



REPLY TO
ATTENTION OF

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

CESAD-RBT

25 MAR 2013

MEMORANDUM FOR COMMANDER, WILMINGTON DISTRICT (CESAW-TS-E/
GREGORY L. WILLIAMS)

SUBJECT: Approval of the Review Plan for Plans and Specifications and Design Documentation Report for Section 14 Emergency Streambank and Shoreline Erosion Protection Project Southport, North Carolina

1. References:

a. Memorandum, CESAW-TS-E, 4 March 2013, subject: Approval of Review Plan for Plans and Specifications and Design Documentation Report (DDR) for Southport, NC Section 14 Emergency Streambank and Shoreline Erosion Protection Project (Enclosure).

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

2. The Review Plan for the for Plans and Specification and Design Documentation Report for the Southport, NC Section 14 Emergency Streambank and Shoreline Erosion Protection Project, 27 February 2013, submitted by reference 1.a has been reviewed by this office and is approved in accordance with reference 1.b above. A copy of the approved Review Plan is enclosed.

3. We concur with the conclusion of the District Chief of Engineering that a Safety Assurance Review, also known as a Type II Independent External Peer Review (Type II IEPR), is not required for this Continuing Authority Program (CAP) Section 14 Project. The primary basis for the concurrence that a Type II IEPR is not required is the determination that the failure or loss of this Southport Emergency Streambank and Shoreline Erosion Protection Section 14 Project would not pose a significant threat to human life.

4. The District should take steps to post the Review Plan to its web site and provide a link to CESAD-RBT. Before posting to the web site, the names of Corps/Army employees should be removed.

5. The SAD point of contact is Mr. James Truelove, CESAD-RBT, 404-562-5121.

DONALD E. JACKSON, JR.
COL, EN
Commanding

Encl



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

CESAW-TS-E

4 March 2013

MEMORANDUM FOR Commander, US Army Corps of Engineers, South Atlantic Division (CESAD-RBT), ATTN: Jim Truelove, CESAD-RBT, Rm 10M15, 60 Forsyth Street, SW, Atlanta, Georgia 30303-8801

SUBJECT: Approval of Review Plan for Plans and Specifications and Design Documentation Report (DDR) for Southport, NC Section 14 Emergency Streambank and Shoreline Erosion Protection Project.

1. References

a. EC 1165-2-214, Civil Works Review Policy, 15 Dec 2012

2. I hereby request approval of the enclosed Review Plan for the Plans and Specifications and Design Documentation Report (DDR) for Southport, NC Section 14 Emergency Streambank and Shoreline Erosion Protection Project. The Review Plan complies with applicable policy and includes our DQC and ATR plans for this project.

3. The district will post the Corps of Engineers, South Atlantic Division (CESAD) approved Review Plan to its website and provide a link to the CESAD for its use. Names of Corps/Army employees are withheld from the posted version, in accordance with guidance.

Encl


STEVEN A. BAKER
Colonel, EN
Commanding



Review Plan

For

**Southport, NC Section 14 Emergency
Streambank and Shoreline Erosion
Protection Project – Implementation Documents**

**Brunswick County, North Carolina
P2 #: 333722**

**U.S. Army Corps of Engineers
Wilmington District
Wilmington, North Carolina**

27 February 2013

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

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Attachment 1: Acronyms and Abbreviations

Attachment 2: Completion of Agency Technical Review Form

1. PURPOSE AND REQUIREMENTS

1.1 Purpose

This Review Plan defines the scope and level of review activities for design of emergency erosion protection measures at a City of Southport, NC wastewater pumping station site located on the Cape Fear River shoreline at the intersection of West Bay Street and South Lord Street. Emergency protection measures will consist of removal of the existing concrete debris and placement of granite armor stone along the shoreline adjacent to the pumping station. The review activities consist of District Quality Control (DQC) and Agency Technical Review (ATR). The project is in the design phase and the related documents are Plans and Specifications (P&S) and a Design Documentation Report (DDR). Upon approval, this review plan will be included into the Project Management Plan.

1.2 References

- ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug. 1999
- ER 1110-1-12, Engineering and Design Quality Management, 31 March 2011
- EC 1165-2-214, Civil Works Review, 15 Dec. 2012
- Quality Control Plan
- Project Management Plan

1.3 Requirements

This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). The EC provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and other work products. The EC outlines three levels of review for implementation documents: District Quality Control, Agency Technical Review, and Independent External Peer Review. Refer to the EC for the definitions and procedures for the three levels of review.

1.4 Review Management Organization (RMO).

The South Atlantic Division is designated as the RMO for this effort.

2. PROJECT INFORMATION AND BACKGROUND

2.1 Project Description

The project will provide protection of a city wastewater pumping station located in Southport, NC on the Cape Fear River shoreline (Figure 1.01). The project is being pursued under the authority of Section 14 of the Flood Control Act of 1946, as amended, for emergency stream bank and shoreline erosion protection. Section 14 authorizes the US Army Corps of Engineers

(USACE) to study, design, and construct emergency streambank and shoreline works to protect public services including (but not limited to) streets, bridges, schools, water and sewer lines, National Register sites, and churches from damage or loss by natural erosion. Continued erosion of the shoreline is expected to directly impact the pump station if reliable protective measures are not provided. The wastewater pumping station is a municipal facility critical to city operations. The Tentatively Selected Plan (TSP) would consist of removal of the existing concrete debris and placement of granite armor stone at a maximum side slope of 2H:1V (2 horizontal feet per vertical foot), with a crest width of 5 feet, along a stretch of ~350 linear feet of shoreline adjacent to the pumping station. The armor stone unit size would be 20-inches in diameter and 850-lb on average, and it would be placed in a double layer for an overall thickness of 3.5 feet. The armor stone would be placed over a 12" thick layer of 5-12" granite bedding stone, in turn placed over a layer of geotextile fabric.

3. DISTRICT QUALITY CONTROL

District Quality Control (DQC) and Quality Assurance activities for implementation documents (DDRs and P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management. The subject project Design Documentation Report (DDR) and Plans and Specifications (P&S) will be prepared by the Wilmington District using the SAW procedures and will undergo DQC. DQC Certification will be verified by the Agency Technical Review Team.

4. AGENCY TECHNICAL REVIEW

Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214 and ER 1110-1-12. An ATR will be performed on the Plans and Specifications and Design Documentation Report.

ATR will be conducted by individuals and organizations that are external to the Wilmington District (SAW). The ATR Team Leader will be a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

4.1 ATR Team Expertise

As stipulated in ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; appointed SME or senior level experts from the responsible district; experts from other U.S. Army Corps of Engineers Districts; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following disciplines; knowledge, skills and abilities; and experience levels.

ATR Team Leader. The ATR Team Leader should have experience with shoreline or streambank erosion projects and have performed ATR Team Leader duties or have been an ATR reviewer on a similar type project within the past 5 years. ATR Team Leader can also serve as one of the review disciplines in addition to team leader duties.

Civil Engineering. The team member should have at least 7 years of civil/site work project experience that includes coastal structures, revetments or other related shoreline/streambank protection project features.

Geotechnical Engineering and Engineering Geology. The team member should have at least 7 years of experience that includes geologic and geotechnical analyses that are used to support the development of Plans and Specifications for stone revetments or similar streambank/shoreline protection structures.

Environmental. The team member should have at least 7 years experience in assessing environmental impacts associated with stone revetment/sill construction and related effects on tidally influenced shorelines.

4.2 Documentation of ATR

DrCheckssm review software will be used to document all ATR comments, responses, and associated resolutions accomplished throughout the review process. Comments have been 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 in order to then assess whether further specific concerns may exist. The ATR documentation in DrCheckssm will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical coordination, and lastly the agreed upon resolution. The ATR team will prepare a Review Report which includes a summary of each unresolved issue; each unresolved issue will be raised to the vertical team for resolution. Review Reports will be considered an integral part of the ATR documentation and shall:

- 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 an overview for the project information in which the ATR members were charged to reviewer;
- Describe the nature of their review and their findings and conclusions; 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.

The ATR may be certified when all ATR concerns are either resolved or referred to U.S. Army Corps of Engineers South Atlantic Division (CESAD) for resolution and the ATR documentation is complete. Certification of ATR should be completed, based on work reviewed for the 95% plans & specifications. A sample certification is included in this Review Plan (see attachment 2).

5. INDEPENDENT EXTERNAL PEER REVIEW (WRDA 2007 Section 2035 Safety Assurance Review)

EC 1165-2-214 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases (also referred to in USACE guidance as the Feasibility and the Pre-construction, Engineering and Design Phases). The EC defines Section 2035 Safety Assurance Review (SAR), Type II Independent External Peer Review (IEPR). The EC also requires Type II IEPR be managed and conducted outside the Corps of Engineers.

5.1 Type I IEPR

A Type I IEPR is associated with decision documents. No decision documents are addressed/covered by this Review Plan. A Type I IEPR is not applicable to the implementation documents covered by this Review Plan.

5.2 Type II IEPR, Determination

This streambank and shoreline erosion protection project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-214) and therefore, a Type II IEPR review under Section 2035 and/or EC 1165-2-214 is not required. The factors in determining whether a review of design and construction activities of a project is necessary, as stated under Section 2035 and EC 1165-2-214 along with this review plans' applicability statement which follows.

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

This project involves constructing measures, a stone revetment, to protect a waste water pumping station along the Cape Fear River. Failure or loss of this revetment will not pose a threat to human life.

(2) The project involves the use of innovative materials or techniques.

This project will utilize methods and procedures used by the Corps of Engineers on other similar works.

(3) The project design lacks redundancy.

The revetment design does not require or employ any concept of redundancy. Streambank and shoreline erosion protection for structures is common practice and has been designed by the USACE on many occasions. It is likely that the methods or materials used will be routine.

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

The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule. The construction sequence has been used successfully by the Corps of Engineers on the other similar works.

As indicated above, this project does not pose a significant threat to human life, and does not trigger any of the EC 1165-2-214 factors for Type II IEPR. Therefore, The District Chief of Engineering, as the Engineer in Responsible Charge has determined that a Type II IEPR of these implementation documents (P&S and DDR) is not needed.

6. MODEL CERTIFICATION AND APPROVAL

Models are not necessary for the Plans and Specifications and the Design Documentation Report.

7. ESTIMATED COSTS AND SCHEDULE

7.1 Project Milestones

District Quality Control	April – May 2013
District BCOE	April/May 2013
BCOE Certification	June 2013
Issue Date	July 2013
Bid Opening	August 2013
Construction Contract Award	August 2013

7.2 ATR Schedule and Cost

The ATR will be conducted in FY13. It is envisioned that each reviewer will be afforded 24 hours review plus 4 hours for coordination. It is envisioned that the ATR Leader will be allowed 20 hours. The estimated cost range is \$10,000 - \$20,000. The ATR schedule follows. The dates are based on the draft plans and specifications completion date of May 16, 2013.

ATRT Selected and Resourced (ATR Start)	May 17, 2013
ATR Kickoff and ATR Start	May 20, 2013
ATRT Completes Comments	May 24, 2013
PDT Completes Evaluations	June 7, 2013
ATRT Completes Back Checks	June 14, 2013
ATR Certification	June 17, 2013

8. POINTS OF CONTACT

Per guidance, the names of the following individual will not be posted on the Internet with the Review Plan. Their titles and responsibilities are listed below.

Wilmington District POCs:

Review Plan, ATR and QM Process,
910-251-4440

Project Manager (PM):
910-251-4910

Chief of Engineering Branch:
910 251-4767

South Atlantic Division POC:
404-562-5121

9. MSC APPROVAL

The MSC that oversees the home district is the South Atlantic Division and it is responsible for approving the review plan. Approval will be provided by the MSC Commander. The commander's approval should reflect vertical team input (involving district, MSC, and HQUSACE members) as to the appropriate scope and level of review for the pre-construction and engineering design phase of this effort. Like a PMP, the Review Plan (RP) is a living document and may change as work progresses. Significant changes to the RP should be approved by following the process used for initially approving the RP. In all cases the MSCs will review the decision on the level of review and any changes made in updates to the project.

Attachment 1

ACRONYMS AND ABBREVIATIONS

ATR – Agency Technical Review
BCOE – Biddability, Constructability, Operability and Environmental
CESAD – U.S. Army Corps of Engineers South Atlantic Division
DCP – District Control Plan
DDR – Design Documentation Report
DQC – District Quality Control
EC – Engineer Circular
EIS – Environmental Impact Statements
ER – Engineer Regulations
HQUSACE – Headquarters U.S. Army Corps of Engineers
IEPR – Independent External Peer Review
MSC – Major Subordinate Command
PDT – Project Delivery Team
PMP – Project Management Plan
P&S – Plans and Specifications
RMC – USACE Risk Management Center
RMO – Review Management Organization
RP – Review Plan
RTS – Regional Technical Specialists
SAD – South Atlantic Division
SAW – Wilmington District
SAR – Safety Assurance Review
SME – Subject Matter Expert
USACE – U.S. Army Corps of Engineers
WRDA – Water Resources Development Act

Attachment 2

COMPLETION OF AGENCY TECHNICAL REVIEW

The _____ District has completed the *(type of product)* of *(project name and location)*. Notice is hereby given that an Agency Technical Review, appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the project's Review Plan. During the Agency Technical Review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, 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 Corps policy. The review also assessed the DQC documentation and made the determination that the DQC activities employed appear to be appropriate and effective. The Agency Technical Review was managed by *(RMO)*. All comments resulting from ATR have been resolved and the comments have been closed in DrCheckssm.

(Signature)
RMO representative

(Date)

(Signature)
ATR Team Leader

(Date)

(Signature)
Project Manager

(Date)

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact, and resolution)

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

(Signature)
Chief, Technical Services Division

(Date)