



REPLY TO  
ATTENTION OF

**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

19 December 2017

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT

SUBJECT: Approval of the Review Plan for the Fiscal Year 2018 Beach Periodic Nourishment of the Fort Pierce Shore Protection Project, St. Lucie County, Florida

1. References:

a. Memorandum, CESAJ-EN-Q, 03 Nov 2017, subject: Approval of Review Plan for Fort Pierce Shore Protection Project FY18, St. Lucie County, Florida (Encl).

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

2. The Review Plan (RP) for the Fort Pierce Shore Protection Project 2018 periodic nourishment submitted by the Jacksonville District via reference 1.a has been reviewed by the South Atlantic Division (SAD) and is hereby approved in accordance with reference 1.b above.

3. SAD concurs with the District's RP recommendation that Agency Technical Review is not needed on this design effort since this periodic nourishment is within the same previously constructed template limits and will use the same Capron Shoal material source as the 2015 periodic nourishment. We also 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 Specifications. The primary basis for our IEPR concurrence is that the failure or loss of the features associated with this periodic nourishment will not pose a significant threat to human life.

4. The District should take steps to post the approved 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

[REDACTED]

Brigadier General, USA  
Commanding

CF:

[REDACTED]



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

REPLY TO  
ATTENTION OF

CESAJ-EN-Q

03 NOV 2017

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

SUBJECT: Approval of Review Plan for Fort Pierce Shore Protection Project FY18, St. Lucie County, Florida

1. References:

- a. EC 1165-2-214, Civil Works Review, 15 Dec 12.
- b. River and Harbor Act of 1965, PL 89-298, 27 Oct 65 (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 the plans, specifications, and design documentation report. The Review Plan complies with applicable policy 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.

4. If you have any questions regarding the information in this letter, please feel free to contact me or you may [REDACTED]

Encl

[REDACTED]  
Commanding

# **PROJECT REVIEW PLAN**

**For**

## **Preconstruction, Engineering and Design Phase Implementation Documents**

**For**

### **Fort Pierce Shore Protection Project FY18**

**St. Lucie County, Florida**

**Project P2 Number: 113090**

**Jacksonville District**

**October 2017**



**US Army Corps  
of Engineers** ®

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.

## TABLE OF CONTENTS

<b>1. PURPOSE AND REQUIREMENTS .....</b>	<b>1</b>
a. Purpose .....	1
b. References .....	1
c. Requirements.....	1
d. Review Plan Approval and Updates .....	2
e. Review Management Organization .....	2
<b>2. PROJECT INFORMATION .....</b>	<b>2</b>
a. Project Background.....	2
b. Project Authorization .....	3
c. Current Project Description .....	4
d. Public Participation .....	4
e. Civil Works Cost Engineering Mandatory Center of Expertise Certification .....	4
<b>3. DISTRICT QUALITY CONTROL .....</b>	<b>4</b>
a. Requirements.....	4
b. Documentation.....	5
<b>4. AGENCY TECHNICAL REVIEW .....</b>	<b>5</b>
<b>5. BIDDABILITY, CONSTRUCTABILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY REVIEW .....</b>	<b>5</b>
<b>6. INDEPENDENT EXTERNAL PEER REVIEW .....</b>	<b>6</b>
a. General.....	6
b. Type I Independent External Peer Review Determination. ....	6
c. Type II Independent External Peer Review Determination. ....	6
<b>7. POLICY AND LEGAL COMPLIANCE .....</b>	<b>7</b>
<b>8. MODEL CERTIFICATION AND APPROVAL .....</b>	<b>7</b>
<b>9. PROJECT DELIVERY TEAM DISCIPLINES.....</b>	<b>7</b>
<b>10. SCHEDULE .....</b>	<b>7</b>

ATTACHMENT A - Approved Review Plan Revisions

ATTACHMENT B - Partial List of Acronyms and Abbreviations

## **1. PURPOSE AND REQUIREMENTS**

### **a. Purpose**

This Review Plan defines the scope and level of review activities for the Fort Pierce Shore Protection Project in St. Lucie County. As discussed below, the review activities consist of a District Quality Control (DQC) effort and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review. Also as discussed below, an Independent External Peer Review (IEPR) and an Agency Technical Review (ATR) are 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). 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, Fort Pierce Shore Protection Beach Renourishment Project St. Lucie County, Florida, P2 Number 113090

### **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) will 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.

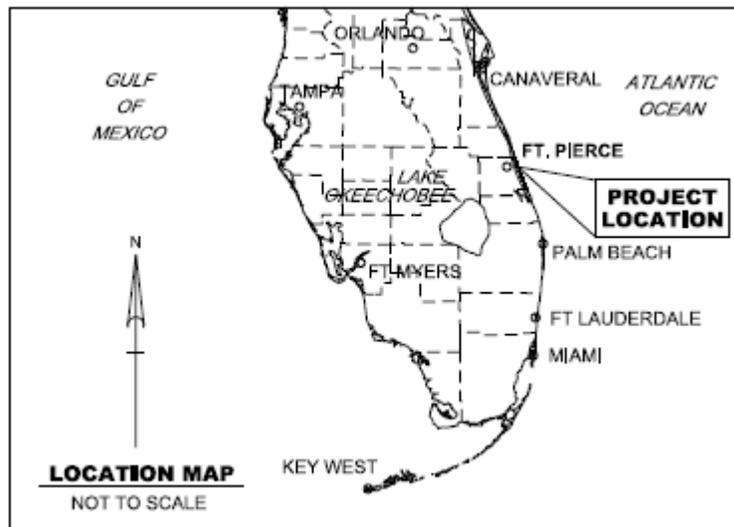
**e. Review Management Organization**

The South Atlantic Division (SAD) is designated as the Review Management Organization (RMO).

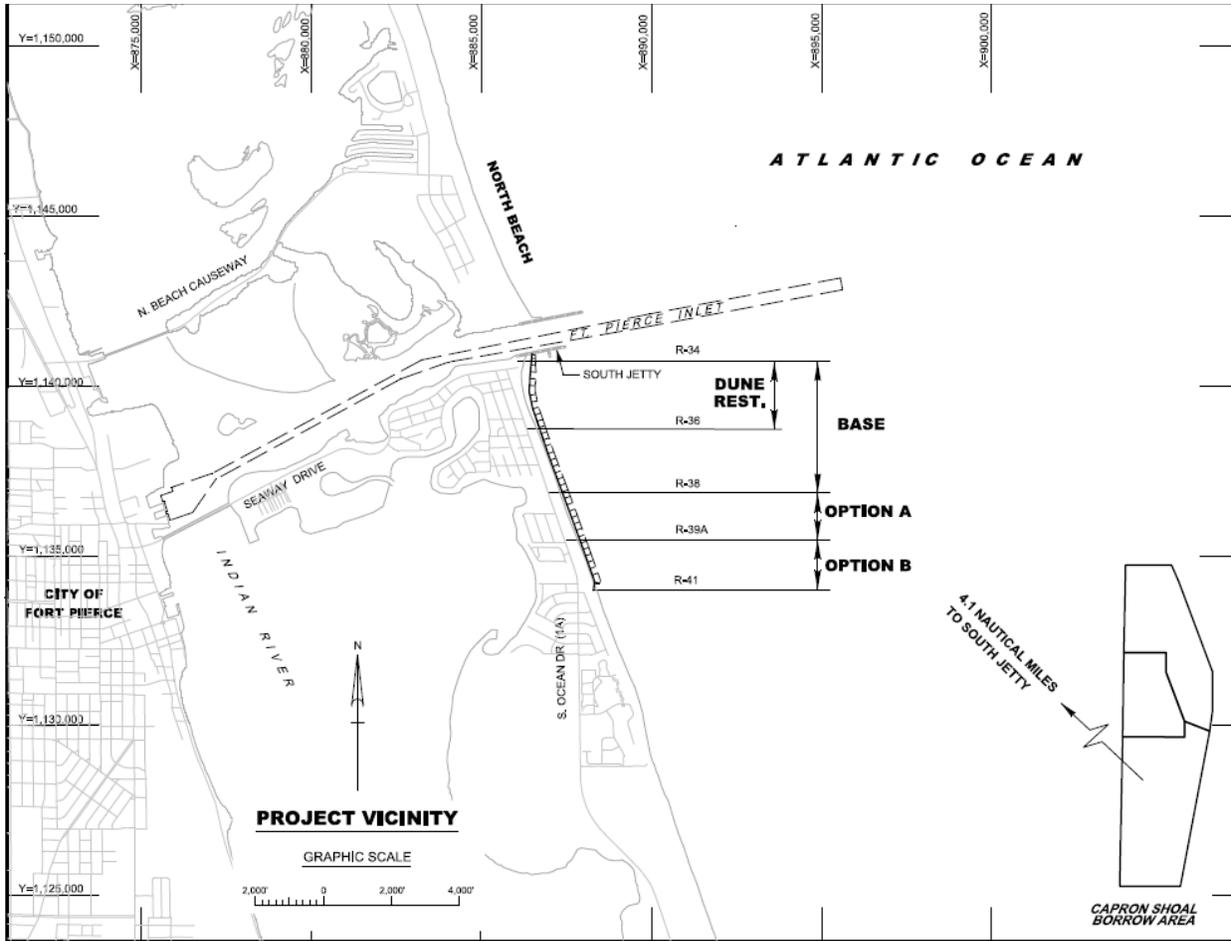
**2. PROJECT INFORMATION**

**a. Project Background**

Fort Pierce Beach is located in St. Lucie County on Hutchinson Island on the east coast of Florida. Fort Pierce Beach is about 120 miles north of Miami and about 225 miles south of Jacksonville, Florida, immediately adjacent to the Federal navigation project at Fort Pierce Inlet. St. Lucie County has 21.5 miles of Atlantic Ocean coastline. The authorized project extends southerly from the south jetty at the entrance to the Fort Pierce Harbor Federal navigation project for a distance of 1.3 miles to include Surfside Park at its southern limit. This corresponds with Florida Department of Environmental Protection (DEP) Monuments R-34 to R-41.



**Figure 1: Fort Pierce Project Location Map**



**Figure 2: Fort Pierce Project Map**

**b. Project Authorization**

The Fort Pierce, Florida Shore Protection Project in St. Lucie county, Florida was authorized by the River and Harbor Act of 1965 (PL 89-298, 79 Stat. 1089, 1092) in accordance with the recommendations of the Chief of Engineers in House Document (HD) 84, 89 Congress. The authorization provided for the restoration of 1.3 miles of shoreline south of Fort Pierce Inlet. The initial authorization was for 10 years.

Under the authority of Section 156 of WRDA of 1976 (PL 94-587), the Chief of Engineers extended Federal participation to fifteen years from initial construction. Federal participation expired in 1986, fifteen years after the initial construction fill was placed in 1971. Section 934 of WRDA of 1986 (PL 99-662) amended Section 156 of WRDA of 1976 to give the Secretary of the Army, acting through the Chief of Engineers, discretionary authority to extend Federal participation to the fiftieth year after the date of initial construction of a shore protection project. A Section 934 Reevaluation Report was completed in May 1995, which found continued nourishment was economically and environmentally sound and the report, was approved, however Federal participation was not extended. Although not approved by the USACE as discussed above, Congress added Section 506(a)(2) of WRDA of 1996 (PL 104-303) which

authorized the extension of Federal participation in the periodic nourishment for a period of fifty years, beginning on the date of initiation of initial construction of the project.

The 2006 Ft. Pierce, St. Lucie County, Florida, Shore Protection Project Limited Reevaluation Report with Environmental Assessment (2006 LRR) prepared by SAJ, specified a future renourishment volume of 529,000 cy on a 2-year interval, which equates to a rate of 264,500 cy/yr. The 2012 St. Lucie County, FL, Sand Needs Evaluation for Beach Renourishment, prepared for the Southeast Florida Sediment Assessment and Needs Determination (SAND) Report was prepared by St. Lucie County Erosion District and Coastal Tech. The SAND Needs report estimated the future renourishment needs to be 260,000 cy/yr, based on historical project renourishment requirements from 1999-2009.

**c. Current Project Description**

Project work consists of a Base and two Options. Project work includes renourishing a beach berm to an elevation +7.4 feet NAVD88 (with additional +1 foot tolerance allowed) as well as restoring dune to elevation +11.0 feet NAVD88 (with additional +0.5 foot tolerance allowed) with width varying relatively to the established CBL. The Base berm renourishment work is between Florida Department of Environmental Protection (FDEP) Range Monuments R-34 and R-38 while the dune restoration is between FDEP Range Monuments R-34 and R-36. The Option A berm renourishment work is between FDEP Range Monuments R-38 and R-39A. The Option B berm renourishment work is between FDEP Range Monuments R-39A and R-41. A permitted offshore borrow area known as Capron Shoal for the project is located approximately 4 nautical miles southeast of the project site. Due to the extensive hard ground areas located offshore of the fill template area, offshore pipeline access to the beach site is prohibited. The Contractor will operate the off-loading from inside the South Jetty of Fort Pierce Inlet, FL. Staging area and beach access are shown on the plans. Project work also includes but is not limited to environmental species monitoring, sea turtle non-capture trawl sweeping, turbidity monitoring, beach tilling, remediation, and construction/vibration controls and monitoring.

**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 approved 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. 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**

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 by Jacksonville District personnel. SAJ EN

QMS 02611 defines DQC as the sum of two reviews, Discipline Quality Control 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. Certifications of the Discipline Quality Check and Review are signed by the Engineering Division Branch Chiefs certifying that the DQCR on all design analyses and products have been completed in accordance with the EN QMS process prior to release from their Branch.

The PQCR shall ensure consistency and effective coordination across all disciplines and to assure the overall coherence and integrity of the products. Review comments and responses for this review will be documented in DrChecks. The Product Quality Control Review shall be QC certified by the Lead Engineer and all applicable Engineering Division Section and Branch Chiefs. This PQCR certification signifies that all Discipline Specific Quality Checks and Review Certification are complete, as well as the Product Quality Control Reviews.

**4. AGENCY TECHNICAL REVIEW**

An ATR review is not recommended since this periodic nourishment mirrors the 2015 periodic nourishment, which was successfully constructed between March 2015 and May 2015. A Project Implementation Report (PIR) to assess the damages from Hurricane Matthew was completed in December 2016 but it was determined that it does not meet the eligibility criteria for rehabilitation assistance pursuant to ER 500-1-1 paragraph 5-20.e.(2) with regard to significant damage determination. The construction limits of this contract are within the same limits as the 2015 periodic nourishment and will be constructed using the same means and methods contract since the material source will be the Capron Shoal. The beach template footprint itself has not changed in any way (e.g. berm width, alongshore limits, etc.). The only change was the dune elevation was lowered by 0.5 feet to meet the latest FDEP permit. The scope of the this project is within the authorized, permitted, and previously constructed template limits and follows the same means, methods and sediment source methodology as the 2015 periodic nourishment contract. Therefore, an ATR is not recommended.

**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 during the Final Design Phase. 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 and Construction 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 Plan's applicability statements follow.

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

*This project will renourish portions of Hutchinson Island Beach in St. Lucie County. Failure will not pose a threat to human life.*

- (2) The project involves 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) The project design lacks redundancy.

*The project features are not complex in nature and do not employ the concept of redundancy.*

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

*This project's construction does not have unique sequencing or a reduced or overlapping design. The construction sequence and schedule has been used successfully by the Corps of Engineers on other similar works.*

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 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

This project will not use any engineering models that have not been approved for use by USACE.

## 9. PROJECT DELIVERY TEAM DISCIPLINES

PDT Disciplines
Civil/Dredge Engineering
Construction Management
Coastal Geology

## 10. SCHEDULE

Milestone	Task	Start Date	End Date
CW310	Draft P&S Complete	5-JUL-2017	3-AUG-2017
	DQCR	4-AUG-2017	8-AUG-2017
	PQCR/DQC*	15-AUG-2017	28-AUG-2017
	BCOES Review	18-SEP-2017	6-OCT-2017
CW320	BCOES Certification	26-OCT-2017	26-OCT-2017
CW400	Advertisement **	19-SEP-2017	3-NOV-2017
CC800	Award	6-DEC-2017	6-DEC-2017

\* SAJ EN QMS 02611 defines DQC as the sum of DQCR and PQCR.

\*\* The schedule has concurrent BCOES and advertisement in order to meet an FY18 award date to accommodate environmental construction windows in the spring. The Project Delivery Team obtained USACE Jacksonville District Corporate Board approval for the concurrent BCOES and advertisement.

**ATTACHMENT A: APPROVED REVIEW PLAN REVISIONS**

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

**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