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

REPLY TO ATTENTION OF

CESAD-DE

14 January 2018

MEMORANDUM FOR COMMANDER, WILMINGTON DISTRICT

SUBJECT: Approval of Review Plan for Carolina Beach Portion Beach Renourishment Evaluation Report, Carolina Beach & Vicinity, North Carolina Coastal Storm Risk Management Project

1. References:

a. Memorandum, CESAW-ECP-P, 15 November 2017, subject as above.

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

c. Planning Bulletin 2016-02, Civil Works Review, 4 March 2016.

d. Memorandum, CECW-P, subject Implementation Guidance for Section 1037(a) of the Water Resources Reform and Development Act (WRRDA) of 2014, Hurricane and Storm Damage Reduction, 16 July 2015.

2. Wilmington District prepared the enclosed review plan in accordance with Engineer Circular 1165-2-214. Wilmington District coordinated preparation of the review plan with the National Planning Center for Coastal Storm Risk Management (PCX-CSRM) of the North Atlantic Division, which is the lead office to execute this review plan. The CSRM-PCX recommends approval of the review plan. The review plan does not include Type I Independent External Peer Review (IEPR) in accordance with reference 1.d. above.

3. I hereby approve this Review Plan, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent significant revisions to this Review Plan or its execution will require new written approval from this office. The District shall post the approved Review Plan and a copy of this approval memorandum to the District public internet website and provide a link to the CSRM-PCX for their use. Before posting to the website, the names of Corps employees should be removed.

4. The point of contact for this action is Mr. Patrick O'Donnell at (404) 562-5226 or patrick.e.odonnell@usace.army.mil.

Encl

DIANA M. HOLLAND
Brigadier General, USA
Commanding

REVIEW PLAN

Carolina Beach Portion
Beach Renourishment Evaluation Report

Carolina Beach & Vicinity, North Carolina
P2 #: 113752

Wilmington District
U.S. Army Corps of Engineers

November 2017

MSC Approval Date: January2018
Last Revision Date:

US Army Corps
of Engineers ®

Carolina Beach & Vicinity, NC
Carolina Beach Portion
Beach Renourishment Evaluation Report

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS

This Review Plan defines the scope and level of peer review for the **Carolina Beach & Vicinity, NC - Carolina Beach Portion Beach Renourishment Evaluation Report.**

A. References

1. EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2011
2. Engineer Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
3. Project Management Plan for the Carolina Beach & Vicinity, NC - Carolina Beach Portion Beach Renourishment Evaluation Study
4. EC 1165-2-214, Civil Works Review, 15 December 2012
5. ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
6. Memorandum, CECW-P, Implementation Guidance for Section 1037(a) of the Water Resources Reform and Development Act (WRRDA) of 2014, Hurricane and Storm Damage Reduction, 16 July 2015

B. 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 of review for all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214), and planning models are subject to certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The Review Management Organization (RMO) is responsible for managing the overall peer review effort described in this Review Plan. The RMO for the peer review effort described in this Review Plan is the National Planning Center of Expertise for Coastal Storm Risk Management (Coastal PCX).

The RMO will coordinate with the Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise (MCX) with Technical Expertise (TCX) to obtain cost certification for all costs within the Carolina Beach Portion Beach Renourishment Evaluation Report (CB BRER). The RMO will also coordinate with the MCX to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules, and contingencies. The beach renourishment

evaluation study for the Carolina Beach CSRM project is a single purpose study; no life safety issues are anticipated.

3. STUDY INFORMATION

A. Decision Document

The proposed decision document is titled: **"Carolina Beach & Vicinity, NC - Carolina Beach Portion Beach Renourishment Evaluation Report".** Authority for the Corps to complete this study is the Water Resources Reform and Development Act (WRRDA) of 2014 under Section 1037(a)—Hurricane and Storm Damage Reduction. Under current guidance, a BRER will be prepared and cost shared 50% Federal and 50% non-Federal. Funding to complete the study was provided in January 2017, and included a Federal funding limit of $375,000 for all BRER activities. After completion and approval of the BRER, Congressional authorization will be needed to extend Federal participation in periodic nourishments to FY 2029.

The level of approval for the decision document is Assistant Secretary of the Army for Civil Works (ASA(CW)). National Environmental Policy Act (NEPA) documentation, an integrated Environmental Assessment (EA), is to be completed during the study phase.

B. Study/Project Description

The cost-sharing non-Federal sponsor for the Carolina Beach portion is the Town of Carolina Beach, NC. A feasibility cost sharing agreement was executed with the Town of Carolina Beach on May 5, 2017.

Project Scope – complete and receive approval on the CB BRER:

a. Certified cost estimate through Fiscal Year (FY) 2029
    i. Establish an authorized cost and Section 902 limit for new authorization for 15-year extension
b. Level II Economic Update
c. Updated coastal modeling through BeachFx outputs
d. Reaffirmation of the project design template (with no reformulation)
e. Confirmation of adequacy of existing borrow source
f. Discussion of sea level rise considerations consistent with regulations
g. Validation of public parking and access, and confirmation of appropriate cost-share
h. Confirmation of real estate necessary for project construction
i. Integrated Environmental Assessment (EA) to ensure environmental and regulatory compliance
j. Risk register

The Carolina Beach portion of the project includes a dune with a base generally bordering at or near the building line with a crown width of 25 feet at an elevation of 13.5 feet national geodetic vertical datum (NGVD) together with an integral

shoreline berm with a crown width of 50 feet at elevation 10.5 NGVD and beach fill extending about 14,000 feet from the northern to the southern limits of Carolina Beach. Along the northern 2,050 feet, this portion of the project includes a rock revetment at elevation 10.5 NGVD fronted by 130-foot-wide berm at elevation 6.5 NGVD.

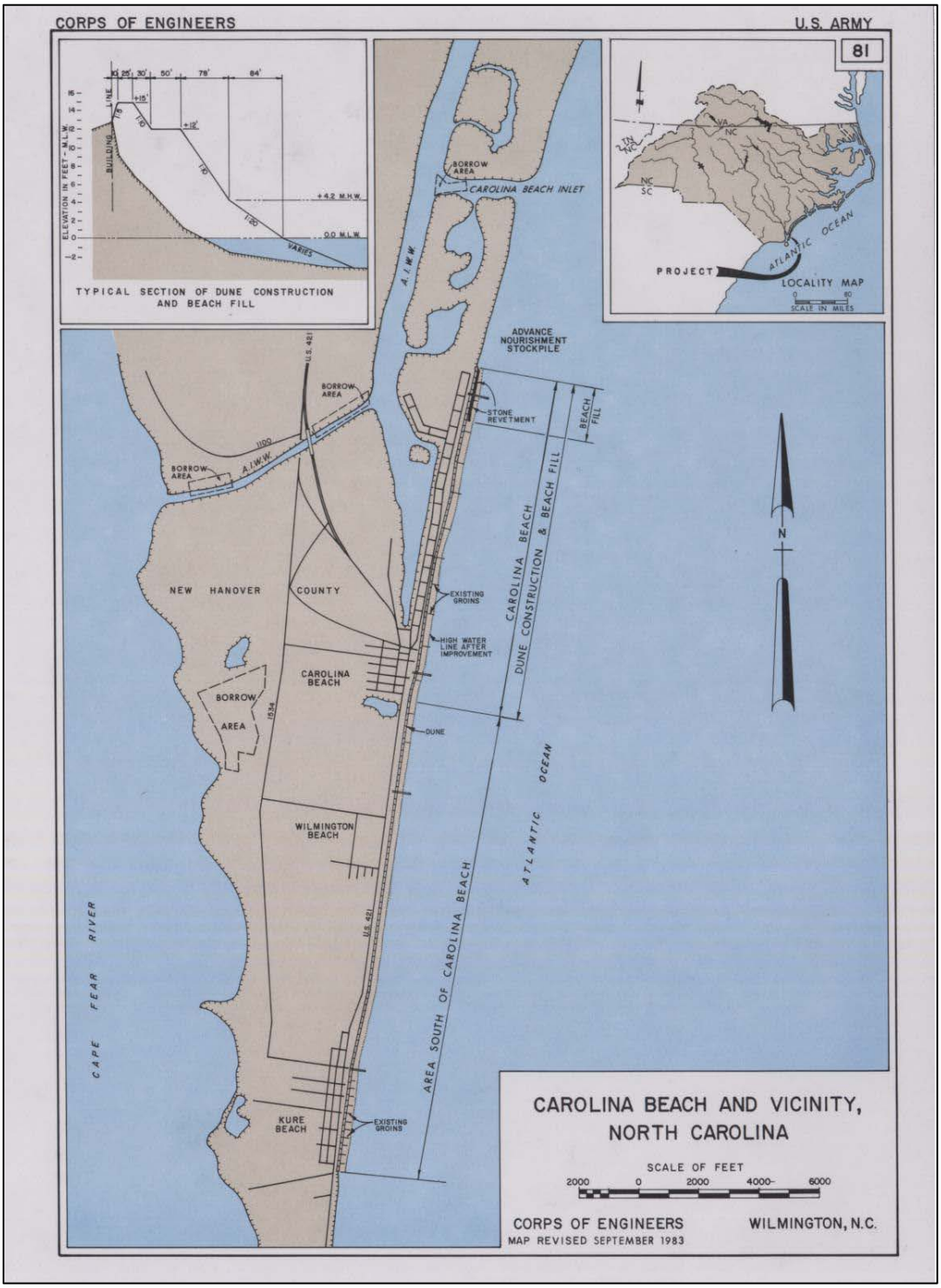

Figure 1. Federally Authorized Coastal Storm Risk Management Project (Carolina Beach & Vicinity, NC)

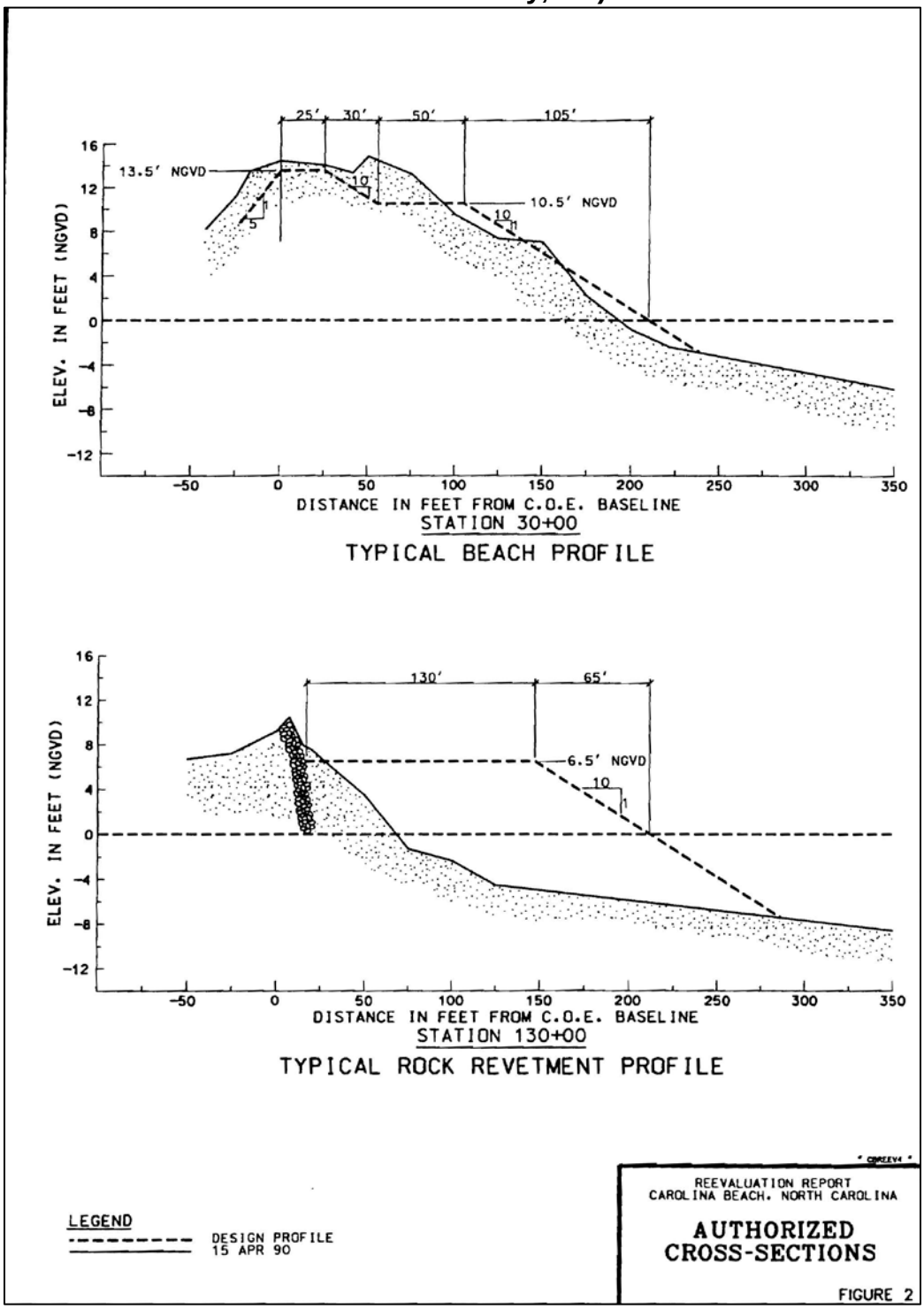

Figure 2. Authorized Design of the Carolina Beach Portion

C. Factors Affecting the Scope and Level of Review

1. There are not challenging aspects of this study. It consists of extending the period of Federal participation in periodic renourishments. Accordingly, the project does not have any significant technical, institutional, or social challenges.
2. The study is not highly controversial as it consists of continuing Federal participation in periodic renourishments of the project. It is not anticipated that there will be a significant public dispute as to the size, nature, or effects of the project.
3. The major risks in the project include the potential for adverse impacts if the Future Without Project (FWOP) condition (i.e. the No Action Plan) is selected, as severe storm impacts to life and property could occur.
4. No life safety issues are anticipated from the extension of Federal participation in periodic renourishments as the project will only continue construction to the previously authorized and constructed design limits.
5. Decision documents developed under this authority are excluded from independent external peer review unless one of the mandatory triggers contained in Section 2034(a)(3)(A)(i) of the Water Resources Development Act of 2007, as amended (33 U.S.C. 2343(a)(3)(A)(i)), is involved (see Implementation Guidance for Section 1037(a), referenced).
6. A risk of reduction in flood control benefits is not anticipated as reformulation of the authorized project design is not being considered in the CB BRER.
7. The project is not expected to be publicly controversial.
8. No changes to the existing project design will be recommended by the decision document; therefore, it will not require novel construction methods or sequencing.
9. There are no initial implementation costs associated with the extension of Federal participation in periodic renourishments as the project was initially constructed beginning in December 1964. All periodic renourishments would be cost-shared according to the Project Cooperation Agreement, as amended.
10. There is ample experience within USACE on Coastal Storm Risk Management (CSRM) reports and construction. The project is a typical beach renourishment project involving traditional methods of dredging and traditional methods of placement of dredged material. This project would be for an activity (dredging and placement) for which there is ample experience within USACE. Besides completing a study under a new authority, the study activity can be treated as routine within the Wilmington District.
11. There are no known risks to the proposed extension of the renourishment period. All technical areas have methods to identify and mitigate inherit risks.
12. Preliminary analysis indicates that impacts to fish and wildlife, including threatened and endangered species, are expected not to be significant. To the extent practicable, environmental concerns can be addressed through mitigation measures of avoidance, minimization, or compensation, and through public education and outreach efforts. An EA will be completed to document the environmental effects of the proposed plan.
13. The project will not be justified by life safety and does not involve significant threat to human life/safety assurance.

14. The Governor of North Carolina has not requested a peer review by independent experts.
15. The final BRER/EA and supporting documentation will contain standard engineering, economic, and environmental analyses and information.
16. Information in the decision document is unlikely to be based on novel methods, involve the use of innovative materials or techniques, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices. The project does not contain influential scientific information and will not include any highly influential scientific assessments.
17. The section 1037 study intent is to confirm there is adequate borrow material to continue the project for 3 more cycles. Geotechnical analyses and review is a low risk item since the borrow site has been used for 30+ years and recharges at a fast enough rate to sustain renourishments.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. DQC documentation shall be provided to the ATR team prior to conducting each review. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC. When policy and/or legal concerns arise during DQC efforts that are not readily and mutually resolved by the PDT and the reviewers, the district will seek immediate issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, Amendment #1, ER 1105-2-100 or other appropriate guidance.

A. Documentation of DQC. DQC includes documenting and maintenance of records for internal audits of proper DQC implementation. The reviewers will make written comments, the respective team member will respond to comments noting concurrence or non-concurrence with an explanation of revised work and its location in the reviewed document. The review leader will compile all the comments and responses, note if the review and responses are comprehensive, note significant issues and responses and unresolved issues, before signing the DQC statement of technical review. The project manager will also sign and date the statement. Subsequently the Chiefs of Planning, Engineering, and Real Estate will describe the significant concerns and resolutions, and will sign a certification of Quality Control Review.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will

assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR reviewers will be selected from the approved Communities of Practice rosters. The ATR team lead will be from outside the home MSC.

A. Products to Undergo ATR.

1. Alternatives Milestone Meeting Documentation (report)
2. Draft Report including NEPA and supporting documentation
3. Agency Decision Milestone Documentation (report)
4. Final Report and documentation

B. Required ATR Team Expertise

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead will be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, or environmental resources).
Planning – Coastal Specialist	The Planning reviewer must be certified to perform ATR and will be a senior coastal study planner with experience in CSRM projects.
Economics	The reviewer must be certified to perform ATR and shall have extensive knowledge of the principles and guidelines of economic analysis as it relates to models for CSRM projects in the Corps of Engineers including CSRM and recreation benefits.
Coastal (Hydraulic) Engineering	The reviewer will have a minimum of 5 years of Coast Engineering experience. The engineer must be familiar with running BeachFx and how the information is used by the economists and the biologists in their assessments.
Environmental	The reviewer must be certified to perform ATR and shall be an expert in the NEPA process. The reviewer shall be familiar with the impacts from CSRM beach nourishment projects.
Real Estate	The reviewer shall have experience with the easement requirements on CSRM projects. This review will be limited in scope because RE acquisition is not anticipated for the project. The Real Estate reviewer must have expertise in the real estate planning process for cost shared and full federal civil works projects, relocations, report preparation and acquisition of real estate interests. The reviewer should have a full working knowledge of EC 405-2-12, Real Estate Planning and Acquisition Responsibilities for Civil Works Projects, the portions of ER 405-2-12 that are currently applicable, and Public Law 91-646. The reviewer should be able to identify areas of the REP that are not in compliance with the guidance set forth in EC405-2-12 and should make recommendation for bringing the report

	into compliance. All estates suggested for use should be termed sufficient to allow project construction, and the real estate cost estimate should be validated as being adequate to allow for real estate acquisition.
Cost Engineering	The cost engineer shall be an expert in MII and costs for CSRM beach renourishment projects. The Cost Engineering reviewer must be from the Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise with Technical Expertise (Cost MCX/TCX) in Walla Walla District, or must be on the Cost MCX/TCX approved list of delegated Cost ATR reviewers.

C. Documentation of ATR

DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

1. The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
2. The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
3. The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
4. The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, ATR team members may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed based on work reviewed to date for the alternative formulation briefing, draft report, and final report. A sample Statement of Technical Review is included in attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

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 certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside USACE and are conducted on project 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. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

a. Decision on IEPR. This beach renourishment evaluation report is excluded from IEPR per Paragraph 4.d. of the implementation guidance for Section 1037(a) of the Water Resources Reform and Development Act of 2014, which states, "Decision documents developed under this authority are excluded from independent external peer review unless one of the mandatory triggers contained in Section 2034(a)(3)(A)(i) of the Water Resources Development Act of 2007, as amended (33 U.S.C. 2343(a)(3)(A)(i)), is involved."

1. This project does not contain any of the mandatory triggers described in EC 1165-2-214, 11.d.

    A. There is no public safety component of the project.
    B. The total project cost is less than $200 million.
    C. We do not expect the governor to request IEPR.
    D. We do not expect the DCW or the Chief of Engineers to determine this project 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.

2. This project is excluded from IEPR because none of the mandatory triggers are met.

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 this project at this time. A risk-informed decision concerning the timing and the appropriate level of reviews for the project implementation phase will be prepared and submitted for approval in an updated Review Plan prior to initiation of the design/implementation phase of this project.

Products to Undergo Type I IEPR. Not applicable

Required Type I IEPR Panel Expertise. Not applicable

Documentation of Type I IEPR. Not applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost MCX, located in the Walla Walla District. The MCX will assist in determining the expertise needed on the ATR team and in the development of the review charge. The MCX will also provide the Cost Engineering MCX certification. The RMO is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND 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, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the 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 the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

A. Planning Models. The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Study Specific Spreadsheets for Benefits Analysis	*Breakdown BeachFx outputs for benefits calculations.*	*Request approval for use through PCX*

B. Engineering Models. The following engineering model is anticipated for use in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
MII	*Used to estimate costs of alternatives and TSP*	*Enterprise*
Crystal Ball	*Used to account for risk and uncertainty of alternatives and the TSP*	*Enterprise*
CEDEP	*Corps-proprietary, Excel add-on for Cost Engineering; used to estimate costs of alternatives and the TSP*	*Enterprise*
BeachFx	*Coastal modeling*	*Enterprise*

10. REVIEW SCHEDULES AND COSTS

ATR Schedule and Cost. Estimated Cost for ATR is $25,000. ATR schedule to be incorporated in a future RP amendment following coordination with the RMO.

A. Type I IEPR Schedule and Cost. Not applicable

B. Model Certification/Approval Schedule and Cost. Not applicable. There are no models requiring certification for this study.

11. PUBLIC PARTICIPATION

The Wilmington District will make the draft documents available for the public review. Draft documents will be mailed to interested stakeholders and posted on the district website. All the public involvement requirements for NEPA have been and will continue to be met. Significant and relevant public comments will be provided to reviewers before they conduct their review. This RP and the accompanying PMP will be posted to the District web site for public review once it is approved by the MSC.

12. 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 for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home 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 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) must be 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 Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

- District Contact, Project Manager: 910-251-4836
- MSC Contact: 404-562-5226
- Review Management Organization: 347-370-4571

ATTACHMENT I: TEAM ROSTER

Project Delivery Team	
Planning Lead	[redacted]
Economics	
Coastal (Hydraulic) Engineering	
Environmental	
Real Estate	
Geotechnical	
Cost Engineering	

District Quality Control (DQC) Team	
Planning – Coastal Specialist	[redacted]
Economics	
Coastal (Hydraulic) Engineering	
Environmental	
Real Estate	
Cost Engineering	
Geotechnical Engineering	TBD

Agency Technical Review (ATR) Team	
ATR Lead	TBD
Planning – Coastal Specialist	TBD
Economics	TBD
Coastal (Hydraulic) Engineering	TBD
Environmental	TBD
Real Estate	TBD
Cost Engineering	

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Carolina Beach & Vicinity, NC - Carolina Beach Portion Beach Renourishment Evaluation Report, New Hanover County. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. 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].

SIGNATURE _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____

Name Date
Review Management Office Representative
Office Symbol

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.

SIGNATURE _____ _____

Name Date
Chief, Engineering Division
Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division
Office Symbol

[1] Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number