



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NORTH ATLANTIC DIVISION
FORT HAMILTON MILITARY COMMUNITY
302 GENERAL LEE AVENUE
BROOKLYN NY 11252-6700

CENAD-PD-P

MAR 13 2018

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Norfolk District,
Fort Norfolk 803 Front Street Norfolk, VA 23510

SUBJECT: Request for Approval of the Atlantic Intracoastal Waterway North Landing
Bridge Replacement Feasibility Study, Chesapeake, VA and Virginia Beach, VA Review
Plan

1. Reference Memorandum, CENAO-EX, dated 22 Feb 2018, subject as above.
2. The Deep Draft Navigation Planning Center of Expertise of the South Atlantic Division (SAD) is the lead office to execute the referenced Review Plan. The Review Plan does not include Independent External Peer Review, as an exclusion will be requested.
3. The enclosed Review Plan is approved for execution and is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution require new written approval from the NAD Commander.
4. The point of contact is Mr. Larry Cocchieri, NAD Planning Program Manager at 347-370-4571 or Lawrence.J.Cocchieri@usace.army.mil.

Encl


LEON F. PARROTT
Colonel, EN
Deputy Commander



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

CENAO-EX

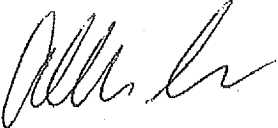
FEB 22 2010

MEMORANDUM FOR Commander, North Atlantic Division (CENAD-PP/Mr. Cocchieri),
Fort Hamilton Military Community, 302 General Lee Avenue, Brooklyn, New York
11252-6700

SUBJECT: Atlantic Intracoastal Waterway, North Landing Bridge Replacement
Feasibility Study, VA – Submission of Review Plan

1. Enclosed for review and approval is the Review Plan for subject study.
2. Please contact Mr. Niklas Hallberg, Planning Team Lead, at (757) 201-7728 or e-mail Niklas.u.hallberg@usace.army.mil or Mr. Jamil Siddiqui, Project Manager, at (757) 201-7576 or e-mail jamil.u.siddiqui@usace.army.mil, if you have any questions or require additional information.

- 2 Encls
1. Review Plan
 2. PCXIN Endorsement

For: 
JASON E. KELLY, PMP
Colonel, EN
Commanding

REVIEW PLAN

**Atlantic Intracoastal Waterway
North Landing Bridge Replacement Feasibility Study
Chesapeake, VA and Virginia Beach, VA**

Norfolk District

**MSC Approval Date: 13 Mar 2018
Last Revision Date: 7 February 2018**



**US Army Corps
of Engineers ®**

REVIEW PLAN

Atlantic Intracoastal Waterway North Landing Bridge Replacement Feasibility Study Chesapeake, VA and Virginia Beach, VA

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1. PURPOSE AND REQUIREMENTS

Purpose. This plan defines the scope and level of peer review for the North Landing Bridge Replacement Feasibility Study.

a. References

- (1) Engineer Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineer Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) Project Management Plan (PMP) for study, under development
- (6) District Quality Control (DQC) Review of Civil Works Products, Standard Operating Procedures U.S. Army Corps of Engineers Norfolk District, Feb 2016
- (7) North Atlantic Coastal Program Focus Area Investigations Program Management Plan, U.S. Army Corps of Engineers National Planning Center for Coastal Storm Risk Management, 5 Feb 2016

- b. Requirements.** This plan was developed under EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products. It provides 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: DQC/Quality Assurance, Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these reviews, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION COORDINATION

The Review Management Organization (RMO) is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the National Planning Center for Inland Navigation and Risk-Informed Economics (PCXIN-RED).

The RMO will coordinate with the Civil Works Engineering and Agency Technical Review Mandatory Center of Expertise (MCX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

- a. Decision Document.** A feasibility report will be prepared for the North Landing Bridge Replacement Feasibility Study. The feasibility report will be submitted to the U.S. Army Corps of Engineers (USACE) Headquarters and ultimately to the Chief of Engineers for final approval and recommendation for authorization by Congress. At this time, it is expected that a programmatic Environmental Assessment (EA) will be prepared in conjunction with the

feasibility report in order to meet the requirements of the National Environmental Policy Act (NEPA).

Study/Project Description. The study area includes the North Landing Bridge along with the Atlantic Intracoastal Waterway (AIWW) and local traffic systems in the vicinity. The bridge crosses the AIWW near the boundary line between the cities of Chesapeake and Virginia Beach about 150 miles southeast of Washington D.C. It is located at the eastern border of Chesapeake and the southwestern border of Virginia Beach in a relatively rural section of both cities. The bridge lies entirely within Chesapeake. It services vehicular traffic traveling Route 165 between the cities of Chesapeake and Virginia Beach. The bridge project also services boat traffic to include both local and transient vessels plying the AIWW. Figure 1 below shows the study area.

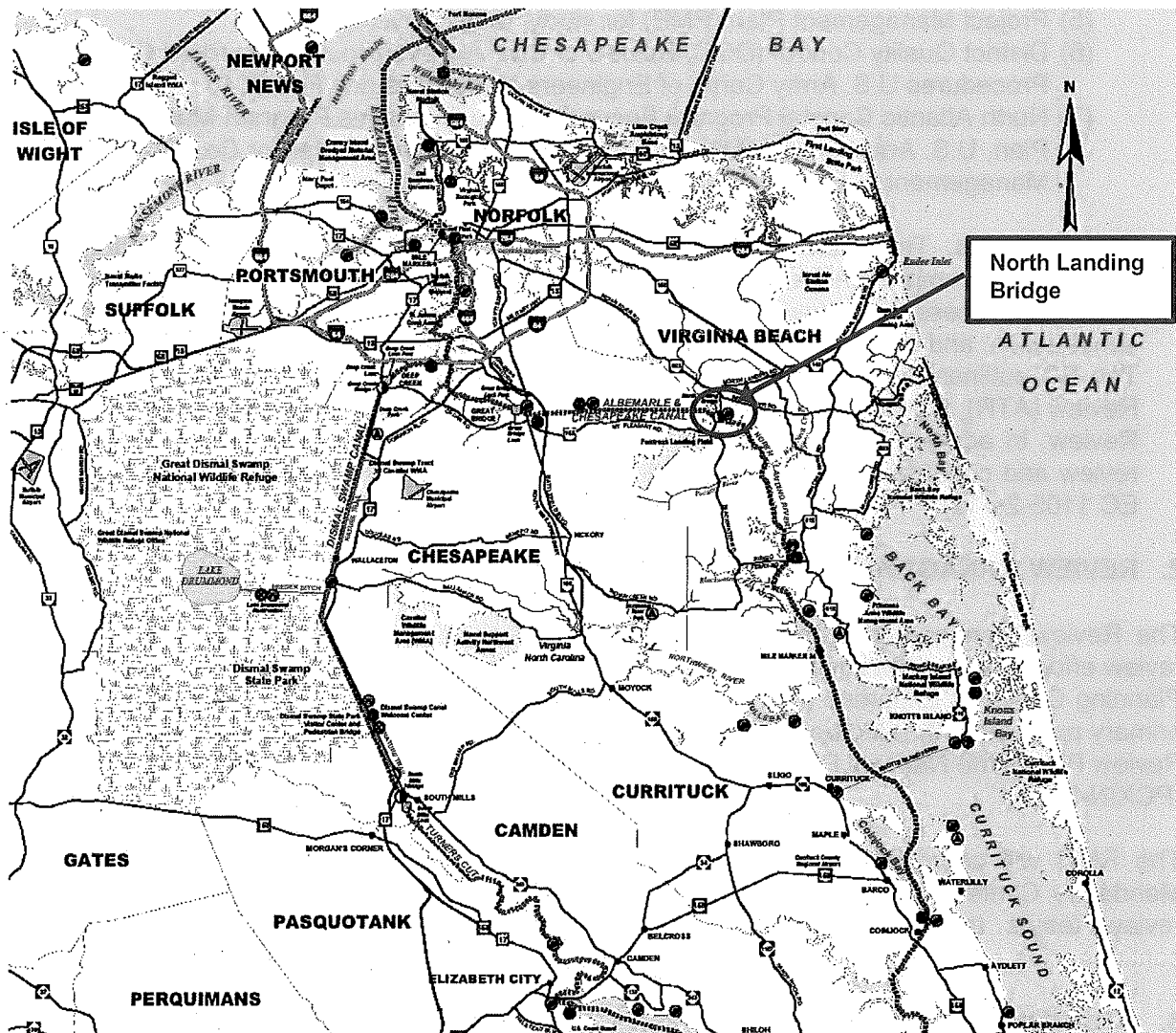


Figure 1. Study Area Map Showing the AIWW and Roadway Network in the Vicinity

Figures 2 below shows the project area. The following describe major features of the project area:

- The project area is surrounded by valuable freshwater wetlands on both sides of the waterway.

- A private property owner owns a parcel and home adjacent to the project site on the northwestern side of the bridge.
- A fuel pipeline supporting the Navy's Oceana Naval Air Station runs along Route 165 approximately 1,800 ft. to the north of the bridge.
- Federally owned property surrounding the AIWW lies to the west of the bridge but not to the east.

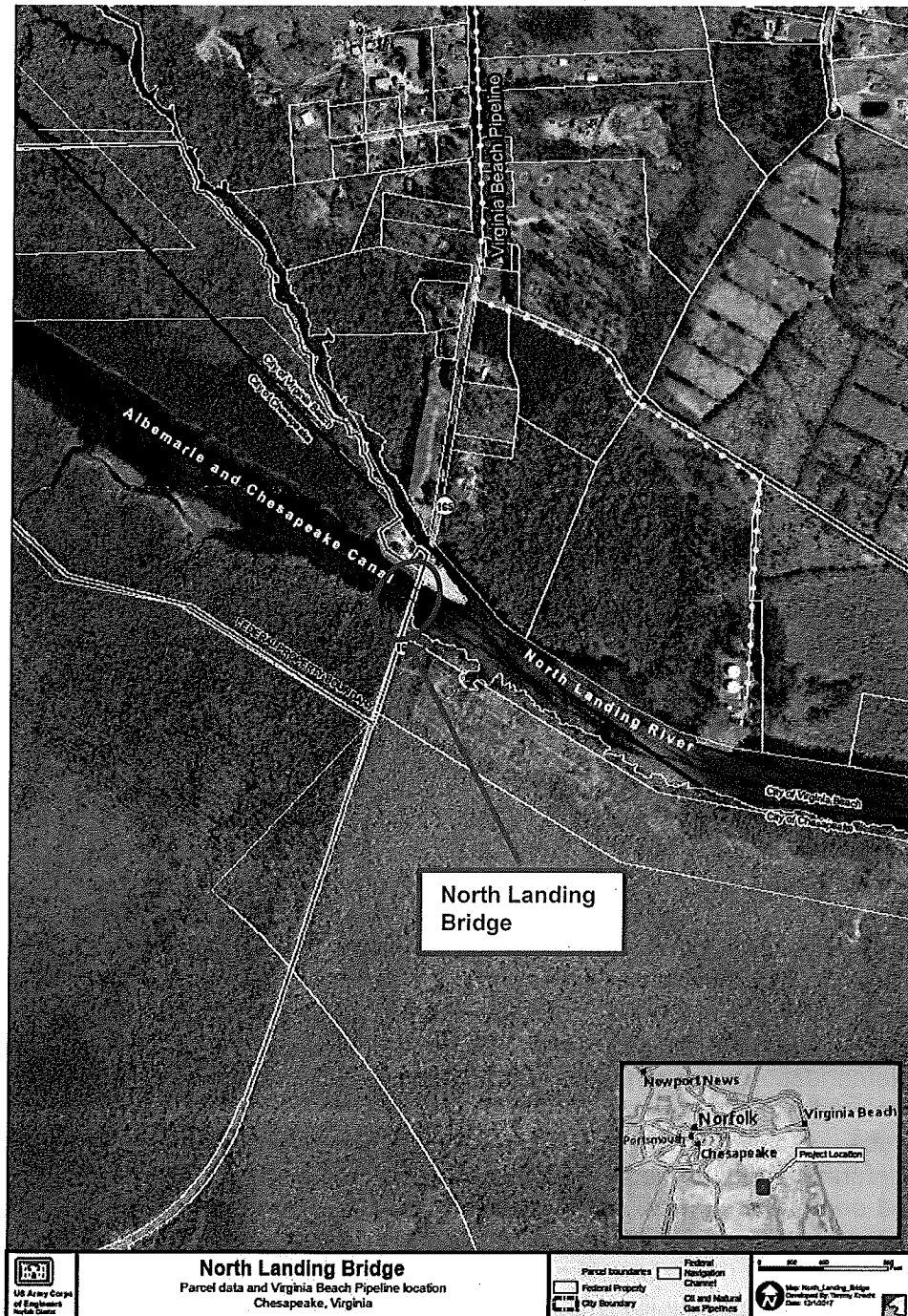


Figure 2. North Landing Bridge Project Area

The study authority lies in Section 216 of the Flood Control Act of 1970 (Public Law 91-611).

"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 (flood damage reduction), 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 operations, and for improving the environment in the overall public interest."

Under existing USACE policy, the Norfolk District has the responsibility to maintain the North Landing Bridge in an acceptable condition; however, there is no similar responsibility to upgrade the bridge to meet current traffic conditions. Any replacement or rehabilitation of the bridge under Corps of Engineers operation and maintenance (O&M) programs would be accomplished "in-kind" (a two-lane bridge only). In order to provide betterments (more than two lanes) or to have a non-Federal entity take ownership of a replacement bridge, Congressional authorization and funding would be required. In the case of the North Landing Bridge, Section 216 of the Flood Control Act of 1970 (Public Law 91-611) would be the proper path to Congressional authorization and funding. It authorizes the Secretary of the Army and the Chief of Engineers to undertake investigations to determine the feasibility of modifying or replacing completed projects or their operations. If the Section 216 report would recommend such modifications, the report would be used as the basis to obtain Congressional authorization and Federal funding.

b. Factors Affecting the Scope and Level of Review.

- The study is not expected to be challenging other than the fact that economic justification from navigation benefits may not exist to support the potential for future increases in vehicle traffic, i.e. a two versus four lane road deck.
- The Navy will require access for their fuel deliveries on the AIWW. This will impact project implementation recommendations.
- Valuable wetlands lie immediately adjacent to the project site. Protecting the wetlands is expected to be important for local and national environmental groups and agencies. However, because a bridge is already in place and the alternatives seek to replace the bridge, there is not expected to be significant controversy over environmental concerns.
- The project is not expected to involve significant public dispute as to the need for the study and project. However, it is expected that the public will not find it acceptable to have the crossing closed for significant periods of time during construction as there is a 22 mile detour for alternative routes across the AIWW. This may impact project implementation recommendations. It is also expected that the local communities will prefer a four lane bridge versus a two lane bridge in order to adapt to future anticipated increases in traffic volumes.
- The information in the decision document or anticipated 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.
- The project design is unlikely to require redundancy, resiliency, or robustness.
- A unique construction schedule may be required due to navigation and/or environmental constraints.

- c. **Contributions by Others.** The project is 100% Federally owned and operated, therefore there is no non-Federal sponsor. Engineering portions of the study will be assigned to an Architect/Engineer (AE) contractor. Products and analyses provided by the AE are subject to DQC, ATR, and IEPR. Products and analyses to be provided by the AE include: participation on the project delivery team (PDT), 10% level engineering design of the bridge alternatives and the feasibility level design of the Tentatively Selected Plan to include all calculations, drawings, and the Engineering Appendix, and a traffic analysis for the final report. Other analysis and products may be provided but they have not been identified at this early point in the study.

4. DISTRICT QUALITY CONTROL

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 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 MSC. Documentation of completed DQC should be provided to the MSC, PCX and ATR Team leader prior to initiating ATR.

- a. **Documentation of DQC.** Per District Quality Control Review of Civil Works Products, Standard Operating Procedures U.S. Army Corps of Engineers Norfolk District, Feb 2016, DQC comments will be documented using ProjNet DrChecks and will be included in a final DQC report.
- b. **Products to Undergo DQC.** DQC will be performed for the Draft Feasibility Report (including NEPA and supporting documentation) and the Final Feasibility Report (including NEPA and supporting documentation). Additional DQC of key technical and interim products may occur depending on the study needs. These products include: surveys and mapping, hydrology and hydraulics, geotechnical work, economic, environmental, cultural, and social inventories, annual damages and benefits estimates, cost estimates, etc.
- c. **Required DQC Expertise.** The DQC team will mirror the disciplines of the PDT.

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, which will be the PCXIN. The ATR will be 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 certified senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead has been identified to be located in the PCXIN.

- a. **Products to Undergo ATR.** ATR will be performed for the Draft Feasibility Report (including NEPA and supporting documentation) and the Final Feasibility Report (including NEPA and supporting documentation).

- b. **Required ATR Team Expertise.** It is estimated that the ATR team should consist of 10 reviewers from disciplines that mirror those of the study PDT. It will be important that the reviewers have experience with inland navigation and bridge design. The initial assessment of what expertise is needed was based on the PMP and the factors affecting the scope and level of review outlined in Section 3 of this review plan. The Inland Navigation PCX (PCXIN), in cooperation with the PDT, vertical team, and other appropriate centers of expertise, will determine the final make-up of the ATR team. The ATR lead will follow the requirements outlined in the "ATR Lead Checklist" developed by the RMO. The following table lists the disciplines needed.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR Lead should be a senior planning professional with extensive experience preparing Civil Works decision documents and conducting ATR. The lead should 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, environmental resources, etc.).
Plan Formulation	The Planning reviewer should be a senior water resources planner with experience in the formulation aspect of Civil Works studies.
Economics	The Economics reviewer should be a senior level economist with experience in evaluating the benefits and costs associated with inland navigation and transportation.
Environmental Resources	The Environmental Resources reviewer should be a senior scientist with experience in ecosystem restoration opportunities associated with Civil Works studies, especially wetland mitigation. They should also have expertise in NEPA compliance.
Cultural Resources	The Cultural Resources reviewer should be a senior archaeologist.
Climate Change Assessment	The Climate Change Assessment reviewer from the Hydraulic/Hydrologic Engineering discipline should be experienced in performing and presenting qualitative assessments of climate change information in hydrologic analyses in accordance with ECB 2016-25, Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Designs, and Projects and other relevant guidance.
Hydraulic/Hydrologic Engineering	The Hydraulic/Hydrologic Engineering reviewer should be an expert in the field of hydraulics and hydrology and have a thorough understanding and knowledge of the development of flow and stage frequency curves, open channel and bridge dynamics, sea level rise risk, and/or computer modeling techniques that will be used such as HEC-RAS and HEC-HMS.

Geotechnical Engineering	The Geotechnical Engineering reviewer should be a senior geotechnical engineer familiar with the geotechnical requirements of bridge and roadway construction.
Structural Engineering	The Civil Engineering reviewer should be a senior civil engineer familiar with bridge and roadway design.
Cost Engineering	The Cost Engineering reviewer should be a senior cost engineer. This position may need to be filled by a cost engineer from the MCX.
Real Estate	The Real Estate reviewer should be an expert in real estate acquisition and appraisals.

c. **Documentation of ATR.** ProjNet 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 been 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 to then assess whether further specific concerns may exist. The ATR documentation in ProjNet 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 1165-2-214, ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in ProjNet 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 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 draft report and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW

Independent External Peer Review (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 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 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 1165-2-214.
- **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.

a. Decision on IEPR.

- The decision document does not meet the mandatory triggers for Type I IEPR described in Paragraph 11.d.(1) and Appendix D of EC 1165-2-214 and an exclusion will be requested; the decision document does not meet the mandatory triggers for the following reasons:
 - The project is not expected to exceed the \$200M cost threshold or have an EIS planned to trigger an IEPR.
 - There are no new or innovative engineering methods or scientific assessments expected for this project.

- Because a bridge is already existing in the area and the alternatives seek to replace the bridge, the scope of the impact to the environment, cultural resources and private real estate is such that significant controversy is not expected.

The District does not believe there are significant life safety concerns for the study or future bridge replacement, however, benefits from an IEPR would be realized during the PED and construction phases, therefore, a Type II IEPR is recommended during PED and construction.

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 REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering (MCX), located in the Walla Walla District. The MCX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The MCX will also provide the Cost Engineering 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 USACE 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 Model Description and How It Will Be Used in the Study	Certification / Approval Status
Inland Navigation Spreadsheet Model	A spreadsheet model has been determined to be the best option for calculating user demand and cost savings for navigation vessels. The WLCEN model, as recommended by the PCX, will be used. This model will be intended for single use approval.	Awaiting Approval for Single Use
Traffic Economics Model	A traffic model will be used to determine costs and benefits to road users on the North Landing Bridge. The USACE does not have a standard traffic model. A spreadsheet model will be used.	Awaiting Single Use Approval
Uniform Mitigation Assessment Method (UMAM)	Environmental model based on State of Florida UMAM rule Chapter 62-345, F.A.C. The UMAM model is designed to assess mitigation, preservation, enhancement, restoration, and creation of wetlands.	Awaiting Regional or Single Use Approval

- b. **Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Approval Status
MII	MII is the second generation of the Micro-Computer Aided Cost Estimating System. It is a detailed cost estimating software application.	Cost Engineering Approved
Crystal Ball	Per ECB No. 2007-17, cost risk analysis methods will be used for the development of contingency for the total project cost estimate. Crystal Ball software is approved for use to conduct the total project cost and schedule risk analysis	Cost Engineering Approved
ADCIRC	System of computer programs used for prediction of storm surge and flooding. Water surface elevation results from the North Atlantic Coast Comprehensive Study (NACCS) and from FEMA will be used.	EN CoP Approved
HEC-RAS	Hydraulic open channel model created by the USACE will be used for modeling bridge design impacts to river dynamics, bridge scour, and flood impacts.	EN CoP Approved
Traffic Model	A traffic model will be used to determine vehicle miles traveled and vehicles hours traveled on the North Landing Bridge. The USACE does not have a standard traffic model. Therefore, the Hampton Roads Traffic Demand Model will be used.	Awaiting Single Use Approval

10. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost.** The ATR team will be integrated into the PDT team throughout the study process and will participate at milestone meetings and other critical coordination for the study. The total ATR budget for the study is estimated at approximately \$60,000 at this time. Each ATR, should be conducted according to the following schedule: 2 weeks for the ATR team to review the report and provide comments, 2 weeks for the PDT to coordinate and provide responses to comments, and 2 weeks for backcheck and ATR closeout. Specific ATR milestones and resource budgets for the draft and final reports will be developed and coordinated well in advance of the reviews. The study schedule is as follows:

Alternatives Milestone	JAN 2018
Tentatively Selected Plan Milestone	JAN 2019
Release of Draft Study for Concurrent Reviews	FEB 2019
ATR of Draft Report complete	MAR 2019
Agency Decision Milestone	JUN 2019
ATR of Final Report start	NOV 2019
ATR of Final Report complete	DEC 2019
Submit Final Report Package to MSC	JAN 2020
Senior Level Review Board	APR 2020
Chief's Report	AUG 2020

- b. **Model Certification/Approval Schedule and Cost.** Only approved models will be used in this study. See Tables 9.a. and 9.b. for the list of models planned for use in this study. NAO plans to employ a one-time use spreadsheet type model in coordination with the Inland Navigation PCX to develop navigation benefits. Model certification costs are estimated at \$25,000 and this effort has already begun so as to not delay development of the TSP. NAO also plans to use the Uniform Mitigation Assessment Method to calculate wetland impacts. Certification at an estimated cost of \$15,000 is being sought for one-time or regional use.

11. PUBLIC PARTICIPATION

A workshop was held on 04 December 2017 at the start of the study where feedback was gathered from over stakeholders on the problems, opportunities, objectives, constraints, and potential measures for study. An initial NEPA scoping meeting was held on 16 January 2018 where the public learned more about the study and provided comments. The feasibility report will be made available for public review per NEPA requirements. The Norfolk District will have a web page for this study where documents and important study information will be posted for the public. The cities of Chesapeake and Virginia Beach will also distribute information and documents as appropriate and necessary to enhance public outreach and public review of the study products requiring public review.

12. REVIEW PLAN APPROVAL AND UPDATES

The North Atlantic Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (district, MSC, RMO, and HQUSACE) as to the appropriate scope and level of review for the decision document. The Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping

the 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 scope and/or level of review changes) should be re-approved by the MSC Commander following the process used to initially approve the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should 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 plan can be directed to the following points of contact:

- Norfolk District: 757-201-7728
- North Atlantic Division: 347-370-4571
- Inland Navigation Planning Center of Expertise: 304-399-5848

ATTACHMENT 1: TEAM ROSTERS

Project Delivery Team Roster

Discipline	Name
Project Manager	Jamil Siddiqui
Plan Formulation (PTTL)	Niklas Hallberg
Environmental	Katherine Purdue
Economics	Jennifer Spencer
Flood Plain Management	Michelle Hamor
Cultural Resources	John Haynes
GIS	Tammy Knecht
Engineering (ETTL)	Drew Johnson
Hydrology & Hydraulics	Robin Williams
Geotechnical	Jane Bolton
Structural	Leonard Mule
Civil	Charles Sanders
Cost Engineer	Sherry Jean
Real Estate	Elizabeth Babineau
Operations	Joel Scussel
Regulatory	Scharlene Floyd
Construction	TBD
Program Specialist	Clara Butler
Contracting	Danita Young
Office of Counsel	Matthew Donaldson
PAO	Mark Haviland
NAD POC	Lawrence Cocchieri

ATR Team Roster

Discipline	Name	Phone	Email
ATR Lead	TBD		
Plan Formulation	TBD		
Economics	TBD		
Environmental Resources	TBD		
Cultural Resources	TBD		
Climate Change	TBD		
H&H Engineering	TBD		
Structural Engineering	TBD		
Real Estate	TBD		
Cost Engineering	TBD		
Geotechnical Engineering	TBD		

ATTACHMENT 2: STATEMENT OF COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project 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 closed in ProjNet DrCheckssm.

SIGNATURE

Name

ATR Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

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

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Acronym</u>	<u>Definition</u>	<u>Acronym</u>	<u>Definition</u>
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office of Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
		OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
ER	Engineer Regulation	PL	Public Law
		QMP	Quality Management Plan
FEMA	Federal Emergency Management Agency	QA	Quality Assurance
FRM	Flood Risk Management	QC	Quality Control
		RED	Regional Economic Development
GRR	General Reevaluation Report	RMC	Risk Management Center
Home District/MSC	The District or MSC responsible for preparing the decision document	RMO	Review Management Organization
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RTS	Regional Technical Specialist
IEPR	Independent External Peer 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
NED	National Economic Development	WRRDA	Water Resources Reform and Development Act