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

CESAD-PDP

26 April 2019

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Jacksonville District, 701 San Marco Blvd., Jacksonville, FL 32207

SUBJECT: Approval of the Review Plan for the Miami Harbor, Florida, Feasibility Study

1. References:

a. Memorandum, CESAJ-PD, 4 March 2019, subject: Miami Harbor Improvements Study Review Plan submittal for Division review and approval.

b. Memorandum, CECW-P, 7 June 2018, subject: Revised Delegation of Authority in Section 2034(a)(5)(A) of the Water Resources Development Act of 2007 (WRDA 2007), as amended (33 U.S.C. 2343).

2. Jacksonville District prepared the review plan for the Miami Harbor Feasibility Study consistent with EC 1165-2-217 (enclosed). The District coordinated the review plan with the National Planning Center of Expertise for Deep Draft Navigation, which is the lead office to execute this review plan. For further information, contact Kim Otto, DDNPCX at (251) 694-3892. The review plan includes independent external peer review (IEPR).

3. I approve this review plan, which is subject to change as circumstances require, consistent with study development under the project management business process. Subsequent revisions to this approved review plan due to significant changes in the study, study scope, or level of review will require new written approval from this office.

4. The point of contact for this action is Mr. Patrick O'Donnell, Interim Chief, Planning and Policy Division, at 404-562-5226, or patrick.e.odonnell@usace.army.mil.

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Encl

DIANA M. HOLLAND
Brigadier General, USA
Commanding

REVIEW PLAN

April 9, 2019

1. OVERVIEW

This Review Plan (RP) defines the scope and level of peer review for the following study:

- **Study Name:** Miami Harbor Improvements, Florida
- **P2 Number:** 472379
- **Federal Project:** Miami Harbor, Miami-Dade County, Florida
- **Decision Document - Type:** Integrated Feasibility Report and National Environmental Policy Act (NEPA) analysis, level To Be Determined
- **Project Type:** Single Purpose Navigation (Deep Draft)
- **Congressional Approval Required (Yes/No)**: Yes
- **District:** Jacksonville District (CESAJ)
- **Major Subordinate Command (MSC):** South Atlantic Division (CESAD)
- **Review Management Organization (RMO):** Deep Draft Navigation Planning Center of Expertise (DDNPCX)
- **Review Plan Contacts:**
  - **District:** Project Manager (904) 232-1458; Planning Technical Lead (904) 232-3823
  - **MSC:** Senior Plan Formulator (404) 562-5226
  - **RMO:** DDNPCX Review Manager (251) 694-3842

2. KEY REVIEW PLAN DATES

Action	Date - Actual[1]
RMO Endorsement of RP	02/28/2019
MSC Approval of RP	Pending
IEPR Exclusion Approval	
Has RP changed since PCX endorsement?	
Last RP revision[2]	
RP posted on District Website	
Congressional notification[3]	

[1]*Date action occurred or 'pending' if not yet approved*
[2]*Enter 'none' if no updates have been made since approval*
[3]*Date Regional Integration Team notified Congress of IEPR decisions*

3. MILESTONE SCHEDULE

Action	Date - Scheduled	Date – Actual	Status – Complete?
Feasibility Cost Sharing Agreement (FCSA) Signed	09/04/2018	09/04/2018	Yes
Alternatives Milestone Meeting (AMM)	12/07/2018	12/10/2018	Yes
Tentatively Selected Plan (TSP)	01/31/2020		No
Release Draft Report to Public	04/01/2020		No
Agency Decision Milestone (ADM)	10/16/2020		No
Final Report Transmittal	02/02/2021		No
Senior Leaders Briefing	05/27/2021		No
Chiefs Report	09/03/2021		No

4. BACKGROUND

- **Date of 'Background' Information**: February 2019

- **RP References:**
  - Engineer Circular (EC) 1165-2-217, Review Policy for Civil Works, 20 February 2018
  - EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2011
  - Engineer Regulation (ER) 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007
  - Director's Policy Memorandum Civil Works (DPM CW) Programs 2018-05, Improving Efficiency and Effectiveness in USACE Civil Works Project Delivery (Planning Phase and Planning Activities), 3 May 2018
  - Director of Civil Works (DCW) Memorandum, Revised Delegation of Authority in Section 2034(a)(5)(A) of the Water Resources Development Act of 2007 (WRDA 2007), as amended (33 U.S.C. 2343), 7 June 2018
  - Planning Bulletin (PB) 2018-01, Feasibility Study Guidelines, 26 September 2018
  - DPM 2019-01, Policy and Legal Compliance Review, 9 January 2019
  - Miami Harbor Navigation Improvements Study, Project Management Plan, 12 December 2018
  - CESAJ/CESAD Quality Management Plan

- **Authority**: Public Law 91-611, Section 216 of the Rivers and Harbors Act of 1970. Section 216 of the Flood Control Act of 1970 (33 USC 426 et seq) as amended, reads as follows: *"The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest."*

- **Sponsor**: Miami-Dade County, as represented by the County Mayor

- **SMART Planning Status**: The study is 3x3x3 compliant, no exemption is being sought at this time. The study is currently post AMM in the alternatives evaluation and analysis study phase.

- **Project Area**: The Port of Miami is an island facility consisting of 660 acres that is located at the northern part of Biscayne Bay in South Florida. The city of Miami is located on the west side of Biscayne Bay; the city of Miami Beach is located on a peninsula on the northeast side of the bay, opposite Miami. Both cities are located in Miami-Dade County, Florida, and are connected by several causeways crossing the bay. The Port is the southernmost major Atlantic Coast port. Referenced to other major South Atlantic Region ports, the Port is located 21 nautical miles south of Port Everglades (Fort Lauderdale), Florida; 83 nautical miles south of Palm Beach, Florida; 173 nautical miles south of Port Canaveral, Florida; 306 nautical miles south of Jacksonville, the most northern port on Florida's Atlantic Coast; 386 nautical miles south of Savannah, Georgia; and 420 nautical miles south of Charleston, South Carolina. It is 144 nautical miles north of Key West, the southernmost port in Florida.

- **Problem Statement**:
  Container Ships:
  With vessels of 11,000 twenty-foot equivalent units (TEUs) - much greater than the 6,600 TEU design vessel - now calling Miami Harbor, the Biscayne Bay Pilots who navigate these channels are facing difficulties in maneuvering when entering the outer entrance channel from the ocean, translating to delays in vessel transportation while pilots wait on optimal conditions in specific areas of the channels in order to transit safely. According to PortMiami, vessels calling now are demanding to schedule their calls weeks in advance and need to know they can arrive under normal but variable physical conditions. They require 46 feet of static draft, plus 3.3 feet of underkeel safety clearance, plus 3.3 feet of squat, plus 3.3 feet for vessel squat due to environmental conditions and physical characteristics of the design vessel operating under a defined set of parameters, equaling a need for 56 feet of depth. This has resulted in the request for additional improvements in the Federal project to address their current needs, and to accommodate the continued economic cargo growth in the United States.

  Additional needs consist of widening the Lummus Island Turning Basin to allow a larger turning diameter for larger Post-Panamax vessels, and possible widening in Fisherman's Channel to allow larger Post-Panamax vessels and cruise ships to pass while other containerships at berth are being loaded by the gantry cranes to avoid transit delays.

  Since 2004 when the GRR was authorized, a larger class of Post-Panamax containerships have joined the world fleet and are comprised of Post-Panamax size container ships with capacities of up to 14,000 TEUs. These vessels have a length of 1,205 feet, a beam of 161 feet, and a design draft of up to 52.5 feet. The total underkeel clearance requirement for these vessels is highly variable (reference to MITAGS/BAIRD simulation report) and the problems currently experienced will increase.

  Cruise Vessels:
  Both cruise vessels and containerships transit Fisherman's Channel. At present, plans for a new cruise terminal are underway. Ship simulation for the cruise vessels that will berth at this new terminal concluded that these vessels are width constrained in Lummus Island Turning Basin and width constrained in both the turn leading from Fisherman's Channel to the Lummus Island Turning Basin and the turn leading from the Lummus Island Turning Basin to the Dodge Island Channel. Additionally, cruise ships experience restrictions (i.e., limited movements, additional tugs, etc.) with containerships docked at berths when as they are being loaded/unloaded with the cranes in the down position, creating delays for cruise vessels as they wait to transit.

  Additionally, the Dodge Island Channel and Dodge Island Turning Basin are not currently part of the Federal project. Making these channel reaches part of the Federal project would allow improvements for efficient transit of cruise vessels to accommodate the economic cruise industry growth that will allow the creation of more large cruise vessel berths to allow home port status in the United States.

- **Study/Project Goals and Objectives:**
  1. Reduce navigation transportation costs to and from Miami Harbor to the extent possible over the 50-year period of analysis, starting in 2025.

  2. Reduce navigation transportation costs within Miami Harbor over the 50-year period of analysis, starting in 2025.

3. Develop an alternative that avoids, minimizes, and/or sufficiently mitigates environmental impacts to the greatest extent practicable consistent with providing safe, reliable, and efficient navigation of Miami Harbor over the 50-year period of analysis, starting in 2025.

- **Description of Action:** Deepening and widening measures are:

	Nonstructural
NS-1	Tug Assist
NS-2	High-Tide Transiting
NS-3	Daylight Transiting
NS-4	Light Loading
NS-5	Limited Use of Fisher Island Turning Basin (TB)
NS-6	U.S. Coast Guard Range Markers
	Structural
S-1	Outer Entrance Channel Widening (flares, bend widener & between jetties)
S-2	Outer Entrance Channel Deepening (flares & widener)
S-3	Expand Fisher Island TB
S-4	Inner Channels & TB Widening
S-5	Transitional Widener between Main Channel & Fisher Island TB
S-6	Widening of Dodge Island Cut and TB

It is anticipated that new work construction dredged sediments will be placed in the Ocean Dredged Material Disposal Site (ODMDS), with suitable sediments possibly being used beneficially for artificial reef construction or seagrass restoration. Operations and maintenance (O&M) dredged sediments would either be placed in the ODMDS with suitable sediments possibly being used beneficially for beach placement.

- **Federal Interest**: Preliminary data found in the Initial Appraisal Report dated April 2018 based on vessel calls, tonnage, and sailing drafts suggests that there are additional National Economic Development (NED) benefits associated with harbor modifications. It is estimated that costs for the NED Plan will exceed $200 million given the costs to complete the last deepening event, with similar size and scope, were in excess of $200 million. Costs and NED benefits will be further evaluated and refined as part of this feasibility study.

- **Risk Identification:**
  - Impacts to hard bottom and reef habitats including Endangered Species Act (ESA) listed corals and designated critical habitat from dredging activities/methodology
  - Impacts to seagrasses and ESA designated critical habitat from widening Fisherman's Channel to the south
  - Impacts to seagrasses from widening Fisherman's Channel to the south and adding Dodge Island Channel and Dodge Island TB to the project.
  - Overcoming concerns from environmental agencies/groups regarding the last deepening event
  - Impacts to Fisher Island

Figure 1: Study Area Map

5. FACTORS AFFECTING THE SCOPE AND LEVEL OF REVIEW

A. Is it likely that part(s) of the study will be challenging (EC 1165-2-217, paragraph 7.a.(1))? This study consists of deepening, widening, and expanding the limits of an existing Federal navigation project to improve efficiency of vessel operations. Given the last deepening effort, yes, it is likely that components of this study pertaining to potential or perceived environmental impacts will contribute to the need for additional scoping time and outreach, possibly triggering an Environmental Impact Statement (EIS), given recent experience with improvements in the past decade to this harbor.

B. Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks (EC 1165-2-217, paragraph 7.a.(1)). The formulation of the navigation improvements to decrease the transportation inefficiencies is not anticipated to carry many risks to the study. It is expected that the primary factor contributing to study risks pertains to overcoming the perceived indirect environmental impacts following that last deepening event and the risk to adequately estimate the potential environmental direct and indirect impacts from this study's navigation improvements to the public, agencies, and other interested parties. This risk is a high risk as it has the potential to directly impact unanticipated costs for mitigation.

C. Is there a significant threat to human life associated with aspects of the study or with failure of the project or proposed project (Type I IEPR - EC 1165-2-217, paragraph 11.d(1)(a) and SAR - paragraph 12.h.)? No. No known life safety issues exist related to channel deepening, widening, and placement of dredged material. Improving the general navigation features (GNF) will likely improve efficiency of commercial and recreational-related navigation. This statement has been reviewed by the Engineering Division Chief of Jacksonville District and has her concurrence.

D. Is the estimated total cost of the project greater than $200 million (EC 1165-2-217, paragraph 11.d(1)(b))? Yes, the total project costs are anticipated to range between $200-300 million. A Type I IEPR is anticipated for this project and the study's schedule has been constructed accordingly.

E. Will the study/project require an environmental impact statement (EC 1165-2-217, paragraph 11.d(1)(b))? The team will conduct an Environmental Assessment and review the potential effects to determine whether an Environmental Impact Statement will be required. This determination will be made by Tentatively Selected Plan milestone (January 2020) and will be based upon a review of the effects of the project and the level of significance of those effects, as defined by 40 CFR §1508.27.

F. Has the Governor of an affected state requested a peer review by independent experts (EC 1165-2-217, paragraph 11.d(1)(c))? No, the Governor of Florida has not requested a peer review by independent experts and such a request is not anticipated.

G. Has the Chief of Engineers determined that the project study is controversial due to significant public dispute over the size, nature, or effects of the project or the economic or environmental costs or benefits of the project (EC 1165-2-217, paragraph 11.d(1)(d))? No, this has not been

determined by the Chief of Engineers, but it is likely that there will be considerable controversy pertaining to the potential environmental impacts to hard bottom and coral resources.

H. Is the study/project likely to involve significant public dispute as to the project's size, nature, or effects (EC 1165-2-217, paragraph 11.d(1)(e))? Yes, it is likely that there will be significant public dispute pertaining to the potential direct and indirect environmental effects of the project on hard bottom habitats, coral species, and seagrasses.

I. Is the study/project likely to involve significant public dispute as to the economic or environmental cost or benefit of the project (EC 1165-2-217, paragraph 11.d(1)(f))? Yes, it is likely that there will be significant public dispute pertaining to the potential environmental impacts and thus, associated costs, of the project with respect to the avoidance, minimization, and compensatory mitigation of the federally protected species.

J. Is the information in the decision document or anticipated project design likely to contain influential scientific information or be a highly influential scientific assessment – i.e., be based on novel methods, involve 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 (Type I IEPR - EC 1165-2-217, paragraph 11.d(1)(g); SAR paragraph 12.i.(1); and paragraph 15.d)? No, it is not anticipated that the decision document will contain influential scientific information or be a highly influential scientific assessment. The project design is expected to rely on known design and material considerations, and implementation techniques are unlikely to be precedent setting, unique, or change prevailing practices.

K. Does/will the study/project have significant interagency interest (EC 1165-2-217, paragraph 7.f(1))? Yes, the study and project will have significant interagency interest. Coordination is already underway with the resource agencies and National Marine Fisheries Service has requested to be a cooperating agency.

L. Are there any other circumstances that would lead the Chief of Engineers to determine Type I IEPR is warranted (EC 1165-2-217, paragraph 11.d(1)(h))? Yes, with costs exceeding $200 million and potential significant public controversy it is anticipated that Type I IEPR will be required.

M. Is the project expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources (EC 1165-2-217, paragraph 11.d(4)(a))? The project is not expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources, however any improvements outside of the current project footprint will require a cultural resources survey. It is anticipated that a cultural resources survey shall be conducted during the feasibility study.

N. Is the project expected to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures (EC 1165-2-217, paragraph 11.d(4)(a))? The impacts of the proposed project are not yet entirely known, however based on previous projects at Miami Harbor, it is anticipated that the project may result in adverse effects to some species of fish and wildlife and their habitat prior to the implementation of mitigation measures.

O. Is the project expected to have, before mitigation measures, more than a negligible adverse impact on an endangered or threatened species or their designated critical habitat (EC 1165-2-217, paragraph 11.d(4)(a))? Yes, based on the effects documented during the Phase III project at Miami Harbor, it is expected that prior to minimization efforts, construction of the new project may result in more than a negligible adverse effect on ESA listed species and the designated critical habitat.

P. Does the project study pertain to an activity for which there is ample experience within the USACE and industry to treat the activity as being routine (EC 1165-2-217, paragraph 11.d(4)(b))? Yes, navigation improvement studies and the construction of the navigation improvements (i.e., deepening and widening of deep-draft navigation harbors) is an activity for which there is ample experience within the USACE and industry to treat the activity as being somewhat routine. Although, dredging operations in southeast Florida hard bottom & coral reef habitats require additional minimization measures not employed elsewhere in the nation, those measures are considered routine for the District and industry.

Q. Does the project study have minimal life safety risk (EC 1165-2-217, paragraph 11.d(4)(b))? Yes, minimal life safety risk is assumed with this standard navigation improvement project.

R. Does the project design require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design/construction schedule (EC 1165-2-217, paragraph 12.i.(2))? It is anticipated that the project will not require redundancy, but may incorporate resiliency by incorporating beneficial use of dredged material into the dredged material management plan. However, it is not anticipated that any design and/or construction activities involving resiliency will be justified by life safety or for which the failure of the project would pose a significant threat to human life.

S. Will the project have unique construction sequencing or a reduced or overlapping design construction schedule (e.g., significant project features will be accomplished using the Design-Build or Early Contractor Involvement delivery systems) (EC 1165-2-217, paragraph 12.i.(3))? In order to minimize impacts to federally listed coral species, there will likely be construction methodologies to reduce impacts. In addition, rock pretreatment may be necessary prior to dredging. In order to minimize impacts to federally listed coral species and their designated critical habitats, there will likely be construction methodologies and minimization measures to reduce impacts which may include dredging windows. However, it is not anticipated that any design and/or construction activities involving the construction methodologies, sequencing or minimization measures would in any way pose an increased or significant threat to human life and safety.

6. REVIEW EXECUTION PLAN

This RP section provides a general description of each type of review and identifies the reviews anticipated for this study/project.

A. Types of Review

1) **District Quality Control (DQC).** DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements of the project management plan. All decision documents (including data, analyses, environmental compliance documents, etc.) undergo DQC review. Additionally, DQC of milestone submittals is required (PB 2018-01, Feasibility Study Milestones).

2) **Agency Technical Review (ATR).** ATR is performed to assess whether study/project analyses are technically correct and comply with USACE guidance and whether documentation explains the analyses and results in a clear manner. Further, the ATR team will ensure that proper and effective DQC has been performed (as assessment of which will be documented in the ATR report) and will ensure that the product is consistent with established criteria, guidance, procedures, and policy. If significant life safety issues are involved in a study or project, a safety assurance review should be conducted during ATR. At a minimum, ATR of the draft and final decision documents and supporting analyses is required (EC 1165-2-217, paragraph 9.i.(3)); however, targeted reviews may be scheduled as needed.

3) **Independent External Peer Review.** Type I IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review and is applied in cases that meet 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. A risk-informed decision is made as to whether Type I IEPR is appropriate. If the District anticipates requesting an exclusion from Type I IEPR, that effort should be coordinated with the RMO for assessment prior to submitting to the MSC for approval. Should IEPR be required, the RMO should be contacted at least three months in advance of the anticipated start of the concurrent review period to allow sufficient time to obtain contract services. If required, Type I IEPR will be managed by an Outside Eligible Organization, external to USACE. Neither the public nor scientific or professional societies would be asked to nominate potential external peer reviewers.

4) **Cost Engineering Review**. All decision documents will be coordinated with the Cost Engineering and ATR Mandatory Center of Expertise (MCX). The MCX will provide the cost engineering expertise needed on the ATR team and will provide certification of cost estimates. The RMO is responsible for coordinating with the MCX for cost reviews. Cost reviews may occur as part of the draft/final report ATRs but the schedule for specific reviews may also vary. Accordingly, the PDT should coordinate closely review related needs with both the MCX and RMO.

5) **Model Review and Approval/Certification.** EC 1105-2-412 established the process and requirements for ensuring the quality of planning models. The EC mandates use of certified or approved planning models for all planning activities to ensure that planning products are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions regarding the availability of data, transparent, and described in sufficient detail to address any limitations of the model or its use.

6) **Policy and Legal Compliance Reviews.** All decision documents will be reviewed throughout the study process for compliance with law and policy. ER 1105-2-100, Appendix H, and DPM CW/DCW memos, provide guidance on policy and legal compliance reviews. These reviews culminate in determination whether report recommendations, supporting analyses, and

coordination comply with law and policy and whether the decision document warrants approval or further recommendation to higher authority by the home MSC Commander.

7) **Public Review.** The home District will post the RMO endorsed and MSC approved RP on the District's public website. Internet posting of the Review Plan provides opportunity for the public to comment on that document. It is not considered a formal comment period, and there is no set timeframe for public comment. The PDT should consider any comments received and determine if Review Plan revisions are necessary. During the public comment period, the public will also be provided with the opportunity to review and comment on the draft and final reports. Should IEPR be required, public comments will be provided to the IEPR panel for consideration.

B. Anticipated Project Reviews and Estimated Costs

Table 1 provides the estimated schedule and cost for reviews anticipated for this study.

Table 1: Miami Harbor Navigation Improvements– Anticipated Reviews

Product to undergo Review	Review	Start Date	End Date	Cost	Complete
Habitat Equivalency Analysis (HEA)	Single Use Approval – Ecosystem Restoration Planning Center of Expertise (ECO-PCX)	02/06/19	01/24/20	$5,000	No
TSP Milestone Submittals	District Quality Control	01/06/20	01/10/20	$5,000	No
Draft Feasibility Report and NEPA analysis	District Quality Control	12/02/19	12/20/19	$20,000	No
	Agency Technical Review	03/01/20	05/01/20	$56,680[1]	No
	Type I IEPR	04/01/20	08/03/20	$150,000	No
	Policy and Legal Review	04/01/20	06/02/20	N/A	No
ADM Submittals	District Quality Control	09/21/20	09/25/20	$5,000	No
Final Feasibility Report and NEPA analysis	District Quality Control	10/19/20	10/30/20	$15,000	No
	Agency Technical Review	11/06/20	11/20/20	$47,320[2]	No
	Policy and Legal Review	12/14/20	03/23/21	N/A	No
In-kind Products[3]	N/A	N/A	N/A	N/A	N/A

[1]Estimated cost for Draft and Final Report ATRs does not include the cost of ATR Team Lead participation in milestone meetings or other engagement/coordination beyond that directly related with those ATRs. The estimated cost for ATR of the Draft Report is based upon the following assumptions:

- ATR Team Lead – 32 hours, $130/hour
- ATR Team – 9 technical disciplines, 40 hours/discipline, average $130/hour
- RMO – 40 hours, $143/hour

[2]The estimated cost for ATR of the Final Report is based upon the following assumptions:

- ATR Team Lead – 32 hours, $130/hour
- ATR Team – 9 technical disciplines, 32 hours/discipline- average, average $130/hour
- RMO – 40 hours, $143/hour

[3]Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. No in-kind products or analyses will be developed by the non-Federal sponsor.

C. District Quality Control

The home district shall manage DQC and will appoint a DQC Lead to oversee that review (see EC 1165-2-217, section 8.a.1).

1) Review Team Expertise. Table 2 identifies the required DQC team expertise.

Table 2: Required DQC Expertise

DQC Team Disciplines	Expertise Required
DQC Lead	A senior professional with extensive experience preparing Civil Works decision documents and conducting/contributing to/participating in DQC. The lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc.). They should be an experienced water resources planner with experience in deep draft navigation projects and associated planning reports and documents.
Plan Formulation	The plan formulation reviewer should be an experienced water resources planner with experience in leading a multi-disciplinary PDT through a deep draft navigation study, knowledge of deep draft navigation guidance/policies, and be able to draw on lessons learned for advising the PDT through the risk-informed decision-making SMART Planning Process.
Economics[1]	The economics reviewer should be a senior economist with experience in deep draft navigation studies and familiarity with HarborSym. Models to be used: HarborSym and RECONS (Table 5).
Environmental Resources	The environmental reviewer should have expertise in evaluating the impacts associated with deep draft navigation improvements/ dredging projects and dredged material placement requirements. The reviewer should also be experienced with environmental coordination and NEPA requirements for deep draft navigation projects. Models to be used include: UMAM and HEA (Table 5).
Cultural Resources	The cultural resources reviewer should have expertise in evaluating the impacts associated with deep draft navigation channel improvement and dredging projects as well as extensive knowledge of underwater archaeology. The reviewer should also be familiar with the environmental coordination and NEPA/National Historic Preservation Act (NHPA) requirements for deep draft navigation projects.
Hydrology, Hydraulics and Coastal (HH&C) Engineer	The HH&C engineering reviewer should be knowledgeable in the field of hydraulics, have a thorough understanding of open channel dynamics, and have experience in deep draft navigation studies/projects. The reviewer should also be familiar with ship simulation. Models to be used include: CH3D ADH, MDFATE, STFATE, LTFATE, DELFT 3D, ADCIRC, STWAVE, CEQUAL ICM, CADET, and Engineer Research and Development Center (ERDC) Ship/Tow Simulator (Table 6).
Geotechnical Engineer	The geotechnical engineering reviewer will have experience performing geotechnical evaluations for deep draft navigation channel improvement projects, including evaluating the behavior of soils, site characterization, material management, slope stability, and the analysis and placement of dredged material (including beneficial use).
Cost Engineer	The cost engineering reviewer should have experience evaluating cost requirements for a deep draft navigation channel improvement project and

	experience with the following models: MCACES, Crystal Ball CSRA, TPCS, and CEDEP (Table 6).
Operations	The operations reviewer will have experience with managing deep draft navigation projects that require maintenance dredging and placement (beneficial use and ODMDS).
Real Estate	The real estate reviewer should have expertise in the real estate requirements of deep draft navigation projects.

[1]The economics DQC team member will be identified by the DDNPCX (OPORD 2012-15).

2) **Documentation of DQC**. Quality Control should be performed continuously throughout the study. Certification of DQC completion is required at the draft and final report stages. Documentation of DQC should follow the District Quality Manual and the MSC Quality Management Plan. An example DQC Certification statement is provided in EC 1165-2-217 (Figure F). DrChecks software will be used to document DQC review comments, responses, and issue resolution.

   Documentation of the completed DQC review (i.e., all comments, responses, issue resolution, and DQC certification) will be provided to the MSC, RMO, and ATR Team leader prior to initiating an ATR. The ATR team will assess the quality of the DQC performed and provide a summary of that assessment in the ATR report. Missing or inadequate DQC documentation can result in the start of subsequent reviews being delayed (see EC 1165-2-217, Section 9).

D. Agency Technical Review

ATR will be performed on the draft and final decision documents and supporting analyses (EC 1165-2-217, paragraph 9.i.(3)). The RMO will manage the ATR. ATR will be performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR will be performed by a team whose members are certified or approved by their respective Communities of Practice (CoPs) to perform reviews. A targeted rolling ATR (Cost-MCX review and DDNPCX HarborSym Review) of Draft Report components will commence prior to release of the Draft Report for Public Review. The RMO will identify an ATR lead and ATR team members. Neither the home District nor the MSC will nominate review team members. The ATR team lead will be from outside the home MSC. The ATR team lead is expected to participate in the study's milestone meetings (PB 2018-01).

1) **Review Team Expertise.** Table 3 identifies the anticipated disciplines and ATR team expertise required for study efforts.

Table 3: Required ATR Team Expertise

ATR Team Disciplines	Expertise Required
ATR Lead	The ATR lead will be a senior professional with extensive experience preparing Civil Works decision documents and conducting ATR. The lead should have the skills to manage a virtual team through an ATR. The lead may serve as a reviewer for a specific discipline (e.g., plan formulation, economics, etc.).
Plan Formulation	The plan formulation reviewer should be a senior water resources planner with experience in leading a team through a deep draft navigation channel improvement study and analysis of dredged material placement requirements.

Economics	The economics reviewer should be a deep draft navigation economist with experience in performing economic evaluations for channel deepening/widening projects. Experience with evaluating containerized is required. Knowledge of economic evaluation of cruise ship benefits would also be valuable. Typically, two economics reviewers will be required, one to review the economics appendix and the other to review inputs/outputs of economic modeling. Models to be used: HarborSym and RECONS (Table 5).
Environmental Resources	The environmental reviewer should have expertise in evaluating the impacts associated with deep draft navigation improvements/ dredging projects and dredged material placement requirements (including beneficial use assessments), including impacts to tropical reef and seagrass ecosystems. The reviewer should also be experienced with environmental coordination and NEPA requirements for deep draft navigation projects. NOTE: If needed, consult with the ECO-PCX to include an expert on the team to assess mitigation planning documents. Models to be used include: UMAM and HEA (Table 5).
Cultural Resources	The cultural resources reviewer should have expertise in evaluating the impacts associated with deep draft navigation channel improvement and dredging projects as well as extensive knowledge of underwater archaeology. The reviewer should also be familiar with the environmental coordination and NEPA/NHPA.
HH&C Engineer	The HH&C engineering reviewer should have experience designing deep draft navigation channels, channel maintenance and placement (including beneficial use) and a thorough understanding of open channel dynamics. Models to be used include: CH3D ADH, MDFATE, STFATE, LTFATE, DELFT 3D, ADCIRC, STWAVE, CEQUAL ICM, CADET, and ERDC Ship/Tow Simulator (Table 6).
Geotechnical Engineer	The geotechnical engineering reviewer will have experience performing geotechnical evaluations for deep draft navigation channel improvement projects, including evaluating the behavior of soils, site characterization, material management, slope stability, and the analysis and placement of dredged material (including beneficial use).
Cost Engineering	The cost engineering reviewer will be identified by the Cost MCX and will have experience evaluating cost requirements for a deep draft navigation project (channel deepening, widening, placement site construction, beneficial use, etc.). Models to be used include: MCACES, Crystal Ball CSRA, TPCS, and CEDEP (Table 6).
Operations	The operations reviewer will have experience with managing deep draft navigation projects that require maintenance dredging and placement (beneficial use and ODMDS).
Real Estate	The real estate reviewer should have expertise in the real estate requirements of deep draft navigation improvement projects.
Climate Preparedness and Resilience/ HH&C Reviewer	A member of the Climate Preparedness and Resiliency CoP or a HH&C Climate reviewer will participate on the ATR team. Another reviewer can fulfill this requirement as long as that reviewer has the required expertise to review the evaluation of effects of climate change on a deep draft navigation study.

2) **Documentation of ATR.** DrChecks will be used to document ATR comments, responses, and issue resolution. Comments should be limited to those needed to ensure product adequacy. All

members of the ATR team should use the four part comment structure (EC 1165-2-217, Section 9(k)(1)). If a concern cannot be resolved by the ATR team and PDT, it will be elevated to the vertical team for resolution using the issue resolution process identified in EC 1165-2-217. The comment(s) can then be closed in DrChecks by noting the concern has been elevated for resolution. The ATR Lead will prepare a Statement of Technical Review Report (see EC 1165-2-217, Section 9), for both draft and final decision documents. Any unresolved issues will be documented in the ATR report prior to certification. The Statement of Technical Review (ATR completion) should always include signatures from the ATR Lead, Project Manager, and RMO, and the Certification of ATR should always include signatures from the District's Chiefs of Engineering and Planning Divisions.

E. Independent External Peer Review

Type I IEPR is managed outside of USACE and is typically conducted on studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study.

1) **Decision on Type I IEPR.** Based on the criteria in EC 1165-2-217, Section 11, the decision document will likely undergo IEPR given it is anticipated that there will be significant public dispute as to the environmental impacts of the project.

   - **Products to Undergo Type I IEPR.** Type I IEPR will cover the entire draft integrated decision document and will address all underlying engineering, economics, and environmental work, not just one aspect of the study.

   - **Required Type I IEPR Panel Expertise.** IEPR Panels will consist of independent, recognized experts from outside of the USACE in disciplines representing a balance of areas of expertise suitable for the review being performed. Table 4 lists the required panel expertise.

Table 4: Required Type I IEPR Panel Expertise

IEPR Panel Member Disciplines	Expertise Required
Plan Formulation (Planner)	Demonstrated experience serving as a water resources planner for deep draft navigation channel improvement projects and applying USACE plan formulation processes, procedures, and standards to deep draft navigation channel improvement projects and dredged material management.
Economics	Must have a degree in economics and have demonstrated experience in performing deep draft navigation economic evaluations for channel improvement projects, specifically in analysis of containerized trade and cruise vessels; in applying USACE procedures and standards for deep draft navigation economic analyses; and in formulating and evaluating alternative plans for deep draft navigation projects. Knowledge of tools

	employed for economic analysis, risk analysis, and trade/fleet forecasts is required.
Environmental	Demonstrated experience directly related to water resources environmental evaluation and NEPA compliance for deep draft navigation channel improvement and dredged material management projects. The panel member should also have knowledge regarding federally protected coral and SAV species native to the project area. Additionally, the panel member should be an expert in compliance requirements of environmental laws, policies, and regulations, including the Fish And Wildlife Coordination, ESA and Magnuson-Steves Fisheries Management Acts.
HH&C Engineer	Knowledge of USACE guidance related to engineering requirements for the deep draft navigation studies. Panel member should have significant experience with evaluations of coastal processes used to evaluate the impacts of deepening and/or widening the navigation channel on hydrodynamics, water quality, sediment transport, ship wake induced erosion, and channel design. In addition, the panel member should be experienced with ADCIRC, STWAVE, CE-QUAL-ICM, MPFATE, STFATE, LTFATE, DELFT3D AND/OR SIMILAR MODELS.
Geotechnical Engineer	Demonstrated engineering experience or combined equivalent of education and experience in geo-civil design and geotechnical evaluation of deep draft navigation projects. The panel member must be a registered Professional Engineer from academia, a public agency, or an AE or consulting firm, with a master's of science degree or higher in geotechnical engineering. Candidate must have demonstrated experience related to USACE geotechnical practices for design and construction of deep draft navigation channels and dredged material placement (ODMDS and beneficial use areas). The panel member should have experience in geotechnical risk analysis. Active participation in related professional engineering and scientific societies is encouraged.

- **Documentation of Type I IEPR.** The OEO will submit a Final IEPR Report no later than 60 days after the end of the draft report public comment period. Upon RMO acceptance, the RIT will post the Final IEPR Report on the USACE public website. USACE shall consider all recommendations in the Final IEPR Report and prepare evaluator responses for all findings adopted or not adopted. Evaluator responses will become the basis of the Agency Response. The final decision document will include an appendix which contains the Final IEPR Report and Agency Response. Please consult EC 1165-2-217 for a detailed explanation of the Type I IEPR process, including public notification requirements.

2) **Decision on Type II IEPR.** Type II IEPR, Safety Assurance Review, is managed outside of the USACE and is performed on design and construction activities for any project where potential hazards pose a significant threat to human life. For Type II IEPRs, a panel is convened to review the design and construction activities before construction begins and periodically thereafter until construction activities are completed.

The PDT has assessed this single purpose deep draft navigation project and determined that it does not meet the criteria for conducting Type II IEPR:

- The federal action is not justified by life safety and failure of the project will not pose a significant threat to human life.

- The project does not involve the use of innovative materials or techniques where the engineering is based on novel methods; it does not present complex challenges for interpretations; it does not contain precedent-setting methods or models; and it does not present conclusions that are likely to change prevailing practices. Proposed improvements are to an existing Federal navigation project. Construction and maintenance techniques have been standardized and no new techniques are expected to be utilized for design and construction activities.

- It is anticipated that the project will not require redundancy, but may incorporate resiliency by incorporating beneficial use of dredged material into the dredged material management plan. However, it is not anticipated that any design and/or construction activities involving resiliency will be justified by life safety or for which the failure of the project would pose a significant threat to human life.

- In order to minimize impacts to federally listed coral species, there will likely be construction methodologies to reduce impacts. In addition, rock pretreatment may be necessary prior to dredging. In order to minimize impacts to federally listed coral species and their designated critical habitats, there will likely be construction methodologies and minimization measures to reduce impacts which may include dredging windows. However, it is not anticipated that any design and/or construction activities involving the construction methodologies, sequencing or minimization measures would in any way pose an increased or significant threat to human life and safety.

Based on the project as currently envisioned, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR Safety Assurance Review of the project at this time. A risk-informed decision concerning the timing and appropriate level of reviews for project implementation phase will be prepared and submitted for approval in an updated Review Plan prior to initiation of the PED/Design/implementation phase of this project. The need for a Type II IEPR will be re-evaluated in that Review Plan. Currently no known life safety issues exist related to the deepening, widening, and disposal of dredged material.

F. Model Certification Or 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. Planning models are any models and analytical tools used to define water resources management problems and opportunities; to formulate potential alternatives to address study area problems and take advantage of opportunities; to evaluate potential effects of alternatives; and to support decision making. The use of a certified/approved planning model does not constitute technical review of a planning product. The selection and application of

the model and assessment of input and output data is the responsibility of the users and is subject to DQC, ATR, and IEPR (if required). The following models may be used to develop the decision document.

Table 5: Planning Models

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Certification / Approval
HarborSym 1.5.8.3 (Economics)	HarborSym is a discrete event Monte-Carlo simulation model designed to facilitate economic analyses of proposed navigation improvement projects in coastal harbors. Incorporating risk and uncertainty, the model will be used to estimate transportation cost savings (benefits) attributable to fleet and loading changes under future with project conditions.	Certified
Regional Economic System (RECONS) (Economics)	RECONS is a regional economic impact modeling tool that estimates jobs, income, sales and value added associated with Corps Civil Works and ARRA spending, as well as stemming from effects of additional economic activities. The model will be used to estimate the regional economic impacts of project implementation.	Certified
Uniform Mitigation Assessment Method (UMAM) and HEA (Environmental Resources)	The UMAM and HEA will be used to assess how much compensatory mitigation shall be required for unavoidable environmental impacts to seagrasses and hard bottom/coral habitats, respectively. (HEA has been previously approved for one time use in tropical marine environments and in association with deep draft navigation projects – Port Everglades, and Jacksonville Harbor)	UMAM approved for Regional use in FL. One-time use approval needed from ECO-PCX for HEA.

EC 1105-2-412 does not address engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue. The professional practice of documenting the application of the software and modeling results will be followed. The USACE Scientific and Engineering Technology Initiative has identified many engineering models as preferred or acceptable for use in studies. These models should be used when appropriate. The selection and application of the model and the input and output data is the responsibility of the user and is subject to DQC, ATR, and IEPR (if required). The following models may be used to develop the decision document.

Table 6: Engineering Models

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Model Certification / Acceptance Status
Adaptive Hydraulics (ADH) (HH&C Engineer)	ADH is a modular, parallel, adaptive finite-element model for one-, two- and three-dimensional flow and transport. ADH is a module of the Department of Defense (DOD) Surface-Water Modeling System and Ground-Water Modeling System. ADH simulates groundwater flow, internal flow and open channel flow. The ADH module was developed in the ERDC's Coastal and Hydraulics Laboratory and is a product of the System-Wide Water Resources Program.	Allowed
CE-QUAL-ICM (HH&C Engineer)	State-of-the-art hydrodynamic model used to simulate aquatic systems. The GSMB WQ module CE-QUAL-ICM is a multi-dimensional, time variable eutrophication and water quality model developed by the ERDC. CEQUAL-ICM uses an unstructured grid, finite volume modeling approach, within which mass is conserved. The model contains a suite of over 30 individually activated water quality constituents including multiple forms of nitrogen, phosphorus, organic carbon, algae and benthic algae. It will be used to investigate changes to water quality associated with navigation improvements.	Allowed
MDFATE/MPFATE - Multiple Placement Fate of Dredged Material (HH&C Engineer)	MPFATE was developed under the USACE Dredging Research Program (DRP) (Hales 1995) and was formerly known as Open Water Disposal Area Management Simulation (ODAMS) program (Moritz and Randall 1995). MPFATE is a site management tool that bridges the gap between the Short Term FATE of dredged material (STFATE) model and the Long Term FATE of dredged material (LTFATE). It will be used to study the disposal of material in the ocean dredged material disposal site (ODMDS).	Allowed
STFATE – Short Term Fate of Dredged Material (HH&C Engineer)	STFATE simulates the placement of a single load of dredged material STFATE models conventional placement (bottom dumping) where the vast majority of the dredged material released from a barge or hopper dredge descends rapidly to the bottom in a relatively high density jet known as the convective descent phase. The dynamic collapse phase begins when the jet impacts the bottom. The more dense material immediately deposits, while the less dense particles are spread outward as a density flow when the vertical energy is transferred into horizontal momentum. Over time the less dense material also deposits. It will be used to study the disposal of material in the ODMDS.	Allowed
LTFATE – Long Term Fate of Dredged	The SEDZLJ module within LTFATE and the GSMB predicts the long term stability (days to years) of dredged	Allowed

Material / Geophysical Scale Transport Modeling System (GSMB) (HH&C Engineer)	material mounds. The LTFATE model combines hydrodynamics (waves, currents, and tides) and sediment transport algorithms from SEDZLJ to predict the stability of dredged material mounds. It is a multi-grain (sand, silt, clay) transport model that includes a three-dimensional representation of the sediment bed. It will be used to study the disposal of material in the ODMDS and to evaluate changes sediment transport within the Navigation channel and surrounding Bay due to channel modifications.	
Delft3D (HH&C Engineer)	Delft3D is a multi-dimensional suite of hydrodynamic, wave, water quality, sediment transport, and morphologic modules for estuarine and coastal environments. The FLOW module of Delft3D is a multi-dimensional hydrodynamic and transport simulation program which calculates non-steady flow and transport phenomena resulting from tidal and meteorological forcing on a curvilinear, boundary fitted grid or spherical coordinates. The MOR module computes sediment transport (both suspended and bed total load) and morphological changes for an arbitrary number of cohesive and non-cohesive fractions. Both currents and waves act as driving forces. An essential feature of the MOR module is the dynamic feedback with the FLOW and WAVE modules, which allow the flows and waves to adjust themselves to the local bathymetry and allows for simulations on any time scale from days (storm impact) to centuries (system dynamics). It may be used to evaluate shoaling due to littoral transport and to assess the potential changes to the transport system due to channel modifications. Delft3D is capable of performing baroclinic hydrodynamic computations to simulate current and water elevation within the study area including changes in storm surge due to changes to the entrance channel. The water quality module may be used to investigate eutrophication and living resources water quality changes within the estuary due to the channel modifications.	Allowed
Advance Circulation Model (ADCIRC) 2DDI (2003) (HH&C Engineer)	Finite element 2-D hydrodynamic model; the version 2DDI is vertically-integrated and solves a vertically-integrated continuity equation for water surface elevation; no storm or hurricane windfield models or statistical analysis tools are included with model, they must be acquired separately; ADCIRC performs well using Vince Cardone's planetary boundary layer model windfields; statistical analyses using ADCIRC model storm surge simulations are compatible with the USACE Empirical Simulation Technique (EST) as well as joint probability methods. It will used to assess changes to the storm surge due to the deepening of the entrance channel.	CoP Preferred
Adaptive Hydraulic Modeling (ADH)	ADH is a state-of-the-art Adaptive Hydraulics Modeling system. It is capable of handling both saturated and	Allowed

(HH&C Engineer)	unsaturated groundwater, overland flow, three-dimensional Navier-Stokes flow, and two- or three-dimensional shallow water problems. ADH contains other essential features such as wetting and drying and wind effects. It will be used to provide model forcing in the Ship/Tow Simulator to evaluate the safety of ship maneuverability of the alternatives.	
STWAVE – Steady State spectral WAVE (HH&C Engineer)	STWAVE simulates depth-induced wave refraction and shoaling, current-induced refraction and shoaling, depth- and steepness-induced wave breaking, diffraction, parametric wave growth because of wind input, and wave-wave interaction and white capping that redistribute and dissipate energy in a growing wave field. It will be used to provide model forcing in the sediment transport, water quality and Ship/Tow Simulator models.	CoP Preferred
ERDC Ship/Tow Simulator (HH&C Engineer)	The Ship/Tow Simulator features two bridges set up for real-time ship maneuvering, and were specifically developed for evaluating navigation channel designs, modifications, and safety issues. Located at ERDC, Coastal and Hydraulics Laboratory, the model portrays currents, wind and wave conditions, shallow water effects, bank forces, ship handling, ship to ship interaction (in a meeting and passing or overtaking and passing situation), fender forces, anchor forces, and tug assistance. It will be used to evaluate the safety of ship maneuverability of the alternatives.	Allowed
Channel Design and Evaluation Tool (CADET) (Cost Engineer)	Probabilistic risk analysis techniques to evaluate the accessibility of channel reaches for multiple vessel geometries, loading, and wave conditions.	CoP Preferred
Microcomputer Aided Cost Engineering System (MCACES), MII (Cost Engineer)	MCACES is the cost estimating software program tools used by cost engineering to develop and prepare Class 3 Civil Works cost estimates.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory
Cost Schedule Risk Analysis (CSRA) (Cost Engineer)	Cost risk analyses identify the amount of contingency that must be added to a project cost estimate and define the high risk drivers. The analyses will include a narrative identifying the risks or uncertainties. During the alternatives evaluation, the PDT will assist the cost engineer in defining confidence/risk levels associated with the project features within the abbreviated risk analysis. For the Class 3 estimate, an evaluation of risks will be performed using Crystal Ball CSRA for construction costs over $40 million or the	Civil Works Cost Engineering and Agency Technical Review MCX mandatory
Total Project Cost Summary (TPCS) (Cost Engineer)	The TPCS is the required cost estimate document that will be submitted for either division or HQUSACE approval. The total project cost for each Civil Works project includes all Federal and authorized non-Federal costs represented by the Civil Works Work Breakdown Structure features and respective estimates and schedules, including the lands and damages, relocations, project	Civil Works Cost Engineering and Agency Technical Review MCX mandatory

	construction costs, construction schedules, construction contingencies, planning and engineering costs, design contingencies, construction management costs, and management contingencies.	
Corps of Engineers Dredge Estimating Program (CEDEP) (Cost Engineer)	CEDEP is the required software program that will be used for dredging estimates using floating plants. CEDEP contains a narrative documenting reasons for decisions and selections made by the cost engineer. Software distribution is restricted as it is considered proprietary to the Government.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory

G. Policy And Legal Compliance Reviews

In accordance with DPM CW 2018-05, policy and legal compliance reviews (P&LCRs) for draft and final planning decision documents are delegated to the MSC responsible for the execution of the study.

With input from MSC and Headquarters, USACE (HQUSACE) functional leaders and through collaboration with the Chief of Office of Water Project Review (OWPR), the MSC Chief of Planning and Policy is responsible for establishing a competent interdisciplinary P&LCR team (DPM 2019-01). The composition of the policy review team will be drawn from HQUSACE, the MSC, the Planning Center of Expertise (PCX), and other review resources as needed. The identification of Counsel members will follow the procedures set forth by the HQUSACE Chief Counsel, as coordinated by HQUSACE and MSC Counsel functional leaders. The MSC Chief of Planning and Policy and the Chief of OWPR will collaborate to identify and endorse a P&LCR Manager from among the P&LCR team identified for the study. The manager may be a MSC, PCX, or HQUSACE employee. The team is identified in Attachment 1 of this RP.

The P&LCR team will:

- Provide advice and support to the PDT and decision makers at the District, MSC, HQUSACE, and Assistant Secretary of the Army for Civil Works levels.
- Engage at both the MSC and HQUSACE levels, ensuring that the vertical teaming aspect of SMART planning is maintained.
- Help guide PDTs through project development and the completion of policy and legally compliant documents, identifying policy and legal issues as early as possible such that issues can be addressed while minimizing impacts to study and project costs and schedules.
- Provide impartial and unbiased recommendations, advice, and support to decision makers.

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM			
Name	Office	Position	Phone Number
Hansler Bealyer	CESAJ-RE-A	Realty Specialist	(904) 232-1178
Brittany Berger	CESAJ-OC	Attorney	(904) 232-1737
Drew Condon	CESAJ-EN-WC	Coastal Engineer	(904) 232-2106
Steve Conger	CESAJ-EN-DW	Lead Engineer	(904) 232-1601
Ashleigh Fountain	CESAJ-PD-PN	Lead Planner	(904) 232-3823
Kevin Hayes	CESAJ-EN-GG	Geologist	(904) 232-1155
Courtney Jackson	CESAJ-PD-D	Lead Economist	(904) 232-1019
Sung Lee	CESAM-PD-D	Economist	(251) 690-2045
Laurel Reichold	CESAJ-PM-WN	Project Manager	(904) 232-1458
Rick Stallings	CESAJ-EN-TC	Cost Engineer	(904) 232-3093
Terri Jordan-Sellers	CESAJ-PD-E	Environmental Lead	(904) 232-1817
Xaymara Serrano Vicente	CESAJ-PD-EC	Biologist	(904) 232-1078
Cal Smith	CESAJ-EN-GS	Geotechnical Engineer	(904) 232-1496
Phil Sylvester	CESAJ-EN-WM	Hydraulic Engineer	(904) 232-1142
Marc Tiemann	CESAJ-PD-EC	Archaeologist	(904) 232-1557

DISTRICT QUALITY CONTROL TEAM			
Name	Office	Position	Phone Number
Jeff Bergen will review (David Dudley will sign)	CESAJ-EN-DW	Section Chief	(904) 232-2419
Tony Ledford will review (Kim Brooks-Hall will sign)	CESAJ-EN-TC	Cost Engineer Team Lead	(904) 232-3695
Alicia Gates[1]	CESAM-PD-D	Economics	(251) 694-3707
TBD		Geotechnical Engineer	
TBD		HH&C Engineer	
John Bearce	CESAJ-PM-WN	Operations Reviewer	(904) 232-3525
Timothy McQuillen	CESAJ-RE	Realty Officer	(904) 232-1170
Samantha Borer	CESAJ-PD-PN	Plan Formulation /DQC Lead	(904) 232-1066
Paul Demarco	CESAJ-PD-EC	Biologist	(904) 232-1897
Meredith Moreno	CESAJ-PD-EC	Archaeologist	(904) 232-2918

[1]Identified by the DDNPCX

AGENCY TECHNICAL REVIEW TEAM (TBD)			
Name	Office	Position	Phone Number
Barbara Blumeris	CENAE-PDP	ATR Lead & Plan Formulation	(978) 318-8737
TBD		Economics	
Walker Messer	CENWS-PMP-P	Economics - HarborSym	(206) 764-6755
TBD		Environmental Resources	
TBD		Cultural Resources	
TBD		HH&C Engineer	
TBD		Geotechnical Engineer	
TBD		Cost Engineer	
TBD		Climate Preparedness and Resilience/HH&C	
TBD		Real Estate	
TBD		Operations	

VERTICAL TEAM			
Name	Office	Position	Phone Number
Eric Summa	CESAJ-P	Chief, Planning Division	(904) 232-1665
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Sue Wilcox	CECW-SAD	SAD Regional Integration Team Lead	(904) 472-5776

POLICY and LEGAL COMPLIANCE REVIEW TEAM (tentative)			
Name	Office	Position	Phone Number
Patrick O'Donnell	CESAD-PDP	Plan Formulation	(404) 562-5226
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Rod Moritz	CENWP-EC-HD	Climate Change	(503) 808-4864
Dylan Davis	CESAD-PDO	Navigation Operations	(404) 562-5130
Marcella DeVille	CEMP-CR	Real Estate	(202) 761-7238
Scott Murphy	CECC-G	Office of Counsel	(202) 761-7116