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CENTRAL AND SOUTHERN FLORIDA PROJECT

COMPREHENSIVE EVERGLADES RESTORATION PLAN



COMPREHENSIVE EVERGLADES RESTORATION PLAN

PROJECT MANAGEMENT PLAN

Everglades National Park Seepage Management



U.S. Army Corps of Engineers
Jacksonville District



South Florida Water
Management District

Seepage Management ENP PMD V6
(Draft)

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1.2 List of Acronyms

A-E	Architect-Engineer
AFB	Alternatives Formulation Briefing
AHPA	Archeological and Historic Preservation Act
ASA (CW)	Assistant Secretary of the Army for Civil Works
ASR	Aquifer Storage and Recovery
BA	Biological Assessment
BAT	Best Available Technologies
BMP	Best Management Practice
C&SF	Central and South Florida
CADD	Computer Assisted Drafting and Design
CAR	Coordination Act Report
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CERP	Comprehensive Everglades Restoration Plan
CESAJ	U.S. Army Engineer District, Jacksonville
CEQ	Council on Environmental Quality
cfs	Cubic Feet per Second
CGM	CERP Guidance Memorandum
CSOP	Combined Structural and Operational Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DCT	Design Coordination Team
EA	Environmental Assessment
EAA	Everglades Agricultural Area
EIS	Environmental Impact Statement
ENP	Everglades National Park
EPA	U.S. Environmental Protection Agency
ER	Engineering Regulation
ESA	Endangered Species Act
ETL	Engineering Technical Lead
FAS	Floridan Aquifer System
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FLUCFS	Florida Land Use, Cover, and Forms Classification System
FPPA	Farmland Protection Policy Act

FWC	Florida Fish and Wildlife Conservation Commission
FWCA	Fish and Wildlife Coordination Act
FSM	Feasibility Scoping Meeting
GDM	General Design Memorandum
GIS	Geographic Information Systems
GRR	General Reevaluation Report
H&H	Hydrology and Hydraulics
HQ	Headquarters
HTRW	Hazardous, Toxic, and Radioactive Waste
IMC	Interagency Modeling Center
IPR	In-Progress Review
IRC	Issue Resolution Conference
ITR	Independent Technical Review
LERRD	Lands, Easements, Rights-of-way, Relocations, and Disposal
MBTA	Migratory Bird Treaty Act
MISP	Master Implementation Sequencing Plan
MPMP	Master Program Management Plan
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MWD	Modified Waters Deliveries
NED	National Economic Development
NEPA	National Environmental Policy Act
NER	National Ecosystem Restoration
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	U.S. National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	U.S. National Park Service
NRCS	Natural Resources Conservation Service
O&M	Operation and Maintenance
OMB	Office of Management and Budget
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
OVEST	Office of the Chief of Engineers Value Engineering Study Team
P	Phosphorous

P&G	Principles and Guidelines
PAL	Planning Aid Letter
PAR	Planning Aid Report
PCA	Project Cooperation Agreement
PED	Pre-Construction, Engineering and Design
PIM	Project Implementation Monitoring
PIR	Project Implementation Report
PM	Project Manager
PMP	Project Management Plan
POM	Project Operating Manual
PRB	Project Review Board
PTL	Planning Technical Lead
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RECOVER	Restoration, Coordination, and Verification
REP	Real Estate Plan
Restudy	C&SF Project Comprehensive Review Study
ROD	Record of Decision
ROM	Rough Order of Magnitude
SAD	South Atlantic Division
SFWMD	South Florida Water Management District
SHPO	State Historic Preservation Office
SMA	Square Mile Area
SOP	Standard Operating Procedure
SOW	Scope of Work
STA	Stormwater Treatment Area
TSP	Tentatively Selected Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
VE	Value Engineering
VEO	Value Engineering Officer
VM	Value Management
WBS	Work Breakdown Structure
WCA	Water Conservation Area
WQ	Water Quality
WQC	Water Quality Certification
WRDA	Water Resources Development Act

1.3 List of Project Management Plan Preparers

Members of the Project Team:

The following individuals from the U.S. Army Corps of Engineers (USACE), Jacksonville District (CESAJ) and the South Florida Water Management District (SFWMD) comprise the core working group for this Project:

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2.0 PROJECT INFORMATION

2.1 Background

The Everglades National Park (ENP) Seepage Management Project is comprised of three components that were recommended as a part of the Central and Southern Florida (C&SF) Project Comprehensive Review Study Feasibility Report and Integrated Environmental Impact Statement (EIS), dated April 1999 (Restudy). The three components are:

- S-356 Structures – *Component FF*
- L-31N Improvements for Seepage Management – *Component V*
- Bird Drive Recharge Area – *Component U*

2.2 Authority

The Water Resources Development Act (WRDA) 2000 approved the Comprehensive Everglades Restoration Plan (CERP) as the framework and guide for modifications to the C&SF Project to restore the south Florida ecosystem and to provide for other water-related needs of the region.

The authority for this project is contained within the Water Resources Development Act (WRDA) 2000.

Section 601(b)(A), of the Act states:

(b) Comprehensive Everglades Restoration Plan Approval –

(A) IN GENERAL. —Except as modified by this section, the Plan is approved as a framework for modifications and operational changes to the Central and Southern Florida Project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. The Plan shall be implemented to ensure the protection of water quality in, the reduction of the loss of fresh water from, and the improvement of the environment of the South Florida ecosystem and to achieve and maintain the benefits to the natural system and human environment described in the Plan, and required pursuant to this section, for as long as the project is authorized.

2.3 Related Projects

There are several projects that will be implemented around the ENP Seepage Management project that could affect the hydrology in the project area. The following projects should be given special consideration during formulation as they may induce changes at the local scale of this project.

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Deleted: is one of more than 68 components that make up the Comprehensive Everglades Restoration Plan (CERP). Although each project is expected to have some benefits on its own account, it is the entire plan that will provide ecosystem restoration as defined in CERP.

Deleted: All other projects within CERP should be addressed at the system level.¶

2.3.1 Modified Water Deliveries to Everglades National Park

Structural modifications and additions to the existing C&SF Project are required to enable water deliveries for the restoration of more natural hydrologic conditions in ENP. These improvements include: 1) structures S-349A, B&C in the L-67A borrow canal to prevent overdrainage of northern Water Conservation Area (WCA) 3A, 2) structures S-345A, B&C for the discharge of water from WCA 3A to WCA 3B, 3) structures S-355A and S-355B in L-29 to enable the release of water from WCA 3B to ENP, 4) modifications to existing S-344, and 5) raising Highway US 41 (Tamiami Trail) where it crosses L-31N. Together these improvements will enable the reestablishment of the historic Shark River Slough flow-way from WCA 3A through WCA 3B to ENP.

In order to prevent this redistribution of water from adversely impacting existing development, several mitigation features are included in the plan. One Miccosukee Indian camp (Tigertail Camp) will be raised above the anticipated flood stages (completed). Under the authorized project, the East Everglades residential area, also known as the 8.5 square mile area (8.5 SMA), will be provided with perimeter levees and a seepage collector canal to prevent increased water levels inside the 8.5 SMA after project implementation (i.e. flood mitigation). A new pump station, S-356 (completed), will be constructed adjacent to existing S-334, and will remove additional seepage from ENP into the L-31N borrow canal and thereby prevent increased flood damages east of the L-31N or in the downstream C-111 basin. Existing roads and borrow canals within the ENP expansion area that would act as hydrologic barriers will be degraded to natural ground.

2.3.2 C-111 Project

The C-111 project is located in the extreme southeastern portion of Florida, adjacent to ENP. Canal 111 (C-111) is a part of the southern Miami-Dade County portion of the C&SF project authorized in 1962 to provide flood control to agricultural lands in south Miami-Dade County and to discharge flood waters to Taylor Slough in the ENP. In 1968, modifications were authorized to provide water supply to ENP and Miami-Dade County. Environmental concerns caused construction to be discontinued before all authorized project features were completed.

C-111 separates ENP from highly productive subtropical agricultural lands to the east. Because of the extreme permeability of the Biscayne Aquifer in the Miami-Dade County area, the project canals have a direct impact on water levels in adjacent areas. The C-111 General Reevaluation Report (GRR) with integrated Environmental Impact Statement (EIS) was completed and approved in 1994. It recommended project modifications designed to maintain existing flood protection and other C&SF project purposes in developed areas east of C-111 while restoring natural hydrologic conditions in the Taylor Slough and eastern panhandle areas of

Deleted: <#>Combined Structural and Operational Plan¶

¶ Many of the water control features of the MWD and C-111 projects are interdependent in their respective operations and objectives to restore the natural distribution and flow of water in the Southern Everglades. The Combined Structural and Operational Plan (CSOP) will integrate operations of the MWD and C-111 projects and develop a unified water control plan to restore the hydrology of ENP while also maintaining existing levels of flood control for the C-111 basin. Portions of the MWD and C-111 project features are expected to become operational following interim operating guidelines established under the CSOP. ¶

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the ENP. Increased freshwater flows in these areas will also help conditions in Florida Bay, a part of the ENP. The C-111 GRR, approved in July 1994, recommends the development of an operational plan for Shark River Slough and Taylor Slough. The USACE and SFWMD are currently in the process of finalizing a GRR supplement, which addresses incorporating water quality imperatives and 50/50 land crediting issues, both authorized by WRDA 1996 and ENP land swap.

2.3.3 Combined Structural and Operational Plan

Many of the water control features of the Modified Water Deliveries (MWD) and C-111 projects are interdependent in their respective operations and objectives to restore the natural distribution and flow of water in the Southern Everglades. The Combined Structural and Operational Plan (CSOP) will integrate operations of the MWD and C-111 projects and develop a unified water control plan to restore the hydrology of ENP while also maintaining existing levels of flood control for the C-111 basin. Portions of the MWD and C-111 project features are expected to become operational following interim operating guidelines established under the CSOP.

Deleted: At this stage, ecological restoration planning is guided by the objective of hydrological restoration because hydrology is the driving ecological force, and a hydrologic model that simulates historical water flow is available for use in plan evaluation. Hydrologic monitoring of each test leads to model improvement and insight into future management practices that would lead to more natural hydrology.

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2.3.4 C-4 Project and S-380 Improvements

The S-380 water control structure is located at the intersection of the Dade-Broward levee and the C-4 canal in Dade County. This structure was authorized as a Critical Restoration Project in WRDA 2000. The conceptual water control plan for this structure is intended to maximize environmental, water supply and flood control benefits.

The SFWMD is in the process of designing and constructing approximately 17,500 feet of levee to enclose an area of 433.5 acres north of the C-4 canal, northeast of structure S-380. The impoundment area will be designed to hold approximately 4 feet of water during high water levels. The basin storage is estimated to be 1,734 acre-feet. The water in the impoundment area will be held following heavy precipitation and released when the water level in the C-4 recedes. In addition to the impoundment, the project includes the enlargement of approximately 8,100 linear feet of the C-4 canal. The enlarged area starts approximately a mile east of S-380.

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2.3.5 Component HHH: West Dade Reuse

The future West Miami-Dade Wastewater Treatment Plant will be located immediately south of the Bird Drive Recharge Area and east of the relocated L-31 North Protective Levee. This will provide wastewater treatment coupled with superior treatment technology to supply reclaimed water to the Bird Drive Recharge Area. The water will be supplied year round as needed to enhance groundwater recharge. Excess water, when available, will be sent to the South Dade Conveyance System as a second priority, to Northeast Shark River Slough as

a third priority and to deep injection wells when there are no demands from the three designated priorities.

2.3.6 C-111 Spreader Canal

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This project includes levees, canals, pumps, water control structures and a stormwater treatment area to be constructed, modified or removed in the Model Lands and Southern Glades (C-111 Basin) area of Miami-Dade County. This project enhances the C-111 Project design for the C-111 Spreader Canal with the construction of a stormwater treatment area, the enlarging of pump station S-332E and the extension of the canal under US Highway 1 and Card Sound Road in the Model Lands. The initial design of this project pumps water from the C-111 and the C-111E Canals into a stormwater treatment area prior to discharging to Southern Everglades and Model Lands. This project also calls for filling in the southern reach of the C-111 Canal and removal of structures S-18C and S-197. The final size, depth, location and configuration of this project will be determined through more detailed planning and design. The purpose of this project is to improve deliveries and enhance the connectivity and sheetflow in the Model Lands and Southern Glades areas, reduce wet season flows in C-111, and decrease potential flood risk in the lower south Miami-Dade County area.

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2.3.7 Water Conservation Area 3B Seepage Reduction

This project would be located at the southeast corner of WCA 3B in Miami-Dade County and may involve installation of an underground seepage barrier to a depth of 100 feet. The barrier would be located between two control structures (S-334 and S-335), in an area of extremely steep groundwater gradients. The suggested site is in an area where there are large documented seepage losses out of WCA 3B into the south Miami-Dade canal system. The proposed barrier would significantly reduce these losses and result in improved water deliveries across L-29 to the eastern portion of ENP.

2.3.8 Decompartmentalization of WCA 3 – Phase 1

This project was designed to restore natural landscape patterns and native flora and fauna in WCA 3 and ENP by removing barriers to sheetflow and by restoring natural hydroperiods, water depths and flow directions. This region is composed of ridge and slough habitats. The scope of this project includes all structural elements within and on the edge of WCA 3A and 3B that are capable of influencing sheetflow and ecological restoration of the ridge and slough landscapes of the Everglades. This project was included in the initial authorization for two reasons: 1) to provide immediate opportunities for enhanced sheetflow within WCA 3 and ENP and 2) to integrate with ongoing modifications that are being made in the plan formulation, detailed design and construction of the MWD to ENP project.

MWD will address restoring the natural hydrologic flows to ENP up to predetermined quantities and the Decompartmentalization project will provide additional opportunities for sheetflow, connectivity and hydroperiod restoration for greater quantities of water.

2.3.9 L-31N Seepage Management Pilot Project

The purpose of the L-31N Seepage Management Pilot Project is to investigate the use of seepage management technologies to control seepage from ENP. The pilot project will provide necessary information to determine the appropriate amount of wet season groundwater flow to return to ENP while minimizing potential impacts to Miami-Dade County's West Wellfield and freshwater flows to Biscayne Bay.

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Deleted: Phase 1 of the project focuses on restoring sheetflow, water depth and hydroperiods to the east side of WCA 3A and WCA 3B. Features include filling in the Miami Canal south of S-8 to the east coast protective levee; increasing the conveyance capacity of the North New River Canal between the L-29 Levee east of the L-67s and filling in the borrow pit in the same location; and raising and bridging the eastern portion of Tamiami Trail, east of the L-67s. Phase 2 of the project will continue the process of restoring sheetflow, hydroperiods and water depths to WCA 3 and ENP.¶

¶ Some of the objectives of this project include:¶

- ¶
- <#>Restore rainfall driven sheetflow and hydroperiods within WCA 3A and 3B and between WCA 3A and 3B and ENP.¶
- <#>Remove unnatural landscape discontinuities such as those caused by roads, levees, canals, drainage ditches and spoil banks, which are barriers to sheetflow.¶
- <#>Create opportunities for passive management of WCA 3 and ENP.¶
- <#>Recommend features, assumptions, constraints and sequencing to be considered in Decompartmentalization of WCA 3 Phase 2 and other related CERP projects.¶
- <#>Promote rainfall driven hydrologic recession rates throughout the ridge and slough landscape.¶
- <#>Promote recreational opportunities consistent with Everglades restoration.¶
- <#>Reduce the artificial pathways for the occurrence and dispersal of exotic plant and animal species.¶
- <#>Restore, maintain and sustain ridge and slough topography and patterns of native vegetation.¶
- <#>Integrate project objectives and features with other related projects (i.e. MWD, CSOP, Water Preserve Areas Feasibility Study, Rainfall Driven Operations, L-31N Seepage Management and C-111 Projects).¶
- <#>Restore and recover populations of migratory birds, particularly species of wading birds, and other wildlife species list as endang ... [1]

3.0 PROJECT SCOPE

3.1 Project Goals and Objectives

The primary purpose of the CERP is the restoration of South Florida's ecosystem. ENP Seepage Management encompasses three of the more than 68 components that were formulated together to meet the objectives of the CERP.

In general the goals of this project are:

- Improve the water deliveries to North East Shark River Slough;
- Restore wetland hydropatterns in the ENP by reducing levee and groundwater seepage and increasing sheetflow; and
- Recharge groundwater and reduce seepage from the ENP buffer areas by increasing water table elevations east of Krome.
- Preservation of wetland areas east of Everglades National Park to buffer existing flood prone developed areas.

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In compliance with the National Environmental Policy Act (NEPA), a notice of intent to prepare an EIS will be issued, and subsequent necessary meetings will be held.

3.2 Description of CERP Components

3.2.1 Bird Drive Recharge Area (U)

This feature includes pumps, water control structures, canals, ~~an above-ground recharge area with a total storage capacity of approximately 11,500 acre-feet and a wetland buffer area~~ located in western Miami-Dade County. The initial design of the recharge feature assumed 2,877 acres with water level fluctuating up to 4 feet above grade. Final design will seek to enhance and maintain the continued viability of wetlands within the Bird Drive basin. The final size, depth and configuration of these facilities will be determined through more detailed planning and design.

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The purpose of the feature is to maintain a wetland buffer to reduce seepage from the ENP ~~and adjacent areas by increasing water table elevations east of Krome Avenue, which would have the additional benefit of recharging groundwater. The facility may also provide C-4 flood peak attenuation and water supply deliveries to the South Dade Conveyance System and Northeast Shark River Slough.~~

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3.2.2 L-31N Improvements for Seepage Management and S-356 Structures (V and FF)

This feature includes relocating and enhancing L-31N, groundwater wells, and sheetflow delivery system adjacent to ENP located in Miami-Dade County. More detailed planning, design and pilot studies will be conducted to determine the appropriate technology to control seepage from ENP. These studies and tests will also determine the appropriate amount and operational flexibility required for the groundwater flow control that will minimize potential impacts to Miami-Dade County's West Wellfield and freshwater flows to Biscayne Bay.

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The primary purpose of this feature is to improve water deliveries to Northeast Shark River Slough and restore wetland hydropatterns in ENP by reducing levee and groundwater seepage and increasing sheetflow.

The better seepage management would have the benefit of preventing loss of flood of level of service due to rise in the groundwater table, resulting from seepage from ENP.

This feature reduces levee seepage flows across L-31N adjacent to ENP via a levee cutoff wall. Groundwater flows during the wet season are captured by groundwater wells adjacent to L-31N and pumped to ENP. Water from upstream natural areas will be diverted into a buffer area adjacent to ENP where sheetflow will be reestablished. Further, this feature includes relocation of the Modified Water Deliveries structure S-356 to provide more effective water deliveries to ENP. New discharges to ENP will be designed to meet applicable water quality criteria.

3.3 Project Constraints and Assumptions

The Western Bird Drive area is characterized as a high quality, short hydroperiod, muhly grass marsh with varying levels of invasive exotic plant infestation. Bird Drive was originally considered for use as a hydrologic buffer area and possible storage area due to its location. After further consideration, the area was found to be generally comprised of very high quality wetlands that would act as an important buffer area between any seepage management area and the already low lying, flood prone development to the east. The area was found to be very transmissive and, therefore, could be better used as a recharge area. In the hydrologic model simulations, when the reuse water was stacked in Bird Drive it resulted in increased flows to Shark River Slough. However, because reuse is an expensive alternative, the reuse projects were moved to a later band in the CERP Master Implementation Sequencing Plan (MISP). If stacking water in the Bird Drive component is to be considered, the project will have to

Deleted: The Bird Drive area will be used as a way to move water south, either around or through the recharge area.

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simultaneously maintain existing levels of flood protection for nearby private property, maintain existing water levels for the Miami Dade well-field and provide enhanced flows to ENP. Even without stacking water in the area, the acquisition of this high quality wetland area for preservation, future operational flexibility and as a buffer between development and the ENP in this highly transmissive area should be strongly considered.

Deleted: the Miccosukee Tribe

The C-1 canal capacity is limited and the areas served by this canal, located east of the F.E.C. Railroad, are subject to severe flooding, particularly Serena Lakes, Country Walk and American Homes. In order to increase the discharge capacity of this canal to 800 cfs, additional improvements are required to the relocation of S-338 and improvement of the culvert under Krome Avenue (see Figure B-1 in Appendix B). Previous studies had determined that canal cross section capacity improvements, removal of culverts, and improvements on the capacity of culverts under US-1 and F.E.C. Railroad are already required, to convey the current discharge requirements under existing conditions and provide minimum flood protection levels of service.

4.0 SUMMARY OF AGENCY RESPONSIBILITIES

TABLE 4-1: WORK DISTRIBUTION BY TOPIC

Work Topic	Responsible Agency	Comment/Rationale
Project Implementation Report (PIR)	USACE	
Plans & Specs	USACE	
Real Estate	USACE/SFWMD	
Construction	USACE/SFWMD	
Project Implementation Monitoring (PIM)	USACE/SFWMD	

5.0 PROJECT CHANGES

5.1 List of PMP Updates and Revisions

This section and Appendix K are reserved to document future updates and revisions to this PMP.

5.2 Changes to Project Schedule and Cost

5.2.1 Changes to Project Schedule

TABLE 5-1: PROJECT IMPLEMENTATION REPORT MILESTONES

Activity	Schedule Completion Date
Initiate Project Implementation Phase	October 2005
Preliminary Screening of Alternatives	June 2006
Final Screening of Alternatives	July 2006
Feasibility Scoping Meeting (FSM)	October 2006
Alternative Formulation Briefing (AFB)	August 2007
Selected Alternative Plan	August 2007
Draft PIR/NEPA Complete	August 2008
Public Review of Draft PIR/NEPA	October 2008 - December 2008
Final PIR/NEPA Complete	March 2009
DE Signature	March 2009

5.2.2 Changes in Project Cost Estimates

TABLE 5-2: TOTAL PROJECT COST SUMMARY

	*Baseline	**Current Approved	Forecast	Actual
PMP Development		\$116,750		
PIR		\$3,881,716		
Real Estate Acquisition	\$166,329,000	\$166,349,000		
Design Document Report	\$5,088,000			
Plans & Specifications	\$975,000	\$13,674,661		
Construction	\$132,219,000	\$161,513,632		
Project Implementation Monitoring (PIM)		\$9,000		

* Restudy estimate (in 1999 dollars)

** PMP 2005 budget estimate (Real Estate costs in 1999 dollars).

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TABLE 5-3: TOTAL PROJECT COST SUMMARY ESTIMATE

Description	Total Cost	SAJ		SFWMD	
		In House	AE	In House	AE
Project Management	\$775,770	\$775,280	\$0	\$490	\$0
Initial PMP	\$116,750	\$109,400	\$0	\$7,350	\$0
Plan Formulation	\$2,092,163	\$1,498,963	\$386,000	\$207,200	
NEPA Compliance	\$293,700	\$133,000	\$140,000	\$20,700	
USFWS Coordination	\$371,720	\$371,720	\$0	\$0	
Socio-Economic Analysis Appendix	\$14,000	\$14,000	\$0	\$0	\$0
Engineering and Design Appendix	\$614,158	\$464,158	\$120,000	\$30,000	\$0
Real Estate Analysis Appendix	\$240,175	\$230,100	\$0	\$10,075	\$0
Project Monitoring Plan	\$68,000	\$65,000	\$0	\$3,000	\$0
PIR Approval	\$141,000	\$120,300	\$0	\$20,700	\$0
Water Reservations	\$46,800	\$0	\$0	\$46,800	\$0
Plans and Specifications	\$13,674,661	\$12,921,961	\$719,500	\$33,200	\$0
PCA	\$7,200	\$0	\$0	\$7,200	\$0
Real Estate	\$166,349,000	\$5,000	\$0	\$166,344,000	\$0
Construction	\$161,513,632	\$161,473,432	\$0	\$40,200	\$0
PIM	\$20,000	\$10,000	\$0	\$10,000	
BASELINE	\$346,338,729	\$178,192,314	\$1,365,500	\$166,780,9	

Comment [U1]: SFWMD: "too cheap - this money is barely sufficient for the modeling needs."

Comment [U2]: CO-R: Can we include a statement to show the reasons for the difference between the costs in the yellow book and today's costs

6.0 FINANCIAL MANAGEMENT

6.1 Project Cost Estimates

A planning level cost estimate for this project is provided in Appendix E. The cost of the PIR phase of this project was estimated by the Project Team based on the PIR scope of work and work breakdown structure with appropriate resource costs applied to the activities. The costs of other major project deliverables were based on the estimates included in CERP. At the end of the PIR, these estimates will be updated.

A Total Project Cost Summary is provided in Appendix E, Tab A. A Fully Funded Cost Estimate will be developed towards the end of the PIR and will be included as Appendix E, Tab B.

6.2 Project Annual Budget

The summary of the project budget for the PIR and monitoring costs is included in Appendix E.

6.3 Cost Listing by Organization

The costs for each organizational unit participating in this project are described in detail in Appendix E, Tab C.

7.0 FUNCTIONAL AREA PLANS

For each major functional area, a plan has been developed to provide initial product identification, explain the need for the products and sub-products that will be developed in the functional area, identify inter- and intra-project dependencies, define the rationale for providing these products, and provide written documentation of functional area product development. Functional Area Plans for each organizational unit at the USACE and the SFWMD are included in Appendix F, Tab A. Appendix F, Tab A identifies all the tasks that will require input from each of the organizational units. Description of the activities, along with assumption and constraints, are provided in Appendix C, Tab B. In addition, Appendix J lists references for the source material and the standard processes that govern the implementation of activities for this project.

7.1 Advanced Formulation and Planning (PIR)

The purpose of advanced formulation and planning during the Project Implementation Report (PIR) Phase is to fully develop, evaluate, and compare alternative plans for meeting the project objectives. Formulation and evaluation of alternative project plans will be sufficient in scope to recommend selection of the plan that is the most feasible and cost-effective means of meeting the stated study objectives while avoiding the project constraints.

Alternatives will be developed that meet the planning goals and objectives established for the PIR. The plan formulation process involves a systematic approach to decision making and is used to document the basic assumptions, the data and information analyzed, the areas of risk and uncertainty, the reasons and rationales used, and the significant implications of each alternative plan. The process described in this section will be used to identify a recommended plan that is feasible and economically justifiable. Besides the tasks identified below, plan formulation work that will occur throughout the entire plan formulation process includes coordination of issues and interim deliverables. The culmination of the plan formulation process will be a PIR, which will include the integrated NEPA Documentation.

Plan formulation will utilize the USACE Six-Step planning process (discussed in more detail below):

- Step 1 – Identify Problems and Opportunities
- Step 2 – Inventory and Forecast Conditions
- Step 3 – Formulate Alternative Plans
- Step 4 – Evaluate Alternative Plans

Step 5 – Compare Alternative Plans

Step 6 – Select Recommended Plan

7.1.1 Step 1 – Identify Problems and Opportunities, Define Goals, Objectives, and Constraints

Initial study efforts will involve identification of problems and opportunities, development of planning objectives and identification of constraints. This effort will refine the problem identification process performed during the PMP scoping phase, will elaborate on problems and opportunities specific to the study area, and will serve as the initial NEPA scoping. As part of this effort, public concerns are identified, technical analyses are conducted to investigate the public and scientific concerns, and the planning objectives and constraints are developed.

Specific tasks may include:

- Soliciting Project Team and public input to develop goals and objectives as well as for problems and opportunities;
- Participation in a public meeting to get input on goals and objectives (to also serve as the NEPA scoping meeting);
- Coordinate and document development of 10 – 15 performance measures; and
- Coordinate and participate in Independent Technical Review (ITR) review conference and initial meeting.

7.1.2 Step 2 - Inventory and Forecast Conditions

This task includes developing an inventory and forecast of resources and conditions (e.g., physical, demographic, economic, and social) within the study area relevant to the identified problems and opportunities. This information will be used to identify existing and future without project conditions and assess any impacts the proposed project alternatives may have. Concurrent with this effort are the identification of data needs, the collection of data, and the development of models to be used in the subsequent analysis of plan alternatives. Project Team and public involvement will be integrated into the determination of existing and future without project conditions. PD-ES has the lead on development of existing conditions (NEPA).

Specific tasks may include:

- Solicit Project Team input on future without project conditions;
- Identify data that are needed;
- Identify methods to forecast future without project conditions;

- Coordinate with other USACE planning sections (PD-ES) and the SFWMD to define existing and future without project conditions that will be used to evaluate impacts of plan alternatives; and
- Consolidate Existing and Future without Project Condition Report

7.1.3 Step 3 - Formulate Alternative Plans

Alternative plans shall be formulated to identify specific ways to achieve the stated planning objectives within the stated constraints. Plan formulation is a dynamic process with various steps that can be iterated one or more times. The resultant alternative plans will become more refined through additional development and through subsequent iterations.

Specific tasks may include:

- Develop alternatives to include Yellow Book Plan, Future Without Project Plan, and a maximum of three additional alternatives;
- Solicit Project Team input for formulation of alternative plans;
- Coordinate with the public and the Project Team;
- If required, participate in a public workshop to present and discuss alternatives;
- Initial Screening of Alternative Plans;
- Determine appropriate models/methods for evaluation of Alternative Plans;
- Prepare Feasibility Scoping Meeting (FSM) documentation;
- Coordinate response and revisions to FSM document per ITR comments; and
- Feasibility Scoping Meeting.

7.1.4 Step 4 - Alternative Plan Evaluation

The USACE planning policy requires that the plan, which maximizes the Net Economic Development (NED) benefits, shall be selected as the recommended plan. Because the project is intended to gather information for ecosystem restoration, it is not necessary to select the plan that maximizes NED, but it is necessary to perform a cost incremental analysis to assure that the plan is cost effective. This method will assist with the selection of a plan that reasonably maximizes the benefits of the project, compared to the costs.

The evaluation of effects is a comparison of the future without project conditions and "with project" conditions for each alternative. As specified in the USACE regulations, the criteria to be used in the evaluation process include a plan's completeness, effectiveness, efficiency, and acceptability.

Computer modeling will be used for detailed design and environmental output evaluation purposes. A combination of hydrologic model development, environmental model development, and water quality analysis may be required to refine alternatives. Cost effectiveness and incremental cost analysis will be used to compare different outputs resulting from various levels of expenditures.

The evaluation of plans will yield information for use in the decision-making process as well as the iterative plan formulation process. Plans will be evaluated according to their costs, environmental effects, social effects, effects on significant resources (such as endangered species), ability to meet planning objectives, and other findings.

Specific Tasks May Include:

- Soliciting Project Team input;
- Evaluate Performance Measures and Constraints for alternative plans;
- Coordinate and record the evaluation of the project alternative plans; and
- Coordinate the evaluation of plans for completeness (the extent to which a given plan provides and accounts for all necessary investments or other actions to ensure realization of the planned effects); effectiveness (the extent to which a plan achieves the project goals and the extent to which a plan avoids the project constraints); acceptability (viability with respect to acceptance by state and local entities and the public and compatibility with existing laws, regulations, and public policies); and efficiency (cost-effectiveness).

7.1.5 Step 5 - Compare Alternative Plans

Plans shall be compared against each other with emphasis on the outputs and effects that will have the most influence in the decision-making process. These include monetary and non-monetary costs and benefits. The output of the comparison step should be a ranking of plans. During the comparison of plan alternatives, the difference among the plans will be examined and weighed. This process will be conducted by the Project Team and is anticipated to take place during a scheduled public meeting.

Performance measures will be identified for the goals and objectives identified in the PMP and during the refinement of problems and opportunities. Performance measures will be established to determine how a plan meets the goals and objectives identified in the PMP and in the refinement of problems and opportunities. The basis for the performance measures and evaluations of the various plan effects will be determined

through a combination of input from the public, professional judgment by the Project Team, and performance measures reviewed by Restoration Coordination and Verification (RECOVER). Public input will be obtained throughout the study through an extensive public involvement process, including opportunities for public workshops, community meetings, media opportunities, publications, and other public outreach activities. In addition, the USACE and the SFWMD have created public outreach coordinators and teams to further promote public involvement and participation. The Project Team will develop a plan effects or decision matrix to illustrate the relative effects of plan alternatives in meeting the stated planning objectives for decision-makers. This decision matrix will be useful to planners, members of the public, and decision-makers alike. Input to the matrix design will be obtained from a variety of sources, including workshops, Project Team meetings, and technical review. This effort will ultimately identify the plan that provides the optimum level of benefits to meet the study objectives.

Specific Tasks May Include:

- Compare and discuss Trade offs of Alternative Plans;
- Coordinate with Project Team to develop methodology for the comparison of plan alternatives, determine how difference among the plans will be examined and traded-off;
- Development of plan effects matrix for the comparison of alternative project plans; and
- Participate in public meeting with the Project Team for project plan comparison.

7.1.6 Step 6 - Select a Plan

The culmination of the planning process is the selection of the recommended plan. The plan that is cost effective and best meets the objectives of the ENP Seepage Management project will be the selected plan.

Specific Tasks May Include:

- Solicit Project Team, public and interagency input on the Tentatively Selected Plan (TSP) and the final project plan selection;
- Coordinate Headquarters U.S. Army Corps of Engineers (HQUSACE) Alternative Formulation Briefing (AFB) document; and
- AFB to discuss alternative plan formulation and selection.

7.1.7 Risk and Uncertainty Analysis

Risk and uncertainty arise from the innate variability of complex physical, biological, social, and economic situations. Risk and uncertainty factors will be considered in the evaluation of alternative plans. Appropriate techniques will be applied to evaluate risk and uncertainty for this plan. Once a plan is selected, the amount of uncertainty associated with that plan will be documented; for example, uncertainty associated with the scale of a model will be defined.

7.1.8 Project Implementation Report (PIR) Preparation

The PIR will be prepared to describe the plan formulation process and the methodology for selecting the final plan. The report will document key decisions and assumptions that have influenced the planning process.

Specific Tasks May Include:

- Preparation of the draft PIR
- Coordinate response and revisions per public comments, ITR comments, Corps South Atlantic Division (SAD) and HQUSACE policy comments; and preparation of the final PIR.

7.2 Project Management

The Corps project manager (PM) will monitor the project's progress during the Project Implementation Report phase of the project. This includes attendance and participation at Project Team meetings, public meetings, and any review conferences. In addition, the Project Management Plan (PMP) will serve as a living document and will be updated to describe project activities during Preconstruction, Engineering and Design and the construction phase. Preparation of documents for compliance with project management regulations includes: annual budget data, fly sheets, and testimony; monthly reporting documents for Project Review Board (PRB) will also be handled by the PM.

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SFWMD's responsibility for this project includes preparation of reporting documents, and attendance at meetings such as Design Coordination Team (DCT), Regional Project Delivery Team (RPDT), Sponsor's internal meetings, briefings, etc. required to keep higher levels informed of the study's progress and findings. This also includes the time and effort required to assist the Corps in preparation of the PMP for advanced engineering and design studies.

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Prepare PMP – During this activity the PM will develop the PMP based on project information at that time. This task will require close coordination with the planning technical leader (PTL), the Project Team, and the non-Federal Sponsor. In the future, the construction schedule will be coordinated with the Construction-Operations Division, the non-Federal Sponsor, and other appropriate elements.

PMP Approved by District PRB and SFWMD's Executive Director – This activity includes coordinating the review and approval of the PMP by the Corps' Division Chiefs (Project Review Board) and project team members. This will also include the PMP being approved by the non-Federal Sponsor, SFWMD.

Project Management – This activity includes on-going project management responsibilities throughout the design phase of the project. These responsibilities will include ongoing monitoring of the project's scope, schedule and cost accounting. Integration and coordination between the project's activities and activities related to all other Corps and SFWMD actions will be included in this activity. The cost associated with this activity includes the tasks described in the opening paragraph of this scope.

7.3 Environmental

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Tasks in this functional area fall into two primary groups:

- Evaluation and documentation of compliance with Federal and state environmental laws
- Environmental (biological, environmental engineering) assistance to the plan formulation process.

Certain site assessments/field studies will be conducted to support these main tasks and are described where appropriate.

7.3.1 Environmental Compliance

NEPA Compliance

The National Environmental Policy Act of 1969, as amended (NEPA) (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500-1508) contain provisions that require Federal agencies to prepare reports that document agencies' compliance with the letter and spirit of the Act. The Central and Southern Florida Project Comprehensive Review Study (USACE, 1999), a.k.a. CERP, represented a Programmatic NEPA document, which addressed at a general level the

alternatives and environmental effects of the overall project. Due to the conceptual nature of the CERP Environmental Impact Statement (EIS), a site-specific NEPA document will be needed for ENP Seepage Management Project. This project is expected to require an EIS, due to its scale and the presence of important natural and cultural resources in the vicinity.

The NEPA document will be integrated with the PIR. As part of the process that is required by NEPA, the reports will be subjected to public review, and will incorporate comments from state, Federal and local agencies, Native American tribes and non-governmental agencies. In conjunction with NEPA, the scope of work consists of activities to ensure compliance with other Federal environmental statutes and coordination with Florida agencies and programs. The other federal statutes that apply to this project are: Clean Water Act (CWA), especially Section 404 (b)(1); Clean Air Act, Fish and Wildlife Coordination Act (FWCA) of 1958, as amended; National Historic Preservation Act (NHPA), as amended; the Archeological and Historic Preservation Act (AHPA), as amended; Endangered Species Act (ESA) of 1973, as amended; Coastal Zone Management Act (CZMA) of 1972; Comprehensive Environmental Response Compensation and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); Migratory Bird Treaty Act (MBTA); Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA); Estuary Protection Act (16 U.S.C. 1221-1226); Farmlands Protection Policy Act (FPPA); and USACE Planning Regulation ER-1105-2-100, and NEPA compliance Regulation ER-200-2-2. Some of these laws require specific analyses, which will be provided as Annexes or Attachments to the report; for example, Annexes include Draft and Final FWCA reports; determination of Consistency with the CZMA under Florida Statutes; any endangered species Biological Assessments and Biological Opinions, if necessary; and Essential Fish Habitat Assessments as required under the MSFCMA.

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Relevant state statutes and regulations include compliance with the State Comprehensive Plan (section 187.201, F.S.), Air and Water Pollution Control Act (Chapter 403, F.S.), and the Water Resources Act (Chapter 373, F.S.), the State Water Policy (Chapter 62-40, F.A.C.), Consumptive Use impacts (40E-2, F.A.C.), and Reuse of Reclaimed Water and Land Application (Chapter 62-610, Parts II, III, and IV, F.A.C.). Consideration of this project in light of the above statutes and regulations will ensure a thorough assessment of alternatives and allow responsible decisions for choosing the alternative that will provide the most environmental benefit.

Typically, the "NEPA Compliance" process (i.e., compliance with above laws, etc.) consists of a series of actions, which are concurrent with PIR formulation

actions and will culminate in an EIS. The following activities are required to conduct an impact assessment as required by the NEPA:

- **Initiate Scoping** - Initial coordination consists of publishing a Notice of Intent to prepare an EIS in the Federal Register, or "scoping" issues, concerns, opportunities and constraints related to the project, as defined in the CEQ Regulations. In its initial stages this information gathering will serve to exchange information among team members and assist in the development of alternative plans, as well as pointing out potential constraints to project development.
- **Biological and Field Investigations** - A literature search of environmental resources of the area will be conducted. Site information will also be obtained through use of the National Wetland Inventory, Geographic Information System (GIS) and available aerial photography. Field investigations of each project site will include inventory of habitats and species occurrence to determine existing conditions. All work will be accomplished in cooperation with the ENP, U.S. Fish and Wildlife Service (USFWS), SFWMD, and Florida Fish and Wildlife Conservation Commission (FWC) and will be done in conjunction with fieldwork to be performed by the USFWS for the Fish and Wildlife Coordination Act Report (CAR) described further below.
- **Select Impact Assessment Method(s)** - This effort involves meeting with the non-Federal Sponsor, the ENP, USFWS, SFWMD, and FWC to determine the impact assessment method(s) or performance measures to be used to evaluate specific environmental responses to project alternatives. A meeting will also be held with regulators to determine methods to be used for evaluating regulated actions.
- **Impact Assessment** - Project sites and impacts will be evaluated according to the impact assessment method(s). All work will be done cooperatively with the ENP, USFWS, SFWMD, and FWC.
- **Aesthetic and Recreation Resource Analysis** - An aesthetic and recreation resource analysis will be completed and will include a discussion of existing conditions, a comparative resources analysis of impacts of study alternatives and the selected plan and a delineation of any mitigation design measures if needed.
- **Draft EIS** - A draft EIS (DEIS) will be prepared and filed with the Environmental Protection Agency (EPA). The NEPA document will follow the format described in ER 1105-2-100, Appendix C, and ER-200-2-2. In the case of a DEIS, the EPA publishes a Notice of Availability in the Federal Register when the DEIS is mailed to agencies and the public for a 45-day review. A Final EIS (FEIS) addressing any comments received on the draft is prepared and sent to HQUSACE. HQUSACE will file the FEIS with EPA and the FEIS will be sent to all parties that responded to the DEIS and Washington-level

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review agencies. These parties have 30 days to respond and the Jacksonville District will be asked to address comments received.

- Record of Decision - The Record of Decision (ROD) is prepared and signed by Assistant Secretary of the Army for Civil Works (ASA (CW)) or the commander of a Major Subordinate Command known as, South Atlantic Division (SAD). The ROD is prepared in the Jacksonville District and sent to the approving official for signature. The ROD is a summary document, requiring only a few days to prepare, and is signed at the level at which the report is approved and Jacksonville District staff has no control over timing. Administrative action, such as signing a contract, may not proceed until the ROD is signed. Once project planning is complete it often takes a year or more to complete an EIS and receive a signed ROD.

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Fish and Wildlife Service Coordination

The USFWS is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The agency enforces Federal wildlife laws, administers the Endangered Species Act, manages migratory bird populations, restores nationally significant fisheries, and conserves and restores wildlife habitat such as wetlands. Natural resource protection legislation relevant to the projects authorized under the CERP that affect the Service's trust resource responsibilities include the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.), the Fish and Wildlife Coordination Act (FWCA), as amended (16 U.S.C. 661 et seq.), the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.), the Migratory Bird Treaty Act (16 U.S.C. 703-712), the Estuary Protection Act (16 U.S.C. 1221-1226), and the Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1464). In addition, several Executive Orders have also established guidance to Federal agencies, including the USFWS, relative to fish and wildlife protection and conservation. For CERP projects authorized under the Water Resources Development Act, the Endangered Species Act and the Fish and Wildlife Coordination Act represent the primary authorities under which the USFWS cooperates and coordinates with project sponsors.

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Endangered Species Act

ESA coordination will proceed as required under normal USFWS-Corps coordination procedures and applicable Federal Regulations as follows:

Informal Consultation Process - The Army Corps of Engineers (Corps) will consult or confer with the Service(s) (the USFWS and the National Marine

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Fisheries Service (NMFS)) regarding federally listed and candidate species. The USFWS will advise the Corps, based on the best scientific and commercial data available, whether any listed or proposed species or designated or proposed critical habitat may be present in the action area. Informal consultation determines the likelihood of adverse effects on a listed species or critical habitat. Informal consultations: (1) clarify whether and what listed, proposed, and candidate species or designated or proposed critical habitats may occur in the action area; (2) determine what effect the action may have on these species or critical habitats; (3) explore ways to modify the action to reduce or remove adverse effects to the species or critical habitats; (4) determine the need to enter into formal consultation for listed species or designated critical habitats, or conference for proposed species or proposed critical habitats; and (5) explore the design or modification of an action to benefit the species.

If informal consultation occurs early in the planning process (i.e., prior to the development of project alternatives), it may avoid the need for formal consultation and greatly increase the potential for project success.

Biological Assessments - The Corps is required to provide the best scientific and commercial data available concerning the effects of the proposed project on listed species or designated critical habitat. This will require the preparation of a Biological Assessment (BA) by the Corps, which would have to be submitted at a mutually agreeable time, or no more than 180 calendar days after receipt of a species list from the Service(s). The BA describes the project, evaluates its affect on listed species or critical habitat, describes measures to avoid, reduce, or eliminate adverse effects or enhance benefits, and states the Corps' determination. This includes an evaluation of direct, indirect, and cumulative effects.

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Formal Consultation Process - Formal consultation will be necessary if: (1) the Corps requests consultation after determining the proposed action may affect listed species or critical habitat, or (2) the USFWS, through informal consultation, does not concur with the action agency's finding that the proposed action is not likely to adversely affect the listed species or critical habitat.

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Through the formal consultation process, the Service(s) responsibilities include: (1) review of all relevant information provided by the Corps or is otherwise available, (2) evaluation of the current status of the listed species or critical habitat, and (3) evaluation of the effects of the action and cumulative effects on the listed species or critical habitat. The USFWS then formulates a biological opinion as to whether the action,

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taken together with cumulative effects is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The USFWS determines the amount or extent of anticipated incidental take in an incidental take statement included in the biological opinion. Formal consultation is concluded within 90 days after its initiation unless extended in accordance with the provisions of 50 CFR § 402.14. Within 45 days after concluding formal consultation, the USFWS delivers its biological opinion. For more detailed information on the consultation process required by the ESA, see the Endangered Species Consultation Handbook (U.S. Fish and Wildlife Service and NMFS 1998), which is posted on the World Wide Web at: <http://endangered.fws.gov/consultations/s7hndbk/s7hndbk.htm>

Fish and Wildlife Coordination Act (FWCA)

The central objective of the FWCA is to allow for equal consideration of wildlife conservation with other features of water resource development programs. Under provisions of the FWCA, the USFWS has the authority to investigate and report on all proposals for work and/or other related activities in or affecting the waters of the United States that are sanctioned, permitted, assisted, or conducted by the Federal government. Section 2(b) of the FWCA allows the USFWS to make recommendations to the Corps that establish measures to prevent loss of or damage to wildlife resources, as well as to provide concurrently for the development and improvement of such resources.

The Corps and the USFWS have established coordination procedures and policy for funding of USFWS involvement. The Corps provides transfer funds to support the activities of the USFWS as set forth in a Scope of Work (SOW). The SOW includes provisions for the USFWS's provision of timely letters or longer reports containing USFWS recommendations. The SOW also defines the Corps' responsibilities. The SOW and funds transfer for CERP projects is renewed annually, according to needs anticipated in the PMP and as subsequently amended.

As determined in the SOW, the USFWS will provide Planning Aid Letters (PALs) or Reports during the early planning phases of the PIR. PALs will be provided in a timely manner according to the PIR schedule. Under CERP it is understood that USFWS representatives to the Project Team are team members, and as such will be aware of ongoing Project Team needs for USFWS input. The purpose of PALs and PARs is to identify problems and opportunities related to the conservation and enhancement of fish and wildlife resources. The USFWS may review conceptual alternatives, provide recommendations for development of new conceptual alternatives, and recommend the course for future coordination. Key objectives for these

reporting documents are to ensure that a process for promoting conservation and restoration of "unique or scarce" resources and/or habitats is introduced early in the planning process and carried through detailed design, construction, and post-construction monitoring.

The purpose of the 2(b) Report (also called the CAR) is to provide the views and recommendations of the Secretary of the Interior in his/her report to Congress prior to Congressional authorization and funding. Therefore, the CAR is provided as a draft report, prior to the deadline for compiling the PIR/DEIS, so that it can be considered in final recommendation of alternatives and incorporated into the consolidated PIR/DEIS that is printed and circulated for agency and public review. The report should document the results and findings of the Service's studies, planning, and coordination. It should recommend those actions considered necessary by the USFWS to accomplish the fish and wildlife conservation goal of the FWCA. The CAR addresses those alternatives evaluated in the PIR, but focuses on the selected plan. The draft CAR and its findings and recommendations are then available for public release during the public comment period. To the extent that the selected plan is modified as a result of the public review process, the draft 2(b) Report is revised and finalized early enough to be made an integral part of the final EIS and PIR.

The USFWS will also make recommendations during the planning process regarding mitigation of impairments to fish and wildlife habitats. Avoidance and minimization of any adverse effects is the initial focus of the Service's early planning assistance. The Programmatic EIS for the Comprehensive Plan (Corps 1999) stated that the construction features would be designed to first avoid and then minimize impacts to wetlands or other aquatic sites and natural upland habitats. The Corps concluded that separable mitigation features were not included in the Comprehensive Plan, but a commitment was made to provide separable compensatory mitigation under two conditions: (1) unavoidable impacts on "unique or scarce" habitats, or (2) impacts on existing wetland compensatory mitigation sites that were established by authorized regulatory permits.

National Historic Preservation Act (NHPA)

Cultural resource studies will include an evaluation of the impacts of the alternative plans upon historical, architectural and archaeological resources. It is anticipated that various historic resources may be present within the study area, including National Register of Historic Places (National Register) sites, middens and possibly burial sites. All studies will be coordinated with the Florida State Historic Preservation Office (SHPO) in accordance with the National Historic Preservation Act, as amended (PL 89-665) and the

Archeological and Historic Preservation Act, as amended (PL93-291). Early coordination ideally begins at the same time as NEPA scoping. Cultural resources studies will begin with an intense literature survey of both resources and previous coordination of these studies with the SHPO. If we suspect cultural resource sites may exist, we investigate to determine the eligibility of the site for nomination to the National Register of Historic Places. Both National Register and National Register-eligible sites are given the same protection and such sites will be avoided whenever possible. If that is not possible a mitigation plan will be developed in consultation with the SHPO. Documentation will be submitted for review to the SHPO and an assessment of the impacts of the proposed project upon cultural resources will be prepared as part of the NEPA analysis. Costs attributable to work under this account include the effort required to prepare input for the draft and final PIR, as well as participation in each of the required review conferences and resolution of comments as a result of the conferences.

Cultural resource consultation will include, but may not be limited to:

Initial Assessment - An initial archaeological assessment, including cultural resources background literature and records check will be performed. During this activity, a records check will be conducted to determine the extent of present knowledge of cultural resources in the project areas. Project areas will be visited to determine field conditions. This initial assessment will be completed prior to a Technical Review Conference.

Scope of Work - A scope of work for Phase I archaeological reconnaissance will be prepared.

Phase I Investigation - This work activity allows for a Phase I reconnaissance of those areas that the assessment identifies as requiring this level of investigation. This effort will be performed by contract.

NHPA assessments and coordination should be concluded by the end of the NEPA compliance process and preliminary coordination should be documented in the Draft PIR/NEPA document.

Farmland Protection Policy Act

This law is applicable to projects with proposed features that would affect identified tracts of "prime" or "statewide unique" farmlands identified by the Natural Resources Conservation Service (NRCS). A form, AD-1006, has to be

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filled out and coordinated with NRCS, and impacts on prime or unique farmland soils must be documented in the NEPA document.

Agricultural soils in the east Everglades are Statewide Unique farmlands (peat soils with a 12-month, frost free growing season). Many CERP features, including Aquifer Storage and Recovery (ASR) and surface water retention areas, may affect unique farmland soils, and will require completion of a Form AD-1006 consultation. This consultation process ends in the completion of the form and receipt of a concurrence letter from the National Resources Conservation Service. NRCS prefers to be involved early enough to provide input into alternative plan selection.

Clean Water Act (CWA)

The CWA is triggered whenever a project proposes discharge into waters of the United States and Section 1344(b) (previously Section 404 (b)(1)) requires an evaluation of such discharges. The 1344(b) evaluation is a stepwise determination of the effects of a proposed action on water quality and the aquatic ecosystem. It is included as an appendix or attachment to the NEPA document. Water Quality Certification (WQC) (Section 1341, previously Section 401, of the Clean Water Act) is sought from the State, and in some cases a National Pollutant Discharge Elimination System (NPDES) permit is also requested. The WQC requires a fairly detailed description of the proposed action and is usually not obtained until fairly late in project design (after the NEPA coordination is complete). A WQC should be obtained before a project is advertised because conditions in the certificate may influence project design and timing of construction and it is needed before construction can proceed. A NPDES permit is required for point sources and for non-point discharges from project land areas that require clearing of at least 5 acres.

Coastal Zone Management Act (CZMA)

The CZMA requires that activities in the coastal zone be consistent with approved State programs. Florida exerts CZM in all coastal counties, regardless of whether a project is strictly coastal. Consequently, almost all Florida projects fall under CZMA. The Governors Clearing House Review, conducted by the Florida Department of Environmental Protection (FDEP), will provide a process by which the Recommended Plan can receive preliminary approval from the State of Florida. Copies of the PIR/NEPA document are coordinated at both Draft and Final stages with the FDEP in Tallahassee. Sixteen (16) copies of the document are required. The FDEP serves as the state clearinghouse for Coastal Zone comments, and sends the reports to all affected agencies and Water Management Districts. The state

may determine that a project is not consistent with the State Coastal Management Plan (in Florida, codified State laws and regulations) at any stage of a project's life. Inconsistent projects will not receive water quality certification. A State finding of inconsistency usually is accompanied by a statement of what needs to be done to gain consistency. The determination of consistency is included in the NEPA document as an appendix, addressing each codified law or regulation related to the Coastal Management Plan.

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Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Corps Regulations on Hazardous, Toxic and Radioactive Waste (HTRW)

The purpose of this evaluation is to facilitate early identification and appropriate consideration of HTRW problems. There are two reasons for this inventory: 1) such foci of contamination may be sources of contamination to natural lands or state waters, and may affect the description of existing conditions or the siting of project features; 2) the Federal agency would generally avoid siting project features on lands containing known HTRW, or, if remediation is practical and cost-effective, would want to include the cost of remediation in the project cost estimate. Initial HTRW surveys use existing state and federal databases, supplemented by field investigations if appropriate. Information developed during this phase should provide the rationale for proceeding with the next phase of project implementation.

Civil works project funds are not to be employed for HTRW-related activities except as provided in ER 1165-2-132, HTRW Guidance for Civil Works Projects, or otherwise specifically provided in law. Plan formulation and plan selection may be substantially influenced by the presence of HTRW in the project area. HTRW presence could impact a project alternative design even though cost may be greater than a plan that provides for HTRW response action.

HTRW assessment will determine the type and extent of HTRW contamination, if any, and how HTRW considerations will impact on the alternative project plans. Preliminary cost estimates of required HTRW response actions will be needed for each alternative plan in order to be able to make a reasonable choice among alternative plans.

Alternative plans may consider avoidance of HTRW as well as possible responses. At least one alternative plan should be formulated to avoid HTRW sites to the maximum extent possible, consistent with project objectives. These assessments, if needed, would be conducted during the PIR phase and are shared with the non-Federal Sponsor.

Investigation - The HTRW investigation would include: (1) a determination of the nature and extent of contamination and (2) a qualitative analysis of the impacts of any contamination in the absence of response action.

This phase would include a preliminary identification of potential source areas, contaminant release mechanisms, exposure routes, potentially exposed populations, as well as a determination of the non-numerical risk or potential adverse health effects for the identified potential receptors. Investigation activities may also include topographic setting, underlying geology, surface and groundwater flow, building and utility layouts, the conditions of all structures above and below ground and characterization of chemical constituents of HTRW contaminants. The level of detail should be sufficient to determine the extent of HTRW contaminants in relation to alternative plan features and adjacent lands potentially impacted by these features.

Alternative Analysis - This analysis shall identify and evaluate alternatives to respond to verified HTRW problems which cannot be avoided by project design. Activities conducted may include additional sampling and analysis if needed, identification of alternative response measures, alternative screening, cost analysis of alternatives and adherence to environmental standards and criteria. The analysis of proposed response alternatives should include a comparative evaluation of:

1. The effectiveness of the alternative or to what degree baseline risks are reduced or minimized by the response and if residuals/action comply with regulatory standards;
2. Technical feasibility of the response action alternative; and
3. Cost associated with each response alternative.

The recommended response action will be selected based on a balance of evaluation criteria and developed in full coordination with the appropriate federal and state regulatory agencies. The evaluation will be included as an appendix to the EIS. The plan will document criteria used in selecting the recommended response action, including degree of reduction or mitigation of potential risks to human health and the environment, compliance with regulatory requirements, long and short-term effectiveness and cost of the recommended response action.

Project Cost Estimate for HTRW Remediation - Design cost estimates and response cost estimates for resolving HTRW and other regulated contaminant problems which are a part of project cost will be developed to the same level

of detail as other project features. The cost of HTRW remediation will not be considered as a project cost.

7.3.2 Plan Formulation Assistance

Environmental engineers and biologists will participate fully in Project Team activities and assist, as needed, in the following formulation tasks:

- Identify problems and constraints (stressors on the natural systems);
- Inventory and describe natural resource (e.g., freshwater wetlands, wildlife habitat, and endangered species), physical-chemical environmental quality parameters (e.g., air and water quality) and cultural and recreational resources;
- Assist in development of conceptual models; identify stressors, interactions, and habitat needs (target end states);
- Provide input to performance measures, evaluation criteria and ecosystem benefit measurements;
- Develop a project-level monitoring plan that can be implemented during project life;
- Participate in alternative formulation and evaluation, since the most important "output" of the project is restoration of wetlands; and
- Help select the recommended plan and provide a critical analysis, comparison and justification of project benefits, comparing ecologic benefits and adverse effects among plan alternatives.

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For this and many CERP projects some environmental "assistance" functions have been delegated to cooperating agencies. For instance, the USFWS will be funded to participate in Project Team activities, providing timely written formulation input to the Project Team, containing the Service's views on formulation tasks. USFWS will provide detailed descriptions of natural resources under their agency's stewardship for ("existing conditions" and "future without project") report sections; USFWS will participate in Project Team activities that develop performance objectives and targets, and will participate in alternative evaluation, for those plan performance elements related to USFWS stewardship resources. Funds for transfer to the Service, under the authorities of the FWCA, to support these expanded Service responsibilities under CERP have been identified in the project schedule. Service biologists will participate regularly in Project Team activities and provide Planning Aid Letters (PALs) as appropriate to support (1) issue identification; (2) existing conditions inventories; (3) future-without project projections; (4) alternative development and comparison; and (5) development of a project-level monitoring plan. When the Project Team has identified a tentatively selected plan, the Service will provide a Draft CAR with official recommendations, in time for the Draft CAR to be discussed at the scheduled

In-progress Review (IPR) and incorporated into the Draft PIR/EIS. After the Draft PIR/EIS has been coordinated with the public, revised and a final recommended plan has been identified, the Service will update this CAR for the final consolidated report.

7.4 Socio Economics Appendix

7.4.1 Economic Studies

The focus will be on economic benefits and costs, to the extent required for this report. In this PIR, ecosystem restoration project outputs will not be expressed monetarily. Economic studies will be concerned mainly with effects other than these nonmonetized environmental outputs. Required input will be engineering cost estimates, real estate cost estimates, and hydraulics and hydrology (H&H) information for the various alternatives. Documentation may include text, tables, charts, graphs, and maps. Support for plan formulation will include assistance in the development of performance measures, development of criteria for measurement, evaluation, and construction of decision matrices. Also, some land use information gathering and projection will be required to determine zero damage susceptibility as explained later. After the preliminary development of plans and preliminary hydrologic evaluation has been developed, a preliminary survey will be undertaken to determine if any recreational impact opportunities are available with any of the evaluated alternative plans. Impacts will be identified but not quantified during this survey. No flood control impacts are anticipated with any of the plan alternatives. The areas impacted will either be on public land or the land will be purchased to mitigate any negative hydrologic or hydraulic impacts. No urban/agricultural water supply impacts are anticipated with any of the plan alternatives.

7.4.2 Recreation Studies

This includes the investigation of all general recreational opportunities. Coordination with a local planning department is necessary to determine if any interest in cost sharing general recreational opportunities. Investigate the possibility of eco-tourism or other environmental passive forms of recreation with the proposed plans. Recreational studies tasks for freshwater benefit evaluation would include, the description of project area and existing recreation facilities, the determination of existing supplies, determination of use standards, computation of peak day and expected annual demand, distribution of annual demand, evaluation of base condition, evaluation of the modified conditions, determine the differences in annual participation and determine willingness to pay per visit. This effort may be assumed by the CERP Recreation Master Plan effort.

7.4.3 Other NED Benefits

It is not anticipated that deep draft navigation, urban and agricultural water supply will be impacted with the proposed alternatives. However, enough work must be done to document this conclusion. As with other impacts, results of this investigation should be reviewed with the conclusions of CERP to determine if both are in agreement or if RECOVER issues are present.

7.4.4 Incremental Analysis and Cost Effectiveness for Environmental Evaluation

Cost efficiency tradeoffs for different alternatives and sizing tradeoffs for a given alternative to achieve elected environmental targets. Each alternative analyzed should be cost effective. Many decisions will be made affecting real estate costs, pumping costs, and distribution network costs. A life cycle cost evaluation includes time value calculations, comparability, price levels, and interest rate calculations for the following items:

- Real Estate costs
- Plant and equipment costs
- Other construction costs
- Operation and Maintenance costs
- Replacement costs
- Monitoring costs

It is expected that there will be a biological evaluation completed to quantify the existing problems in the study area and to what degree the alternatives alleviate these problems. Quantifiable output may be habitat units or some other form of measure. The evaluation set up here is not designed to maximize net water quality benefits or provide a selected design for the alternatives. The analysis uses environmental outputs from the study and only provides a measure of cost effectiveness assuming that certain targets are necessary for acceptability of the design.

Tasks involved in this section include reviewing provided outputs and cost estimates for multiple plans, categorizing plans and outputs in a consistent way to utilize computer evaluation software such as CEA or IWR Plan, conduct incremental evaluation on most cost effective plans and incorporate risk decisions into the evaluation for selected plans. In addition, it will be required to compute incidental benefits, if applicable, or compute any incidental benefits forgone if applicable.

7.4.5 Environmental Justice

Executive Order 12898 requires the Federal government to achieve environmental justice by identifying and addressing disproportionately high

adverse effects of its activities on minority and low-income populations. It requires the analysis of information such as the race, national origin, and income level for areas expected to be impacted by environmental actions. It also requires Federal agencies to identify the need to ensure the protection of populations relying on subsistence consumption of fish and wildlife, through analysis of information on such consumption patterns, and communication to the public of associated risks.

This Environmental Justice plan presents six essential elements: Initial Screening and Scoping, Public Participation, Environmental Analysis, Community Analysis, and Reporting.

Initial Screening and Scoping - Initial Screening and Scoping will seek to identify potential issues and estimate the geographic extents of the environmental areas and the low income, minority and tribal populations that may be affected. Map products may be created as appropriate to display geographic information. The geographical extent of the potentially affected area will be estimated and adjustments to the geographic extents will be made, as required, when knowledge improves. In determining who may be affected, both residents and people who frequent the area are to be considered. It will be determined if the composition of the resident community of the affected area is greater than the low income, minority or tribal population percentage in the general population. Impacts to people due to a community's distinct cultural practices or different patterns of living, such as a principal subsistence on fish, vegetation, or wildlife consumption or the use of well water may be relevant to the analysis.

Public Participation - Public participation is intended to reach low income, minority, and tribal populations to identify issues of true concern and allow relevant issues to be in the early analysis portion of the process. This may involve activities beyond the standard advertising and public outreach practices and will seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation. Meetings will be held in adequate facilities at hours appropriate for those attending. Public participation will be active throughout the entire project to educate, encourage input, answer questions, listen to concerns, and tell people how we intend to deal with those concerns.

Environmental Analysis - The Environmental Analysis element will require the project personnel to monitor the analysis of the environmental impacts throughout the National Environmental Policy Act (NEPA) process. They will ensure that Environmental Justice issues learned through the Initial Screening, Scoping and Public Participation process receive appropriate treatment.

Community Analysis - The Community Analysis element will be triggered primarily in the NEPA process requiring an EIS. Through appropriate tools, it will be determined if the proposed project's environmental impacts will have a high and disproportionate effect on low income, minority or Tribal communities. This determination will consider the intensity of effects not only for direct impacts on the health and environmental quality but also for indirect, multiple, and cumulative effects. Additionally, it is recognized that the cultural, social, occupational, historical, and economic characteristics of the community may amplify the environmental effects.

Reporting - The Reporting element will comply with all NEPA requirements to provide Environmental Justice discussions within each ROD. Reporting will be an iterative process overlapping with the other plan elements.

7.5 Engineering and Design Appendix

7.5.1 Value Engineering

The Project Team will schedule and produce two formal Value Engineering (VE) studies during the development of the project. The formal VE studies will be part of the Project Team's deliverables. The first VE study will be performed during the PIR or formulation phase. A second VE study will be performed as a part of Pre-construction Engineering and Design (PED) phase. The Project Team will determine whether additional VE studies will be conducted during the preparation of planning or design documents. The Project Team will include the VE representative from the non-Federal Sponsor (i.e.; SFWMD) and the Corps of Engineers, Jacksonville District Value Engineering Officer (VEO).

Background and Guidance: *Public Law 99-662 and 104-106, OMB Circular A-131 and Engineer Regulation (ER) 11-1-321 and ER 1110-2-1150* requires VE studies be performed for all projects with an estimated construction cost of \$2 million or more. At least one VE study will be performed during the feasibility phase (PIR) of the project, generally as part of the "Formulation of Alternative Plans." A VE study will be performed on the earliest document available that establishes the functional requirements of the project and includes a MII cost estimate. During the PED phase, a VE study will be performed on all authorized projects exceeding \$10 million, and individual project design features exceeding \$10 million and no later than the 30% PED phase. A VE study may be performed after the final approval of the PIR, as the first step in the PED phase. After the VE study is complete, the Project Manager will provide the PM's Value Engineering Certification Statement in support of the Commander's certification that the design achieved in the PED effort is the most cost effective for this design phase.

Value Engineering Plan: The Value Engineering Plan, Appendix L, assumes that the two VE studies will be performed; one during the feasibility phase (PIR) and one during PED phase. The studies will be conducted in accordance with the provisions of *ER's 1110-2-1150* and *11-1-321* and the most recent VE policy guidance, dated May 18, 2005, including *SAD SOP 11-1-1 Army Programs Regional Value Engineering Standing Operating Procedure South Atlantic Division*. The SOP directs that the Office of the Chief of Engineers Value Engineering Study Team (OVEST) in the Charleston District will be engaged as the Regional "Provider of choice." The VE study team will include five to ten members with professional engineering disciplines and experience consistent with project scope and goals. The VE team should include representation from the non-Federal Sponsor. The Team Leader will serve as the VE study facilitator and should be a senior experienced and skilled VE practitioner, trained in the VE mythology. The VE Team Leader may be provided through an A-E services procurement IDIQ contract with the Jacksonville District or through OVEST. A typical role for OVEST will be as the VE study facilitator, but may also include engineering disciplines matching the project scope. Where A-E services are used for the development of the PIR and/or PED documents, the A-E should also include representatives for the VE study. The study will identify potential measures to reduce overall project cost as well as measures which may increase or improve the project's economic or environmental benefits. Accepted VE proposals shall be implemented in the PED phase.

To capture the benefits of potential cost reducing construction methods and technologies employed by a contractor, Value Engineering Change Proposal clauses, in accordance with FAR 52.248-3, will be included in all project construction specifications.

Value Engineering Workshops and Studies: VE team is an organized group that produces a quality product, which satisfies the project's needs at the lowest life cycle cost. The VE study process follows the five step VE Job Plan that is the systematic procedure and framework for accomplishing all the necessary tasks associated with the VE process. Adherence to a definite plan is essential to obtaining the best value alternatives. The use of the VE Job Plan provides:

- Compliance with Federal Law, Office of Management and Budget (OMB) Policy and USACE Regulations.
- Logical separation of the project into functional performing elements that can be analyzed, compared to creative alternatives and have net cost and/or benefits assessed.
- Assurance that savings and cost avoidance considers sustainable design supported by life cycle analysis.

- Assurance that consideration has been given to facts that may have been overlooked or were unknown in the creation of the original project scope or design.
- A proven process to carry the study from inception to conclusion.
- A written record of the VE effort as it progresses.
- A decision process with designers and stakeholders to improve functionality and/or cost effectiveness.

A detailed description of the five phases of a VE Job Plan and additional information related to VE is located in Appendix L.

7.5.2 Hydrology and Hydraulics Studies

The Hydrology and Hydraulic (H&H) studies include efforts to collect and analyze the hydrologic and hydraulic data needed to formulate, evaluate, and optimize the comprehensive plan. The tasks will involve collecting existing hydrologic, hydraulic and water quality data; selecting and/or developing appropriate hydrologic and water quality models; and modeling of existing conditions, future without-project conditions and future conditions with formulated alternatives.

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The future without-project condition describes what is expected to happen if none of the alternative plans evaluated in the PIR phase are implemented. The without-project condition is the same as the "no action" alternative that is required to be considered by the Federal regulations implementing the NEPA. The future without-project hydrologic model outputs will be compared with the model outputs for existing conditions to identify the flood control, water quality and water supply benefits and/or impacts associated with implementation of project modification efforts currently underway. Finally, the future without-project condition models provide a base for comparison of alternative water resource management plans.

Model Development - The following activities have been identified for the completion of watershed assessments and hydrologic/hydraulic modeling:

Data Collection and Review - Existing hydraulic and hydrologic data in the study area will be reviewed and evaluated. The data evaluation process consists of: compiling, reviewing and evaluating existing data; identifying critical data gaps and formulating a data collection plan to fill in these gaps; and collecting, reviewing and evaluating new data. It is important that all relevant existing hydraulic and hydrologic data be compiled and summarized into a cohesive report. These data will serve as the baseline for identifying data gaps and planning additional data collection. Data of questionable quality or origin will be flagged during data compilation efforts and their use

Deleted: This task includes a review of all existing hydrologic data needed for H&H model efforts for the PIR phase and identification of historical water resource problems and impacts. Specifically, data collection and review involves: 1) field investigation to include flow characteristics, stage measurements, flow/velocity measurements, preliminary surveys and bathymetry; and 2) documentation review of previous studies, climatological data, topography, soils, land use and cover, hydrogeology, historic stages, and historic flows.¶

limitations will be clearly stated. After the data compilation effort has been completed, critical data gaps will be identified and prioritized by relevant importance in meeting the project's goals and objectives. A new data collection work plan based upon the data gaps identified previously will be elaborated. The work plan will include the type of information to be collected, the schedule for the work, the resources assigned to perform the work and the overall budget. All new data after being collected, compiled and evaluated will be merged with existing data sets.

Study Structural and Operational Modifications - Evaluation of modifications involves several efforts: 1) review of federal and non-federal projects in the study area; 2) review of historical operational modifications and rules; 3) review of historical channel modifications; and 4) identification of ongoing or planned future water resource projects with hydrologic/hydraulic implications within the project area.

Develop Study Objectives and Goals - The modeling for the PIR phase will center on providing sufficient information for the alternative plans to be evaluated – especially in regards to the planning objectives. This task will also include recommendations for any follow-up studies deemed necessary including operational criteria at existing project features, numerical modeling and basin specific management options.

Rainfall-Frequency Analysis - An analysis of data will be used to determine the relationships between rainfall, runoff, and frequency for the study area. Design storms will be developed for frequencies from two-year to 100-year. "Probable Maximum Precipitation" will be investigated along with aerial and temporal rainfall distribution. The data will be used to perform design analysis of plan alternatives.

Develop Water Budgets - Water budgets will be developed. This information will be required to support development of the models.

Flood Event Simulation Models - Event simulation models will be required to evaluate areas having flood potential and to develop design criteria.

Develop and Apply Surface Water Models - Numerical models will be used to simulate surface and ground water movement as it is affected by the seepage barrier plan. The model will include three-dimensional ground water, two-dimensional surface water, and one-dimensional canal/stream hydrodynamics. Calibration and verification of the model will be based on comparison with field data (stages and flows). Hydrologic analyses will be performed on existing conditions and both with and without project

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conditions. The model will be developed further to analyze the alternative plans - work which is described under "Plan Evaluation."

- Model Selection – Existing and new models will be reviewed and the selection of the most suitable model will be based on performance measures. Spatial definition, run times and platform availability will also be considered during the model selection process. The selection process will be properly documented.
- Development of Boundary Conditions – Appropriate boundary conditions required for the selected model will be developed.
- Model Calibration/Validation – Models will be calibrated and validated using appropriate data so that accuracy may be assessed for the range of capabilities of the model.
- Uncertainty Analysis – After the model is calibrated, an uncertainty analysis will be performed in order to analyze the accuracy of the model predictions.

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Operational Studies – This task includes a determination of future operational guidelines through research and development of new regulation schedules and operating criteria with completion of a Project Operating Manual. Also included will be the provision of hydrologic information, such as: historical water stages, existing operational procedures, existing operational constraints, and other pertinent information to be used in the development and design of plan alternatives.

Plan Evaluation - Individual plan components, or necessary combinations of components, will be evaluated in increments to segregate the effects of the individual increments and to optimize their effectiveness for providing system needs. Components will be developed and optimized by sub-basin and then grouped with other components to form an initial Comprehensive Plan. This plan will then be evaluated and trade-offs determined using the system-wide objectives stated previously. This evaluation will provide critical data to determine if refinements to the plan are needed.

Deleted: Numerical models will be used to simulate the surface runoff response of each stream basin by representing the basin as an interconnected system of H&H components. A component is an entity such as rainfall, a stream channel or lake and is mathematically represented in the models as hydrologic parameters. Peak flow frequency will be determined at desired locations. Verification of the model will be with the use of alternate methods and stage frequency determined by hydraulic analysis of historic events. Hydrologic analyses will be performed on both the existing and future conditions in the basin and for both with and without project conditions. The models will also be developed further to analyze the alternatives plans – work which is described under "Plan Evaluation."

A direct method of developing the most reasonable hydrologic alternative will be used. All potential water resource components should be optimized in one model. This process will produce one hydrologically optimized alternative that yields the most flexible and water resource-rich alternative. The result of this optimized alternative has three possible outcomes:

- There are more than enough water resources; therefore, a reduction of components needs to be considered.
- There are "about" the right amount of water resources; therefore, the optimized alternative is supported.

- There are not enough water resources; therefore, other options must be considered in addition to the optimized alternative.

Output from the modeling effort, in conjunction with an environmental evaluation, will assist in screening the plans. The hydrologic, flood control, water supply, water quality, and environmental responses to plan components and various combinations of plan components (alternatives) for the simulation period will provide a means by which to screen using the planning objectives and performance measures. This screening will allow for a reduction in plan components or combinations of plan components to those that warrant further study. In addition, operational changes to specific alternatives will also be evaluated.

As mentioned previously, the PIR will support the continued development of existing hydrologic models to facilitate water quality improvements and extended simulation periods. If available, use of these models will be incorporated in the plan formulation and evaluation for the PIR.

Hydraulic Analysis and Design Screening - Evaluation of alternatives will require hydraulic analyses and design of features such as levees, spillways, and channels. The analyses will require a review of the interaction between proposed hydraulic features with existing flood control and water supply features. Corps hydraulic analyses programs including, but not limited to HEC-2, HEC-RAS, FASTABS-RMAS, MODBRANCH, FEMWATER, UNET, and HEC-6 will be utilized to compile designs and analyze alternatives. The alignment and locations of hydraulic features will be mapped on either the U.S. Geological Survey (USGS) quadrangle sheets or another appropriate system (e.g. GIS, Computer Assisted Drafting and Design (CADD)). Hydraulic design data and maps showing plan features will be completed for preliminary engineering design and cost estimate compilation.

Stage-Damage Mitigation Studies - It is anticipated that flood damage reduction may be required to be incorporated into the formulation of alternatives that negatively impact certain areas. Flood elevations versus frequency relationships for the existing flood prone areas will be developed. Corps programs would be used to generate hydraulic models of the existing and any proposed flood control features. Water surface elevations and flow velocities would be computed at selected locations in the pre- and post-project channels and storage areas. Hydraulic models would be compiled using various floods for which historic hydraulic data is available. Estimating the difference in flood damages, with versus without, an alternative will be based on stage-damage relationships for affected areas. This will be accomplished by combining groundwater information from H&H investigations with stage-

damage relationships for those areas where flood damage reduction may be required.

In summary, output from these models for the simulation period will be compared with output from the model runs used to evaluate future without-project conditions. This comparison will identify the flood control, water supply, and water quality impacts associated with each alternative plan. The model outputs will also be used to evaluate the environmental responses to plan alternatives.

Planning Support Activities

H&H Participation in Meetings, Reviews, and Field Visits – This activity includes time for preparation and attendance and all necessary review, site visits and public meetings.

Coordination - This activity includes time for preparation, review, and attendance at public meetings. This task also includes the effort necessary to maintain coordination between SFWMD and Corps staff during the modeling effort.

H&H Write-up for Report – This activity includes preparation of the narrative report, which documents all H&H studies performed for the PIR. Results of the hydrologic model evaluations and other hydrologic investigations will be compiled and incorporated into the Project Implementation Report in an Engineering Appendix. Included in this activity is the effort necessary to compile data, write the report, and prepare all plates necessary to document model development, output and evaluations.

Interagency Modeling Center (IMC) Review of Modeling Efforts – The IMC will be involved with the modeling efforts by participating in modeling meetings, reviewing scopes of work for modeling contracts, reviewing the modeling deliverables and providing boundary conditions from the regional CERP model.

7.5.3 Survey and Mapping

Existing survey, mapping, and other spatial data that is relevant to the project will be obtained from the Jacksonville District, SFWMD and other Federal, state, Tribal and local sources. All existing data will be evaluated to ensure it meets the accuracy requirements to support the level of detail of the project. In the event sufficient existing data is not available, new data would be developed under the guidelines of EM 1110-1-2909. In addition, GIS will

be established for the project in accordance with EM 1110-2-2909 and ER 1110-1-8156.

7.5.4 Geotechnical Studies

Geotechnical Studies will include an analysis of the foundations, foundation soils, groundwater flow media and materials needed to support formulation of alternatives. Costs attributable to work include the effort required to prepare input for the draft and final reports, as well as participation in the required review conferences and resolution of comments resulting from those conferences. Such effort includes obtaining, analyzing, reducing and summarizing existing and new data in order to make intelligent design recommendations. The tasks to achieve the above during the project may include the following:

Develop Preliminary Geologic Profile – This activity involves the development of a generalized geologic profile for each of the specific canals considered. Existing profiles will be reviewed and revised (upgraded for most recent information), while new profiles will be created where data gaps exist from new borehole information.

Preliminary Slope Stability Analysis – Based on input from H&H studies, this activity will analyze the stability of embankment and canal slopes based on recommended design criteria.

Characterize Embankment Materials – This task involves locating possible sources of borrow material or disposal sites, the investigation of such sites, the type of material at such locations available for construction, etc. The activity will include telephone conversations, site visit, correspondence, etc.

Analysis of Rock Excavation/Blasting Requirements – Should canal relocation or emplacement of seepage barrier require excavating bedrock material, which is possible, an analysis of the type of material (strength, engineering characteristics of the material, etc.) needs to be performed. Based on the results of such, an excavation plan will be developed, which includes recommendations for blasting, dredging, etc. It is assumed that rock test results will be available. If no data is available, then this activity must be postponed until rock samples are obtained and tested during the next phase of the project (PED).

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Preliminary Groundwater Modeling - In conjunction with H&H studies, a groundwater model may be implemented to better understand how the recommended design may affect the flow of water through soil media. This task assumes the H&H studies will develop the project model(s) and

geotechnical team members will only provide support or assistance as needed.

Preliminary Embankment Analysis – This task includes developing embankment geometry based on input (i.e. height) from the H&H studies, estimating excavation volume as well as fill and/or cross section volumes and any other geotechnical related estimates.

Preliminary Seepage Analysis - A preliminary/generalized seepage analysis will be performed to estimate the amount of seepage expected out of or into a source of water and how this seepage may affect structural foundations. This will be based on proposed cross sections, structures, and estimated hydrologic cycles.

Preliminary Erosion Control Plan - This activity involves the development of an erosion control plan. This plan will minimize and possibly eliminate the erosion of embankment material due to surface and groundwater flow away from, into, or through the canals. In addition, this plan will recommend the protection of the embankments from seepage, wind, chemical, or any other possible form of erosion. The preliminary plan will only analyze and recommend typical or possible solutions to the foreseen erosion problems. This plan will be based on proposed cross sections and estimated hydrologic cycles.

Preliminary Structure Foundations Analysis – This task includes analyzing suitable foundation types for the proposed new structures as well as structures to be replaced or upgraded. The assumption is that proposed structures will be defined during this phase so that this activity may take place.

Provide Preliminary Geotechnical Assumptions to MII Cost Estimate – Provide input to cost engineering branch for an accurate estimate of design and construction costs. It is assumed that at the conclusion of the PIR, any modifications to the existing canal system will be defined, so that thorough input of geotechnical activities can be provided to cost engineering.

Compose Geotechnical Report as a Section of the Engineering Appendix

Other activities may include:

Obtain Historic Core Boring Logs - Review historic core boring logs from previous subsurface investigations. All geotechnical designs for the initial screening of alternatives will be based on existing field data and other data including historic soil testing results, piezometer readings and subsurface

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hydraulic parameters. A limited number of core borings may be obtained where no existing data is available.

Geotechnical Design for Initial Screening - Geotechnical parameters for canals, levees, and structures for the preliminary array of alternative plans will be based on as-built conditions of existing project features and recent site surveys, if available.

Geotechnical Design/Analyses for Final Array of Alternatives - Geotechnical data such as canal and levee side slopes, foundation types, groundwater models and instrumentation plans will be drawn from criteria developed and utilized in related engineering studies. These studies may include reports (pertinent data and designs) from nearby and similar projects.

Prepare Geotechnical Plates - All geotechnical plates will be drawn on CADD and placed on sheets with proper borders and title blocks.

For the Environmental and HTRW efforts include the analysis of the water and soil needed to support formulation of alternatives. Costs attributable to work under this activity include the efforts required to prepare input for the draft and final PIR, as well as participation in each of the required review conferences and resolution of comments resulting from the conferences. Such effort includes obtaining, analyzing, reducing and summarizing existing and new data in order to make environmental and HTRW recommendations. The four tasks that will achieve the aforementioned analysis during the PIR phase of the study may include the following.

Soil Chemistry Assessment and Support - Soil testing for the purpose of projecting the impact of hydrating soil.

Establish Existing Conditions - which will include:

- Collection of existing groundwater data: Identification of and acquisition of historical groundwater and well data.
- Collection of existing surface water data: Identification of and acquisition of historical surface water data.
- Collection of existing soil data: Identification of and acquisition of historical soil and sediment data.
- Inventory, formatting, reviewing and analyzing data: The compilation, formatting, processing and analyzing the groundwater, surface water and soil data.
- Existing water and soil quality summary report preparation.
- Identification of data gaps: Determination of additional soil and water quality data needs.

Baseline Monitoring: Laboratory analysis of surface water, ground water, fish, soil and or sediment samples to establish baseline conditions. This task includes:

- Site visit(s)
- Scope of Work and Independent Government Estimate preparation.
- Request for Proposal assessment, negotiation, and contracting activities.
- Work plan, sampling plan, quality assurance project plan, electronic quality assurance project plan, health and safety plan assessment and revision.
- Soil, fish and water sampling.
- Laboratory analysis.
- Draft Report preparation.
- Draft Report review and interagency comment.
- Quality control and quality assurance draft electronic deliverables.
- Final Report.

HTRW Phase II Assessment and Support: Analysis of water and soil and determination of the risk associated with the use of a site for project purposes and the support of this effort. This Task is dependent upon the HTRW Phase I Assessment and is comprised of the following subtasks:

- HTRW Phase I Assessment evaluation
- Site visit(s)
- Scope of Work and Independent Government Estimate Preparation.
- Request for Proposal Assessment, negotiation and contracting activities.
- Work plan, sampling plan, quality assurance project plan, electronic quality assurance project plan, health and safety plan assessment and revision.
- Soil, fish and water sampling.
- Laboratory analysis.
- Exposure and toxicity assessment.
- Risk assessment.
- Draft Report Preparation
- Draft Report review and interagency comment.
- Quality control and quality assurance draft electronic deliverables.
- Final Report.

7.5.5 Design/Project Cost Estimates

Engineering analysis and design includes all the design and cost estimates needed to support formulation of alternative plans in addition to the design and cost estimate for the comprehensive plan.

Preliminary design and cost estimates for alternatives will be prepared to support plan formulation and optimization of the selected plan. The preliminary design and cost analysis will include estimates of construction costs, estimates of average annual operation, maintenance and replacement costs, and engineering, design, supervision and administration costs. After screening the alternatives, and the recommended plan/plans that have been identified for further study, an MII engineering cost estimate will be prepared. The evaluation will be of sufficient detail that the requirements of ER 1110-2-1302 Civil Works Cost Engineering will be met. The cost estimate will be included as part of the engineering appendix to the Project Implementation Report. Costs associated with this effort include those required to prepare input for the draft and final PIR, as well as participation in each of the required review conferences and resolution of comments resulting from the conferences.

Engineering Design for Screening Alternatives – The following tasks are included in Engineering Analysis and Design/Project Cost Estimates:

- Develop scope of required surveys and aerial photography and prepare request.
- Review survey data for impacts of the project on existing utilities and determine required relocations.
- Investigate alternative plans and provide design input to Cost Engineering to develop preliminary MII construction cost estimates for Plan Formulation.
- Develop structural designs for elements of the selected/recommended plan (levees, canals, spillways, and pump stations, etc.)
- Determine real estate requirements as applicable including rights-of-way and temporary construction easements.
- Provide engineering input for required NEPA documentation and permits.
- Coordinate technical input from other technical offices in preparation for input for the Engineering Appendix to the report.
- Prepare input for the Engineering Appendix, including write-ups and plates, to present the elements of project design considerations and construction procedures.
- Provide responses to ITR and interagency review comments and revise the Engineering Appendix as required.

Screening Level Cost Estimates - Cost engineering will assist in the selection of alternatives that will be considered during the screening process. Concept cost estimates will incorporate cost models, published cost data, developed cost, historical cost, and the Unit Price Book. Team meetings with technical

offices will be required to discuss project alternatives and value engineering proposals.

Cost Estimates - The construction cost estimates will be completed to the extent that the designs and reasonable assumptions related to the construction will allow. For earthwork, the primary method will be applying equipment and labor unit cost with developed production rates to the quantity of work. For structures, the primary method will be the application of historical cost. All estimates will utilize the MII estimating software. Tools used include EP 1110-1-8 (equipment cost), MII unit price database, cost models, regression analysis, published cost data, and historical data. Contractor cost will be applied to the direct cost on a percentage basis and will include profit. Contingency analysis will be performed on major cost items. A study of cost risks will involve the identification of risk elements and statistical analysis of their effect on the cost.

MII Cost Estimate - Initial MII cost estimates will be prepared for the tentatively selected plan and locally preferred plan, if different. A detailed MII cost estimate will then be prepared for the selected plan(s). The cost estimate will include detailed cost evaluations of the requirements for Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) activities. The cost estimate will be accompanied by a cost estimate summary describing major design features and important assumptions made in preparing the MII cost estimate. Also, included in this effort will be the modifications to the report write-up and the appropriate cost tables, if necessary, prior to submission of the final Project Implementation Report.

During the plan formulation process of identifying alternatives and in performing the screening, the SFWMD and the Corps will need to work closely together. SFWMD will review draft designs and provide comments. Responsibility in this area will continue throughout the study as more features are formulated and designs developed. SFWMD will provide input to the Corps regarding operation and maintenance costs for the alternatives and will also assist in the process of locating existing utilities in the project area.

Engineering Design and Costs - Flood control channels exist in and around the project areas. Hydrologic and hydraulic studies will be required to determine existing flood impacts and the effect any proposed improvements will have on these impacts. Material types adjacent to and along the bottom of these existing channels need to be identified for construction purposes and quantified for removal and disposal, if required. An engineering analysis is required to determine the acceptability of alternative plans for

implementation. A description of the selected (recommended plan) and all other considered alternatives can be found in the plan formulation section of the main report. Baseline information, study results, and engineering evaluation that support the recommend plan will be presented in the engineering appendix. All engineering efforts and documentation will be consistent with ER 1110-2-1150, dated 31 August 1999, Engineering, and Design for Civil Works Project and ER 1105-2-100, "Planning- Planning Guidance Notebook", dated 22 April 2000. All design work is to be done based upon reasonable application of current USACE technology and requirements for construction to ensure acceptable design and cost analysis.

Civil Design - Engineering input, such as channel cross sections and alignments, structure locations, and data on relocation of facilities, will be provided for plan formulation. All alternative plans will be evaluated to address the effects of the project on surrounding land and utilities. Plans will be evaluated on the basis of constructability, operational and maintenance concerns, environmental factors, human factors, real estate concerns. Output from these evaluations will be provided to Real Estate and Cost Engineering for further economic evaluation. All engineering design evaluation and documentation will be compliant with ER 1110-2-1150, "Engineering, and Design for Civil Works Project", dated 31 August 1999.

Mechanical and Electrical Design - Should pump stations and/or conflicts with existing utilities or other mechanical/electrical requirements be identified during the alternative evaluation process, mechanical and electrical team members will provide engineering input for alternative evaluation. This input, if required, will be provided to the cost engineer and Real Estate team member, in sufficient detail, to formulate cost and real estate requirements for the recommended plan. All mechanical and electrical engineering design and evaluation documentation will be performed in accordance with ER 1110-2-1150, "Engineering, and Design for Civil Works Project", dated 31 August 1999.

Structural Design - In the event, structures and/or bridge modifications are identified to be an integral portion of any alternative, structural engineers will provide technical input to the alternative plan evaluation. This input will be provided to the cost engineer, mechanical and electrical engineer, and Real Estate team member in sufficient detail to formulate cost, utility requirements, and real estate requirements for the recommended plan. All structural engineering design and evaluation documentation will be preformed in accordance ER 1110-2-1150, "Engineering, and Design for Civil Works Project", dated 31 August 1999.

Cost Engineering - Cost estimates will be formulated as required to support the decision-making process. Based upon design data, predicted operation and maintenance information, and proposed real estate values, a detailed cost estimate for the recommended plan will be formulated. All cost engineering work will conform to ER 1110-1-1300, "Engineering and Design - Cost Engineering Policy and General Requirements" dated 26 March 1993, and ER 1110-2-1302 "Engineering and Design - Civil Works Cost Engineering", dated 31 March 1994.

Engineering Appendix - In accordance with ER 1110-2-1150 and ER 1105-2-100, an Engineering Appendix will be prepared for the PIR. It will include narratives, plates and attachments that present base line conditions, results of study performed, and engineering evaluation that support the recommended plan from the engineering disciplines required for the project: civil design, geotechnical, hydrology and hydraulics (H&H), cost engineering, structural, and electrical and mechanical.

7.5.6 Project Operating Manual

The Project Operating Manual (POM) includes regulation schedules and operating criteria for the project and additional provisions as may be required to collect, analyze, and disseminate basic data; prepare detailed operating instructions; ensure public safety; and carry out the operation of the project in an appropriate manner. Historical data will be collected and analyzed. Operational rules and criteria will be developed for all water control structures, including pump stations, culverts, and spillways. The POM should provide sufficient guidance and specifications to ensure that the objectives of CERP as well as other authorized project purposes can be met. This effort will require transforming the necessary hydrologic modeling into practical, real-time operational criteria and rules.

The development of the POM will evolve as the project evolves, and new more detailed information becomes available. A draft POM will be completed during the PIR phase and included in the Engineering Appendix as part of the PIR. As described in CERP Guidance Memorandum # 5 dated April 2005, the draft POM will be updated and revised for subsequent phases of project implementation, including the Construction Phase, the Operational Testing and Monitoring Phase and the Long-Term Operations and Maintenance Phase.

7.6 Real Estate

The PIR requires the inclusion of a Real Estate Plan (REP) as an Appendix to the PIR. The REP will include a real estate analysis to determine the minimum interest in real property necessary to support the project. The

minimum interest establishes the estates required for the project, an appraisal of the costs of lands and damages, and preparation of a plan for acquisition of these lands. Other tasks include: an analysis of physical takings, attorney's opinion of compensability, obtaining rights-of-entry for various field collection activities, providing input to the Project Cooperation Agreement (PCA), ITR, participation in review conferences and responding to comments on the PIR. Real Estate activities may also include written memoranda, opinions, database development reports and other documents. In support of other PIR planning efforts, Real Estate tasks may also include the following:

Obtain Rights of Entry – According to the specifications in an A-E services contract, the contractor may be required to obtain access/rights-of-entry to the project site. However if unsuccessful, the Real Estate team member should be notified and permission will be obtained from landowners to temporarily use the needed property for a specified time and purpose. Rights-of-entry will be obtained for environmental investigations, cultural assessments, core sampling, surveys, explorations, etc. The Corps will obtain rights-of-entry for all lands owned and/or controlled by the non-Federal Sponsor or by the state of Florida.

Ownership Information – When the project team develops the alternative(s) and project features by section, township, and range parameters, the following data will be obtained:

- Tax maps and public right-of-way maps;
- List of property owners;
- Tax rolls including value, structure, type, etc.;
- Zoning information;
- Last search of records for each parcel;
- Anticipated mineral extraction and determination if such activity is permitted by law;
- Identification of all structures potentially impacted that are occupied and may be removed due to project implementation;
- Identification of all known public utilities located within the proposed project area that may require relocation;
- Identification of non-Federal Sponsor's acquisition costs and real estate administrative costs associated with implementation of each alternative; and
- Location maps (city and/or county) of proposed construction areas including material disposal areas.

Rough Order of Magnitude Real Estate Cost Estimates– The Real Estate team member will assist in preparing the lands, easements, rights-of-ways,

relocations and disposal areas (LERRD) rough order of magnitude (ROM) cost estimates for the plan detailed in the CERP during the plan formulation stage.

Preliminary Real Estate Cost Estimates – The Real Estate team member will also assist with the LERRD preliminary cost estimates, which detail the cost for the project features during the plan formulation stage.

Section Corner Survey - This survey is required to establish state plane coordinates for sections and townships within the project area for real estate mapping purposes. This data should be in Transverse Mercator Projection, Florida East Zone using 1927 Datum and a Global Positioning Station. It is assumed that other data provided by the state will also be available. The survey data will be used to map property boundaries and ultimately develop real estate acquisition costs for alternatives.

Preliminary Real Estate Alternatives Maps – The Real Estate team member will prepare an initial set of maps that delineate the real estate lines for each alternative for ROM and the preliminary real estate cost estimates. This activity is dependent upon receipt of the project footprint and features that are developed in the alternatives. Close coordination with the PTL and Engineering Technical Lead (ETL) will ensure all project features are identified including, but not limited to, temporary construction areas, road access and borrow/disposal areas.

Real Estate Acquisition Maps – An initial set of maps and drawings that delineate the real estate acquisition lines based on technical design drawings will be developed during the PIR phase. This activity is dependent upon receipt of the footprint of project features and tax maps followed by a coordination meeting with the PTL and ETL to ensure all project features are identified including, but not limited to, temporary construction areas, road access and borrow/disposal areas. These maps will reflect the minimum real estate required for the recommended plan.

Physical Takings Analysis - This analysis usually results in a written legal opinion as to whether flooding induced by construction, operation or maintenance of the proposed project will result in a taking of an interest in real property for which just compensation must be paid to the owner.

Relocations Analysis – Upon determination of what facilities must be relocated including roads, railroads, pipelines, utilities, bridges, and cemeteries, a preliminary legal opinion on whether a substitute facility is required will be documented. The opinion makes findings on whether the owner has a compensable interest, whether the owner has a legal duty to

continue to maintain and operate the facility/utility, and whether federal law requires the provision of a substitute facility rather than mere payment of market value for the property acquired. The preliminary legal opinion differs from the final legal opinion only in its acceptance as fact of the owner's statement of its interest in the property, without a search of property records. A baseline cost estimate must be developed for the relocations to include an engineering cost estimate for the performance or construction of the relocation and the value of the land.

Estate Analysis/Determination - For all lands determined to be required for CERP Projects, the interests required for implementation generally will be fee simple, based on assumptions that all or a significant portion of the rights in the land will be required for project purposes. Although fee acquisition should be the standard estate for CERP projects, lesser estates such as easements may be considered, as appropriate, if the benefits of the project can still be achieved with the lesser estate. The PIR should provide the rationale for such lesser estates. To verify the appropriateness of fee simple acquisition, the PIR must include the following analysis and the conclusions must be reflected in the appropriate report sections. The level of detail required for the analysis will vary depending on the project feature involved but will be in accordance with the CERP Guidance Memorandum for Programmatic Regulations.

Gross Appraisal - For lands owned by the non-Federal Sponsor, the non-Federal Sponsor will provide actual acquisition costs that will be used as the real estate cost for planning and providing crediting, subject to those costs being reasonable, allocable, and allowable. For lands not owned by the non-Federal Sponsor, a gross appraisal will be completed for the tentatively selected plan on all required lands for project purposes. The preparation of the gross appraisal task includes activities necessary to complete a detailed, supported appraisal of the collective real estate requirements and impacts of the recommended plan as required by ER 405-1-12. The gross appraisal must be of adequate detail to provide an accurate cost estimate sufficient for Congressional authorization. The gross appraisal will be submitted concurrently with the draft PIR and is dependent upon receipt of the final recommended plan including real estate maps with project features, estates to be appraised, tax and ownership information, zoning and land use maps. This activity also includes the development of a detailed cost estimate for the recommended plan that will be input for the MII cost estimate. This baseline cost estimate will be developed from the Gross Appraisal and will include other costs such as Public Law 91-646 relocations, administrative costs, and contingencies.

7.7 Project Recovery Costs

The purpose of this task is to establish the SFWMD's capability to finance their portion of the project costs. This activity will begin after the Corps has completed cost allocations and a funding schedule by fiscal year for PED and construction phases of the project. Based on the funding schedule, the sponsor will develop a financing plan that reflects how they intend to meet their financial commitment.

Preliminary Financing Plan – The SFWMD will prepare a preliminary financing plan for the non-Federal share of the project costs and a statement of financial capability in accordance with ER 1105-2-100. The statement of financial capability must be a clear description of the non-Federal Sponsor's capability to meet its financial obligations for the project in accordance with the project-funding schedule.

Assessment of Capability – The Corps will evaluate the SFWMD's financial capability for project construction and capabilities for post-construction obligations relating to operation and maintenance, major repairs, and replacement to any project features. The Corps will be further required to evaluate the SFWMD's financial plan for construction of the project, which includes government outlays, sponsor cash and credit contributions, and contributions for LERRD.

7.8 Project Implementation Report (PIR) Approval

The PIR will consist of the main report, technical appendices and the appropriate NEPA documentation. This PIR will be prepared in compliance with Federal engineering regulation ER 1105-2-100, Planning Guidance. The PIR will be a complete decision-making document and, as such, will include a complete presentation of problem identification and plan formulation and evaluation. The PIR shall be based on all studies and investigations conducted and also from published reports applicable to the project area.

The main report, which summarizes the study finding(s) and recommendation(s), will be direct, concise, and written in a user-friendly style using sufficient graphics, illustrations and photographs to convey the information. The NEPA documentation will be integrated with the main report and will conform to the regulations contained in ER 200-2-2, Policy and Procedures for Implementation of NEPA dated 4 March 1988.

The technical appendices will document in detail technical information developed for the study and the evaluations conducted to support the conclusions of the study.

The base maps used to show study features will be the same for all versions of the PIR, and all maps and drawings will be in either CADD or GIS format.

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Draft Project Implementation Report - This activity involves preparing the draft integrated PIR, including the NEPA documentation. This activity will include the effort necessary to compile the data, write the PIR, and prepare all plates necessary to document development of evaluation tools, outputs, and evaluation results. Modeling results, evaluations, and other data will be compiled and incorporated into the draft PIR appendices. The draft report will be released for public comment.

Final Project Implementation Report - This activity includes the tasks necessary to produce a final integrated PIR with NEPA documentation. Any changes necessary will be incorporated to respond to comments received during the review period. Other activities will include preparing responses to Corps higher authority. A Chief of Engineers Report will be submittal to the ASA (CW) for review. This effort includes those costs, which the non-Federal Sponsor and the Corps of Engineers, Jacksonville District incur during Washington level review of the PIR. The non-Federal Sponsor will be responsible for responding to comments on that portion of the work provided as in-kind service. In addition, representatives of SFWMD will, along with representatives of the Corps of Engineers, Jacksonville District, attend one meeting at the project site with HQUSACE staff involved in the Washington level review process. The Washington level review process begins upon the SAD Engineer's issuance of the public notice announcing completion of the PIR. The activities performed during the Washington level review process are as follows:

Division Engineer's Public Notice - The Division Engineer issues a public notice announcing the completion of the PIR, based upon the endorsement of the findings and recommendations of the Corps' Jacksonville District Engineer, which indicates that the PIR has been submitted for Washington level review. The notice provides for a 30-day period for comments on the PIR and indicates that comments are to be submitted to HQUSACE and that the report's final NEPA document is available to the public. SAD will furnish the public notice to all interested parties.

Report Submittal - Copies of the Project Implementation Report will be sent concurrently to HQUSACE and the ASA (CW). The submittal will include a transmittal letter stating the names and congressional district numbers of the interested congressional delegation; the names and mailing addresses of the State point of contact and non-Federal Sponsor; and the names and telephone numbers of the Corps' Division and District points of contact for

the PIR. SAD will prepare a draft report of the Chief of Engineers, which will concur with the recommendations of the SAD Engineer's recommendations.

Fact Sheet Submittal - A project Fact Sheet will be sent to HQUSACE, which outlines the problems and opportunities identified in the PIR, the alternative plans considered, planning principals used, a description of the recommended plan, map of the project, physical data on project features, financial data on the recommended plan and views of the State, non-Federal interests, and other Federal Agencies. The Fact Sheet will be used to support testimony before authorization committees of Congress.

HQUSACE Review - HQUSACE will perform a comprehensive policy review of the PIR and perform the detailed review of plan formulation, economic, environmental and social aspects. The staff will also consider the views expressed by interested parties at public meetings and workshops and in written correspondence received in response to the Division Engineer's Public Notice. Upon completion of its initial review, the staff will draft an assessment summarizing its findings on the PIR indicating any additional information needed to address specific concerns. The assessment will be submitted to ASA (CW) to solicit any additional views and comments on the PIR. The draft assessment will also include a tentative target date for a staff field visit.

30-Day State and Federal Agency Review - HQUSACE will initiate the 30-day review within a few days after receipt of the PIR if the document complies with procedural requirements of law and does not indicate significant interagency conflict. SAD will be responsible for filing the NEPA document with the EPA. SAD will also be responsible for the local distribution of the NEPA document to parties not included on the HQUSACE mailing list for the normal 30-day review. The 30-day review occurs concurrently with the 90-day State and agency review period.

Washington Level Final Assessment - The final Washington level assessment will be a consolidation of the review comments of all Washington echelons and will identify any aspects, which need to be addressed before the PIR is considered by decision-makers.

Field Visit and Meeting - Upon receipt of the Washington level final assessment a field visit/meeting will be scheduled. The field visit is intended to provide an opportunity for the Jacksonville District and non-Federal Sponsor to furnish information to the HQUSACE review staff to address review comments and resolve potential issues.

Documentation of Report Review - Based upon information obtained during the field visit, the HQUSACE review staff will prepare written documentation of the results of the PIR review. The documentation will discuss how each comment in the Washington level assessment was resolved; what back-up information is available to support the comment resolution; and indicate any revisions made to the PIR. The documentation will also indicate any concerns that have not been completely resolved.

Washington Level Decision-Making Process - HQUSACE review staff will conduct a briefing for the senior representatives of HQUSACE and the ASA (CW). The purpose of the briefing is to present results of the review and to permit opportunity for participants to discuss the PIR. Facts pertaining to the report will be presented, including any available comments provided by the State and other Federal agencies during the 90-day review and identification of those agencies which have not responded and whose comments, if submitted, would need to be considered during later decision making. Representatives to attend the briefing include the following:

- HQUSACE - major Division staff Chiefs;
- ASA (CW) - Deputy for Policy, Planning, and Legislative Affairs;
- Staff representatives from the Corps Jacksonville District and South Atlantic Division;
- Representatives from the non-Federal Sponsor.

Chief of Engineers Report - Prior to transmittal of the report to Congress and signing of the ROD by the ASA (CW); the non-Federal Sponsor, the State, interested Federal agencies, and other parties will be advised of any modifications made to the recommendations and will be afforded an opportunity to comment further.

7.9 Construction Management

The Construction Management Phase of the project will begin after completion of review of the plans and specifications for the project, with USACE and SFWMD, subject to the receipt of adequate federal and local construction funds. It consists of the overall Supervision and Management of a contract, Engineering Design During Construction, Contingencies, Partnering, if applicable, Lab Testing, if applicable, and any other Direct Construction Costs.

Prior to the Construction phase, an acquisition plan will be developed to determine the best acquisition process that should be utilized for this project. Once construction funding is available, the USACE will implement the acquisition plan to advertise and award the construction contract. The

advertisement and award will be subject to the Federal Acquisition Regulations.

A pre-construction meeting will be held with the construction contractor to discuss the contract documents inclusive of submittals and the roles and responsibilities of all applicable parties involved in managing the contract. Representatives may include, but are not limited to the following, Contracting Officer (CO), Administrative Contracting Officer (ACO), Contracting Officer Representative (COR), Project Engineer, Construction Technical Manager, Office of Counsel, Contracting, Engineering, Finance and Accounting and Resource Management. After issuance of the Notice to Proceed, the District Construction office and the Area/Resident Office from USACE or SFWMD will supervise, administer and report on the construction progress in accordance with the contract documents. If any surveys are required by the contract, the Construction Technical Manager will coordinate with Engineering's Survey Section to have this work completed prior to the commencement of any physical work.

The USACE and SFWMD Project Managers will coordinate contract changes and funding requirements with the Construction Technical Manager as the project proceeds through the construction phase. All changes to the contract shall be made through the Administrative Contracting Officer (Area Engineer) and Contracting Officer appointed to the contract. No change in scope of work shall be given directly to the construction contractor except via contract modification or contract directive in order to prevent financial obligations for which funds might not be available.

As construction approaches completion, a final inspection will be coordinated between the Project Managers/Construction Technical Manager and the Area Engineer. Final acceptance will be accepted once all physical work has been completed by the construction contractor. If Operation and Maintenance (O&M) is required after construction is complete, this work will be handled under a separate contract.

7.10 Quality Control

The Master Project Management Plan and the CERP Guidance Memorandum 14: Independent Technical Review provides guidance for the Independent Technical Review process, a component of the District's Quality Control. Quality Control is described in Appendix H of this PMP.

7.11 Project Implementation Monitoring

During the PIR phase, project level monitoring should be limited in scope and focused on baseline data needs. A monitoring and assessment plan for the

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selected alternative should also be developed and the cost of the plan estimated. A key activity at this stage should be a thorough evaluation of the existing monitoring and data in the region covered by the project. An inventory of existing monitoring data for the project area is a critical step that will assist in identifying monitoring needs during the PIR phase. Development of monitoring plans during the PIR phase should comply with CGM 23, Water Quality Considerations for the Project Implementation Report Phase. At a minimum, the project level monitoring and assessment plan needs to be developed so that the installation of monitoring equipment and any additional sampling and measurement needed during construction can be included in the selected alternative's funding request.

As the project proceeds from the design phase to the construction phase and finally to the operations phase, monitoring requirements will change. Monitoring during the construction and operation phases should be limited to that which is necessary to meet regulatory requirements and to insure that the project operates as designed. In general, monitoring requirements should be reduced as the project proceeds from planning to through construction to operations. Monitoring should not be undertaken in lieu of or as part of the system-wide adaptive assessment and monitoring program.

8.0 UNIQUE FACTORS

The following unique factors and potential challenges have been identified, thus far, for this project:

- Preventing a significant amount of groundwater flow to Biscayne Bay, the western portion of Miami-Dade County and the wellfields could potentially impact the system.
- Be mindful that the existing level of flood protection and groundwater recharge needs to be evaluated.
- There are potential challenges associated with real estate in the Bird Drive Recharge area.
- Be cognizant of the State's Water Quality Standards, the Everglades Forever Act and the Consent Decree and their application to this project.
- There is a potential to "phase" the Everglades National Park Seepage Management project due to the size of the project area.
- Land acquisition costs for 7,943 acres are estimated as \$166,329,000 (1999 dollars).

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Blocking too much groundwater flow to the Western Portion of Miami-Dade County (water quality)

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Deleted: Real estate issues in the Bird Drive Recharge Area

Deleted: Water quality modeling to meet the Court Order Constraint

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APPENDIX A: LIST OF PROJECT TEAM MEMBERS

TABLE A-1: LIST OF PROJECT TEAM MEMBERS

NAME	E-MAIL	PHONE
US ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT		
Alison Ali	Alison.C.Ali@saj02.usace.army.mil	(904) 232-3135
Antonio Ayuso	Antonio.D.Ayuso@saj02.usace.army.mil	(904) 232-2118
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Murika Davis	Murika.Davis@saj02.usace.army.mil	(904) 232-1604
Robert Evans	Robert.A.Evans@saj02.usace.army.mil	(904) 232-2102
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Christopher Graham	Christopher.A.Graham@saj02.usace.army.mil	(904) 232-3376
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Stephanie Jenkins	Stephanie.L.Jenkins@saj02.usace.army.mil	(904) 232-1612
Fred McAuley	Fred.M.McAuley@saj02.usace.army.mil	(904) 232-1903
Jessica McCaffrey	Jessica.C.McCaffrey@saj02.usace.army.mil	(904) 232-2254
Donald Nelson	Donald.G.Nelson@saj02.usace.army.mil	(904) 232-3874
Jerrell Pennington	Jerrell.T.Pennington@saj02.usace.army.mil	(904) 232-3755
Debbie Peterson	Debbie.R.Peterson@saj02.usace.army.mil	(904) 614-5064
David Pugh	David.W.Pugh@saj02.usace.army.mil	(904) 232-1361
Vasu Rao	Vasu.D.Rao@saj02.usace.army.mil	(904) 232-2409
Salvador Resurreccion	Salvador.Resurreccion@saj02.usace.army.mil	(904) 232-1850
Erica Robbins	Erica.A.Robbins@saj02.usace.army.mil	(561) 683-1577
Stacey Roth	Stacey.L.Roth@saj02.usace.army.mil	(904) 232-1055
John Szep	John.G.Szep@saj02.usace.army.mil	(904) 232-1884
Tiphanie Taylor	Tiphanie.C.Taylor@saj02.usace.army.mil	(904) 232-1548
Gregory Whittle	Gregory.Whittle@saj02.usace.army.mil	(904) 232-3729
SOUTH FLORIDA WATER MANAGEMENT DISTRICT		
Bridget Appow	bappow@sfwmd.gov	(561) 682-6004
Cynthia Gefvert	cgefvert@sfwmd.gov	(561) 682-2610
Steve Krupa	skrupa@sfwmd.gov	(561) 682-6923
Maura Merkal	mmerkalsfwmd.gov	(561) 682-6179
Laura Reilly	lreilly@sfwmd.gov	(561) 682-6875
Larry Robinson	lrobbins@sfwmd.gov	(305) 513-3420 x 7102
Charles Scott	cscott@sfwmd.gov	(305) 377-7274 x 7280
Sherry Scott	sscott@sfwmd.gov	(561) 682-6803
Wanda Simpson	wsimpso@sfwmd.gov	(561) 682-6445
Scott Thorp	sthorp@sfwmd.gov	(305) 242-5933 x 7001
Shi Xue	sxue@sfwmd.gov	(561) 682-2333

NAME	AGENCY	E-MAIL	PHONE
GOVERNMENT AGENCIES			
Christiana Aguirre	IMC	caguirre@sfwmd.gov	(561) 682-2227
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Kevin Cunningham	USGS	kcunning@usgs.gov	(954) 377-5913
Richard Curry	BNP	Richard.curry@nps.gov	(305) 230-1144 x 3006
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Richard Fike	USFWS	Richard.Fike@fws.gov	(772) 562-3909 x 262
Donna Fries	Miami-Dade WASD	friesd@miamidade.gov	(786) 552-8972
Inger Hanson	FDEP	Inger.hansen@dep.state.fl.us	(561) 681-6709
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Marcia Levinson	Miami-Dade DERM	levinm@miamidade.gov	(305) 372-6691
Sherry Mitchell	ENP	sherry_mitchell@nps.gov	(305) 224-4286
Clint Oakley	Miami-Dade WASD	oaklec@miamidade.gov	(786) 552-8199
Lucia Perez	Miami-Dade WASD	lperez@miamidade.gov	(305) 372-6645
Ingrid Rivera	ENP	Ingrid.Rivera@nps.gov	(305) 224-4209
Virginia Walsh	Miami-Dade WASD	walshv@miamidade.gov	(786) 552-8266
Shereen Yee-Fong	FDOT	shereen.yee-fong@dot.state.fl.us	(561) 682-2227

APPENDIX B: PROJECT MAP

FIGURE B-1: PROJECT MAP

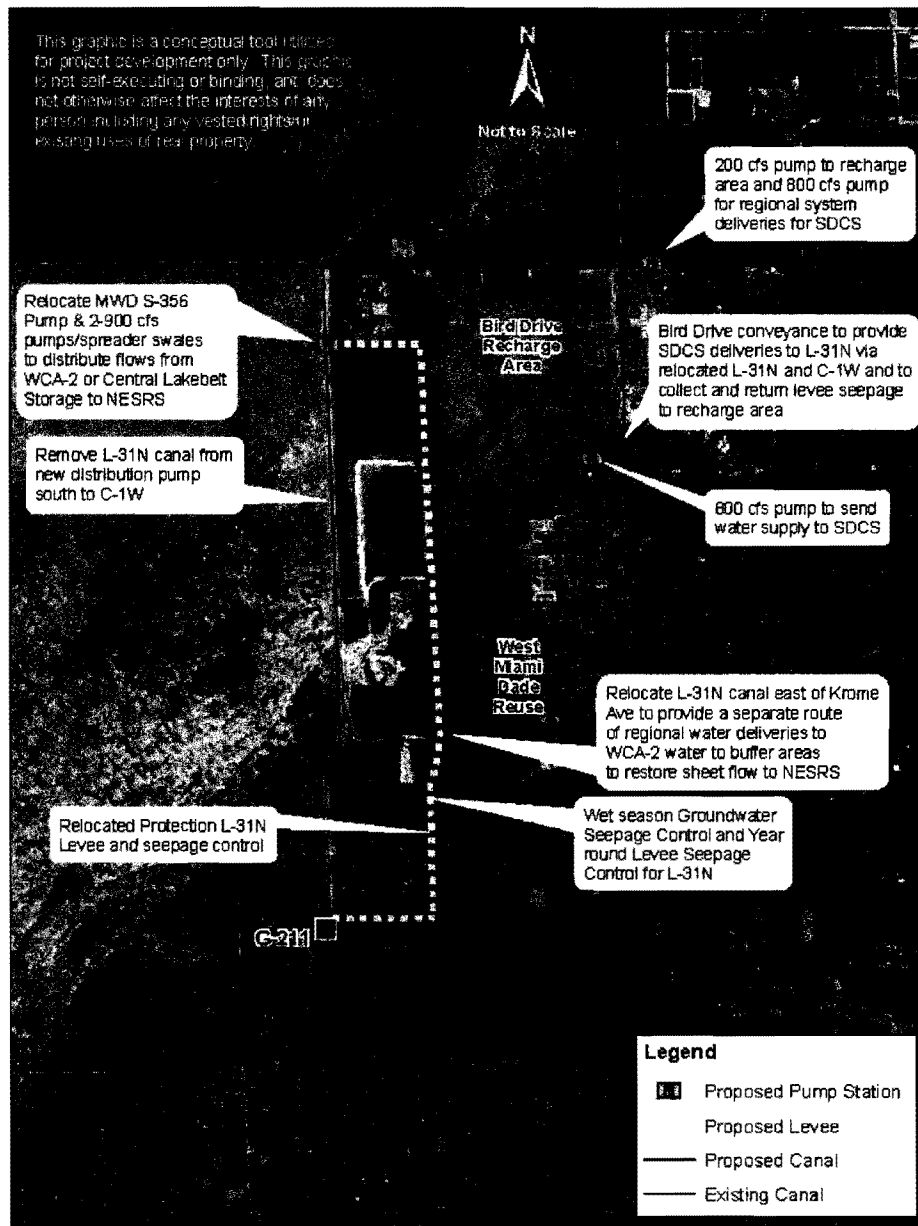


FIGURE B-2: PARCELS WITHIN THE BIRD DRIVE AREA



APPENDIX C: WORK BREAKDOWN STRUCTURE

TAB A – Activity Listing by WBS

TAB B – Activity Definitions, Constraints and Assumptions

TAB C – Activity ID/WBS Cross Reference

TAB A – Activity Listing by WBS

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
129011 CERP Everglades National Park Seepage Management							
129011.1 PM		2163.0d	0.0d	01-Jun-05 A	15-May-14		\$ 775,770.01
27-H1015	GP Truck FY05	0.0d		01-Jun-05 A	30-Sep-05 A		\$ 80.00
27-H1005	Travel CO FY05	0.0d		01-Jun-05 A	30-Sep-05 A		\$ 600.00
27-H1105	Travel DP FY05	0.0d		01-Jun-05 A	30-Sep-05 A	DP-E.K...	\$ 600.01
27-H3280	Travel EN FY05	0.0d		01-Jun-05 A	30-Sep-05 A	EN.K3L...	\$ 4,400.00
27-H3300	Travel PD FY05	0.0d		01-Jun-05 A	30-Sep-05 A	PD.K3K...	\$ 3,600.00
27-H1305	Printing FY05	0.0d		01-Jul-05 A	30-Sep-05 A		\$ 500.00
27-H1205	DP Project Management FY06	250.0d	0.0d	03-Oct-05*	29-Sep-06	DP-E.K...	\$ 150,000.00
27-H1315	Printing FY06	250.0d	1891.0d	03-Oct-05*	29-Sep-06		\$ 1,000.00
27-H3290	EN Travel FY06	250.0d	1663.0d	03-Oct-05*	29-Sep-06	EN.K3L...	\$ 15,400.00
27-H3310	Travel PD FY06	250.0d	1891.0d	03-Oct-05*	29-Sep-06	PD.K3K...	\$ 8,000.00
27-H3330	SFWMD Travel and Management FY06	250.0d	1891.0d	03-Oct-05*	29-Sep-06	NAMED...	\$ 490.00
27-H2935	GP Truck FY06	250.0d	985.0d	03-Oct-05	29-Sep-06		\$ 100.00
27-H2965	Printing FY06 and Beyond	250.0d	1891.0d	03-Oct-05*	29-Sep-06		\$ 1,200.00
27-H2975	Travel DP FY06	250.0d	0.0d	03-Oct-05	29-Sep-06		\$ 10,000.00
27-H2995	Travel CO FY06 and Beyond	250.0d	1891.0d	03-Oct-05	29-Sep-06		\$ 2,400.00
27-H3005	RE Travel FY06 and Beyond	228.0d	1891.0d	03-Nov-05*	29-Sep-06	EN.K3L...	\$ 2,400.00
27-H3015	OC Travel FY06 and Beyond	228.0d	1891.0d	03-Nov-05*	29-Sep-06	EN.K3L...	\$ 1,500.00
27-H2945	GP Truck FY07 and Beyond	250.0d	985.0d	02-Oct-06	28-Sep-07		\$ 500.00
27-H2955	EN Travel FY07 and Beyond	250.0d	1663.0d	02-Oct-06*	28-Sep-07	EN.K3L...	\$ 12,000.00
27-H2985	Travel PD FY07 and Beyond	250.0d	1641.0d	02-Oct-06*	28-Sep-07	PD.K3K...	\$ 6,000.00
27-H1215	DP Project Management FY07 and Beyond	1913.0d	0.0d	02-Oct-06*	15-May-14	DP-E.K...	\$ 525,000.00
29-H2976	Travel DP FY07 and Beyond	1913.0d	0.0d	02-Oct-06	15-May-14		\$ 30,000.00
129011.1.2 Initial PMP		22.0d	0.0d	23-Jun-05 A	02-Nov-05		\$ 138,750.02
27-1020	PMP Initiated	0.0d			23-Jun-05 A	DP.K3H...	\$ 0.00
27-1010	Initial PMP Coordination Meeting	0.0d		23-Jun-05 A	23-Jun-05 A	DP.K3H...	\$ 5,600.00
27-1040	Hold PDT Kick-Off Meeting	0.0d		24-Jun-05 A	24-Jun-05 A	DP.K3H...	\$ 4,300.00
27-1060	Prepare Draft PMP	0.0d		01-Jul-05 A	19-Aug-05 A	DP.K3H...	\$ 64,673.34
27-H1065	PMP Draft Completed	0.0d			19-Aug-05 A	DP.K3H...	\$ 0.00
27-1080	Internal Review of Draft PMP	0.0d		22-Aug-05 A	26-Aug-05 A	DP.K3H...	\$ 29,576.66
27-1100	Final Draft PMP Incorporating Internal Review	0.0d		29-Aug-05 A	02-Sep-05 A	DP.K3H...	\$ 4,000.01

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-1110	Post on Documentum for Agency Review	0.0d		06-Sep-05 A	12-Sep-05 A	DP-E.K...	\$ 0.00
27-1140	Final PMP Incorporate Agency Comments	0.0d		13-Sep-05 A	19-Sep-05 A	EN-GE....	\$ 4,200.01
27-1150	Distribute Draft PMP for PRB and Non Federal Sponsor Senior ...	16.0d	0.0d	20-Sep-05 A	25-Oct-05	DP.K3H...	\$ 600.00
27-1230	Final Approval by Non Federal Sponsor	2.0d	0.0d	26-Oct-05	27-Oct-05	NAMED...	\$ 1,800.00
27-1155	Final Approval by Branch & Division Chiefs	2.0d	0.0d	26-Oct-05	27-Oct-05	DP.K3H...	\$ 1,000.00
27-1210	PMP Approved by Local Sponsor	0.0d	0.0d		27-Oct-05		\$ 0.00
27-1240	Approval by Corps Deputy District Engineer	2.0d	0.0d	28-Oct-05	31-Oct-05	DP.K3H...	\$ 1,000.00
27-1250	PMP DDE(PM) Signature	0.0d	0.0d		31-Oct-05	DP.K3H...	\$ 0.00
27-1260	Work-in-Kind Letter from Corps Engineer	2.0d	0.0d	01-Nov-05	02-Nov-05	DP.K3H...	\$ 0.00
27-1270	Work-in-Kind Letter Signed by District Engineer	0.0d	0.0d		02-Nov-05	DP.K3H...	\$ 0.00
129011.1.3 Design PMP Revision		0.0d	0.0d				\$ 0.00
129011.1.4 Construction PMP Revision		0.0d	0.0d				\$ 0.00
27-H3090	Chief's Report	0.0d	168.0d		14-Aug-09		\$ 0.00
27-H3080	Chief's Report Submitted to ASA (CW)	15.0d	168.0d	17-Aug-09	04-Sep-09		\$ 0.00
129011.2.1 PM		0.0d	0.0d				\$ 0.00
129011.2.2 Plan Formulation		796.5d	2004.5d	02-Nov-05	09-Jan-06		\$ 2,082,183.00
129011.2.2.1 Goals and Objectives		16.0d	14.0d	02-Nov-05	25-Nov-05		\$ 132,599.00
27-H1350	Initiate PIR Preparation	1.0d	29.0d	02-Nov-05	02-Nov-05	DP.K3H...	\$ 0.00
27-H100	Initiate PIR	0.0d	29.0d		02-Nov-05	DP.K3H...	\$ 0.00
27-H1360	Identify Problems, Opportunities, Objectives & Constraints	15.0d	0.0d	03-Nov-05	25-Nov-05	PD-ES....	\$ 132,599.00
129011.2.2.2 Existing and Future Conditions		343.0d	2460.0d	02-Nov-05	19-Mar-07		\$ 716,256.00
27-H1540	RECOVER Assistance with Development of Existing & Future W...	44.0d	165.0d	02-Nov-05	06-Jan-06	DR-E.K...	\$ 22,000.00
27-H3160	A-E Contract Procurement (Inventory for Geotech)	40.0d	126.0d	02-Nov-05*	30-Dec-05	CT-C.K...	\$ 8,500.00
27-H2990	A-E Contract Procurement (Survey)	22.0d	2714.0d	03-Nov-05	06-Dec-05	CT-C.K...	\$ 7,500.00
27-H1390	Inventory and Forecast Ecological & Cultural Resources	43.0d	87.0d	03-Nov-05	06-Jan-06	PD-ES....	\$ 3,000.00
27-H1400	Inventory and Forecast Economic Resources	43.0d	29.0d	03-Nov-05	06-Jan-06	NAMED...	\$ 7,200.00
27-H3000	A-E Contract Procurement for Water Quality / Ecologic Data Coll...	40.0d	87.0d	28-Nov-05	25-Jan-06	CT-C.K...	\$ 167,000.00
27-H3010	A-E Contract Procurement for Economic Data Collection	40.0d	138.0d	28-Nov-05	25-Jan-06	CT-C.K...	\$ 0.00
27-H1430	Identify Performance Measures	43.0d	0.0d	28-Nov-05	30-Jan-06	NAMED...	\$ 33,400.00
27-H2980	Survey Data Collection for Models	66.0d	2714.0d	07-Dec-05	14-Mar-06	EN-D A...	\$ 142,300.00
27-H1435	RECOVER Review of Project Performance Measures	75.0d	0.0d	12-Dec-05	30-Mar-06	DR-E.K...	\$ 7,800.00
27-H1380	Inventory and Forecast Hydrologic & Geologic Resources	43.0d	126.0d	03-Jan-06	06-Mar-06	EN-HH....	\$ 21,445.00
27-H1530	Compile Existing and Future Without Conditions	33.0d	126.0d	18-Jan-06	06-Mar-06	EN-HH....	\$ 98,728.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H2940	A-E Contract Procurement (Geotech)	40.0d	2642.0d	25-Jan-06	22-Mar-06	CT-C.K...	\$ 7,000.00
27-H1460	Water Quality / Ecologic Data Collection	66.0d	87.0d	26-Jan-06	28-Apr-06	PD-ES....	\$ 104,500.00
27-H1470	Economic Data Collection	66.0d	138.0d	26-Jan-06	28-Apr-06	PD-D.K...	\$ 9,000.00
27-H1490	Identify Simulation Models (Ecologic)	66.0d	158.0d	29-Mar-06	29-Jun-06	PD-ES....	\$ 11,800.00
27-P220	Project Performance Measures Complete	0.0d	0.0d		30-Mar-06	PD-R.K...	\$ 0.00
27-H1475	Wet Season Test	5.0d	65.0d	01-Jun-06*	07-Jun-06	PD-ES....	\$ 5,917.00
27-H1495	Evaluate Old and New Data Together	1.0d	65.0d	08-Jun-06	08-Jun-06	PD-ES....	\$ 2,308.00
27-H1510	Simulation Models (Economic)	129.0d	2.0d	09-Aug-06	14-Feb-07	PD-D.K...	\$ 6,000.00
27-H1520	Model Existing & Without Plan Conditions	86.0d	0.0d	13-Nov-06	19-Mar-07	EN-HH....	\$ 50,858.00
129011.2.2.3 Alternative Plan Formulation		258.0d	39.0d	31-Mar-06	10-Apr-07		\$ 419,842.00
27-H1560	Identification of Management Measures	22.0d	104.0d	31-Mar-06	01-May-06	PD-R.K...	\$ 16,100.00
27-H1572	Define Components & Create Array of Alternatives	43.0d	111.0d	02-May-06	30-Jun-06	PD-R.K...	\$ 44,600.00
27-H2720	Preliminary Screening of Conceptual Alternatives	30.0d	104.0d	31-May-06	12-Jul-06	EN-GG....	\$ 45,900.00
27-L215	Preliminary Screening of Alternatives Complete	0.0d	104.0d		12-Jul-06	PD-R.K...	\$ 0.00
27-H2760	Determine Final Alternative Array	22.0d	104.0d	13-Jul-06	11-Aug-06	PD-R.K...	\$ 40,900.00
27-L265	Final Alternative Array Complete	0.0d	125.7d		11-Aug-06	PD-R.K...	\$ 0.00
27-H2910	Prepare FSM Package	15.0d	125.7d	14-Aug-06	01-Sep-06	PD-R.K...	\$ 66,200.00
27-H3030	VE FSM Package	15.0d	126.5d	05-Sep-06	25-Sep-06	EN-T.K...	\$ 65,200.00
27-H1580	ITR of FSM Package	15.0d	125.7d	05-Sep-06	25-Sep-06	EN-GG....	\$ 61,300.00
27-H1620	ITR Meeting with PDT to prepare for FSM	0.7d	125.7d	26-Sep-06	26-Sep-06	PD-R.K...	\$ 5,942.00
27-H1590	Submit FSM Documentation to HQ	2.0d	125.7d	26-Sep-06	28-Sep-06	PD-R.K...	\$ 1,200.00
27-H2270	HQ Policy Review Comments to SAJ & SAD	22.0d	125.7d	28-Sep-06	31-Oct-06	PD-R.K...	\$ 0.00
27-H2280	SAJ Response to HQ Policy Review Comments	6.0d	125.7d	31-Oct-06	08-Nov-06	PD-R.K...	\$ 11,000.00
27-H1600	Feasibility Scoping Meeting	1.5d	125.7d	08-Nov-06	13-Nov-06	PD-R.K...	\$ 15,900.00
27-L230	Feasibility Scoping Meeting (FSM)	0.0d	125.7d		13-Nov-06	PD-R.K...	\$ 0.00
27-H1610	Receive FSM Guidance Memorandum	11.0d	125.7d	13-Nov-06	29-Nov-06	PD-R.K...	\$ 1,000.00
27-H1660	Develop Planning Cost Estimates (Engineering, Construction, O...	86.0d	20.0d	20-Nov-06	26-Mar-07	EN-C.K...	\$ 33,200.00
27-L235	FSM Guidance Memorandum Received	0.0d	125.7d		29-Nov-06	PD-R.K...	\$ 0.00
27-H1570	Compare Existing Condition to Pre-CERP Baseline	10.0d	0.0d	06-Mar-07	19-Mar-07	EN-HH....	\$ 10,200.00
27-H1710	Life Cycle Costing	11.0d	39.0d	27-Mar-07	10-Apr-07	PD-R.K...	\$ 1,200.00
129011.2.2.4 Alternative Plan Evaluation		156.0d	0.0d	13-Nov-06	26-Jun-07		\$ 114,115.00
27-H1685	Simulation of Existing and Without Plan Conditions and Alternati...	45.0d	76.0d	13-Nov-06	18-Jan-07	PD-E.K...	\$ 0.00
27-H1650	Model & Evaluate Alternatives (compare with & without plan)	66.0d	0.0d	26-Jan-07	30-Apr-07	PD-E.K...	\$ 111,115.00
27-H1690	System Wide Evaluation (RECOVER)	45.0d	0.0d	24-Apr-07	26-Jun-07	DR-E.K...	\$ 3,000.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-L280	RECOVER Evaluation of Alternatives Complete	0.0d	0.0d		26-Jun-07	DP-R.K...	\$ 0.00
129011.2.2.5 Alternative	Plan Comparison	86.0d	65.0d	30-May-07	28-Sep-07		\$ 202,297.00
27-H1700	Conduct Cost-Effectiveness & Incremental Cost Analysis	15.0d	5.0d	30-May-07	19-Jun-07	EN-C.K...	\$ 15,500.00
27-H2920	Prepare AFB Package	30.0d	0.0d	31-May-07	12-Jul-07	EN-GG...	\$ 39,500.00
27-H1770	ITR of AFB Package	15.0d	15.0d	21-Jun-07	12-Jul-07	K3K0C...	\$ 59,200.00
27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	11.0d	0.0d	27-Jun-07	12-Jul-07	EN-GS...	\$ 58,297.00
27-H3040	VE of AFB Package	15.0d	0.0d	13-Jul-07	02-Aug-07	EN-T.K...	\$ 4,400.00
27-H1800	Submit AFB Documentation to HQ and SFRTF	2.0d	0.0d	03-Aug-07	06-Aug-07	PD-PN...	\$ 1,200.00
27-H2290	HQ Policy Review AFB Comments to SAJ & SAD	22.0d	0.0d	07-Aug-07	06-Sep-07	PD-R.K...	\$ 0.00
27-H2300	SAJ Response to HQ Policy Review Comments	5.0d	0.0d	07-Sep-07	13-Sep-07	PD-R.K...	\$ 10,600.00
27-H1810	AFB Meeting	1.0d	0.0d	14-Sep-07	14-Sep-07	EN-GS...	\$ 9,800.00
27-H124	Alternative Formulation Briefing (AFB)	0.0d	0.0d		14-Sep-07	PD-R.K...	\$ 0.00
27-H1820	AFB Guidance Memorandum	10.0d	65.0d	17-Sep-07	28-Sep-07	PD-R.K...	\$ 2,000.00
27-H2160	Non Federal Sponsor Coordination	10.0d	65.0d	17-Sep-07	28-Sep-07	PD-R.K...	\$ 1,800.00
27-H126	AFB Guidance Memorandum Received	0.0d	65.0d		28-Sep-07	PD-R.K...	\$ 0.00
129011.2.2.6 Recommended Plan		374.5d	9.5d	13-Jul-07	09-Jan-09		\$ 507,054.00
27-H1990	Develop Draft Scope of TSP Exploration Plan & Confirm with Sp...	10.0d	100.0d	13-Jul-07	26-Jul-07	EN-D.K...	\$ 4,800.00
27-H2000	Develop TSP Site Survey/Geotech Scope	10.0d	100.0d	27-Jul-07	09-Aug-07	EN-D.K...	\$ 7,000.00
27-H2070	Selected Alternative Plan (SAP)	32.0d	65.0d	15-Aug-07	28-Sep-07	PD-R.K...	\$ 24,108.00
27-H2090	Perform SAP H&H Analysis	52.0d	63.0d	17-Sep-07	30-Nov-07	EN-HH...	\$ 12,890.00
27-H2970	Obtain Real Estate Rights of Entry	40.0d	65.0d	01-Oct-07	28-Nov-07	RE-A.K...	\$ 2,200.00
27-H2950	A-E Contract(s) Procurement (Survey & Geotech)	40.0d	65.0d	01-Oct-07	28-Nov-07	CT-C.K...	\$ 15,500.00
27-H2100	Develop Draft Project Operating Manual	86.0d	67.0d	16-Oct-07	20-Feb-08	EN-GS...	\$ 17,950.00
27-H2040	Perform SAP Geotech Analysis	66.0d	65.0d	29-Nov-07	05-Mar-08	EN-GS...	\$ 20,600.00
27-H2010	Obtain SAP Geotechnical & Survey Data	66.0d	65.0d	29-Nov-07	05-Mar-08	EN-D.K...	\$ 138,000.00
27-H2095	Next Added Increment Analysis	22.0d	127.0d	03-Dec-07	03-Jan-08	PD-R.K...	\$ 7,500.00
27-H2030	Perform SAP Civil/Structural & M&E Analysis	65.0d	65.0d	31-Dec-07	02-Apr-08	EN-D.K...	\$ 3,000.00
27-H2150	Prepare MCASES Cost Estimate	22.0d	63.0d	07-Apr-08	06-May-08	EN-C.K...	\$ 51,300.00
27-H1330	Compile (Preliminary) Draft PIR/NEPA	22.0d	63.0d	14-Apr-08	13-May-08	PD-R.K...	\$ 26,600.00
27-H2140	Develop Implementation Plan	11.0d	63.0d	29-Apr-08	13-May-08	DP.K3H...	\$ 7,400.00
27-H1340	In-house Review of Draft PIR/NEPA	10.0d	63.0d	14-May-08	28-May-08	PD-R.K...	\$ 10,800.00
27-H2710	RECOVER Review of Preliminary Draft PIR	10.0d	63.0d	14-May-08	28-May-08	DR-E.K...	\$ 1,200.00
27-H1030	ITR on Draft PIR/NEPA Document	10.0d	0.0d	13-Aug-08	26-Aug-08	K3K0C...	\$ 57,000.00
27-H2330	Incorporate In-House, RECOVER & ITR Comments on Prelim D...	15.0d	0.0d	27-Aug-08	17-Sep-08	PD-R.K...	\$ 16,540.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H1020	Complete Draft PIR/NEPA Document for NEPA Review	7.0d	0.0d	18-Sep-08	26-Sep-08	PD-R.K...	\$ 9,800.00
27-L290	Draft PIR/NEPA Report Complete	0.0d	0.0d		26-Sep-08	PD-R.K...	\$ 0.00
27-H1050	Release (Print & Mail) Draft PIR/NEPA Doc	10.0d	0.0d	29-Sep-08	10-Oct-08	PD-R.K...	\$ 0.00
27-H2260	Submit Documentation to HQ for Draft PIR/NEPA Review	2.0d	9.5d	29-Oct-08	30-Oct-08	PD-R.K...	\$ 1,366.00
27-H2310	HQ Policy Review Draft PIR/NEPA Comments to SAJ & SAD	22.0d	9.5d	31-Oct-08	03-Dec-08	PD-R.K...	\$ 0.00
27-H2320	SAJ Response to HQ Policy Review Comments	10.0d	9.5d	04-Dec-08	17-Dec-08	PD-R.K...	\$ 22,700.00
27-H1000	In Progress Review	4.5d	9.5d	18-Dec-08	24-Dec-08	PD-R.K...	\$ 10,800.00
27-H1010	Project Guidance Memorandum (IPR)	10.0d	9.5d	24-Dec-08	09-Jan-09	PD-R.K...	\$ 3,000.00
27-H130	Complete PIR Review Conference	0.0d	9.5d		24-Dec-08	PD-R.K...	\$ 0.00
27-H140	Project Guidance Memorandum (PGM) Received	0.0d	9.5d		09-Jan-09	PD-R.K...	\$ 0.00
129011.2.2.6.1 Project Assurances Determinations		65.0d	67.0d	21-Feb-08	21-May-08		\$ 35,000.00
27-H2110	Quantify Water Made Available	20.0d	67.0d	21-Feb-08	19-Mar-08	EN-HH...	\$ 9,000.00
27-H2120	Savings Analysis	20.0d	80.0d	21-Feb-08	19-Mar-08	PD-PN...	\$ 9,000.00
27-H2130	Identify Water to be Reserved	45.0d	67.0d	20-Mar-08	21-May-08	PD-PN...	\$ 17,000.00
129011.2.3 NEPA Compliance		904.0d	1177.0d	03-Oct-05	05-Aug-09		\$ 665,420.00
27-H1940	Conduct NEPA Scoping Activities	29.0d	153.0d	03-Nov-05	15-Dec-05	PD-ES...	\$ 10,500.00
27-L200	Notice of Intent to Prepare NEPA Issued	0.0d	245.7d		15-Dec-05	PD-E.K...	\$ 0.00
27-H2780	Preliminary Cultural Resource (SHPO) Consultation	35.0d	245.7d	16-Dec-05	07-Feb-06	PD-E.K...	\$ 5,000.00
27-H1950	Hold NEPA Scoping Meeting	1.0d	304.7d	16-Dec-05	16-Dec-05	PD-E.K...	\$ 12,600.00
27-H2785	Consultation (Native Americans)	35.0d	245.7d	16-Dec-05	07-Feb-06	PD-E.K...	\$ 5,000.00
27-L205	NEPA Scoping Meeting	0.0d	304.7d		16-Dec-05	PD-E.K...	\$ 0.00
27-H1730	Compile Comments/Issues/Concerns; Finalize Problems & Opp...	30.0d	333.0d	19-Dec-05	01-Feb-06	PD-E.K...	\$ 7,600.00
27-H2790	Compile FSM submittals for Ecol., WQ. and CR	10.0d	245.7d	08-Feb-06	22-Feb-06	PD-E.K...	\$ 11,000.00
27-H1750	Detailed Inventory Ecological, Water Quality	75.0d	254.0d	08-Feb-06	24-May-06	PD-E.K...	\$ 36,000.00
27-H2250	Phase 1 Cultural Resource Surveys and Coordination	150.0d	573.0d	08-Feb-06	11-Sep-06	PD-ES...	\$ 158,000.00
27-H2170	Phase 2 Cultural Resource Field Survey/Coordination	220.0d	428.0d	25-May-06	11-Apr-07	PD-E.K...	\$ 0.00
27-H1655	Write NEPA Alternative Analysis	66.0d	0.0d	26-Jan-07	30-Apr-07	PD-E.K...	\$ 5,000.00
27-H1665	Develop Environmental Effects/Benefits Evaluation Method	66.0d	0.0d	26-Jan-07	30-Apr-07	PD-E.K...	\$ 5,000.00
27-H1960	Evaluation of Environmental Effects/Benefits & Compliance	20.0d	5.0d	01-May-07	29-May-07	PD-E.K...	\$ 21,000.00
27-H2800	Document Environmental Law Compliance	45.0d	151.0d	01-Oct-07	05-Dec-07	PD-E.K...	\$ 2,000.00
27-H2810	Prepare Env Effects, Cum Effects, Tradeoff Discussion for SAP	20.0d	134.0d	03-Dec-07	31-Dec-07	PD-E.K...	\$ 10,000.00
27-H2820	Incorporate all NEPA into PIR and Review for consistency	20.0d	136.0d	02-Jan-08	30-Jan-08	PD-E.K...	\$ 5,000.00
129011.2.3.2 404 (b) (1) for Accelerated Projects		502.0d	718.0d	07-Aug-07	05-Aug-09		\$ 0.00
27-H3210	404 Pre-Application Meeting	1.0d	1054.0d	07-Aug-07	07-Aug-07		\$ 0.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H3220	404 Individual Permit Preparation	132.0d	1054.0d	08-Aug-07	19-Feb-08		\$ 0.00
27-H3230	404 Permit Application	22.0d	1054.0d	20-Feb-08	20-Mar-08		\$ 0.00
27-H3240	404 Public Notice	1.0d	1054.0d	21-Mar-08	21-Mar-08		\$ 0.00
27-H3250	Receive 404 Permit	10.0d	718.0d	23-Jul-09	05-Aug-09		\$ 0.00
129011.2.3.1 USFWS Coordination		809.0d	1332.0d	03-Oct-05	23-Dec-08		\$ 371,720.00
27-H3350	USFWS Coordination Act Transfer Funds FY06	250.0d	1391.0d	03-Oct-05*	29-Sep-06		\$ 152,153.00
27-H1680	Receive USFWS PAL	22.0d	153.0d	03-Nov-05	06-Dec-05	PD-E.K...	\$ 0.00
27-H2770	Preliminary ESA Consultation	35.0d	245.7d	16-Dec-05	07-Feb-06	PD-E.K...	\$ 500.00
27-H2775	ESA Consultation	120.0d	366.0d	08-Feb-06	28-Jul-06	PD-E.K...	\$ 5,000.00
27-H2795	Biological Assessment	15.0d	366.0d	31-Jul-06	18-Aug-06	PD-E.K...	\$ 7,000.00
27-H3355	USFWS Coordination Act Transfer Funds FY07	250.0d	1391.0d	02-Oct-06	28-Sep-07		\$ 113,028.00
27-H3260	USFWS Formulates Biological Opinion	66.0d	173.0d	30-May-07	30-Aug-07		\$ 0.00
27-H3270	USFWS Delivers Biological Opinion	33.0d	173.0d	31-Aug-07	18-Oct-07		\$ 0.00
27-H3340	USFWS Coordination Act Transfer Funds FY08	250.0d	1391.0d	01-Oct-07	26-Sep-08		\$ 94,039.00
27-L339	Receive Biological Opinion	0.0d	173.0d		18-Oct-07		\$ 0.00
27-H1970	Draft CAR received to be used in draft NEPA	10.0d	173.0d	19-Oct-07	01-Nov-07	PD-E.K...	\$ 0.00
27-L285	Receive Draft FWCA Report	0.0d	173.0d		01-Nov-07		\$ 0.00
27-H1100	Receive USFWS Final CAR	10.0d	0.0d	10-Dec-08	23-Dec-08	PD-E.K...	\$ 0.00
27-L340	Receive Final FWCA Report	0.0d	0.0d		23-Dec-08		\$ 0.00
129011.2.4 Socio-Econ. Analysis Appendix		270.0d	29.0d	09-Jan-06	05-Feb-07		\$ 14,000.00
27-H1485	Prepare Socio-Econ Appendix	270.0d	29.0d	09-Jan-06	05-Feb-07	PD-D.K...	\$ 14,000.00
129011.2.5 Engineering & Design Appendix		459.0d	2294.0d	18-Jan-06	13-Nov-07		\$ 614,158.00
129011.2.5.1 Engineering Studies & Investigations		293.0d	2460.0d	18-Jan-06	19-Mar-07		\$ 576,158.00
129011.2.5.1.1 H&H Studies		242.0d	0.0d	03-Mar-06	16-Feb-07		\$ 310,158.00
27-H1480	Hydrologic Model Selection	20.0d	0.0d	03-Mar-06	30-Mar-06	EN-HC....	\$ 30,395.00
27-H1481	Model Verification Boundary Conditions Defined	10.0d	0.0d	31-Mar-06	13-Apr-06	EN-HC....	\$ 9,697.00
27-H1482	Model Calibration Boundary Conditions Defined	10.0d	0.0d	14-Apr-06	27-Apr-06	EN-HC....	\$ 9,697.00
27-H1483	Model Verification and Calibration	180.0d	0.0d	28-Apr-06	17-Jan-07	EN-HC....	\$ 174,552.00
27-H1500	Simulation Models (Water Quality)	65.0d	0.0d	14-Nov-06	16-Feb-07	PD-E.K...	\$ 85,817.00
129011.2.5.1.2 Environmental Assessment Support		0.0d	0.0d				\$ 0.00
129011.2.5.1.3 Surveying and Mapping		0.0d	0.0d				\$ 0.00
129011.2.5.1.4 Geotechnical		66.0d	2642.0d	23-Mar-06	23-Jun-06		\$ 176,000.00
27-H1450	Hydrologic, Physical and Subsurface Data Collection	66.0d	2642.0d	23-Mar-06	23-Jun-06	EN-GG....	\$ 176,000.00
129011.2.5.1.5 Design of Alternatives		86.0d	20.0d	13-Nov-06	19-Mar-07		\$ 81,500.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H1640	Develop Preliminary Design for Alternatives	86.0d	20.0d	13-Nov-06	19-Mar-07	EN-D.K...	\$ 81,500.00
129011.2.5.1.6 HTRW Assessment		38.0d	2715.0d	18-Jan-06	13-Mar-06		\$ 8,500.00
27-H1535	HTRW Assessment	33.0d	126.0d	18-Jan-06	06-Mar-06	EN-HH...	\$ 6,500.00
27-H1645	HTRW Assessment (review of phase 1)	5.0d	2715.0d	07-Mar-06	13-Mar-06	EN-GE...	\$ 2,000.00
129011.2.5.2 Cost Estimate		43.0d	108.0d	14-Aug-06	13-Oct-06		\$ 35,000.00
27-H1671	Develop Cost Estimate	43.0d	108.0d	14-Aug-06	13-Oct-06	RE-A.K...	\$ 35,000.00
129011.2.5.3 Draft Water Control Plan		30.0d	2294.0d	01-Oct-07	13-Nov-07		\$ 3,000.00
27-H2961	Draft Water Control Plan	30.0d	2294.0d	01-Oct-07	13-Nov-07	NAMED...	\$ 3,000.00
129011.2.6 Real Estate Analysis Appendix		885.0d	2068.0d	08-Jan-06	28-Aug-08		\$ 240,175.00
27-H2960	Obtain Real Estate Rights of Entry Geotech, Survey, Environme...	40.0d	2693.0d	09-Jan-06	07-Mar-06	RE-A.K...	\$ 31,225.00
27-H3265	Preliminary RE Planning Map of Alternatives	20.0d	104.0d	02-May-06	30-May-06	RE-P.K...	\$ 15,000.00
27-H1675	Prepare RE ROM Cost Estimate for YB Plan and Preliminary Alt...	10.0d	129.0d	31-May-06	13-Jun-06	RE-A.K...	\$ 30,000.00
27-H1676	RE Aquisition Initiated	0.0d	129.0d		13-Jun-06		\$ 0.00
27-H1670	Develop Planning Cost Estimate (Real Estate)	43.0d	108.0d	14-Aug-06	13-Oct-06	RE-A.K...	\$ 18,000.00
27-H2925	RE AFB Input	30.0d	0.0d	31-May-07	12-Jul-07	RE-S.K...	\$ 7,500.00
27-H2080	Prepare Real Estate Appendix	86.0d	0.0d	17-Sep-07	22-Jan-08	RE-A.K...	\$ 60,000.00
27-H3275	Physical Takings Analysis/non-Standard Estates	14.0d	72.0d	23-Jan-08	11-Feb-08	OC-RE....	\$ 6,500.00
27-H3295	Relocations/Utility/Attorney's Opinion of Compensability	10.0d	120.0d	23-Jan-08	05-Feb-08	OC-RE....	\$ 10,000.00
27-H2085	Prepare Planning Maps	86.0d	0.0d	23-Jan-08	22-May-08	RE-A.K...	\$ 12,000.00
27-H3305	Estate Analysis/Determination	14.0d	0.0d	23-May-08	12-Jun-08	OC-RE....	\$ 5,000.00
27-H3285	Gross Appraisal	30.0d	0.0d	13-Jun-08	25-Jul-08	RE-S.K...	\$ 29,750.00
27-H3315	Complete REP	12.0d	0.0d	28-Jul-08	12-Aug-08	RE-S.K...	\$ 12,000.00
27-H3325	Final REP	12.0d	116.0d	13-Aug-08	28-Aug-08	RE-S.K...	\$ 3,200.00
129011.2.7 Project Monitoring Plan		86.0d	63.0d	04-Jan-08	06-May-08		\$ 68,000.00
27-H2060	Develop Project Monitoring Plan	86.0d	63.0d	04-Jan-08	06-May-08	EN-HH...	\$ 68,000.00
129011.2.8 Project RECOVER Tasks		0.0d	0.0d				\$ 0.00
129011.2.9 PIR Approval		526.0d	1708.0d	01-Oct-07	03-Nov-09		\$ 141,000.00
27-H1120	Print and Distribute 1501 Submittal to State	5.0d	1.0d	29-Sep-08	03-Oct-08	PD-R.K...	\$ 0.00
27-H1060	Notice of Availability in Federal Register (Fridays Only)	11.0d	0.0d	14-Oct-08	28-Oct-08	PD-E.K...	\$ 500.00
27-L325	Draft PIR/NEPA Published in Federal Register	0.0d	0.0d		28-Oct-08	PD-E.K...	\$ 0.00
27-H2830	Public Workshop on Draft PIR	2.0d	0.0d	13-Nov-08	14-Nov-08	PD-R.K...	\$ 16,800.00
27-H3180	Start Public Review Draft PIR/NEPA	0.0d	0.0d	13-Nov-08			\$ 0.00
27-H1070	Public & Agency Review of PIR/NEPA	33.0d	0.0d	13-Nov-08	31-Dec-08	PD-E.K...	\$ 3,600.00
27-H1080	Respond to Public Comments on Draft PIR/NEPA	30.0d	0.0d	10-Dec-08	23-Jan-09	PD-R.K...	\$ 27,500.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H1110	Assemble Final Draft PIR/NEPA for Internal Review	22.0d	0.0d	24-Dec-08	27-Jan-09	PD-R.K...	\$ 5,500.00
27-H2200	In-House Review of Final PIR/NEPA	15.0d	0.0d	28-Jan-09	18-Feb-09	PD-R.K...	\$ 0.00
27-H1150	ITR/Legal Review of Final PIR/NEPA	22.0d	0.0d	19-Feb-09	20-Mar-09	EN-T.K...	\$ 37,500.00
27-H1160	NFS Letter of Support and Financial Capability Statement	10.0d	0.0d	23-Mar-09	03-Apr-09	DP.K3H...	\$ 0.00
27-L375	Sponsor's Letter of Intent Received	0.0d	0.0d		03-Apr-09	PD-R.K...	\$ 0.00
27-H1170	Prepare Final PIR/NEPA for Submittal to MSC	10.0d	0.0d	06-Apr-09	17-Apr-09	PD-R.K...	\$ 10,000.00
27-H165	Submit Final PIR/NEPA Report to MSC	0.0d	0.0d		17-Apr-09	PD-R.K...	\$ 0.00
27-H1180	DE Signature	5.0d	0.0d	20-Apr-09	24-Apr-09	DP.K3H...	\$ 0.00
27-H170	MSC Commander's Public Notice (Complete PIR)	0.0d	0.0d		24-Apr-09	PD-R.K...	\$ 0.00
27-H1190	State and Agency Letters Signed and Received by District	5.0d	168.0d	27-Apr-09	01-May-09	PD-R.K...	\$ 0.00
27-H2215	Draft ROD	20.0d	1911.0d	27-Apr-09	22-May-09	DP.K3H...	\$ 2,500.00
27-H1200	Mail Letters and Draft Final Report	4.0d	168.0d	04-May-09	07-May-09	PD-R.K...	\$ 0.00
27-H1210	Publish in Federal Register	10.0d	168.0d	08-May-09	21-May-09	PD-E.K...	\$ 0.00
27-L385	Final PIR/NEPA Report Published in the Federal Register	0.0d	168.0d		21-May-09	PD-E.K...	\$ 0.00
27-H1220	State, Agency and Public Review	22.0d	168.0d	22-May-09	23-Jun-09	PD-E.K...	\$ 0.00
27-H180	Washington Level Agency Review/Public Review Complete	0.0d	168.0d		23-Jun-09		\$ 0.00
27-H1230	Respond to State, Agency and Public Comments	20.0d	168.0d	24-Jun-09	22-Jul-09	PD-E.K...	\$ 16,500.00
27-H1240	HQ/MSC Review Conference	5.0d	168.0d	16-Jul-09	22-Jul-09	PD-R.K...	\$ 3,600.00
27-H1250	Policy Review Documentation	7.0d	168.0d	23-Jul-09	31-Jul-09	PD-R.K...	\$ 5,000.00
27-H2240	Filing of Final PIR/NEPA Document	5.0d	168.0d	03-Aug-09	07-Aug-09	PD-E.K...	\$ 0.00
27-H3170	Filing of Final EIS	0.0d	168.0d		07-Aug-09		\$ 0.00
27-H1260	Chief's Report	5.0d	168.0d	10-Aug-09	14-Aug-09	PD-R.K...	\$ 0.00
27-H2210	ROD Signed	1.0d	257.0d	08-Sep-09	08-Sep-09	DP.K3H...	\$ 0.00
27-H1270	ASA(CW) Review	30.0d	168.0d	08-Sep-09	20-Oct-09	PD-R.K...	\$ 0.00
27-H320	Record of Decision (ROD) Signed	0.0d	257.0d		08-Sep-09	PD-E.K...	\$ 0.00
27-H2230	ASA (CW) Memorandum to OMB	10.0d	168.0d	21-Oct-09	03-Nov-09	PD-R.K...	\$ 0.00
27-H175	ASA(CW) Memorandum to OMB	0.0d	168.0d		03-Nov-09	PD-R.K...	\$ 0.00
129011.2.9.1 State Approval Process		308.0d	1.0d	01-Oct-07	22-Dec-08		\$ 12,000.00
27-H1830	PIR/FS 1501 Pre-Application Meeting (Reasonable Certainty)	1.0d	233.0d	01-Oct-07	01-Oct-07	PD-R.K...	\$ 1,200.00
27-L245	PIR/FS 1501 Pre-Application Meeting Complete	0.0d	233.0d		01-Oct-07	PD-R.K...	\$ 0.00
27-H3050	Preparation of 1501 Pre App Mtg Summary	10.0d	233.0d	02-Oct-07	16-Oct-07	NAMED...	\$ 600.00
27-H1840	1501 Pre App Mtg Summary Reviewed by FDEP	10.0d	233.0d	17-Oct-07	30-Oct-07	PD-R.K...	\$ 600.00
27-L250	PIR/FS 1501 Pre-Application Concurrence Received from FDEP	0.0d	233.0d		30-Oct-07	PD-R.K...	\$ 0.00
27-H3200	Assemble 1501 Submittal	10.0d	86.0d	14-May-08	28-May-08	NAMED...	\$ 6,000.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H1850	Submittal Briefing with FDEP (Reasonable Certainty)	2.0d	4.0d	29-Sep-08	30-Sep-08	PD-R.K...	\$ 1,200.00
27-L295	Submittal Briefing with FDEP Complete	0.0d	4.0d		30-Sep-08	PD-R.K...	\$ 0.00
27-L350	FS 1501 Submittal to FDEP	0.0d	1.0d		03-Oct-08	PD-R.K...	\$ 0.00
27-H1130	State 1501 Review & Approval (Reasonable Certainty)	43.0d	1.0d	06-Oct-08	08-Dec-08	PD-R.K...	\$ 1,200.00
27-L380	FS 1501 FDEP Approval	0.0d	1.0d		08-Dec-08	PD-R.K...	\$ 0.00
27-H1140	Incorporate State 1501 Comments	10.0d	1.0d	09-Dec-08	22-Dec-08	PD-R.K...	\$ 1,200.00
129011.2.A Project Authorization		171.0d	168.0d	04-Nov-09	12-Jul-10		\$ 0.00
27-H1280	OMB Review	50.0d	168.0d	04-Nov-09	19-Jan-10	PD-R.K...	\$ 0.00
27-H2220	ASA (CW) Letter Submitted to Congress	15.0d	168.0d	20-Jan-10	09-Feb-10	PD-R.K...	\$ 0.00
27-H340	ASA(CW) Report Submitted to Congress	0.0d	168.0d		09-Feb-10	PD-R.K...	\$ 0.00
27-H1290	Congressional Review	70.0d	168.0d	10-Feb-10	19-May-10	PD-R.K...	\$ 0.00
27-H1300	Congressional Authorization	22.0d	168.0d	20-May-10	21-Jun-10	PD-R.K...	\$ 0.00
27-H1310	President Signs WRDA	14.0d	168.0d	22-Jun-10	12-Jul-10	PD-R.K...	\$ 0.00
27-H350	President Signs Authorization	0.0d	168.0d		12-Jul-10	PD-R.K...	\$ 0.00
129011.2.B PIR Close-Out		0.0d	0.0d				\$ 0.00
129011.4.1 SFWMD GB Water Reservations Rule Development		168.0d	310.0d	08-Sep-09	08-Jun-10		\$ 40,500.00
27-H2640	SFWMD GB Grants Rule Development Authority	15.0d	310.0d	08-Sep-09	28-Sep-09	NAMED...	\$ 9,000.00
27-H2650	Public Workshops for Rule Development	43.0d	310.0d	29-Sep-09	01-Dec-09	NAMED...	\$ 25,800.00
27-H2660	SFWMD GB Approves Rulemaking Authority	15.0d	310.0d	02-Dec-09	22-Dec-09	NAMED...	\$ 3,000.00
27-H2670	Review Period for Draft Rule	50.0d	310.0d	23-Dec-09	08-Mar-10	NAMED...	\$ 3,000.00
27-H2680	SFWMD GB Adopts Rule	15.0d	310.0d	09-Mar-10	29-Mar-10	NAMED...	\$ 3,000.00
27-H2690	Notice of Change Published in FAW	22.0d	310.0d	30-Mar-10	28-Apr-10	NAMED...	\$ 1,500.00
27-H2700	File with the Florida Department of State	10.0d	310.0d	25-May-10	08-Jun-10	NAMED...	\$ 1,500.00
129011.5.1 PM		0.0d	0.0d				\$ 0.00
129011.5.2 Advanced Planning / Field Work		704.0d	18.0d	27-Apr-09	14-Feb-12		\$ 695,000.00
27-H2840	Develop Scope of P&S Exploration Plan	25.0d	0.0d	27-Apr-09	01-Jun-09	EN-D.K...	\$ 28,000.00
27-H2181	Printing	704.0d	18.0d	27-Apr-09	14-Feb-12	EN-D.K...	\$ 32,000.00
27-H2850	Develop P&S Survey/Geotech Scope of Work	25.0d	0.0d	02-Jun-09	07-Jul-09	EN-D.K...	\$ 33,000.00
27-H2860	Perform P&S Topo Survey	90.0d	0.0d	08-Jul-09	13-Nov-09	EN-D.K...	\$ 537,000.00
27-H2870	Perform P&S Geotech Investigation	90.0d	0.0d	08-Jul-09	13-Nov-09	EN-GS....	\$ 180,000.00
27-H2880	Finalize Geotech/Civil/Structural Scope for P&S	90.0d	0.0d	16-Nov-09	26-Mar-10	EN-GS....	\$ 61,000.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H500	P&S Initiated	0.0d	0.0d		26-Mar-10	DP.K3H...	\$ 0.00
27-H2450	A-E Delivery Order Preparation	72.0d	0.0d	29-Mar-10	08-Jul-10	EN-D.K...	\$ 25,000.00
120011.5.3 Preliminary P & S		102.0d	1527.0d	09-Jul-10	03-Dec-10		\$ 110,000.00
27-H2460	30 % P & S Preparation	86.0d	0.0d	09-Jul-10	09-Nov-10	EN-D.K...	\$ 50,866.00
27-P700	P&S 30% Technical Review Conference	0.0d	0.0d		09-Nov-10	EN-D.K...	\$ 0.00
27-H2465	VE 30% P&S Package (VE Workshop)	16.0d	1527.0d	10-Nov-10	03-Dec-10	EN-T.K...	\$ 65,200.00
27-H2466	VE 30% P&S Package Complete	0.0d	1527.0d		03-Dec-10		\$ 0.00
120011.5.4 Intermediate P & S		232.0d	63.0d	10-Nov-10	12-Oct-11		\$ 236,700.00
27-H2470	60% P & S Preparation	65.0d	0.0d	10-Nov-10	14-Feb-11	EN-D.K...	\$ 63,000.00
27-H2471	60% P & S Technical Review and Conference	25.0d	57.0d	15-Feb-11	22-Mar-11	EN-D.K...	\$ 71,200.00
27-P705	P&S 60% Technical Review Conference	0.0d	57.0d		22-Mar-11	EN-D.K...	\$ 0.00
27-H2472	Incorporate 60% Comments	12.0d	57.0d	23-Mar-11	07-Apr-11	EN-D.K...	\$ 0.00
27-H2480	Advance 100% P&S Preparation	65.0d	57.0d	08-Apr-11	11-Jul-11	EN-D.K...	\$ 30,000.00
27-H2490	Survey Verification	43.0d	63.0d	12-Jul-11	09-Sep-11	EN-D.K...	\$ 22,500.00
27-H2510	BCOE Package Preparation	14.0d	57.0d	12-Jul-11	29-Jul-11	EN-T.K...	\$ 10,000.00
27-H2500	P&S Survey Update	22.0d	63.0d	12-Sep-11	12-Oct-11	EN-D.K...	\$ 39,000.00
120011.5.5 Final P & S		153.0d	0.0d	01-Aug-11	12-Mar-12		\$
27-H2890	Final ITR and Certification of P&S	10.0d	57.0d	01-Aug-11	12-Aug-11	EN-T.K...	\$ 3,000.00
27-L700	P&S Final ITR and Certification	0.0d	57.0d		12-Aug-11	EN-T.K...	\$ 0.00
27-H2520	BCOE Review & Conference	25.0d	57.0d	15-Aug-11	19-Sep-11	EN-T.K...	\$ 26,300.00
27-H580	P&S BCOE Review	0.0d	57.0d		19-Sep-11	EN-T.K...	\$ 0.00
27-H2530	BCOE Comment Incorporation	22.0d	57.0d	20-Sep-11	20-Oct-11	EN-T.K...	\$ 12,000.00
27-H2512	Incorporate 90% Comments	10.0d	82.0d	20-Sep-11	03-Oct-11		\$ 0.00
27-H2513	Final BCOE Review	6.0d	82.0d	04-Oct-11	12-Oct-11	CO-W.K...	\$ 3,200.00
27-H2540	Prepare BCOE Certification Package & Review	19.0d	57.0d	21-Oct-11	17-Nov-11	EN-T.K...	\$
27-H2550	BCOE Certification	10.0d	0.0d	13-Feb-12	27-Feb-12	EN-T.K...	\$ 1,000.00
27-H590	P&S BCOE Certification	0.0d	0.0d		27-Feb-12	EN-D.K...	\$ 0.00
27-H2560	EBS Preparation	10.0d	0.0d	28-Feb-12	12-Mar-12	EN-T.K...	\$ 3,400.00
120011.5.6 Construction Pre - Award		0.0d	0.0d				\$ 0.00
120011.5.7 Permits/WQ Cert.		964.0d	0.0d	01-Oct-07	30-Aug-11		\$ 36,600.00
27-H2180	Federal Permit(s) NPDES Construction Activities Application by ...	10.0d	964.0d	01-Oct-07	15-Oct-07	NAMED...	\$ 1,500.00
27-H2190	Federal Permits Issued	10.0d	964.0d	16-Oct-07	29-Oct-07		\$ 0.00
27-H2730	1502 WQC Pre-Application (CERPRA) Mtg (Reasonable Assura...	1.0d	21.0d	10-Nov-10	10-Nov-10	NAMED...	\$ 4,500.00
27-H3100	Prepare 1502 Application Package	43.0d	21.0d	12-Nov-10	13-Jan-11	PD-ES....	\$ 21,000.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H1890	Submit 1502 WQC Permit Applications	2.0d	0.0d	15-Feb-11	16-Feb-11	NAMED...	\$ 1,200.00
27-L299	Submit State WQC/Permits Application	0.0d	0.0d		16-Feb-11		\$ 0.00
27-H1900	State 1502 Application Completeness Review	22.0d	0.0d	17-Feb-11	21-Mar-11	NAMED...	\$ 3,000.00
27-H3110	Receive Request for Additional Information (RAI)/Completeness ...	0.0d	0.0d		21-Mar-11		\$ 0.00
27-H3120	Prepare and Submit Response to RAI	22.0d	0.0d	22-Mar-11	20-Apr-11	NAMED...	\$ 3,000.00
27-H1910	State Agency Action Review	65.0d	0.0d	21-Apr-11	22-Jul-11	NAMED...	\$ 1,500.00
27-H3130	Corps Review of Draft Permit	10.0d	12.0d	22-Jun-11	06-Jul-11		\$ 0.00
27-H3190	Receipt of Intent and Public Notice	0.0d	12.0d		06-Jul-11		\$ 0.00
27-H1920	Publish Notice of Intent of Draft Permit	22.0d	0.0d	25-Jul-11	23-Aug-11	NAMED...	\$ 600.00
27-H2750	State Issues Final Agency Action (if no petitions are filed)	5.0d	0.0d	24-Aug-11	30-Aug-11	NAMED...	\$ 300.00
27-H300	State WQC/Permits Received	0.0d	0.0d		30-Aug-11		\$ 0.00
129011.6.1 Project Appropriation		157.0d	168.0d	13-Jul-10	25-Feb-11		\$ 0.00
27-H2340	Congressional Appropriation Enacted	157.0d	168.0d	13-Jul-10	25-Feb-11	DP.K3H...	\$ 0.00
129011.6.2 Draft PCA		16.0d	0.0d	31-Aug-11	22-Sep-11		\$ 6,000.00
27-H1930	Initiate PCA	1.0d	0.0d	31-Aug-11	31-Aug-11	DP.K3H...	\$ 0.00
27-L400	PCA Initiated	0.0d	0.0d		31-Aug-11	DP.K3H...	\$ 0.00
27-H2350	Prepare Draft PCA	15.0d	0.0d	01-Sep-11	22-Sep-11	DP.K3H...	\$ 6,000.00
129011.6.3 Letter Of Intent		22.0d	0.0d	23-Sep-11	25-Oct-11		\$ 1,200.00
27-H2360	PCA Approved by Non Federal Sponsor	22.0d	0.0d	23-Sep-11	25-Oct-11	NAMED...	\$ 1,200.00
129011.6.5 Financial Analysis		0.0d	0.0d				\$ 0.00
129011.6.7 Final PCA		48.0d	0.0d	26-Oct-11	05-Jan-12		\$ 0.00
27-H2370	PCA Package to HQ's	5.0d	0.0d	26-Oct-11	01-Nov-11	DP.K3H...	\$ 0.00
27-H620	PCA Submitted to HQ for Approval	0.0d	0.0d		01-Nov-11	DP.K3H...	\$ 0.00
27-H2380	PCA Package Approved by OASA(CW)	29.0d	0.0d	02-Nov-11	14-Dec-11	DP.K3H...	\$ 0.00
27-H650	PCA Approved	0.0d	0.0d		14-Dec-11	DP.K3H...	\$ 0.00
27-H2390	PCA Executed	14.0d	0.0d	15-Dec-11	05-Jan-12	DP.K3H...	\$ 0.00
27-H690	PCA Executed	0.0d	0.0d		05-Jan-12	DP.K3H...	\$ 0.00
129011.7.1 PM		0.0d	0.0d				\$ 0.00
129011.7.2 Acquisition		0.0d	0.0d				\$ 0.00
129011.7.3 Land Certification & Credit		25.0d	0.0d	06-Jan-12	10-Feb-12		\$ 11,000.00
27-H2400	Land Certification Request to NFS	5.0d	0.0d	06-Jan-12	12-Jan-12	RE-A.K...	\$ 11,000.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H2405	RE Acquisition	10.0d	0.0d	13-Jan-12	27-Jan-12		\$
27-H2401	RE Acquisition Complete	0.0d	0.0d		27-Jan-12		\$ 0.00
27-H2410	RE Certification Package	5.0d	0.0d	30-Jan-12	03-Feb-12	RE-A.K...	\$ 6,000.00
27-H2420	RE Certification	5.0d	0.0d	06-Feb-12	10-Feb-12	RE-A.K...	\$ 3,000.00
27-H790	Real Estate Certification Received	0.0d	0.0d		10-Feb-12	RE-A.K...	\$ 0.00
129011.7.4 Interim Land Management		0.0d	0.0d				\$ 0.00
129011.7.5 Litigation		0.0d	0.0d				\$ 0.00
129011.7.6 Relocation		0.0d	0.0d				\$ 0.00
129011.8.1 PM		0.0d	0.0d				\$ 0.00
129011.8.2 Solicitation / Award		45.0d	0.0d	13-Mar-12	14-May-12		\$ 2,000.00
27-H2570	Advertisement Period	22.0d	0.0d	13-Mar-12	11-Apr-12	CT-C.K...	\$ 2,000.00
27-H950	Construction Contract Advertised	0.0d	0.0d		11-Apr-12	CT-C.K...	\$ 0.00
27-H2580	Bid Opening/Notice of Selection	1.0d	0.0d	12-Apr-12	12-Apr-12	CT-C.K...	\$ 0.00
27-H2590	Award Contract	22.0d	0.0d	13-Apr-12	14-May-12	CT-C.K...	\$ 0.00
129011.8.3 Construction Contract		22.0d	0.0d	14-May-12	14-Jun-12		\$ 600.00
27-H960	Construction Contract Awarded	0.0d	0.0d		14-May-12	CT-C.K...	\$ 0.00
27-H2600	Issue Notice to Proceed	22.0d	0.0d	15-May-12	14-Jun-12	CT-C.K...	\$ 600.00
27-P805	Construction Contract Notice to Proceed	0.0d	0.0d		14-Jun-12	CT-C.K...	\$ 0.00
129011.8.3.1 Contract # 1		0.0d	0.0d				\$ 0.00
129011.8.3.2 Contract # 2		0.0d	0.0d				\$ 0.00
129011.8.3.3 Contract # 3		0.0d	0.0d				\$ 0.00
129011.8.4 Construction Management		1219.0d	0.0d	28-Feb-12	04-Jan-17		\$
27-H2621	Construction Management	277.0d	259.0d	28-Feb-12	03-Apr-13	CO-C.K...	\$
27-H2610	Construction	394.0d	0.0d	15-Jun-12	10-Jan-14	CO-C.K...	\$
27-H2614	District S&A	481.0d	0.0d	15-Jun-12	15-May-14	CO-C.K...	\$ 0.00
27-H2615	Field S&I	481.0d	0.0d	15-Jun-12	15-May-14	CO-C.K...	\$ 0.00
27-H2616	EDDC	481.0d	0.0d	15-Jun-12	15-May-14	CO-C.K...	\$ 0.00
27-H2617	ODCC	481.0d	0.0d	15-Jun-12	15-May-14	CO-C.K...	\$ 0.00
27-H2618	Fiscally Complete	481.0d	0.0d	05-Feb-15	04-Jan-17	CO-C.K...	\$ 0.00
129011.8.5 Construction Monitoring		10.0d	384.0d	15-Jun-12	28-Jun-12		\$ 0.00
27-H2612	Implementation of Project Monitoring Plan	10.0d	384.0d	15-Jun-12	28-Jun-12		\$ 0.00
129011.8.6 Engr During Const		0.0d	0.0d				\$ 0.00
129011.8.7 Interim OPS During Constr		65.0d	0.0d	13-Jan-14	15-Apr-14		\$ 18,000.00

Activity ID	Activity Name	Remaining Duration	Total Float	Start	Finish	Primary Resource	Budgeted Total Cost
27-H2620	Interim Operational Period	65.0d	0.0d	13-Jan-14	15-Apr-14	CO-C.K...	\$ 18,000.00
129011.B.8 RECOVER		0.0d	0.0d				\$ 0.00
129011.B.9 Contract Close-Out		67.0d	660.0d	13-Jan-14	15-May-14		\$ 0,000.00
27-H2611	Construction Completion	22.0d	43.0d	13-Jan-14	12-Feb-14	CO-C.K...	\$ 0.00
27-H2630	Contract Physically Complete	22.0d	0.0d	16-Apr-14	15-May-14	CO-C.K...	\$ 6,000.00
27-H970	Construction Contract Physically Complete	0.0d	660.0d		15-May-14	CO-C.K...	\$ 0.00
129011.B.3 Post Construction Monitoring		1.0d	660.0d	16-May-14	16-May-14		\$ 20,000.00
27-H2635	Post Construction Monitoring	1.0d	660.0d	16-May-14	16-May-14	NAMED...	\$ 20,000.00
129011.B.1 PM		0.0d	0.0d				\$ 0.00
129011.B.2 Pre Construction Monitoring		0.0d	0.0d				\$ 0.00
129011.C.1 Fiscal Closure		0.0d	0.0d				\$ 0.00
129011.C.2 Audits		0.0d	0.0d				\$ 0.00
129011.C.3 Transfer		0.0d	0.0d				\$ 0.00

TAB B – Activity Definitions, Constraints and Assumptions

Appendix C Tab B - Activity Definitions, Constraints & Assumptions

129011 CERP Everglades National Park Seepage Management (TLH
7/11/05)

Print Date: 30-Sep-05

Activity	Constraints & Assumptions
27-1155 Final Approval by Branch & Division Chiefs	
Constraints and Assumptions	This activity will be a signing ceremony
27-1230 Final Approval by Non Federal Sponsor	
Constraints and Assumptions	This activity will be a signing ceremony
27-H1000 In Progress Review	
General Notes/Activity Definition	<u>Issue Resolution Conferences / In-Progress Reviews (IRCs/ IPRs).</u> The purpose of an IRC is to involve the USACE vertical team in the early identification and resolution of potential problems (technical/policy) that could delay study progress. The purpose of an IPR is to provide the USACE vertical team, and others as needed, with an update of study findings and progress. IRCs and IPRs can be held at any time during the study process at the request of any USACE vertical team member (i.e., District, Division or Headquarters) or the ASA(CW). Documentation should be developed to provide the background and facts appropriate to the purpose and scope of the IRC/IPR. Issues that need to be resolved should be identified and fully documented, and the District should present its analysis of options considered and its recommended solution. Prior to an IRC/IPR, the District should have completed and documented independent technical review appropriate to the stage of the study. Upon completion of the process outlined in this exhibit (Exhibit G-3), Headquarters will provide any guidance for the resolution of issues or future study activities in the form of an IRC/IPR Guidance Memorandum. Duration includes the actual meeting and the time for preparation of meeting summary and submittal to SAD/HQ for their initiation of the Project Guidance Memorandum. Purpose of this IPR is a HQUSACE policy compliance review. Requires preparation of read-ahead materials (minimum of 31 days in advance of meeting) and follow-up project guidance memorandum. It is assumed that technical reviews are accomplished at the AFB meeting and the policy compliance review can be accomplished after release of the draft PIR. It is assumed that HQ policy compliance review is not needed prior to release to the public.
27-H1130 State 1501 Review & Approval (Reasonable Certainty)	
Constraints and Assumptions	1. This activity is supportive of the project at this point, but a WQC permit must be obtained at a later date.
27-H1330 Compile (Preliminary) Draft PIR/NEPA	
General Notes/Activity Definition	Compilation of a preliminary draft PIR for internal review. Includes summarizing all studies, appendices and decisions to date.

Appendix C Tab B - Activity Definitions, Constraints & Assumptions

129011 CERP Everglades National Park Seepage Management (TLH
7/11/05)

Print Date: 30-Sep-05

Activity	Constraints & Assumptions
27-H1350 Initiate PIR Preparation	
General Notes/Activity Definition	Preliminary development of scope of the study. The duration of this activity is not impacted by project scope. See GM 1 for format and content.
27-H1360 Identify Problems, Opportunities, Objectives & Constraints	
Constraints and Assumptions	PTL coordinates draft strawman with team and distributes to PDT electronically for review. PDT team identified in PMP. Assume information will be developed within 3 weeks of initiate PIR. The assumption is that this activity is a review of the Yellow Book goals and objectives, performed by an internal team and then provided to PDT for comment. The duration of this activity assumes that major conflicts do not arise.
27-H1380 Inventory and Forecast Hydrologic & Geologic Resources	
General Notes/Activity Definition	Includes all efforts to identify and review applicable literature, determine additional data necessary, and coordinate with all agencies to select an appropriate hydrologic model. This activity begins with the initiation of the PIR. It is assumed that this activity can be accomplished with in-house resources. If it turns out that this assumption is not valid, then the PDT will need permission from the PRB to outsource the inventory to an A/E firm.
27-H1390 Inventory and Forecast Ecological & Cultural Resources	
General Notes/Activity Definition	Literature search only, no field work. Initial SHPO consultation. Assumes timely from Resource Agencies. This activity begins with the initiation of the PIR.
27-H1400 Inventory and Forecast Economic Resources	
General Notes/Activity Definition	Literature search only, no field work. This activity begins with the initiation of the PIR.
27-H1430 Identify Performance Measures	
General Notes/Activity Definition	Includes both hydrologic and ecologic PMs. Must identify minimum level of acceptable performance and/or targets. Existing and Future Without Project conditions should be substantially complete before PMs identified and must be substantially completed before completion of Simulation Models. RECOVER will review project level performance measures for consistency with System PMs. The PMs used for alternative evaluation will be the RECOVER PMs. Performance Measures should be based on the Conceptual Ecological Models. Members of PDT will participate. PD-R, PD-E, DP, EN, etc...as required.

Appendix C Tab B - Activity Definitions, Constraints & Assumptions

129011 CERP Everglades National Park Seepage Management (TLH
7/11/05)

Print Date: 30-Sep-05

Activity	Constraints & Assumptions
27-H1460 Water Quality / Ecologic Data Collection	
Constraints and Assumptions	Assumes the general area of alternative project sites is known and sufficient WQ data exists.
27-H1470 Economic Data Collection	
General Notes/Activity Definition	An existing condition inventory includes preparation of land use maps, population, water demands etc. Contacts with County and State Planning Agencies, Agricultural Agents and Growers is required. Can be combined with an environmental inventory.
27-H1475 Wet Season Test	
Constraints and Assumptions	Assumes the general area of alternative project sites is known and sufficient WQ data exists.
27-H1483 Model Verification and Calibration	
Constraints and Assumptions	This assumes utilizing current models, peer reviewed by IMC. It is assumed that the project is a non- estuarine ecosystem.
27-H1490 Identify Simulation Models (Ecologic)	
Constraints and Assumptions	This assumes utilizing current models, peer reviewed by IMC.
27-H1495 Evaluate Old and New Data Together	
Constraints and Assumptions	Assumes the general area of alternative project sites is known and sufficient WQ data exists.
27-H1500 Simulation Models (Water Quality)	
Constraints and Assumptions	This assumes utilizing current models, peer reviewed by IMC.
27-H1510 Simulation Models (Economic)	
Constraints and Assumptions	This assumes utilizing current models, peer reviewed by IMC.
27-H1520 Model Existing & Without Plan Conditions	
Constraints and Assumptions	Assumes running current IMC peer reviewed models (with no problems) on existing conditions and future conditions without the project.
27-H1530 Compile Existing and Future Without Conditions	
General Notes/Activity Definition	Compiling existing conditions starts at the same time as the inventory and

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129011 CERP Everglades National Park Seepage Management (TLH
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Activity	Constraints & Assumptions
	forecast conditions activity starts. RECOVER will assist the PDTs in development of the future without conditions (GM 2)
27-H1535 HTRW Assessment	
General Notes/Activity Definition	Compiling existing conditions starts at the same time as the inventory and forecast conditions activity starts. RECOVER will assist the PDTs in development of the future without conditions (GM 2)
27-H1540 RECOVER Assistance with Development of Existing & Future Without Conditions	
General Notes/Activity Definition	RECOVER will assist the PDT in defining the project existing condition write-up and provide a consistency review with respect to the regional conditions (6/16/04 Draft GM 2)
27-H1560 Identification of Management Measures	
Constraints and Assumptions	This activity is the initial brainstorming of possible management measures (evaluation criteria, per GMS 1 & 2) This activity must begin after development of PM are complete (and no earlier than completion of PMs.
27-H1570 Compare Existing Condition to Pre-CERP Baseline	
General Notes/Activity Definition	Determine whether pre-CERP water quantity of comparable quality is still available by comparing to the PIR Existing Conditions. (Per GM2). This is sequenced to insure plans are formulated to take into account savings clause requirements.
27-H1572 Define Components & Create Array of Alternatives	
General Notes/Activity Definition	After initial brainstorming management measures are combined into the initial set of alternative plans in light of dependencies and combinability of the management measures. This will include some screening criteria to narrow the results of the initial brainstorming.
27-H1580 ITR of FSM Package	
Constraints and Assumptions	ITR is 10 day duration and response to ITR comments is 5 day duration
27-H1590 Submit FSM Documentation to HQ	
General Notes/Activity Definition	<u>Document Transmittal</u> . The documentation required for an FSM, AFB, or IRC/IPR is defined in this exhibit (G-3) and in Exhibits G-4 and G-5. The District will submit 10 copies of documentation to the respective HQUSACE MSC Regional Integration Team and two copies to the MSC. The transmittal memorandum will identify and discuss any policy issues requiring resolution and/or significant or potential issues that the MSC /District believes could affect the outcome of the

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Activity	Constraints & Assumptions
27-H1600 Feasibility Scoping Meeting	project. Copies of previous Headquarters guidance memoranda, the District's compliance memorandum, and appropriate technical review documentation should be enclosed. Districts and MSCs are encouraged to use electronic mail for the transmittal of small documents, for example section 905(b) documents. These submittals should contain one or two (maximum) PDF files that are printable on standard 8 1/2" x 11" size paper. Due to current electronic mail system limitations, transmittal of files larger than 5 megabytes is not possible.
General Notes/Activity Definition	The next step in the process is for the USACE vertical team, the non-Federal sponsor, and others as necessary [e.g., ASA(CW), resource agencies] to discuss the comments and responses and reach consensus on the appropriate actions, that will be taken to resolve the issue. The form of this discussion may be a telephone conference, video conference, or a face-to-face meeting as appropriate. The appropriate MSC RIT Team should be contacted to discuss the form of the discussion and a range of proposed dates for the discussion and will confirm the acceptability of the final date with other Washington level offices. When deciding the form of the discussion, consideration should be given to the need for a project site visit. A project site visit should be part of the FSM and/or AFB, unless there are extenuating circumstances. If a site visit would be useful but is not practical, slides and/or a video should be presented. Discussions of policy issues will be chaired by the MSC and should be structured to encourage the surfacing and discussion of concerns and development of consensus on resolution of issues. The sponsor and appropriate Federal and State agencies should be encouraged to participate fully in all discussions. The District participants should be prepared to address the policy issues raised by Headquarters review. Discussions and required actions will be recorded and will be the basis of the draft guidance memorandum developed at the conference.
27-H1610 Receive FSM Guidance Memorandum	<u>Headquarters Guidance Documentation.</u> In coordination with the Office of Water Project Review and Headquarters CoPs, as appropriate, the respective MSC RIT Team will be responsible for finalizing the guidance memorandum. The final guidance memorandum will be transmitted to the Division Office within 14 calendar days following the discussion of the issues. All subsequent documents submitted for Headquarters review shall be accompanied by a document indicating how compliance with previous Headquarters guidance has been achieved. The guidance memorandum will be used to revise the PMP to incorporate the changes agreed to at the meetings. The revised PMP, as a result of the FSM or other IRCs/IPRs, will be followed during the conduct of the feasibility study and will be a primary tool for the review of subsequent products (AFB pre-conference documentation, draft or final report). Outstanding

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Activity	Constraints & Assumptions
	policy and ITR issues must be resolved before subsequent products are forwarded to HQUSACE. Assumes that receipt of Project Guidance Memo (PGM) is not on the critical path. That means production work does not wait on the PGM and work products proceed based on the results of SAD/HQ comments to submittal package and/or FSM/AFB/IPR meeting.
27-H1620 ITR Meeting with PDT to prepare for FSM	
Constraints and Assumptions	PDT furnished FSM Package prior to meeting, for concurrent review with ITR team.
27-H1640 Develop Preliminary Design for Alternatives	
General Notes/Activity Definition	Includes sufficient design for the development of preliminary cost estimates needed for preliminary and secondary screening of alternatives.
27-H1650 Model & Evaluate Alternatives (compare with & without plan)	
General Notes/Activity Definition	Conduct alternative model runs to assess and evaluate ecologic and environmental effects at the project and regional (system-wide) levels. Tasks will be accomplished for system formulation and interim operations assessments. Assume that 3 alternatives are run for the sub-regional model with at least two model runs per alternative.
27-H1655 Write NEPA Alternative Analysis	
General Notes/Activity Definition	Conduct alternative model runs to assess and evaluate ecologic and environmental effects at the project and regional (system-wide) levels. Tasks will be accomplished for system formulation and interim operations assessments. Assume that 3 alternatives are run for the sub-regional model with at least two model runs per alternative.
27-H1660 Develop Planning Cost Estimates (Engineering, Construction, O&M)	
General Notes/Activity Definition	This tasks involves design and cost of conceptual plans in support of preliminary and secondary screening of alternative plans as well as for an evaluation and comparison of alternatives and selection of a recommended plan.
	2/17/05 - The FF-5 Predessor tie with H1640 was deleted due to the fact the the KAPOW Robot cannot handle the same activity appearing as a Predessor or Successor more than once.
27-H1665 Develop Environmental Effects/Benefits Evaluation Method	
General Notes/Activity Definition	Conduct alternative model runs to assess and evaluate ecologic and environmental effects at the project and regional (system-wide) levels. Tasks

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	environmental effects at the project and regional (system-wide) levels. Tasks will be accomplished for system formulation and interim operations assessments. Assume that 3 alternatives are run for the sub-regional model with at least two model runs per alternative.
27-H1670 Develop Planning Cost Estimate (Real Estate)	
Constraints and Assumptions	Includes all RE tasks required to support preparation of preliminary RE acquisition cost estimates for each alternative.
27-H1675 Prepare RE ROM Cost Estimate for YB Plan and Preliminary Alternatives	
Constraints and Assumptions	Includes all RE tasks required to support preparation of preliminary RE acquisition cost estimates for each alternative.
27-H1680 Receive USFWS PAL	
General Notes/Activity Definition	Begins after NEPA Scoping meeting and provides documentation for FSM meeting.
27-H1685 Simulation of Existing and Without Plan Conditions and Alternatives with SFWMM (IMC)	
General Notes/Activity Definition	Conduct alternative model runs to assess and evaluate ecologic and environmental effects at the project and regional (system-wide) levels. Tasks will be accomplished for system formulation and interim operations assessments. Assume that 3 alternatives are run for the sub-regional model with at least two model runs per alternative.
27-H1690 System Wide Evaluation (RECOVER)	
General Notes/Activity Definition	RECOVER, via the IMC, will conduct system-wide evaluations of alternative plans.
27-H1700 Conduct Cost-Effectiveness & Incremental Cost Analysis	
General Notes/Activity Definition	For all Corps projects, alternative plans that must be compared to one another are compared on the four criteria of effectiveness, efficiency, completeness and acceptability. For CERP projects both project level and system wide considerations must be taken into account. Three pieces of information are necessary to complete plan comparison of alternative plans using cost effectiveness and incremental cost analyses (CE/ICA): 1) the array of alternatives or management measures; 2) the total and average annual cost of each alternative or management measure; and 3) the environmental effects of each alternative plan or management measure described in terms of total ecosystem benefits and average annual ecosystem benefits. (See GM 2, when final)

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Activity	Constraints & Assumptions
27-H1710 Life Cycle Costing	
General Notes/Activity Definition	Provide life cycle costing for all alternatives. Provide insight into economic issues such as phasing of work efforts to obtain maximum benefits as early as possible.
27-H1720 Compare Alternative Plans & Select Tentatively Selected Plan	
General Notes/Activity Definition	After the CE/ICA, corroboration of results from different approaches may strengthen the rationale for selecting one alternative over all others.
27-H1730 Compile Comments/Issues/Concerns; Finalize Problems & Opportunities	
General Notes/Activity Definition	PD-ES writes "issues and concerns" input to PIR beginning with scoping input.
27-H1750 Detailed Inventory Ecological, Water Quality	
General Notes/Activity Definition	A more detailed inventory based on initial inventory and preliminary cultural resource consultation. This information will provide necessary data for the alternative plan evaluation methodology.
27-H1800 Submit AFB Documentation to HQ and SFRTF	
General Notes/Activity Definition	Includes mailing package to SFRTF
27-H1820 AFB Guidance Memorandum	
Constraints and Assumptions	Assumes that receipt of Project Guidance Memo (PGM) is not on the critical path. That means production work does not wait on the PGM and work products proceed based on the results of SAD/HQ comments to submittal package and/or FSM/AFB/IPR meeting.
27-H1830 PIR/FS 1501 Pre-Application Meeting (Reasonable Certainty)	
Constraints and Assumptions	Brief synopsis of this in GM 2 (not detailed).
27-H1900 State 1502 Application Completeness Review	
Constraints and Assumptions	1. This activity assumes only one (1) request for additional information.
27-H1940 Conduct NEPA Scoping Activities	
Constraints and Assumptions	This includes the time to prepare letter and submit to Federal Register for publication.

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Activity	Constraints & Assumptions
General Notes/Activity Definition	The National Environmental Policy Act regulations (40 CFR Parts 1500-1508) require all Federal agencies involved in water resources planning to conduct a process termed "scoping". The NEPA scoping process is intended to be a public process that determines the scope of issues to be addressed and identifies the significant issues related to a proposed action. Although NEPA scoping has traditionally been associated solely with identifying the concerns associated with proposed actions, it is possible and highly encouraged that PDTs combine the NEPA scoping process with identification of problems and opportunities to identify primary issues that need to be addressed in subsequent steps of the 6-step planning process.
27-H1950 Hold NEPA Scoping Meeting	
General Notes/Activity Definition	The meeting in which NEPA scoping is coordinated with the Problems and Opportunities identification process of the PDT
27-H1960 Evaluation of Environmental Effects/Benefits & Compliance	
General Notes/Activity Definition	Write PIR "Environmental Effects" chapter for EIS.
27-H1970 Draft CAR received to be used in draft NEPA	
General Notes/Activity Definition	USFWS will not send draft CAR until the TSP is identified.
27-H1990 Develop Draft Scope of TSP Exploration Plan & Confirm with Sponsor	
General Notes/Activity Definition	Develop scope exploration plan and obtain rights of entry. Meet with sponsor to confirm plan and amend plan based on sponsor input.
27-H2000 Develop TSP Site Survey/Geotech Scope	
General Notes/Activity Definition	Develop survey and geotech scope for additional data needed to further the design of the TSP.
27-H2010 Obtain SAP Geotechnical & Survey Data	
General Notes/Activity Definition	Detailed subsurface investigations/site characterization, more closely spaced borings, and drill at structure locations. Includes core borings and HTRW survey. Includes additional survey data collection as necessary.
27-H2030 Perform SAP Civil/Structural & M&E Analysis	
General Notes/Activity Definition	
27-H2040 Perform SAP Geotech Analysis	

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Activity	Constraints & Assumptions
General Notes/Activity Definition	Geotechnical analysis includes: slope stability, embankment, seepage, erosion control, structure foundation, dewatering, rock excavation & blasting, HWRW plan. Geotechnical Appendix for Engineering Report.
27-H2060 Develop Project Monitoring Plan	
General Notes/Activity Definition	RECOVER will coordinate with the PDT to ensure consistency among project level and regional level monitoring plans. Because of the relative newness of restoration science and uncertainty in ecosystem restoration planning, success can vary due to a variety of technical and site-specific factors. Recognizing this uncertainty, we will allow for contingencies to address restoration problems early in the planning process. To accomplish this, a technique called "adaptive management" will be included in restoration projects. At the heart of adaptive management and the cornerstone for restoration success is a carefully designed monitoring program that measures effects of restoration measures, allows for feedback based on new insights, and adjustments made accordingly to the project and future separable restoration elements. Monitoring plans will be in place during and after project construction, and will provide input into local and regional ecological assessments. Local monitoring efforts will be coordinated wi
27-H2070 Selected Alternative Plan (SAP)	
General Notes/Activity Definition	Includes public involvement and response to comments in the AFB Guidance Memorandum. PDT members will be involved including; Sponsor, PD-R, PD-E, DP, EN, etc... as required.
27-H2080 Prepare Real Estate Appendix	
General Notes/Activity Definition	Includes all RE tasks required to support preparation of RE Appendix
27-H2085 Prepare Planning Maps	
General Notes/Activity Definition	Includes all RE tasks required to support preparation of RE Appendix
27-H2090 Perform SAP H&H Analysis	
Constraints and Assumptions	For CERP projects which include a reservoir or STA, the Draft PIR shall include a determination of the Hazard Potential Classification for the reservoir/STA design in the Selected Alternative Plan (SAP). This classification shall be made in accordance with EC 1110-2-6061, Safety of Dams - Policy and Procedures, dated 30 April 2004. During future preparation of Plans & Specifications (P&S), CERP Projects which include a reservoir or STA with a Hazard Potential Classification of High or Significant Risk, shall develop an Emergency Action Plan (EAP) for reference by the Project Operating Manual. The EAP will be revised, as appropriate, for future project phases. Duration of this activity assumes that additional Geotech data not required for H&H Analysis of SAP

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Activity	Constraints & Assumptions
27-H2100 Develop Draft Project Operating Manual	
Constraints and Assumptions	CERP ProRegs, Section 385.28(c) requires a draft Project Operating Manual as an appendix to the PIR, and requires revisions, as appropriate, for the project construction phase and operational monitoring and testing phase. Temporary operational plans for the construction phase will be developed during future P&S preparation and documented in an Interim Operations Manual. During P&S preparation, CERP Projects which include a reservoir or STA with a Hazard Potential Classification of High or Significant Risk, shall develop an Emergency Action Plan (EAP) for reference by the Project Operating Manual. The EAP will be revised, as appropriate, for future project phases.
General Notes/Activity Definition	The Draft Project Operating Manual contains the regulation schedules and operating criteria for project regulation. In addition, they provide for the collection, analysis and distribution of data. These are subject to modification through detailed design, construction, and operational testing and monitoring phases. See GM 3.
27-H2110 Quantify Water Made Available	
Constraints and Assumptions	Assume the selected plan modeled by 2X2 or other regional hydrologic model capable of producing water budgets. No rule making required by State of Florida and no extra public involvement required. See GM 5 when complete
27-H2120 Savings Analysis	
General Notes/Activity Definition	Ensures that for the SAP the Level of service for flood protection has not been reduced and that the water supply for existing legal sources is intact. See GM 6 when complete
27-H2130 Identify Water to be Reserved	
General Notes/Activity Definition	The non-Federal Sponsor will identify water to be reserved for the natural system pursuant to state law. See GM 5 (topic is under discussion for inclusion 7/29/04)
27-H2150 Prepare MCASES Cost Estimate	
Constraints and Assumptions	If MCACES cost estimate is significantly different than the planning cost estimates for CE/ICA then this would necessitate re-evaluation of the alternative plans.
General Notes/Activity Definition	Estimates include engineering, construction Real Estate, and Operations and Maintenance.
27-H2170 Phase 2 Cultural Resource Field Survey/Coordination	
Constraints and Assumptions	Dependent on results of Phase I Survey

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Activity	Constraints & Assumptions
27-H2180 Federal Permit(s) NPDES Construction Activities Application by Local Sponsor	
Constraints and Assumptions	Assumed to be for NPDES construction activities
27-H2250 Phase 1 Cultural Resource Surveys and Coordination	
General Notes/Activity Definition	Corps and SHPO determine amount of survey required. Minimum time 13 weeks, widely variable.
27-H2260 Submit Documentation to HQ for Draft PIR/NEPA Review	
Constraints and Assumptions	
27-H2270 HQ Policy Review Comments to SAJ & SAD	
General Notes/Activity Definition	<u>Document Review and Discussion of Issues.</u> Headquarters will review the FSM, AFB, or IRC/IPR documentation and produce policy compliance review comments (see Appendix H, paragraph H-2.c.) appropriate to the situation. The target time for providing formal, written Headquarters policy review comments is 30 days after receipt of complete documentation. Policy review comments will be transmitted to the District and MSC with required actions identified to achieve issue resolution. At a minimum, the District will be required to provide formal written responses to the Headquarters policy review comments on how the issues will be resolved.
27-H2640 SFWMD GB Grants Rule Development Authority	
General Notes/Activity Definition	This task duration is estimated to include lead time for agenda and back-up to go to the SFWMD Governing Board. Predecessors are Identification of Water and Chief's Report Complete.
27-H2660 SFWMD GB Approves Rulemaking Authority	
General Notes/Activity Definition	GB approves DRAFT rule for publication. Includes lead time for agenda and back-up to GB.
27-H2670 Review Period for Draft Rule	
General Notes/Activity Definition	Draft rule published in Florida Administrative Weekly (FAW). 45 days for review, 25 days to get item to FAW publishers
27-H2700 File with the Florida Department of State	
General Notes/Activity Definition	Final rule published in FAW. 25 days to get item to FAW publishers.
27-H2720 Preliminary Screening of Conceptual Alternatives	

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Activity	Constraints & Assumptions
Constraints and Assumptions	Includes development of screening criteria Screening criteria will have been defined that eliminate some alternatives for further evaluation. This screening is primarily qualitative in nature. Need to include cursory screening for project assurances (GM 2) - include flood protection (GM 5), elimination or transfer of water (GM 6) TBD
27-H2760 Determine Final Alternative Array	
Constraints and Assumptions	This screening is more quantitative than qualitative, but uses the same screening criteria developed for the preliminary screening.
27-H2770 Preliminary ESA Consultation	
General Notes/Activity Definition	Preliminary Endangered Species Act coordination. Provides early verification of the protected species list. Begins after NEPA Scoping meeting and provides documentation for FSM meeting.
27-H2775 ESA Consultation	
General Notes/Activity Definition	Preliminary Endangered Species Act coordination. Provides early verification of the protected species list. Begins after NEPA Scoping meeting and provides documentation for FSM meeting.
27-H2780 Preliminary Cultural Resource (SHPO) Consultation	
General Notes/Activity Definition	Preliminary cultural resources consultation. Announces project, likely area of effect and receive SHPO response. Begins after NEPA Scoping meeting and provides documentation for FSM meeting.
27-H2785 Consultation (Native Americans)	
General Notes/Activity Definition	Preliminary cultural resources consultation. Announces project, likely area of effect and receive SHPO response. Begins after NEPA Scoping meeting and provides documentation for FSM meeting.
27-H2790 Compile FSM submittals for Ecol., WQ. and CR	
General Notes/Activity Definition	Preparation of the documentation of the ecological, water quality data collection efforts and preliminary cultural resource consultation. CR survey may not be completed at this time, but FSM level write up can be finished.
27-H2795 Biological Assessment	
General Notes/Activity Definition	Preliminary Endangered Species Act coordination. Provides early verification of the protected species list. Begins after NEPA Scoping meeting and provides documentation for FSM meeting.
27-H2910 Prepare FSM Package	

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Activity	Constraints & Assumptions
Constraints and Assumptions	Team to coordinate with HQ before submittal of package, informing them of the impending submittal.
General Notes/Activity Definition	FSM documentation should include, as a minimum, a detailed description of identified problems and opportunities, statements of specific planning objectives and constraints, a detailed description of future without project conditions, a description of applicable management measures, the results of preliminary plan formulation and evaluation (i.e., screening), and the results of preliminary coordination and public involvement. Issues that need to be resolved should be identified and fully documented, and the District should present its analysis of options considered and its recommended solution. FSM documentation will address the general evaluation guidelines presented in Exhibit G-1 to the extent possible at this early stage of the study. Exhibit G-4 is an expanded outline of the information to be included in FSM documentation and addresses the level of detail required. Technical work products that support the FSM documentation (e.g., surveying & mapping, hydraulics & hydrology, average annual damage computations, etc.) should have been subject to independent technical review (ITR). Although ITR issues may not have been fully resolved, a status report discussing significant ITR concerns and how these concerns will be resolved must be provided as part of the FSM material. The transmittal of the FSM material to Headquarters should include a document that explains what actions have been taken to address any issues identified by Headquarters in the reconnaissance guidance memorandum. <u>Exhibit G-4. Items to be Addressed in Feasibility Scoping Meeting (FSM) Documentation</u> <u>1. Study Background.</u> - Study Authority. Include the full text of the study resolution(s) or other authority. - Location. Include a map(s). <u>2. Existing Conditions and Future Without Project Condition Problems, Opportunities, Goals, Objectives, and Constraints.</u> Present the results of Steps 1 and 2 of the Planning Process as generally described in Appendix E, paragraph E-3.a.(1) and (2). Specifically identify any key assumptions regarding forecasted without-project conditions. For the project purpose(s) being studied, provide specific information to describe and quantify the problem in accordance with the applicable evaluation procedures presented in Appendix E. Following are references to the specific analyses and information required to describe the problem for several project purposes: - Urban Flood Damage Reduction. Paragraphs E-19.d. – k. - Deep Draft Navigation. Paragraphs E-10.d.(1) – (7). - Ecosystem Restoration. Paragraph E-33.

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3. Formulation and Evaluation of Preliminary Plans. The FSM documentation will present the results of initial plan formulation, Step 3 of the Planning Process (paragraph E-3.a.(3)).

- Identification of Management Measures. A management measure is a feature (a structural element that requires construction or assembly on-site) or an activity (a nonstructural action). Management measures are the building blocks of alternative plans. The FSM documentation will describe the full range of management measures that have been considered to address the identified problems and opportunities. Descriptions of management measure will include their purpose, location, composition (e.g., materials, methods), and physical properties (i.e., scale/sizing) to the extent possible at this early stage of the study. All applicable measures should be considered, including those beyond the authority of the Corps to implement.

- Evaluation of Management Measures. For each measure identified, discuss its potential to contribute to the planning objectives and its consistency with the planning constraints. Identify measures that will be eliminated from further consideration and document the reasons (e.g., cost, effectiveness). Identify measures that can be combined to form alternative plans. Identify measures that must be combined due to dependency. Identify measures that are mutually exclusive. Assess the Federal interest in identified potential solutions to the problems based on consistency with Administration budget policy, specific USACE policies for each project purpose (see Appendix E), and Federal laws, regulations, and Executive Orders. Indicate who (i.e., Corps, other Federal agency, non-Federal interests) has responsibility for addressing each problem identified.

- Plans To Be Studied Further. Identify the conceptual plans that will be studied further and describe the future work that will be accomplished to develop and evaluate preliminary plans.

4. Policy issues or questions to include analysis of options and proposed recommendation(s). A list of sensitive policy areas which require vertical team coordination with MSC / HQUSACE is enclosed as Exhibit G-6.

5. Independent technical review documentation completed to date, including status of unresolved issues and how they will be resolved.

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	6. <u>List of future study/project milestones and completion dates</u> 7. <u>Proposed Changes to the PMP</u>. Provide a narrative discussion of changes that need to be made to the PMP as a result of the findings of the study to date. Explain significant changes in the scope, schedule, or cost of specific tasks. 8. <u>Headquarters Guidance Memoranda</u> from Reconnaissance Phase or most recent IRC/IPR. 9. <u>Compliance memorandum</u> indicating how compliance with Reconnaissance or most recent IRC/IPR Guidance has been achieved. The FSM documentation should include but is not limited to the above items. It should include other information pertinent to the project or specific issues.
27-H2950 A-E Contract(s) Procurement (Survey & Geotech)	
General Notes/Activity Definition	For additional data required to design the SAP to the Feasibility level of design.
27-H2960 Obtain Real Estate Rights of Entry Geotech, Survey, Environmental & Cultural	
General Notes/Activity Definition	ROE needed for additional data collection for the inventory phase, if needed.
27-H2970 Obtain Real Estate Rights of Entry	
General Notes/Activity Definition	ROE needed for additional data collection for SAP design.
27-H2980 Survey Data Collection for Models	
Constraints and Assumptions	Assumes LIDAR needed for models.
27-H3130 Corps Review of Draft Permit	
Constraints and Assumptions	Assumes coordination through Legal

TAB C – Activity ID/WBS Cross Reference

CERP Everglades National Park
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Activity ID/WBS Cross Reference

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Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-1010	129011.1.2	Initial PMP Coordination Meeting	1.0d	23-Jun-05 A	23-Jun-05 A
27-1020	129011.1.2	PMP Initiated	0.0d		23-Jun-05 A
27-1040	129011.1.2	Hold PDT Kick-Off Meeting	1.0d	24-Jun-05 A	24-Jun-05 A
27-1060	129011.1.2	Prepare Draft PMP	35.0d	01-Jul-05 A	19-Aug-05 A
27-1080	129011.1.2	Internal Review of Draft PMP	5.0d	22-Aug-05 A	26-Aug-05 A
27-1100	129011.1.2	Final Draft PMP Incorporating Internal Review	5.0d	29-Aug-05 A	02-Sep-05 A
27-1110	129011.1.2	Post on Documentum for Agency Review	5.0d	06-Sep-05 A	12-Sep-05 A
27-1140	129011.1.2	Final PMP Incorporate Agency Comments	5.0d	13-Sep-05 A	19-Sep-05 A
27-1150	129011.1.2	Distribute Draft PMP for PRB and Non Federal Sponsor Se...	3.0d	20-Sep-05 A	25-Oct-05
27-1155	129011.1.2	Final Approval by Branch & Division Chiefs	2.0d	26-Oct-05	27-Oct-05
27-1210	129011.1.2	PMP Approved by Local Sponsor	0.0d		27-Oct-05
27-1230	129011.1.2	Final Approval by Non Federal Sponsor	2.0d	26-Oct-05	27-Oct-05
27-1240	129011.1.2	Approval by Corps Deputy District Engineer	2.0d	28-Oct-05	31-Oct-05
27-1250	129011.1.2	PMP DDE(PM) Signature	0.0d		31-Oct-05
27-1260	129011.1.2	Work-in-Kind Letter from Corps Engineer	2.0d	01-Nov-05	02-Nov-05
27-1270	129011.1.2	Work-in-Kind Letter Signed by District Engineer	0.0d		02-Nov-05
27-H100	129011.2.2.1	Initiate PIR	0.0d		02-Nov-05
27-H1000	129011.2.2.6	In Progress Review	4.5d	18-Dec-08	24-Dec-08
27-H1005	129011.1.1	Travel CO FY05	86.0d	01-Jun-05 A	30-Sep-05 A
27-H1010	129011.2.2.6	Project Guidance Memorandum (IPR)	10.0d	24-Dec-08	09-Jan-09
27-H1015	129011.1.1	GP Truck FY05	86.0d	01-Jun-05 A	30-Sep-05 A
27-H1020	129011.2.2.6	Complete Draft PIR/NEPA Document for NEPA Review	7.0d	18-Sep-08	26-Sep-08
27-H1030	129011.2.2.6	ITR on Draft PIR/NEPA Document	10.0d	13-Aug-08	26-Aug-08
27-H1050	129011.2.2.6	Release (Print & Mail) Draft PIR/NEPA Doc	10.0d	29-Sep-08	10-Oct-08
27-H1060	129011.2.9	Notice of Availability in Federal Register (Fridays Only)	11.0d	14-Oct-08	28-Oct-08
27-H1065	129011.1.2	PMP Draft Completed	0.0d		19-Aug-05 A
27-H1070	129011.2.9	Public & Agency Review of PIR/NEPA	33.0d	13-Nov-08	31-Dec-08
27-H1080	129011.2.9	Respond to Public Comments on Draft PIR/NEPA	30.0d	10-Dec-08	23-Jan-09
27-H1100	129011.2.3.1	Receive USFWS Final CAR	10.0d	10-Dec-08	23-Dec-08
27-H1105	129011.1.1	Travel DP FY05	86.0d	01-Jun-05 A	30-Sep-05 A
27-H1110	129011.2.9	Assemble Final Draft PIR/NEPA for Internal Review	22.0d	24-Dec-08	27-Jan-09
27-H1120	129011.2.9	Print and Distribute 1501 Submittal to State	5.0d	29-Sep-08	03-Oct-08
27-H1130	129011.2.9.1	State 1501 Review & Approval (Reasonable Certainty)	43.0d	06-Oct-08	08-Dec-08
27-H1140	129011.2.9.1	Incorporate State 1501 Comments	10.0d	09-Dec-08	22-Dec-08
27-H1150	129011.2.9	ITR/Legal Review of Final PIR/NEPA	22.0d	19-Feb-09	20-Mar-09
27-H1160	129011.2.9	NFS Letter of Support and Financial Capability Statement	10.0d	23-Mar-09	03-Apr-09
27-H1170	129011.2.9	Prepare Final PIR/NEPA for Submittal to MSC	10.0d	06-Apr-09	17-Apr-09
27-H1180	129011.2.9	DE Signature	5.0d	20-Apr-09	24-Apr-09
27-H1190	129011.2.9	State and Agency Letters Signed and Received by District	5.0d	27-Apr-09	01-May-09
27-H1200	129011.2.9	Mail Letters and Draft Final Report	4.0d	04-May-09	07-May-09
27-H1205	129011.1.1	DP Project Management FY06	250.0d	03-Oct-05*	29-Sep-06
27-H1210	129011.2.9	Publish in Federal Register	10.0d	08-May-09	21-May-09
27-H1215	129011.1.1	DP Project Management FY07 and Beyond	1913.0d	02-Oct-06*	15-May-14

CERP Everglades National Park
Seepage Management (TLH 7/11/05)

Activity ID/WBS Cross Reference

30-Sep-05

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H1220	129011.2.9	State, Agency and Public Review	22.0d	22-May-09	23-Jun-09
27-H1230	129011.2.9	Respond to State, Agency and Public Comments	20.0d	24-Jun-09	22-Jul-09
27-H124	129011.2.2.5	Alternative Formulation Briefing (AFB)	0.0d		14-Sep-07
27-H1240	129011.2.9	HQ/MSR Review Conference	5.0d	16-Jul-09	22-Jul-09
27-H1250	129011.2.9	Policy Review Documentation	7.0d	23-Jul-09	31-Jul-09
27-H126	129011.2.2.5	AFB Guidance Memorandum Received	0.0d		28-Sep-07
27-H1260	129011.2.9	Chief's Report	5.0d	10-Aug-09	14-Aug-09
27-H1270	129011.2.9	ASA(CW) Review	30.0d	08-Sep-09	20-Oct-09
27-H1280	129011.2.A	OMB Review	50.0d	04-Nov-09	19-Jan-10
27-H1290	129011.2.A	Congressional Review	70.0d	10-Feb-10	19-May-10
27-H130	129011.2.2.6	Complete PIR Review Conference	0.0d		24-Dec-08
27-H1300	129011.2.A	Congressional Authorization	22.0d	20-May-10	21-Jun-10
27-H1305	129011.1.1	Printing FY05	64.0d	01-Jul-05 A	30-Sep-05 A
27-H1310	129011.2.A	President Signs WRDA	14.0d	22-Jun-10	12-Jul-10
27-H1315	129011.1.1	Printing FY06	250.0d	03-Oct-05*	29-Sep-06
27-H1330	129011.2.2.6	Compile (Preliminary) Draft PIR/NEPA	22.0d	14-Apr-08	13-May-08
27-H1340	129011.2.2.6	In-house Review of Draft PIR/NEPA	10.0d	14-May-08	28-May-08
27-H1350	129011.2.2.1	Initiate PIR Preparation	1.0d	02-Nov-05	02-Nov-05
27-H1360	129011.2.2.1	Identify Problems, Opportunities, Objectives & Constraints	15.0d	03-Nov-05	25-Nov-05
27-H1380	129011.2.2.2	Inventory and Forecast Hydrologic & Geologic Resources	43.0d	03-Jan-06	06-Mar-06
27-H1390	129011.2.2.2	Inventory and Forecast Ecological & Cultural Resources	43.0d	03-Nov-05	06-Jan-06
27-H140	129011.2.2.6	Project Guidance Memorandum (PGM) Received	0.0d		09-Jan-09
27-H1400	129011.2.2.2	Inventory and Forecast Economic Resources	43.0d	03-Nov-05	06-Jan-06
27-H1430	129011.2.2.2	Identify Performance Measures	43.0d	28-Nov-05	30-Jan-06
27-H1435	129011.2.2.2	RECOVER Review of Project Performance Measures	75.0d	12-Dec-05	30-Mar-06
27-H1450	129011.2.5.1.4	Hydrologic, Physical and Subsurface Data Collection	66.0d	23-Mar-06	23-Jun-06
27-H1460	129011.2.2.2	Water Quality / Ecologic Data Collection	66.0d	26-Jan-06	28-Apr-06
27-H1470	129011.2.2.2	Economic Data Collection	66.0d	26-Jan-06	28-Apr-06
27-H1475	129011.2.2.2	Wet Season Test	5.0d	01-Jun-06*	07-Jun-06
27-H1480	129011.2.5.1.1	Hydrologic Model Selection	20.0d	03-Mar-06	30-Mar-06
27-H1481	129011.2.5.1.1	Model Verification Boundary Conditions Defined	10.0d	31-Mar-06	13-Apr-06
27-H1482	129011.2.5.1.1	Model Calibration Boundary Conditions Defined	10.0d	14-Apr-06	27-Apr-06
27-H1483	129011.2.5.1.1	Model Verification and Calibration	180.0d	28-Apr-06	17-Jan-07
27-H1485	129011.2.4	Prepare Socio-Econ Appendix	270.0d	09-Jan-06	05-Feb-07
27-H1490	129011.2.2.2	Identify Simulation Models (Ecologic)	66.0d	29-Mar-06	29-Jun-06
27-H1495	129011.2.2.2	Evaluate Old and New Data Together	1.0d	08-Jun-06	08-Jun-06
27-H1500	129011.2.5.1.1	Simulation Models (Water Quality)	65.0d	14-Nov-06	16-Feb-07
27-H1510	129011.2.2.2	Simulation Models (Economic)	129.0d	09-Aug-06	14-Feb-07
27-H1520	129011.2.2.2	Model Existing & Without Plan Conditions	86.0d	13-Nov-06	19-Mar-07
27-H1530	129011.2.2.2	Compile Existing and Future Without Conditions	33.0d	18-Jan-06	06-Mar-06
27-H1535	129011.2.5.1.6	HTRW Assessment	33.0d	18-Jan-06	06-Mar-06
27-H1540	129011.2.2.2	RECOVER Assistance with Development of Existing & Futu...	44.0d	02-Nov-05	06-Jan-06
27-H1560	129011.2.2.3	Identification of Management Measures	22.0d	31-Mar-06	01-May-06

CERP Everglades National Park
Seepage Management (TLH 7/11/05)

Activity ID/WBS Cross Reference

30-Sep-05

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H1570	129011.2.2.3	Compare Existing Condition to Pre-CERP Baseline	10.0d	06-Mar-07	19-Mar-07
27-H1572	129011.2.2.3	Define Components & Create Array of Alternatives	43.0d	02-May-06	30-Jun-06
27-H1580	129011.2.2.3	ITR of FSM Package	15.0d	05-Sep-06	25-Sep-06
27-H1590	129011.2.2.3	Submit FSM Documentation to HQ	2.0d	26-Sep-06	28-Sep-06
27-H1600	129011.2.2.3	Feasibility Scoping Meeting	1.5d	08-Nov-06	13-Nov-06
27-H1610	129011.2.2.3	Receive FSM Guidance Memorandum	11.0d	13-Nov-06	29-Nov-06
27-H1620	129011.2.2.3	ITR Meeting with PDT to prepare for FSM	0.7d	26-Sep-06	26-Sep-06
27-H1640	129011.2.5.1.5	Develop Preliminary Design for Alternatives	86.0d	13-Nov-06	19-Mar-07
27-H1645	129011.2.5.1.6	HTRW Assessment (review of phase 1)	5.0d	07-Mar-06	13-Mar-06
27-H165	129011.2.9	Submit Final PIR/NEPA Report to MSC	0.0d		17-Apr-09
27-H1650	129011.2.2.4	Model & Evaluate Alternatives (compare with & without plan)	66.0d	26-Jan-07	30-Apr-07
27-H1655	129011.2.3	Write NEPA Alternative Analysis	66.0d	26-Jan-07	30-Apr-07
27-H1660	129011.2.2.3	Develop Planning Cost Estimates (Engineering, Constructio...	86.0d	20-Nov-06	26-Mar-07
27-H1665	129011.2.3	Develop Environmental Effects/Benefits Evaluation Method	66.0d	26-Jan-07	30-Apr-07
27-H1670	129011.2.6	Develop Planning Cost Estimate (Real Estate)	43.0d	14-Aug-06	13-Oct-06
27-H1671	129011.2.5.2	Develop Cost Estimate	43.0d	14-Aug-06	13-Oct-06
27-H1675	129011.2.6	Prepare RE ROM Cost Estimate for YB Plan and Preliminar...	10.0d	31-May-06	13-Jun-06
27-H1676	129011.2.6	RE Aquisition Initiated	0.0d		13-Jun-06
27-H1680	129011.2.3.1	Receive USFWS PAL	22.0d	03-Nov-05	06-Dec-05
27-H1685	129011.2.2.4	Simulation of Existing and Without Plan Conditions and Alte...	45.0d	13-Nov-06	18-Jan-07
27-H1690	129011.2.2.4	System Wide Evaluation (RECOVER)	45.0d	24-Apr-07	26-Jun-07
27-H170	129011.2.9	MSC Commander's Public Notice (Complete PIR)	0.0d		24-Apr-09
27-H1700	129011.2.2.5	Conduct Cost-Effectiveness & Incremental Cost Analysis	15.0d	30-May-07	19-Jun-07
27-H1710	129011.2.2.3	Life Cycle Costing	11.0d	27-Mar-07	10-Apr-07
27-H1720	129011.2.2.5	Compare Alternative Plans & Select Tentatively Selected Plan	11.0d	27-Jun-07	12-Jul-07
27-H1730	129011.2.3	Compile Comments/Issues/Concerns; Finalize Problems & ...	30.0d	19-Dec-05	01-Feb-06
27-H175	129011.2.9	ASA(CW) Memorandum to OMB	0.0d		03-Nov-09
27-H1750	129011.2.3	Detailed Inventory Ecological, Water Quality	75.0d	08-Feb-06	24-May-06
27-H1770	129011.2.2.5	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07
27-H180	129011.2.9	Washington Level Agency Review/Public Review Complete	0.0d		23-Jun-09
27-H1800	129011.2.2.5	Submit AFB Documentation to HQ and SFRTF	2.0d	03-Aug-07	06-Aug-07
27-H1810	129011.2.2.5	AFB Meeting	1.0d	14-Sep-07	14-Sep-07
27-H1820	129011.2.2.5	AFB Guidance Memorandum	10.0d	17-Sep-07	28-Sep-07
27-H1830	129011.2.9.1	PIR/FS 1501 Pre-Application Meeting (Reasonable Certainty)	1.0d	01-Oct-07	01-Oct-07
27-H1840	129011.2.9.1	1501 Pre App Mtg Summary Reviewed by FDEP	10.0d	17-Oct-07	30-Oct-07
27-H1850	129011.2.9.1	Submittal Briefing with FDEP (Reasonable Certainty)	2.0d	29-Sep-08	30-Sep-08
27-H1890	129011.5.7	Submit 1502 WQC Permit Applications	2.0d	15-Feb-11	16-Feb-11
27-H1900	129011.5.7	State 1502 Application Completeness Review	22.0d	17-Feb-11	21-Mar-11
27-H1910	129011.5.7	State Agency Action Review	65.0d	21-Apr-11	22-Jul-11
27-H1920	129011.5.7	Publish Notice of Intent of Draft Permit	22.0d	25-Jul-11	23-Aug-11
27-H1930	129011.6.2	Initiate PCA	1.0d	31-Aug-11	31-Aug-11
27-H1940	129011.2.3	Conduct NEPA Scoping Activities	29.0d	03-Nov-05	15-Dec-05
27-H1950	129011.2.3	Hold NEPA Scoping Meeting	1.0d	16-Dec-05	16-Dec-05

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H1960	129011.2.3	Evaluation of Environmental Effects/Benefits & Compliance	20.0d	01-May-07	29-May-07
27-H1970	129011.2.3.1	Draft CAR received to be used in draft NEPA	10.0d	19-Oct-07	01-Nov-07
27-H1990	129011.2.2.6	Develop Draft Scope of TSP Exploration Plan & Confirm wit...	10.0d	13-Jul-07	26-Jul-07
27-H2000	129011.2.2.6	Develop TSP Site Survey/Geotech Scope	10.0d	27-Jul-07	09-Aug-07
27-H2010	129011.2.2.6	Obtain SAP Geotechnical & Survey Data	66.0d	29-Nov-07	05-Mar-08
27-H2030	129011.2.2.6	Perform SAP Civil/Structural & M&E Analysis	65.0d	31-Dec-07	02-Apr-08
27-H2040	129011.2.2.6	Perform SAP Geotech Analysis	66.0d	29-Nov-07	05-Mar-08
27-H2060	129011.2.7	Develop Project Monitoring Plan	86.0d	04-Jan-08	06-May-08
27-H2070	129011.2.2.6	Selected Alternative Plan (SAP)	32.0d	15-Aug-07	28-Sep-07
27-H2080	129011.2.6	Prepare Real Estate Appendix	86.0d	17-Sep-07	22-Jan-08
27-H2085	129011.2.6	Prepare Planning Maps	86.0d	23-Jan-08	22-May-08
27-H2090	129011.2.2.6	Perform SAP H&H Analysis	52.0d	17-Sep-07	30-Nov-07
27-H2095	129011.2.2.6	Next Added Increment Analysis	22.0d	03-Dec-07	03-Jan-08
27-H2100	129011.2.2.6	Develop Draft Project Operating Manual	86.0d	16-Oct-07	20-Feb-08
27-H2110	129011.2.2.6.1	Quantify Water Made Available	20.0d	21-Feb-08	19-Mar-08
27-H2120	129011.2.2.6.1	Savings Analysis	20.0d	21-Feb-08	19-Mar-08
27-H2130	129011.2.2.6.1	Identify Water to be Reserved	45.0d	20-Mar-08	21-May-08
27-H2140	129011.2.2.6	Develop Implementation Plan	11.0d	29-Apr-08	13-May-08
27-H2150	129011.2.2.6	Prepare MCASES Cost Estimate	22.0d	07-Apr-08	06-May-08
27-H2160	129011.2.2.5	Non Federal Sponsor Coordination	10.0d	17-Sep-07	28-Sep-07
27-H2170	129011.2.3	Phase 2 Cultural Resource Field Survey/Coordination	220.0d	25-May-06	11-Apr-07
27-H2180	129011.5.7	Federal Permit(s) NPDES Construction Activities Applicatio...	10.0d	01-Oct-07	15-Oct-07
27-H2181	129011.5.2	Printing	704.0d	27-Apr-09	14-Feb-12
27-H2190	129011.5.7	Federal Permits Issued	10.0d	16-Oct-07	29-Oct-07
27-H2200	129011.2.9	In-House Review of Final PIR/NEPA	15.0d	28-Jan-09	18-Feb-09
27-H2210	129011.2.9	ROD Signed	1.0d	08-Sep-09	08-Sep-09
27-H2215	129011.2.9	Draft ROD	20.0d	27-Apr-09	22-May-09
27-H2220	129011.2.A	ASA (CW) Letter Submitted to Congress	15.0d	20-Jan-10	09-Feb-10
27-H2230	129011.2.9	ASA (CW) Memorandum to OMB	10.0d	21-Oct-09	03-Nov-09
27-H2240	129011.2.9	Filing of Final PIR/NEPA Document	5.0d	03-Aug-09	07-Aug-09
27-H2250	129011.2.3	Phase 1 Cultural Resource Surveys and Coordination	150.0d	08-Feb-06	11-Sep-06
27-H2260	129011.2.2.6	Submit Documentation to HQ for Draft PIR/NEPA Review	2.0d	29-Oct-08	30-Oct-08
27-H2270	129011.2.2.3	HQ Policy Review Comments to SAJ & SAD	22.0d	28-Sep-06	31-Oct-06
27-H2280	129011.2.2.3	SAJ Response to HQ Policy Review Comments	6.0d	31-Oct-06	08-Nov-06
27-H2290	129011.2.2.5	HQ Policy Review AFB Comments to SAJ & SAD	22.0d	07-Aug-07	06-Sep-07
27-H2300	129011.2.2.5	SAJ Response to HQ Policy Review Comments	5.0d	07-Sep-07	13-Sep-07
27-H2310	129011.2.2.6	HQ Policy Review Draft PIR/NEPA Comments to SAJ & SAD	22.0d	31-Oct-08	03-Dec-08
27-H2320	129011.2.2.6	SAJ Response to HQ Policy Review Comments	10.0d	04-Dec-08	17-Dec-08
27-H2330	129011.2.2.6	Incorporate In-House, RECOVER & ITR Comments on Preli...	15.0d	27-Aug-08	17-Sep-08
27-H2340	129011.6.1	Congressional Appropriation Enacted	157.0d	13-Jul-10	25-Feb-11
27-H2350	129011.6.2	Prepare Draft PCA	15.0d	01-Sep-11	22-Sep-11
27-H2360	129011.6.3	PCA Approved by Non Federal Sponsor	22.0d	23-Sep-11	25-Oct-11
27-H2370	129011.6.7	PCA Package to HQ's	5.0d	26-Oct-11	01-Nov-11

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H2380	129011.6.7	PCA Package Approved by OASA(CW)	29.0d	02-Nov-11	14-Dec-11
27-H2390	129011.6.7	PCA Executed	14.0d	15-Dec-11	05-Jan-12
27-H2400	129011.7.3	Land Certification Request to NFS	5.0d	06-Jan-12	12-Jan-12
27-H2401	129011.7.3	RE Acquisition Complete	0.0d		27-Jan-12
27-H2405	129011.7.3	RE Acquisition	10.0d	13-Jan-12	27-Jan-12
27-H2410	129011.7.3	RE Certification Package	5.0d	30-Jan-12	03-Feb-12
27-H2420	129011.7.3	RE Certification	5.0d	06-Feb-12	10-Feb-12
27-H2450	129011.5.2	A-E Delivery Order Preparation	72.0d	29-Mar-10	08-Jul-10
27-H2460	129011.5.3	30 % P & S Preparation	86.0d	09-Jul-10	09-Nov-10
27-H2465	129011.5.3	VE 30% P&S Package (VE Workshop)	16.0d	10-Nov-10	03-Dec-10
27-H2466	129011.5.3	VE 30% P&S Package Complete	0.0d		03-Dec-10
27-H2470	129011.5.4	60% P & S Preparation	65.0d	10-Nov-10	14-Feb-11
27-H2471	129011.5.4	60% P & S Technical Review and Conference	25.0d	15-Feb-11	22-Mar-11
27-H2472	129011.5.4	Incorporate 60% Comments	12.0d	23-Mar-11	07-Apr-11
27-H2480	129011.5.4	Advance 100% P&S Preparation	65.0d	08-Apr-11	11-Jul-11
27-H2490	129011.5.4	Survey Verification	43.0d	12-Jul-11	09-Sep-11
27-H2500	129011.5.4	P&S Survey Update	22.0d	12-Sep-11	12-Oct-11
27-H2510	129011.5.4	BCOE Package Preparation	14.0d	12-Jul-11	29-Jul-11
27-H2512	129011.5.5	Incorporate 90% Comments	10.0d	20-Sep-11	03-Oct-11
27-H2513	129011.5.5	Final BCOE Review	6.0d	04-Oct-11	12-Oct-11
27-H2520	129011.5.5	BCOE Review & Conference	25.0d	15-Aug-11	19-Sep-11
27-H2530	129011.5.5	BCOE Comment Incorporation	22.0d	20-Sep-11	20-Oct-11
27-H2540	129011.5.5	Prepare BCOE Certification Package & Review	19.0d	21-Oct-11	17-Nov-11
27-H2550	129011.5.5	BCOE Certification	10.0d	13-Feb-12	27-Feb-12
27-H2560	129011.5.5	EBS Preparation	10.0d	28-Feb-12	12-Mar-12
27-H2570	129011.8.2	Advertisement Period	22.0d	13-Mar-12	11-Apr-12
27-H2580	129011.8.2	Bid Opening/Notice of Selection	1.0d	12-Apr-12	12-Apr-12
27-H2590	129011.8.2	Award Contract	22.0d	13-Apr-12	14-May-12
27-H2600	129011.8.3	Issue Notice to Proceed	22.0d	15-May-12	14-Jun-12
27-H2610	129011.8.4	Construction	394.0d	15-Jun-12	10-Jan-14
27-H2611	129011.8.9	Construction Completion	22.0d	13-Jan-14	12-Feb-14
27-H2612	129011.8.5	Implementation of Project Monitoring Plan	10.0d	15-Jun-12	28-Jun-12
27-H2614	129011.8.4	District S&A	481.0d	15-Jun-12	15-May-14
27-H2615	129011.8.4	Field S&I	481.0d	15-Jun-12	15-May-14
27-H2616	129011.8.4	EDDC	481.0d	15-Jun-12	15-May-14
27-H2617	129011.8.4	ODCC	481.0d	15-Jun-12	15-May-14
27-H2618	129011.8.4	Fiscally Complete	481.0d	05-Feb-15	04-Jan-17
27-H2620	129011.8.7	Interim Operational Period	65.0d	13-Jan-14	15-Apr-14
27-H2621	129011.8.4	Construction Management	277.0d	28-Feb-12	03-Apr-13
27-H2630	129011.8.9	Contract Physically Complete	22.0d	16-Apr-14	15-May-14
27-H2635	129011.8.3	Post Construction Monitoring	1.0d	16-May-14	16-May-14
27-H2640	129011.4.1	SFWMD GB Grants Rule Development Authority	15.0d	08-Sep-09	28-Sep-09
27-H2650	129011.4.1	Public Workshops for Rule Development	43.0d	29-Sep-09	01-Dec-09

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H2660	129011.4.1	SFWMD GB Approves Rulemaking Authority	15.0d	02-Dec-09	22-Dec-09
27-H2670	129011.4.1	Review Period for Draft Rule	50.0d	23-Dec-09	08-Mar-10
27-H2680	129011.4.1	SFWMD GB Adopts Rule	15.0d	09-Mar-10	29-Mar-10
27-H2690	129011.4.1	Notice of Change Published in FAW	22.0d	30-Mar-10	28-Apr-10
27-H2700	129011.4.1	File with the Florida Department of State	10.0d	25-May-10	08-Jun-10
27-H2710	129011.2.2.6	RECOVER Review of Preliminary Draft PIR	10.0d	14-May-08	28-May-08
27-H2720	129011.2.2.3	Preliminary Screening of Conceptual Alternatives	30.0d	31-May-06	12-Jul-06
27-H2730	129011.5.7	1502 WQC Pre-Application (CERPRA) Mtg (Reasonable As...	1.0d	10-Nov-10	10-Nov-10
27-H2750	129011.5.7	State Issues Final Agency Action (if no petitions are filed)	5.0d	24-Aug-11	30-Aug-11
27-H2760	129011.2.2.3	Determine Final Alternative Array	22.0d	13-Jul-06	11-Aug-06
27-H2770	129011.2.3.1	Preliminary ESA Consultation	35.0d	16-Dec-05	07-Feb-06
27-H2775	129011.2.3.1	ESA Consultation	120.0d	08-Feb-06	28-Jul-06
27-H2780	129011.2.3	Preliminary Cultural Resource (SHPO) Consultation	35.0d	16-Dec-05	07-Feb-06
27-H2785	129011.2.3	Consultation (Native Americans)	35.0d	16-Dec-05	07-Feb-06
27-H2790	129011.2.3	Compile FSM submittals for Ecol., WQ. and CR	10.0d	08-Feb-06	22-Feb-06
27-H2795	129011.2.3.1	Biological Assessment	15.0d	31-Jul-06	18-Aug-06
27-H2800	129011.2.3	Document Environmental Law Compliance	45.0d	01-Oct-07	05-Dec-07
27-H2810	129011.2.3	Prepare Env Effects, Cum Effects, Tradeoff Discussion for ...	20.0d	03-Dec-07	31-Dec-07
27-H2820	129011.2.3	Incorporate all NEPA into PIR and Review for consistency	20.0d	02-Jan-08	30-Jan-08
27-H2830	129011.2.9	Public Workshop on Draft PIR	2.0d	13-Nov-08	14-Nov-08
27-H2840	129011.5.2	Develop Scope of P&S Exploration Plan	25.0d	27-Apr-09	01-Jun-09
27-H2850	129011.5.2	Develop P&S Survey/Geotech Scope of Work	25.0d	02-Jun-09	07-Jul-09
27-H2860	129011.5.2	Perform P&S Topo Survey	90.0d	08-Jul-09	13-Nov-09
27-H2870	129011.5.2	Perform P&S Geotech Investigation	90.0d	08-Jul-09	13-Nov-09
27-H2880	129011.5.2	Finalize Geotech/Civil/Structural Scope for P&S	90.0d	16-Nov-09	26-Mar-10
27-H2890	129011.5.5	Final ITR and Certification of P&S	10.0d	01-Aug-11	12-Aug-11
27-H2910	129011.2.2.3	Prepare FSM Package	15.0d	14-Aug-06	01-Sep-06
27-H2920	129011.2.2.5	Prepare AFB Package	30.0d	31-May-07	12-Jul-07
27-H2925	129011.2.6	RE AFB Input	30.0d	31-May-07	12-Jul-07
27-H2935	129011.1.1	GP Truck FY06	250.0d	03-Oct-05	29-Sep-06
27-H2940	129011.2.2.2	A-E Contract Procurement (Geotech)	40.0d	25-Jan-06	22-Mar-06
27-H2945	129011.1.1	GP Truck FY07 and Beyond	250.0d	02-Oct-06	28-Sep-07
27-H2950	129011.2.2.6	A-E Contract(s) Procurement (Survey & Geotech)	40.0d	01-Oct-07	28-Nov-07
27-H2955	129011.1.1	EN Travel FY07 and Beyond	250.0d	02-Oct-06*	28-Sep-07
27-H2960	129011.2.6	Obtain Real Estate Rights of Entry Geotech, Survey, Enviro...	40.0d	09-Jan-06	07-Mar-06
27-H2961	129011.2.5.3	Draft Water Control Plan	30.0d	01-Oct-07	13-Nov-07
27-H2965	129011.1.1	Printing FY06 and Beyond	250.0d	03-Oct-05*	29-Sep-06
27-H2970	129011.2.2.6	Obtain Real Estate Rights of Entry	40.0d	01-Oct-07	28-Nov-07
27-H2975	129011.1.1	Travel DP FY06	250.0d	03-Oct-05	29-Sep-06
27-H2980	129011.2.2.2	Survey Data Collection for Models	66.0d	07-Dec-05	14-Mar-06
27-H2985	129011.1.1	Travel PD FY07 and Beyond	250.0d	02-Oct-06*	28-Sep-07
27-H2990	129011.2.2.2	A-E Contract Procurement (Survey)	22.0d	03-Nov-05	06-Dec-05
27-H2995	129011.1.1	Travel CO FY06 and Beyond	250.0d	03-Oct-05	29-Sep-06

CERP Everglades National Park
Seepage Management (TLH 7/11/05)

Activity ID/WBS Cross Reference

30-Sep-05

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H300	129011.5.7	State WQC/Permits Received	0.0d		30-Aug-11
27-H3000	129011.2.2.2	A-E Contract Procurement for Water Quality / Ecologic Data...	40.0d	28-Nov-05	25-Jan-06
27-H3005	129011.1.1	RE Travel FY06 and Beyond	228.0d	03-Nov-05*	29-Sep-06
27-H3010	129011.2.2.2	A-E Contract Procurement for Economic Data Collection	40.0d	28-Nov-05	25-Jan-06
27-H3015	129011.1.1	OC Travel FY06 and Beyond	228.0d	03-Nov-05*	29-Sep-06
27-H3030	129011.2.2.3	VE FSM Package	15.0d	05-Sep-06	25-Sep-06
27-H3040	129011.2.2.5	VE of AFB Package	15.0d	13-Jul-07	02-Aug-07
27-H3050	129011.2.9.1	Preparation of 1501 Pre App Mtg Summary	10.0d	02-Oct-07	16-Oct-07
27-H3080	129011.2	Chief's Report Submitted to ASA (CW)	15.0d	17-Aug-09	04-Sep-09
27-H3090	129011.2	Chief's Report	0.0d		14-Aug-09
27-H3100	129011.5.7	Prepare 1502 Application Package	43.0d	12-Nov-10	13-Jan-11
27-H3110	129011.5.7	Receive Request for Additional Information (RAI)/Complete...	0.0d		21-Mar-11
27-H3120	129011.5.7	Prepare and Submit Response to RAI	22.0d	22-Mar-11	20-Apr-11
27-H3130	129011.5.7	Corps Review of Draft Permit	10.0d	22-Jun-11	06-Jul-11
27-H3160	129011.2.2.2	A-E Contract Procurement (Inventory for Geotech)	40.0d	02-Nov-05*	30-Dec-05
27-H3170	129011.2.9	Filing of Final EIS	0.0d		07-Aug-09
27-H3180	129011.2.9	Start Public Review Draft PIR/NEPA	0.0d	13-Nov-08	
27-H3190	129011.5.7	Receipt of Intent and Public Notice	0.0d		06-Jul-11
27-H320	129011.2.9	Record of Decision (ROD) Signed	0.0d		08-Sep-09
27-H3200	129011.2.9.1	Assemble 1501 Submittal	10.0d	14-May-08	28-May-08
27-H3210	129011.2.3.2	404 Pre-Application Meeting	1.0d	07-Aug-07	07-Aug-07
27-H3220	129011.2.3.2	404 Individual Permit Preparation	132.0d	08-Aug-07	19-Feb-08
27-H3230	129011.2.3.2	404 Permit Application	22.0d	20-Feb-08	20-Mar-08
27-H3240	129011.2.3.2	404 Public Notice	1.0d	21-Mar-08	21-Mar-08
27-H3250	129011.2.3.2	Receive 404 Permit	10.0d	23-Jul-09	05-Aug-09
27-H3260	129011.2.3.1	USFWS Formulates Biological Opinion	66.0d	30-May-07	30-Aug-07
27-H3265	129011.2.6	Preliminary RE Planning Map of Alternatives	20.0d	02-May-06	30-May-06
27-H3270	129011.2.3.1	USFWS Delivers Biological Opinion	33.0d	31-Aug-07	18-Oct-07
27-H3275	129011.2.6	Physical Takings Analysis/non-Standard Estates	14.0d	23-Jan-08	11-Feb-08
27-H3280	129011.1.1	Travel EN FY05	86.0d	01-Jun-05 A	30-Sep-05 A
27-H3285	129011.2.6	Gross Appraisal	30.0d	13-Jun-08	25-Jul-08
27-H3290	129011.1.1	EN Travel FY06	250.0d	03-Oct-05*	29-Sep-06
27-H3295	129011.2.6	Relocations/Utility/Attorney's Opinion of Compensability	10.0d	23-Jan-08	05-Feb-08
27-H3300	129011.1.1	Travel PD FY05	86.0d	01-Jun-05 A	30-Sep-05 A
27-H3305	129011.2.6	Estate Analysis/Determination	14.0d	23-May-08	12-Jun-08
27-H3310	129011.1.1	Travel PD FY06	250.0d	03-Oct-05*	29-Sep-06
27-H3315	129011.2.6	Complete REP	12.0d	28-Jul-08	12-Aug-08
27-H3325	129011.2.6	Final REP	12.0d	13-Aug-08	28-Aug-08
27-H3330	129011.1.1	SFWMD Travel and Management FY06	250.0d	03-Oct-05*	29-Sep-06
27-H3340	129011.2.3.1	USFWS Coordination Act Transfer Funds FY08	250.0d	01-Oct-07	26-Sep-08
27-H3350	129011.2.3.1	USFWS Coordination Act Transfer Funds FY06	250.0d	03-Oct-05*	29-Sep-06
27-H3355	129011.2.3.1	USFWS Coordination Act Transfer Funds FY07	250.0d	02-Oct-06	28-Sep-07
27-H340	129011.2.A	ASA(CW) Report Submitted to Congress	0.0d		09-Feb-10

Activity ID	WBS	Activity Name	Original Duration	Start	Finish
27-H350	129011.2.A	President Signs Authorization	0.0d		12-Jul-10
27-H500	129011.5.2	P&S Initiated	0.0d		26-Mar-10
27-H580	129011.5.5	P&S BCOE Review	0.0d		19-Sep-11
27-H590	129011.5.5	P&S BCOE Certification	0.0d		27-Feb-12
27-H620	129011.6.7	PCA Submitted to HQ for Approval	0.0d		01-Nov-11
27-H650	129011.6.7	PCA Approved	0.0d		14-Dec-11
27-H690	129011.6.7	PCA Executed	0.0d		05-Jan-12
27-H790	129011.7.3	Real Estate Certification Received	0.0d		10-Feb-12
27-H950	129011.8.2	Construction Contract Advertised	0.0d		11-Apr-12
27-H960	129011.8.3	Construction Contract Awarded	0.0d		14-May-12
27-H970	129011.8.9	Construction Contract Physically Complete	0.0d		15-May-14
27-L200	129011.2.3	Notice of Intent to Prepare NEPA Issued	0.0d		15-Dec-05
27-L205	129011.2.3	NEPA Scoping Meeting	0.0d		16-Dec-05
27-L215	129011.2.2.3	Preliminary Screening of Alternatives Complete	0.0d		12-Jul-06
27-L230	129011.2.2.3	Feasibility Scoping Meeting (FSM)	0.0d		13-Nov-06
27-L235	129011.2.2.3	FSM Guidance Memorandum Received	0.0d		29-Nov-06
27-L245	129011.2.9.1	PIR/FS 1501 Pre-Application Meeting Complete	0.0d		01-Oct-07
27-L250	129011.2.9.1	PIR/FS 1501 Pre-Application Concurrence Received from F...	0.0d		30-Oct-07
27-L265	129011.2.2.3	Final Alternative Array Complete	0.0d		11-Aug-08
27-L280	129011.2.2.4	RECOVER Evaluation of Alternatives Complete	0.0d		26-Jun-07
27-L285	129011.2.3.1	Receive Draft FWCA Report	0.0d		01-Nov-07
27-L290	129011.2.2.6	Draft PIR/NEPA Report Complete	0.0d		26-Sep-08
27-L295	129011.2.9.1	Submittal Briefing with FDEP Complete	0.0d		30-Sep-08
27-L299	129011.5.7	Submit State WQC/Permits Application	0.0d		16-Feb-11
27-L325	129011.2.9	Draft PIR/NEPA Published in Federal Register	0.0d		28-Oct-08
27-L339	129011.2.3.1	Receive Biological Opinion	0.0d		18-Oct-07
27-L340	129011.2.3.1	Receive Final FWCA Report	0.0d		23-Dec-08
27-L350	129011.2.9.1	FS 1501 Submittal to FDEP	0.0d		03-Oct-08
27-L375	129011.2.9	Sponsor's Letter of Intent Received	0.0d		03-Apr-09
27-L380	129011.2.9.1	FS 1501 FDEP Approval	0.0d		08-Dec-08
27-L385	129011.2.9	Final PIR/NEPA Report Published in the Federal Register	0.0d		21-May-09
27-L400	129011.6.2	PCA Initiated	0.0d		31-Aug-11
27-L700	129011.5.5	P&S Final ITR and Certification	0.0d		12-Aug-11
27-P220	129011.2.2.2	Project Performance Measures Complete	0.0d		30-Mar-06
27-P700	129011.5.3	P&S 30% Technical Review Conference	0.0d		09-Nov-10
27-P705	129011.5.4	P&S 60% Technical Review Conference	0.0d		22-Mar-11
27-P805	129011.8.3	Construction Contract Notice to Proceed	0.0d		14-Jun-12
29-H2976	129011.1.1	Travel DP FY07 and Beyond	1913.0d	02-Oct-06	15-May-14

APPENDIX D: PROJECT SCHEDULE

TAB A – Gantt Chart for Current Phase

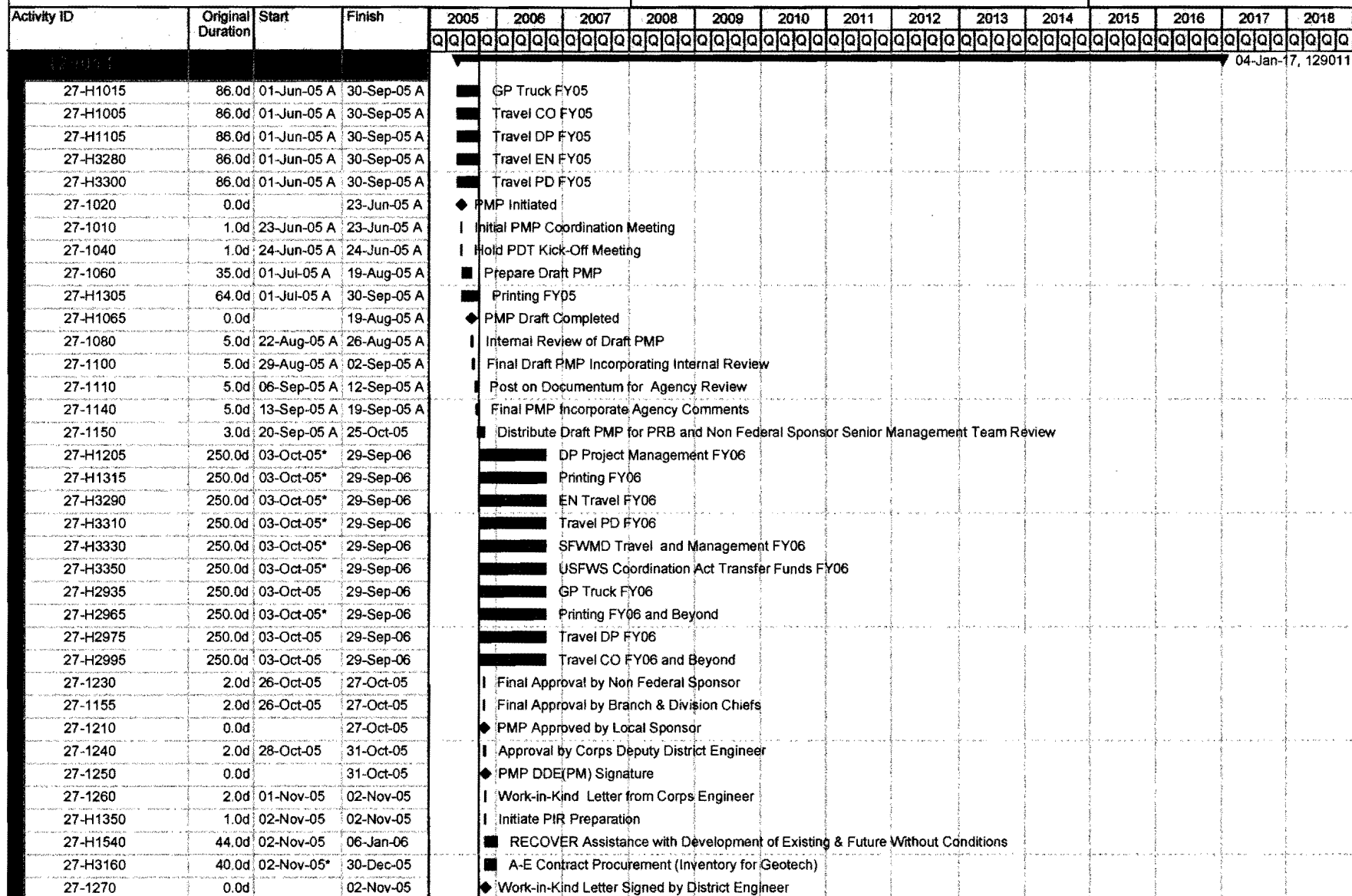
TAB B – Project Milestone Report

TAB A – Gantt Chart for Current Phase

CERP Everglades National Park Seepage Management (TLH 7/11/05)

Gantt Chart for Current Phase

30-Sep-05



Actual Work Critical Remaining Work
Remaining Work Milestone

CERP Everglades National Park Seepage Management (TLH 7/11/05)

Gantt Chart for Current Phase

30-Sep-05

Activity ID	Original Duration	Start	Finish																												
				2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018														
27-H100	0.0d		02-Nov-05	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
27-H1360	15.0d	03-Nov-05	25-Nov-05																												
27-H2990	22.0d	03-Nov-05	06-Dec-05																												
27-H1390	43.0d	03-Nov-05	06-Jan-06																												
27-H1400	43.0d	03-Nov-05	06-Jan-06																												
27-H1940	29.0d	03-Nov-05	15-Dec-05																												
27-H1680	22.0d	03-Nov-05	06-Dec-05																												
27-H3005	228.0d	03-Nov-05*	29-Sep-06																												
27-H3015	228.0d	03-Nov-05*	29-Sep-06																												
27-H3000	40.0d	28-Nov-05	25-Jan-06																												
27-H3010	40.0d	28-Nov-05	25-Jan-06																												
27-H1430	43.0d	28-Nov-05	30-Jan-06																												
27-H2980	66.0d	07-Dec-05	14-Mar-06																												
27-H1435	75.0d	12-Dec-05	30-Mar-06																												
27-L200	0.0d		15-Dec-05																												
27-H2780	35.0d	16-Dec-05	07-Feb-06																												
27-H1950	1.0d	16-Dec-05	16-Dec-05																												
27-H2770	35.0d	16-Dec-05	07-Feb-06																												
27-H2785	35.0d	16-Dec-05	07-Feb-06																												
27-L205	0.0d		16-Dec-05																												
27-H1730	30.0d	19-Dec-05	01-Feb-06																												
27-H1380	43.0d	03-Jan-06	06-Mar-06																												
27-H2960	40.0d	09-Jan-06	07-Mar-06																												
27-H1485	270.0d	09-Jan-06	05-Feb-07																												
27-H1530	33.0d	18-Jan-06	06-Mar-06																												
27-H1535	33.0d	18-Jan-06	06-Mar-06																												
27-H2940	40.0d	25-Jan-06	22-Mar-06																												
27-H1460	66.0d	26-Jan-06	28-Apr-06																												
27-H1470	66.0d	26-Jan-06	28-Apr-06																												
27-H2790	10.0d	08-Feb-06	22-Feb-06																												
27-H1750	75.0d	08-Feb-06	24-May-06																												
27-H2250	150.0d	08-Feb-06	11-Sep-06																												
27-H2775	120.0d	08-Feb-06	28-Jul-06																												
27-H1480	20.0d	03-Mar-06	30-Mar-06																												
27-H1645	5.0d	07-Mar-06	13-Mar-06																												
27-H1450	66.0d	23-Mar-06	23-Jun-06																												
27-H1490	66.0d	29-Mar-06	29-Jun-06																												
27-P220	0.0d		30-Mar-06																												

Actual Work Critical Remaining Work
 Remaining Work Milestone

CERP Everglades National Park Seepage Management (TLH 7/11/05)					Gantt Chart for Current Phase																30-Sep-05																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Activity ID	Original Duration	Start	Finish	2005				2006				2007				2008				2009				2010				2011				2012				2013				2014				2015				2016				2017				2018																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
				Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

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CERP Everglades National Park Seepage Management (TLH 7/11/05)							Gantt Chart for Current Phase												30-Sep-05			
Activity ID	Original Duration	Start	Finish	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018					
				Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q		
27-H2800	45.0d	01-Oct-07	05-Dec-07																			
27-H3340	250.0d	01-Oct-07	26-Sep-08																			
27-H2961	30.0d	01-Oct-07	13-Nov-07																			
27-L245	0.0d	01-Oct-07	01-Oct-07																			
27-H3050	10.0d	02-Oct-07	16-Oct-07																			
27-H2190	10.0d	16-Oct-07	29-Oct-07																			
27-H2100	86.0d	16-Oct-07	20-Feb-08																			
27-H1840	10.0d	17-Oct-07	30-Oct-07																			
27-L339	0.0d	18-Oct-07	18-Oct-07																			
27-H1970	10.0d	19-Oct-07	01-Nov-07																			
27-L250	0.0d		30-Oct-07																			
27-L285	0.0d		01-Nov-07																			
27-H2040	66.0d	29-Nov-07	05-Mar-08																			
27-H2010	66.0d	29-Nov-07	05-Mar-08																			
27-H2095	22.0d	03-Dec-07	03-Jan-08																			
27-H2810	20.0d	03-Dec-07	31-Dec-07																			
27-H2030	65.0d	31-Dec-07	02-Apr-08																			
27-H2820	20.0d	02-Jan-08	30-Jan-08																			
27-H2060	86.0d	04-Jan-08	06-May-08																			
27-H3275	14.0d	23-Jan-08	11-Feb-08																			
27-H3295	10.0d	23-Jan-08	05-Feb-08																			
27-H2085	86.0d	23-Jan-08	22-May-08																			
27-H3230	22.0d	20-Feb-08	20-Mar-08																			
27-H2110	20.0d	21-Feb-08	19-Mar-08																			
27-H2120	20.0d	21-Feb-08	19-Mar-08																			
27-H2130	45.0d	20-Mar-08	21-May-08																			
27-H3240	1.0d	21-Mar-08	21-Mar-08																			
27-H2150	22.0d	07-Apr-08	06-May-08																			
27-H1330	22.0d	14-Apr-08	13-May-08																			
27-H2140	11.0d	29-Apr-08	13-May-08																			
27-H1340	10.0d	14-May-08	28-May-08																			
27-H2710	10.0d	14-May-08	28-May-08																			
27-H3200	10.0d	14-May-08	28-May-08																			
27-H3305	14.0d	23-May-08	12-Jun-08																			
27-H3285	30.0d	13-Jun-08	25-Jul-08																			
27-H3315	12.0d	28-Jul-08	12-Aug-08																			
27-H1030	10.0d	13-Aug-08	26-Aug-08																			
27-H3325	12.0d	13-Aug-08	28-Aug-08																			
				■ Document Environmental Law Compliance																		
				■ USFWS Coordination Act Transfer Funds FY08																		
				■ Draft Water Control Plan																		
				◆ PIR/FS 1501 Pre-Application Meeting Complete																		
				■ Preparation of 1501 Pre App Mtg Summary																		
				■ Federal Permits Issued																		
				■ Develop Draft Project Operating Manual																		
				■ 1501 Pre App Mtg Summary Reviewed by FDEP																		
				◆ Receive Biological Opinion																		
				■ Draft CAR received to be used in draft NEPA																		
				◆ PIR/FS 1501 Pre-Application Concurrence Received from FDEP																		
				◆ Receive Draft FWCA Report																		
				■ Perform SAP Geotech Analysis																		
				■ Obtain SAP Geotechnical & Survey Data																		
				■ Next Added Increment Analysis																		
				■ Prepare Env Effects, Cum Effects, Tradeoff Discussion for SAP																		
				■ Perform SAP Civil/Structural & M&E Analysis																		
				■ Incorporate all NEPA into PIR and Review for consistency																		
				■ Develop Project Monitoring Plan																		
				■ Physical Takings Analysis/non-Standard Estates																		
				■ Relocations/Utility/Attorney's Opinion of Compensability																		
				■ Prepare Planning Maps																		
				■ 404 Permit Application																		
				■ Quantify Water Made Available																		
				■ Savings Analysis																		
				■ Identify Water to be Reserved																		
				■ 404 Public Notice																		
				■ Prepare MCASES Cost Estimate																		
				■ Compile (Preliminary) Draft PIR/NEPA																		
				■ Develop Implementation Plan																		
				■ In-house Review of Draft PIR/NEPA																		
				■ RECOVER Review of Preliminary Draft PIR																		
				■ Assemble 1501 Submittal																		
				■ Estate Analysis/Determination																		
				■ Gross Appraisal																		
				■ Complete REP																		
				■ ITR on Draft PIR/NEPA Document																		
				■ Final REP																		

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TAB B – Project Milestone Report

Activity ID	Activity Name	Finish
27-1020	PMP Initiated	23-Jun-05 A
27-H1065	PMP Draft Completed	19-Aug-05 A
27-1210	PMP Approved by Local Sponsor	27-Oct-05
27-1250	PMP DDE(PM) Signature	31-Oct-05
27-1270	Work-in-Kind Letter Signed by District Engineer	02-Nov-05
27-H100	Initiate PIR	02-Nov-05
27-L200	Notice of Intent to Prepare NEPA Issued	15-Dec-05
27-L205	NEPA Scoping Meeting	16-Dec-05
27-P220	Project Performance Measures Complete	30-Mar-06
27-H1676	RE Aquisition Initiated	13-Jun-06
27-L215	Preliminary Screening of Alternatives Complete	12-Jul-06
27-L265	Final Alternative Array Complete	11-Aug-06
27-L230	Feasibility Scoping Meeting (FSM)	13-Nov-06
27-L235	FSM Guidance Memorandum Received	29-Nov-06
27-L280	RECOVER Evaluation of Alternatives Complete	26-Jun-07
27-H124	Alternative Formulation Briefing (AFB)	14-Sep-07
27-H126	AFB Guidance Memorandum Received	28-Sep-07
27-L245	PIR/FS 1501 Pre-Application Meeting Complete	01-Oct-07
27-L339	Receive Biological Opinion	18-Oct-07
27-L250	PIR/FS 1501 Pre-Application Concurrence Received from FDEP	30-Oct-07
27-L285	Receive Draft FWCA Report	01-Nov-07
27-L290	Draft PIR/NEPA Report Complete	26-Sep-08
27-L295	Submittal Briefing with FDEP Complete	30-Sep-08
27-L350	FS 1501 Submittal to FDEP	03-Oct-08
27-L325	Draft PIR/NEPA Published in Federal Register	28-Oct-08
27-H3180	Start Public Review Draft PIR/NEPA	
27-L380	FS 1501 FDEP Approval	08-Dec-08
27-L340	Receive Final FWCA Report	23-Dec-08
27-H130	Complete PIR Review Conference	24-Dec-08
27-H140	Project Guidance Memorandum (PGM) Received	09-Jan-09
27-L375	Sponsor's Letter of Intent Received	03-Apr-09
27-H165	Submit Final PIR/NEPA Report to MSC	17-Apr-09
27-H170	MSC Commander's Public Notice (Complete PIR)	24-Apr-09
27-L385	Final PIR/NEPA Report Published in the Federal Register	21-May-09
27-H180	Washington Level Agency Review/Public Review Complete	23-Jun-09
27-H3170	Filing of Final EIS	07-Aug-09
27-H3090	Chief's Report	14-Aug-09
27-H320	Record of Decision (ROD) Signed	08-Sep-09
27-H175	ASA(CW) Memorandum to OMB	03-Nov-09
27-H340	ASA(CW) Report Submitted to Congress	09-Feb-10
27-H500	P&S Initiated	26-Mar-10
27-H350	President Signs Authorization	12-Jul-10
27-P700	P&S 30% Technical Review Conference	09-Nov-10

Activity ID	Activity Name	Finish
27-H2466	VE 30% P&S Package Complete	03-Dec-10
27-L299	Submit State WQC/Permits Application	16-Feb-11
27-H3110	Receive Request for Additional Information (RAI)/Completeness Letter	21-Mar-11
27-P705	P&S 60% Technical Review Conference	22-Mar-11
27-H3190	Receipt of Intent and Public Notice	06-Jul-11
27-L700	P&S Final ITR and Certification	12-Aug-11
27-H300	State WQC/Permits Received	30-Aug-11
27-L400	PCA Initiated	31-Aug-11
27-H580	P&S BCOE Review	19-Sep-11
27-H620	PCA Submitted to HQ for Approval	01-Nov-11
27-H650	PCA Approved	14-Dec-11
27-H690	PCA Executed	05-Jan-12
27-H2401	RE Acquisition Complete	27-Jan-12
27-H790	Real Estate Certification Received	10-Feb-12
27-H590	P&S BCOE Certification	27-Feb-12
27-H950	Construction Contract Advertised	11-Apr-12
27-H960	Construction Contract Awarded	14-May-12
27-P805	Construction Contract Notice to Proceed	14-Jun-12
27-H970	Construction Contract Physically Complete	15-May-14

APPENDIX E: PROJECT COST ESTIMATE AND BUDGET

TAB A – Total Project Cost Summary

TAB B – Fully Funded Cost Estimate (Post PIR)

TAB C – Cost Listing by Agency/Organizational Unit

TAB D – Projected Annual Budget

TAB E – Projected Cash Flow Curve

TAB F – Contingency Summary and Status

TAB A – Total Project Cost Summary

30-Sep-05 11:30

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TAB B – Fully Funded Cost Estimate (Post PIR Only)

TAB C – Cost Listing by Agency/Organizational Unit

TABLE E-C-1: COST LISTING BY AGENCY / ORGANIZATIONAL UNIT

<u>Work Phase</u>	<u>USACE</u>	<u>SFWMD</u>
<u>Project Management</u>	<u>\$775,280</u>	<u>\$490</u>
<u>PMP</u>	<u>\$109,400</u>	<u>\$7,350</u>
<u>PIR</u>	<u>\$3,543,241</u>	<u>\$291,675</u>
<u>Water Reservations</u>	<u>\$0</u>	<u>\$46,800</u>
<u>Plans & Specs</u>	<u>\$13,641,461</u>	<u>\$33,200</u>
<u>PCA</u>	<u>\$0</u>	<u>\$7,200</u>
<u>Real Estate</u>	<u>\$5,000</u>	<u>\$166,344,000</u>
<u>Construction</u>	<u>\$161,473,432</u>	<u>\$40,200</u>
<u>PIM</u>	<u>\$10,000</u>	<u>\$10,000</u>
<u>Total Cost</u>	<u>\$179,557,814</u>	<u>\$166,780,915</u>

TAB D – Projected Annual Budget

App E, Tab D - Projected Annual Budget by Resources

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

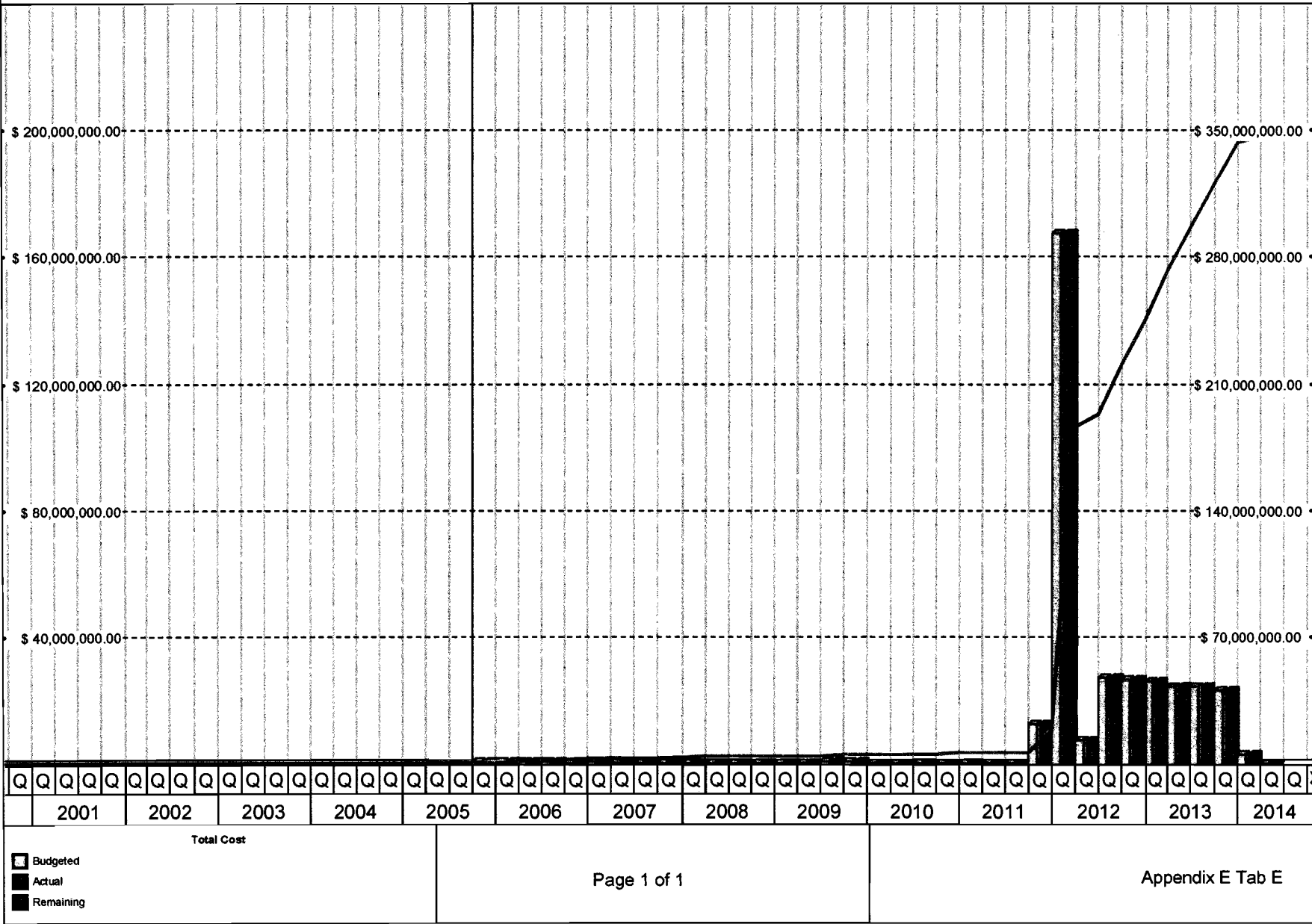
Resource ID	FY2004-2005	FY2005-2006	FY2006-2007	FY2007-2008	FY2008-2009	FY2009-2010	FY2010-2011	FY2011-2012	FY2012-2013	FY2013-2014	Total
CC-O					\$ 10,000.00						\$ 10,000.00
CO										\$ 10,000.00	\$ 10,000.00
CO-CQ		\$ 1,200.00	\$ 1,200.00	\$ 1,000.00	\$ 1,200.00		\$ 11,200.00	\$ 2,600.00			\$ 18,400.00
CO-CS								\$ 20,063,791.95	\$ 6,445,857.05		\$ 26,509,649.00
CO-R	\$ 2,726.66	\$ 12,199.09	\$ 10,399.57	\$ 8,600.00	\$ 799.93						\$ 34,725.25
CO-W							\$ 7,800.00	\$ 1,600.00			\$ 9,400.00
CT-C		\$ 20,000.00									\$ 20,000.00
CT-S	\$ 1,000.00	\$ 3,000.00									\$ 4,000.00
DP-E	\$ 15,973.35	\$ 150,000.00	\$ 68,609.51	\$ 69,158.39	\$ 68,883.95	\$ 68,883.95	\$ 69,158.39	\$ 68,609.51	\$ 68,883.95	\$ 42,812.34	\$ 690,973.35
EN-C	\$ 4,000.00	\$ 104,774.42	\$ 101,825.31	\$ 65,000.00	\$ 5,499.63		\$ 1,600.00				\$ 282,699.36
EN-DL	\$ 4,000.00	\$ 51,900.00	\$ 31,199.57		\$ 17,250.00	\$ 66,061.58	\$ 156,427.06	\$ 10,561.36			\$ 337,399.57
EN-DM		\$ 3,500.00					\$ 3,500.00				\$ 7,000.00
EN-DS	\$ 3,000.00	\$ 6,400.00	\$ 3,999.73	\$ 3,000.00	\$ 1,500.00	\$ 4,401.16	\$ 15,221.56	\$ 1,477.27			\$ 38,999.73
EN-DT		\$ 30,000.00		\$ 22,500.00	\$ 37,666.67	\$ 12,333.33	\$ 13,636.36	\$ 2,863.64			\$ 119,000.00
EN-GE	\$ 7,000.00	\$ 69,999.43	\$ 8,499.73	\$ 38,500.00	\$ 1,500.00						\$ 125,499.16
EN-GG	\$ 23,000.00	\$ 82,200.00	\$ 54,499.73	\$ 81,700.00	\$ 46,229.08	\$ 48,759.14	\$ 31,332.72	\$ 3,178.98			\$ 370,899.64
EN-GS	\$ 6,000.00	\$ 63,500.00	\$ 50,500.00	\$ 2,500.00	\$ 18,395.83	\$ 18,662.24	\$ 16,649.31	\$ 1,292.61			\$ 177,500.00
EN-HH	\$ 1,397.51	\$ 9,600.00	\$ 3,000.00	\$ 3,000.00	\$ 1,500.00		\$ 1,600.00				\$ 20,097.51
EN-HI	\$ 1,000.00	\$ 158,883.20	\$ 225,120.72	\$ 10,988.08	\$ 1,500.00						\$ 397,492.00
EN-HW	\$ 0.02	\$ 14,575.81	\$ 3,697.00	\$ 23,990.00	\$ 2,866.00	\$ 937.14	\$ 428.86				\$ 46,494.83
EN-T	\$ 8,000.00	\$ 31,700.00	\$ 8,400.00	\$ 5,000.00	\$ 5,000.00		\$ 18,200.00				\$ 76,300.00
OC	\$ 1,000.00										\$ 1,000.00
OC-RE	\$ 500.00		\$ 872.09	\$ 26,627.91							\$ 28,000.00
PD-D	\$ 2,000.00	\$ 66,812.67	\$ 44,686.07	\$ 9,000.00	\$ 15,499.82						\$ 137,998.56
PD-E		\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00						\$ 12,000.00
PD-ES	\$ 13,000.00	\$ 177,500.00	\$ 40,499.19	\$ 28,500.00	\$ 15,000.00		\$ 15,000.00				\$ 289,499.19
K3K0BH0-PD WATER QUA		\$ 13,000.00	\$ 3,000.00	\$ 3,000.00	\$ 1,500.00						\$ 20,500.00
K3K0CA0-PD WATERSHED			\$ 10,000.00	\$ 10,000.00	\$ 10,000.00						\$ 30,000.00

App E, Tab D - Projected Annual Budget by Resources

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Resource ID	FY2004-2005	FY2005-2006	FY2006-2007	FY2007-2008	FY2008-2009	FY2009-2010	FY2010-2011	FY2011-2012	FY2012-2013	FY2013-2014	Total
PD-PN	\$ 9,102.49	\$ 119,299.15	\$ 88,299.19	\$ 61,000.00	\$ 69,599.73		\$ 1,600.00				\$ 348,900.56
PD-R	\$ 3,600.00										\$ 3,600.00
RE-P	\$ 100.00	\$ 15,000.00		\$ 12,000.00							\$ 27,100.00
RE-S	\$ 1,000.00	\$ 71,232.56	\$ 19,500.00	\$ 86,967.44	\$ 2,700.00			\$ 5,000.00			\$ 186,400.00
AESVCS		\$ 533,000.00		\$ 113,000.00	\$ 433,333.33	\$ 216,666.67	\$ 59,954.55	\$ 9,545.45			\$ 1,365,500.00
CONSTSVCS								\$ 27,665,628.36	\$ 93,838,820.50	\$ 25,796,329.14	\$ 147,300,778.00
GSAVEH		\$ 100.00	\$ 500.00								\$ 600.00
GTRUCK-GP1	\$ 80.00										\$ 80.00
OTHCONSVC		\$ 10,000.00									\$ 10,000.00
SHOP/FACIL	\$ 500.00	\$ 2,200.00			\$ 625.00	\$ 1,426.14	\$ 1,431.82	\$ 2,517.05			\$ 8,700.00
TRAVEL	\$ 9,200.00	\$ 39,700.00	\$ 21,920.54	\$ 3,951.91	\$ 3,936.23	\$ 3,936.23	\$ 3,951.91	\$ 3,920.54	\$ 3,936.23	\$ 2,446.42	\$ 96,900.00
WKBOTHCOE		\$ 24,500.00									\$ 24,500.00
WKBOTHFED		\$ 152,153.00	\$ 113,028.00	\$ 94,039.00							\$ 359,220.00
NAMED EMP	\$ 5,550.00	\$ 173,515.00	\$ 68,348.69	\$ 42,500.98	\$ 21,300.00	\$ 38,658.14	\$ 35,969.13	\$ 19,402.68	\$ 9,938.07	\$ 36,731.98	\$ 451,914.68
5550								\$ 166,329,000.00			\$ 166,329,000.00
Total	\$ 122,730.03	\$ 2,214,444.33	\$ 984,604.66	\$ 628,523.71	\$ 796,285.19	\$ 480,725.71	\$ 464,661.67	\$ 214,190,989.40	\$ 100,367,435.81	\$ 25,888,319.88	\$ 346,335,720.36

TAB E – Project Cash Flow Curve



TAB F – Contingency Summary and Status

Once CERP guidance and standardized report instructions are developed and approved, the Contingency Summary and Status Report will be placed in Appendix E, Tab F.

APPENDIX F: FUNCTIONAL AREA PLANS

TAB A – Activities by Agency, Organizational Unit & Resource

TAB A – Activities by Agency, Organizational Unit & Resource

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
CC-O						
CC-O	27-H2830	Public Workshop on Draft PIR	0.0d	13-Nov-08	14-Nov-08	\$ 10,000.00
Resource Sub Total						\$ 10,000.00
CO						
CO	27-H2635	Post Construction Monitoring	660.0d	16-May-14	16-May-14	\$ 10,000.00
Resource Sub Total						\$ 10,000.00
CO-CQ						
CO-CQ	27-H2471	60% P & S Technical Review and Conference	57.0d	15-Feb-11	22-Mar-11	\$ 6,600.00
CO-CQ	27-H2513	Final BCOE Review	82.0d	04-Oct-11	12-Oct-11	\$ 1,600.00
CO-CQ	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,200.00
CO-CQ	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 1,000.00
CO-CQ	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 1,200.00
CO-CQ	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 1,200.00
CO-CQ	27-H2520	BCOE Review & Conference	57.0d	15-Aug-11	19-Sep-11	\$ 4,600.00
CO-CQ	27-H2550	BCOE Certification	0.0d	13-Feb-12	27-Feb-12	\$ 1,000.00
Resource Sub Total						\$ 18,400.00
CO-CS						
CO-CS	27-H2621	Construction Management	259.0d	28-Feb-12	03-Apr-13	\$ 14,170,654.00
CO-CS	27-H2540	Prepare BCOE Certification Package & Review	57.0d	21-Oct-11	17-Nov-11	\$ 12,338,995.00
Resource Sub Total						\$ 26,509,649.00
CO-R						
CO-R	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 1,600.00
CO-R	27-1010	Initial PMP Coordination Meeting		23-Jun-05 A	23-Jun-05 A	\$ 400.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
CO-R	27-H1560	Identification of Management Measures	104.0d	31-Mar-06	01-May-06	\$ 1,000.00
CO-R	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 1,000.00
CO-R	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 1,000.00
CO-R	27-H2280	SAJ Response to HQ Policy Review Comments	125.7d	31-Oct-06	08-Nov-06	\$ 1,000.00
CO-R	27-H1620	ITR Meeting with PDT to prepare for FSM	125.7d	26-Sep-06	26-Sep-06	\$ 1,600.00
CO-R	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,600.00
CO-R	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 1,600.00
CO-R	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 1,200.00
CO-R	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 400.00
CO-R	27-H1430	Identify Performance Measures	0.0d	28-Nov-05	30-Jan-06	\$ 2,400.00
CO-R	27-H1460	Water Quality / Ecologic Data Collection	87.0d	26-Jan-06	28-Apr-06	\$ 2,000.00
CO-R	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 5,000.00
CO-R	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 1,000.00
CO-R	27-H3040	VE of AFB Package	0.0d	13-Jul-07	02-Aug-07	\$ 1,000.00
CO-R	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 800.00
CO-R	27-H2030	Perform SAP Civil/Structural & M&E Analysis	65.0d	31-Dec-07	02-Apr-08	\$ 3,000.00
CO-R	27-H2140	Develop Implementation Plan	63.0d	29-Apr-08	13-May-08	\$ 800.00
CO-R	27-H1340	In-house Review of Draft PIR/NEPA	63.0d	14-May-08	28-May-08	\$ 800.00
CO-R	27-H1000	In Progress Review	9.5d	18-Dec-08	24-Dec-08	\$ 800.00
CO-R	27-H2060	Develop Project Monitoring Plan	63.0d	04-Jan-08	06-May-08	\$ 4,000.00
CO-R	27-1080	Internal Review of Draft PMP		22-Aug-05	26-Aug-05 A	\$ 726.66
Resource Sub Total						\$ 34,726.66
CO-W						
CO-W	27-H2471	60% P & S Technical Review and Conference	57.0d	15-Feb-11	22-Mar-11	\$ 4,600.00
CO-W	27-H2513	Final BCOE Review	82.0d	04-Oct-11	12-Oct-11	\$ 1,600.00
CO-W	27-H2520	BCOE Review & Conference	57.0d	15-Aug-11	19-Sep-11	\$ 3,200.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
Resource Sub Total						\$ 9,400.00
CT-C						
CT-C	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 5,000.00
CT-C	27-H1450	Hydrologic, Physical and Subsurface Data Collection	2642.0d	23-Mar-06	23-Jun-06	\$ 5,000.00
CT-C	27-H3000	A-E Contract Procurement for Water Quality / Ecologic Data Collection	87.0d	28-Nov-05	25-Jan-06	\$ 5,000.00
CT-C	27-H2980	Survey Data Collection for Models	2714.0d	07-Dec-05	14-Mar-06	\$ 5,000.00
Resource Sub Total						\$ 20,000.00
CT-S						
CT-S	27-H2250	Phase 1 Cultural Resource Surveys and Coordination	573.0d	08-Feb-06	11-Sep-06	\$ 3,000.00
CT-S	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 1,000.00
Resource Sub Total						\$ 4,000.00
DP-E						
DP-E	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 15,973.34
DP-E	27-H1105	Travel DP FY05		01-Jun-05 A	30-Sep-05 A	\$ 0.01
DP-E	27-H1205	DP Project Management FY06	0.0d	03-Oct-05	29-Sep-06	\$ 150,000.00
DP-E	27-H1215	DP Project Management FY07 and Beyond	0.0d	02-Oct-06	15-May-14	\$ 525,000.00
Resource Sub Total						\$ 690,973.35
EN-C						
EN-C	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 4,000.00
EN-C	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 43,000.00
EN-C	27-H1435	RECOVER Review of Project Performance Measures	0.0d	12-Dec-05	30-Mar-06	\$ 1,000.00
EN-C	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 11,000.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-C	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 11,000.00
EN-C	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 4,000.00
EN-C	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 4,000.00
EN-C	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 1,600.00
EN-C	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 1,500.00
EN-C	27-H1660	Develop Planning Cost Estimates (Engineering, Construction, O&M)	20.0d	20-Nov-06	26-Mar-07	\$ 25,000.00
EN-C	27-H2280	SAJ Response to HQ Policy Review Comments	125.7d	31-Oct-06	08-Nov-06	\$ 1,500.00
EN-C	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,000.00
EN-C	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 40,000.00
EN-C	27-H2150	Prepare MCASES Cost Estimate	63.0d	07-Apr-08	06-May-08	\$ 50,000.00
EN-C	27-H1330	Compile (Preliminary) Draft PIR/NEPA	63.0d	14-Apr-08	13-May-08	\$ 3,000.00
EN-C	27-H2140	Develop Implementation Plan	63.0d	29-Apr-08	13-May-08	\$ 3,000.00
EN-C	27-H1340	In-house Review of Draft PIR/NEPA	63.0d	14-May-08	28-May-08	\$ 2,000.00
EN-C	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 5,000.00
EN-C	27-H2330	Incorporate In-House, RECOVER & ITR Comments on Prelim Draft PIR/NEPA	0.0d	27-Aug-08	17-Sep-08	\$ 2,000.00
EN-C	27-H1000	In Progress Review	9.5d	18-Dec-08	24-Dec-08	\$ 4,000.00
EN-C	27-H1640	Develop Preliminary Design for Alternatives	20.0d	13-Nov-06	19-Mar-07	\$ 24,000.00
EN-C	27-H1671	Develop Cost Estimate	108.0d	14-Aug-06	13-Oct-06	\$ 35,000.00
EN-C	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 1,600.00
EN-C	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-C	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
Resource Sub Total						\$ 282,700.00
EN-DL						
EN-DL	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 4,000.00
EN-DL	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 33,000.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-DL	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 5,000.00
EN-DL	27-H1560	Identification of Management Measures	104.0d	31-Mar-06	01-May-06	\$ 1,600.00
EN-DL	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 1,600.00
EN-DL	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 2,400.00
EN-DL	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 2,400.00
EN-DL	27-H1660	Develop Planning Cost Estimates (Engineering, Construction, O&M)	20.0d	20-Nov-06	26-Mar-07	\$ 4,000.00
EN-DL	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,600.00
EN-DL	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 1,600.00
EN-DL	27-H1640	Develop Preliminary Design for Alternatives	20.0d	13-Nov-06	19-Mar-07	\$ 20,000.00
EN-DL	27-H2960	Obtain Real Estate Rights of Entry Geotech, Survey, Environmental & Cultural	2693.0d	09-Jan-06	07-Mar-06	\$ 2,400.00
EN-DL	27-H2840	Develop Scope of P&S Exploration Plan	0.0d	27-Apr-09	01-Jun-09	\$ 8,000.00
EN-DL	27-H2850	Develop P&S Survey/Geotech Scope of Work	0.0d	02-Jun-09	07-Jul-09	\$ 8,000.00
EN-DL	27-H2880	Finalize Geotech/Civil/Structural Scope for P&S	0.0d	16-Nov-09	26-Mar-10	\$ 24,000.00
EN-DL	27-H2450	A-E Delivery Order Preparation	0.0d	29-Mar-10	08-Jul-10	\$ 20,000.00
EN-DL	27-H2460	30 % P & S Preparation	0.0d	09-Jul-10	09-Nov-10	\$ 28,000.00
EN-DL	27-H2470	60% P & S Preparation	0.0d	10-Nov-10	14-Feb-11	\$ 48,000.00
EN-DL	27-H2480	Advance 100% P&S Preparation	57.0d	08-Apr-11	11-Jul-11	\$ 24,000.00
EN-DL	27-H2510	BCOE Package Preparation	57.0d	12-Jul-11	29-Jul-11	\$ 8,000.00
EN-DL	27-H2520	BCOE Review & Conference	57.0d	15-Aug-11	19-Sep-11	\$ 10,000.00
EN-DL	27-H2530	BCOE Comment Incorporation	57.0d	20-Sep-11	20-Oct-11	\$ 8,000.00
EN-DL	27-H2540	Prepare BCOE Certification Package & Review	57.0d	21-Oct-11	17-Nov-11	\$ 2,400.00
EN-DL	27-H2560	EBS Preparation	0.0d	28-Feb-12	12-Mar-12	\$ 2,400.00
EN-DL	27-H2000	Develop TSP Site Survey/Geotech Scope	100.0d	27-Jul-07	09-Aug-07	\$ 4,000.00
EN-DL	27-H2181	Printing	18.0d	27-Apr-09	14-Feb-12	\$ 8,000.00
EN-DL	27-H2471	60% P & S Technical Review and Conference	57.0d	15-Feb-11	22-Mar-11	\$ 48,000.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-DL	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 3,500.00
EN-DL	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 3,500.00
Resource Sub Total						\$ 337,400.00
EN-DM						
EN-DM	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 3,500.00
EN-DM	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 3,500.00
Resource Sub Total						\$ 7,000.00
EN-DS						
EN-DS	27-1080	Internal Review of Draft PMP		22-Aug-05	26-Aug-05 A	\$ 1,500.00
EN-DS	27-1010	Initial PMP Coordination Meeting		23-Jun-05	23-Jun-05 A	\$ 1,500.00
EN-DS	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 1,800.00
EN-DS	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 1,500.00
EN-DS	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 1,500.00
EN-DS	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,000.00
EN-DS	27-H2880	Finalize Geotech/Civil/Structural Scope for P&S	0.0d	16-Nov-09	26-Mar-10	\$ 2,000.00
EN-DS	27-H2460	30 % P & S Preparation	0.0d	09-Jul-10	09-Nov-10	\$ 3,500.00
EN-DS	27-H2470	60% P & S Preparation	0.0d	10-Nov-10	14-Feb-11	\$ 3,500.00
EN-DS	27-H2480	Advance 100% P&S Preparation	57.0d	08-Apr-11	11-Jul-11	\$ 2,000.00
EN-DS	27-H2520	BCOE Review & Conference	57.0d	15-Aug-11	19-Sep-11	\$ 2,500.00
EN-DS	27-H2530	BCOE Comment Incorporation	57.0d	20-Sep-11	20-Oct-11	\$ 2,500.00
EN-DS	27-H2471	60% P & S Technical Review and Conference	57.0d	15-Feb-11	22-Mar-11	\$ 3,500.00
EN-DS	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 1,600.00
EN-DS	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 1,600.00
EN-DS	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-DS	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 3,000.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-DS	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
Resource Sub Total						\$ 39,000.00
EN-DT						
EN-DT	27-H2990	A-E Contract Procurement (Survey)	2714.0d	03-Nov-05	06-Dec-05	\$ 7,500.00
EN-DT	27-H2980	Survey Data Collection for Models	2714.0d	07-Dec-05	14-Mar-06	\$ 22,500.00
EN-DT	27-H2950	A-E Contract(s) Procurement (Survey & Geotech)	65.0d	01-Oct-07	28-Nov-07	\$ 7,500.00
EN-DT	27-H2010	Obtain SAP Geotechnical & Survey Data	65.0d	29-Nov-07	05-Mar-08	\$ 15,000.00
EN-DT	27-H2850	Develop P&S Survey/Geotech Scope of Work	0.0d	02-Jun-09	07-Jul-09	\$ 13,000.00
EN-DT	27-H2860	Perform P&S Topo Survey	0.0d	08-Jul-09	13-Nov-09	\$ 37,000.00
EN-DT	27-H2490	Survey Verification	63.0d	12-Jul-11	09-Sep-11	\$ 7,500.00
EN-DT	27-H2500	P&S Survey Update	63.0d	12-Sep-11	12-Oct-11	\$ 9,000.00
Resource Sub Total						\$ 119,000.00
EN-GE						
EN-GE	27-1080	Internal Review of Draft PMP		22-Aug-05	26-Aug-05 A	\$ 7,000.00
EN-GE	27-H1620	ITR Meeting with PDT to prepare for FSM	125.7d	26-Sep-06	26-Sep-06	\$ 1,000.00
EN-GE	27-H1460	Water Quality / Ecologic Data Collection	87.0d	26-Jan-06	28-Apr-06	\$ 50,000.00
EN-GE	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 5,000.00
EN-GE	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 5,000.00
EN-GE	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 1,000.00
EN-GE	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 1,000.00
EN-GE	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 3,000.00
EN-GE	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 1,000.00
EN-GE	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 1,000.00
EN-GE	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,000.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-GE	27-H2920	Prepare AFB Package	0.0d	31-May-07	12-Jul-07	\$ 1,000.00
EN-GE	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 2,000.00
EN-GE	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 1,000.00
EN-GE	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 1,000.00
EN-GE	27-H1020	Complete Draft PIR/NEPA Document for NEPA Review	0.0d	18-Sep-08	26-Sep-08	\$ 1,000.00
EN-GE	27-H1645	HTRW Assessment (review of phase 1)	2715.0d	07-Mar-06	13-Mar-06	\$ 2,000.00
EN-GE	27-H2060	Develop Project Monitoring Plan	63.0d	04-Jan-08	06-May-08	\$ 35,000.00
EN-GE	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-GE	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 2,500.00
EN-GE	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 2,500.00
Resource Sub Total						\$ 125,500.00

EN-GG

EN-GG	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 10,000.00
EN-GG	27-1080	Internal Review of Draft PMP		22-Aug-05 A	26-Aug-05 A	\$ 5,000.00
EN-GG	27-1100	Final Draft PMP Incorporating Internal Review		29-Aug-05 A	02-Sep-05 A	\$ 2,000.00
EN-GG	27-1240	Approval by Corps Deputy District Engineer	0.0d	28-Oct-05	31-Oct-05	\$ 1,000.00
EN-GG	27-1010	Initial PMP Coordination Meeting		23-Jun-05 A	23-Jun-05 A	\$ 1,500.00
EN-GG	27-1040	Hold PDT Kick-Off Meeting		24-Jun-05 A	24-Jun-05 A	\$ 1,500.00
EN-GG	27-1155	Final Approval by Branch & Division Chiefs	0.0d	26-Oct-05	27-Oct-05	\$ 1,000.00
EN-GG	27-1140	Final PMP Incorporate Agency Comments		13-Sep-05 A	19-Sep-05 A	\$ 3,000.00
EN-GG	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 4,000.00
EN-GG	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 5,000.00
EN-GG	27-H2280	SAJ Response to HQ Policy Review Comments	125.7d	31-Oct-06	08-Nov-06	\$ 1,500.00
EN-GG	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 2,000.00
EN-GG	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,000.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-GG	27-H1610	Receive FSM Guidance Memorandum	125.7d	13-Nov-06	29-Nov-06	\$ 1,000.00
EN-GG	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 3,600.00
EN-GG	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,600.00
EN-GG	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 4,000.00
EN-GG	27-H2940	A-E Contract Procurement (Geotech)	2642.0d	25-Jan-06	22-Mar-06	\$ 7,000.00
EN-GG	27-H1380	Inventory and Forecast Hydrologic & Geologic Resources	126.0d	03-Jan-06	06-Mar-06	\$ 7,000.00
EN-GG	27-H1480	Hydrologic Model Selection	0.0d	03-Mar-06	30-Mar-06	\$ 5,000.00
EN-GG	27-H3160	A-E Contract Procurement (Inventory for Geotech)	126.0d	02-Nov-05	30-Dec-05	\$ 6,000.00
EN-GG	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 1,000.00
EN-GG	27-H1450	Hydrologic, Physical and Subsurface Data Collection	2642.0d	23-Mar-06	23-Jun-06	\$ 30,000.00
EN-GG	27-H1660	Develop Planning Cost Estimates (Engineering, Construction, O&M)	20.0d	20-Nov-06	26-Mar-07	\$ 3,000.00
EN-GG	27-H1570	Compare Existing Condition to Pre-CERP Baseline	0.0d	06-Mar-07	19-Mar-07	\$ 1,500.00
EN-GG	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 3,000.00
EN-GG	27-H2920	Prepare AFB Package	0.0d	31-May-07	12-Jul-07	\$ 2,000.00
EN-GG	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 4,500.00
EN-GG	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 2,000.00
EN-GG	27-H2300	SAJ Response to HQ Policy Review Comments	0.0d	07-Sep-07	13-Sep-07	\$ 3,000.00
EN-GG	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 1,000.00
EN-GG	27-H1820	AFB Guidance Memorandum	65.0d	17-Sep-07	28-Sep-07	\$ 2,000.00
EN-GG	27-H1990	Develop Draft Scope of TSP Exploration Plan & Confirm with Sponsor	100.0d	13-Jul-07	26-Jul-07	\$ 3,000.00
EN-GG	27-H2000	Develop TSP Site Survey/Geotech Scope	100.0d	27-Jul-07	09-Aug-07	\$ 3,000.00
EN-GG	27-H2070	Selected Alternative Plan (SAP)	65.0d	15-Aug-07	28-Sep-07	\$ 7,000.00
EN-GG	27-H2970	Obtain Real Estate Rights of Entry	65.0d	01-Oct-07	28-Nov-07	\$ 1,000.00
EN-GG	27-H2950	A-E Contract(s) Procurement (Survey & Geotech)	65.0d	01-Oct-07	28-Nov-07	\$ 8,000.00
EN-GG	27-H2040	Perform SAP Geotech Analysis	65.0d	29-Nov-07	05-Mar-08	\$ 20,000.00
EN-GG	27-H2010	Obtain SAP Geotechnical & Survey Data	65.0d	29-Nov-07	05-Mar-08	\$ 10,000.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-GG	27-H2150	Prepare MCASES Cost Estimate	63.0d	07-Apr-08	06-May-08	\$ 1,000.00
EN-GG	27-H1330	Compile (Preliminary) Draft PIR/NEPA	63.0d	14-Apr-08	13-May-08	\$ 3,600.00
EN-GG	27-H2140	Develop Implementation Plan	63.0d	29-Apr-08	13-May-08	\$ 3,600.00
EN-GG	27-H1340	In-house Review of Draft PIR/NEPA	63.0d	14-May-08	28-May-08	\$ 1,000.00
EN-GG	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 4,500.00
EN-GG	27-H2330	Incorporate In-House, RECOVER & ITR Comments on Prelim Draft PIR/NEPA	0.0d	27-Aug-08	17-Sep-08	\$ 2,000.00
EN-GG	27-H1020	Complete Draft PIR/NEPA Document for NEPA Review	0.0d	18-Sep-08	26-Sep-08	\$ 1,000.00
EN-GG	27-H2320	SAJ Response to HQ Policy Review Comments	9.5d	04-Dec-08	17-Dec-08	\$ 2,500.00
EN-GG	27-H1000	In Progress Review	9.5d	18-Dec-08	24-Dec-08	\$ 1,000.00
EN-GG	27-H1640	Develop Preliminary Design for Alternatives	20.0d	13-Nov-06	19-Mar-07	\$ 16,000.00
EN-GG	27-H2960	Obtain Real Estate Rights of Entry Geotech, Survey, Environmental & Cultural	2693.0d	09-Jan-06	07-Mar-06	\$ 2,000.00
EN-GG	27-H2060	Develop Project Monitoring Plan	63.0d	04-Jan-08	06-May-08	\$ 26,000.00
EN-GG	27-H2840	Develop Scope of P&S Exploration Plan	0.0d	27-Apr-09	01-Jun-09	\$ 10,000.00
EN-GG	27-H2850	Develop P&S Survey/Geotech Scope of Work	0.0d	02-Jun-09	07-Jul-09	\$ 10,000.00
EN-GG	27-H2870	Perform P&S Geotech Investigation	0.0d	08-Jul-09	13-Nov-09	\$ 25,000.00
EN-GG	27-H2880	Finalize Geotech/Civil/Structural Scope for P&S	0.0d	16-Nov-09	26-Mar-10	\$ 25,000.00
EN-GG	27-H2450	A-E Delivery Order Preparation	0.0d	29-Mar-10	08-Jul-10	\$ 5,000.00
EN-GG	27-H2460	30 % P & S Preparation	0.0d	09-Jul-10	09-Nov-10	\$ 10,000.00
EN-GG	27-H2470	60% P & S Preparation	0.0d	10-Nov-10	14-Feb-11	\$ 5,000.00
EN-GG	27-H2480	Advance 100% P&S Preparation	57.0d	08-Apr-11	11-Jul-11	\$ 4,000.00
EN-GG	27-H2510	BCOE Package Preparation	57.0d	12-Jul-11	29-Jul-11	\$ 2,000.00
EN-GG	27-H2890	Final ITR and Certification of P&S	57.0d	01-Aug-11	12-Aug-11	\$ 3,000.00
EN-GG	27-H2520	BCOE Review & Conference	57.0d	15-Aug-11	19-Sep-11	\$ 5,000.00
EN-GG	27-H2530	BCOE Comment Incorporation	57.0d	20-Sep-11	20-Oct-11	\$ 1,500.00
EN-GG	27-H2560	EBS Preparation	0.0d	28-Feb-12	12-Mar-12	\$ 1,000.00
EN-GG	27-H1010	Project Guidance Memorandum (IPR)	9.5d	24-Dec-08	09-Jan-09	\$ 3,000.00

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Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-GG	27-H2181	Printing	18.0d	27-Apr-09	14-Feb-12	\$ 10,000.00
EN-GG	27-H2471	60% P & S Technical Review and Conference	57.0d	15-Feb-11	22-Mar-11	\$ 5,000.00
EN-GG	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
Resource Sub Total						\$ 370,900.00
EN-GS						
EN-GS	27-1080	Internal Review of Draft PMP		22-Aug-05	26-Aug-05 A	\$ 2,000.00
EN-GS	27-1100	Final Draft PMP Incorporating Internal Review		29-Aug-05	02-Sep-05 A	\$ 2,000.00
EN-GS	27-1010	Initial PMP Coordination Meeting		23-Jun-05	23-Jun-05 A	\$ 1,000.00
EN-GS	27-1040	Hold PDT Kick-Off Meeting		24-Jun-05	24-Jun-05 A	\$ 1,000.00
EN-GS	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 6,000.00
EN-GS	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 6,000.00
EN-GS	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 6,000.00
EN-GS	27-H2960	Obtain Real Estate Rights of Entry Geotech, Survey, Environmental & Cultural	2693.0d	09-Jan-06	07-Mar-06	\$ 2,500.00
EN-GS	27-H1380	Inventory and Forecast Hydrologic & Geologic Resources	126.0d	03-Jan-06	06-Mar-06	\$ 3,500.00
EN-GS	27-H3160	A-E Contract Procurement (Inventory for Geotech)	126.0d	02-Nov-05	30-Dec-05	\$ 2,500.00
EN-GS	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 3,500.00
EN-GS	27-H1450	Hydrologic, Physical and Subsurface Data Collection	2642.0d	23-Mar-06	23-Jun-06	\$ 21,000.00
EN-GS	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 6,000.00
EN-GS	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 25,000.00
EN-GS	27-H1700	Conduct Cost-Effectiveness & Incremental Cost Analysis	5.0d	30-May-07	19-Jun-07	\$ 1,000.00
EN-GS	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 1,000.00
EN-GS	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 1,000.00
EN-GS	27-H1640	Develop Preliminary Design for Alternatives	20.0d	13-Nov-06	19-Mar-07	\$ 20,000.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-GS	27-H2840	Develop Scope of P&S Exploration Plan	0.0d	27-Apr-09	01-Jun-09	\$ 10,000.00
EN-GS	27-H2850	Develop P&S Survey/Geotech Scope of Work	0.0d	02-Jun-09	07-Jul-09	\$ 2,000.00
EN-GS	27-H2870	Perform P&S Geotech Investigation	0.0d	08-Jul-09	13-Nov-09	\$ 5,000.00
EN-GS	27-H2880	Finalize Geotech/Civil/Structural Scope for P&S	0.0d	16-Nov-09	26-Mar-10	\$ 10,000.00
EN-GS	27-H2460	30 % P & S Preparation	0.0d	09-Jul-10	09-Nov-10	\$ 5,000.00
EN-GS	27-H2470	60% P & S Preparation	0.0d	10-Nov-10	14-Feb-11	\$ 3,500.00
EN-GS	27-H2520	BCOE Review & Conference	57.0d	15-Aug-11	19-Sep-11	\$ 1,000.00
EN-GS	27-H2181	Printing	18.0d	27-Apr-09	14-Feb-12	\$ 10,000.00
EN-GS	27-H2471	60% P & S Technical Review and Conference	57.0d	15-Feb-11	22-Mar-11	\$ 3,500.00
EN-GS	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 3,500.00
EN-GS	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 3,500.00
EN-GS	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-GS	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 2,500.00
EN-GS	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 2,500.00
EN-GS	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,000.00
Resource Sub Total						\$ 177,500.00
EN-HH						
EN-HH	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 1,397.51
EN-HH	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 8,000.00
EN-HH	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 1,600.00
EN-HH	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 1,600.00
EN-HH	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-HH	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 3,000.00
EN-HH	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
Resource Sub Total						\$ 20,097.51

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-HI						
EN-HI	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 1,000.00
EN-HI	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 7,418.00
EN-HI	27-H1520	Model Existing & Without Plan Conditions	0.0d	13-Nov-06	19-Mar-07	\$ 44,858.00
EN-HI	27-H1380	Inventory and Forecast Hydrologic & Geologic Resources	126.0d	03-Jan-06	06-Mar-06	\$ 4,945.00
EN-HI	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 34,615.00
EN-HI	27-H2070	Selected Alternative Plan (SAP)	65.0d	15-Aug-07	28-Sep-07	\$ 3,108.00
EN-HI	27-H2090	Perform SAP H&H Analysis	63.0d	17-Sep-07	30-Nov-07	\$ 9,890.00
EN-HI	27-H1480	Hydrologic Model Selection	0.0d	03-Mar-06	30-Mar-06	\$ 19,395.00
EN-HI	27-H1500	Simulation Models (Water Quality)	0.0d	14-Nov-06	16-Feb-07	\$ 67,817.00
EN-HI	27-H1481	Model Verification Boundary Conditions Defined	0.0d	31-Mar-06	13-Apr-06	\$ 9,697.00
EN-HI	27-H1482	Model Calibration Boundary Conditions Defined	0.0d	14-Apr-06	27-Apr-06	\$ 9,697.00
EN-HI	27-H1483	Model Verification and Calibration	0.0d	28-Apr-06	17-Jan-07	\$ 174,552.00
EN-HI	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-HI	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 3,000.00
EN-HI	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
EN-HI	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,000.00
Resource Sub Total						\$ 397,492.00
EN-HW						
EN-HW	27-1100	Final Draft PMP Incorporating Internal Review		29-Aug-05 A	02-Sep-05 A	\$ 0.01
EN-HW	27-1140	Final PMP Incorporate Agency Comments		13-Sep-05 A	19-Sep-05 A	\$ 0.01
EN-HW	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 1,228.00
EN-HW	27-H2460	30 % P & S Preparation	0.0d	09-Jul-10	09-Nov-10	\$ 1,366.00
EN-HW	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 4,781.00

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Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
EN-HW	27-H1620	ITR Meeting with PDT to prepare for FSM	125.7d	26-Sep-06	26-Sep-06	\$ 342.00
EN-HW	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 1,197.00
EN-HW	27-H2100	Develop Draft Project Operating Manual	67.0d	16-Oct-07	20-Feb-08	\$ 16,450.00
EN-HW	27-H2330	Incorporate In-House, RECOVER & ITR Comments on Prelim Draft PIR/NEPA	0.0d	27-Aug-08	17-Sep-08	\$ 5,040.00
EN-HW	27-H2260	Submit Documentation to HQ for Draft PIR/NEPA Review	9.5d	29-Oct-08	30-Oct-08	\$ 1,366.00
EN-HW	27-H1475	Wet Season Test	65.0d	01-Jun-06	07-Jun-06	\$ 5,917.00
EN-HW	27-H1495	Evaluate Old and New Data Together	65.0d	08-Jun-06	08-Jun-06	\$ 2,308.00
EN-HW	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
EN-HW	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 2,500.00
EN-HW	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 2,500.00
Resource Sub Total						\$ 46,495.02
EN-T						
EN-T	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 18,200.00
EN-T	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 8,500.00
EN-T	27-H3040	VE of AFB Package	0.0d	13-Jul-07	02-Aug-07	\$ 3,400.00
EN-T	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 18,200.00
EN-T	27-1080	Internal Review of Draft PMP		22-Aug-05 A	26-Aug-05 A	\$ 8,000.00
EN-T	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 5,000.00
EN-T	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 5,000.00
EN-T	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 5,000.00
EN-T	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 5,000.00
Resource Sub Total						\$ 76,300.00
OC						
OC	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 1,000.00

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Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
Resource Sub Total						\$ 1,000.00
OC-RE						
OC-RE	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 500.00
OC-RE	27-H3295	Relocations/Utility/Attorney's Opinion of Compensability	120.0d	23-Jan-08	05-Feb-08	\$ 10,000.00
OC-RE	27-H2080	Prepare Real Estate Appendix	0.0d	17-Sep-07	22-Jan-08	\$ 7,500.00
OC-RE	27-H3275	Physical Takings Analysis/non-Standard Estates	72.0d	23-Jan-08	11-Feb-08	\$ 5,000.00
OC-RE	27-H3305	Estate Analysis/Determination	0.0d	23-May-08	12-Jun-08	\$ 5,000.00
Resource Sub Total						\$ 28,000.00
PD-D						
PD-D	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 2,000.00
PD-D	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 8,000.00
PD-D	27-H1400	Inventory and Forecast Economic Resources	29.0d	03-Nov-05	06-Jan-06	\$ 6,000.00
PD-D	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 13,000.00
PD-D	27-H1470	Economic Data Collection	138.0d	26-Jan-06	28-Apr-06	\$ 9,000.00
PD-D	27-H1510	Simulation Models (Economic)	2.0d	09-Aug-06	14-Feb-07	\$ 6,000.00
PD-D	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 6,000.00
PD-D	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 5,000.00
PD-D	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 4,000.00
PD-D	27-H1620	ITR Meeting with PDT to prepare for FSM	125.7d	26-Sep-06	26-Sep-06	\$ 1,500.00
PD-D	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,500.00
PD-D	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 4,500.00
PD-D	27-H1700	Conduct Cost-Effectiveness & Incremental Cost Analysis	5.0d	30-May-07	19-Jun-07	\$ 9,500.00
PD-D	27-H2920	Prepare AFB Package	0.0d	31-May-07	12-Jul-07	\$ 9,500.00
PD-D	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 8,000.00

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Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
PD-D	27-H2300	SAJ Response to HQ Policy Review Comments	0.0d	07-Sep-07	13-Sep-07	\$ 1,500.00
PD-D	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 1,500.00
PD-D	27-H1340	In-house Review of Draft PIR/NEPA	63.0d	14-May-08	28-May-08	\$ 3,000.00
PD-D	27-H2320	SAJ Response to HQ Policy Review Comments	9.5d	04-Dec-08	17-Dec-08	\$ 9,000.00
PD-D	27-H1000	In Progress Review	9.5d	18-Dec-08	24-Dec-08	\$ 2,000.00
PD-D	27-H1080	Respond to Public Comments on Draft PIR/NEPA	0.0d	10-Dec-08	23-Jan-09	\$ 3,000.00
PD-D	27-H1485	Prepare Socio-Econ Appendix	29.0d	09-Jan-06	05-Feb-07	\$ 14,000.00
PD-D	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
PD-D	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 6,000.00
PD-D	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,000.00
Resource Sub Total						\$ 138,000.00
PD-E						
PD-E	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 3,000.00
PD-E	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 3,000.00
PD-E	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
PD-E	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,000.00
Resource Sub Total						\$ 12,000.00
PD-ES						
PD-ES	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 12,000.00
PD-ES	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 5,000.00
PD-ES	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 15,000.00
PD-ES	27-H1430	Identify Performance Measures	0.0d	28-Nov-05	30-Jan-06	\$ 8,000.00
PD-ES	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 40,000.00
PD-ES	27-H1490	Identify Simulation Models (Ecologic)	158.0d	29-Mar-06	29-Jun-06	\$ 10,000.00
PD-ES	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 4,000.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
PD-ES	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 4,000.00
PD-ES	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 1,000.00
PD-ES	27-H2280	SAJ Response to HQ Policy Review Comments	125.7d	31-Oct-06	08-Nov-06	\$ 2,000.00
PD-ES	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 3,000.00
PD-ES	27-H2920	Prepare AFB Package	0.0d	31-May-07	12-Jul-07	\$ 5,000.00
PD-ES	27-H2300	SAJ Response to HQ Policy Review Comments	0.0d	07-Sep-07	13-Sep-07	\$ 2,500.00
PD-ES	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 3,000.00
PD-ES	27-H1330	Compile (Preliminary) Draft PIR/NEPA	63.0d	14-Apr-08	13-May-08	\$ 5,000.00
PD-ES	27-H1340	In-house Review of Draft PIR/NEPA	63.0d	14-May-08	28-May-08	\$ 4,000.00
PD-ES	27-H1020	Complete Draft PIR/NEPA Document for NEPA Review	0.0d	18-Sep-08	26-Sep-08	\$ 2,500.00
PD-ES	27-H2320	SAJ Response to HQ Policy Review Comments	9.5d	04-Dec-08	17-Dec-08	\$ 2,500.00
PD-ES	27-H1940	Conduct NEPA Scoping Activities	153.0d	03-Nov-05	15-Dec-05	\$ 9,000.00
PD-ES	27-H1950	Hold NEPA Scoping Meeting	304.7d	16-Dec-05	16-Dec-05	\$ 2,000.00
PD-ES	27-H1730	Compile Comments/Issues/Concerns; Finalize Problems & Opportunities	333.0d	19-Dec-05	01-Feb-06	\$ 2,000.00
PD-ES	27-H2780	Preliminary Cultural Resource (SHPO) Consultation	245.7d	16-Dec-05	07-Feb-06	\$ 5,000.00
PD-ES	27-H2785	Consultation (Native Americans)	245.7d	16-Dec-05	07-Feb-06	\$ 5,000.00
PD-ES	27-H2790	Compile FSM submittals for Ecol., WQ. and CR	245.7d	08-Feb-06	22-Feb-06	\$ 5,000.00
PD-ES	27-H1750	Detailed Inventory Ecological, Water Quality	254.0d	08-Feb-06	24-May-06	\$ 30,000.00
PD-ES	27-H2250	Phase 1 Cultural Resource Surveys and Coordination	573.0d	08-Feb-06	11-Sep-06	\$ 15,000.00
PD-ES	27-H3100	Prepare 1502 Application Package	21.0d	12-Nov-10	13-Jan-11	\$ 15,000.00
PD-ES	27-H2215	Draft ROD	1911.0d	27-Apr-09	22-May-09	\$ 2,500.00
PD-ES	27-H1960	Evaluation of Environmental Effects/Benefits & Compliance	5.0d	01-May-07	29-May-07	\$ 15,000.00
PD-ES	27-H2800	Document Environmental Law Compliance	151.0d	01-Oct-07	05-Dec-07	\$ 2,000.00
PD-ES	27-H2810	Prepare Env Effects, Cum Effects, Tradeoff Discussion for SAP	134.0d	03-Dec-07	31-Dec-07	\$ 10,000.00
PD-ES	27-H2820	Incorporate all NEPA into PIR and Review for consistency	136.0d	02-Jan-08	30-Jan-08	\$ 5,000.00
PD-ES	27-H2770	Preliminary ESA Consultation	245.7d	16-Dec-05	07-Feb-06	\$ 500.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
PD-ES	27-H1060	Notice of Availability in Federal Register (Fridays Only)	0.0d	14-Oct-08	28-Oct-08	\$ 500.00
PD-ES	27-H2830	Public Workshop on Draft PIR	0.0d	13-Nov-08	14-Nov-08	\$ 2,000.00
PD-ES	27-H1080	Respond to Public Comments on Draft PIR/NEPA	0.0d	10-Dec-08	23-Jan-09	\$ 2,500.00
PD-ES	27-H1110	Assemble Final Draft PIR/NEPA for Internal Review	0.0d	24-Dec-08	27-Jan-09	\$ 2,500.00
PD-ES	27-H1170	Prepare Final PIR/NEPA for Submittal to MSC	0.0d	06-Apr-09	17-Apr-09	\$ 2,500.00
PD-ES	27-H1535	HTRW Assessment	126.0d	18-Jan-06	06-Mar-06	\$ 5,000.00
PD-ES	27-H2775	ESA Consultation	366.0d	08-Feb-06	28-Jul-06	\$ 5,000.00
PD-ES	27-H2795	Biological Assessment	366.0d	31-Jul-06	18-Aug-06	\$ 7,000.00
PD-ES	27-H1655	Write NEPA Alternative Analysis	0.0d	26-Jan-07	30-Apr-07	\$ 5,000.00
PD-ES	27-H1665	Develop Environmental Effects/Benefits Evaluation Method	0.0d	26-Jan-07	30-Apr-07	\$ 5,000.00
PD-ES	27-1080	Internal Review of Draft PMP		22-Aug-05 A	26-Aug-05 A	\$ 1,000.00
Resource Sub Total						\$ 289,500.00
K3K0BH0-PD WATER QUA						
K3K0BH0-PD WATER QUA	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
K3K0BH0-PD WATER QUA	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 3,000.00
K3K0BH0-PD WATER QUA	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
K3K0BH0-PD WATER QUA	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 10,000.00
K3K0BH0-PD WATER QUA	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,000.00
Resource Sub Total						\$ 20,500.00
K3K0CA0-PD WATERSHED						
K3K0CA0-PD WATERSHED	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 10,000.00
K3K0CA0-PD WATERSHED	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 10,000.00
K3K0CA0-PD WATERSHED	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 10,000.00
Resource Sub Total						\$ 30,000.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
PD-PN						
PD-PN	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 9,102.49
PD-PN	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 10,000.00
PD-PN	27-H1540	RECOVER Assistance with Development of Existing & Future Without Conditions	165.0d	02-Nov-05	06-Jan-06	\$ 10,000.00
PD-PN	27-H1430	Identify Performance Measures	0.0d	28-Nov-05	30-Jan-06	\$ 14,000.00
PD-PN	27-H1435	RECOVER Review of Project Performance Measures	0.0d	12-Dec-05	30-Mar-06	\$ 5,000.00
PD-PN	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 11,000.00
PD-PN	27-H1560	Identification of Management Measures	104.0d	31-Mar-06	01-May-06	\$ 7,500.00
PD-PN	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 14,000.00
PD-PN	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 9,000.00
PD-PN	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 7,500.00
PD-PN	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 11,000.00
PD-PN	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 11,000.00
PD-PN	27-H1590	Submit FSM Documentation to HQ	125.7d	26-Sep-06	28-Sep-06	\$ 1,200.00
PD-PN	27-H1620	ITR Meeting with PDT to prepare for FSM	125.7d	26-Sep-06	26-Sep-06	\$ 1,500.00
PD-PN	27-H2280	SAJ Response to HQ Policy Review Comments	125.7d	31-Oct-06	08-Nov-06	\$ 5,000.00
PD-PN	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 3,000.00
PD-PN	27-H1570	Compare Existing Condition to Pre-CERP Baseline	0.0d	06-Mar-07	19-Mar-07	\$ 7,500.00
PD-PN	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 21,000.00
PD-PN	27-H1700	Conduct Cost-Effectiveness & Incremental Cost Analysis	5.0d	30-May-07	19-Jun-07	\$ 5,000.00
PD-PN	27-H2920	Prepare AFB Package	0.0d	31-May-07	12-Jul-07	\$ 22,000.00
PD-PN	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 7,500.00
PD-PN	27-H1800	Submit AFB Documentation to HQ and SFRTF	0.0d	03-Aug-07	06-Aug-07	\$ 1,200.00
PD-PN	27-H2300	SAJ Response to HQ Policy Review Comments	0.0d	07-Sep-07	13-Sep-07	\$ 3,600.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
PD-PN	27-H1810	AFB Meeting	0.0d	14-Sep-07	14-Sep-07	\$ 1,500.00
PD-PN	27-H2070	Selected Alternative Plan (SAP)	65.0d	15-Aug-07	28-Sep-07	\$ 11,000.00
PD-PN	27-H2095	Next Added Increment Analysis	127.0d	03-Dec-07	03-Jan-08	\$ 7,500.00
PD-PN	27-H1330	Compile (Preliminary) Draft PIR/NEPA	63.0d	14-Apr-08	13-May-08	\$ 15,000.00
PD-PN	27-H2330	Incorporate In-House, RECOVER & ITR Comments on Prelim Draft PIR/NEPA	0.0d	27-Aug-08	17-Sep-08	\$ 7,500.00
PD-PN	27-H1020	Complete Draft PIR/NEPA Document for NEPA Review	0.0d	18-Sep-08	26-Sep-08	\$ 5,000.00
PD-PN	27-H2320	SAJ Response to HQ Policy Review Comments	9.5d	04-Dec-08	17-Dec-08	\$ 7,500.00
PD-PN	27-H1000	In Progress Review	9.5d	18-Dec-08	24-Dec-08	\$ 3,000.00
PD-PN	27-H2110	Quantify Water Made Available	67.0d	21-Feb-08	19-Mar-08	\$ 6,000.00
PD-PN	27-H2120	Savings Analysis	80.0d	21-Feb-08	19-Mar-08	\$ 6,000.00
PD-PN	27-H2130	Identify Water to be Reserved	67.0d	20-Mar-08	21-May-08	\$ 14,000.00
PD-PN	27-H1730	Compile Comments/Issues/Concerns; Finalize Problems & Opportunities	333.0d	19-Dec-05	01-Feb-06	\$ 5,000.00
PD-PN	27-H2830	Public Workshop on Draft PIR	0.0d	13-Nov-08	14-Nov-08	\$ 3,000.00
PD-PN	27-H1080	Respond to Public Comments on Draft PIR/NEPA	0.0d	10-Dec-08	23-Jan-09	\$ 22,000.00
PD-PN	27-H1110	Assemble Final Draft PIR/NEPA for Internal Review	0.0d	24-Dec-08	27-Jan-09	\$ 3,000.00
PD-PN	27-H1170	Prepare Final PIR/NEPA for Submittal to MSC	0.0d	06-Apr-09	17-Apr-09	\$ 7,500.00
PD-PN	27-H1230	Respond to State, Agency and Public Comments	168.0d	24-Jun-09	22-Jul-09	\$ 15,000.00
PD-PN	27-H1240	HQ/MSR Review Conference	168.0d	16-Jul-09	22-Jul-09	\$ 3,600.00
PD-PN	27-H1250	Policy Review Documentation	168.0d	23-Jul-09	31-Jul-09	\$ 5,000.00
PD-PN	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 1,600.00
PD-PN	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 1,600.00
Resource Sub Total						\$ 348,902.49

PD-R

PD-R	27-1080	Internal Review of Draft PMP		22-Aug-05 A	26-Aug-05 A	\$ 3,600.00
Resource Sub Total						\$ 3,600.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
RE-P						
RE-P	27-H3265	Preliminary RE Planning Map of Alternatives	104.0d	02-May-06	30-May-06	\$ 15,000.00
RE-P	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 100.00
RE-P	27-H2085	Prepare Planning Maps	0.0d	23-Jan-08	22-May-08	\$ 12,000.00
Resource Sub Total						\$ 27,100.00
RE-S						
RE-S	27-1060	Prepare Draft PMP		01-Jul-05 A	19-Aug-05 A	\$ 1,000.00
RE-S	27-H3285	Gross Appraisal	0.0d	13-Jun-08	25-Jul-08	\$ 29,000.00
RE-S	27-H2960	Obtain Real Estate Rights of Entry Geotech, Survey, Environmental & Cultural	2693.0d	09-Jan-06	07-Mar-06	\$ 24,000.00
RE-S	27-H1670	Develop Planning Cost Estimate (Real Estate)	108.0d	14-Aug-06	13-Oct-06	\$ 18,000.00
RE-S	27-H1675	Prepare RE ROM Cost Estimate for YB Plan and Preliminary Alternatives	129.0d	31-May-06	13-Jun-06	\$ 30,000.00
RE-S	27-H2925	RE AFB Input	0.0d	31-May-07	12-Jul-07	\$ 7,500.00
RE-S	27-H2080	Prepare Real Estate Appendix	0.0d	17-Sep-07	22-Jan-08	\$ 45,000.00
RE-S	27-H2320	SAJ Response to HQ Policy Review Comments	9.5d	04-Dec-08	17-Dec-08	\$ 1,200.00
RE-S	27-H3315	Complete REP	0.0d	28-Jul-08	12-Aug-08	\$ 12,000.00
RE-S	27-H3325	Final REP	116.0d	13-Aug-08	28-Aug-08	\$ 3,200.00
RE-S	27-H2400	Land Certification Request to NFS	0.0d	06-Jan-12	12-Jan-12	\$ 5,000.00
RE-S	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,500.00
RE-S	27-H1030	ITR on Draft PIR/NEPA Document	0.0d	13-Aug-08	26-Aug-08	\$ 3,000.00
RE-S	27-H1770	ITR of AFB Package	15.0d	21-Jun-07	12-Jul-07	\$ 3,000.00
RE-S	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 3,000.00
Resource Sub Total						\$ 186,400.00

AESVCS

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Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
AESVCS	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 10,000.00
AESVCS	27-H1450	Hydrologic, Physical and Subsurface Data Collection	2642.0d	23-Mar-06	23-Jun-06	\$ 120,000.00
AESVCS	27-H2870	Perform P&S Geotech Investigation	0.0d	08-Jul-09	13-Nov-09	\$ 150,000.00
AESVCS	27-H2250	Phase 1 Cultural Resource Surveys and Coordination	573.0d	08-Feb-06	11-Sep-06	\$ 140,000.00
AESVCS	27-H3000	A-E Contract Procurement for Water Quality / Ecologic Data Collection	87.0d	28-Nov-05	25-Jan-06	\$ 150,000.00
AESVCS	27-H2980	Survey Data Collection for Models	2714.0d	07-Dec-05	14-Mar-06	\$ 113,000.00
AESVCS	27-H2010	Obtain SAP Geotechnical & Survey Data	65.0d	29-Nov-07	05-Mar-08	\$ 113,000.00
AESVCS	27-H2860	Perform P&S Topo Survey	0.0d	08-Jul-09	13-Nov-09	\$ 500,000.00
AESVCS	27-H2490	Survey Verification	63.0d	12-Jul-11	09-Sep-11	\$ 15,000.00
AESVCS	27-H2500	P&S Survey Update	63.0d	12-Sep-11	12-Oct-11	\$ 30,000.00
AESVCS	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 24,500.00
Resource Sub Total						\$ 1,365,500.00
CONSTSVCS						
CONSTSVCS	27-H2610	Construction	0.0d	15-Jun-12	10-Jan-14	\$ 147,300,778.00
Resource Sub Total						\$ 147,300,778.00
GSAVEH						
GSAVEH	27-H2935	GP Truck FY06	985.0d	03-Oct-05	29-Sep-06	\$ 100.00
GSAVEH	27-H2945	GP Truck FY07 and Beyond	985.0d	02-Oct-06	28-Sep-07	\$ 500.00
Resource Sub Total						\$ 600.00
GTRUCK-GP1						
GTRUCK-GP1	27-H1015	GP Truck FY05		01-Jun-05 A	30-Sep-05 A	\$ 80.00
Resource Sub Total						\$ 80.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
OTHCONSV						
OTHCONSV	27-H1950	Hold NEPA Scoping Meeting	304.7d	16-Dec-05	16-Dec-05	\$ 10,000.00
Resource Sub Total						\$ 10,000.00
SHOP/FACIL						
SHOP/FACIL	27-H1305	Printing FY05		01-Jul-05 A	30-Sep-05 A	\$ 500.00
SHOP/FACIL	27-H1315	Printing FY06	1891.0d	03-Oct-05	29-Sep-06	\$ 1,000.00
SHOP/FACIL	27-H2965	Printing FY06 and Beyond	1891.0d	03-Oct-05	29-Sep-06	\$ 1,200.00
SHOP/FACIL	27-H2570	Advertisement Period	0.0d	13-Mar-12	11-Apr-12	\$ 2,000.00
SHOP/FACIL	27-H2181	Printing	18.0d	27-Apr-09	14-Feb-12	\$ 4,000.00
Resource Sub Total						\$ 8,700.00
TRAVEL						
TRAVEL	27-H1005	Travel CO FY05		01-Jun-05 A	30-Sep-05 A	\$ 600.00
TRAVEL	27-H1105	Travel DP FY05		01-Jun-05 A	30-Sep-05 A	\$ 600.00
TRAVEL	27-H3280	Travel EN FY05		01-Jun-05 A	30-Sep-05 A	\$ 4,400.00
TRAVEL	27-H3290	EN Travel FY06	1663.0d	03-Oct-05	29-Sep-06	\$ 15,400.00
TRAVEL	27-H3300	Travel PD FY05		01-Jun-05 A	30-Sep-05 A	\$ 3,600.00
TRAVEL	27-H3310	Travel PD FY06	1891.0d	03-Oct-05	29-Sep-06	\$ 8,000.00
TRAVEL	27-H2955	EN Travel FY07 and Beyond	1663.0d	02-Oct-06	28-Sep-07	\$ 12,000.00
TRAVEL	27-H2975	Travel DP FY06	0.0d	03-Oct-05	29-Sep-06	\$ 10,000.00
TRAVEL	27-H2985	Travel PD FY07 and Beyond	1641.0d	02-Oct-06	28-Sep-07	\$ 6,000.00
TRAVEL	27-H2995	Travel CO FY06 and Beyond	1891.0d	03-Oct-05	29-Sep-06	\$ 2,400.00
TRAVEL	27-H3005	RE Travel FY06 and Beyond	1891.0d	03-Nov-05	29-Sep-06	\$ 2,400.00
TRAVEL	27-H3015	OC Travel FY06 and Beyond	1891.0d	03-Nov-05	29-Sep-06	\$ 1,500.00
TRAVEL	29-H2976	Travel DP FY07 and Beyond	0.0d	02-Oct-06	15-May-14	\$ 30,000.00

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WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
Resource Sub Total						\$ 96,900.00
WKBOTHCOE						
WKBOTHCOE	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 24,500.00
Resource Sub Total						\$ 24,500.00
WKBOTHFED						
WKBOTHFED	27-H3350	USFWS Coordination Act Transfer Funds FY06	1391.0d	03-Oct-05	29-Sep-06	\$ 152,153.00
WKBOTHFED	27-H3355	USFWS Coordination Act Transfer Funds FY07	1391.0d	02-Oct-06	28-Sep-07	\$ 113,028.00
WKBOTHFED	27-H3340	USFWS Coordination Act Transfer Funds FY08	1391.0d	01-Oct-07	26-Sep-08	\$ 94,039.00
Resource Sub Total						\$ 359,220.00
NAMED EMP						
NAMED EMP	27-1080	Internal Review of Draft PMP		22-Aug-05	26-Aug-05 A	\$ 750.00
NAMED EMP	27-1150	Distribute Draft PMP for PRB and Non Federal Sponsor Senior Management Team Review	0.0d	20-Sep-05 A	25-Oct-05	\$ 600.00
NAMED EMP	27-1230	Final Approval by Non Federal Sponsor	0.0d	26-Oct-05	27-Oct-05	\$ 1,800.00
NAMED EMP	27-1010	Initial PMP Coordination Meeting		23-Jun-05 A	23-Jun-05 A	\$ 1,200.00
NAMED EMP	27-1040	Hold PDT Kick-Off Meeting		24-Jun-05 A	24-Jun-05 A	\$ 1,800.00
NAMED EMP	27-1140	Final PMP Incorporate Agency Comments		13-Sep-05 A	19-Sep-05 A	\$ 1,200.00
NAMED EMP	27-H3330	SFWMD Travel and Management FY06	1891.0d	03-Oct-05	29-Sep-06	\$ 490.00
NAMED EMP	27-H1560	Identification of Management Measures	104.0d	31-Mar-06	01-May-06	\$ 6,000.00
NAMED EMP	27-H1572	Define Components & Create Array of Alternatives	111.0d	02-May-06	30-Jun-06	\$ 6,000.00
NAMED EMP	27-H2760	Determine Final Alternative Array	104.0d	13-Jul-06	11-Aug-06	\$ 3,000.00
NAMED EMP	27-H2720	Preliminary Screening of Conceptual Alternatives	104.0d	31-May-06	12-Jul-06	\$ 3,000.00
NAMED EMP	27-H1600	Feasibility Scoping Meeting	125.7d	08-Nov-06	13-Nov-06	\$ 1,200.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
NAMED EMP	27-H2910	Prepare FSM Package	125.7d	14-Aug-06	01-Sep-06	\$ 3,000.00
NAMED EMP	27-H1360	Identify Problems, Opportunities, Objectives & Constraints	0.0d	03-Nov-05	25-Nov-05	\$ 6,000.00
NAMED EMP	27-H2960	Obtain Real Estate Rights of Entry Geotech, Survey, Environmental & Cultural	2693.0d	09-Jan-06	07-Mar-06	\$ 325.00
NAMED EMP	27-H1380	Inventory and Forecast Hydrologic & Geologic Resources	126.0d	03-Jan-06	06-Mar-06	\$ 6,000.00
NAMED EMP	27-H2980	Survey Data Collection for Models	2714.0d	07-Dec-05	14-Mar-06	\$ 1,800.00
NAMED EMP	27-H1390	Inventory and Forecast Ecological & Cultural Resources	87.0d	03-Nov-05	06-Jan-06	\$ 3,000.00
NAMED EMP	27-H1400	Inventory and Forecast Economic Resources	29.0d	03-Nov-05	06-Jan-06	\$ 1,200.00
NAMED EMP	27-H1430	Identify Performance Measures	0.0d	28-Nov-05	30-Jan-06	\$ 9,000.00
NAMED EMP	27-H1435	RECOVER Review of Project Performance Measures	0.0d	12-Dec-05	30-Mar-06	\$ 1,800.00
NAMED EMP	27-H1460	Water Quality / Ecologic Data Collection	87.0d	26-Jan-06	28-Apr-06	\$ 52,500.00
NAMED EMP	27-H1480	Hydrologic Model Selection	0.0d	03-Mar-06	30-Mar-06	\$ 6,000.00
NAMED EMP	27-H1490	Identify Simulation Models (Ecologic)	158.0d	29-Mar-06	29-Jun-06	\$ 1,800.00
NAMED EMP	27-H1500	Simulation Models (Water Quality)	0.0d	14-Nov-06	16-Feb-07	\$ 18,000.00
NAMED EMP	27-H1520	Model Existing & Without Plan Conditions	0.0d	13-Nov-06	19-Mar-07	\$ 6,000.00
NAMED EMP	27-H1530	Compile Existing and Future Without Conditions	126.0d	18-Jan-06	06-Mar-06	\$ 9,000.00
NAMED EMP	27-H1540	RECOVER Assistance with Development of Existing & Future Without Conditions	165.0d	02-Nov-05	06-Jan-06	\$ 12,000.00
NAMED EMP	27-H1730	Compile Comments/Issues/Concerns; Finalize Problems & Oppotunities	333.0d	19-Dec-05	01-Feb-06	\$ 600.00
NAMED EMP	27-H1750	Detailed Inventory Ecological, Water Quality	254.0d	08-Feb-06	24-May-06	\$ 6,000.00
NAMED EMP	27-H1940	Conduct NEPA Scoping Activities	153.0d	03-Nov-05	15-Dec-05	\$ 1,500.00
NAMED EMP	27-H1950	Hold NEPA Scoping Meeting	304.7d	16-Dec-05	16-Dec-05	\$ 600.00
NAMED EMP	27-H3030	VE FSM Package	126.5d	05-Sep-06	25-Sep-06	\$ 5,600.00
NAMED EMP	27-H2465	VE 30% P&S Package (VE Workshop)	1527.0d	10-Nov-10	03-Dec-10	\$ 5,600.00
NAMED EMP	27-H1580	ITR of FSM Package	125.7d	05-Sep-06	25-Sep-06	\$ 6,000.00
NAMED EMP	27-H1660	Develop Planning Cost Estimates (Engineering, Construction, O&M)	20.0d	20-Nov-06	26-Mar-07	\$ 1,200.00
NAMED EMP	27-H1570	Compare Existing Condition to Pre-CERP Baseline	0.0d	06-Mar-07	19-Mar-07	\$ 1,200.00
NAMED EMP	27-H1710	Life Cycle Costing	39.0d	27-Mar-07	10-Apr-07	\$ 1,200.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
NAMED EMP	27-H1650	Model & Evaluate Alternatives (compare with & without plan)	0.0d	26-Jan-07	30-Apr-07	\$ 18,000.00
NAMED EMP	27-H1690	System Wide Evaluation (RECOVER)	0.0d	24-Apr-07	26-Jun-07	\$ 3,000.00
NAMED EMP	27-H1720	Compare Alternative Plans & Select Tentatively Selected Plan	0.0d	27-Jun-07	12-Jul-07	\$ 3,000.00
NAMED EMP	27-H2160	Non Federal Sponsor Coordination	65.0d	17-Sep-07	28-Sep-07	\$ 1,800.00
NAMED EMP	27-H1990	Develop Draft Scope of TSP Exploration Plan & Confirm with Sponsor	100.0d	13-Jul-07	26-Jul-07	\$ 1,800.00
NAMED EMP	27-H2070	Selected Alternative Plan (SAP)	65.0d	15-Aug-07	28-Sep-07	\$ 3,000.00
NAMED EMP	27-H2090	Perform SAP H&H Analysis	63.0d	17-Sep-07	30-Nov-07	\$ 3,000.00
NAMED EMP	27-H2970	Obtain Real Estate Rights of Entry	65.0d	01-Oct-07	28-Nov-07	\$ 1,200.00
NAMED EMP	27-H2100	Develop Draft Project Operating Manual	67.0d	16-Oct-07	20-Feb-08	\$ 1,500.00
NAMED EMP	27-H2040	Perform SAP Geotech Analysis	65.0d	29-Nov-07	05-Mar-08	\$ 600.00
NAMED EMP	27-H2150	Prepare MCASES Cost Estimate	63.0d	07-Apr-08	06-May-08	\$ 300.00
NAMED EMP	27-H2710	RECOVER Review of Preliminary Draft PIR	63.0d	14-May-08	28-May-08	\$ 1,200.00
NAMED EMP	27-H1020	Complete Draft PIR/NEPA Document for NEPA Review	0.0d	18-Sep-08	26-Sep-08	\$ 300.00
NAMED EMP	27-H2110	Quantify Water Made Available	67.0d	21-Feb-08	19-Mar-08	\$ 3,000.00
NAMED EMP	27-H2120	Savings Analysis	80.0d	21-Feb-08	19-Mar-08	\$ 3,000.00
NAMED EMP	27-H2130	Identify Water to be Reserved	67.0d	20-Mar-08	21-May-08	\$ 3,000.00
NAMED EMP	27-H1960	Evaluation of Environmental Effects/Benefits & Compliance	5.0d	01-May-07	29-May-07	\$ 6,000.00
NAMED EMP	27-H1640	Develop Preliminary Design for Alternatives	20.0d	13-Nov-06	19-Mar-07	\$ 1,500.00
NAMED EMP	27-H3275	Physical Takings Analysis/non-Standard Estates	72.0d	23-Jan-08	11-Feb-08	\$ 1,500.00
NAMED EMP	27-H2060	Develop Project Monitoring Plan	63.0d	04-Jan-08	06-May-08	\$ 3,000.00
NAMED EMP	27-H2830	Public Workshop on Draft PIR	0.0d	13-Nov-08	14-Nov-08	\$ 1,800.00
NAMED EMP	27-H1070	Public & Agency Review of PIR/NEPA	0.0d	13-Nov-08	31-Dec-08	\$ 3,600.00
NAMED EMP	27-H1150	ITR/Legal Review of Final PIR/NEPA	0.0d	19-Feb-09	20-Mar-09	\$ 1,800.00
NAMED EMP	27-H1230	Respond to State, Agency and Public Comments	168.0d	24-Jun-09	22-Jul-09	\$ 1,500.00
NAMED EMP	27-H1830	PIR/FS 1501 Pre-Application Meeting (Reasonable Certainty)	233.0d	01-Oct-07	01-Oct-07	\$ 1,200.00
NAMED EMP	27-H3050	Preparation of 1501 Pre App Mtg Summary	233.0d	02-Oct-07	16-Oct-07	\$ 600.00
NAMED EMP	27-H1840	1501 Pre App Mtg Summary Reviewed by FDEP	233.0d	17-Oct-07	30-Oct-07	\$ 600.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
NAMED EMP	27-H3200	Assemble 1501 Submittal	86.0d	14-May-08	28-May-08	\$ 6,000.00
NAMED EMP	27-H1850	Submittal Briefing with FDEP (Reasonable Certainty)	4.0d	29-Sep-08	30-Sep-08	\$ 1,200.00
NAMED EMP	27-H1130	State 1501 Review & Approval (Reasonable Certainty)	1.0d	06-Oct-08	08-Dec-08	\$ 1,200.00
NAMED EMP	27-H1140	Incorporate State 1501 Comments	1.0d	09-Dec-08	22-Dec-08	\$ 1,200.00
NAMED EMP	27-H2640	SFWMD GB Grants Rule Development Authority	310.0d	08-Sep-09	28-Sep-09	\$ 9,000.00
NAMED EMP	27-H2650	Public Workshops for Rule Development	310.0d	29-Sep-09	01-Dec-09	\$ 25,800.00
NAMED EMP	27-H2660	SFWMD GB Approves Rulemaking Authority	310.0d	02-Dec-09	22-Dec-09	\$ 3,000.00
NAMED EMP	27-H2670	Review Period for Draft Rule	310.0d	23-Dec-09	08-Mar-10	\$ 3,000.00
NAMED EMP	27-H2680	SFWMD GB Adopts Rule	310.0d	09-Mar-10	29-Mar-10	\$ 3,000.00
NAMED EMP	27-H2690	Notice of Change Published in FAW	310.0d	30-Mar-10	28-Apr-10	\$ 1,500.00
NAMED EMP	27-H2700	File with the Florida Department of State	310.0d	25-May-10	08-Jun-10	\$ 1,500.00
NAMED EMP	27-H2460	30 % P & S Preparation	0.0d	09-Jul-10	09-Nov-10	\$ 3,000.00
NAMED EMP	27-H2470	60% P & S Preparation	0.0d	10-Nov-10	14-Feb-11	\$ 3,000.00
NAMED EMP	27-H2180	Federal Permit(s) NPDES Construction Activities Application by Local Sponsor	964.0d	01-Oct-07	15-Oct-07	\$ 1,500.00
NAMED EMP	27-H2730	1502 WQC Pre-Application (CERPR) Mtg (Reasonable Assurances)	21.0d	10-Nov-10	10-Nov-10	\$ 4,500.00
NAMED EMP	27-H3100	Prepare 1502 Application Package	21.0d	12-Nov-10	13-Jan-11	\$ 6,000.00
NAMED EMP	27-H1890	Submit 1502 WQC Permit Applications	0.0d	15-Feb-11	16-Feb-11	\$ 1,200.00
NAMED EMP	27-H1900	State 1502 Application Completeness Review	0.0d	17-Feb-11	21-Mar-11	\$ 3,000.00
NAMED EMP	27-H3120	Prepare and Submit Response to RAI	0.0d	22-Mar-11	20-Apr-11	\$ 3,000.00
NAMED EMP	27-H1910	State Agency Action Review	0.0d	21-Apr-11	22-Jul-11	\$ 1,500.00
NAMED EMP	27-H1920	Publish Notice of Intent of Draft Permit	0.0d	25-Jul-11	23-Aug-11	\$ 600.00
NAMED EMP	27-H2750	State Issues Final Agency Action (if no petitions are filed)	0.0d	24-Aug-11	30-Aug-11	\$ 300.00
NAMED EMP	27-H2350	Prepare Draft PCA	0.0d	01-Sep-11	22-Sep-11	\$ 6,000.00
NAMED EMP	27-H2360	PCA Approved by Non Federal Sponsor	0.0d	23-Sep-11	25-Oct-11	\$ 1,200.00
NAMED EMP	27-H2400	Land Certification Request to NFS	0.0d	06-Jan-12	12-Jan-12	\$ 6,000.00
NAMED EMP	27-H2410	RE Certification Package	0.0d	30-Jan-12	03-Feb-12	\$ 6,000.00
NAMED EMP	27-H2420	RE Certification	0.0d	06-Feb-12	10-Feb-12	\$ 3,000.00

App F Tab A - Resource and Role Assignments

WBS 129011 CERP Everglades National Park Seepage Management (TLH 7/11/05)

Office	Activity ID	Activity Name	Total Float	Start	Finish	Budgeted Cost
NAMED EMP	27-H2600	Issue Notice to Proceed	0.0d	15-May-12	14-Jun-12	\$ 600.00
NAMED EMP	27-H2620	Interim Operational Period	0.0d	13-Jan-14	15-Apr-14	\$ 18,000.00
NAMED EMP	27-H2630	Contract Physically Complete	0.0d	16-Apr-14	15-May-14	\$ 6,000.00
NAMED EMP	27-H2635	Post Construction Monitoring	660.0d	16-May-14	16-May-14	\$ 10,000.00
NAMED EMP	27-H2961	Draft Water Control Plan	2294.0d	01-Oct-07	13-Nov-07	\$ 3,000.00
NAMED EMP	27-H3000	A-E Contract Procurement for Water Quality / Ecologic Data Collection	87.0d	28-Nov-05	25-Jan-06	\$ 12,000.00
NAMED EMP	27-H2790	Compile FSM submittals for Ecol., WQ. and CR	245.7d	08-Feb-06	22-Feb-06	\$ 6,000.00
NAMED EMP	27-H2080	Prepare Real Estate Appendix	0.0d	17-Sep-07	22-Jan-08	\$ 7,500.00
NAMED EMP	27-H3285	Gross Appraisal	0.0d	13-Jun-08	25-Jul-08	\$ 750.00
NAMED EMP	27-H1535	HTRW Assessment	126.0d	18-Jan-06	06-Mar-06	\$ 1,500.00
NAMED EMP	27-H2610	Construction	0.0d	15-Jun-12	10-Jan-14	\$ 15,600.00
Resource Sub Total						\$ 451,915.00
5550						
5550	27-H2405	RE Acquisition	0.0d	13-Jan-12	27-Jan-12	\$ 166,329,000.00
Resource Sub Total						\$ 166,329,000.00

Project Start: 01-Jun-05

A

Project Start: 16-May-14

Project Total: \$ 346,338,729.03

APPENDIX G: CONTRACTING ACQUISITION PLAN

Appendix G
Contracting Acquisition Plan

Contract specific acquisition strategies will be developed for each individual contract to be advertised and awarded under the ENP Seepage Management Project. The Project Manager will be responsible for coordinating with the Contracting representative on the Project Team, the procuring Agency office responsible for socioeconomic programs and the procuring Agency Contracting Officer to develop the appropriate acquisition strategy as early as possible in the project formulation process. Procurement statutes, regulations and procedures applicable to the procuring Agency (Corps or SFWMD) will dictate the acquisition process. Factors to be considered in determining the specific acquisition strategies include but are not limited to: technical complexity of the work, environmental considerations/constraints, construction schedules and magnitude of construction. Socioeconomic statutes, regulations and procedures applicable to the respective procuring Agency will be applied to each individual acquisition. Acquisition strategies will be fully staffed through the Project Team, the Design Coordination Team and appropriate procuring Agency approving Officials.

APPENDIX H: QUALITY CONTROL PLAN

TAB A – Independent Technical Review Team

TAB B – Statement of Technical and Legal Review

A two-tiered quality control process is planned at the time for the ENP Seepage Management Project. First, Division, Branch, and Section Chiefs within the Jacksonville District are responsible for assuring a quality review of products produced by their organizations. Second, at least four PIR sub-products will be subjected to Independent Technical Review (ITR). The ITR of these four products is formalized in the project schedule as the following list of activities:

- Activity 27-H1580, ITR of FSM Package
- Activity 27-H1770, ITR of AFB Package
- Activity 27-H1030, ITR on Draft PIR/NEPA Document
- Activity 27-H1150, ITR/Legal Review of Final PIR/NEPA

A description of the ITR Team is provided in Tab A and will be updated as the PIR phase progresses. An example of the final ITR and Legal Certifications that will be prepared for the Final PIR/NEPA Document are provided in Tab B.

TAB A – Independent Technical Review Team

The ITR team members shall be senior professionals that are selected by their respective technical division chief. Selection is based on the expertise needed for the project. Reviewers shall not be affiliated with the development of the PIR. Their assignment is to confirm the proper application of clearly established criteria, regulations, laws, codes, principles, and professional procedures. A few members of the ITR team are listed in Table H-A-1, below.

TABLE H-A-1: INDEPENDENT TECHNICAL REVIEW TEAM

Name	Agency	Specialty
James M Baker	CESAJ-PD-PF	ITR Lead and Plan Formulation
TBD	CESAJ-PD-E	Environmental Analysis and NEPA Compliance
TBD	CESAJ-PD-E	Water Quality and HTRW
TBD	CESAJ-PD-D	Social and Economic Analysis
TBD	CESAJ-CO-CQ	Construction and Operations
TBD	CESAJ-RE-S	Real Estate
TBD	CESAJ-OC	Legal
Jimmy D. Matthews	CESAJ-EN-T/EN-DL	Engineering ITR Lead and Levees and Waterways
TBD	CESAJ-EN-C	Cost Engineering
TBD	CESAJ-EN-GG	Geosystems – Geology
TBD	CESAJ-EN-GS	Geosystems – Soils

Name	Agency	Specialty
TBD	CESAJ-EN-GE	Geosystems - Environmental
TBD	CESAJ-EN-DS	Engineering Design – Structures
TBD	CESAJ-EN-HH	Engineering – Hydraulics
TBD	CESAJ-EN-HI	Engineering - Hydrology
TBD	CESAJ-EN-HW	Water Management and Meteorology

TAB B – Statement of Technical and Legal Review

ER 1110-2-1150

31 Aug 99

F1-1

**STATEMENT OF TECHNICAL AND LEGAL REVIEW
SAMPLE****COMPLETION OF INDEPENDENT TECHNICAL REVIEW:**

The District has completed the Project Implementation Report for the Everglades National Park Seepage Management Project, Miami-Dade County, Florida. Notice is hereby given that an independent technical review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Quality Control Plan. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions were verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy. The independent technical review was accomplished by (an independent district team/personnel from the District/by AE contractor).

(Signature)

(Date)

Jim Baker, Technical Review Team Leader

CERTIFICATION OF INDEPENDENT TECHNICAL REVIEW:

Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact, and resolution)

As noted above, all concerns resulting from independent technical review of the project have been considered. The report and all associated documents required by the National Environmental Policy Act have been fully reviewed.

_____ (Signature)	_____ (Date)
Tiphannie Taylor, Project Manager	
_____ (Signature)	_____ (Date)
Stu Appelbaum, Chief, Planning Division	
_____ (Signature)	_____ (Date)
Steve Duba, Chief, Engineering Division	
_____ (Signature)	_____ (Date)
Alan Bugg, Chief, Operations Division	
_____ (Signature)	_____ (Date)
Bart Wivell, Chief, Real Estate Division	

CERTIFICATION OF LEGAL REVIEW:

The report for Everglades National Park Seepage Management, including all associated documents required by the National Environmental Policy Act, has been fully reviewed by the Office of Counsel, Jacksonville District and is approved as legally sufficient.

(Signature)

(Date)

John Brady, Acting District Counsel

APPENDIX I: PUBLIC INVOLVEMENT

APPENDIX I

Public Involvement

Public involvement is a critical component of the ENP Seepage Management project due to the intense public, political, and media interest in the restoration of the Everglades ecosystem. Public Outreach efforts began early in the reconnaissance phase of the C&SF Project Comprehensive Review Study (Restudy). At this time, the study area of the Restudy included the study area of the Project. Such efforts were a very important and integral part of the plan formulation stages of the Project and will continue throughout implementation of the preferred plan components.

Public involvement is a process by which interested and affected individuals, organizations, agencies, and governmental entities participate in a decision-making process. Public involvement has been, and will continue to be, a critical component of the Project, scoping, plan formulation, report writing, and implementation process. Three goals for public involvement have been identified and implemented throughout the process:

- To inform the public about the Project and to generate input on key issues and concerns. This input involves diverse groups outside of the study team who assisted early on in the process of problem definition, issue and opportunity identification, as well as providing input on potential solutions;
- Develop relationships critical to the success of the study and implementation of the recommendations of the study; and
- Facilitate open and honest discussions that enhance efforts to foster public understanding of the tradeoffs and complexities of developing multipurpose water resources.
- Support an exchange of ideas and information among interested individuals and stakeholder groups critical to resolving the challenges involved in an environmental restoration effort of this magnitude.

Further, obligations of the U.S. Army Corps of Engineers (USACE) and South Florida Water Management District (SFWMD) as lead agencies are to:

- Keep people informed so that they can make educated choices;
- Provide visible ways to participate in the process; and
- Provide equal access to information and decision-makers regardless of viewpoint.

APPENDIX J: LIST OF REFERENCES

APPENDIX J

List of Reference Documents

U.S. Army Corps of Engineers, Jacksonville District, 1999, Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement; South Florida Water Management District, West Palm Beach, FL, April 1999

Project Management Plan for Restoration Coordination and Verification (RECOVER), Draft, February 2001

Engineering Regulations (ER), U.S. Army Corps of Engineers

1. ER 11-1-321
2. ER 200-2-2, Policy and Procedures for Implementation of NEPA, 4 Mar 88
3. ER 1105-2-100, Planning Guidance Notebook, 22 Apr 00
4. ER 1110-1-1300, Engineering and Design, Cost Engineering Policy and General Requirements
5. ER 1110-1-8156, Engineering and Design, Policies, Guidance, and Requirements for Geospatial Data and Systems, 1 Aug 96
6. ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 99
7. ER 1110-2-1302, Civil Works Cost Engineering
8. ER 1165-2-132, HTRW Guidance for Civil Works Projects

Engineering Manuals (EM), U.S. Army Corps of Engineers

1. EM 1110-1-2909, Engineering and Design, Geospatial Data and Systems

Engineering Publications

1. EP 1110-1-8, Equipment Cost

Water Resources Development Act (WRDA)

1. 1999, CERP
2. 2000, Everglades Provision, Title VI, 11 Dec 00

Principles and Guidelines (P&G) for Water and Related Land Resources

U.S. Army Corps of Engineers. 1999. Central and South Florida Project Comprehensive Review Study. Final Integrated Feasibility Report and Programmatic Environmental Impact Statement. Jacksonville District Office; Jacksonville, Florida.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered species consultation handbook. Procedures for conducting consultation and conference activities under Section 7 of the Endangered Species Act. U.S. Government Printing Office; Washington D.C.

APPENDIX K: LIST OF PMP UPDATES AND REVISIONS

TABLE K-1 : LIST OF PMP UPDATES AND REVISIONS

Date	Type (update/rev)	Page	Description	Reason for Change

APPENDIX L: VALUE ENGINEERING PLAN

Appendix L

Value Engineering Plan

Value Engineering (VE) is an organized study that produces a quality product, which satisfies the project's needs at the lowest life cycle cost. The process involves developing a VE Job Plan that is the systematic procedure and framework for accomplishing all the necessary tasks associated with the VE process. Adherence to a definite plan is essential to obtaining the best value alternatives. The use of the VE Job Plan provides:

- Compliance with Federal law, OMB Policy and USACE Regulations.
- Logical separation of the project into functional performing elements that can be analyzed, compared to creative alternatives and have net cost and/or benefits assessed.
- Assurance that savings and cost avoidance considers sustainable design supported by life cycle analysis.
- Assurance that consideration has been given to facts that may have been overlooked or were unknown in the creation of the original project scope or design.
- A proven process to carry the study from inception to conclusion.
- A written record of the VE effort as it progresses.
- A decision process with designers and stakeholders to improve functionality and/or cost effectiveness.

There are five phases to a VE Job Plan, although the number of phases is less important than the systematic approach the VE Job Plan provides. The five phases are:

1. The Information Phase (for information gathering).
2. The Speculation Phase (for the generation of alternatives).
3. The Analysis Phase (for the evaluation of alternatives).
4. The Development Phase (for development of firm proposals).
5. The Presentation Phase (for presentation of recommendations).

The following table summarizes the questions and techniques to be employed in each phase.

TABLE L-1 : SUMMARY OUTLINE OF VE QUESTIONS & TECHNIQUES

Phase Information	1			
Questions	Phase Speculation	2		
What is it? What does it do? What must it do? What must it cost?	Questions	Phase 2 Analysis		
	What else will per-form the function?	Questions	Phase 4 Development	
Techniques	Techniques	Will each perform the basic function?	Questions	Phase 5 Presentation
Use good human relations.	Use good human relations.	Techniques	Will each perform the basic function?	Techniques
Get facts from best sources. Determine constraints, function and cost of present design.	Use creative thinking. Brainstorm – Simplify, modify, refine.	Use good human relations. Evaluate, compare & refine ideas. Consult experts. Use best judgment.	Techniques Use good human relations. Gather convincing facts. Work on specifics, not generalities. Prepare summary. Spend money like it is your own.	Be brief. Explain before & after condition. Explain advantage & disadvantage. Be clear, concise & convincing. Use good human relations. Follow up.

VE Team Formulation: SAD SOP 11-1-1 Army Programs Regional Value Engineering Standing Operating Procedure South Atlantic Division directs that OVEST will be engaged as the Regional "Provider of choice." The VE study team will include five to ten members with professional engineering disciplines and experience consistent with project scope and goals. The team may be comprised of both current PDT members and independent third party VE specialist. The VE team should include representation from the Non-federal Sponsor. The Team Leader will serve as the VE study facilitator and should be a senior experienced and skilled VE practitioner, trained in the VE mythology. The study Team Leader may be provided by A-E through existing IDIQ contract with the District or through OVEST. The typical role for OVEST will be as the VE study facilitator, but may also include engineering disciplines matching the project scope. Where A-E services are used for the development of the PIR and/or PED documents, the A-E should also include representatives for the VE study.

The project may have more opportunity to apply the principles described above. The first occasion will occur during the development of the alternatives for the project. If concerns evolve with rising costs, and developing and delivery of economic and/or environmental benefits, another VE study may be convened to review the recommended plan prior to advancement through the final review process of the Project Implementation Report. Other opportunities will occur during the Detailed Design Phase of the project.

Value Engineering certification statement

CESAJ-PD-[X]

Date

SUBJECT: [Project # & Name, Location]

I [PM Name] certify that this procurement action has [completed/waived] the Value Management/Value Engineering process. A VM/VE study was [completed/waived] on [Date]. All VM/VE proposals indicating potential savings over \$1,000,000 have been resolved with approval of the MSC/EC Commander.

SUBMITTED BY:

Project Manager