



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
550 MAIN STREET
CINCINNATI, OH 45202-3222

CELRD-PD-G

6MAY2015

MEMORANDUM FOR Commander, US Army Corps of Engineers, Louisville District,
(CELRL-ED-T-H/Mark O. Philips), PO Box 59, Louisville, KY 40201-0059

SUBJECT: Approval Memorandum for Louisville District's Nolin Lake, KY, Winter Pool Raise
Analysis and Water Control Plan Update Review Plan

1. References:

a. Endorsement Memorandum, CELRL-ED-TH, Subject: Other Work Product Review Plan
for Winter Pool Raise Analysis and Water Control Plan Update for Nolin Lake Legal
Compliance, 5 MAY 2015.

b. ER 1110-2-240, Water Control Management, dated 8 Oct 1982.

2. The USACE LRD Review Management Organization (RMO) has completed their policy and
quality assurance review of this Review Plan (RP). I concur with the recommendations of the
RMO and approve the enclosed RP.

3. The District is requested to post the RP to its website. Prior to posting, the names of all
individuals identified in the RP should be removed.

4. If you have any questions please contact Mr. Philip Tilly, CELRD-PD-G at (513) 684-3025.

Encl

RICHARD G. KAISER
Brigadier General, USA
Commanding

**OTHER WORK PRODUCTS
INDIVIDUAL REVIEW PLAN**

**For
Water Control Plan**

Nolin Lake, Kentucky

Louisville District

MSC Initial Approval Date: *pending*

Last Revision Date: *none*



**US Army Corps
of Engineers®**

LRD Rev. 2, June 2014

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1. PURPOSE AND REQUIREMENTS

- **Purpose.** This Review Plan (RP) defines the scope and level of peer review for revision to the Nolin Lake, Kentucky, Water Control Plan (WCP) and incorporation of revised WCP into Nolin Lake's Water Control Manual (WCM).

Reservoirs, locks and dams, re-regulation and major control structures and inter-related water resources systems are required to have an up-to-date Water Control Manual as required by Engineering Regulation 1110-2-240. The Water Control Plans contained in the Water Control Manuals must be prepared giving appropriate consideration to the original project authorizing legislation and subsequent specific authorizations as well as all applicable Congressional Acts relating to operation of Federal facilities, i.e., Fish and Wildlife Coordination Act, National Environmental Policy Act, the Clean Water Act, etc. Water Control Manuals should comply with EC 1165-2-214, Water Resources Policy and Authorities, Civil Works Review. Guidance on the content and format of Water Control Manuals is contained in ER 1110-2-8156 with additional guidance in EM 1110-2-3600. The level of review is predicated upon the criteria as detailed in this review plan.

Additional Information on Water Control Plan development can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook and in ER 1165-2-119, Modifications to Completed Projects.

- **Applicability.** The National Programmatic Review Plan for Routine Operations and Maintenance Products, reference 1.c.8, is applicable to all routine O&M products that only require District Quality Control (DQC) and revisions to Water Control Manuals that are administrative or informational in nature and do not change the Water Control Plan and do not require public meetings in accordance with ER 1110-2-240. Water Control Manual updates that include changes to the operation of the project or revisions to Chapter 7 of the manual (henceforth referred to as "the action"), must have a separate individual review plan prepared and submitted for approval.

This individual review plan is for the Water Control Plan found in Nolin Lake's Water Control Manual and is prepared in accordance with ER 1165-2-214 Civil Works Review.

- **References**

- (1) EC 1165-2-214, Water Resources Policy and Authorities, Civil Works Review, December 2012.
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2010
- (3) Engineering 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) ER 1110-2-240, Water Control Management
- (6) ER 1110-2-8156, Preparation of Water Control Manuals
- (7) Memorandum, CELRD-DE, Subject: CWMS Implementation and Water Control Manual Revisions
- (8) Memorandum for Distribution, CECW, Subject: Programmatic Review Plan for Routine Operations and Maintenance Products, 20 Dec 2012
- (9) Memorandum for Commanders, Major Subordinate Commands, CECW-CE, Subject: Policy Guidance Letter - Peer Review of Updates to Water Control Manuals, 2 July 2013

- **Requirements.** This review plan was developed in accordance with EC 1165-2-214, Water Resources Policy and Authorities, Civil Works Review, 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, documents must ensure that models and analysis are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports (per EC 1105-2-412).

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 Water Control Manuals is the LRD Water Management Office. 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.

3. WATER CONTROL MANUAL INFORMATION

- **Document.** The change to the Nolin Lake, Kentucky, Water Control Plan found in the Water Control Manual will be prepared in accordance with ER 1110-2-240, Water Control Management and ER 1110-2-8156, Preparation of Water Control Manuals. The approval level of the document is the home MSC. An Environmental Assessment (EA) has been prepared and a Finding of No Significant Impact (FNSI) resulted. LRL Legal Certification has been obtained.
- **Description of the action.** LRL supports the raise of Nolin’s authorized winter pool from an elevation of 490 to 492. This raise has been in effect, unofficially, since 1995. The primary purpose of this 2 foot raise was to prevent damage to Wax Marina resulting from debris and sediment which has accumulated at and above the 490 elevation. The District believes that a raise is warranted due to well documented sedimentation and adverse impacts to both the recreational facilities at Wax Marina and the water supply intake for the city of Hardinsburg, KY. Additional benefits include enhanced Fish and Wildlife Enhancement, also an authorized project purpose. Raising of Nolin’s Winter Conservation Pool has been strongly supported by Kentucky’s Department of Fish and Wildlife Resource Office.
- **Factors Affecting the Scope and Level of Review.** Since the “proposed” pool raise has been in effect for 19 years, and remains in effect today, return to the authorized pool elevation (490) would likely have a greater adverse impact than authorizing a 2 foot raise which equates to ~1% loss of total flood control storage. Weighing heavily on the District’s desire to minimize the review process are the following facts.

- (1) The proposed raise is supported by: the KY Department of Fish and Wildlife Resources, Recreation Interests, State and local community leaders.

- (2) “Risks” incurred by the loss of ~1% of the total flood control (FC) storage are negligible. Further mitigating these “risks” is the fact that much, if not most, of the FC storage between elevation 490 and 492 has been lost to sedimentation.
- (3) The project recorded its record high pool in May of 2011 when targeting the 492 winter pool elevation. Assuming that there was 100% FC storage available between 490 and 492 and that the project was two foot lower at the inception of the 2011 record pool event, the reduction in the observed peak pool elevation would have been 0.4 foot.
- (4) Few members of the public utilize the lake during the period of time when it is at winter pool. Those who do have already become accustomed to the higher elevation. This higher elevation provides better access to points on the lake utilized by winter outdoorsman such as duck and deer hunters.

4. DISTRICT QUALITY CONTROL (DQC)

All Water Control Manuals (including supporting data, analyses, environmental compliance documents, etc., if applicable) 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 MSC.

<DESCRIBE how DQC will be documented, who will provide DQC, and what DQC documentation will be provided to the ATR team.> DQC will be conducted by the District utilizing HEC’s RES-SIM model which resides as part of LRL’s CWMS model. RES-SIM will be utilized to generate plots which depict identical reservoir operation utilizing both a winter pool of 490 and of 492. These plots will then be compared to one another to determine whether or not there are any unforeseen implications.

5. AGENCY TECHNICAL REVIEW (ATR)

Each Water Control Manual must be evaluated against EC 1165-2-214, paragraph 15 and Reference 9 to determine if Agency Technical Review is required. Water Control Manual Updates that include changes to the operation of the project or revision to Chapter 7 of the manual will undergo ATR. 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 (LRD Water Management) 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. <As indicated in EC 1165-2-214, paragraph 9, Agency Technical Review, subparagraph c.(2), Other Work Products, the ATR shall be managed and performed outside of the home district.> Since the change of Nolin’s Winter Conservation Pool impacts the Water Control Plan found in Chapter 7 of the Water Control Manual, ATR is automatically required. This change is in actuality a continuation of the project’s operation which has been in existence for the later third of the project’s operational life.

- **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 conducted according to protocol set forth in the Other Work Products individual review plan model. Certification of the ATR will be

provided prior to the District Commander approving the final water control manual. Products to undergo ATR include <DESCRIBE the products/analyses to undergo ATR.> The revised Water Control Plan (aka guide curve) reflecting a winter conservation pool of 492.0 feet.

- Required ATR Team Expertise.** <PROVIDE an estimate of the number of ATR team members and briefly describe the types of expertise that should be represented on the ATR team (not just a list of disciplines). The expertise represented on the ATR team should reflect the significant expertise involved in the work effort and will generally mirror the expertise on the PDT. The PDT should make the initial assessment of what expertise is needed based on the PMP and the factors affecting the scope and level of review outlined in Section 3 of the review plan and may suggest candidates. The RMO, in cooperation with the PDT and vertical team, will determine the final make-up of the ATR team. For Water Control Manuals, at a minimum, Plan Formulation, NEPA Compliance, Engineering/Hydraulics and Hydrology, Real Estate and Economics will be represented on the ATR Teams. The ATR Team Leader role can be assigned to any of the ATR team members. An ATR Team member may serve multiple roles if the scope of the study and the level of effort warrant. The ATR Team Leader should use the “ATR Lead Checklist” and “ATR Charge Template” developed by the National Planning Centers of Expertise as resources when conducting the review. The following table provides examples of the types of disciplines that might be included on the ATR team and some sample descriptions of the expertise required. Pick from the listed disciplines and/or add additional disciplines as needed and provide a short description of the expertise required for each discipline. The names, organizations, contact information, credentials, and years of experience of the ATR members should be included in Attachment 1 once the ATR team is established.>

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing water management 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, hydraulics/hydrology, economics, environmental resources, etc). The ATR Lead MUST be from outside <u><the home district's MSC></u> .
Planning	
Economics	
Environmental Resources	
Cultural Resources	
Hydrology	
Hydraulic Engineering	
Water Management	Bubba
Geotechnical Engineering	
Operations	
Structural Engineering	
Electrical/Mechanical Engineering	
Construction/Operations	
Real Estate	
<u>Pick from the above disciplines</u>	<u>Add the expertise required for each discipline based on the specific</u>

<u>(delete any disciplines that are not applicable) and add other disciplines as appropriate...</u>	<u>needs of the study...</u>
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- **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 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 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. [<The MSC DST will need access to DrChecks to review status of resolution of comments>](#)

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 for Other Work Products is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

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. For example, the development of a controversial Master Manual for which numerous alternatives are considered may fall in this category. 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. If any of the criteria outlined below are met, then it may be necessary to conduct a Type I IEPR. Type I IEPRs are coordinated with the appropriate PCX and approved by the home MSC in accordance with EC 1165-2-214. The specific criteria that may necessitate that a Type I IEPR be conducted for a Water Control Manual are as follows:
 - The action involves a significant threat to human life/safety assurance;
 - There is a request by the Governor of an affected state for a peer review by independent experts;
 - The action requires an Environmental Impact Statement (EIS),
 - The action is likely to involve significant public dispute as to the size, nature, or effects of the project;
 - The action is likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
 - The action is 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
 - There are other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

- **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.

Type II IEPR is not usually anticipated for water control plans unless they are integral to the design and implementation phase, but this will need to be verified and documented in the review plan prepared for the design and implementation phase of the project.

- **Decision on IEPR.** This action does not meet the above criteria where the risk and magnitude of the proposed (winter conservation pool raise) is such that a critical examination by a qualified team outside of USACE is warranted. Therefore, IEPR exclusion is being requested.
 - Products to Undergo Type I IEPR.** Not Applicable
 - Required Type I IEPR Panel Expertise.** Not Applicable
 - Documentation of Type I IEPR.** Not Applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

All Water Control Manuals will be reviewed 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.

8. MODEL CERTIFICATION AND APPROVAL

MSC Commanders are responsible for assuring models used in work are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Therefore, the use of certified/approved models is highly recommended and should be used whenever appropriate. Models are defined as analytical tools used 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 selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and

these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

- a. Planning Models.** The following planning models are anticipated to be used in the development of the water control manual: <LIST the planning models (including version number as appropriate) to be used, briefly describe each model and how it will be applied ON THIS STUDY, and indicate the certification/approval status of each model. Planning models could include, but are not limited to: economic damage models (e.g., HEC-FDA, Beach FX, IMPLAN), environmental models for habitat evaluation or mitigation planning (e.g., IWR Plan, HEP HSI models, HGM), transportation or navigation models, and homegrown or spreadsheet models (e.g., excel spreadsheets, @Risk, etc; see EC 1105-2-412 for more information about what constitutes a planning model). Below are some examples of the type of information that might be included in this section (Note: Lesser known models, including local/regional models, will need a more complete description than widely used, nationally recognized models).

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
<u>Example: HEC-FDA 1.2.4 (Flood Damage Analysis)</u>	<u>The Hydrologic Engineering Center’s Flood Damage Reduction Analysis (HEC-FDA) program provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program will be used to evaluate and compare the future without- and with-project plans along the Wild River near River City to aid in the selection of a recommended plan to manage flood risk.</u>	<u>Certified</u>
<u>Example: Study specific spreadsheet model</u>	<u>Add model description and how it will be applied...</u>	<u>Add certification / approval status</u>
<u>Example: Mitigation model</u>	<u>Add model description and how it will be applied...</u>	<u>Add certification / approval status</u>

- b. Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document: List the engineering models (including version number as appropriate) to be used, briefly describe each model and in detail how it will be applied ON THIS STUDY, and indicate the approval status of each model. (Note that the approval status of many engineering models can be found on the Hydraulics, Hydrology, and Coastal Engineering CoP SharePoint site at <https://kme.usace.army.mil/CoPs/EANDC/HHC/default.aspx> under shared documents/SET Software Lists.) Engineering models could include, but are not limited to: hydrologic, hydraulic, geotechnical, civil, structural, cost engineering and similar models. Below is an example of the type of information that might be included in this section (Note: Lesser known models will need a more complete description than widely used, nationally recognized models).

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
<u>Example: HEC-RAS 4.0 (River Analysis System)</u>	<u>The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions along the Wild River and its tributaries. [For a particular study the model could be used for unsteady flow analysis or both steady and unsteady flow analysis. The review plan should indicate how the model will be used for a particular study.]</u>	<u>HH&C CoP Preferred Model</u>

9. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost.** <If an ATR is required, IDENTIFY the estimated schedule for ATR and provide an estimated cost for the ATR effort, otherwise state "Not applicable". Coordination with the RMO may be needed to complete this section>.
- b. **Type I IEPR Schedule and Cost.** Not Applicable
- c. **Model Review Schedule and Cost.** The use of existing certified or approved models is encouraged. Where an uncertified or unapproved model is used, review of the model for use will be accomplished through the ATR process. The ATR team should 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. If specific uncertified models are identified for repetitive use within a specific district or region, the appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

10. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the actions 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. <DESCRIBE how and when there will be opportunities for public comment on the development of the action will be made available to the public>.

11. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for approving this review plan. The review plan is a living document and may change as the development of the action 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:

- [Add title and phone number for the point of contact\(s\) at the home District](#)

ATTACHMENT 1: TEAM ROSTERS. Include contact information for the DQC, PDT, ATR team, Vertical team and MSC. The credential and years of experience for the ATR team should be included when it is available.

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR OTHER WORK PRODUCTS

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’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

Name
Project Manager (home district)
Office Symbol

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, Operations Division (home district)
Office Symbol

Date

SIGNATURE

Name
Chief, Engineering Division (home district)
Office Symbol

Date

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

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
DST	District Support Team Leader	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DPR	Detailed Project Report	OEO	Outside Eligible Organization
DQC	District Quality Control/Quality Assurance	OSE	Other Social Effects
DX	Directory of Expertise	PCX	Planning Center of Expertise
EA	Environmental Assessment	PDT	Project Delivery Team
EC	Engineer Circular	PAC	Post Authorization Change
EIS	Environmental Impact Statement	PMP	Project Management Plan
EO	Executive Order	PL	Public Law
ER	Ecosystem Restoration	QMP	Quality Management Plan
FDR	Flood Damage Reduction	QA	Quality Assurance
FEMA	Federal Emergency Management Agency	QC	Quality Control
FRM	Flood Risk Management	RED	Regional Economic Development
FSM	Feasibility Scoping Meeting	RMC	Risk Management Center
GRR	General Reevaluation Report	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
ITR	Independent Technical Review	USACE	U.S. Army Corps of Engineers
LRR	Limited Reevaluation Report	WRDA	Water Resources Development Act
MSC	Major Subordinate Command		