



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

MEMORANDUM FOR Commander, Jacksonville District, 701 San Marco Boulevard,
Jacksonville, Florida 32207

SUBJECT: Approval of the Review Plan for the Construction of the Dredge Material
Management Area (DMMA) O-23, Martin County, Florida

1. References:

a. Memorandum, CESAJ-EN-Q, 27 FEB 2020, subject as above.

b. Engineering Circular (EC) 1165-2-217, Water Resources Policies and Authorities
Review Policy for Civil Works, 20 February 2018.

2. The enclosed Review Plan (RP) for the construction of the DMMA O-23 submitted by the
Jacksonville District via reference 1.a. noted above has been reviewed by South Atlantic
Division (SAD). The RP is hereby approved in accordance with reference 1.b.

3. The South Atlantic Division Office shall be the Review Management Organization (RMO) for
this project.

4. SAD concurs with the District's RP recommendation that outlines the requirements for
District Quality Control (DQC), Agency Technical Review (ATR), and Biddability,
Constructability, Operability, Environmental and Sustainability (BCOES) Review and the
conclusion that a Safety Assurance Review/Type II Independent External Peer Review is not
required.

5. The District should take steps to post the approved RP to its website and provide a link to
CESAD-RBT. Before posting to the website, 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.

6. The SAD point of contact is [REDACTED], CESAD-RBT, [REDACTED]

Encl

[REDACTED]
Major General, USA
Commanding



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-8175

27 FEB 2020

CESAJ-EN-Q

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-RBT), 60 Forsyth Street SW, Room 10M15, Atlanta, GA 30303

SUBJECT: Approval of Review Plan for the Construction of Dredge Material Management Area (DMMA) O-23 Project, Martin County, Florida

1. References:

- a. Engineering Circular (EC) 1165-2-217, Review Policy for Civil Works, 20 Feb 18.
- b. Flood Control Act of 1946, Public Law 79-526, 24 Jul 46.

2. I hereby request approval of the enclosed Review Plan for the DMMA O-23 Project, Martin County, Florida and concurrence with the conclusion that a Type II Independent External Peer Review (IEPR) of the subject project is not required. The recommendation not to perform a Type II IEPR is based on the EC 1165-2-217 Risk Informed Decision Process as presented in the Review Plan. The Review Plan complies with applicable policy, provides for Agency Technical Review, and has been coordinated with the SAD. It is my understanding that non-substantive changes to this Review Plan, should they become necessary, are authorized by SAD.

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

4. Point of contact is [REDACTED], Engineering Review Manager, [REDACTED]
[REDACTED]

Encl

[REDACTED]
Colonel, EN
Commanding

PROJECT REVIEW PLAN

For

Preconstruction, Engineering and Design Phase Implementation Documents

For

Construction of Dredge Material Management Area (DMMA) O-23

Martin County, Florida

Project P2 Number: 114250

Jacksonville District

January 2020



**US Army Corps
of Engineers®**

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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 (RP) for the Construction of Dredge Material Management Area (DMMA) O-23, Martin County, Florida, will help ensure a quality engineering project is developed by the U.S. Army Corps of Engineers (USACE) in accordance with EC 1165-2-217, "Review Policy for Civil Works." As part of the Project Management Plan (PMP), this RP establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products and lays out a value added process and describes the scope of review for the current phase of work. The EC outlines five general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review, Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. This RP will be provided to the Project Delivery Team (PDT) and the DQC, ATR, and BCOES Teams. The technical review efforts addressed in this RP, DQC and ATR, are to augment and complement the policy review processes. The District Chief of Engineering has assessed that the life safety risk of this project is not significant; therefore, a Type II IEPR/Safety Assurance Review (SAR) will not be required, see Paragraph 6. Any levels of review not performed in accordance with EC 1165-2-217 will require documentation in the RP of the risk-informed decision not to undertake that level of review.

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 1165-2-217, "Civil Works Review," 20 February 2018
- (4). ER 415-1-11, "Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review," 1 January 2013
- (5). SAJ EN QMS 02611, "SAJ Quality Control of In-House Products: Civil Works PED," 21 November 2011
- (6). SAJ EN QMS 08550, "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, Construction of Dredged Material Management Area (DMMA) O-23, Martin County, Florida, P2 Number 114250.

c. Requirements

This RP was developed in accordance with EC 1165-2-217, 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 USACE decision, implementation, and operations and maintenance documents and other work products.

d. Review Plan Approval and Updates

The South Atlantic Division (SAD) Commander is responsible for approving this RP. The Commander's approval reflects vertical team input as to the appropriate scope and level of review. Like the PMP, the RP is a living document and may change as the project progresses. The Jacksonville District (SAJ) is responsible for keeping the RP up to date. Minor changes to the RP since the last SAD Commander approval will be documented in Attachment A. Significant changes to the RP (such as changes to the scope and/or level of review) should be re-approved by the SAD Commander following the process used for initially approving the plan. The latest version of the RP, along with the Commander's approval memorandum, will be posted on the SAJ's webpage. The latest RP will be provided to SAD.

e. Review Management Organization

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

2. PROJECT INFORMATION AND BACKGROUND

a. Project Background

The construction of DMMA O-23 is part of an overall plan to provide permanent dredged material containment capacity for the maintenance of the Okeechobee Waterway (OWW). The OWW, a Federal navigation project, extends approximately 155 miles from Stuart, Florida, through Lake Okeechobee, to Fort Meyers, Florida (Figure 1). A series of locks facilitates the movement of navigation traffic over the length of the OWW. The Florida Inland Navigation District (FIND), local sponsor for the project, has undertaken the acquisition of the necessary land and construction of a series of DMMA's to ensure sufficient containment capacity for long-term maintenance of the waterway. DMMA O-23 is the second of the FIND sites to be constructed where DMMA O-7, designed in FY15 and finished construction in FY17, was the first.

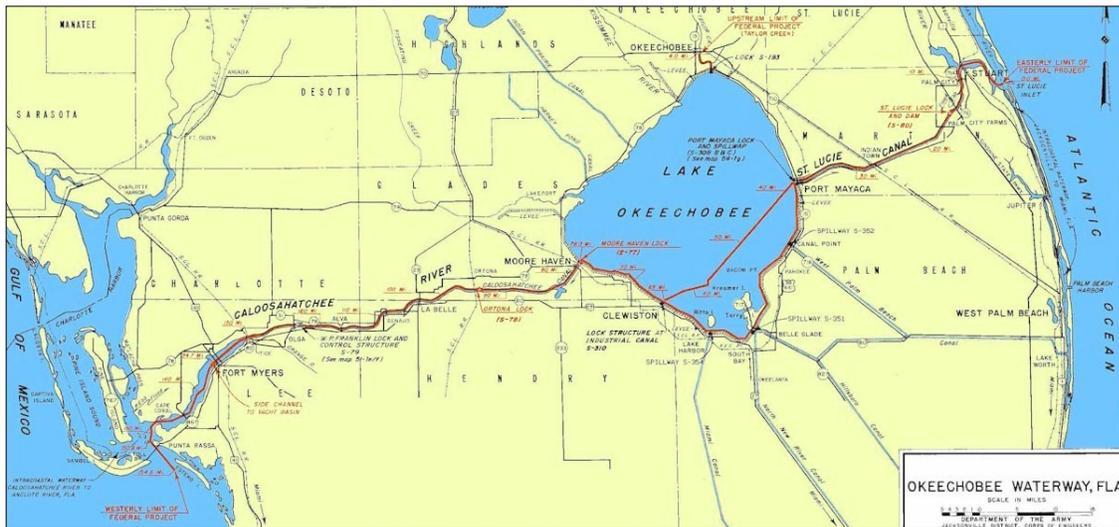


Figure 1 - Okeechobee Waterway (OWW)

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 FIND.

c. Project Location

DMMA O-23 is a 23.7 acre tract located within the unincorporated town of Jensen Beach in Martin County, Florida (Figure 2). The site property is approximately 27°13'29"N Latitude and 80°14'08"E Longitude and is approximately 0.47 miles north of the St. Lucie River. Directly north of the project site exists commercial enterprises; the Martin County Business Park and the Florida East Coast (FEC) Railway form the southern boundary. To the west, approximately 8.8 acres of the site remains forested with roadway access to and from Savannah Road (S.R. 733) and a collector roadway that connects to US Highway 1. Warner Creek, a partially channelized tributary of the St. Lucie River, bounds the business park on the west and continues across the site at the clearing's western edge. East of the creek, the site remains wooded with sand pine and xeric oak.

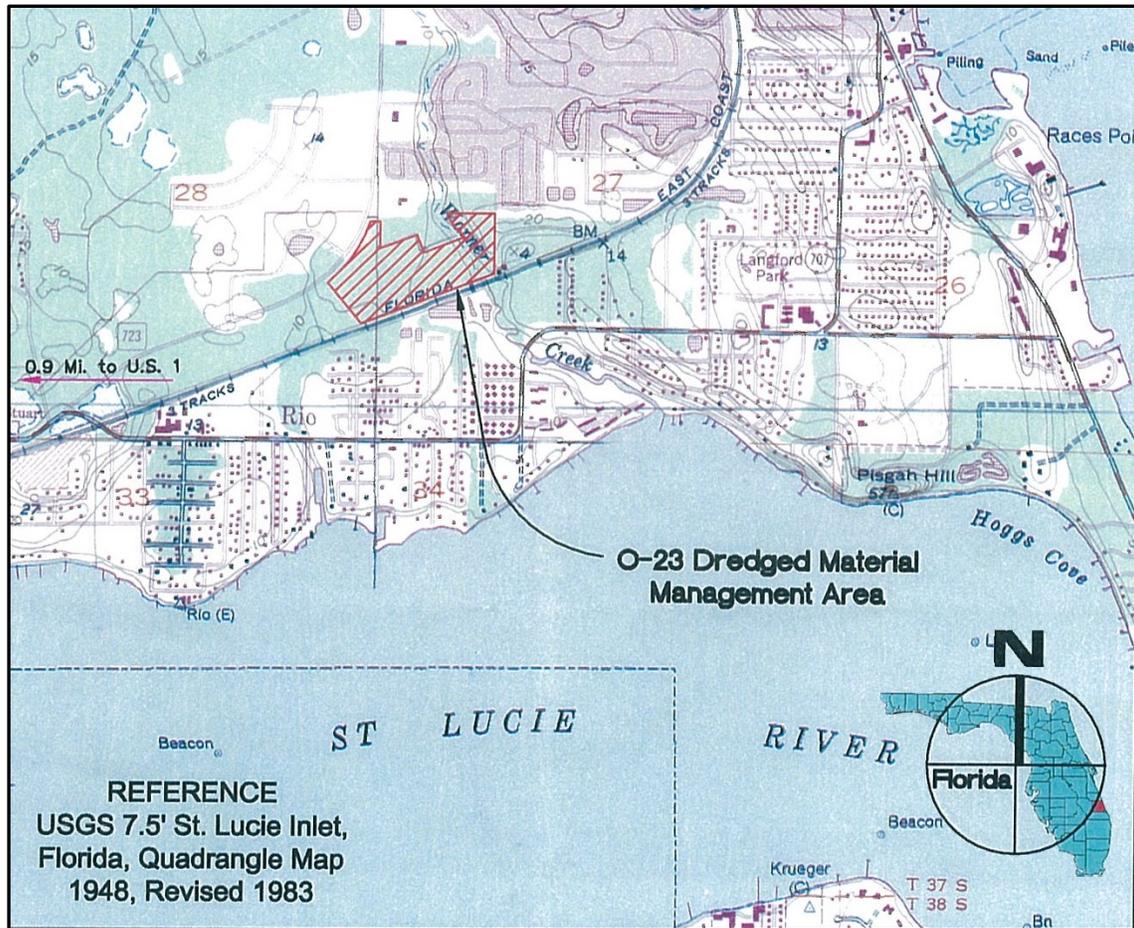


Figure 2: O-23 Project Location

d. Current Project Description

The project consists of constructing an upland dredged material management area (DMMA O-23). The disposal area dikes shall be constructed using fill material excavated from within the containment basin footprint and outside sources as needed. The finished dike crest elevation will be approximately 20.5 feet above NAVD88. Twin steel-framed box riser weirs with composite weir boards shall be constructed to provide the site decant water system. The containment basin will be surrounded by a perimeter access road and perimeter ditch. Project work also includes clearing and grubbing, fencing, drainage structures, and slope protection.

e. Public Participation

The SAJ's Corporate Communications Office continually keeps the affected public informed on SAJ projects and activities. There are no planned activities, public participation meetings, or workshops that could generate issues needing provision to review teams. The approved RP will be posted on SAJ's webpage. Any comments or questions regarding the RP will be addressed by SAJ.

f. Civil Works Cost Engineering Mandatory Center of Expertise Certification

The cost related documents associated with the P&S and DDR and the associated contract do not require external peer review or certification by the Cost Engineering Mandatory Center of Expertise (MCX).

3. DISTRICT QUALITY CONTROL

a. Requirements

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo a DQC. A DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. DQC will be performed on the P&S and DDR in accordance with SAJ's Engineering Division Quality Management System (EN QMS). The EN QMS 02611 defines DQC as the sum of two reviews, Discipline Quality Check and Review (DQCR) and Product Quality Control Review (PQCR).

b. Documentation

DQCRs occur during the design development process and are carried out as a routine management practice by each discipline. Checklists are utilized by each discipline to facilitate the review and to document the DQCR review comments. Certification of the DQCR is signed by the Branch Chief certifying that all design analyses and products have been completed in accordance with the EN QMS process prior to release from the Branch.

The PQCR shall ensure consistency and effective coordination across all disciplines and shall assure the overall coherence and integrity of the products. Review comments and responses for this review will be documented in DrCheckssm. The PQCR shall be quality control (QC) certified by the Engineering Technical Lead (ETL), all applicable Section and Branch Chiefs, and the Division Chief. This PQCR certification signifies that all DQCR Certifications are complete, as well as the PQCR.

4. AGENCY TECHNICAL REVIEW

a. Risk Informed Decision on Appropriate Level of Review

PED phase implementation documents are being prepared for the Construction of Dredge Material Management Area (DMMA) O-23. Therefore, an ATR of the final P&S and DDR documents will be required.

b. ATR Scope

ATR is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-217 and ER 1110-1-12.

A site visit will not be scheduled for the ATR Team. If necessary, additional data and photos of the project site required by the ATR team will be gathered by PDT members during plan-in-hand site visits. This information will be disseminated to the ATR Team by the PDT.

ATR will be conducted by individuals and organizations that are external to the SAJ. The ATR Team Leader will be a USACE employee outside SAD. 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 1165-2-217, and the DrCheckssm printout of the comments.

c. ATR Disciplines

As stipulated in 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' experience with Civil Works Projects and have performed ATR Team Leader duties on complex civil works projects. The ATR Team Leader is a Corps of Engineers employee outside the South Atlantic Division. The ATR Team Leader can also serve as one of the review disciplines. Professional registration is a requirement for the ATR leader.

Site Civil Engineer. This team member should be a registered professional engineer and have 7 or more years' experience with civil/site work projects to include embankments, roadways, drainage, and utility relocation. Other items to review are stormwater calculations adhering to State of Florida stormwater regulations.

Geotechnical Engineer. This team member should be a registered professional engineer and have 10 or more years' 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 and settlement evaluations.

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 of a steel weir structure with concrete foundation and aluminum gangway.

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. BCOES review 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 02611.

6. INDEPENDENT EXTERNAL PEER REVIEW

a. General

EC 1165-2-217 provides guidance for the implementation of IEPR according to 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. No decision documents are addressed/covered by this RP. Therefore, a Type I IEPR is not applicable to the implementation documents covered by this RP.

c. Type II Independent External Peer Review Determination (Section 2035)

This project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-217). 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 the applicability statements for this RP, are as follows:

- (1) Does failure of the project 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, which will only have water during a dredging event. During operations, the ponding depth varies depending on the contractor's operations but at most will only be a couple of feet. It is anticipated that each dredging event will only produce 50,000 cubic yards of material which is only a quarter of the site's capacity. Since the ponding depth is low and coupled with small loading events, the risk of a breach is low to unlikely.

- (2) Does the project involve the use of innovative materials or techniques?

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

- (3) Does the project design require redundancy, resiliency, or robustness?

The project features are not complex in nature and does not require the concept of redundancy.

- (4) Does the project have a unique construction sequencing or a reduced or overlapping design construction schedule?

This project's construction sequence and schedule have been used successfully by the Corps of Engineers on other similar works. Construction schedules do not have unique sequencing and activities are not reduced or overlapped.

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

7. POLICY AND LEGAL COMPLIANCE

The SAJ's 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

No engineering models are being used to prepare the documents covered by this RP.

9. PROJECT DELIVERY TEAM DISCIPLINES

| |
|--------------------------|
| PDT Disciplines |
| Civil Site Design |
| Environmental Sciences |
| Geomatics & Survey |
| Geotechnical Engineering |
| Structural Engineering |

Table 1: PDT Members

10. BUDGET AND SCHEDULE

a. Project Schedule

| Milestone | Task | Start Date | End |
|-----------|---------------------|------------|----------|
| CW310 | Draft P&S Complete | 2/13/20 | 4/9/20 |
| | DQCR | 4/10/20 | 4/30/20 |
| | PQCR/DQC* | 4/29/20 | 6/8/20 |
| | ATR Review | 6/12/20 | 6/29/20 |
| | ATR Certification | 7/29/20 | 8/4/20 |
| | BCOES Review ** | 6/12/20 | 6/29/20 |
| CW320 | BCOES Certification | 8/5/20 | 8/5/20 |
| CW400 | Advertisement ** | 8/19/20 | 9/18/20D |
| CC800 | Award | 10/22/20 | 10/23/20 |

Table 2: Project Schedule Milestones

* SAJ EN QMS 02611 defines DQC as the sum of DQCR and PQCR. Schedule adjusted during PQCR to ensure receipt of permitting modification for southerly limit received prior to advertisement.

** Concurrent ATR and BCOES in order to meet early FY21 award date.

b. ATR Cost

Funds will be budgeted for an ATR 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.

11. REVIEW PLAN POINTS OF CONTACT

| Title | Organization | Phone |
|-----------------|--------------|------------|
| Quality Manager | CESAD-RBT | [REDACTED] |
| Review Manager | CESAJ-EN-Q | [REDACTED] |

Table 3: Review Plan Point of Contacts

ATTACHMENT A: APPROVED REVIEW PLAN REVISIONS

| Revision Date | Description of Change | Page / Paragraph Number |
|----------------------|------------------------------|--------------------------------|
| | | |
| | | |
| | | |
| | | |
| | | |

Table 4: Review Plan Revisions

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 |
| DMMA | Dredge Material Management Area |
| 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 |
| FEC | Florida East Railway |
| 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 |

| <u>Acronyms</u> | <u>Defined</u> |
|-----------------|---|
| PM | Project Manager |
| PMP | Project Management Plan |
| 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 Development Act |

ATTACHMENT C

ATR REPORT OUTLINE AND COMPLETION OF AGENCY TECHNICAL REVIEW

Construction of Dredged Material Management Area (DMMA) O-23

Martin County, Florida

ATR REPORT OUTLINE

- 1. Introduction:**
- 2. Project Description:**
- 3. ATR Team Members:**
 - ATR Team Leader.**
 - Site Civil Engineer.**
 - Geotechnical Engineer.**
 - Structural Engineer.**
- 4. ATR Objective:**
- 5. Documents Reviewed:**
- 6. Findings and Conclusions:**
- 7. Unresolved Issues:**

Enclosures:

1. ATR Statement of Technical Review
2. ATR Comments (DrChecks)
3. Project Review Plan
4. Charge to Reviewers
5. Certification of District Quality Control Review

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) for the Construction of Dredged Material Management Area (DMMA) O-23, 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 1165-2-217 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 sm.

NAME
ATR Team Leader

Date

Engineering Technical Lead

Date

Review Management Office Representative
CESAD-RBT

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.

Chief, Engineering Division
SAJ-EN

Date