REVIEW PLAN

Monongahela River Final Watershed Assessment
Pennsylvania, West Virginia, and Maryland
Section 729 Watershed Analysis

Pittsburgh District

MSC Approval Date: Pending

Last Revision Date: None

US Army Corps
of Engineers ®

REVIEW PLAN

Monongahela River Final Watershed Assessment
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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Monongahela River Final Watershed Assessment, Pennsylvania, West Virginia, and Maryland.

b. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
(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) EC 1105-2-411, Watershed Plans, 15 Jan 2010
(6) Watershed Assessment Management Plan, January 2012
(7) ISO Process; Document ID: 4833, Great Lakes and Ohio River Division, Preparation and Approval of Civil Works Review Plans, 22 Sept 2011

a. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

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 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 Planning Center of Expertise for Ecosystem Restoration (ECO-PCX). The ECO-PCX will also coordinate review with the Flood Risk Management Planning Center of Expertise. A representative from the Flood Risk Management PCX (Karen Miller) will also be an ATR member.

No feasibility level cost estimates are included in this watershed assessment. The RMO will not need to coordinate with the Cost Engineering Directory of Expertise (DX) to conduct ATR of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

a. Decision Document. The Monongahela River Final Watershed Assessment, Pennsylvania, West Virginia, and Maryland is being conducted under the authority of Section 729 of the Water Resources Development Act (WRDA) of 1986(33 U.S.C. 2267a), as amended by Section 202 of WRDA of 2000 and Section 2010 of WRDA of 2007. This authority authorizes the US Army Corps of Engineers (USACE) to assess the water resources needs of entire river basins and watersheds of the United States, in consultation with appropriate Federal, tribal, state and local agencies and stakeholders. In contrast to most USACE traditional planning, in which the desired output of the study would be to identify a USACE project, the Monongahela River Final Watershed Assessment

will have a series of recommendations which may or may not identify specific USACE projects. The goal of the Monongahela River Final Watershed Assessment is to complete a Watershed Plan for the Monongahela River watershed. Due to the scope of the study, no NEPA documents or real estate acquisition will be required. This document will be a planning and technical study which will not contain recommendations for authorization or funding for construction, but may recommend further study. It will be considered a categorical exclusion from NEPA according to ER200-2-2 (9.c.).

The overarching goal and purpose of the Final Watershed Assessment will be to provide a water resource management strategy for the Monongahela River watershed that seeks sustainable water resources management while taking into consideration environmental protection, economic development and social well-being.

This study will not directly lead to changes in operation at USACE projects. Based on the recommendations of the management study, further study may be necessary which could result in operational changes at USACE dams. A determination on the need for IEPR will be made in the future if a need is determined for individual studies on USACE dam operational changes.

b. Study/Project Description. The Watershed Assessment Management Plan (WAMP) for the Section 729 Monongahela River Final Watershed Assessment outlines components for a feasibility-type study which will result in a Section 729 report detailing guidance for achieving Integrated Water Resources Management (IWRM) in the Monongahela watershed, and will examine needs relating to two categories of problems. The first category of problems entails water quality and water quantity and will identify and analyze alternatives relating but not limited to a water budget (i.e. consumptive use requirements, low flow modeling), stormwater and sanitary sewer management and evaluation of comprehensive watershed regulation. The second category of problems relates to flooding and water infrastructure and will examine alternatives related to these needs.

This study will be conducted under the authority of Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended by Section 202, WRDA of 2000 and Section 2010, WRDA of 2007. This authority is titled “Watershed and River Basin Assessments.”

Although the assessment area will encompass the entire Monongahela River watershed, the approach used to develop IWRM may vary from sub-watershed to sub-watershed depending on the complexity of issues.

This work under Section 729 will provide essential information for use in considering long-term, holistic strategies or plans for solving problems on a watershed scale, focusing on the two problem areas of water quality/quantity and flooding/infrastructure. The study findings may recommend areas for further study but is not intended to recommend, or serve as the basis for authorizing a site specific project. If a watershed study identifies potential projects for Corps implementation, a separate and more detailed feasibility study may be initiated with the watershed study serving as the technical component of the reconnaissance study. The primary goal will be to provide a water resource management strategy for the Monongahela River watershed that seeks sustainable water resources management while taking into consideration environmental protection, economic development and social well-being.

The Monongahela River Final Watershed Assessment will be carried out with cost-sharing from Greene County, Pennsylvania. Greene County has agreed to partner with the U.S. Army Corps of Engineers, Pittsburgh District as the non Federal sponsor and has executed a letter of intent to cost-share for the effort. They are contributing 25% of the cost of the study in cash.

c. Factors Affecting the Scope and Level of Review. The Monongahela River Final Watershed Assessment is anticipated to be challenging and beneficial, but it will not be novel, controversial or precedent-setting. The watershed assessment focuses on a major tributary to the Ohio River, a nationally significant waterway. The Monongahela River was identified as a priority river system for assessment by the Ohio River Basin Comprehensive Reconnaissance Report. The study will provide strategic guidance to watershed restoration from a systems-wide perspective. The plan will recommend alternatives and measures to address the two main water resource needs identified through stakeholder outreach which included; water quantity/quality problems, and infrastructure/flooding problems. The study will not necessarily lead to USACE action. Any flood risk management components of the plan will require an individual assessment on whether there is a significant threat to human life associated with the proposed project. Any proposed flood risk management project will require additional authority and feasibility study prior to implementation. The add on feasibility study will address human life/safety issues and the Chief of Engineering for Pittsburgh District will make an assessment on whether there is a significant threat to human life associated with the proposed alternatives.

To ensure that the watershed planning effort remains focused, effective, and efficient, defining the scope of the effort is critical. The scope in watershed planning defines the boundaries of the project and geographic area of the watershed as well as the number of issues of concern and the goals to be accomplished. If the scope is too broad when planning a Watershed Plan, it will be difficult to develop and implement the watershed plan. Additionally, a scope that is too large might hamper the ability of conducting detailed analyses or minimize the probability of involvement by key stakeholders and, ultimately, successful plan implementation. A scope that is too narrow, however, might preclude the opportunity to address watershed stressors in a rational, efficient, and economical manner. For this reason, the scope of the Final Watershed Assessment will therefore focus on the two problem areas of water quantity/water quality and infrastructure/flood risk management. Throughout completion of the Final Watershed Assessment, stakeholders will continue to provide critical input into the watershed planning process and assist in proposing management strategies for future implementation. Since this study may result in recommendations for further USACE study and/or planning, ATR will be conducted.

d. In-Kind Contributions. Not-Applicable.

4. DISTRICT QUALITY CONTROL (DQC)

All 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 Watershed Assessment Management Plan (WAMP). 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.

a. Documentation of DQC. DQC is documented in a Quality Control Plan (QCP), which summarizes the reviewed product, review process, and major issues and their resolution. This QCP, signed by the PDT and DQC team, will be provided to the ATR team at each review. The DQC process is outlined as an Appendix in the WAMP. Each member of the Project Delivery Team (PDT) will ensure a quality product in their functional area through internal design checks, seamless reviews, and interaction with the ATR. Only quality products will be released for use by other PDT members.

b. Products to Undergo DQC. The products developed during the Final Watershed Assessment including, a watershed planning document, the WAMP, products and analyses provided by non-Federal sponsors as in-kind services, as well as all read-ahead material will undergo DQC. These

products shall be subject to comprehensive Project Delivery Team Review. Products will not be released to the public before this review is complete and the Chief of Planning and Policy, Lakes & Rivers Division verifies release of the document prior to Division certification.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

a. Products to Undergo ATR. The Monongahela River Final Watershed Assessment, Pennsylvania, West Virginia, and Maryland, will be subject to ATR. Due to the scope of the project, no NEPA documentation will be required, as outlined in ER200-2-2 (9.c.).

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be an environmental professional with experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in ecosystem restoration including water quality and quantity issues. There will be extensive alternative analyses within the plan that would need to be reviewed along with determinations of likely interested parties for project implementation.
Environmental	The Environmental reviewer should be well versed on ecosystems and cost-effective analyses. Although the watershed plan will not include any National Environmental Policy Act (NEPA) evaluations, the concepts and principles behind NEPA will be used to determine the appropriateness of recommended actions. Due to the possibility of future Corps projects being identified, this reviewer should also be familiar with actions requiring review in accordance environmental policies, procedures, laws and regulations that apply to Corps project.
Hydrology	The interaction between water management and its impact on streams is of paramount importance in this investigation. Familiarity with standard hydrologic modeling and its application may be required.
Economics	The Economics reviewer should be experienced with economic

	factors influencing natural resource use and projects that ensure both economic and environmental stewardship.
Flood Risk Management	The flood risk management reviewew should be experienced with Corps policies on flood risk management as well as engineering and technical aspects of flood reduction practices.

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

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

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

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

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

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

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work

reviewed to date, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2. Team members and expertise are identified in attachment 1.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- 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 required for this study.

a. Decision on IEPR. This study does not meet any mandatory trigger for Type 1 IEPR: there is no threat to human life, there will be no construction and the total project cost is $400,000 - well under the $45 million ceiling, the study is not controversial and its project recommendations are intended to preserve and enhance ecological health and resilience. EC 1165-2-209 states that "Meeting the specific conditions identified for possible exclusions is not, in or of itself, sufficient grounds for recommending exclusion. A deliberate, risk-informed recommendation whether to undertake IEPR shall be made and documented by the project delivery team (PDT)." The PDT has performed a risk assessment for this study, and for the reasons stated below IEPR is not applicable for this watershed plan.

(1) There is no design with this study, and the study does not directly lead to construction.

(2) The study will examine priority risk areas for flooding. There may be current risks to life safety from flooding conditions in the watershed. If a project is propose from the watershed assessment, residual risk and/or project non-performance will be considered. However, more detailed feasibility analyses will be required on project specific recommendations since this study will not authorize a site specific project.

(3) Recommendations for flows that support ecological health are generated as part of a social process backed by scientific analysis. This social process is conducted as a series of collaborative workshops involving technical experts, stakeholders, and policymakers. These workshops involve the identification of species and ecological groups that are sensitive to flow alterations, identification of societal values and management needs, consensus on acceptable ecological conditions, and finally the development of recommendations for environmental flow standards – based on the other technical work done in the study. Implementation of these recommendations involves further study and the review requirements for those studies would be determined study by study.

(4) There is no formal cost estimate because there are no recommendations for project implementation.

(5) The watershed plan does not require NEPA documentation. If subsequent studies are undertaken in which flow recommendations are implemented through management actions, NEPA documentation will be undertaken during those study processes.

(6) The watershed plan does not impact a structure or feature of a structure whose performance involves potential life safety risks. The watershed plan identifies flows necessary to support ecological health. Study products may inform future feasibility or implementation documents that impact structures whose performance involves potential life safety risks. A determination on necessary review requirements for those studies will be made when their review plans are drafted.

(7) This watershed plan will not lead directly to project implementation. The recommended flow regimes are a recommendation only. If the study is not completed, there is a risk that USACE and other agencies will have an incomplete understanding of the ecological needs of aquatic communities in the Monongahela River Basin. Study products will be based upon the best science and data available, and non-performance within the science process and within the backing data would lead to an incomplete understanding of flows and flow relationships in the Monongahela River Basin. However, as science and data collection advances, the conclusions reached in the study can be revisited and revised.

(8) This watershed plan has a study cost of $400,000 and no investment of public monies is required beyond the study cost.

(9) This watershed plan will not directly lead to project implementation and therefore does not support a budget request.

(10) This watershed plan will not directly lead to changes in operation at USACE projects. Further study may be necessary, based on the recommendations of the watershed assessment, resulting in operational changes at Corps' dams. A determination on the need for IEPR will be made for individual studies on Corps' dam operational changes.

(11) This watershed plan does not involve ground disturbances.

(12) The watershed plan does not affect any special features.

(13) The watershed plan does not involve activities that trigger regulatory permitting.

(14) The watershed plan does not involve activities that could potentially generate hazardous wastes and/or disposal of hazardous materials.

(15) The watershed plan does not reference the use of or reliance on manufacturers' engineers and specifications.

(16) The watershed plan does not involve utility systems and therefore does not rely on local authorities for inspection/certification.

(17) There is not expected to be any controversy surrounding Federal actions associated with this work product. The watershed plan relies on the best available scientific information, opinion, and consensus to determine flows necessary for ecological health.

b. Products to Undergo Type I IEPR. Not-Applicable.

c. Required Type I IEPR Panel Expertise. Not-Applicable.

d. Documentation of Type I IEPR. Not-Applicable.

7. POLICY AND LEGAL COMPLIANCE REVIEW

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

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

Cost Engineering is not required for the Final Watershed Assessment.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever

appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

a. Planning Models. No planning models are to be used in the performance of this study. Study findings are based on literature review, best professional judgment, and expert consultation.

b. Engineering Models. The following engineering models are anticipated to be used in the development of the watershed plan:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
Indicators of Hydrologic Alteration (IHA) v 7.1	The Indicators of Hydrologic Alteration (IHA) is a software program, developed by the Nature Conservancy that assesses 67 ecologically-relevant statistics derived from daily hydrologic data. For instance, the IHA software can calculate the timing and maximum flows of each year's largest flood or lowest flows, and then calculates the mean and variance of these values over some period of time. Comparative analysis can then help statistically describe how these patterns have changed for a particular river or lake, due to abrupt impacts such as dam construction, or more gradual trends associated with land- and water-use change. Richter, B.D., J.V. Baumgartner, J. Powell, and D.P. Braun 1996. "A Method for Assessing Hydrologic Alteration Within Ecosystems". Conservation Biology 10:1163-1174. Richter, B.D, J.V. Baumgartner, R. Wigington, and D.P. Braun, "How Much Water Does a River Need?" Freshwater Biology 37, 231-249. Richter, B.D., J.V. Baumgartner, D.P. Braun, and J. Powell. 1998. "A Spatial Assessment of Hydrologic Alteration Within a River Network." Regulated Rivers 14:329-340.	HH&C CoP Preferred Model

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. ATR will be completed prior to submission of documentation to the MSC. ATR costs for the watershed management study are not yet determined but have been budgeted at $10,000. These costs are cost-shared with the study's non-federal sponsor. ATR will be completed on the following documentation:

ATR	Status	Date
Final Watershed Assessment	Not Started	September 2013

b. Type I IEPR Schedule and Cost. Not-Applicable.

c. Model Certification/Approval Schedule and Cost. Not-Applicable.

11. PUBLIC PARTICIPATION

In addition to individualized meetings with other government entities, four public meetings will be held during the course of the study. Due to the large size of the watershed, two public meetings will be held in central locations in West Virginia and two will be held in central locations in Pennsylvania.

The purpose of the first set of public meetings will be to distribute information about the goals and objectives of the Final Watershed Plan and to allow for public comments on the identified problem areas. The purpose of the second set of public meetings will be to distribute information on the recommendations contained within the report. A publically accessible project website will also be created, and will be the location for the Initial Watershed Assessment and any other key pieces of information that need to be distributed regarding the Final Watershed Assessment. This will also be the eventual location that will house the completed Watershed Plan. The website will also be formatted to allow for public submittal of comments throughout the study process.

12. REVIEW PLAN APPROVAL AND UPDATES

The Great Lakes and Ohio River Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) 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, 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 review plan can be directed to the following points of contact:

- Kevin Logan, Project Manager, Pittsburgh District
  412-395-8156, Kevin.P.Logan@usace.army.mil

- Theodore Brown, Chief, Planning and Policy Division, Great Lakes and Ohio River Division
  202-761-0115, Theodore.A.Brown@usace.army.mil

- Jodi Creswell, Operations Director, Ecosystem Restoration Planning Center of Expertise
  309-794-5448, Jodi.K.Creswell@usace.army.mil

ATTACHMENT 1: TEAM ROSTERS

Project Delivery Team				
Name	**Role**	**Office Symbol**	**Telephone**	**Email**
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Werner Loehlein	Water Management	USACE-Pittsburgh	412-395-7363	Werner.c.loehlein@usace.army.mil
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Josh Bridge	Economist	USACE-Pittsburgh	412-395-7406	Joshua.w.bridge@usace.army.mil
Julie Maxwell	Watershed Specialist	Greene County	724-852-5278	jmaxwell@co.greene.pa.us
Lisa Snider	Conservation District Manager	Greene County	724-852-5278	lsnider@co.greene.pa.us

Agency Technical Review Team				
Name	**Role**	**Office**	**Telephone**	**Email**
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Phyllis Kohl	Hydrology	USACE-Nashville	615-736-5948	Phyllis.kohl@usace.army.mil
Jon Brown	Economics	USACE-Buffalo	716-879-4430	Jonathon.w.brown@usace.army.mil
Karen Miller	Flood Reduction	USACE-Huntington	304-399-5859	Karen.v.miller@usace.army.mil

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Final Watershed Assessment for the Monongahela River Watershed Section 729 Analysis, Pennsylvania, West Virginia, and Maryland. 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 DrChecks[sm].

SIGNATURE _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____

Name Date
Review Management Office Representative
Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE _____ _____

Name Date
Chief, Engineering Division
Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division
Office Symbol

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