DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-SP

21 May 2015

MEMORANDUM FOR Commander, St. Louis District

SUBJECT: Review Plan (RP) Approval for Sainte Genevieve, Missouri, Flood Control Project, General Reevaluation Report

1. References:

a. Memorandum, CEMVS-PM-F, 16 March 2015, subject: Ste Genevieve, Missouri, Flood Control Project, General Reevaluation Report (GRR), Updated Review Plan Documentation (encl 1).

b. Memorandum, CESPD-PDP (FRM-PCX), 1 March 2015, subject: Sainte Genevieve, MO, Flood Control Project General Reevaluation Report (GRR) Review Plan (encl 2).

c. EC 1165-2-214, 15 December 2012, subject: Civil Works Review Policy.

2. The enclosed Review Plan (encl 3) is a decision document review plan. It includes the review plan checklist for decision documents and has been prepared in accordance with EC 1165-2-214. The RP has been coordinated with the Upper District Support Team and the Flood Risk Management Center who concurred with the plan in reference 1.b.

3. MVD hereby approves the RP for Sainte Genevieve, Missouri, Flood Control Project, General Reevaluation Report, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require new written approval from this office. Non-substantive changes to this RP do not require further approval. The District should post the approved RP to its web site.

4. The MVD point of contact is [redacted], CEMVD-PD-SP, [redacted].

[redacted]

3 Encls

Major General, USA
Commanding

DEPARTMENT OF THE ARMY
ST LOUIS DISTRICT CORPS OF ENGINEERS
1222 SPRUCE STREET
ST LOUIS MO 63103-2833

MAR 16 2015

CEMVS-PM-F

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-PD-SP/ [redacted]), P.O. Box 80, Vicksburg, MS 39181-0080

SUBJECT: Ste Genevieve, Missouri Flood Control Project, General Reevaluation Report (GRR), Updated Review Plan Documentation

1. References:

a. EC 1165-2-209, 31 Jan. 2010, Civil Works Review Policy

b. Memorandum, CEMVD-PD, 11 Oct. 2012, USACE Civil Works Review Process

2. The updated Ste Genevieve, MO Flood Control Project Review Plan (Enclosure 1) is submitted for your approval. Also enclosed is the Review Plan Checklist for Implementation Documents (Enclosure 2), and the Flood Risk Management Planning Center of Expertise endorsement (FRM-PCX) (Enclosure 3).

3. The point of contact for this matter is, [redacted] Project Manager, at [redacted]

[redacted]

Encls

COL, EN
Commanding

Encl 1

DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

REPLY TO
ATTENTION OF

CESPD-PDP (FRM-PCX) 1 March 2015

MEMORANDUM FOR [redacted], St. Louis District

SUBJECT: Sainte Genevieve, MO, Flood Control Project General Reevaluation Report (GRR) Review Plan

1. The Flood Risk Management Planning Center of Expertise (FRM-PCX) has completed review of the subject review plan dated February 2015. The FRM-PCX concurs that the review plan satisfies peer review policy requirements established in Engineering Circular 1165-2-214 Civil Works Review and outlines an appropriate scope and level of review for the current phase of the project based on the content of the review plan.

2. The FRM-PCX review was performed by [redacted] who is a Plan Formulation Regional Technical Specialist in the Huntington District and who serves as a Regional Program Manager for the FRM-PCX. Her comments on the draft review plan and the District responses are attached. All substantive comments have been satisfactorily resolved.

3. The FRM-PCX recommends the review plan for approval by the Mississippi Valley Division (MVD). Please include this memorandum in your submittal to MVD when requesting approval of the review plan. Upon MVD approval, please provide a copy of the approved review plan, a copy of the MVD Commander's approval memorandum, and the link to where the review plan is posted on the District website to [redacted] National Technical Specialist for the FRM-PCX, and me.

4. The review plan is a living document and should be updated as the project progresses. Please provide any updates of the review plan to Mr. Fujitsubo and me to enable us to provide effective and timely PCX support during the development of the GRR.

5. Thank you for the opportunity to assist in the preparation of the review plan.

[redacted]

Encl

Deputy Director, FRM-PCX

Encl 2

FRM-PCX Review Plan Comments and PDT Responses

Project/Decision Document: Ste Genevieve, MO, General Reevaluation Report
Program Code (CWIS or AMSCO):
P2 Code:
Review Plan Revision Date: Initial RP
District Office: CEMVS-PD-F
PDT POC: [redacted]
FRM-PCX Reviewer: [redacted]

Review Plan submitted to PCX: 20150128
Funding provided to PCX: 20150202
PCX comments provided: 20150203
PDT response provided: 20150211
PCX backcheck completed: 20150224

A. Substantive Comments

Substantive comments address issues associated with the identifying the correct scope and/or level of peer review or with significant policy requirements of EC 1165-2-214. Substantive comments need to be resolved prior to the PCX recommending approval of the review plan by the home MSC. The District should provide written responses to these comments below and provide a revised review plan to the PCX for backcheck. The substantive PCX comments are:

Comment 1: In Section 5.b. Expertise Required, the description for the Cultural Resources reviewer does not indicate specialized experience in historic structures. The Geotech reviewer does not ask for experience with karst topography.

Basis: EC 1165-2-214 and determination of review disciplines.

Significance: It is important to highlight specific areas within the overall review discipline in order to procure the best reviewers for the particular study.

Recommended Action: Add additional language for the expertise needed within the Cultural Resources and Geotechnical reviewer's descriptions.

PDT Response: The description of the cultural resources reviewer has been modified to include a preference for experience with historic structures. The description of the geotechnical reviewer has been modified to include experience in design of structures in areas of karst topography.

PCX Backcheck: PDT response is acceptable.

Comment 2: In Section 6.b and 10.b. the timing of the IEPR is not consistent.

Basis: EC 1165-2-214

Significance: In order to plan for the IEPR which is a significant portion of the overall study schedule, the timing should be known up front.

Recommended Action: Clarify when the Type I IEPR will be conducted.

PDT Response: Sections 6b and 10b have been corrected to provide matching descriptions of the timing of the IEPR (after the AFB).

PCX Backcheck: PDT response is acceptable.

B. Non-substantive Comments

Non-substantive comments are provided for information only and may be minor policy concerns, editorial clarifications, etc. Written responses to the comments below ARE NOT REQUIRED. The District should consider these comments and make modifications to the review plan as appropriate prior to submittal to the home MSC for approval. The non-substantive PCX comments are:

Comment: Additional non-substantive comments have been provided to the PDT in a markup of the review plan using track changes. These comments include some potential wording revisions and consistency changes.

PCX Backcheck: Additional non-substantive comments have all been addressed in the marked-up version of the review plan.

REVIEW PLAN

Sainte Genevieve, Missouri
General Reevaluation Report

St. Louis District

MSC Approval Date: Pending
Last Revision Date: April 2015

US Army Corps
of Engineers ®

Encl 3

REVIEW PLAN

Sainte Genevieve, MO, Flood Control Project
General Reevaluation Report

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Sainte Genevieve, MO, Flood Control Project General Reevaluation Report (GRR). The project is located in the City of Sainte Genevieve, MO, approximately 60 miles south of Saint Louis, MO, on the western bank of the Mississippi River.

b. References

(1) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 December 2012
(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) St. Louis District Quality Management System Process for District Quality Control (22820)
(6) PMP for this project, Sainte Genevieve GRR for Tributaries and Recreation PMP, September 2010

c. 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 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 1165-2-214) 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 Flood Risk Management Planning Center of Expertise (FRM-PCX) .

The RMO will coordinate with the Civil Works Cost 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. Due to the life safety risks associated with the project, the RMO will also coordinate with the Risk Management Center (RMC) for this review plan, and potentially for required review efforts.

3. STUDY INFORMATION

a. Decision Document. A General Reevaluation Report (GRR) is being prepared for the Sainte Genevieve, Missouri, Flood Control Project to reconsider the authorized plan in recognition of the changed site conditions and changed regulatory atmosphere since the project's authorization in 1986. It is not anticipated that additional Congressional authorization will be required and a May 7, 2009 memorandum delegated approval authority for the GRR to the Mississippi Valley Division. An Environmental Assessment will be included in the GRR to meet the requirements of the National Environmental Policy Act.

b. Study/Project Description. The Sainte Genevieve, MO, Flood Control Project was authorized by the Water Resources Development Act of 1986 (Public Law 99-662). It is a single-purpose flood risk management project to reduce flood damages in the City of Sainte Genevieve, a large portion of which is a National Historic Landmark District. The study sponsor is the City of Sainte Genevieve. While the original Sainte Genevieve, MO, Flood Control Feasibility study (June 1984) was not able to identify a plan with economic benefits equal to or exceeding the costs, because of the historic resources present in the city, the authorizing language in the Water Resources Development Act of 1986 (P.L. 99-662) states that the project's benefits exceed the cost:

> "Title IV – Flood Control
>
> Sec. 401. Authorization of Projects
>
> (a) Authorization of Construction – The following works of improvement for the control of destructive floodwaters are adopted and authorized to be prosecuted by the Secretary substantially in accordance with the plans and subject to the conditions recommended in the respective reports designated in this subsection, except as otherwise provided in this subsection:
>
> Ste. Genevieve, Missouri
>
> The project for flood control, Ste. Genevieve, Missouri: Report of the Board of Engineers for Rivers and Harbors, dated April 16, 1985, at a total cost of [redacted] with an estimated first Federal cost of [redacted] and an estimated first non-Federal cost of [redacted] Congress finds that, in view of the historic preservation benefits resulting from the project, the overall benefits of the project exceed the costs of the project."

The authorized project consists of four elements: an urban design levee to address Mississippi River flooding (Part 1), channel modifications along North and South Gabouri Creeks to address interior flash flooding (Parts 2 and 3), and recreation associated with Parts 1, 2, and 3 (Part 4). Construction of Part 1 is complete and operational. The GRR will reevaluate the recommended plans for Parts 2, 3, and 4. The study area includes the entire watersheds of North and South Gabouri Creeks, as well as the lands associated with the

urban design levee. Figures 2 and 3 display the study areas of North and South Gabouri Creeks, respectively.

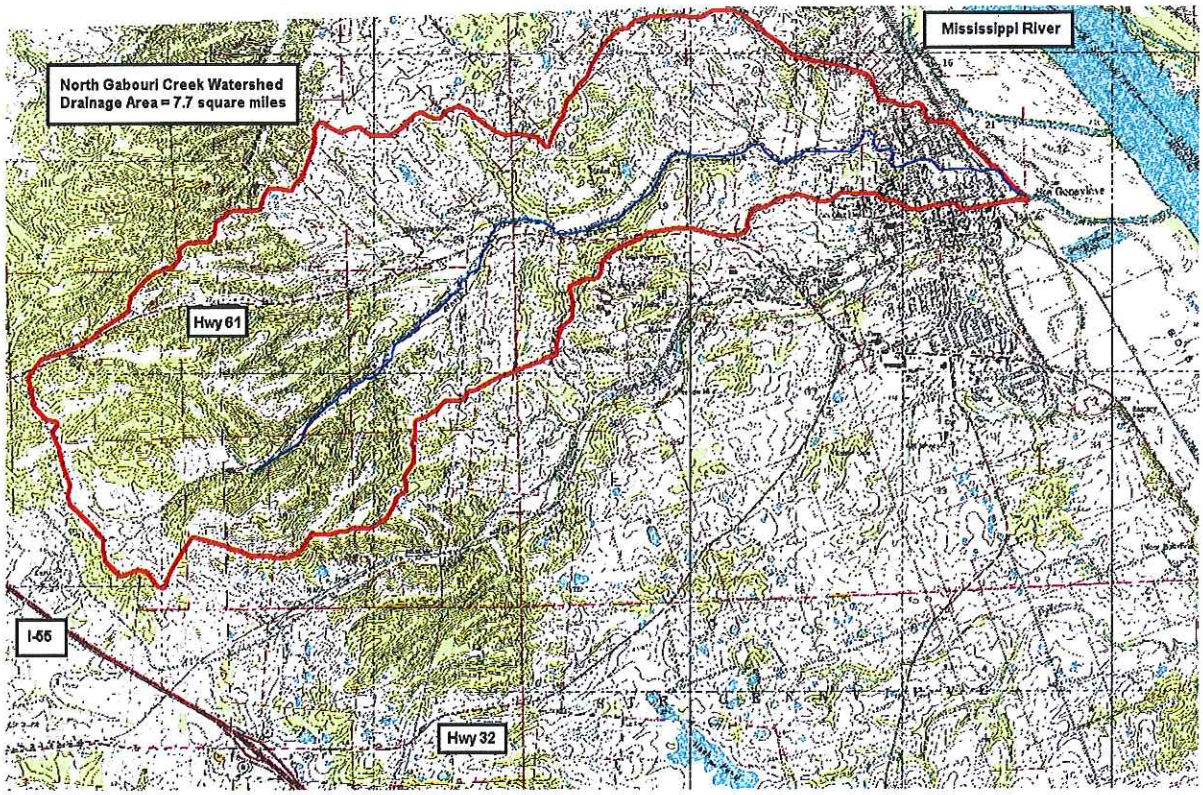

Figure 1. North Gabouri Creek study area

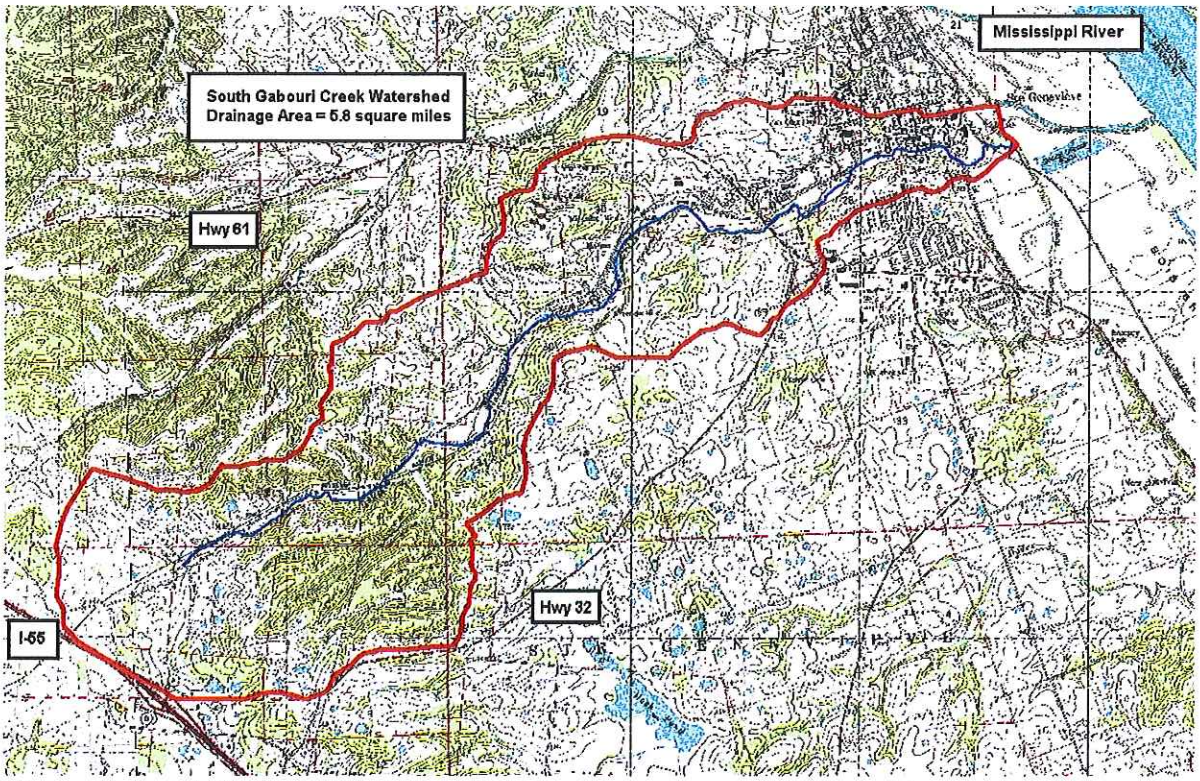

Figure 2. South Gabouri Creek study area

After the project was authorized but before construction could begin, the Mississippi River flood of 1993 devastated the City and many historic structures were lost. Additionally, at the time of the project's authorization, channelization was a more acceptable plan to natural resource agencies than it is today. For both of these reasons, it has been determined that a GRR is required to validate or change the recommended plan to address flash flooding and recreation opportunities.

The GRR will examine a full range of flood risk reduction measures primarily including detention, channelization, levees, and non-structural measures. The two creeks' watersheds are hydrologically and hydraulically independent and can be formulated and evaluated independently. The alternative formulation and evaluation will be heavily influenced by the potential for adverse cultural impacts. Continuing and protracted coordination with the State Historic Preservation Officer and National Park Service is required.

While the National Economic Development plan (that which reasonably maximizes net economic benefits while protecting the nation's environment) will be identified in the GRR, the economic benefits will be only one of several decision-making criteria used to identify the recommended plan. Other criteria include effectiveness (such as number and nature of historic structures protected), acceptability (considering cultural and/or social impacts), and completeness (such as whether additional action by others is needed to fully achieve desired plan outputs).

Recreation measures will be limited to those compatible with the flood risk reduction measures and will likely be limited to trails and associated features such as benches, signage, etc. The authorized project included recreation components identified in the Feasibility

report. Those included a bike trail on the Mississippi River levee and hiking, biking, parking, and picnic facilities along the two creeks. The GRR will recommend a similar trail on the Mississippi River levee but will need to modify the recreation plans for the two creeks if the channelization alternative is not recommended for both creeks.

The combined recommended plans will likely cost between [redacted] The study sponsor is the City of Sainte Genevieve.

An Alternatives Formulation Briefing (AFB) was held with MVD in February 2010. Before the AFB comments could be fully resolved, the City of Sainte Genevieve requested that the study be suspended. In 2014, the City requested resumption of the study and a vertical team call was held with MVD to determine the path forward. MVD indicated in an email dated 30 October 2014 that the report should be re-submitted for AFB completion after the report had been updated and DQC and ATR had been performed.

c. Factors Affecting the Scope and Level of Review.

- *Project Challenges.* The study will be challenging in that there are significant concerns about impacts to the historic structures in the city. Levees and channelization can have visual impacts and many non-structural options could jeopardize the structures' historic values and designations. It will be challenging to balance the desire to reduce flood damages while maintaining the historic integrity of the National Historic Landmark District.
- *Project Risks.* The City is located in a region of karst topography. This will present engineering challenges as the foundations of any structural measures may not be well known and the ability of detention measures to hold water may not be able to be fully analyzed during feasibility. These technical challenges may also affect the ability to adequately define the costs of some alternatives.
- *Life Safety.* While the project will not be justified by life safety, structural measures such as levees and detention dams can have increased life safety risks in the event of exceedance or failure. Project non-performance through exceedance or failure could result in sudden, high velocity floodwaters flowing through an urban area. The potentially impacted area is primarily residential, though it does include some businesses. The District Chief of Engineering concurs that there is a life safety risk.
- *Request by a Governor.* There has not been any requests by any Governor for an independent peer review for this project to date and none are anticipated.
- *Public dispute regarding the size, nature, or effects of the project.* At this time, it is unknown if there will be significant public dispute about the size, nature of effects of the project. However, the difficult task of balancing the goals of reducing flood damages while preserving historic resources may lead to recommendations that are controversial.
- *Public dispute regarding the economic or environmental cost or benefit of the project.* It is not likely that there will be significant public dispute about the economic or environmental cost or benefit of the project, due to the careful coordination with the public and resource agencies, as well as thorough analysis of measures and alternatives.
- *Novel methods, innovative materials or techniques, complex challenges for interpretation, precedent-setting methods or models, or conclusions that are likely to*

change prevailing practices. The formulation, evaluation, and design of all study measures and alternatives will be performed using standard practices and methods.

- *Redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule.* The design and construction of all measures and alternatives will be performed using standard practices and methods, which include provisions for redundancy, resiliency and robustness, where necessary.

d. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. No in-kind products are anticipated during the study phase.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. Documentation of DQC. DQC will be performed after the PDT has performed a thorough initial quality review. DQC will be documented in accordance with the MVS Process for District Quality Control (QMS process number 22820) either utilizing DrChecks or a Word document and a DQC completion memo will be generated. The completion memo and DrChecks report of all comments and responses will be provided to the ATR team at the start of any ATR.

b. Products to Undergo DQC. DQC will be completed for the AFB documentation, and the draft and final reports (including the EA and all appendices).

c. Required DQC Expertise. All disciplines contributing to the GRR will have a corresponding DQC reviewer who has not been directly involved in the development of the product being reviewed. The DQC expertise will closely mirror the ATR expertise, which is described in Section 5.b. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who performed the original work, including managing/reviewing the work in the case of contracted efforts.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and

decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

a. **Products to Undergo ATR.** ATR will be performed for the Alternative Formulation Briefing (AFB) documentation, Draft Report (including NEPA and supporting documentation), and Final Report (including NEPA and supporting documentation).

b. **Required ATR Team Expertise.** ATR expertise will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), Subject Matter Experts (SME), etc.) and may be supplemented by outside experts as appropriate. The disciplines represented on the ATR team will reflect the significant disciplines involved in the planning, engineering, and design effort. The table below describes the ATR expertise required for the GRR.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive 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). The ATR Lead will participate in all milestone reviews and in-progress reviews.
Planning	The Planning reviewer should be a senior water resources planner with experience in urban flood risk management studies.
Economics	The Economics reviewer should be a senior economist experienced in flood risk management economics in urban settings.
Environmental Resources	The Environmental reviewer must be experienced with National Environmental Policy Act (NEPA) compliance requirements and mitigation plan preparation.
Cultural Resources	The Cultural reviewer must be experienced in National Historic Preservation Act (NHPA) processes and analysis and preferably will have experience in historic structures.
Hydrology and Hydraulic Engineering	The hydrology and hydraulics reviewer will be an expert in the field of hydrology and hydraulics and have a thorough understanding of open channel dynamics, application of detention/retention basins, application of levees and flood walls, interior drainage, non-structural solutions and computer modeling techniques using HEC-RAS.
Risk Analysis	The risk analysis reviewer will be experienced with performing and presenting risk analyses in accordance with

	ER 1105-2-101 and other related guidance, including familiarity with how information from the various disciplines involved in the analysis interact and affect the results. This reviewer may also serve as the reviewer for another discipline such as economics or hydraulics.
Geotechnical Engineering	The geotechnical reviewer must be experienced in design requirements for levees, floodwalls, detention structures, and open channels and preferably will have experience in design of structures in areas of karst topography.
Civil/Structural Engineering	The civil design reviewer must have experience in a wide range of structural and non-structural flood risk management measures.
Electrical/Mechanical Engineering	The electrical/mechanical reviewer must have experience with pump station design.
Cost Engineering	The Cost reviewer must be familiar with cost estimating for similar civil works projects using MCACES. Reviewer will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer.
Real Estate	The real estate reviewer must be experienced in civil works real estate laws, policies, and guidance, and experience working with sponsor real estate issues.

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 Completion of Agency Technical Review after each ATR event documenting that the issues raised by the ATR team have been resolved (or elevated to the vertical team). For each review, a Statement of Completion of Agency Technical Review will be prepared by the ATR Lead. The District Leadership will provide Certification of Agency Technical Review in accordance with EC 1165-2-214. A sample Completion of Agency Technical Review and District Certification of Agency Technical Review are included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, 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.** Due to the life safety concerns inherent in this flood risk management project, as well as other factors, both a Type I and a Type II IEPR are required and will be performed. The Type I IEPR will be performed during the GRR while the Type II IEPR will be performed during the design phase. Because Type II IEPR is required, Safety Assurance will also be addressed during the Type I IEPR.

b. **Products to Undergo Type I IEPR.** Type I IEPR will be performed for the entire decision document (including supporting documentation), after the AFB.

c. **Required Type I IEPR Panel Expertise.**

IEPR Panel Members/Disciplines	Expertise Required
Engineering	The engineering panel member shall hold a professional license in civil or geotechnical engineering with a MS degree or higher civil or geotechnical engineering. Panel member shall have a minimum of 20 years of design experience and experience with multi-million dollar, flood risk management projects. Panel member should be familiar with or have experience with USACE Civil Works policy and procedures.
Cultural Resources	Panel member will have a master's degree or higher education in archaeology or a related field and work experience of 20 + years in the discipline. Panel member will have knowledge and experience with National Historic Preservation Act (NHPA) processes and analysis. Panel member should be familiar with or have experience with USACE Civil Works policy and procedures.
Environmental	Panel member will have a master's degree or higher education in biology or a related field and work experience of 20 + years in the discipline. Panel member will have knowledge and experience with National Environmental Policy Act (NEPA) processes and analysis. Panel member should be familiar with or have experience with USACE Civil Works policy and procedures.

Economics	Panel member will have a master's degree or higher education from a University with an accredited program in the discipline of economics and/or specific work experience of 20 + years in the discipline. Panel member will be familiar with the USACE Civil Works benefit-cost process and it would beneficial for the panel member to have knowledge of the USACE HEC-FDA (Flood Damage Analysis) model. Panel member should be familiar with or have experience with USACE Civil Works policy and procedures.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-214, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document 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 the charge to the reviewers;
- 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 final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

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 AND ATR MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering and ATR 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 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. The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
HEC-FDA 1.2.5a (Flood Damage Analysis)	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 to aid in the selection of a recommended plan to manage flood risk.	Certified
HEP/ HSI Models	USFWS HEP evaluates the quality and quantity of	Approved for

for bluegill, creek chub and mink. (Habitat Evaluation Procedure / Habitat Suitability Indices)	available habitat for selected wildlife species. The HEP delivers Habitat Suitability Indices (HSI), which measure habitat suitability of a sample plot relative to optimum habitat suitability for a species in a defined region.	Use

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

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS 4.0	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 North and South Gabouri Creeks.	HH&C CoP Preferred Model
TRACES MII 4.1 (Tri-Service Automated Cost Engineering Systems)	TRACES is an integrated suite of cost engineering tools designed to support the cost engineers throughout the USACE, Air Force, and Navy. MCACES (Micro-Computer Aided Cost Estimating System) MII is a second generation module of TRACES used by the USACE for the preparation of detailed construction cost estimates. MCACES MII will be used to evaluate capital costs for the Recommended Plan.	Enterprise Model

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

Product	Start Date	Duration	Cost Estimate
AFB Documentation	April 20, 2015	5 weeks	[redacted]
Draft Report (if needed)	June 26, 2015	2 weeks	
Final Report	August 28, 2015	3 weeks	

b. Type I IEPR Schedule and Cost. The Type I IEPR is anticipated to be conducted following the AFB milestone, approximately July 2015. It is anticipated that the IEPR contract will cost approximately [redacted]

c. Model Certification/Approval Schedule and Cost. All of the models anticipated to be used are already certified or approved for use.

11. PUBLIC PARTICIPATION

As required by EC 1165-2-214, the approved Review Plan will be posted on the District public website (http://www.mvs.usace.army.mil/pm/pmPeerReview.html). Information will be conveyed to the public through the use of press releases and media interviews, as necessary, and through the use of posting information to the St. Louis District's website. The GRR and EA will undergo a 30-day public review period concurrent with the start of the Type I IEPR. Comments received during the public review will be provided to the IEPR panel and ATR team during their respective reviews.

12. REVIEW PLAN APPROVAL AND UPDATES

The Mississippi Valley 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:

- Project Manager, St. Louis District, 314-331-8108
- District Support Team, Mississippi Valley Division, 601-634-5293
- Deputy Director, Flood Risk Management Planning Center of Expertise, 415-503-6852

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM

Name	Discipline	Phone	Email
[redacted]	Project Manager	[redacted]	
	Plan Formulation		
	Plan Formulation		
	Civil/Structural Design		
	Hydrology and Hydraulics		
	Mechanical Design		
	Environmental		
	Economics		
	Cost Engineering		
	Real Estate Acquisition		
	Real Estate Appraisals		
	Cultural Resources		
	Geotechnical Engineering		
	Regulatory		

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Phone	Email
TBD	ATR Lead		
	Plan Formulation		
	Economics		
	Environmental/NEPA		
	Risk Analysis		
	Real Estate		
	Geotechnical Engineering		
	Cost Estimates		
	Civil/Structural Engineering		
	Mechanical/Electrical Engineering		
	Hydrology and Hydraulics		
	Cultural Resources		

INDEPENDENT EXTERNAL PEER REVIEW PANEL

Name	Discipline	Phone	Email
	Engineering		
	Economics		
	Cultural Resources		
	Environmental		

VERTICAL TEAM

Name	Discipline	Phone	Email
[redacted]	District Support Team	[redacted]	
	Regional Integration Team		

PLANNING CENTER OF EXPERTISE for FLOOD RISK MANAGEMENT

Name	Discipline	Phone	Email
[redacted]	Deputy Director, PCX Flood Risk Management		[redacted]

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<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 1165-2-214. 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 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: *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 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	OEO	Outside Eligible Organization
ATR	Agency Technical Review		
DQC	District Quality Control/Quality Assurance	PCX	Planning Center of Expertise
EA	Environmental Assessment	PDT	Project Delivery Team
EC	Engineer Circular	PAC	Post Authorization Change
FDR	Flood Damage Reduction	PMP	Project Management Plan
FRM	Flood Risk Management	PL	Public Law
GRR	General Reevaluation Report	QMP	Quality Management Plan
Home District/MSC	The District or MSC responsible for the preparation of the decision document	QA	Quality Assurance
HQUSACE	Headquarters, U.S. Army Corps of Engineers	QC	Quality Control
IEPR	Independent External Peer Review	RMC	Risk Management Center
MCX	Mandatory Center of Expertise	RMO	Review Management Organization
MSC	Major Subordinate Command	RTS	Regional Technical Specialist
NED	National Economic Development	SAR	Safety Assurance Review
NEPA	National Environmental Policy Act	USACE	U.S. Army Corps of Engineers
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation	WRDA	Water Resources Development Act

Review Plan Checklist
For Decision Documents

Date: 4/8/15
Originating District: St. Louis District
Project/Study Title: Sainte Genevieve, MO, GRR
PWI #: 075053
District POC: [redacted]
PCX Reviewer: [redacted]

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate PCX. Any evaluation boxes checked 'No' indicate the RP may not comply with ER 1105-2-410 (22 Aug 2008) and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan.

REQUIREMENT	REFERENCE	EVALUATION
1. Is the Review Plan (RP) a stand alone document?	EC 1105-2-410, Para 8a	Yes ☒ No ☐
a. Does it include a cover page identifying it as a RP and listing the project/study title, originating district or office, and date of the plan? b. Does it include a table of contents? c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced? d. Does it reference the Project Management Plan (PMP) of which the RP is a component? e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)? f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed? g. Does it list the names and disciplines of the Project Delivery Team (PDT)?* **Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.*	EC 1105-2-410, Appendix B, Para 4a	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ e. Yes ☒ No ☐ f. Yes ☒ No ☐ g. Yes ☒ No ☐ **Comments:** The review plan meets the Civil Works review requirements outlined in EC 1165-2-214.

2. Is the RP detailed enough to assess the necessary level and focus of peer review?	EC 1105-2-410, Appendix B, Para 3a	Yes ☒ No ☐
a. Does it indicate which parts of the study will likely be challenging?	EC 1105-2-410, Appendix B, Para 3a	a. Yes ☒ No ☐ b. Yes ☒ No ☐
b. Does it provide a preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be?	EC 1105-2-410, Appendix B, Para 3a	c. Yes ☒ No ☐ d. Yes ☒ No ☐
c. Does it indicate if the project/study will require preparation of an environmental impact statement (EIS)? *Will an EIS be prepared? Yes ☐ No ☒* *If yes, IEPR is required.*	EC 1105-2-410 Para 7c & 8f	e. Yes ☒ No ☐ **Comments:**
d. Does it address if the project report is likely to contain influential scientific information or be a highly influential scientific assessment? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.*	EC 1105-2-410, Appendix B, Para 4b	
e. Does it address if the project is likely to have significant economic, environmental, and social affects to the nation, such as (but not limited to):	EC 1105-2-410, Para 6c	
• more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources?	EC 1105-2-410 Para 8f	
• substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation?	EC 1105-2-410 Para 8f	
• more than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.*	EC 1105-2-410 Para 8f	

f. Does it address if the project/study is likely to have significant interagency interest? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.* g. Does it address if the project/study likely involves significant threat to human life (safety assurance)? *Is it likely? Yes ☒ No ☐* *If yes, IEPR is required.* h. Does it provide an estimated total project cost? *What is the estimated cost: $15M* *(best current estimate; may be a range)* *Is it > $45 million? Yes ☐ No ☒* *If yes, IEPR is required.* i. Does it address if the project/study will likely be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.* j. Does it address if the information in the decision document will likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.*	EC 1105-2-410, Para 6c EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1b	f. Yes ☒ No ☐ g. Yes ☒ No ☐ h. Yes ☒ No ☐ i. Yes ☒ No ☐ j. Yes ☒ No ☐ **Comments:**
3. Does the RP define the appropriate level of peer review for the project/study?	EC 1105-2-410, Para 8a	Yes ☒ No ☐
a. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans? b. Does it state that ATR will be conducted or	EC 1105-2-410, Para 7a EC 1105-2-410,	a. Yes ☒ No ☐ b. Yes ☒ No ☐

managed by the lead PCX? c. Does it state whether IEPR will be performed? *Will IEPR be performed? Yes ☒ No ☐* d. Does it provide a defensible rationale for the decision on IEPR? e. Does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?	Appendix D, Para 3a EC 1105-2-410, Appendix B, Para 4b EC 1105-2-410, Para 7c	c. Yes ☒ No ☐ d. Yes ☒ No ☐ e. Yes ☒ No ☐ n/a ☐ **Comments:**
4. Does the RP explain how ATR will be accomplished?	EC 1105-2-410, Appendix B, Para 4l	Yes ☒ No ☐
a. Does it identify the anticipated number of reviewers? b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? c. Does it indicate that ATR team members will be from outside the home district? d. Does it indicate that the ATR team leader will be from outside the home MSC? e. Does the RP state that the lead PCX is responsible for identifying the ATR team members and indicate if candidates will be nominated by the home district/MSC? f. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?* **Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.*	EC 1105-2-410, Appendix B, Para 4f EC 1105-2-410, Appendix B, Para 4g EC 1105-2-410, Para 7b EC 1105-2-410, Para 7b EC 1105-2-410, Appendix B, Para 4k(1) EC 1105-2-410, Appendix B, Para 4k(1)	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ e. Yes ☒ No ☐ f. Yes ☐ No ☐ n/a ☒ **Comments:**
5. Does the RP explain how IEPR will be	EC 1105-2-410,	**Yes ☒ No ☐ n/a ☐**

accomplished?	Appendix B, Para 4k & Appendix D	
a. Does it identify the anticipated number of reviewers? b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? c. Does it indicate that the IEPR reviewers will be selected by an Outside Eligible Organization and if candidates will be nominated by the Corps of Engineers? d. Does it indicate the IEPR will address all the underlying planning, safety assurance, engineering, economic, and environmental analyses, not just one aspect of the project?	EC 1105-2-410, Appendix B, Para 4f EC 1105-2-410, Appendix B, Para 4g EC 1105-2-410, Appendix B, Para 4k(1) & Appendix D, Para 2a EC 1105-2-410, Para 7c	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ **Comments:**
6. Does the RP address peer review of sponsor in-kind contributions?		Yes ☒ No ☐
a. Does the RP list the expected in-kind contributions to be provided by the sponsor? b. Does it explain how peer review will be accomplished for those in-kind contributions?	EC 1105-2-410, Appendix B, Para 4j	a. Yes ☒ No ☐ b. Yes ☐ No ☐ n/a ☒ **Comments:** There will be no in-kind contributions
7. Does the RP address how the peer review will be documented?		Yes ☒ No ☐
a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks? b. Does the RP explain how the IEPR will be documented in a Review Report? c. Does the RP document how written responses to the IEPR Review Report will be prepared? d. Does the RP detail how the district/PCX	EC 1105-2-410, Para 8g(1) EC1105-2-410, Appendix B, Para 4k(13)(b) EC 1105-2-410, Appendix B, Para 4l EC 1105-2-410,	a. Yes ☒ No ☐ b. Yes ☒ No ☐ n/a ☐ c. Yes ☒ No ☐ n/a ☐ d. Yes ☒ No ☐ n/a ☐

will disseminate the final IEPR Review Report, USACE response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?	Para 8g(2) & Appendix B, Para 4l	**Comments:**
8. Does the RP address Policy Compliance and Legal Review?	EC 1105-2-410, Para 7d	Yes ☒ No ☐ **Comments:**
9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?	EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d	Yes ☒ No ☐
a. Does it provide a schedule for ATR including review of the Feasibility Scoping Meeting (FSM) materials, Alternative Formulation Briefing (AFB) materials, draft report, and final report? b. Does it include interim ATR reviews for key technical products? c. Does it present the timing and sequencing for IEPR? d. Does it include cost estimates for the peer reviews?	EC 1105-2-410, Appendix C, Para 3g EC 1105-2-410, Appendix C, Para 3g	a. Yes ☒ No ☐ b. Yes ☐ No ☒ c. Yes ☒ No ☐ n/a ☐ d. Yes ☒ No ☐ **Comments:** FSM is not addressed because the study has progressed beyond that point. Interim reviews are not planned because the study is already at the AFB stage and ready for full technical review prior to public review.
10. Does the RP indicate the study will address Safety Assurance factors? Factors to be considered include: • Where failure leads to significant threat to human life • Novel methods\complexity\ precedent-setting models\policy changing conclusions • Innovative materials or techniques • Design lacks redundancy, resiliency of robustness • Unique construction sequence or acquisition plans • Reduced\overlapping design construction	EC 1105-2-410, Para 2 & Appendix D, Para 1c	**Yes ☒ No ☐ n/a ☐** **Comments:**

schedule		
11. Does the RP address model certification requirements?	EC 1105-2-407	Yes ☒ No ☐
a. Does it list the models and data anticipated to be used in developing recommendations (including mitigation models)? b. Does it indicate the certification/approval status of those models and if certification or approval of any model(s) will be needed? c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?	EC 1105-2-410, Appendix B, Para 4i	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☐ No ☐ n/a ☒ **Comments:**
12. Does the RP address opportunities for public participation?		Yes ☒ No ☐
a. Does it indicate how and when there will be opportunities for public comment on the decision document? b. Does it indicate when significant and relevant public comments will be provided to reviewers before they conduct their review? c. Does it address whether the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers? d. Does the RP list points of contact at the home district and the lead PCX for inquiries about the RP?	EC 1105-2-410, Appendix B, Para 4d EC 1105-2-410, Appendix B, Para 4e EC 1105-2-410, Appendix B, Para 4h EC 1105-2-410, Appendix B, Para 4a	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ **Comments:**
13. Does the RP address coordination with the appropriate Planning Centers of Expertise?	EC 1105-2-410, Para 8a	Yes ☒ No ☐
a. Does it state if the project is single or multi-purpose? Single ☒ Multi ☐ List purposes: FRM b. Does it identify the lead PCX for peer review? Lead PCX: **FRM** c. If multi-purpose, has the lead PCX coordinated the review of the RP with the	EC 1105-2-410, Appendix D,	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☐ No ☐ n/a ☒ **Comments:**

other PCXs as appropriate?	Para 3c	
14. Does the RP address coordination with the Cost Engineering Directory of Expertise (DX) in Walla Walla District for ATR of cost estimates, construction schedules and contingencies for all documents requiring Congressional authorization?	EC 1105-2-410, Appendix D, Para 3	Yes ☒ No ☐
a. Does it state if the decision document will require Congressional authorization? b. If Congressional authorization is required, does the state that coordination will occur with the Cost Engineering DX?		a. Yes ☒ No ☐ b. Yes ☐ No ☐ n/a ☒ **Comments:**
15. Other Considerations: This checklist highlights the minimum requirements for an RP based on EC 1105-2-410. Additional factors to consider in preparation of the RP include, but may not be limited to: a. Is a request from a State Governor or the head of a Federal or state agency to conduct IEPR likely? b. Is the home district expecting to submit a waiver to exclude the project study from IEPR? c. Are there additional Peer Review requirements specific to the home MSC or district (as described in the Quality Management Plan for the MSC or district)? d. Are there additional Peer Review needs unique to the project study?	EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1d	**Comments:**
Detailed Comments and Backcheck:		