



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SOUTH ATLANTIC DIVISION, CORI
ROOM 10M15, 60 FORSYTH ST
ATLANTA GA 30303

ROUTED : 31 MAY 11 #7372
ACTION: PLANNING
SUSPENSE: 7 JUNE 2011
CF:CDR,DPM,COS

CESAD-PDS-P

24 May 2011

MEMORANDUM FOR Commander, Wilmington District (CESAW-DPM/ Jason Glazener)

SUBJECT: Request for approval of Determination of Federal Interest for Manteo, Old House Channel, NC – Section 204 Feasibility Study and Review Plan

1. Reference:

- a. Memorandum, 29 April 2011, subject as above.
- b. Memorandum, 11 April 2011, subject as above.
- c. Memorandum, 23 February 2011, subject as above.

2. We have reviewed the subject revised CAP Fact Sheet, Project Management Plan, and Review Plan and approve the project for further study.

3. Point of contact for this action, Ms. Kenitra Stewart-Myles, 404-562-5229.

Encl

WILBERT V. PAYNES
Chief, Planning and Policy
Community of Practice

MAY 24 2011

ATTACHMENT 6 of PMP

**Continuing Authorities Program
Section 204, Water Resources Development Act of 1992, as Amended
Beneficial Uses of Dredged Material Projects**

DECISION DOCUMENT REVIEW PLAN

**Manteo, Old House Channel, NC – Section 204 Combined
Feasibility Report and Environmental Assessment, Dare
County, NC**

Wilmington District

MSC Approval Date: May 24, 2011

Last Revision Date: July 23, 2012



**US Army Corps
of Engineers®**

May 2011

DECISION DOCUMENT REVIEW PLAN

**Section 204, Water Resources Development Act of 1992, as amended
Beneficial Uses of Dredged Material Decision Documents**

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1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review for the *Manteo, Old House Channel, NC Combined Feasibility Report and Environmental Assessment* project decision document developed under Section 204, Water Resources Development Act (WRDA) of 1992, as amended.

Section 204 of the Water Resources Development Act of 1992, Public Law 102-580, provides the authority to carry out projects for the protection, restoration, and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for construction, operation, or maintenance by the Secretary of an authorized navigation project with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. It is a Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The Continuing Authorities Program is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization. WRDA 2007 Section 2037, established a maximum per project Federal limit of \$5 million under Section 204, WRDA of 1992, as amended.

- b. **Applicability.** This review plan is for a CAP Section 204 project decision document. In accordance with ER 1165-2-209 Civil Works Review Policy, a project does not require IEPR if ALL of the following specific criteria are met:

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS),
- The project is not likely to have significant economic, environmental, and/or social effects to the Nation;
- The project/study is not likely to have significant interagency interest;
- The project/study is not likely highly controversial;
- The decision document is not likely to contain influential scientific information or be a highly influential scientific;
- The information in the decision document or proposed project design is not likely to be based on novel methods, involve the use of 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; and
- The project has not been deemed by the USACE Director of Civil Works or Chief of Engineers to be controversial nature.

This review plan does not cover implementation products. A review plan for the design and implementation phase of the project will be developed prior to approval of the final decision document in accordance with EC 1165-2-209.

c. References

- (1) Director of Policy Memorandum #1 dated January 19, 2011, subject: *Continuing Authorities Program Planning Process Improvements*
- (2) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (3) EC 1105-2-407, Planning Models Improvement Program: Model Certification, 31 May 2005
- (4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (7) Frankenberg, D. 1995. North Carolina Blue Ribbon Advisory Council on Oysters: Final Report on Studies and Recommendations
- (8) NCCF (North Carolina Coastal Federation). 2008. *DRAFT Oyster Restoration and Protection Plan for North Carolina: A Blueprint for Action*. 2nd ed. (2008-2012). NCCF, Oyster Restoration and Protection Plan Steering Committee.
- (9) NCDMF (North Carolina Division of Marine Fisheries) website:
<http://www.ncfisheries.net/habitat/index.html>
- (10) NCDMF. *North Carolina's Oyster Sanctuary Program*. Retrieved July 25, 2009, from North Carolina Division of Marine Fisheries, Morehead City, North Carolina. Web site:
<http://www.ncfisheries.net/shellfish/sanctuary1.htm>
- (11) NCDENR (North Carolina Department of Environment and Natural Resources) Street, Deaton, Chappell, & Mooreside. February 2005. *Coastal Habitat Protection Plan (CHPP)*. CHPP Documents and Downloads webpage:
<http://www.ncfisheries.net/habitat/chpp28.html>
- (12) Ortega, S. and J.P. Sutherland. 1992. *Recruitment and growth of the eastern oyster, Crassostrea virginica, in North Carolina*. Estuaries 15(2): 158-170.
- (13) Peterson C.H., J.H. Grabowski, and S.P. Powers. 2003. *Estimated enhancement of fish production resulting from restoring oyster reef habitat: Quantitative valuation*. Marine Ecology-Progress Series **264**:249-264

d. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC 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 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

- (1) District Quality Control/Quality Assurance (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. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home Major Subordinate Command (MSC).

- (2) 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 US Army Corps of Engineers (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 a designated Review Management Organization (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 teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate.

The ATR lead will be from outside the home MSC unless the CAP review plan justifies an exception and is explicitly approved by the MSC Commander, per EC 1165-2-209, paragraph 9c. This review plan does not request the ATR lead to be within the home MSC.

- (3) 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 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the 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 is generally for decision documents and Type II is generally for implementation products.
- (a) Type I IEPR. Type I IEPR reviews are managed outside the 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 1165-2-209.
- (b) Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the 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.

- (4) 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.
- (5) Cost Engineering DX Review and Certification. All **decision documents** shall be coordinated with the Cost Engineering Directory of Expertise (DX), located in the Walla Walla District.

According to the DIRECTOR OF CIVIL WORKS' POLICY MEMORANDUM #1, CAP Planning Process Improvements memo dated January 19, 2011, regional cost personnel that are pre-certified by the DX can conduct the cost estimate ATR. The DX will provide the Cost Engineering DX certification.

- (6) Model Certification/Approval. Approval for planning models under EC 1105-2-412 is not required for CAP projects. However, ATR of planning models and their use or application for this specific study is required and will ensure soundness of models. 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. The use of engineering models is also subject to DQC, ATR, and IEPR (if required).

The ATR team will ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented.

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for Section 204 decision documents is the home MSC. The MSC will coordinate and approve the review plan and manage the ATR. The home District will post the approved review plan on its public website. A copy of the approved review plan (and any updates) will be provided to the National Ecosystem Planning Center of Expertise (ECO-PCX) to keep the PCX apprised of requirements and review schedules.

3. STUDY INFORMATION

- a. **Decision Document.** The *Manteo, Old House Channel, NC Section 204 Combined Feasibility Report and Environmental Assessment* decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The approval level of decision documents (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.
- b. **Study/Project Description.** The study area is in the northern Pamlico Sound, NC along Old House Channel (Range 2). The 16-square mile area is in an open body of water which is located approximately 4.5 miles southwest of Oregon Inlet. The study area was chosen based on identified opportunities for both oyster restoration and dredged material disposal. The 16-square mile extent was established as being within a reasonable pumping distance from a high deposition section of Old House Channel.

The Purpose of this Section 204 study is to investigate the beneficial use of dredged material along Old House Channel (Range 2) for oyster reef restoration in connection with an existing dredging operation. Due to the importance of oysters as a keystone species in estuarine ecosystem health (Street, 2005; Peterson et. All, 2003; NCDMF, 2009) and their sharp decline in population in North Carolina from historic levels (Ortega & Sutherland, 1992), the State of North Carolina has made oyster restoration a high priority as expressed in the Blue Ribbon Report (Frankenberg, 1995). Due to historic overharvesting, destruction of habitat, pollution, and disease, oyster landings are estimated to be only ten percent of what they were just over a century ago (Ortega & Sutherland, 1992). Restoration is viewed as an essential tool to sustain long-term management of North Carolina's oyster population. Restoration of oysters in North Carolina is also a National goal of the US EPA's Albemarle-Pamlico Sound National Estuary Program (source:www.carteret.edu/aqu/cogp/). Oysters are good indicators of the overall health of an estuarine ecosystem (NCCF, 2008). They improve water quality and provide essential fish habitat and are a source of food for associated aquatic life. The irregular surfaces of oyster reefs provide fifty times the surface area of a similarly extensive flat bottom. Unique crevices provide good nursery habitat for a wide diversity of vertebrate and invertebrate organisms such as worms, snails, sea squirts, sponges, small crabs, and fishes. The small inhabitants of the sub-tidal reef community are the base of the food chain for a wide variety of predators. The reef represents vital habitat for certain commercially and recreationally important fish species such as speckled sea trout, red drum, and rock fish (Street, 2005). A recent study conducted through the North Carolina Sea Grant on the use of oyster reef habitat by economically valuable species suggests that restoring oyster reef habitat enhances fish production and potential harvest levels in North Carolina estuaries (Peterson and Grabowski, 2003). In addition, the presence of oyster reef sanctuaries provides a brooding stock which benefits the robustness of harvestable oyster reefs in adjacent waters (NCDMF website). The NC Oyster Restoration Steering Committee (NCORSC), through modeling, historic data, and knowledge of the area, identified the project area (Old House Channel) as an area of need for re-establishment of oysters as part of an overall plan to create a self-sustaining network of oyster reefs in Pamlico Sound (Source: Notes from NE Oyster Work Group Meeting March 18, 2010).

Measures and alternatives to be considered include placing sand in submerged enclosures with various containment material such as rock or sandbags, placed where good oyster growing conditions are found near the navigation channel, and where submerged aquatic vegetation (SAV) or other significant resources do not immediately exist. Submerged reefs would likely be topped with cultch. Total project costs for a recommended plan should be approximately 4 to 6 million

dollars. The potential non-Federal sponsor for this study is the State of North Carolina, who has made oyster restoration in Pamlico Sound a high priority.

Coordination with the public and with Federal, State, and local agencies will be conducted to aid in the formulation and evaluation of the recommended plan. Public and agency views including comments received to date from representatives of the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, North Carolina Wildlife Resources Commission, North Carolina Division of Environmental Health, and North Carolina Division of Marine Fisheries have indicated no opposition or major issues with the proposed action.

c. Factors Affecting the Scope and Level of Review. This section of the Review Plan discusses the factors to determine the appropriate scope and level of review for the decision document as specified in EC 1165-2-209. This information has been used to recommend the appropriate level of review and select the types of expertise represented on the review teams.

1. Is there a significant threat to human life?

No significant threat to human life exists. The project involves the creation of submerged oyster reefs and will be pursued in partnership with the State of North Carolina who has already created ten sanctuary oyster reefs throughout the Pamlico Sound.

2. Does the estimated total cost of the project, including mitigation costs, exceed \$45 million?

No. The combined Feasibility, PED, & Construction phase costs are estimated to be below \$5 million

3. Has the Governor of the affected State (North Carolina) requested a peer review by independent experts?

No.

4. Has the Chief of Engineers determined that the project study is controversial due to significant public dispute over either the size, nature, or effects of the project or the economic or environmental costs or benefits of the project?

No. In addition, the public involvement process to date through scoping letter dispersal and agency coordination has not identified any controversy regarding the proposed project.

5. Has the head of a Federal or state agency charged with reviewing the project study determined that the project is likely to have a significant adverse impact on environmental, cultural, or other resources under the jurisdiction of the agency after implementation of proposed mitigation plans and has he/she requested an IEPR?

No. Federal and state agencies charged with review of the project have not determined that there are any significant adverse impacts resulting from the proposed project. Due to the nature of the CAP study, it is assumed any measures or alternatives requiring mitigation would be screened out.

Additionally, evaluations of individual decision criteria are discussed in the following paragraphs:

Technical, institutional, and social challenges?

The proposed project does not appear to involve any significant challenges. Dredging methods are standard and have been applied numerous times at Old House Channel. Proposed high relief reef configurations are consistent with the NC State Oyster Sanctuary Program. Project will be in compliance with all Institutional requirements. No social impacts or challenges are anticipated.

Unusually high risk or magnitude indicated?

The proposed project does not appear to include risks that are greater than normally would be expected for a beneficial use of dredged material project. As well, total project costs will be far below the proposed trigger of \$45 million, with Federal cost-share limits at \$5 million for a project of this type.

Likelihood of influential scientific information or highly influential scientific assessments?

The proposed project is not expected to produce influential scientific information or require any non-standard scientific assessments.

Likelihood of the project having significant economic, environmental, and/or social effects to the Nation?

While the project will contribute to an overall State and National effort to improve the oyster population in the Pamlico Sound, the relatively small size of the project on its own (< \$5 million) will not have significant economic, environmental, or social effects on the Nation.

Is the project/study likely to have significant interagency interest?

All relevant Federal and state agencies have been contacted and coordinated with throughout the Section 204 study to date. While there is interest from the cost-sharing non-Federal sponsor (State of North Carolina), interagency coordination conducted to date has indicated no significant interagency interest.

Is the project highly controversial?

Public and agency involvement and coordination conducted from the initiation of the study has indicated no public controversy whatsoever associated with the proposed beneficial use of dredged material for oyster reef creation at Old House Channel, NC.

Study conclusions based upon novel methods?

Proposed dredging practices and high relief configurations and standard for N.C. It is not foreseen that the study conclusions will be based upon novel methods.

Study conclusions present complex challenges for interpretation?

At present time, it is not foreseen that the study conclusions will present complex challenges for interpretation.

Study conclusions contain precedent-setting methods or models?

No precedent-setting models are proposed.

Study conclusions likely to change prevailing practices?

Although new opportunities may be identified, prevailing practices will not be significantly changed.

- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR, similar to any products developed by USACE. In-kind contributions have not been assigned; however, they could include acquisition and placement of cultch, supervision of reef material placement, and /or biological monitoring.

4. DISTRICT QUALITY CONTROL (DQC)

DQC is an internal quality assurance process that occurs at all stages of the feasibility report development, and will be managed by Wilmington District. DQC consists of both PDT and supervisory review, and covers both technical quality, and to the extent possible, policy compliance of the document. DQC will be conducted in accordance with the Wilmington District and South Atlantic Division (SAD) Quality Manuals.

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 teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

- a. **Products to Undergo ATR.** ATR will be performed throughout the study in accordance with the District and MSC Quality Management Plans. The ATR shall be documented and discussed at the AFB milestone. Certification of the ATR will be provided prior to the District Commander signing the final report. Products to undergo ATR include the Draft Combined Feasibility Report and Environmental Assessment, including technical appendices. ATR will occur after the identification of the NED/NER plan and prior to the Alternative Formulation Briefing (AFB).

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with experience in preparing Section 204 decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in plan formulation of CAP projects, preferably with Section 204 experience.
Economics	Team member will have a thorough understand of EQ and IWR-

	Plan. This individual may also review the socio-economic evaluation if qualified.
Environmental Resources	Team member will have experience with NEPA, EA & Ecosystem Output, dredging, and preferably reef construction.
Coastal Engineering	Team member will have experience with stability of submerged sand and rock structures. Would ideally possess expertise in the design of ecosystem restoration systems, confined dredged disposal areas and submerged sand/rubble mound structures.
Geotechnical Engineering	Team member will be familiar with placement of materials in estuarine environment. Team member will have a thorough understanding of the specific requirements based on study objectives and proposed measures – for example, different properties of soils, to include grain-size distribution, compressibility, shear strength, and load-bearing capacity to assure that the project meets good engineering practice.
Cost Engineering	Team member must be a pre-certified cost-ATR reviewer, and will have experience with dredging and submerged placement of materials in an estuarine environment.
Operations	Team member will have at least 10 years experience with dredging operations.

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, comments 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 1110-2-12 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 prior to the District Commander signing the 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 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- (a) Type I IEPR. Type I IEPR reviews are managed outside the 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 1165-2-209.
- (b) Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the 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.

- b. Decision on IEPR.** Based on the information and analysis provided in paragraph 3(c) of this review plan, the project covered under this plan is excluded from IEPR because it does not meet the mandatory IEPR triggers and does not warrant IEPR based on a risk-informed analysis.
- c. Products to Undergo Type I IEPR.** Not applicable.
- d. Required Type I IEPR Panel Expertise.** Not Applicable.
- e. 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. MODEL CERTIFICATION AND APPROVAL

- 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
IWRPlan	IWR-Planning Suite software aids in plan formulation and performs CE/ICA procedures. EQ benefits and associated cost estimates will be used in IWRPlan for incremental cost analysis, aiding in formulation, evaluation & comparison, and selection of plans in this study.	Certified
Modified HEP HSI Oyster Model	The appropriateness and application of the HEP model will be reviewed at ATR. Modification will be made as appropriate to evaluate different reef designs. The Habitat Evaluation Procedure – Habitat Suitability Index Oyster Model is used to calculate EQ benefits, which, with associated cost estimates, will be subjected to incremental cost analysis using IWRPlan.	Base Model Approved for use

- b. Engineering Models.** No engineering models are proposed at this time.

9. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost and possible Team Members.** ATR occurred in July 2012. This was just after identification of the NED/NER Plan and prior to the Alternative Formulation Briefing (AFB). The PDT has the flexibility to scale these estimates based on the evolving scope of the study. Based on coordination with the Cost DX, via phone conversations and provision of the project scope, the District recommends using [REDACTED] from Norfolk District for the Cost-ATR [REDACTED] was recommended [REDACTED] (Cost DX). The other ATR team members were from the North Atlantic Division.
- b. **Type I IEPR Schedule and Cost.** Not applicable.
- c. **Model Certification/Approval Schedule and Cost.** Use of existing certified or approved planning models is encouraged. However, approval of planning models under EC 1105-2-412 is not required for CAP projects. The ATR team will apply the principles of EC 1105-2-412 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented.

10. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments.

In addition to ongoing communication via phone and e-mail, an agency coordination meeting was held in Manteo, NC on January 10, 2012 with representatives from the following agencies and stakeholders: National Marine Fisheries, NC Division of Marine Fisheries, NC Division of Water Resources, NC Shellfish Sanitation, NC Ferry Division, NCDCM, and The Nature Conservancy.

A project scoping letter was distributed to media outlets and relevant agencies in May of 2009. No interim public meetings are anticipated at this time. However, agency coordination is part of the study process, including coordinating with local field experts and NCDMF as a liaison to the fishing community. The final decision document will be circulated for public comment and review to a standard mailing list. All required clearances will be obtained prior to construction.

11. REVIEW PLAN APPROVAL AND UPDATES

The review plan will be approved by the MSC Commander. 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) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the review plan, along with the Commanders' approval memorandum, will be posted on the home district's webpage.

12. REVIEW PLAN POINTS OF CONTACT

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

District:

- [REDACTED], Project Manager/Planning Technical Lead [REDACTED]

MSC/RMO:

- [REDACTED], SAD Planning CAP Manager – [REDACTED]

ECO-PCX:

- [REDACTED], ECO-PCX Account Manager– [REDACTED]

Cost DX:

- [REDACTED] – [REDACTED]

ATTACHMENT 1: TEAM ROSTERS

Project Delivery Team (PDT)

Project Delivery Team				
Name	Role	Office Symbol	Telephone	Email
[REDACTED]	Plan Formulation & Project Management	SAW-TS-PS	[REDACTED]	[REDACTED]
[REDACTED]	Restoration Design	SAW-TS-PE	[REDACTED]	[REDACTED]
[REDACTED]	Biologist	SAW-TS-PE	[REDACTED]	[REDACTED]
[REDACTED]	Geotechnical Engineering	SAW-TS-EG	[REDACTED]	[REDACTED]
[REDACTED]	Engineering Design	SAW-OP-N	[REDACTED]	[REDACTED]
[REDACTED]	Cultural Resources	SAW-TS-PE	[REDACTED]	[REDACTED]
[REDACTED]	Cost Engineering	SAW-TS-EE	[REDACTED]	[REDACTED]
[REDACTED]	CAP Program Manager	SAW-PM-P	[REDACTED]	[REDACTED]
[REDACTED]	Potential Sponsor	NCDWR	[REDACTED]	[REDACTED]

Agency Technical Review (ATR) Team

[REDACTED]

Major Subordinate Command (MSC)

[REDACTED]

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 *Combined Feasibility Report and Environmental Assessment for Manteo, Old House Channel, NC* located in Dare County, NC. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-209. 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 DrCheckssm.

SIGNATURE

Name
ATR Team Leader
Office Symbol/Company

Date

SIGNATURE

Project Manager
PM

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Name
Review Management Office Representative
Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

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

SIGNATURE

Name
Chief, Engineering Division
Office Symbol

Date

SIGNATURE

Name
Chief, Planning Division
Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
January 15, 2012	Addition to document the agency meeting occurrence.	Pg 12/ paragraph 10
July 23, 2012	Change of ATR description to past tense once milestone was passed	Pg 12/ paragraph 9a.

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CAP	Continuing Authorities Program	O&M	Operation and maintenance
CSDR	Coastal Storm Damage Reduction	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PAC	Post Authorization Change
EO	Executive Order	PMP	Project Management Plan
ER	Ecosystem Restoration	PL	Public Law
FDR	Flood Damage Reduction	QMP	Quality Management Plan
FEMA	Federal Emergency Management Agency	QA	Quality Assurance
FRM	Flood Risk Management	QC	Quality Control
FSM	Feasibility Scoping Meeting	RED	Regional Economic Development
GRR	General Reevaluation Report	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act