinance establishing the Fronterra Community Development District (CDD) pursuant to Section 190.005, Florida Statutes.**

17.B. **This item requires that ex parte disclosure be provided by Commission members. Should a hearing be held on this item, all participants are required to be sworn in. Recommendation to approve Vincent Acres RPUD, PUDZ-PL20150001945-An Ordinance amending Ordinance Number 2004-41, as amended, the Collier County Land Development Code, which established the comprehensive zoning regulations for the unincorporated area of Collier County, Florida, by amending the appropriate zoning atlas map or maps by changing the zoning classification of the herein described real property from a residential multi-family-12 district (RMF-12 (10)) zoning district to a Residential Planued Unit Development (RPUD) zoning district for the project to be known as the Vincent Acres RPUD, to allow construction of a maximum of 85 single-family residential dwelling units or 118 townhouse residential dwelling units on property located west of Collier Boulevard at the southwest corner of Davis Boulevard and Market Street in Section 3, Township 50 South, Range 26 East, Collier County, Florida, consisting of 16.8 +/- acres; providing for partial repeal of Ordinance No. 93-73; and by providing an effective date [PUDZ-PL20150001945].**

17.C. **Recommendation to adopt a resolution approving amendments (appropriating carry forward, transfers and supplemental revenue) to the Fiscal Year 2015-16 Adopted Budget.**

17.D. **Recommendation to adopt a resolution approving amendments (appropriating carry forward, transfers and supplemental revenue) to the Fiscal Year 2016-17 Adopted Budget.**

18. **ADJOURN**

Inquiries concerning changes to the Board's Agenda should be made to the County Manager's Office at 252-8383.

BCC
REGULAR
MEETING

MINUTES

September 27, 2016

September 27, 2016

TRANSCRIPT OF THE MEETING OF THE BOARD OF COUNTY COMMISSIONERS
Naples, Florida, September 27, 2016

LET IT BE REMEMBERED, that the Board of County Commissioners, in and for the County of Collier, and also acting as the Board of Zoning Appeals and as the governing board(s) of such special districts as have been created according to law and having conducted business herein, met on this date at 9:00 a.m., in REGULAR SESSION in Building "F" of the Government Complex, East Naples, Florida, with the following members present:

CHAIRMAN: Donna Fiala
Tom Henning
Georgia Hiller
Tim Nance
Penny Taylor

ALSO PRESENT:
Leo Ochs, County Manager
Nick Casalanguida, Deputy County Manager
Jeffrey A. Klatzkow, County Attorney
Crystal Kinzel, Director of Finance and Accounting
Troy Miller, Communications & Customer Relations

11.B.

THE STATUS OF THE 2016 COLLIER COUNTY RESTORE COMPREHENSIVE WATERSHED IMPROVEMENT PLAN AND TO APPROVE MOVING FORWARD WITH RESTORE FUNDING APPLICATIONS AND CONTINUE PROJECT EXECUTION – APPROVED

MR. OCHS: Ladies and gentlemen, please take your seats. Madam Chair, you have a live mike.

Commissioners, we move to Item 11B on your agenda this morning. This is a recommendation to review the status of the 2016 Collier County RESTORE Comprehensive Watershed Improvement Plan and to approve moving forward with RESTORE funding applications and continue the project execution.

Mr. Gary McAlpin, your Coastal Zone Management Manager, is prepared to make a presentation or respond to questions from the Board; whatever the pleasure of the chair. Would you like the presentation, ma'am, or we'll go to questions.

CHAIRMAN FIALA: You might as well give us a presentation so that then everybody's familiar with it --

MR. OCHS: Happy to do it.

CHAIRMAN FIALA: -- in our audience.

MR. OCHS: Yes, ma'am.

MR. McALPIN: Thank you, County Manager, and good morning, board members. Gary McAlpin, for the record; Gary McAlpin, Coastal Zone Management Manager, and I'm also the RESTORE Coordinator for the County.

Before we get started, I want to recognize two individuals: Peter deGolian with Lago Engineering, and Mark Erwin with Atkins. They're outstanding engineers, and they worked with us, with the county to develop this comprehensive plan. And a lot of what you see in here today is going to be directly as a result of their participation.

So for the last 10 months or so we worked with the community, stakeholders, regulators, and environmental groups, and we wanted to look at developing a backbone for a comprehensive watershed plan that dealt with the eastern portions of Collier County just west of the federal project that you just talked about earlier this morning. And that area would -- was the Belle Meade, the Golden Gate, the west side of the Picayune State Forest, 6L's, and Rookery Bay.

We wanted to make sure this project complimented the federal project. We wanted to -- over the last 10 years there had been tremendous studies, 10 major studies, all identifying that we had problems here and all identifying similar solutions. We wanted to use those. We didn't want to recreate the wheel, so to speak. We wanted this plan to be permittable, be accomplished on a 10-year schedule, be comprehensive, be conceptual so that all of the issues were identified. There were no project killers, so to speak. It was going to be 100 percent fundable by RESTORE and supported by the legal -- the local stakeholders. We did that.

And we have in front of you a program that reduces freshwater flows to Naples Bay, rehydrates the western side of the Picayune Strand State Forest. That's about 10,000 acres. And that land was purchased for rehydration, and this plan is 100 percent compatible with forestry's plan, forestry's management plan.

We wanted to increase freshwater flows to Rookery Bay and improve the wet season, improve the -- let's see what we did down here. Maybe I can -- here we go. Okay. And improve the water quality throughout the whole system.

So from 1940 our watersheds were highly altered, and Rookery Bay -- and they were changed with the canal network from the Golden Gate Canal System. Rookery's Bay (sic) watershed was modified and reduced by 80 square miles.

Naples Bay watershed, because of the flowing from Golden Gate

Canal, increased by about 100 square miles. There has always been consensus on the impacts to the -- what we had to do, but we didn't have it move forward primarily because of money issues.

So when RESTORE came, RESTORE provided an opportunity, a potential opportunity for us to look at what we can do in a large comprehensive project.

So we looked at this job, and we said, okay, we're going to divert flows out of the Golden Gate Canal when flows are -- when water is available during the wet season from June to October and, more importantly, previous studies did not look at the reservations for the water for the upstream users.

They have city wells there. We have county wells there. We have private wells there. All those well sources during the dry season had to be maintained.

So we wanted to re-establish the historic flow-ways through the system, and we wanted to make sure that it was in concert with the federal project.

So we looked at flows based on -- in the Golden Gate Canal, from 2009 to 2014, and on average, when you took out the reservations for water, we could pump 42 days out of the year. Now, this is 11 percent of the days. And on those days when we were pumping, we could bypass approximately 19 percent of the flows. Of those 11 percent of the days, it represented about 9.5 percent of the wet season flows and 8 percent of the total flows going into Naples Bay on a yearly basis.

That's about 2.7 billion gallons a year, and it not only helped us with Naples Bay but it also, then, provided a source for that water to go down, rehydrate the Picayune Strand State Forest and help out with Rookery Bay.

So what happened is when we looked at doing this is when we take those flows out of Naples Bay, it creates about 400 acres within Naples Bay where we changed the habitat. The salinity will improve

about two parts per thousand. You could plant all the oyster reefs that you want, you could plant all the seagrasses that you want, but if the conditions are not right to develop the habitat, they'll die.

So what we've done here in four -- for approximately 400 acres, we created that habitat so that we will re-establish seagrasses, and we could establish oysters during that period of time.

We also -- by taking these flows out of Naples Bay, there's about -- we save about 5,000 bags of 20-pound fertilizer on a yearly basis. Pretty significant in terms of the nutrients that would be flowing into Naples Bay, and probably just as important we eliminate the shock loads.

During the wet seasons, you get the rush of freshwater into Naples Bay, and we get turbidity throughout the system. That turbidity tends to kill the flora and fauna in the bay. So we were able to, with eliminating those freshwater flows, improve those conditions into Naples Bay.

We looked at the state forest. State forest had purchased the lands for rehydration. And if we sheet flow through the state forest, we could rehydrate about 10,000 acres and -- but more importantly, when we rehydrate we would not change the hydro periods, the time of different -- different species, and we would not re -- and that we would not change the water depth significantly. That was very important to the forestry people because they have listed species in through that -- that location that they could not change.

So when, Commissioner Fiala, you asked about the animals and what would happen to the animals, well, in this particular plan, we're not hydrating enough to have an impact, a negative impact, on the flora and fauna or the animals within the Picayune Strand State Forest.

And, lastly, within Rookery Bay we're going to improve the freshwater flows. There's about a 50 CFS deficit, cubic feet per second deficit of flows going into Rookery Bay during the wet season, so we

would be able to improve that and provide them wet weather flows.

So if you look at our system that -- what we would be look doing -- if you look at our project here, you'll see this is the Golden Gate Canal. And as we -- as we have it right there, this is the property that was just purchased right next to the landfill right in through here, and we'll have about a 4,500-foot flow-way with a pump station that we would pump during wet seasons, during the time that we talked about, 100 CFS. It will have the capacity to do much more than that, but our design basis is for 100 CFS right now.

From that pump station, then we will -- we will transfer the flows to the north canal of 75. This is 75 right through here. We'll flow that water down through there into a pump station, which will pump it out of the south side of 75 canals, the canals on the south side, through existing culverts. We won't change 75. There won't be any new culverts that will need to be installed. And then we'll go through the natural flow-way on through the Picayune State Forest.

Now, I said this complements the federal project. This is the federal project that's outlined in red that was talked about earlier today. So we're right next to that, and everything that we do would complement that program.

The natural flow-way would flow through here. We'll put culverts under Sabal Palm Road, and we will -- we have 6L's agricultural development right in through this area. We've looked at, we've talked to the 6L's, the property owners within 6L's, and we want to, in our plan, re-establish the natural flow-way through 6L's.

And, lastly, in the Fiddler's Creek area and the Rookery Bay area we want to be able to provide the outlets for the flows across 41 so that we can then -- once we get the water down here, then we can flow the water to the south.

So this is a project that's -- this is a work in process. We expect that the engineering and the permitting on this will take two years, two

to three years. We won't move forward to the engineering and permitting until we have funding.

And what (sic) we're in here today is we have a conceptual design that is detailed enough to establish and look for funding from our different RESTORE pots.

So one of the things that was -- that was always a problem, that had been a problem -- and this is a blowup of 75 right onto the north, and this is a blowup of the south side of the Picayune State Forest, and we're dealing with forestry as we speak on these issues.

If you look at these areas right in through here, the green circles, this is where we have Red-cockaded woodpecker habitat. These are endangered species. The red circles are previous colonies that have been destroyed by wildfire.

So when we talk to the state forest individuals, they had said, gee, we're really concerned. We want to make sure that you don't impact any of our listed species, you don't impact where we're trying to re-establish Red-cockaded woodpeckers' habitat to the northeast, you don't change the composition of the vegetation, which was very important.

Thirty years ago this was all cypress swamp. Now, it's mesic hardwoods and mesic flat woods. Those are panther habitat. And whatever we did, they wanted to make sure that we did not change that.

They wanted no functional decrease in their trails and their walkways, and their roads. They wanted to have the ability to have adaptability and monitoring on this program, and lastly, they wanted to make sure we had no impacts to the federal project.

We modeled our job, and we were able to report back to them, back to the state forest, that we can deal with the Red-cockaded woodpeckers, we can deal with not changing the vegetative communities, we can deal with all of the hard environmental issues

that we had.

We still haven't resolved 100 percent with the state forest at this point in time. Sabal Palm Road is an issue that we need to continue dialogue with them. We have another meeting with the director of the Forestry Service in Tallahassee later this month, and we'll continue to work through these items with the state forest. We're not there yet. They're the only agency that we do not have complete closure and complete agreement with.

But the key to this whole thing, this program, is to use an adaptive management technique where we've designed flexibility into the system so that we can increase the flows, decrease the flows, change the flows. We can -- we can monitor an area or shut the flows off to a certain area, and that's really the important -- and that's how we're going to start this once we get to the permitting -- past the permitting phase and into construction. That's what we'll do. We'll start the system up gradually and learn from it as we start it up.

So what are the critical issues that we've addressed on this item? It's basically that we're putting supplemental flows into Rookery Bay, and those flows that we're putting into Rookery Bay have a higher water quality characteristic than what the flows are currently in there.

So what we're doing is through all of this sheet flow that we're dealing with, we're actually improving water quality to the end user, which is Rookery Bay.

There's approximately 45 private parcels that are in the Big Cypress -- excuse me -- that are in the -- that are in the Picayune Strand State Forest at this point in time. We'll have to deal with those. We haven't dealt with those, but we're going to deal with those during the design period of time, and there's -- we have a lot of flexibility because we could use the TDR program. We could use avoidance. We could bypass properties. If so, we could work with the forestry and transfer the properties over to forestry.

So we've got a lot of flexibility there. We believe we absolutely can deal with those private property owners through how we design our system.

We've had no impact. We've demonstrated no impact to the endangered species. No compact to the vegetative communities. And by putting additional hydration through the state forest, we have the ability to choke all of the cabbage palms through wet -- additional wet moisture, and that is really a fire hazard for these people as we speak right now.

So this is going to work with them to provide more hydration to their forest and potentially help with the fire and also potentially help with avoiding some of the invasive species.

So we also, which was very important to us as we started this project, we wanted to make sure we had community support. We have written letters of support by Florida Fish and Wildlife Conservation Commission; FWC, which is state; the Big Cypress Basin; South Florida Water Management District; the City of Naples; Fish and Wildlife Service, which is federal; the Florida Wildlife Federation; the Conservancy of Southwest Florida; Audubon; Collier County's technical -- Watershed Technical Advisory Committee; and Rookery Bay is co-sponsor of this project with us because they believe in it so much.

So if you look at RESTORE, where we stand right now with RESTORE, it has three pots. The first pot is a direct component pot, and we expect to have, at the end of 15 years -- that's how much the time -- when the money is transferred to us, $6 million in that pot.

And in 2014, the county was a little bit premature, and we set up a situation where we solicited projects, but we hadn't had all of RESTORE -- Treasury's guidelines established at that point in time. And we've received projects from the community. Since that time we've realized that what Treasury is really looking for right now is

large, comprehensive projects that really make a difference.

So one of the recommendations that we're going to ask for is that we void out from 2014 the ranking for all the smaller miscellaneous projects that we had at that point in time and use the funds from Pot 1 to continue with our engineering design and to support this major project.

We also have Pot 3 which is the RESTORE consortium. And Commissioner Henning was very instrumental in working with us and the rest of the 23 counties to establish $12.7 million, which is what we would get -- we have to go through a submittal process and an approval process. But $12.7 million has been highlighted for us to deal with our project. So that gives us about $18 million if you look at both of these projects combined.

The plan that we laid out to you, we're estimating at this point in time, is 32 million. The balance of those funds we're going to apply for the RESTORE Council, which is Pot 2, which is the five major states through DEP to support that project.

CHAIRMAN FIALA: I don't know if everybody knows what RESTORE funds are, but that is from the oil spill, just so everybody understands where that money's actually coming from.

Are you close to the end?

MR. McALPIN: I am.

CHAIRMAN FIALA: Okay.

MR. McALPIN: So what we would -- what we're looking for from you is a -- is a review, which we've given you, and then a direction to move forward and to continue to develop this project and to use one major project and to use funds that we have to continue with the engineering. We have approximately $1 million currently in the bank, at the end of next year we'll have 1.5 million, and we'd like to use those funds to continue to develop the engineering and, more importantly, the permitting for this project.

Thank you, Commissioner.

CHAIRMAN FIALA: Thank you so much.

COMMISSIONER HENNING: Move to approve staff's recommendations.

CHAIRMAN FIALA: I have speakers.

COMMISSIONER HENNING: Okay.

CHAIRMAN FIALA: Okay. How many speakers do we have?

MR. MILLER: We have one registered public speaker for this item, Nancy Payton.

MS. PAYTON: Good morning. Nancy Payton representing the Florida Wildlife Federation. And we're here in enthusiastic support of moving forward with the RESTORE applications and the watershed plan to improve Naples Bay, Picayune, Belle Meade, and Naples Bay -- oh, and Rookery Bay. Got that wrong.

We have a particularly keen interest in the western Picayune effort because it does rehydrate 10,000 acres of wetland habitat, and it respects the upland habitats. Often with wetland projects, the upland lands are somewhat sacrificed.

But in this case, there's great respect for the effort to restore Red-cockaded woodpecker habitat.

We were involved with an effort several years ago to bring in over a dozen pair of Red-cockaded woodpeckers from as far away as Georgia to re-establish that population. So we're very pleased that their needs are considered in this, and we commend Gary and his team for doing that.

We just hope you'll move forward, and we will continue to engage with Gary and his team, who have done an excellent job in bringing everybody together around the table to work collegially to move this project forward.

Thank you.

CHAIRMAN FIALA: Thank you. Thank you.

Commissioner Taylor?

COMMISSIONER TAYLOR: For Mr. Alpine.

Thank you very much for this, and clearly you have broad support among the environmental community for this plan.

I did read it because I was fascinated with the concept of diverting water from the Golden Gate Canal, being in the city, and Naples Bay is always on everyone's mind. And the understanding of how damaging that flow of freshwater is, it piqued my interest, and so I sat and read it. So I think -- now, help me with this. Right now I think there's 1,250 CFS of freshwater going into Naples Bay; is that correct?

MR. McALPIN: That might be the total flow going into Naples Bay.

COMMISSIONER TAYLOR: Yes.

MR. McALPIN: I can't argue with -- I can't comment on that number, but --

COMMISSIONER TAYLOR: That sticks in my mind because what started me on this questioning is that for $32 million we're only diverting 100 and maybe 200 CFS from Naples Bay.

MR. McALPIN: Yes, ma'am. That is true. I mean, but if you look at the impact that that's going to have on Naples Bay, it's pretty --

COMMISSIONER TAYLOR: It wasn't so -- it wasn't as clear as you spoke about it. I mean, what I read was oysters may come back. The salinity -- the salinity on the north side of the bridge, which is where the Golden Gate Canal is not going to change. Am I incorrect on that?

MR. McALPIN: The salinity in the middle part of Naples Bay --

COMMISSIONER TAYLOR: Will.

MR. McALPIN: -- will change.

COMMISSIONER TAYLOR: Yes.

MR. McALPIN: You won't change the salinity to the south for Gordon River, and you won't have it all the way up on the north end.

But clearly the salinity of the 400 acres in the middle will change.

COMMISSIONER TAYLOR: Okay.

MR. McALPIN: And that's pretty significant. I think if you look at -- Commissioner, you've got to look at it holistically, and that's what we've tried to do when we developed this plan.

Sure, we'd like to develop -- we'd like to divert more flows out of Naples Bay, but the reality is, is that we've got to start somewhere, and we don't have the water reservations which would allow us at this point in time, from a paper point of view, to divert more flows.

COMMISSIONER TAYLOR: Right.

MR. McALPIN: We're going to do that through the adaptive management that we talked about. But, more importantly, this is a comprehensive program. It's just not identified for Naples Bay. It's rehydrating the Picayune Strand State Forest, which is in badly need of additional water, and it's rehydrating and it's providing wet weather flows to Rookery Bay, and it's improving the water quality through that whole system and the historic flow-ways through 6L.

So you've got to look at it in concert in terms of what we can do, what re -- what the RESTORE consortium will approve and -- as we move forward with this, and that's what we've tried to do.

COMMISSIONER TAYLOR: And I think you have, and I'm very cognizant of the fact that Rookery Bay will be a great benefit to Rookery Bay (sic) if this works. But my question is, what is your contingency plan if it doesn't?

MR. McALPIN: Well, this is what we're going to do: We're going to go and we're going to seek funds for engineering. Hopefully we'll be able to use some of the Pot 1 funds that we have.

We've got about two years worth of -- two to three years worth of permitting and engineering where we're going to go back and we're going to look at all of these issues again in more detail. And we will know -- we will have a much better period -- when we complete that,

that more detailed engineering and the permitting; we'll have a much better feel for what's going to happen with the additional flows and water reservations than where we're at right now.

We're very confident that what we can do is divert the 100 CFS. We think it's a low number, but we're not going to guarantee or comment on any more than that.

COMMISSIONER TAYLOR: Okay. Because with all of the building in the east that is planned, stormwater and how we manage it will become critical.

MR. McALPIN: Right.

COMMISSIONER TAYLOR: And so, you know, I don't know that this plan addressed that. But you don't know what will dot is (sic). I know FDOT has tried to --

MR. McALPIN: This is what we do know is that this plan has -- we have had 10 major studies over the past 20 years. Naples Swim Plan; the Rookery Bay just modeled the system; we've South Florida Water Management District, not just by Collier County, but by all the agencies, says that there's a problem here, that we have to re-establish the natural flows that we've got coming into this area or, you know, we're going to continue to deteriorate that eastern corridor. That's what we're trying to do.

Now, I don't -- so we have to look at what we've got right now and how that works moving forward. We have to -- we have -- we will work with the U.S. Army Corps of Engineers on the eastern corridor to complement both these projects, ma'am.

COMMISSIONER TAYLOR: Okay. Just, as you go forward, if you could interface with the development in the east so that -- or in the -- is it the north -- in the north, excuse me -- with all the rural lands and all the projected development in this area, you know, the buildout of Collier County, stormwater is critical.

We just passed, in December, a 50-year plan of using stormwater

as a commodity. You know, I didn't see it in this -- and this is not a criticism. This is a wonderful plan, but I just think we need to somehow integrate the concept, is this going to be something -- is this area going to be something that we do, that will be hydrated even more, and what's that going to do when we have buildout? And I don't know the answer to that.

MR. McALPIN: That will all be part of the detailed design that we do, Commissioner, that we would bring back to this board when it is complete and have those discussions with this board.

COMMISSIONER TAYLOR: Okay.

MR. McALPIN: And most of the rehydration is going to be in the Picayune Strand State Forest, which is public lands. So that's where most of the rehydration is going to take place, in the big middle section.

COMMISSIONER TAYLOR: Okay. And then, finally, the third -- the amount of money, the 12 million and 6 million, is that it? No more money from RESTORE, or is that just this year's?

MR. McALPIN: Well, that's it from Pots 1 and Pot 3.

COMMISSIONER TAYLOR: Okay.

MR. McALPIN: Pot 2 is the wild card. That's the one that has all the money, and that's the one that is controlled by the five states. And our gatekeeper for that is FDEP. FDEP likes our project, but they won't guarantee anything at this point in time.

COMMISSIONER TAYLOR: Okay. Thank you.

CHAIRMAN FIALA: Thank you.

Commissioner Nance?

COMMISSIONER NANCE: Yes. Let me try to bring this together for everybody's thought process relative to other things that have gone on. I think this is a wonderful project. I support it 100 percent, you know.

And you've heard me pontificate a number of times saying that,

much to everyone's chagrin, Florida is becoming a completely managed system. This is just one effort that we're going to have to get us back to where we are heading and where we need to go.

The Board and the staff and the Water Management District and our other partners are going to have to further support us in the north Golden Gate flow-way restoration project, which is a companion to this. And if we're smart, we are going to get the support through our Growth Management Plan updates to consider, once again, how do we deal with the sending lands other than these in the rural fringe?

Hopefully, we'll have community support and staff support and agency support and advocacy support for a low-density overlay over and across the 100,000 acres that's Golden Gate Estates so that we can reconsider dispersed water storage in that 100,000 acres in the geographic center of our county.

And, of course, we're going to have to try to make sure that we get the large percentage of lands protected from development in the RLSA where most of this development will take place. If you start to add all those efforts together and if you can somehow negotiate the maze of agencies and permits and planning that you need to do to get all those in concert, we have the tools before us to solve the problem. You're not going to solve it just with this one, but together with all these other efforts you're going to back into a more natural system, which is what we need to do to begin with.

But it's going to be agonizingly slow. It's going to be just like the long period of time that it took us to get in this much trouble. It's going to take us that much time and a whole lot of money, too, to get us out of the trouble.

So I hope everybody has just got their patient hat on and they're determined to consider the same sorts of topics as we consider each of these growth management plans and these other projects. So that will take us to where we go.

Let's vote. I'm in favor of it.

CHAIRMAN FIALA: Well, Commissioner Henning, actually half an hour ago, made a motion, but he's now not in the room anymore.

COMMISSIONER TAYLOR: I'll second his motion, if the motion's still on the floor.

CHAIRMAN FIALA: I don't even know what it even said anymore.

COMMISSIONER HILLER: Motion to approve.

MR. CASALANGUIDA: The recommendation.

CHAIRMAN FIALA: Okay. And you seconded it.

COMMISSIONER TAYLOR: Second.

CHAIRMAN FIALA: Okay, fine. Oh, here he is. Okay. We're just using your motion that you presented a while back.

All those in favor, signify by saying aye.

COMMISSIONER TAYLOR: Aye.

COMMISSIONER NANCE: Aye.

CHAIRMAN FIALA: Aye.

COMMISSIONER HILLER: (No verbal response.)

COMMISSIONER HENNING: Aye.

CHAIRMAN FIALA: Opposed?

(No response.)

CHAIRMAN FIALA: Good. That's a 5-0. Thank you.

Let's move on.

Item #11C

AN UPDATE ON WORK COMPLETED TO DATE AND TO SEEK BOARD APPROVAL TO PROCEED WITH PHASE II OF THE ANALYSIS OF ESTABLISHING A STORMWATER UTILITY - AN ALTERNATIVE USER FEE BASED FUNDING

Collier County

Growth Management Department

Capital Project Planning, Impact Fees & Program Management Division

City of Naples Workshop Meeting

September 19, 2016

2800 North Horseshoe Drive • Naples, Florida 34104 • 239-252-2400 • www.colliergov.net

Naples City Council Notice of Meeting and Agenda
City Council Chamber, 735 Eighth Street South, Naples, Florida
Mayor: Bill Barnett
Vice Mayor: Linda Penniman
City Council Members:
Reg Buxton, Doug Finlay, Michelle McLeod, Sam J. Saad III, Ellen Seigel
City Attorney: Robert D. Pritt • City Clerk: Patricia L. Rambosk • City Manager: Bill Moss

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Welcome to today's City Council meeting. If you wish to address the Council regarding an item listed on this agenda, please complete a registration form at the rear of the room and place it in the Speaker Request Box located on the Council dais prior to consideration of that item. We ask that speakers limit their comments to 3 minutes and that large groups name a spokesperson whenever possible. Thank you for your interest and participation in City government.

City Council Workshop Meeting
Monday, September 19, 2016
08:30 A.M.

All proposed ordinances and information on other items listed below, which have been provided in advance of this meeting, may be inspected in the office of the City Clerk, Room B, City Hall, or on the City of Naples home page http://www.naplesgov.com or call the City Clerk's Office, 213-1015. All written, audio-visual and other materials presented to the City Council in conjunction with deliberations during this meeting will become the property of the City of Naples and will be retained by the City Clerk.

1. Roll Call

2. Pledge of Allegiance

3. Announcements - Employee Service Awards

4. Set Agenda

5. Public Comment

6. City Clerk - Interview six (6) candidates for the Planning Advisory Board (PAB) and one (1) candidate for the Public Art Advisory Committee (PAAC)

Agenda Memorandum

PAB Applications and Resumes

PAAC Application and Resume

Code Sec. 2-551

Code Sec. 2-582

7. City Manager - Presentation by Dr. Nader Ardalan, Senior Adviser, The Harvard Graduate School of Design, regarding a Project on South Florida and Sea Level rise for coastal communities

Agenda Memorandum

A Draft "Bullet Point" Update

6/8/16 Advance Planning Workshop Agenda and 5/21/16 Memorandum: The Harvard GSD Project on South Florida and Sea Level: The Case of Collier County (including Naples, Marco Island, and Everglades City)

PowerPoint

8. Streets and Stormwater - Presentation by Mr. Gary McAlpin, Collier County Coastal Zone Manager, regarding a comprehensive County watershed project known as the Belle Meade Flow Way Project and potential funding opportunities through Deep Water Horizon Oil Spill RESTORE Act

Agenda Memorandum

PowerPoint

10. Community Services - Discussion regarding the Parks Master Plan

Agenda Memorandum

Public Meetings Schedule

9. Streets and Stormwater - 1:00 PM TIME CERTAIN - Presentation of the 30% Baker Park design led by Mr. Bill Waddill, Landscape Architect with Kimley Horn & Associates, Inc. and the design team

Agenda Memorandum

PowerPoint

11. Review of Items on the September 21, 2016 Regular meeting Agenda

Correspondence / Communications

Adjourn

NOTICE

Formal action may be taken on any item discussed or added to this agenda. Any person who decides to appeal any decision made by the City Council with respect to any matter considered at this meeting (or hearing) will need a record of the proceedings and may need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence upon which the appeal is to be heard. Any person with a disability requiring auxiliary aids and services for this meeting may call the City Clerk's Office at 213-1015 with requests at least two business days before the meeting date.

City of Naples

City Council Chamber
735 Eighth Street South
Naples, Florida 34102

City Council Workshop Meeting – September 19, 2016 - 8:30 a.m.

1. ROLL CALL

Bill Barnett, Mayor
Linda Penniman, Vice Mayor
Reg Buxton
Doug Finlay
Michelle McLeod
Sam Saad III
Ellen Seigel

Also Present:

Roger Reinke, Acting City Manager
Jessica Rosenberg, Deputy City Clerk
Denise Perez, Human Resources Director
Peter DiMaria, Fire Chief
Gregg Strakaluse, Streets & Stormwater Director
Dana Souza, Community Services Director
Thomas Weschler, Police Chief
Thompson Dyke
Torrey Foster
James Moon
Derek Perry
Nader Ardalan
Rob Moher
Gary McAlpin
Bill Waddill
Kevin Mangan
Chuck Roth

Media:

Joseph Cranney, Naples Daily News

It is noted for the record that all documentation electronically appended hereto is also contained in the file for this meeting in the City Clerk's Office.

2. PLEDGE OF ALLEGIANCE

Mayor Barnett.

Editor's Note: At this point in the meeting, Mayor Barnett expressed the Council's condolences to Communication Manager David Fralick whose brother had recently passed away.

3. ANNOUNCEMENTS - EMPLOYEE SERVICE AWARDS

Human Resources Director Denise Perez introduced the department directors who presented awards to their employees for years of service as follows:

Fire Chief Peter DiMaria: Timothy Bruener, Jerry Pecar, David Howard (25 years); and Katherine Szostak (10 years); and

Community Services Director Dana Souza: Migdalia Hechavarria, Gregory Finn, Paul Wright and John Ognibene (10 years); and

Police Chief Thomas Weschler: Jason Collins, Benjamin Vasquez (10 years); and Brad Gallagher (5 years); and

Streets and Stormwater Director Gregg Strakaluse: Andrew Holland (5 years).

4. SET AGENDA

***MOTION* by Buxton to *SET THE AGENDA* as submitted; seconded by Seigel and unanimously carried, all members present and voting (Buxton-yes, Finlay-yes, McLeod-yes, Penniman-yes, Seigel-yes, Saad-yes, Barnett-yes).**

5. PUBLIC COMMENT

None.

6. INTERVIEW SIX (6) CANDIDATES FOR THE PLANNING ADVISORY BOARD (PAB) AND ONE (1) CANDIDATE FOR THE PUBLIC ART ADVISORY COMMITTEE (PAAC)

Council conducted interviews with Planning Advisory Board (PAB) candidates Thompson Dyke, Torrey Foster and James Moon.

It is noted for the record that Council Member Saad left the meeting at 9:29 a.m.

Candidate Derek Perry informed Council that he was withdrawing his application for the PAB and was thereby interviewed only for the Public Art Advisory Committee (PAAC).

Agenda Memorandum PAB Applications and Resumes

PAAC Application and Resume Code Sec. 2-551 Code Sec. 2-582

Recess: 9:46 a.m. to 9:57 a.m. It is noted for the record that Council Member Saad was not present when the meeting reconvened.

7. PRESENTATION BY DR. NADER ARDALAN, SENIOR ADVISER, THE HARVARD GRADUATE SCHOOL OF DESIGN, REGARDING A PROJECT ON SOUTH FLORIDA AND SEA LEVEL RISE FOR COASTAL COMMUNITIES

Acting City Manager Roger Reinke stated that Vice Mayor Penniman and members of staff had recently attended a workshop meeting regarding a possible project to study the impact of and potential responses to sea level rise. He explained that the Harvard Graduate School of Design (GSD) had launched this initiative, known as The Harvard Project, and has submitted a proposal to Collier County for a multi-year study.

Dr. Nader Ardalan, Senior Adviser Harvard GSD, then proffered an electronic presentation to review the proposal which included case specific questions; the Harvard research team; the project scope, funding, timeline, methodology and context; National Oceanic and Atmospheric Administration (NOAA) temperature projections; an illustration of a 4-foot sea level rise in the City; and the current project status, objectives and benefits. In conclusion, Dr. Ardalan asked for Council support and approval of the project.

Public Comment: Rob Moher, President and CEO of the Conservancy of Southwest Florida, expressed the Conservancy's support for the initiative, saying the City is already experiencing the ecological impacts of climate change.

Council Member Seigel said this project had not been deemed by staff to be a high priority, that there had been no competitive bidding process and that she was unsure of the benefit to be realized. Vice Mayor Penniman pointed out that Dr. Ardalan had brought together people from the private sector, environmental agencies and representatives of all local governments in the county, and that there was a general consensus to proceed with further dialog. Although noting the importance of the project, Council Member Finlay requested greater cost detail on the $350,000 proposal submitted to Collier County. He also requested additional data on historical impacts as well as projected impacts within the next 15-20 years. Council Member McLeod noted the importance of receiving solutions the City can reasonably implement.

It is noted for the record that Council Member Saad returned to the meeting at 11:14 a.m. during the consensus below.

Consensus to direct staff to prepare a resolution for the October 5th Council Meeting urging the Board of County Commissioners (BCC) to endorse the Harvard sea level project (Seigel dissenting). (Council Member Saad did not vote, not having heard the discussion.)

Mr. Moher said that from his experience, he believed that the above-cited cost for this type of work is very reasonable and that he doubted that the City could possibly receive a lower bid.

Agenda Memorandum A Draft "Bullet Point" Update

6/8/16 Advance Planning Workshop Agenda and 5/21/16 Memorandum: The Harvard GSD Project on South Florida and Sea Level: The Case of Collier County (including Naples, Marco Island, and Everglades City) PowerPoint

8. PRESENTATION BY MR. GARY MCALPIN, COLLIER COUNTY COASTAL ZONE MANAGER, REGARDING A COMPREHENSIVE COUNTY WATERSHED PROJECT KNOWN AS THE BELLE MEADE FLOW WAY PROJECT AND POTENTIAL FUNDING OPPORTUNITIES THROUGH DEEP WATER HORIZON OIL SPILL RESTORE ACT

Collier County Coastal Zone Management Director Gary McAlpin provided a brief introduction to the project, and noted that later that month the Board of County Commissioners (BCC) would consider whether to seek funding opportunities. He then provided an electronic presentation entitled the Collier County Comprehensive Watershed Improvement Plan. In it, he reviewed various items including the impacts to watersheds and coastal waters from altered hydrology, past water management plans, the project plan to divert a significant amount of fresh water from Naples Bay and the Golden Gate Canal (GGC), the operation schedule, positive impacts, project development and the estimated cost, which he cited as $34-million.

In response to Council, Mr. McAlpin said he believed this project would complement any efforts made to address sea level rise (see Item 7). In addition, Streets and Stormwater Director Gregg Strakaluse noted that the project would also assist with current oyster reef and seagrass restoration efforts in Naples Bay.

Agenda Memorandum PowerPoint

10. DISCUSSION REGARDING THE PARKS MASTER PLAN

Community Services Director Dana Souza briefly reviewed the planning process to date, pointing out that although the community had been involved in needs assessment and focus group discussions, it had not received an actual presentation of the plan. Staff, in conjunction with the Community Services Advisory Board (CSAB), has therefore developed a proposed schedule of meetings at various locations in order to receive direct input before returning to Council with further recommendations. Director Souza thereby provided specific information on the format and the timing of the meetings, noting that they would run from October to February 2017. He further noted one recommendation that he believed was divisive which was to eliminate the softball field from Cambier Park and build a new field at Fleishmann Park; he predicted this item in particular would be well vetted. In closing, he outlined various outreach efforts staff would utilize to engage the community which included mailings, emails, signs, the website and the television channel. Later in that meeting, Council Member McLeod suggested conducting a meeting in the northern part of the City such as at Sea Gate Elementary School.

In response to Council, Director Souza said he could present the plan to the Community Redevelopment Agency Advisory Board (CRAAB) in March of 2017. He also briefly addressed the gathering and the usage of data from non-City residents.

Agenda Memorandum Public Meetings Schedule

Recess: 12:27 p.m. to 12:59 p.m. It is noted for the record that the same Council Members were present when the meeting reconvened.

9. PRESENTATION OF THE 30% BAKER PARK DESIGN LED BY MR. BILL WADDILL, LANDSCAPE ARCHITECT WITH KIMLEY HORN & ASSOCIATES, INC. AND THE DESIGN TEAM

Streets and Stormwater Director Gregg Strakaluse explained that Kimley Horn & Associates would present the 30% Baker Park design plan which is based on Plan H-2 as well as the previous risk assessment analysis and peer review. Kimley Horn & Associates Landscape Architect Bill Waddill then submitted an electronic presentation which overviewed Plan H-2, the existing site aerial, Plan H-2 with prior grading, the 30% Plan with a grass knoll, the 30% Plan

with a planted knoll, the founders' garden plan, entry icon features, a stormwater treatment system, rain garden and picnic areas, the bandshell / pavilion and the sunrise terrace. Mr. Waddill then provided the updated cost estimates for Plan H-2 and the 30% Plan, both of which accrue to $12.55-million. He said he thereby requested input from Council on the 30% Plan, including a decision about the knoll, in order to proceed to the 60% Plan. He further said that he would seek permitting in January of 2017 and that construction should begin in late 2017. Mr. Waddill also presented a video of the park his team had created. Community Services Director Dana Souza added that Council must also decide whether to incorporate space for the Rowing Association of Naples (RAN) into the park.

In response to Council, Mr. Waddill clarified that the grass knoll requires soil to be exported offsite, while the higher, planted knoll would provide a better view of the water as well as some cost savings that could be used to improve program elements. He also provided information on the site material noting that additional tests were being performed, and that structural fill would be incorporated as needed. Vice Mayor Penniman said that based on the information the Council presently has, she would prefer the grass knoll but that she would defer to the Council.

In response to Council Member Finlay, RAN President Chuck Roth said he had submitted sketches to Kimley Horn depicting the Association's anticipated footprint as well as the layout of the racks. Mr. Waddill provided a general outline for this facility; with Council concurrence, he affirmed he and his team would invest additional time and attention to this matter.

Consensus to incorporate in the 60% Plan the planted knoll and space for the Rowing Association of Naples (RAN).

In further discussion, Mr. Waddill, Streets and Stormwater Director Strakaluse and Community Services Director Souza responded to questions from the Council concerning various issues such as the loading capacity of the bridge and boardwalk, parking, the café building and the sunrise terrace. Council Member Saad expressed concern with respect to adequate access to restrooms, and recommended considering one on the eastern side of the park. Mr. Waddill said it would be important to decide on that issue so it could be accommodated in the 60% Plan, and estimated it would cost a minimum of $200,000. Acting City Manager Roger Reinke pointed out that there would be additional cost for maintenance.

Consensus to incorporate restrooms in the 60% Plan on the eastern side of the park (Finlay and McLeod dissenting).

In conclusion, Mayor Barnett said that in order to be proactive, he would recommend placement of the video on the website, and the drafting of a letter to donors apprising them of the 30% Plan and the currently unfunded amenities; Council concurred.

Recess: 2:56 p.m. to 3:06 p.m. It is noted for the record that the same Council Members were present when the meeting reconvened.

11. REVIEW OF ITEMS ON THE SEPTEMBER 21, 2016 REGULAR MEETING AGENDA

With regard to Item 6-d (tourism agreement for Category 'A" projects), Council Member Finlay requested clarification on the budget. He also noted a number of questions with regard to Item 6-e (contract with Vantage Construction Services for Fire Station 2), and therefore requested it be removed from the Consent Agenda for separate discussion. With respect to Item 12 (Fire Station 1 construction), Council Member Saad received confirmation that Council could render a final decision on the design.

CORRESPONDENCE / COMMUNICATIONS

Noting that there would be an affordable housing discussion at the next workshop, Council Member Finlay asked that it be held at a time certain to invite a Collier County official to attend. After a brief discussion, it was determined that the item would be first on the agenda. Mr. Finlay also questioned the completion date for the new stop sign project, noting there were issues with the contractor and the emblems. Acting City Manager Roger Reinke said he would follow up on that issue. In addition, Mr. Finlay provided an update on the Park Shore beach renourishment

project. Council Member McLeod pointed out that although Planning Advisory Board (PAB) candidate Cormac Giblin was unable to attend the interviews, he is still interested in being considered (see Item 6 above). Mrs. McLeod also expressed appreciation to the various neighborhood association presidents for their emails of support, and said she looked forward to continued collaboration.

ADJOURN

3:17 p.m.

Bill Barnett, Mayor

Patricia L. Rambosk, City Clerk

Minutes prepared by:

Jessica R. Rosenberg, Deputy City Clerk

Minutes Approved: October 19, 2016

Collier County

Growth Management Department
Capital Project Planning, Impact Fees & Program Management Division

Collier County Comprehensive Watershed Improvement Program
Technical Advisory Ad Hoc Meeting

July 8, 2016

COMPREHENSIVE WATERSHED IMPROVEMENT PROGRAM (CWIP) TECHNICAL ADVISORY AD HOC

COMMITTEE MEETING

Friday, July 8, 2016
9:00 a.m. to 1:00 p.m.
Growth Management Department Building, Conference Room 609/610
2800 N. Horseshoe Drive, Naples, Florida 34104

1. **Roll Call**

2. **Agenda Approval** – *committee action requested*

3. **Approval of Minutes** – *committee action requested*

4. **Staff Announcements** – *Jerry Kurtz, Collier County Government*

5. **Workshop/Discussion Session** – Tabitha Stadler, Collier County

Topic: Immokalee/Lake Trafford Area

a. **Immokalee/Lake Trafford Area Stormwater Projects**
Principal Project Manager Robert Wiley, Collier County (20 minutes)
b. ***Discussion of Immokalee/Lake Trafford Recommendations*** *(30 minutes)*

Topic: Golden Gate Estates Area

c. **Wetlands and Stormwater Management in Golden Gate Estates**
Principal Project Manager Jerry Kurtz, Collier County (20 minutes)
d. **FDEP and Golden Gate Estates**
Assistant Director Jennifer Carpenter, South District Office, Florida Department of Environmental Protection (15 minutes)
e. **Gulf America Corporation (GAC) Lands**
Principal Planner Gino Santabarbara, Collier County (15 minutes)
f. **Regional Water Quality Monitoring**
Principal Environmental Specialist Rhonda Watkins, Collier County Pollution Control (20 minutes)
g. **Transfer of Development Rights Program**
Planning Manager Kris VanLengen, Collier County (15 minutes)
h. **Golden Gate Estates – Conservation Collier Projects**
Coordinator Alex Sulecki, Conservation Collier (20 minutes)
i. **Conservation Easements** *(10 minutes)*

6. **Member and Citizen Comments**

7. **Old Business** ← RESTORE

8. **New Business**

9. **Set or announce next meeting date**

10. **Adjournment**

NOTE: All public speakers will be limited to three (3) minutes unless the Chairman grants permission for additional time. Individuals selected to speak on behalf of an organization or group may be allotted 5 minutes to speak on an item if so recognized by the chairman. Persons wishing to have written or graphic materials included in the CWIP agenda packets must submit said material a minimum of 10 days prior to the meeting.

NOTE: All meetings will be publicly noticed in the W. Harmon Turner Building (Building F) and provided to the County Public Information Department for distribution. Please contact Gerald Kurtz, Stormwater Principal Project Manager, at GeraldKurtz@colliergov.net for additional information.

NOTE: In accordance with the Americans with Disabilities Act, persons needing assistance to participate in any of these proceedings should contact Gerald Kurtz, Stormwater Principal Project Manager at GeraldKurtz@colliergov.net at least 48 hours before the meeting.

July 8, 2016

MINUTES OF THE COLLIER COUNTY COMPREHENSIVE WATERSHED IMPROVEMENT PROGRAM COMMITTEE

Naples, Florida, July 8, 2016

LET IT BE REMEMBERED, the Collier County Watershed Improvement Program Committee in and for the County of Collier, having conducted business herein, met on this date at 9:00 AM in a REGULAR SESSION at the Growth Management Department Building, Room 609/610 2800 N. Horseshoe Drive, Naples, FL with the following persons present:

Chairman: Jocelyn Nageon De Lestang
Vice Chairman: Dennis Vasey (Excused)
Gregg Strakaluse
Chad Chustz
Brent Bachelder
Jeff Carter
(Vacancy)

ALSO PRESENT: Jerry Kurtz, Stormwater Planning - Staff Liaison
Gary McAlpin, Director, Coastal Zone Management
Robert Wiley, Principal Project Manager
Tabitha Stadler, Stormwater Planning
Gino Santabarbara, Principal Planner
Rhonda Watkins, Principal Environmental Specialist
Kris Van Lengen, Community Planning Manager
Alex Sulecki, Coordinator, Conservation Collier

Any persons in need of the verbatim record of the meeting may request a copy of the audio recording from the Collier County Growth Management Department – Contact Mr. Evy Ybaceta at 239-252-2400.

1. **Call to order**
   Chairman De Lestang was present and called the meeting to order at 9:14am and a quorum was established. Committee Members Strakaluse, Carter and Bachelder were also present at the beginning of the meeting. Mr. Chustz arrived during the meeting.

2. **Approval of Agenda** – *Committee action requested*
   Mr. Strakaluse moved to approve the Agenda. Second by Mr. De Lestang. Carried unanimously 4 - 0.

3. **Approval of Minutes** – *Committee action requested*
   Mr. Carter moved to approve the minutes of the June 10, 2016 meeting as presented. Second by Chairman De Lestang. Carried unanimously 4 – 0.

4. **Staff Announcements – Jerry Kurtz, Collier County Government**
   None

Mr. Strakaluse left the meeting at 9:22am

5. **Workshop/Discussion Session – Tabitha Stadler, Collier County**
   Ms. Stadler reported the goals of the meeting are to obtain Committee direction for developing recommendations on the Immokalee/Lake Trafford area and review data on the Golden Gate Area in anticipation of developing recommendations at the next meeting.

   The Committee noted their function should include providing tools to the Board of County Commissioners to assist them in their decision making process for the areas of study. Consideration should be given whether the recommendations should include specific projects to be undertaken.

   Topic Immokalee/Lake Trafford Area

   a. **Immokalee/Lake Trafford Area Stormwater Projects** - *Principal Project Manager Robert Wiley, Collier County (20 minutes)*
      Mr. Wiley presented the PowerPoint *"Immokalee Stormwater Master Plan Update Currently Identified Projects, July 8, 2016"* noting County Staff is working with area representatives including those of the Seminole Tribe of Florida to identify the location of existing facilities/infrastructure for inclusion in a GIS map for planning purposes. He highlighted the following proposed County projects or areas of study:

      Lake Trafford Road Ditch Culvert Upgrades
      The area is characterized by undersized culverts and narrow roads. The project is a two pronged approach in conjunction with Transportation Division and includes improvements to roadways and drainage swales/culverts in the area. One advantageous existing condition is the area currently slopes toward Lake Trafford. A water quality treatment pond is proposed with the project.

      Fish Creek

The Creek in its current state is undersized and the proposal is to add a detention pond and widen the channel, however, in certain areas the existing landowner is opposed to the widening of the creek as it would disrupt its existing natural state.

Immokalee Drive/Carson Road
The project involves construction of a water quality treatment pond and reconstructing swales along the roadways. Certain flows in the area are directed to the State Road 29 area where a drainage bottleneck exists and investigation is underway to determine if some of the flows may be redirected to the west to reduce the backup of water.

Madison Creek Ditch
The project involves reconstructing the ditch and installation of a water quality treatment pond. Redirection of flows westward would assist this area capacity to handle stormwater discharges.

Slough Cross - Drain Additions
The project is in the data gathering stages at this point in time.

West Westclox St. Area Project
The project involves addressing neighborhood flooding by reconstructing the existing infrastructure in the area.

East Delaware Ave. Area Project
The project involves addressing neighborhood flooding however the area is consists of privately owned and maintained streets. Concepts include the owners deeding the roads to the County and upgrading the facilities in the area. The ultimate solution may require cooperation from the Seminole Tribe of Florida given the flows may impact their lands

Eden Park Project
The project involves addressing neighborhood flooding by reconstructing the existing infrastructure in the area.

Miscellaneous
Mr. Wiley noted:
1. The County is identifying various sites having the potential to be utilized for stormwater treatment. The owners of the properties are being contacted to determine if they are interested in selling lands to the County so the facilities may be constructed.
2. County Staff is installing a series of monitoring stations in the area to help provide data to address the issues.

Mr. Chustz arrived at 9:55am

b. Discussion of Immokalee/Lake Trafford Recommendations *(30 minutes)*
Ms. Stadler provided a copy of the spreadsheet *"Comprehensive Watershed Improvement Program (CWIP) Ad Hoc Technical Advisory Committee Immokalee Lake Trafford Area Recommendations from Committee Members, July 2, 2016"* for information purposes. She noted the document outlines responses from Committee Members on questions posed by Staff to assist in developing Committee recommendations.
Under Committee discussion, the following was noted:

- Consideration should be given to restoring historic ground water flows by use of retention areas and ground percolation reducing the probability of unwanted discharges to Lake Trafford.
- The solution needs to be addressed on two levels, the immediate needs of the residents to reduce flooding (short term) and developing a plan to manage the water quality in the lake area (long term).
- There are already projects proposed to address the short term issues which the Committee should endorse however, their recommendations could include the County identifying an oversight committee to address the long term issues.

Mr. Strakaluse returned at 10:05am

- A goal should be to ensure the short term solutions do not create a problem with water quality over the long term which could require significant expenditures of public funds to rectify the impairments.

The Committee requested Staff to summarize the comments into recommendations for their consideration at the next meeting.

Speaker

Bobbie Lee Davenport, Cypress Cove Conservancy addressed the Committee seeking support for a Florida Community Trust Grant request they are developing to purchase the "Gore Property," a 200 acre parcel located north of I-75, between Everglades and Desoto Blvds. The main purpose is to provide a wildlife corridor in the area but a secondary benefit is improved retention of groundwater.

The Committee requested Ms. Davenport to submit an information packet to them outlining the proposal.

Topic: Golden Gate Estates Area

c. **Wetlands and Stormwater Management in Golden Gate Estates** - *Principal Project Manager Jerry Kurtz, Collier County (20 minutes)*

Mr. Kurtz presented the PowerPoint *"Stormwater Management in Golden Gate Estates, July 8, 2016"* highlighting:

- The area was developed in the 1960's and is characterized by grid lots with the street ditches draining to a series of canals.
- Areas to be addressed include the fractured connectivity of the area and the lack of capacity of canals to handle the runoff which eventually ends up in Naples Bay.
- Many studies have been completed in the area including Belle Meade Area Stormwater Management Master Plan - 2006; Horsepen Strand Conservation Area Feasibility Study (Phase 1) - 2008; Collier County Watershed Management Plan - 2011; NGGE Flowway Restoration Study (Phase 2) - 2013 and Culvert Installations – 2014.
- The goals of the County are to identify potential hydrologic adjustments to the existing system utilizing the historic flowways located within the 34-square mile area, improve surface water conveyance utilizing existing low lying areas, enhance connectivity of low-lying areas, optimize utilization of remnant sloughs and wetland areas such as Winchester Head, Horsepen Strand, and Winchester Strand, for better surface water management, redirect surface water flows to low lying areas reducing the burden placed on the canal system, reduce flows to Naples Bay and enhance aquifer recharge for public water supplies.

- Solutions under consideration include redirecting flows using ditch/swale blocks and additional culverts to provide connectivity within the wetland system re-establishing historical flow patterns, increasing small sections of canal areas (scalloping) to gain additional capacity and designating an area as a mitigation area and creating incentive programs to obtain properties and to generate funds to implement the project.
- Other considerations include evaluating the presence of roadside berms that restrict sheet flow and determined if they may be adjusted lower to improve connectivity, determining the maximum groundwater elevation that is allowed for proper function of septic system in the immediate vicinity, considering the affects of increased sheetflow on downstream properties, evaluating flow rates and storage capacities within the system and size culverts accordingly.
- Benefits include an improved wetland hydrology in the proposed flowway, provision of additional water quality treatment, increasing groundwater recharge and well field and water supply sustainability.
- Concerns include elevated groundwater level may affect septic systems and or increase flood risk for residential properties near the vicinity and solutions may require purchase of private property within the primary flowway.

The Committee noted one concern of lowering roadside berms to improve connectivity of areas is the unintended potential consequence of faster discharges of storm waters to the canal systems.

d. FDEP and Golden Gate Estates

Assistant Director Jennifer Carpenter, South District Office, Florida Department of Environmental Protection (15 minutes)

Ms. Carpenter addressed the Committee on two areas the Department is involved in noting:

- The Estates area was developed by Gulf America Corporation (GAC) in the 1960's absent of obtaining any necessary permits given the administration of rules was in its infancy stages.
- In the 1970's the developer entered into an agreement and agreed to pay a fine in the amount of $1M to mitigate the issues in this area and Cape Coral, the other area developed at the time.
- Approximately $600,000 of the funds is still available for use in the two areas.
- The funds have been, and are to be used for water quality projects in the areas, in the Estates case for flowway restoration projects.
- The Agency also issues permits for wetland development including single family homes.

Under Committee discussion the following was noted:

- The options available to offset wetland impacts include onsite storage or restoration; however the main avenue utilized is mitigation banks.
- The GAC funds may also be utilized in conjunction with other grant funding or loans for qualifying projects.
- It may be advantageous to consider options for storing higher volumes of water than those required on site for those facilities on County lands.
- Regulatory constraints for mitigation banks have hindered the Counties developing local mitigation banks.
- One option that should be considered is providing incentives (monetary, etc.) for individual lot owners to store additional water on site other than that required for their development.

e. Gulf America Corporation (GAC) Lands - *Principal Planner Gino Santabarbara, Collier County (15 minutes)*

Mr. Santabarbara presented the PowerPoint *"Golden Gate Properties of Interest, July 8, 2016"* highlighting:

- The County is investigating use of the GAC lands (16 – 20 parcels) held by the County to assist in addressing storm water management issues.
- The County Attorney's Office will be issuing a determination if the lands may be utilized for stormwater management.
- Staff is also ascertaining input on the concept from the Real Property Division and Golden Gates Estates Land Trust Advisory Committee.
- Potential uses of the land include filter marshes, wetlands, stormwater detention and redirecting surface water flows to low lying areas in order to provide water quality treatment, increasing the water storage in the area, increasing groundwater recharge opportunities, etc.
- Perhaps these lands could be swapped with owners from areas within the high quality wetland areas such as Horespen Strand and Winchester Head.

f. **Regional Water Quality Monitoring** - *Principal Environmental Specialist Rhonda Watkins, Collier County Pollution Control (20 minutes)]*

Ms. Watkins presented the PowerPoint *"Regional Water Quality Monitoring: Golden Gate, July 8, 2016"* highlighting:

- The basin features 72,785 acres and receives flow from Corkscrew Marsh, Cocohatchee (Inland Segment), Lake Trafford, Cow Slough and drains to Cocohatchee (Inland Segment), and Naples Bay (Coastal Segment).
- The land uses in the area are 55% Fixed Single Family, 19.3% Rural Residential, 23% Wetland.
- The area houses well fields for Collier County's Golden Gate, Orangetree Utility and Florida Governmental Utility Authority (FGUA) Golden Gate City.
- The County has a series of monitoring stations in the area and the main issue is the presence of iron and dissolved oxygen from groundwater sources.
- The groundwater sources are a concern given the canals system is highly influenced by these water sources.
- Secondary contaminants are Nitrogen and Phosphorous which enter the system as it migrates to Naples Bay.
- Staff is working with the FDEP to demonstrate the iron and dissolved oxygen impairments are high in the area due to groundwater sources.
- The challenge in resolving the issue is developing means to limit the volume of groundwater sources entering the system.

The Committee noted the solutions to this area are more "policy oriented" where some items (i.e. Iron/Dissolved Oxygen content, single family home development, etc.) need to be dealt with at the source of contamination as compared to the proposed infrastructure projects/improvements associated with the Immokalee area.

g. **Transfer of Development Rights Program** - *Planning Manager Kris Van Lengen, Collier County (15 minutes)*

Mr. Van Lengen presented the PowerPoint *"TDR Rural Fringe and Golden Gate Estates Possibilities, July 8, 2016"* reported:

- He notified the Committee on the study in November of 2015 on the County's efforts to restudy the Rural Fringe Mixed Use District and related Transfer of Development Rights Program.

- The report to the Board of County Commissioners on the Growth Management Oversight Committee findings may include the possibility of allowing strategic, but limited locations within Golden Gate Estates as qualified Sending areas where the number and types of credits may be different than other areas of the program.
- The CWIP Committee may provide comment or recommendations on the restudy should they so desire.

h. Golden Gate Estates – Conservation Collier Projects - *Coordinator Alex Sulecki, Conservation Collier (20 minutes)*
Ms. Sulecki presented the PowerPoint *"Golden Gate Estates – Conservation Collier Projects, July, 2016"* highlighting:

- The Program has 3 multi parcel projects in the Estates area, Horsepen Strand, Red Maple Swamp and Winchester Head.
- The projects involve the County acquiring all the numerous privately owned individual parcels within the defined boundaries.
- The County has acquired 200 acres of the 305 in Red Maple Swamp, 80 acres of the 158 in Winchester Head and 3 parcels in Horsepen Stand.
- These areas are open for participation in the County's stormwater management/treatment projects, flowway restorations, etc. as these activities are a part of the Program's mission.

i. Conservation Easements *(10 minutes)*
Ms. Stadler provided a copy of a handout from the internet *"There is no one-size-fits-all conservation easement"* prepared by the Nature Conservancy for information purposes stating that Collier County does not currently utilize conservation easements as described in the handout, but that it is a strategy being used in other areas, and by other municipalitiesIt was noted the USDA has a wetlands easement program as well.

6. Member and Citizen Comments
None

7. Old Business
RESTORE Recommendation
Gary McAlpin addressed the Committee requesting a letter supporting the RESTORE projects given they voted to endorse them at the previous meeting. He noted the letter may be brief in nature outlining the Committee action and it will be included in the application package he submits to the Council overseeing the distribution of funds.

Committee discussion occurred noting the letter should be reviewed by the Members before it is issued to ensure the content is acceptable. Also suggesting that the letter, take the format of a memo since it is from Collier County and to Collier County.

Mr. McAlpin to work with Mr. De Lestang on drafting the letter.

Committee Composition
Ms. Stadler reported a FDEP representative will not be able to be seated on the Committee given manpower constraints and consideration may want to be given to proposing a change in the Resolution.

8. New Business

None

9. **Set or announce next meeting date**
August 26, 2016 – 1:00pm

There being no further business for the good of the County, the meeting was adjourned by the order of the Chair at 12:50 PM.

COMPREHENSIVE WATERSHED IMPROVEMENT PROGRAM COMMITTEE

Chairman, Jocelyn Nageon De Lestang

These Minutes were approved by the Committee on 9-23-16, as presented ✓, or as amended _____.

Legal Advertisement

Collier County Capital Project Planning, Impact Fees and Program Management Division
Coastal Management Section
Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012 (RESTORE)
Notice of Transmittal of the County's Multi-Year Implementation Plan and
Citizen Participation Notice

Collier County Coastal Management Section is proposing to submit the initial RESTORE Multi-Year Implementation Plan (MYIP) to the U.S. Treasury to request approximately $1.5 million for design and permitting of a project generally described as the Collier County Comprehensive Watershed Improvement Plan. The Board of County Commissioners approved the project prior to the draft MYIP.

The purpose/intent for the watershed improvements is to develop and permit a design of the Collier County Comprehensive Watershed Improvement Plan (CCCWIP) to a level that will allow the County to apply for the appropriate federal and state permit(s) and provide adequate site analysis to develop a design that is demonstrated to be constructible, permitable and does not create adverse impacts to the surrounding properties or environmental and water resources.

Public Comment Period:

A public meeting explaining the MYIP and the Collier County Comprehensive Watershed Improvement Plan will be held on Thursday, June 22, 2017 at the Growth Management Department Office, Room, 609/610, 2800 North Horseshoe Drive, Naples, FL 34104. The meeting will begin at 5:30 p.m.

There will be a public comment period from June 15, 2017 thru July 31, 2017 regarding the initial MYIP for Collier County's RESTORE Program. Copies of the MYIP will be available for review at the Collier County Communications Office located at 3101 Tamiami Trail East, Building F, Naples FL 34112, all County public libraries, the Coastal Management webpage (www.colliergov.net) and at the Coastal Management Office located at 2685 South Horseshoe Drive, Suite 103, Naples, FL 34104.

During the comment period, citizens may send their comments on this matter to the Collier County Coastal Management Section, ATTN: Gary McAlpin, Coastal Management Manager, 2685 South Horseshoe Drive, Suite 103, Naples, FL 34104. The County will respond to all written comments in writing, within 15 days of receipt.

Final Action:

Following the comment period, the Initial MYIP will be sent to the U.S. Treasury for approval.

Publish Thursday, June 15, 2017.

División de Planificación de Proyectos de Capital, Tarifas de Impacto y Gestión de Programas del Condado de Collier
Sección de Manejo de la Zona Costera

Sostenibilidad de Recursos y Ecosistemas, Oportunidades Turísticas y Economias Revividas de la Costa de Golfo del Acta del 2012 (RESTORE, acrónimo en inglés)

Aviso del Condado de Collier del envio del Plan de Implementación Multianual y Participación de Ciudadanos

La Sección de Manejo de la Zona Costera del Condado de Collier propone presentar el Plan Inicial de Implementación Multianual (MYIP, acrónimo en inglés), para el Acta RESTORE, al Departamento de Tesorería de los Estados Unidos para solicitar aproximadamente $ 1,5 millones para el diseño y permiso de un proyecto que generalmente se describe como el Plan Exhaustivo de Mejora de Cuenca en el Condado de Collier (CCWIP, acrónimo en inglés). La Junta de Comisionados del Condado de Collier aprobó el proyecto CCWIP antes del proyecto MYIP.

El propósito y la intención de mejoramientos de cuenca es de desarrollar y permitir un diseño del plan CCWIP que llegue a un nivel que permita al Condado de Collier solicitar los permisos federales y estatales adecuados, y el análisis de sitio adecuado para desarrollar un diseño que demuestre ser edificable, permisible y que no creará impactos adversos a las propiedades o medio ambiente y recursos hídricos circundantes.

Período de comentario público:

Se llevará acabo una reunión pública explicando el plan MYIP y el plan CCWIP el Miércoles, 22 de Junio de 2017 en la oficina del Departamento de Administración de Crecimiento, cuarto, 609/610, 2800 North Horseshoe Drive, Naples, FL 34104. La reunión comenzará a las 5:30pm.

Habrá un período de comentario público del 15de Junio del 2017 al 31 de Julio del 2017 con respecto al plan MYIP para el programa del Acta RESTORE del Condado de Collier. Copias del MYIP estarán disponibles para su revisión en la oficina de Comunicaciones del Condado Collier, ubicado en el edificio F, Naples FL 34112, 3101 Tamiami Trail East, en todas las bibliotecas públicas del Condado Collier, en la página Web de la sección de Manejo de la Zona Costera (www.colliergov.net) y en la oficina de Sección de Manejo de la Zona Costera localizada en 2685 South Horseshoe Drive, Suite 103, Naples, FL 34104.

Durante el período de comentario, los ciudadanos pueden enviar sus comentarios sobre este tema a la seccion de Manejo de la Zona Costera del Condado de Collier County, atención: Gary McAlpin, Director de Sección de Manejo de la Zona Costera, 2685 South Horseshoe Drive, Suite 103, Nápoles, FL 34104.

El Condado responderá a todos los comentarios escritos por escrito, dentro de 15 días de recibo.

Acción final:

Después del período de comentario, el plan inicial MYIP se enviará al Departamento de Tesorería de los Estados Unidos para su aprobación.