



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
US ARMY CORPS OF ENGINEERS  
SOUTH ATLANTIC DIVISION  
60 FORSYTH ST, SW, ROOM 10M15  
ATLANTA, GEORGIA 30303-3490

17 JUN 2014

CESAD-PDP

MEMORANDUM FOR Commander, Jacksonville District (CESAJ-PM/J. Couch)

SUBJECT: Cooperative Agreement Package for the Grassy Flats Estuarine Habitat Restoration (EHR) Project

1. References:

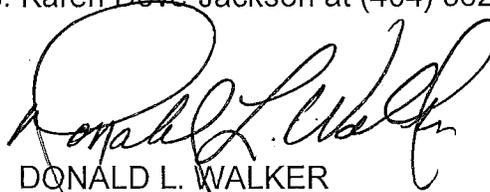
- a. Memorandum, 28 May 2014, CESAJ-PM, subject as above.
- b. Memorandum, 3 April 2014, CESAD-PDP, subject as above.
- c. Memorandum, 13 March 2014, CESAJ-PM, subject as above.
- d. Implementation Guidance, Estuary Restoration Program, Cooperative Agreement, June 2011.
- e. EC 1165-2-214, Civil Works Review Policy, 15 December 2012.

2. The Cooperative Agreement (CA), including attachments A-G and the Review Plan, for the Grassy Flats Estuarine Habitat Restoration Project, Estuary Habitat Restoration Program is approved (enclosure 1). The Review Plan has been prepared in accordance with Engineer Circular (EC) 1165-2-214. The District should take steps to post the approved Review Plan and a copy of this approval memorandum to the SAJ District public internet website.

3. The District Commander is hereby authorized to execute the approved CA, and is responsible for complying with requirements set forth in reference 1.d. (enclosure 2).

4. The point of contact for this action is Ms. Karen Dove-Jackson at (404) 562-5225.

2 Encls

  
DONALD L. WALKER  
Colonel, EN  
Commanding

**ESTUARY RESTORATION ACT OF 2000  
ESTUARY HABITAT RESTORATION PROGRAM**

**REVIEW PLAN FOR THE GRASSY FLATS  
ESTUARINE HABITAT RESTORATION PROJECT,  
PALM BEACH COUNTY, FLORIDA**

**JACKSONVILLE DISTRICT**

**PROJECT NUMBER 406022**

**South Atlantic Division Approval: 17 June 2014  
Last Revision Date: None**



**US Army Corps  
of Engineers®**

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## **1. PURPOSE AND REQUIREMENTS**

### **a. Review Plan Purpose**

The purpose of this review plan is to define the project scope and the Government's level of review of documents that have been prepared and provided by the non-Federal Sponsor (NFS), Palm Beach County, Florida, for the Grassy Flats Estuarine Habitat Restoration (EHR) project. Reviews need to be conducted on certain documents associated with the Cooperative Agreement (CA) package, including all documents and reports prepared through the project implementation and its monitoring phases and after construction is completed. The following documents in the CA package are not planning, engineering, or scientific work and are not subject to the review process set forth in EC 1165-2-214 and in this review plan: cooperative agreement, standard terms and conditions, and certifications and representations.

### **b. Applicability**

The documents to be reviewed are "other work products" as defined by EC 1165-2-214. The documents to be prepared and reviewed include:

- 1) Project Management Plan;
- 2) Monitoring Plan;
- 3) Operation and Maintenance Manual;
- 4) Documentation of required real estate;
- 5) Construction request documents or task orders;
- 6) Construction / environmental resource and other permit(s) documentation;
- 7) Amendment to approved documents, if any; and
- 8) Monitoring reports.

### **c. References**

- 1) Engineering Circular 1165-2-214, Civil Works Review, 15 Dec 2012
- 2) Engineer Circular 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- 3) Engineering Regulation (ER) 1110-1-12, Quality Management, 21 Jul 2006
- 4) Implementation Guidance for the Estuary Habitat Restoration Program (Cooperative Agreement), June 2011

### **d. Requirements**

This Review Plan was developed in accordance with EC 1165-2-214, which outlines four general levels of review. These levels of review consist of:

- 1) District Quality Control / Quality Assurance (DQC),
- 2) Agency Technical Review (ATR),

- 3) Independent External Peer Review (IEPR), and
- 4) Policy and Legal Compliance Review.

Consistent with the guidance received for EHRP implementation, compliance with EC 1165-2-214 will be:

*“at a level appropriate for the nature of the project; including but not necessarily limited to performance of appropriate District Quality Control/Quality Assurance, and application of the Risk Informed Decision process as appropriate to determine if Agency Technical Review is appropriate.”*

The decision to fund the Grassy Flats EHR project was made by the Estuary Habitat Restoration Council; individual project actions were reviewed through the Regulatory permit process and associated State’s permitting process. The National Environmental Policy Act (NEPA) documentation was prepared for the project and reviewed to ensure coverage of U.S. Army Corps of Engineers (USACE) involvement during project implementation.

**District Quality Control/Quality Assurance (DQC).** All documents covered by this Review Plan will undergo DQC as specified in EC 1165-2-214, paragraph 8. DQC focuses on fulfilling the project quality review requirements and is the District’s internal review process of reviewing and evaluating the basic science and engineering work products, and also includes supporting functions such as real estate interests as well. DQC review of the grant documents will be conducted by qualified Jacksonville District employees. The Jacksonville District DQC review team will consist of Office of Counsel, Environmental, Contracting, Engineering, Real Estate, and Project Management representatives. The DQC review will be completed before the start of the construction phase(s). For this project, the USACE Jacksonville District Planning & Policy Division’s Environmental Branch will be responsible for all DQC efforts, including coordinating with other SAJ functional divisions as needed. Project plans and specifications or similar documents that are developed by the NFS, will undergo a DQC review by USACE Jacksonville District. The DQC team responsibilities will include:

- 1) reviewing report contents for compliance with established principles and procedures, using clearly justified and valid assumptions;
- 2) reviewing plans and specifications, or equivalent/similar, to ensure they are correct and reasonable; and
- 3) providing the PDT review leader with documentation of comments, issues, and decisions arising from the DQC review process.

Comments will be evaluated and discussed with the NFS and resolutions will be documented in the project files. Corrections will be made to the reviewed documents before construction begins.

**Agency Technical Review (ATR).** The implementation guidance for the Estuary Habitat Restoration Program (reference c (4)) clarifies that the Risk Informed Decision process is

applied, as appropriate, to determine if Agency Technical Review is appropriate. Shown below are the guidance questions used to determine if ATR of a project is required. The responses to the guidance questions are also provided below:

1. **Does the project include any design (structural, mechanical, hydraulic, etc)?**  
**Response:** Yes, however the restoration design intended for the Grassy Flats EHR project is not complex, and requires no in-depth technical designs. Palm Beach County plans on using a restoration design consisting of capping anoxic fine-grained organic sediments (i.e., muck) with sand to restore estuarine habitat. The County has used this restoration approach in the past at other locations in the County with great success. The low level of complexity associated with this restoration design application reduces the risk of failure.
2. **Does the project evaluate alternatives?**  
**Response:** No, the County did not consider or evaluate any alternatives other than the design mentioned above for this project. The design considered for this project consists of capping anoxic fine-grained organic sediments (i.e., muck) with sand to restore estuarine habitat. The County has successfully applied this method at other estuarine rehabilitation sites with great success.
3. **Does the project include a recommendation?**  
**Response:** Yes, the project report proposes using a design that has been successfully implemented by the County at other sites.
4. **Does the project have a formal cost estimate?**  
**Response:** Yes, project's costs were outlined in the NFS's grant application that was evaluated by the Estuary Habitat Restoration Council. Additionally, USACE has reviewed these estimated costs, and believes that they are appropriate as scoped in the approved grant application. After reviewing the NFS's cost estimate for the project, USACE has deemed it not necessary to perform a detail cost analysis for this project.
5. **Does the project have or will require NEPA documents?**  
**Response:** Yes, Palm Beach County has the following environmental permits approved, which included NEPA review in the case of the Federal (Corps) Permit:
  - a) South Florida Water Management District ERP # 50-09957-P dated August 8, 2012
  - b) Department of the Army permit #SAJ-2011-01156 dated February 19, 2013.Note: As part of the permitting process, the USACE conducted an Environmental Assessment, 404(b)(1) evaluation (documentation is provided separately).
6. **Does the project impact a structure or feature of a structure whose performance involves potential life safety risks?**  
**Response:** No, this project will not impact any structures or any features of a structure whose performance involves potential life safety risks. Additionally, there is no life safety risks associated with the implementation of the project.
7. **What are the consequences of non-performance?**

- Response:** Non-performance will result in less than anticipated restoration of estuarine habitat in the project area. The restoration technique proposed has been used previously by Palm Beach County with success. There are no failure risks or engineering/construction risks anticipated.
8. **Does the project support a significant investment of public monies?**  
**Response:** Yes, the project does involve investment of public monies, and is cost shared in the ratio 65% Federal and 35% Non-Federal. Public funds will be expended for construction and monitoring activities associated with the project. There are no secondary costs or benefits claimed by the County after constructing this project.
9. **Does the project support a budget request?**  
**Response:** No, Approval to expend funds has been already been received for this project. The project will receive USACE funds and funds from other federal agencies (NOAA and USFWS), with additional County funds for its completion. .
10. **Does the project change the operation of any existing project?**  
**Response:** No. This is a new project. There will be no anticipated impacts or changes to any existing projects.
11. **Does the project involve excavation, subsurface investigations (drilling or sampling or both), or placement of soil?**  
**Response:** No excavations or subsurface investigations are necessary for this project.
12. **Does the project affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?**  
**Response:** No, there are no anticipated effects on special features due to this project.
13. **Does the project involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions?**  
**Response:** Yes, Palm Beach County has the following environmental permits approved (which included a NEPA review):  
a) South Florida Water Management District ERP # 50-09957-P dated August 8, 2012  
b) Department of the Army permit #SAJ-2011-01156 dated February 19, 2013.
14. **Does the project involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?**  
**Response:** No, project does not pose any hazardous waste risks, and construction activities will not generate any hazardous wastes or foresee the disposal of such materials.
15. **Does the project reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?**  
**Response:** No, no such items will used in this project.
16. **Does the project reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?**  
**Response:** No.
17. **Is there, or is there expected to be any controversy surrounding the Federal action associated with the work product?**

**Response:** The project is considered noncontroversial and has received the endorsement of the USACE, SFWMD, the Atlantic Coastal Fish Habitat Partnership, U.S. Fish and Wildlife Service, Florida Department of Environmental Protection, West Palm Beach Fishing Club, and the Marine Industries Association of Palm Beach County Florida.

**Conclusion:** The Grassy Flats EHR project is not technically complex and consists of capping of anoxic, fine-grained organic sediments (i.e., muck) with sand to restore estuarine habitat at the selected location within the County. Furthermore, the NFS has had experience in preparing similar types of construction documents and has actual construction experience in carrying out this type of restoration project. Therefore, after reviewing the results from the above analytic process to determine if an ATR review of this project is required, the Jacksonville District has decided that an ATR review for the grant documents covered in this Review Plan will not be necessary.

**Independent External Peer Review (IEPR):** IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. The USACE recognizes two types of IEPR:

- **Type I IEPR:** generally for decision documents and
- **Type II IEPR:** generally for implementation products.

In order to be excluded from the requirement to conduct both Type I and Type II IEPR, a project must meet the following criteria:

1. **The project does not involve a significant threat to human life/safety assurance;**
2. **The total project cost is less than \$45 million (\$2.6 million);**
3. **There is no request by the Governor of an affected state for a peer review by independent experts;**
4. **The project does not require an Environmental Impact Statement (EIS),**
5. **The project is not likely to cause significant economic, environmental, and/or social effects to the Nation;**
6. **The project is not likely to arouse significant interagency interest;**
7. **The project/study is not likely highly controversial;**
8. **The decision document is not likely to contain influential scientific information or be a highly influential scientific project; and**
9. **The information in the decision document or proposed project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-**

**setting methods or models, or present conclusions that are likely to change prevailing practices.**

The project has not been deemed to be controversial by the USACE Director of Civil Works or Chief of Engineers. This project is a relatively small estuary restoration project. The decision to support it has already been made at Headquarters. It has been reviewed by local federal and state resource agencies and has gone through a public review process during the project's permitting phase over the past two years. There have not been any significant public disputes over the size, nature, or environmental effects or benefits of the project. All questions and concerns have been thoroughly addressed and all outstanding issues have been resolved through the Environmental Resource Permitting (ERP) processes.

The Jacksonville District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR Safety Assurance Review for this project. The project purpose is not hurricane and storm risk management or flood risk management, and the project does not involve potential hazards that pose a significant threat to human life. Innovative materials or novel engineering methods will not be used in the construction of this project. Redundancy, resiliency, or robustness is not required for design; the project has no unique construction sequencing, or a reduced or overlapping design construction schedule. Therefore, a Type II IEPR of implementation documents will not be undertaken.

Based on the types of documents to be reviewed, the Estuarine Habitat Restoration Project implementation guidance received and the factors discussed above, the Jacksonville District has determined that neither a Type I IEPR nor a Type II IEPR is required for the Grassy Flats EHR project documents. . If the project scope is changed, this determination will be reevaluated.

**Policy and Legal Compliance Review.** Project documents will be reviewed for their compliance with applicable laws and policies.

**Cost Engineering Review and Certification.** There are no decision documents requiring cost review. The basic material, labor, and construction costs for this project will be reviewed by the Jacksonville District.

**Model Certification/Approval.** EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. This estuary habitat restoration project does not require any modeling.

## **2. REVIEW MANAGEMENT ORGANIZATION (RMO) - COORDINATION OF PEER REVIEW**

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for this EHRP project is the South Atlantic Division (SAD).

### 3. PROJECT INFORMATION

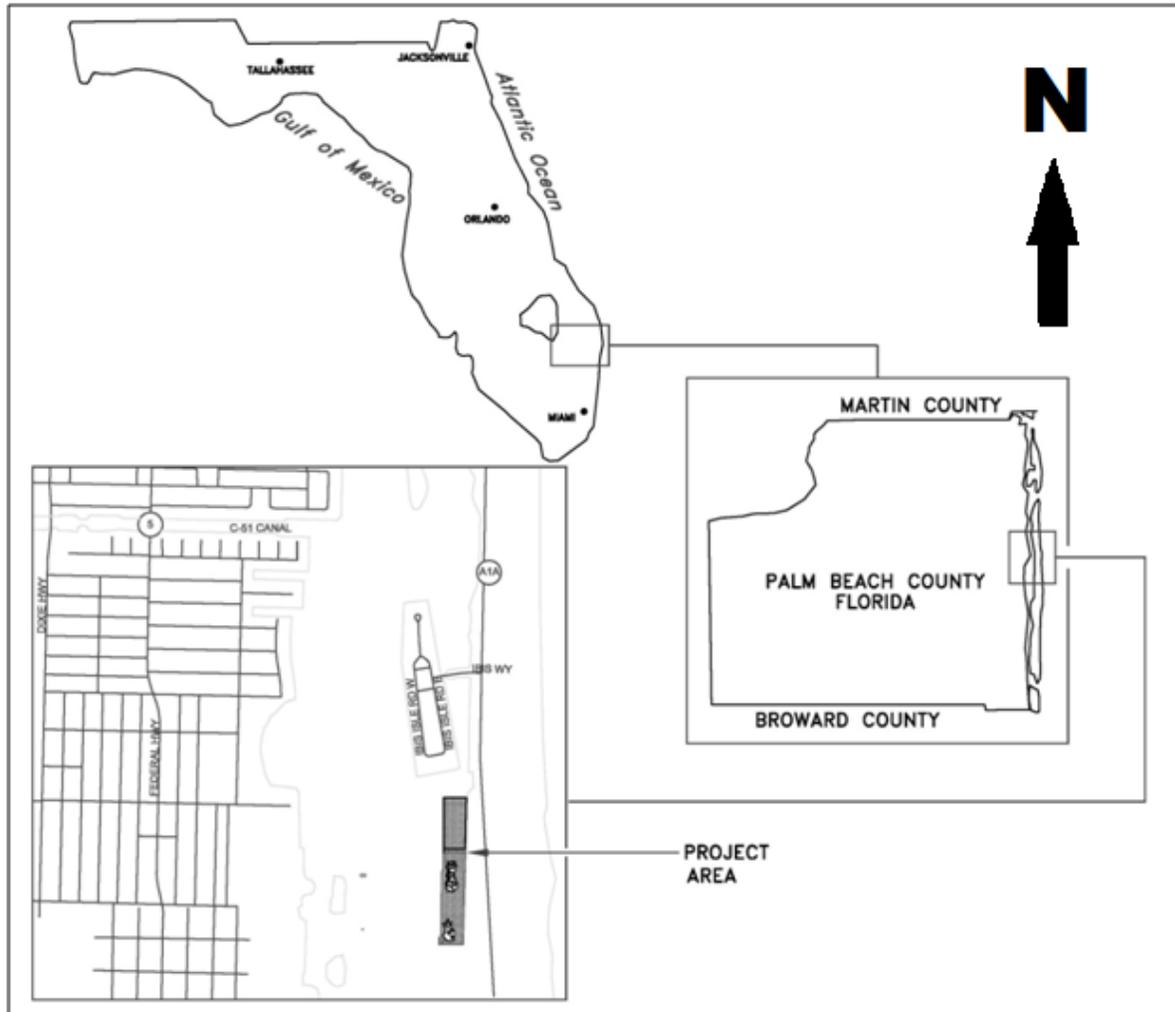
#### a. Project Description.

The Grassy Flats EHR project is an estuary habitat restoration project consisting of in-place capping of muck sediments using beach sands and creating small islands for oysters and plant habitat. The project is designed to enhance the biological productivity of these areas while providing educational and research opportunities. The intent of the Grassy Flats EHR project is to restore and enhance nearly 20 acres of critical shallow seagrass habitat by capping anoxic, fine-grained organic sediments (i.e., muck) with coarser sand. By capping the muck, the project will allow for the natural recruitment of seagrasses, including Johnson's seagrass (*Halophila johnsonii*), which is a federally threatened species currently located in the vicinity of the project area. The project will also result in the restoration of two 1-acre intertidal islands consisting of mangroves, tidal marsh, tidal flat, and oyster habitats. It is expected that these two islands once restored will provide additional habitat for the over 195 species of fish and 89 species of birds, including 9 federally listed species and 16 State listed species, found within the Lake Worth Lagoon. Other benefits of the project include substrate stabilization, water-quality improvements, increased shoreline protection, increased carbon sequestration, and improved environmental education and eco-tourism opportunities.

Located in Palm Beach County (See Figures 1 & 2), the Grassy Flats project area contains a 12-acre depression, approximately one foot deeper than the adjacent shelly sand areas. Muck sediments present in the depression are on average 1.5 feet in depth. Grain size analysis conducted within the project area indicate that 6 out of the 8 samples taken within the project area contained fine sediments, averaging 71% fines, with a maximum of 92% fines where the deposits are the thickest. Due to the influences of freshwater discharge, shallow depths, and predominantly anoxic sediments, the benthic community in the project area can be characterized as low diversity, generally dominated by opportunistic filter feeding and deposit feeding mollusks. Although seagrass species (*Halophila decipiens* and *Halophila johnsonii*) were observed directly west of and along the perimeter of the depression in predominantly sandy sediment, the project area itself does not support seagrass.

In order to achieve restoration targets, approximately 50,000 cubic yards of sand will be uniformly spread over 13 acres of project area to cap approximately 30,000 cubic yards of muck sediments. The sand cap provides the appropriate substrate and elevation for 10.52 acres of seagrass growth and persistence. Capping will also enhance 9.31 acres of seagrass habitat immediately adjacent to the project site by reducing turbidity and improving water quality. Additionally, 1.74 acres of intertidal habitat will be restored by capping muck sediments and creating two islands at the appropriate elevations. Approximately 1.14 acres will be planted with smooth cordgrass (*Spartina alterniflora*) to create tidal marsh; 0.33 acre will be planted with red mangroves (*Rhizophora mangle*), and 0.27 acre will be left unvegetated to create a tidal flat for foraging birds. Roughly 5,300 tons of limestone rock will be used to stabilize the islands and

create 0.57 acre of oyster/artificial reef habitat. The methods chosen to achieve project success have been used by the County in the past to successfully restore over 85 acres of high-quality habitat located about 1.5-miles from the project location. Experience gained through the construction and monitoring of this project will be used to guide future investments and efforts in Lake Worth Lagoon restoration and management.



**Figure 1. Project Location Map.**



**Figure 2. Aerial photograph of project area. November 5, 2011. Looking east towards project area (delineated by red lines).**

#### **b. Economic and Environmental Impacts**

The project is not likely to cause any significant economic, environmental, or social effects on the Nation or involve a significant threat to human life/safety. The project is not likely to arouse significant interagency interest, be highly controversial, contain influential scientific information or be a highly influential scientific assessment due to the relatively small footprint of the project. The information in the Project Management Plan or proposed project design is not based on novel methods, nor does it involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.

#### **c. In-Kind Contributions**

Products and analyses provided by the NFS as in-kind services are subject to review by the Jacksonville District.

### **4. PUBLIC PARTICIPATION**

State and Federal resource agencies have been involved in this project and have granted the necessary permits to implement it. These agencies were contacted by the NFS for coordination

as required by applicable laws and procedures. The public was provided the opportunity to comment on the project during the ERP process. The NFS will submit an application to the US Coast Guard to obtain a permit for placement of navigational signage before construction is completed.

## **5. REVIEW PLAN APPROVAL AND UPDATES**

The South Atlantic Division (SAD) Commander is responsible for approving this Review Plan. The Review Plan is a living document and may change as the project progresses. The Jacksonville District Project Manager is responsible for keeping the Review Plan updated. After approval by SAD, minor changes made to the Review Plan will be documented in Attachment 2 of this plan. Significant changes to the Review Plan (such as changes to the scope and/or level of review) will require re-approval by SAD, following the process used for initially approving the plan. The latest approved version of the Review Plan and the SAD approval memo will be posted on the home district's webpage.

## **6. REVIEW PLAN POINT OF CONTACTS**

Public questions and/or comments on this Review Plan can be directed to:

- Jacksonville District Senior Project Manager at (904) 232-1662, or
- SAD designated Point of Contact at (404) 562-5229.

**Attachment 1: District Review Team and Project Delivery Team**

<b>Project Management and Resources</b>	<b>Team Member's Name</b>	<b>Phone Number</b>
Project Manager		
Grants Officer		
Environmental		
Design Engineer		
Legal Counsel		
Cost Engineer		
Real Estate		

**Attachment 2: Review Plan Revisions**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page</b>