



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SOUTH ATLANTIC DIVISION
60 FORSYTH STREET SW, ROOM 10M15
ATLANTA GA 30303-8801

CESAD-RBT

MAY 3 2016

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT

SUBJECT: Approval of Review Plan for Preconstruction, Engineering and Design Phase Implementation Documents for the Okeechobee Waterway Dredged Material Management Area O-7, Martin County, Florida

1. References:

a. Memorandum, CESAJ-EN-Q, 21 March 2016, subject: Approval of Review Plan for Preconstruction, Engineering and Design Phase Implementation Documents for Okeechobee Waterway Dredged Material Management Area O-7, Martin County, Florida (Encl).

b. EC 1165-2-214, Civil Works Review, 15 December 2012.

2. The enclosed subject Review Plan (RP) submitted by the Jacksonville District via reference 1.a has been reviewed by this office and is hereby approved in accordance with reference 1.b above.

3. We concur with the determination of the District Chief of Engineering and conclusion in the RP that a Type II Independent External Peer Review (IEPR) is not required on the Design Documentation Report and Plans and Specification for this Dredged Material Management Area (DMMA). The primary basis for our concurrence is that the failure or loss of the features associated with this DMMA project will not pose a significant threat to human life.

4. The District should take steps to post the RP to its web site and provide a link to CESAD-RBT. Before posting to the web site, the names of Corps/Army employees should be removed. Subsequent significant changes to this RP, such as scope or level of review changes, should they become necessary, will require new written approval from this office.

5. The SAD point of contact is [REDACTED]

Encl


C. DAVID TURNER
Brigadier General, USA
Commanding

CF:
[REDACTED]



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 San Marco Blvd.
JACKSONVILLE, FLORIDA 32207

CESAJ-EN-Q

21 March 2016

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-RBT)

SUBJECT: Approval of Review Plan for Preconstruction, Engineering and Design Phase Implementation Documents for Okeechobee Waterway Dredged Material Management Area O-7, Martin County, Florida

1. References.

- a. EC 1165-2-214, Civil Works Review, 15 Dec 12
- b. River and Harbor Act of 1945, Public Law 79-14, 2 Mar 45 (Project Authorization)

2. I hereby request approval of the enclosed Review Plan and concurrence with the conclusion that a Type II Independent External Peer Review (IEPR) of the subject project is not required. The recommendation to exclude Type II IEPR is based on the EC 1165-2-214 Risk Informed Decision Process as presented in the Review Plan. Documents to be reviewed include plans, specifications, and design documentation. The Review Plan complies with applicable policy, provides Agency Technical Review and has been coordinated with the CESAD. It is my understanding that non-substantive changes to this Review Plan, should they become necessary, are authorized by CESAD.

3. The district will post the CESAD approved Review Plan to its website and provide a link to the CESAD for its use. Names of Corps/Army employees will be withheld from the posted version, in accordance with guidance.

FOR THE COMMANDER:



Encl

PROJECT REVIEW PLAN

For

Preconstruction, Engineering and Design Phase Implementation Documents

For

Okeechobee Waterway Dredged Material Management Area O-7 Martin County, Florida

Project P2 number: 114250

Jacksonville District

March 2016



**US Army Corps
of Engineers**®

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TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS.....	1
a. Purpose	1
b. References	1
c. Requirements.....	1
d. Review Plan Approval and Updates	1
e. Review Management Organization	2
2. PROJECT INFORMATION.....	2
a. Project Location and Name	2
b. Project Authorization	3
c. Current Project Description	3
d. Public Participation	5
e. In-Kind-Contributions by Project Sponsor.....	5
f. Civil Works Cost Engineering Mandatory Center of Expertise Review and Certification	5
3. DISTRICT QUALITY CONTROL.....	5
4. AGENCY TECHNICAL REVIEW.....	6
a. Risk Informed Decision on Appropriate Level of Review	6
b. Agency Technical Review Scope.	6
c. ATR Disciplines.....	6
5. BIDDABILITY, CONSTRUCTABILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY REVIEW	7
6. INDEPENDENT EXTERNAL PEER REVIEW	7
a. General.....	7
b. Type I Independent External Peer Review Determination.	8
c. Type II Independent External Peer Review Determination.	8
7. POLICY AND LEGAL COMPLIANCE.....	8
8. MODEL CERTIFICATION AND APPROVAL.....	8
9. PROJECT DELIVERY TEAM DISCIPLINES	9
10. BUDGET AND SCHEDULE	9
a. Project Milestones.....	9
b. ATR Cost.	9

ATTACHMENT A - Approved Review Plan Revisions

ATTACHMENT B - Partial List of Acronyms and Abbreviations

ATTACHMENT C - ATR Report Outline and Completion of Agency Technical Review Form

1. PURPOSE AND REQUIREMENTS

a. Purpose

This Review Plan defines the scope and level of review activities for the Dredged Material Management Area (DMMA) O-7 Project, Martin County, Florida. As discussed below, the review activities consist of a District Quality Control (DQC) effort, an Agency Technical Review (ATR), and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review. Also as discussed below, an Independent External Peer Review (IEPR) is not recommended. The project is in the Pre-Construction, Engineering and Design (PED) phase. The implementation documents to be reviewed are Plans and Specifications (P&S) and a Design Documentation Report (DDR). Upon approval, this Review Plan will be included into the Project Management Plan (PMP) for this project as an appendix to the Quality Management Plan (QMP).

b. References

- (1). ER 1110-2-1150, "Engineering and Design for Civil Works Projects", 31 August 1999
- (2). ER 1110-1-12, "Engineering and Design Quality Management", 31 March 2011
- (3). EC 1165-2-214, "Civil Works Review", 15 December 2012
- (4). ER 415-1-11, "Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review", 1 January 2013
- (5). 02611-SAJ Quality Control of In-House Products: Civil Works PED, 21 November 2011
- (6). 08550-SAJ, BCOES Reviews, 21 September 2011
- (7). Enterprise Standard (ES)-08025, Government Construction Quality Assurance Plan and Project/Contract Supplements
- (8). Enterprise Standard (ES)-08026, Three Phase Quality Control System
- (9). Project Management Plan for DMMA O-7, December 2013

c. Requirements

This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). The EC provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and other work products. The EC outlines five levels of review: District Quality Control (DQC), Agency Technical Review (ATR), and an Independent External Peer Review (IEPR), Policy and Legal Review and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review.

d. Review Plan Approval and Updates

The South Atlantic Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review. Like the PMP, the

Review Plan is a living document and may change as the project progresses. The Jacksonville District is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment "A". Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the Jacksonville District's webpage. The latest Review Plan will be provided to the RMO and home MSC.

e. Review Management Organization

The South Atlantic Division (SAD) is designated as the Review Management Organization (RMO). The RMO, in cooperation of the vertical team, will approve the ATR team members. CESAJ will assist SAD with management of the ATR and development of the charge to reviewers.

2. PROJECT INFORMATION

a. Project Location and Name

The DMMA O-7 property is located in northeast Martin County on the north shore of the OWW (Figure 1). It lies adjacent to the OWW Federal right-of-way in the vicinity of the St. Lucie Lock. The Florida Inland Navigation District (FIND) acquired the property through a taking by eminent domain from a larger tract of agricultural land. The surrounding land will continue to be used for agricultural purposes. Because of the position of the O-7 property within the larger tract, a permanent access road must be constructed to ensure access to the site. The access road will be placed within the OWW Federal right-of-way. Pipeline access for dredging operations from the OWW to the site will be through Hog Creek.

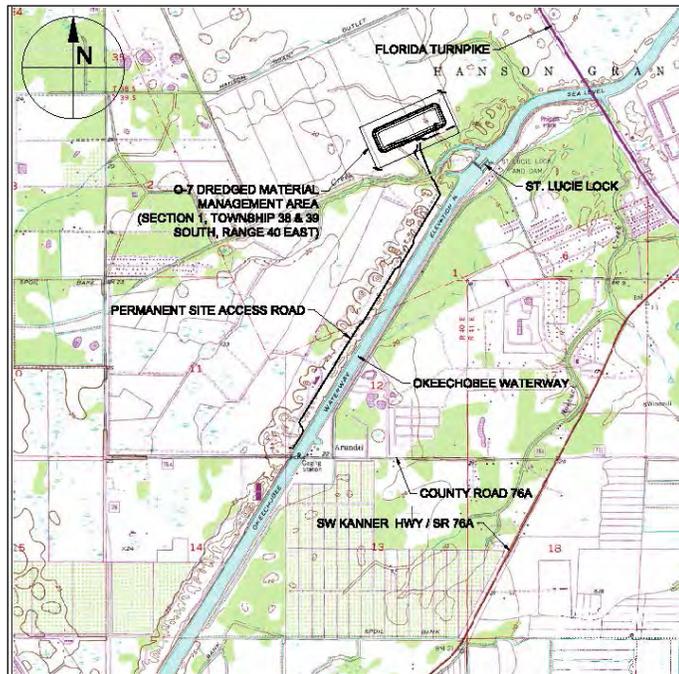


Figure 1: DMMA O-7 Location

b. Project Authorization

The Intracoastal Waterway Jacksonville to Miami, Florida, Project was authorized in the River and Harbor Act of 1927 and modified by numerous Acts of Congress of which the current project is set forth in the River and Harbor Act of 1945. Although the project can serve reaches of the OWW and IWW, construction is being funded under the IWW authority with Contributed Funds from the Florida Inland Navigation District.

c. Current Project Description

The construction of DMMA O-7 is part of an overall plan to provide permanent dredged material management areas to service both the Okeechobee Waterway (OWW) and Cut M-4 through Cut M-7 of the Intracoastal Waterway (IWW) which are located at the junction of the OWW and the IWW in Martin County, Florida. The OWW, a Federal navigation project, extends approximately 155 miles from Stuart, Florida, through Lake Okeechobee, to Fort Meyers, Florida (Figure 2). A series of locks facilitates the movement of navigation traffic over the length of the OWW. The IWW, a Federal navigation project, extends 349 miles from Jacksonville to Miami, Florida (Figure 3). The Florida Inland Navigation District (FIND), the local sponsor, has undertaken the acquisition of necessary land and construction of a series of DMMA's to ensure sufficient containment capacity for long-term maintenance of both waterways.



Figure 2: OWW Project Map

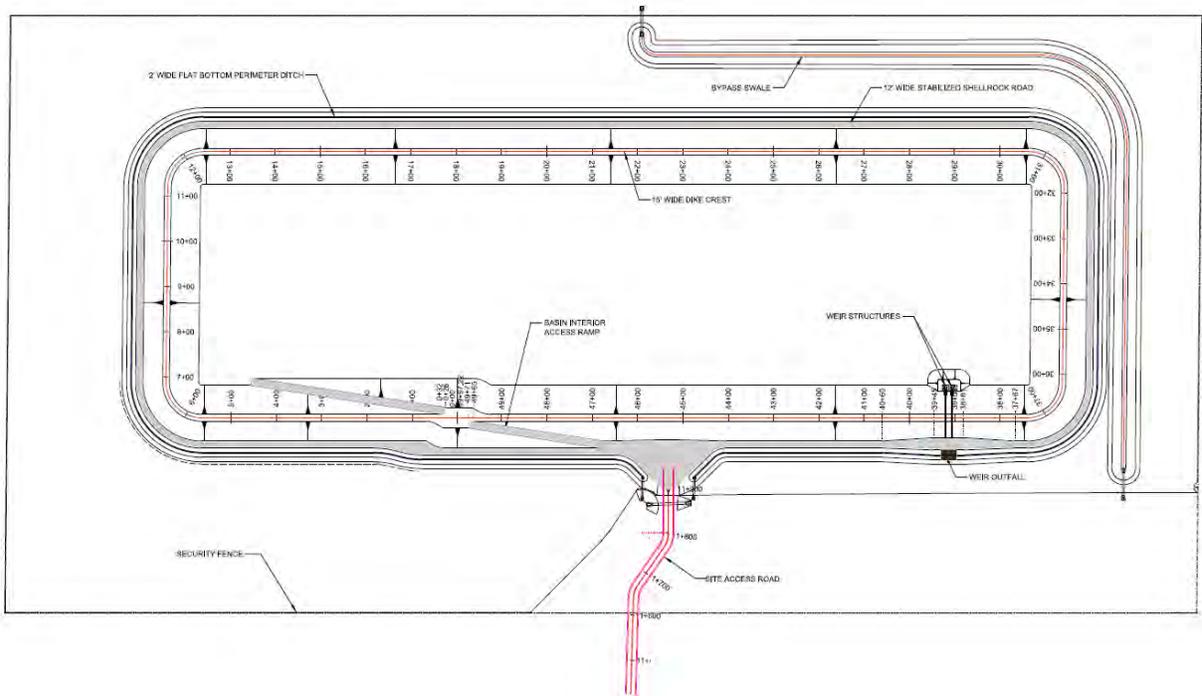


Figure 4: DMMA O-7 Site Plan

d. Public Participation

The Jacksonville District Corporate Communications Office continually keeps the affected public informed on Jacksonville District projects and activities. There are no planned activities, public participation meetings or workshops that could generate issues needing provision to review teams. The project review plan will be posted on the Jacksonville District Internet. Any comments or questions regarding the review plan will be addressed by the Jacksonville District.

e. In-Kind-Contributions by Project Sponsor

No additional contributions beyond the FIND deliverables discussed in paragraph 2.c will be provided that affect this review plan or the related reviews.

f. Civil Works Cost Engineering Mandatory Center of Expertise Review and Certification

The cost related documents associated with this contract do not require external peer review or certification. Therefore, no additional review requirements will be executed by the Cost Engineering Mandatory Center of Expertise (MCX) for the implementation documents addressed by this review plan.

3. DISTRICT QUALITY CONTROL

District Quality Control and Quality Assurance activities for DDRs and P&S are stipulated in ER 1110-1-12, Engineering & Design Quality Management and SAJ EN QMS 02611. The subject project DDR and P&S will be prepared by the Jacksonville District using ER 1110-1-12 procedures and will undergo District Quality Control. SAJ EN QMS 02611 defines DQC as the sum of two reviews, Discipline Quality Control Review (DQCR) and Product Quality Control

Review (PQCR). Product Quality Control Review Certification is the DQC Certification and will precede ATR.

4. AGENCY TECHNICAL REVIEW

a. Risk Informed Decision on Appropriate Level of Review

PED phase implementation documents are being prepared and an ATR of the P&S and DDR documents will be undertaken.

b. Agency Technical Review Scope.

Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214 and ER 1110-1-12. An ATR will be performed on the P&S and DDR pre-final submittals.

ATR will be conducted by individuals and organizations that are external to the Jacksonville District. The ATR Team Leader will be a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

ATR comments will be documented in the DrCheckssm model review documentation database. DrCheckssm is a module in the ProjNetsm suite of tools developed and operated at ERDC-CERL (www.projnet.org). At the conclusion of ATR, the ATR Team Leader will prepare an ATR Review Report that summarizes the review. An outline for an ATR Review Report is in Attachment C. The report will include at a minimum the Charge to Reviewers, ATR Certification Form from EC 1165-2-214, and the DrCheckssm printout of the comments.

c. ATR Disciplines.

As stipulated ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); subject matter experts (SME) certified in CERCAP; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following disciplines; knowledge, skills and abilities; and experience levels.

ATR Team Leader. The ATR Team Leader should have 10 or more years of experience with Civil Works Projects and have performed ATR Team Leader duties on complex civil works projects. The ATR Team Leader can also serve as one of the review disciplines. Professional registration is as a requirement for the ATR leader.

Civil Engineer. This team member should be a registered professional engineer and have 7 or more years of experience with civil/site work projects to include embankments, roadways, and drainage.

Environmental Engineer. This team member should be an environmental engineer with 10 or more years of experience in conducting and evaluating activities impacting wetlands and terrestrial endangered species.

Geotechnical Engineer. This team member should be a registered professional engineer and have 10 or more years of experience in geotechnical engineering. Experience needs to include geotechnical evaluation of earthen containment structures. Experience needs to encompass static and dynamic slope stability evaluation; evaluation of the seepage through earthen

embankments, including dams, levee embankments, floodwalls, closure structures and other pertinent features; and settlement evaluations.

Geologist. This team member will review subsurface geologic data and interpretations to support embankment and foundation design and integrity. The team member also will review data and interpretations to support hydrologic and seepage modeling, and an evaluation of characteristics of the surficial aquifer at the site. The team member should possess Professional Geologist certification and have a minimum of 10 years professional experience.

Hydraulic/Hydrologic Engineer. This team member should be a registered professional engineer possessing 10 or more years of experience in hydraulic and hydrologic engineering. This team member will review the hydraulic and hydrologic aspects of the weir structure and access road bridge designs.

Structural Engineer. This team member should be a registered professional engineer possessing 10 or more years of experience in structural engineering. This team member will review the designs for the structural elements of the project which comprise the weir structures and the bridges.

5. BIDDABILITY, CONSTRUCTABILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY REVIEW

The value of a BCOES review is based on minimizing problems during the construction phase through effective checks performed by knowledgeable, experienced personnel prior to advertising for a contract. Biddability, constructability, operability, environmental, and sustainability requirements must be emphasized throughout the planning and design processes for all programs and projects, including during planning and design. This will help to ensure that the government's contract requirements are clear, executable, and readily understandable by private sector bidders or proposers. It will also help ensure that the construction may be done efficiently and in an environmentally sound manner, and that the construction activities and projects are sufficiently sustainable. Effective BCOES reviews of design and contract documents will reduce risks of cost and time growth, unnecessary changes and claims, as well as support safe, efficient, sustainable operations and maintenance by the facility users and maintenance organization after construction is complete. A BCOES Review will be conducted for this project. Requirements and further details are stipulated in ER 1110-1-12, ER 415-1-11, and SAJ EN QMS 08550.

6. INDEPENDENT EXTERNAL PEER REVIEW

a. General.

EC 1165-2-214 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases (also referred to in USACE guidance as the Feasibility and the Pre-construction, Engineering and Design Phases). The EC defines Section 2035 Safety Assurance Review (SAR), Type II Independent External Peer Review (IEPR). The EC also requires Type II IEPR be managed and conducted outside the Corps of Engineers.

b. Type I Independent External Peer Review Determination.

A Type I IEPR is primarily associated with decision documents. A Type I IEPR is not applicable to the implementation documents covered by this Review Plan.

c. Type II Independent External Peer Review Determination.

This project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-214) and therefore, a review under Section 2035 is not required. The factors in determining whether a review of design and construction activities of a project are necessary as stated under Section 2035 along with this review plans applicability statements follow.

- (1) The failure of the project would pose a significant threat to human life.

The level of water associated with the project features would not create an adverse condition for life safety. The primary purpose is to construct a containment facility for disposal of dredged material.

- (2) The project involves the use of innovative materials or techniques.

This project will utilize methods and techniques used by the Corps of Engineers on other similar works.

- (3) The project design lacks redundancy.

The concept of redundancy does not apply to this project.

- (4) The project has unique construction sequencing or a reduced or overlapping design construction schedule.

The construction schedule for this project does not have unique sequencing, and activities are not reduced or overlapped. The construction methods associated with this project have been used successfully many times by the Corps of Engineers on other similar projects.

Based on the discussion above, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II EPR Safety Assurance Review of the P&S and DDR.

7. POLICY AND LEGAL COMPLIANCE

The Jacksonville District Office of Counsel reviews all contract actions for legal sufficiency in accordance with Engineer Federal Acquisition Regulation Supplement 1.602-2 Responsibilities. The subject implementation documents and supporting environmental documents will be reviewed for legal sufficiency prior to advertisement.

8. MODEL CERTIFICATION AND APPROVAL

Modeling for the containment dike design was accomplished with *GeoStudio 2007, SEEP/W and SLOPE/W* (Version 7.14), a computerized seepage and slope stability analysis program.

Computerized structural modeling for design of the site access bridges and weirs was performed with *STAAD* structural analysis software.

9. PROJECT DELIVERY TEAM DISCIPLINES

Discipline/Expertise
Civil Site Design
Environmental Sciences
Geomatics & Survey
Geotechnical Engineering
Hydraulic & Hydrologic Engineering
Structural Engineering

10. BUDGET AND SCHEDULE

a. Project Milestones.

Milestone	Task	Start Date	End Date
CW310	Draft P&S complete	14-Oct-2015	18-Jan-2016
	PQCR	19-Jan-2016	29-Jan-2016
	ATR Review	16-Feb-2016	1-Mar-2016
	Evaluate ATR Comments	2-Mar-2016	8-Mar-2016
	Backcheck and Close Comments	9-Mar-2016	17-Mar-2016
	ATR Review Certification	TBD	TBD
	BCOES	TBD	TBD
CW320	BCOES Certification	TBD	TBD

b. ATR Cost.

Funds will be budgeted to execute ATR and schedule as outlined above. It is envisioned that each reviewer will be afforded 20 hours review plus 8 hours for coordination. The estimated cost range is \$30,000 - \$35,000.

ATTACHMENT A: APPROVED REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT B: PARTIAL LIST OF ACRONYMS AND ABBREVIATIONS

<u>Acronyms</u>	<u>Defined</u>
AFB	Alternatives Formulation Briefing
ATR	Agency Technical Review
BCOES	Biddability, Constructability, Operability, Environmental, and Sustainability Review
CAP	Continuing Authorities Program
CERCAP	Corps of Engineers Reviewer Certification and Access Program
CY	Cubic Yards
DDR	Design Documentation Report
DQC	District Quality Control
DQCR	Discipline Quality Control Review
EC	Engineering Circular
EA	Environmental Assessment
ER	Engineering Regulation
ERDC-CERL	Engineer Research and Development Center – Construction Engineering Research Laboratory
ESA	Endangered Species Act
ETL	Engineering Technical Lead
FDEP	Florida Department of Environmental Protection
FONSI	Findings of No Significant Impacts
FSCA	Feasibility and Cost Sharing Agreement
FY	Fiscal Year
GRR	General Reevaluation Report
IEPR	Independent External Peer Review
LPP	Locally Preferred Plan
MCX	Mandatory Center of Expertise
MLLW	Mean Low Low Water
MSC	Major Subordinate Command
NAS	National Academy of Sciences
NEPA	National Environmental Policy Act
ODMDS	Ocean Dredged Material Disposal Site
OMB	Office of Management and Budget
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
P&S	Plans and Specifications
PED	Preconstruction Engineering and Design
PDT	Project Delivery Team
PM	Project Manager
PMP	Project Management Plan

<u>Acronyms</u>	<u>Defined</u>
PPA	Project Partnering Agreement
PQCR	Product Quality Control Review
QA	Quality Assurance
QCP	Quality Control Plan
QMP	Quality Management Plan
QMS	Quality Management System
RMC	Risk Management Center
RMO	Review Management Organization
RP	Review Plan
RTS	Regional Technical Specialist
SAJ	South Atlantic Jacksonville District Office
SAD	South Atlantic Division Office
SAR	Safety Assurance Review (also referred as Type II IEPR)
SME	Subject Matter Expert
USACE	U.S. Army Corps of Engineers
WRDA	Water Resources and Development Act

Attachment C

ATR Report Outline and COMPLETION OF AGENCY TECHNICAL REVIEW

Dredged Material Management Area O-7 Martin County, Florida

Review of Plans and Specifications (P&S), Design Documentation Report (DDR)

ATR REPORT OUTLINE (Unneeded items, such as ATR Team Member Disciplines that are not identified as needed in the Review Plan, shall be deleted from the ATR Report.)

1. Introduction:

2. ATR Team Members:

ATR Team Leader
Civil Engineer
Environmental Engineer
Geotechnical Engineer
Geologist
Hydraulic/Hydrologic Engineer
Structural Engineer

3. ATR Objective:

4. Documents Reviewed:

5. Findings and Conclusions:

6. Unresolved Issues:

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Dredge Material Management Area, Martin County, Florida, including the design documents, plans and specifications and DDR. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214 and ER 1110-1-12. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks.

NAME
ATR Team Leader

Date

NAME
Project Manager

Date

NAME
Review Management Office Representative

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: [Describe the major technical concerns and their resolution.](#)

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

NAME
Chief, Engineering Division
SAJ-EN

Date