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Review Plan Addendum

Ensley Levee Relief Well, Memphis, TN

PL-84-99 Project

11 April 2014

P2# 393608

REVIEW PLAN

Ensley Levee Relief Well, Memphis, TN PL-84-99 Project

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REVIEW PLAN FOR THE ENSLEY LEVEE RELIEF WELL PLANS AND SPECIFICATIONS

1. Purpose and Requirements. This review plan defines the scope and level of peer review for the Ensley Levee Relief Well, Memphis, TN, Plans and Specifications. This project is being carried out under the PL 84-99 program, in response to damages incurred by the Ensley Levee as a result of a flood event.

a. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (3) Project Information Report, PL 84-99 Rehabilitation of Damaged Flood Control Works, Memphis and Shelby County Port Commission, Ensley Levee Berm, Memphis, Tennessee, 14 December 2011.
- (4) Memphis District Quality Management Plan, 19 Jun 2012
- (5) Ensley Levee Berm Project Management Plan, PL84-99, Rehabilitation of Damaged Flood Control Works, Project No.: 393608, Approved 3 May 2012
- **b.** 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.

2. Review Management Organization (RMO) and Coordination

The Mississippi Valley Division has proposed that the level of ATR review and the determination by MVD Dam and Safety Production Center for PL 84-99 projects be based on the project complexity and life safety and/or economic consequences. Preliminary discussions with the RMC indicate that all PL 84-99 projects must undergo DQC and ATR and that the leveled approach discussed below is considered to meet the intent of EC 1165-2-214.

3. Project Description. Ensley Levee was constructed as part of the Mississippi Harbor Project. The project is located in southwest Memphis in Shelby County, Tennessee, at River Mile 722 left descending bank of the Mississippi River. The Ensley levee protects approximately 6,720 acres, 4000 of which are industrial development lands. The levee extends from the hills south of Cypress Creek along the left bank of McKeller Lake and Mississippi River to high ground in the vicinity of North Horn Lake. The berm was completed October 2013.

The berm along the levee sustained significant damages due to the seepage during the period of 28 April to 24 May 2011. Head differential caused by river flood elevations forced seepage to travel through levee and berm foundation sands and carried foundation sands and silts through a

ruptured or thin clay and silt blanket landside of the berm. The seepage created sand boils in multiple locations along the berm. Without repair, the levee/berm was in danger of failing.

Berm repair was completed in October 2013. The repair consisted of excavation of sunken material. The intent of the initial exploration was to expose voids created by seepage. Once a void was located, it was excavated and repaired to its full extent. The berm was reconstructed using the excavated berm material plus any additional material required to replace material lost during the 2011 event.

The relief wells will be installed at the toe of the repaired berm. These wells will reduce the hydrostatic pressures during future flood events thus reducing risk of additional piping. The Geotechnical Engineering Branch prepared preliminary relief well design calculations based on information from previous stages. Additional soil borings, surveys and design calculations will be required prior to preparation of plans and specification.

<u>In-Kind Contributions</u>. 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.

4. Execution of District Quality Assurance.

All implementation 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 will be in accordance with the Quality Manual of the District and the home MSC.

<u>Documents Requiring DQC</u>: The documents to be reviewed are the plans and specifications indicating the project location and proposed work to be performed. Plans will be initiated following soil boring survey collection

<u>DQC Schedule:</u> DQC will be performed prior to the initiation of ATR – The review is scheduled to begin in the 3^{rd} or 4^{th} quarter of FY 2015. DQC will include reviews at 60%, 90% and BCOE.

<u>Required DQC Expertise</u>. The quality assurance / technical reviewers will be chosen from a pool of reviewers submitted by appropriate technical elements. DQC team members are not directly involved in the production of the plans and specifications. The team will be comprised of the selected disciplines that have experience in the type of analysis in which they are responsible for reviewing. The DQC team is identified in Attachment 1.

5. Agency Technical Review (ATR)

The ATR is mandatory for all implementation. The ATR will be combined with the 90 and 95 percent P & S. The ATR will assess whether the analyses presented are technically correct and comply with published Corps guidance, and the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by

not involved in day to day production of the project/product. The ATR team will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. ATR lead team will be selected from outside of MVD.

. This project will undergo the ATR process for design, and Plans and specification. As new implementation documents and other work products are developed to meet the need of the project, each new document will be reviewed to assure all necessary reviews are planned for and conducted in accordance with EC 1165-20214 and this plan will be updated accordingly to include any new implementation document. Any implementation products that involve one or more of the factors established by EC 1165-2-214 will be screened by the Chief, Engineering Division, to assure a risk informed analysis and decision is accomplished in accordance with EC 1165-2-214 as to whether or not an ATR will be required and the project file will be documented accordingly and this review plan will be updated. When an ART is deemed appropriate for any new implementation document for these projects, the RMO will be requested to establish and manage an ATR team to accomplish appropriate reviews scaled to the complexity and scope of the new work.

a. Require ATR Team Expertise. Table 1 depicts the ATR team members and the expertise required for their position.

ATR Team Members/Disciplines	Expertise Required		
ATR Lead	The ATR lead should be a senior professional with extensive		
	experience in preparing implementation documents and		
	conducting ATR. The lead person 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, design, economics,		
	environmental resources, etc)		
Environmental Resources/National	The Environmental reviewer should have strong experience in		
Environmental Policy Act (NEPA)	projects involving fish habitat, threaten and endangered		
Compliance	species, invasive species, and water quality and water		
	quantity/flow issues. The reviewer should be a senior biologist		
	with experience involving all aspects of aquatic, terrestrial and		
	wetland restoration regarding policy, regulation, and		
	compliance.		
Engineering/Hydrology	N/A		
Cost Engineering	The reviewer should have significant experience in estimating		
	costs for work on construction projects involving relief well		
	construction.		
Real Estate	N/A		
Design Engineer	N/A		
Geotechnical Engineer	Team member will be experienced in structure design, relief		
-	well and post construction evaluation and rehabilitation. A		
	certified professional engineer is recommended.		

Table 1. Team Expertise

b. 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 include:

(1) The review concern - Identify the product's information deficiency or incorrect applicati9on 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 any ATR concerns 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 1110-1-12 or Er 1105-2-100, Appendix H, as appropriate. Unsolved 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 the 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 of 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.

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

Table 2. ATR Point of Contacts

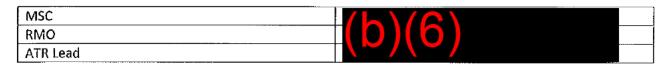


Table 3. Project Schedule¹

Milestone Code Milestone		Date	
	DQC back check complete	01 MAR 2015	
	ATR certification	01 AUG 2015	
CW400	RTA (Ready to Advertise)	01 SEP 2015	
CC800	Contract Award	01 Feb 2016	
CC820	Construction Completion	30 Dec 2016	

1) The schedule is under review to possibly compress the above project schedule.

Item	Schedule
95% District Office Review Start	TBD
Plans and Specifications Complete	TBD
MVD approves ATR Team	TBD
Charge approved by PDT and ATR Team	Date of funding from CEMVM-PM
Review documents and charges sent to ATR Team	Date of funding from CEMVM-PM
ATR DrChecks comments complete	+ 14 days
PDT DrChecks evaluations complete	+7 days
ATR back checks complete; DrChecks closed	+14 days
ATR certification form signed	+7 days
ATR final report complete	
Report sent to MVD for approval	+2 days
Report approved by MVD	+7 days

Table 4. Review Schedules

Table 5. Review Cost

Discipline	Estimated Labor Cost
ATR team Lead	\$5,000
Supporting Disciplines	6@\$5,000 ea. = \$30,000
TOTAL	\$35,000

6. Independent External Peer Review (IEPR)

IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. 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.

Decision on IEPR. MVM has determined that the Ensley Levee Relief Well project does not require a Type II IEPR for the following reasons:

- It is not justified by life safety nor would failure of the wells would pose a significant threat to human life;
- It does not involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations; does not contain precedent-setting methods or models; and does not present conclusions that are likely to change prevailing practices;
- o It does not require redundancy, resiliency, and/or robustness; and
- It does not involve unique construction sequencing or a reduced or overlapping design construction schedule.

7. Policy and Legal Compliance Review

All implementation documents will be reviewed for their compliance with law and policy. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods.

8. Model Certification and Approval

Engineering Circular 1105-2-412 mandates the use of certified or approved models for all engineering activities to ensure the models are technically and theoretically sound, compliant with Corps policy, computationally accurate, and based on reasonable assumptions.

Engineering Circular 1105-2-412 does not cover engineering models used in implementation. The responsible use of well-known and proven Corps 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 Corps 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). The engineering model that will be used during Plans and Specifications is the MCACES by cost engineering.

9. Review Plan Approval and Changes.

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input to the appropriate scope and level of review for the P&S documents. Like the PMP, the Review Plan is a living document and may change as the work progresses. MVM will keep the Review Plan up to date. Significant changes to this Review Plan (such as changes to the scope and/or level of review) will be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the MVM public webpage. Changes to this plan will be annotated Attachment 3.

10. Review Plan Points of Contact.

The MVM technical point of contact for this plan is the Project Manager, (b)(6) phone (b)(6)

The Review Management Organization (RMO) point of contact is the District Support Team, (b)(6) phone (b)(6)

The agency or USACE organization performing the review shall appoint one individual as team lead for the ATR to serve as a single point of contact and liaison between their organization, MVD and MVM.

ATTACHMENT 1: TEAM ROSTERS

Product Delivery Team

Name	Role	Phone Number	E-mail
(b)(6)	Project Manager	(b)(6)	
	Civil Engineer	()()	(
	Geotechnical Engineer		
	Cost Engineering		
	Hydrology		-
	Cultural Resources		
	Real Estate	-	
	Office of Counsel		

DQC Team

DQC Team			
Name	Role	Phone Number	E-mail
(b)(6)	Project Manager	(b)(6)	
	Civil Designer		(0)(0)
- -	Relocations		
	Construction Branch		
	Cost Engineering		
	Hydrology		
	Environmental Branch		-
	Area Office		
	Area Office		

EC 1165-2-214 15 Dec 2012

C-10

Attachment C-1 COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Ensloy Levee Beim Repair - Relief Wells Project Information Report, The ATR was vonducted 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. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecksm.



CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

The lefter report as presented to the ATR reviewer appears reasonable in terms of the estimate cost and the quantity of wells necessary for 3.5 miles of levee. The home District has much local experience with the geology of that reach, and for a plaining perspective has identified an appropriate number of wells. However, a more thorough toview during the dovelopment of plans and spees is highly recommended.

There are no significant concerns for this effort,

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

SIGNATURE Chief, Bugineering Division 785.77 л SIGNATURE

Supervisory Plauner · RPBDS - MVM District Linison

1411/01 2013

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Date

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
11 April 2014	Amended the Ensley Levee Berm Review Plan to include the Relief Well	Addendum
2014		

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ATTACHMENT 4: STATEMENT OF RATIONALE FOR DECISION TO NOT HAVE A TYPE II IEPR (SAR)

Risk Based Determination of Need to NOT conduct a Type II IEPR (aka Safety Assurance Review (SAR))

Per EC 1165-2-209, two factors mandate a SAR and three additional factors should be considered in determination whether or not a SAR should be conducted. These factors and their relevancy to this project are discussed below. If there is any lingering concern regarding the rationale presented in the following table a vertical team should be assembled upon request.

Factor		Relevancy to this Project
1) Is the project was justified by life safety?	Mandate	The project was justified based on the probability of inundation due to breach prior to overtopping failure in combination with regional critical infrastructure impacts due to inundation.
2) Would the project's failure pose a significant threat to human life?	Mandate	No, the levee system screening resulted in a low life loss estimate and the installation of relief wells do not increase the potential for system failure and has no increase to the threat to human life.
3) Does the project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent- setting methods or models, or presents conclusions that are likely to change prevailing practices?	Consider	No, the project consists of engineering techniques and materials which have proven to be successful on hundreds of similar projects within the Memphis District.
4) Does the project design require redundancy, resiliency, or robustness?	Consider	No, the factors of safety used in the project design prevent the requirement of redundancy, resiliency, or robustness.
5) Does the project have unique construction sequencing or a reduced or overlapping design construction schedule?	Consider	No, the project has standard construction sequencing and design schedule for relief well installation.

Background Information about Project: Ensley Levee Berm and Relief Well are part of the Mississippi River Mainline Levee located in southwest Memphis in Shelby County, Tennessee, at River Mile 722 left descending bank of the Mississippi River. The Ensley levee protects approximately 5,000 acres, 4000 of which are industrial development lands. The levee extends from high ground to high ground and is a complete integrated system. The berm sustained significant damages due to the seepage during the period of 28 April to 24 May 2011. Head differential caused by river flood elevations forced seepage to travel through levee and berm foundation sands and carried foundation sands and silts through a ruptured or thin clay and/or silt blanket landside of the berm. The seepage created sand boils in multiple locations along the berm. Without repair, the levee/berm are in danger of failing. Phase 2 of the project (relief well) includes installing relief wells to relieve hydrostatic pressures at the toe of the levee/berm. The levee system is a Non-Federally owned, operated and maintained system with repairs eligible under Public Law 84-99. The Sponsor's letter of request for Rehabilitation Assistance is located in the Project Information Report in Appendix 13. Phase 1 (berm construction) of this project is complete and included excavating damaged areas of the berm and repairing the void s and sunken areas. Construction of the levee was completed around 1960. The berm was constructed around 1990. Since the berm has been constructed the Ensley Levee has not been impacted due to high water events.

RECOMMENDATION REGARDING TYPE II IEPR (SAR)

Based on the above assessment, it is the risk-informed recommendation of the Project Delivery Team and the Chief of E&C or Engineering that Type II IEPR (SAR) is NOT required for this project.

The decision to not conduct a Type II IEPR (SAR) is recommended by:

Digitally signed by

(b)(6)

Date: 2014.04.27 18:18:51 -05'00'

Signature of Chief, EC

28 April 2104 Date

by

The above recommendation is T Approved

Signature of RMO

Date

☐ Disapproved

ATTACHMENT 5: "OTHER WORK PRODUCTS CHECKLIST (ref. EC 209 Para 15b)

ATTACHMENT 5: "OTHER WORK PRODUCTS CHECKLIST (ref. EC 209 Para 15b) NOTE: ALL decision and implementation documents are required to undergo ATI the organization. The checklist below will aid the PDT in identifying if ATR is need documents. Questions	R regardless of led for "other" Yes/No
(1) Does product include any design (structural, mechanical, hydraulic, etc)?	Yes
(2) Does product evaluate alternatives?	Yes
(3) Does product include a recommendation?	Yes
(4) Does product have a formal cost estimate?	Yes
(5) Does product have or will it require a NEPA document?	Yes
(6) Does product impact a structure or feature of a structure whose performance involves potential life safety risks?	Minimally
(7) What are the consequences of non-performance?	Yes
(8) Does product support a significant investment of public monies?	Minimally
(9) Does product support a budget request?	Yes
(10) Does product change the operation of the project?	No
(11) Does product involve ground disturbances?	Yes
(12) Does product affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?	No
(13) Does product involve activities that trigger regulatory permitting such as Section 40 or stormwater/NPDES related actions?	Yes
(14) Does product involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?	No
(15) Does product reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?	No
(16) Does product reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?	No
(17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?	No

ATTACHMENT 6: REVIEW PLAN CHECKLIST

Review Plan Checklist for Implementation Documents

Date:	11 April 2014
Originating District:	MVM
Project/Study Title:	Ensley Levee Relief Well, Memphis, TN
Project #:	393608
District POC:	(b)(6) семvм-рм-р

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate RMO. For DQC, the District is the RMO; for ATR of Dam and Levee Safety Studies, the Risk Management Center is the RMO; and for non-Dam and Levee Safety projects and other work products, MVD is the RMO; for Type II IEPR, the Risk Management Center is the RMO. Any evaluation boxes checked 'No' indicate the RP possibly may not comply with EC 1165-2-209 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 standalone document?	EC 1165-2-209, Appendix B, Para 4a	፼ 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?		₩ Yes T No
b. Does it include a table of contents?		፼ Yes 『 No
c. Is the purpose of the RP clearly stated and EC 1165-2-209 referenced?	EC 1165-2-209 Para 7a	₩ Yes I No

	REQUIREMENT	REFERENCE	EVALUATION
d.	Does it reference the Project Management Plan (PMP) of which the RP is a component	EC 1165-2-209	Ves T No
	including P2 Project #?	Para 7a (2)	
e.	Does it include a paragraph stating the title, subject, and purpose of the work product to	EC 1165-2-209	IF Yes □ No
	be reviewed?	Appendix B, Para 4a	
f.	Does it list the names and disciplines in the home district, MSC and RMO to whom inquiries about the plan may be directed?*	EC 1165-2-209, Appendix B, Para 4a	ア Yes 「 No
	*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.		
	Documentation of risk-informed decisions on which levels of review are appropriate.	EC 1165-2-209, Appendix B, Para 4b	₽Yes ┌No
a.	Does it succinctly describe the three levels of	EC 1165-2-209	Yes T No
	peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)?	Para 7a	
b.	Does it contain a summary of the CW implementation products required?	EC1165-2-209	₩ Yes Γ No
		Para 15	
с.	DQC is always required. The RP will need to address the following questions:	EC1165-2-209	🔽 Yes 🎵 No
	aaaraaa aha tonowing queationa.	Para 15a	
	i. Does it state that DQC will be managed by the home district in accordance with the	EC1165-2-209	🔽 Yes Г No
	Major Subordinate Command (MSC) and district Quality Management Plans?	Para 8a	

REQUIREMENT	REFERENCE	EVALUATION
ii. Does it list the DQC activities (for example, 30, 60, 90, BCOE reviews, etc)	EC 1165-2-209 Appendix B (1)	₽ Yes Γ No
iii. Does it list the review teams who will perform the DQC activities?	EC 1165-2-209 Appendix B, Para 4g	₩ Yes T No
iv. Does it provide tasks and related resource funding and schedule showing when the DQC activities will be performed?	EC 1165-2-209 Appendix B, Para 4c	₩ Yes F No
d. Does it assume an ATR is required and if an ATR is not required does it provide a risk based decision of why it is not required? If an ATR is required the RP will need to address the following questions:	EC1165-2-209 Para 15a	₩ Yes I No
i. Does it identify the ATR District, MSC, and RMO points of contact?	EC 1165-2-209 Para 7a	₽Yes No N/A
ii. Does it identify the ATR lead from outside the home MSC?	EC 1165-2-209 Para 9c	🗭 Yes 🎵 No
iii. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*	EC 1165-2-209 Appendix B, Para 4g	└ Yes └ No I♥ N/A
*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.		

REQUIREMENT	REFERENCE	EVALUATION
iv. Does it provide tasks and related resource, funding and schedule showing when the ATR activities will be performed?	EC 1165-2-209 Appendix C, Para 3e	Γ Yes Γ No ₽ N/A
v. Does the RP address the requirement to document ATR comments using Dr Checks?	EC 1165-2-209 Para 7d (1)	ΓYes ΓΝο ΡΝ/Α
e. Does it assume a Type II IEPR is required and if a Type II IEPR is not required does it provide a risk based decision of why it is not required including RMC/ MSC concurrence? If a Type II IEPR is required the RP will need to address the following questions:	EC1165-2-209 Para 15a	₩Yes 「No
i. Does it provide a defensible rationale for the decision on Type II IEPR?	EC 1165-2-209 Para 7a	ダ Yes 「No「N/A
ii. Does it identify the Type II IEPR District, MSC, and RMO points of contact?	EC 1165-2-209 Appendix B, Para 4a	「Yes 「No I N/A
iii. Does it state that for a Type II IEPR, it will be contracted with an A/E contractor or arranged with another government agency to manage external to the Corps of Engineers?	EC 1165-2-209 Appendix B, Para 4k (4)	ΓYes ΓΝο ₩N/A
iv. Does it state for a Type II IEPR, that the selection of IEPR review panel members will be made up of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of expertise suitable for the review being conducted?	EC 1165-2-209 Appendix B, Para 4k(1) and Appendix E, Para's 1a & 7	r Yes r No ₩ N/A

	REQUIREMENT	REFERENCE	EVALUATION
v.	Does it state for a Type II IEPR, that the selection of IEPR review panel members will be selected using the National Academy of Science (NAS) Policy which sets the standard for "independence" in the review process?	EC 1165-2-209 Para 6b (4) and Para 10b	Γ Yes Γ No ₽ N/A
vi.	If the Type II IEPR panel is established by USACE, has local (i.e. District) counsel reviewed the Type II IEPR execution for FACA requirements?	EC1165-2-209 Appendix E, Para 7c(1)	「Yes 「No ₽ N/A
vii.	Does it provide tasks and related resource, funding and schedule showing when the Type II IEPR activities will be performed?	EC1165-2-209 Appendix E, Para 5a	「Yes 「No IV N/A
viii.	Does the project address hurricane and storm risk management or flood risk management or any other aspects where Federal action is justified by life safety or significant threat to human life?	EC1165-2-209 Appendix E, Para 2	₩Yes 〒No 〒N/A
	Is it likely? If yes, Type II IEPR must be addressed.		₩Yes I No

REQUIREMENT	REFERENCE	EVALUATION
ix. Does the RP address Type II IEPR factors? Factors to be considered include:		₩ Yes T No T N/A
 Does the project involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent setting methods or models, or presents conclusions that are likely to change prevailing practices? 		
 Does the project design require redundancy, resiliency and robustness 		
 Does the project have unique construction sequencing or a reduced or overlapping design construction schedule; fro example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems. 		
f. Does it address policy compliance and legal review? If no, does it provide a risk based decision of why it is not required?	EC 1165-2-209 Para 14	₩Yes 〒No F N/A
3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)?	EC 1165-2-209, Appendix B, Para 4c	₩ Yes I No
a. Does it provide and overall review schedule that shows timing and sequence of all reviews?	EC 1165-2-209, Appendix C, Para 3g	₩ Yes I No
b. Does the review plan establish a milestone schedule aligned with the critical features of the project design and construction?	EC 1165-2-209, Appendix E, Para 6c	₩ Yes T No
 Involvement (ECI) delivery systems. f. Does it address policy compliance and legal review? If no, does it provide a risk based decision of why it is not required? 3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)? a. Does it provide and overall review schedule that shows timing and sequence of all reviews? b. Does the review plan establish a milestone schedule aligned with the critical features of 	Para 14 EC 1165-2-209, Appendix B, Para 4c EC 1165-2-209, Appendix C, Para 3g EC 1165-2-209,	IV Yes I No IV Yes I No

REQUIREMENT	REFERENCE	EVALUATION
4. Does the RP address engineering model certification requirements?	EC 1165-2-209, Appendix B, Para 4i	└Yes └No ばN/A
a. Does it list the models and data anticipated to be used in developing recommendations?		ΓYes ΓΝο ΡΝ/Α
b. Does it indicate the certification /approval status of those models and if certification or approval of any model(s) will be needed?		TYes TNo 🕅 N/A
c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?		🏹 Yes 🏳 No 🗭 N/A
5. Does the RP explain how and when there will be opportunities for the public to comment on the study or project to be reviewed?	EC 1165-2-209, Appendix B, Para 4d	₩Yes No N/A
a. Does it discuss posting the RP on the District website?		፼ Yes ℾ No ℾ N/A
b. Does it indicate the web address, and schedule and duration of the posting?		☐ Yes ☐ No ☐ N/A This information was not found on any other approved review plans nor was it indicated as needed by the decision document review plan template.

REQUIREMENT	REFERENCE	EVALUATION
6. Does the RP explain when significant and relevant public comments will be provided to the reviewers before they conduct their review?	EC 1165-2-209, Appendix B, Para 4e	ΓYes ΓNo ₩N/A
a. Does it discuss the schedule of receiving public comments?		ГYes ГNo 🗭 N/A
b. Does it discuss the schedule of when significant comments will be provided to the reviewers?		F≊Yes F≊No IZ N/A
7. Does the RP address whether the public, including scientific or professional societies, will be asked to nominate professional reviewers?*	EC 1165-2-209, Appendix B, Para 4h	ΓΥes ΓΝο ϜΝ/Α
 a. If the public is asked to nominate professional reviewers then does the RP provide a description of the requirements and answer who, what, when, where, and how questions? * Typically the public will not be asked to nominate potential reviewer 		T Yes T No ₩ N/A
8. Does the RP address expected in-kind contributions to be provided by the sponsor?	EC 1165-2-209, Appendix B, Para 4j	アYes 「No 「N/A
a. If expected in-kind contributions are to be provided by the sponsor, does the RP list the expected in-kind contributions to be provided by the sponsor?		Të Yes I िNo I⊄ N/A

	REQUIREMENT	REFERENCE	EVALUATION
	Does the RP explain how the reviews will be documented?		₩Yes F No
a.	Does the RP address the requirement to document ATR comments using Dr Checks and Type II IEPR published comments and responses pertaining to the design and construction activities summarized in a report reviewed and approved by the MSC and posted on the home district website?	EC 1165-2-209, Para 7d	₽Yes No N/A
b.	Does the RP explain how the Type II IEPR will be documented in a Review Report?	EC 1165-2-209 Appendix B , Para 4k (14)	r Yes r No r N∕A
c.	Does the RP document how written responses to the Type II IEPR Review Report will be prepared?	EC 1165-2-209 Appendix B, Para 4k (14)	F Yes F No ₩ N/A
d.	Does the RP detail how the district/PCX/MSC and CECW-CP will disseminate the final Type II IEPR Review Report, USACE response, and all other materials related to the Type II IEPR on the internet?	EC 1165-2-209 Appendix B, Para 5	ΓYes ΓNo ₽N/A
	Has the approval memorandum been prepared and does it accompany the RP?	EC 1165-2-209, Appendix B, Para 7	₩Yes F No

ATTACHMENT7: CERTIFICATE OF LEGAL REVIEW

CERTIFICATE OF LEGAL REVIEW

All implementation documents have been reviewed for their compliance with law and policy. This Review Plan and all associated documents have been fully reviewed by the Office of Counsel, Memphis District and is approved as legally sufficient.



DSAM DONS

Date