



DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS, TN 38103-1894

CEMVM-PM

10 February 2016

MEMORANDUM FOR RECORD

SUBJECT: Review Plan Update for the St. Johns Bayou and New Madrid Floodway Project

1. References:

(a) EC 1165-2-214, Civil Works Review Policy, 15 December 2012.

(b) EC 1105-2-410, Review of Decision Documents, 22 August 2008, Expired.

(c) Memorandum, CEMVD-PD-KM, 1 April 2009, subject: St. Johns Bayou and New Madrid Floodway Review Plan Approval.

(d) Email, E. Thaut (FRM-PCX) to D. Ward (CEMVM-PM) dated 1 December 2015, subject: Request to Update the Review Plan.

2. Reference (a) has superseded Reference (b). Reference (b) is no longer valid, and all references in the subject review plan are updated by this memorandum to Reference (a). Per Reference (c), which includes this statement: "Non-substantive changes to this review plan do not require further approval," this memorandum will serve to update the review plan. The need to provide this update comes by request per Reference (d), and according to policy in Reference (a).

3. This memorandum will be added to the Approved Review Plan on the Memphis District website to satisfy full disclosure of this change in policy reference

4. The District has executed the review process for the subject project in a manner consistent with the Approved Review Plan, and will continue to do so. However, conversation with the FRM-PCX has led to additional requests for clarification and updated information, particularly regarding the status of any ongoing or remaining agency technical reviews. To satisfy that request, the following information is provided:

Review	Disciplines	Duration	Budget Amount	Required Completion	Assistance from PCX?
Final Cost ATR	Cost Engineer	3 months	\$20,000	February 2016	None Req'd
Final EIS Review	NEPA Specialist*, Economist**, H+H Engineer	4 weeks	\$15,000	March 2016	Establish Team

* The desired experience from a NEPA reviewer is higher than a journeyman level. It is anticipated that this will require a GS-13 or higher level person who has authored multiple Environmental Impact statements, of which at least one was controversial (defined as interagency concerns at headquarter level and or legal challenges).

** The desired economist is a senior economist experienced with the Crop Flood Damage Analysis (CFDA) model or agriculturally derived flood risk management benefits.

5. Questions regarding this matter may be directed to Danny Ward at (901) 544-0709.

WARD.DANIEL.D. Digitally signed by WARD.DANIEL.D.1241430193
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ou=USA, cn=WARD.DANIEL.D.1241430193
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Daniel D. Ward
Project Manager



DEPARTMENT OF THE ARMY

MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS

P.O. BOX 80

VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION

CEMVD-PD-KM

1 Apr 2009

MEMORANDUM FOR Commander, Memphis District

SUBJECT: St. Johns Bayou and New Madrid Floodway Review Plan

1. References:

a. EC 1105-2-408, Peer Review of Decision Documents, 31 May 2005.

b. Memorandum, CEMVD-PD-N, 30 March 2007, subject: Peer Review Process.

c. EC 1105-2-410, Review of Decision Documents, 22 August 2008.

d. Memorandum, CEMVM-DE, 2 March 2009, subject as above (encl 1).

e. Memorandum, CESPCK-PD-W, 20 March 2009, subject: FRM-PCX Assessment of Review Plan for the St. Johns Bayou and New Madrid Floodway, MO, Environmental Impact Statement (encl 2).

2. The enclosed review plan for the St. Johns Bayou and New Madrid Floodway, MO, Environmental Impact Statement has been prepared in accordance with EC 1105-2-410.

3. I hereby approve the review plan and concur in the recommendation that agency technical review and independent external peer review of this project are required by EC 1105-2-410. The proposed review plan was coordinated with, and concurred in by, the Flood Risk Management Planning Center of Expertise (FRM-PCX) in coordination with the National Ecosystem Planning Center of Expertise (ECO-PCX) and the Water Management and Reallocation Studies Planning Center of Expertise (WMRS-PCX). The review plan complies with all applicable policy and provides an adequate independent technical review of the plan formulation, engineering and environmental analyses, and other aspects of the plan development. Non-substantive changes to this review plan do not require further approval.

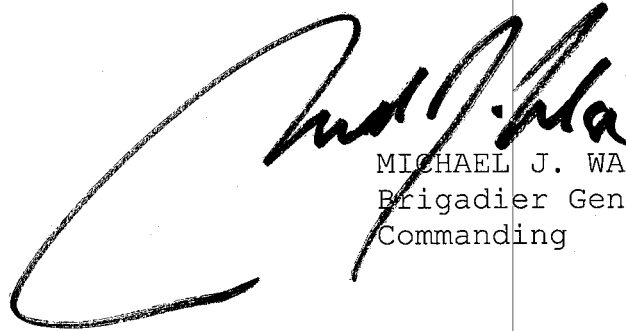
CEMVD-PD-KM

SUBJECT: St. Johns Bayou and New Madrid Floodway Review Plan

4. Post the review plan on your website, provide the FRM-PCX a link for posting on its website, and furnish a copy of the final approved review plan to the FRM-PCX. In accordance with reference 1.b. above, before posting to your website, remove the names of Corps/Army employees.

5. My point of contact for this action is Mr. Mike Renacker, (601) 634-5070.

Encls



MICHAEL J. WALSH
Brigadier General, USA
Commanding



Reply to
Attention of:

DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS, TENNESSEE 38103-1894

CEMVM-DE

2 March 2009

MEMORANDUM THRU COMMANDER, MISSISSIPPI VALLEY DIVISION

FOR COMMANDER, SOUTH PACIFIC DIVISION, ATTN: CESP-D-RM

SUBJECT: St. Johns Bayou and New Madrid Floodway Review Plan

1. Enclosed is the St. Johns Bayou and New Madrid Floodway, MO Review Plan for review and implementation by the USACE Flood Risk Management Center of Expertise (FRM PCX). Request that the Independent External Peer Review (IEPR) be managed through the Flood Risk Management Center of Expertise by an Outside Eligible Organization with review to begin no later than April 2009 and completed by June 2009.
2. FRM PCX, Mississippi Valley Division staff, local sponsor and USACE counsel participated in interim review and development of this plan. Discussions with the FRM PCX have indicated that it will take two weeks for them to review the plan and make recommendations to Mississippi Valley Division for approval. Therefore, Mississippi Valley Division should receive a recommendation from the FRM PCX 16 March 2009.
3. Please contact Danny Ward of my staff at (901) 544-0709 or Daniel.d.ward@mvm02.usace.army.mil for any inquiries concerning this submittal.

Enclosure


THOMAS P. SMITH
COL, EN
Commanding

Encl 1

MEMORANDUM FOR Mr. Daniel Ward, MVM

SUBJECT: FRM-PCX Assessment of Review Plan for the St. Johns Bayou and New Madrid Floodway, MO, Environmental Impact Statement

1. The Flood Risk Management Planning Center of Expertise (FRM-PCX) has reviewed the Review Plan (RP) for the subject study and concurs that the RP satisfies peer review policy requirements outlined in Engineer Circular (EC) 1105-2-410 Review of Decision Documents, dated 22 August 2008.
2. The FRM-PCX review was performed by Miki Fujitsubo, Sacramento District. The RP checklist and comment memo documenting the review is attached.
3. The FRM-PCX recommends the RP for approval by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander approval memorandum, and the link to where the RP is posted on the District website to Mr. Eric Thaut, Program Manager for the FRM-PCX (eric.w.thaut@usace.army.mil).
4. Thank you for the opportunity to assist in the preparation of the RP. Please coordinate the Agency Technical Review, Independent Peer Review and Model Certification efforts outlined in the RP with Mr. Thaut.



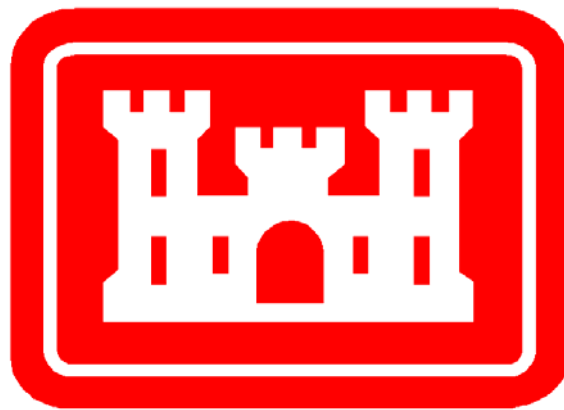
Miki Fujitsubo
Regional Technical Specialist
National Planning Center of Expertise for
Flood Risk Management (FRM-PCX)

Encl

REVIEW PLAN

**ST. JOHNS BAYOU AND NEW MADRID FLOODWAY, MO
ENVIRONMENTAL IMPACT STATEMENT**

MEMPHIS DISTRICT



March 2009

Revision 2
FRM-PCX Back Check Review

REVIEW PLAN

**ST. JOHNS BAYOU AND NEW MADRID FLOODWAY, MO
ENVIRONMENTAL IMPACT STATEMENT**

MEMPHIS DISTRICT

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REVIEW PLAN

ST. JOHNS BAYOU AND NEW MADRID FLOODWAY, MO ENVIRONMENTAL IMPACT STATEMENT

MEMPHIS DISTRICT

1. PURPOSE AND REQUIREMENTS

A. Purpose. This document outlines the Review Plan necessary to complete National Environmental Policy Act (NEPA) documentation for the St. Johns Bayou and New Madrid Floodway, MO Project. If feasible, this NEPA document will cumulate in a Record of Decision (ROD) signed by the Commanding General, Mississippi Valley Division (MVD). Engineering Circular (EC) *Peer Review of Decision Documents* 1105-2-408, dated 31 May 2005, (1) established procedures to ensure the quality and credibility of Corps decision documents by adjusting and supplementing the review process, and (2) required that documents have a peer review plan. That EC applies to all feasibility studies and reports and any other reports that lead to decision documents including Environmental Impact Statements. This review plan outlines the review necessary to complete the additional NEPA document only. This plan will be revised in the event that a post authorization report is required.

A subsequent circular, *Review of Decision Documents*, EC 1105-2-410, dated 22 August 2008, revises the technical and overall quality control review processes for decision documents. It formally distinguishes between technical review performed in-district (District Quality Control, "DQC") and out-of-district resources (formerly Independent Technical Review, "ITR," now Agency Technical Review, "ATR"). It also reaffirms the requirement for Independent External Peer Review (IEPR); this is the most independent level of review and is applied in cases that meet certain criteria where the risk and magnitude of a proposed project are such that a critical examination by a qualified team outside of the U.S. Army Corps of Engineers (USACE) is warranted.

B. Requirements. EC 1105-2-410 outlines the requirement of the three review approaches (DQC, ATR, and IEPR). EC 1105-2-408 provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the EIS as it pertains to both approaches and planning coordination with the appropriate PCX. The St. Johns Bayou and New Madrid Floodway, MO Project will investigate flood risk management (FRM) issues in the project area. Although the primary focus for the project is FRM, the FRM PCX will coordinate with the Ecosystem Planning Center of Expertise (ECO PCX) because of the likely environmental concerns associated with the project.

(1) District Quality Control. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the St. Johns Bayou and New Madrid Floodway, MO Project Management Plan (PMP) for the project (to which this Review Plan will ultimately be appended). It is managed in the Memphis District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the project, including contracted work that is being reviewed. Basic quality control tools include a Quality Control Plan (QCP) providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report,

technical appendices and the recommendations before the approval by the District Commander. For the St. Johns Bayou and New Madrid Floodway, MO Project, non-PDT members and/or supervisory staff will conduct this review for major draft and final products. The Major Subordinate Command (MSC) and District are directly responsible for the Quality Assurance (QA) and QC respectively, and to conduct and document this fundamental level of review. A Quality Control Plan (QCP) is included in the PMP for the subject project and addresses DQC by the District; DQC is not addressed further in this Review Plan. DQC is required for this EIS. No in-kind work is anticipated from the non-Federal project sponsor.

(2) Agency Technical Review. EC 1105-2-410 recharacterized ATR (which replaces the review formerly known as Independent Technical Review) as an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-408 requires that DrChecks <https://www.projnet.org/projnet/> be used to document all ATR comments, responses, and associated resolution accomplished. This Review Plan outlines the proposed approach to meeting this requirement for the St. Johns Bayou and New Madrid Floodway, MO Project. ATR is required for this EIS.

(3) Independent External Peer Review. EC 1105-2-410 recharacterized the external peer review process that was originally added to the existing Corps review process via EC 1105-2-408. 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. IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c) (3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. The IEPR will be on the technical aspects of the project. This Review Plan outlines the planned approach to meeting this requirement for the St. Johns Bayou and New Madrid Floodway, MO Project. IEPR is required for this EIS.

(4) Policy and Legal Compliance Review. In addition to the technical reviews, the EIS will be reviewed throughout the NEPA process for compliance with law and policy. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. In addition to assessing the technical quality of the EIS, ATR is also designed to augment and complement the policy review processes by addressing compliance with published Army polices pertinent to planning products, particularly polices on analytical methods and the presentation of findings. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Due to the history of past litigation, counsel will actively participate as a member of the PDT. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration polices, nor are they expected to address such concerns. An IEPR team

should be given the flexibility to bring important issues to the attention of decision makers. However, the IEPR panels should be instructed not to make a recommendation on whether a particular alternative should be implemented. They may, however, offer their opinions as to whether there were sufficient analyses upon which to base a recommendation for construction, authorization, or funding. Legal reviews will be conducted concurrent with ATR of the preliminary, draft, and final environmental impact statement.

(5) Planning Center of Expertise (PCX) Coordination. EC 1105-2-408 and EC 1105-2-410 outline PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for Flood Risk Management (FRM), who in turn will coordinate with the Ecosystem Planning Center of Expertise as appropriate. The PCX for FRM is responsible for the accomplishment and quality of ATR and IEPR for the St. Johns Bayou and New Madrid Floodway, MO Project. The DQC is the responsibility of the District. The PCX for FRM may conduct the review or manage the ATR and will manage the IEPR reviews to be conducted by others.

(6) Review Plan Approval and Posting. To ensure the Review Plan is in compliance with the principles of EC 1105-2-410 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, in this case the Commander, MVD. Once the Review Plan is approved, the Memphis District will post it to its district public website and notify MVD and the PCX for FRM.

(7) Safety Assurance Review. In accordance with Section 2035 of WRDA 2007, EC 11052-410 requires that all projects addressing flooding or storm damage reduction undergo a safety assurance review during design and construction. Safety assurance factors must be considered in all reviews for those studies. Implementation guidance for Section 2035 is under development. When guidance is issued, the project will address its requirements for addressing safety assurance factors, which at a minimum will be included in the draft report and appendices for public and agency review. Prior to preconstruction engineering and design (PED) of the identified for construction, a PMP will be developed that will include safety assurance review. Safety assurance review will also be accomplished during the design/construction phases.

2. PROJECT DESCRIPTION

A. Decision Document. The St. Johns Bayou and New Madrid Floodway Project is an existing authorized project with a portion of it already constructed. The purpose of this document is to document the requirements outlined by NEPA. If determined feasible, a ROD will be signed by the MVD Commanding General. If necessary, a post authorization report will be prepared.

The Flood Control Act of 1954 authorized the closure of a 1,500-foot gap and construction of a gated outlet in the Mississippi River levee at the lower end of the New Madrid Floodway. A final EIS, entitled *Mississippi Rivers and Tributaries, Mississippi River Levees (MRL) and Channel Improvement*, was prepared by the U.S. Army Corps of Engineers, Vicksburg District, in February 1976 that included the closure.

The St. Johns Bayou and New Madrid Floodway, Missouri, Phase I General Design Memorandum, dated September 1980, was prepared in response to Section 101(a) of the Water Resources Development Act of 1976. A final EIS, entitled *St. Johns Bayou/New Madrid Floodway Project Final Supplemental Environmental Impact Statement* was included in the Phase I General Design Memorandum.

The Mississippi River Commission stated in their report dated 29 January 1982 that the improvements recommended in the Phase I General Design Memorandum were economically and environmentally justified and socially acceptable. Congress provided funds in fiscal year 1982 to initiate continuation of planning and engineering studies. These subsequent studies resulted in the St. Johns Bayou and New Madrid Floodway, Missouri, Phase II General Design Memorandum. No major adverse environmental changes were determined during the Phase II studies that would require supplementing the existing EIS.

The St. Johns Bayou and New Madrid Floodway, Missouri Project was authorized for construction by the Water Resources Development Act of 1986, P.L. 99-662. Reevaluation studies were presented in the Phase II, St. Johns Bayou and New Madrid Floodway, Missouri General Design Memorandum 101 dated August 1986, and approved by USACE headquarters on 15 December 1986 subject to comments that were subsequently resolved in April 1987.

A Limited Reevaluation Review for the first phase of construction was conducted in 1997. The reevaluation process focused on updating economic analysis and environmental documentation for those authorized project features associated with this initial phase of the project. The LRR recommended a need to supplement the 1976 Mississippi River and Tributaries EIS and the St. Johns Bayou and New Madrid Floodway EIS.

The Final Supplemental Environmental Impact Statement (SEIS) titled *Flood Control, Mississippi River & Tributaries St. Johns Bayou and New Madrid Floodway, MO First Phase* was filed in September 2000. A Revised SEIS (RSEIS) was filed in 2002. The RSEIS documented the formulation and evaluation of additional alternatives to address concerns expressed by various resource agencies and environmental advocacy groups that environmental losses were not acceptable. The RSEIS included alternative levee closure locations for the New Madrid Floodway; an array of pump and gate operation alternatives that increase connectivity of the floodway with the Mississippi River to minimize impacts on fish habitat; significant avoid and minimize measures to benefit fish and wildlife resources; and mitigation measures that compensate for losses to wildlife habitat (bottomland hardwoods and agricultural areas), shorebird habitat, waterfowl habitat during February – March, and mid-season (1 April to 15 May) fish rearing habitat.

Since the filing and execution of the RSEIS, concerns were raised regarding the project and adequacy of mitigation. As a result, the ROD was withdrawn in 2005, and a decision was made to prepare a Revised Supplemental Environmental Impact Statement 2 (RSEIS 2). The RSEIS 2 incorporated the RSEIS and only expanded on compensatory mitigation methods.

In its decision dated 13 September 2007 the United States District Court for the District of Columbia found that the Corps of Engineers acted arbitrarily and capriciously in violation of the Administrative Procedures Act, the Clean Water Act, and the National Environmental Policy Act in finding that its plan would fully mitigate impacts to fisheries habitat. It set aside the RSEIS and RSEIS 2, ordered construction halted, and ordered USACE to restore the construction site to pre-construction conditions.

B. General Site Description. The St. Johns Bayou Basin and New Madrid Floodway Project area is located in Mississippi and New Madrid counties in southeastern Missouri along the right descending bank of the Mississippi River floodplain (Figure 1). The project area encompasses portions of two drainage basins separated by the Mississippi River and Tributaries Project's Birds Point-New Madrid Setback Levee.

The St. Johns Bayou Basin drains approximately 500 square miles. The area directly affected by the proposed action lies immediately west of the New Madrid Floodway. Project channels begin just north of the town of East Prairie, Missouri, and proceed south, then southwest, terminating at the city of New Madrid. The area extends approximately 40 miles from north to south, with a maximum width of 25 miles. The immediate project area covers 324,173 acres, of which about 288,000 acres (450 square miles) are tributary to the St. Johns Bayou and flow through the St. Johns Bayou gravity outlet at New Madrid. The remaining area drains northward through the Drinkwater area. In addition to St. Johns Bayou, Birds Point New Madrid Levee Ditch, and St. James Ditch, other major watercourses in the St. Johns Bayou Basin are St. Johns Ditch, Lee Rowe Ditch, and Maple Slough Ditch. All ditches flow southerly or southwesterly and drain into St. Johns Bayou, which discharges into the Mississippi River about one-half mile upstream of New Madrid through the St. Johns Bayou outlet structure.

The New Madrid Floodway covers about 207 square miles. It begins just south of Cairo, Illinois, and extends southward to New Madrid, Missouri. The eastern boundary is the frontline levee along the Mississippi River. The Birds Point - New Madrid Setback Levee separates the Floodway from the St. Johns Bayou Basin on the west. The Floodway is approximately 33 miles long, with a maximum width of 10 miles. The project area covers 132,605 acres. Mud Ditch, Wilkerson Ditch, St. Johns Diversion Ditch, Tenmile Pond, and St. James Bayou provide major drainage in the New Madrid Floodway. All effected drainage flows into Mud Ditch, which joins with St. Johns Bayou just before its discharge into the Mississippi River. The New Madrid Floodway, an area along with the Little River Headwater Diversion channel and a significant amount of riverside batture land, constitutes the remaining historic Mississippi River floodplain in Missouri.

Land use in the area is mostly agriculture (81%) followed by bottomland hardwoods (10%) and herbaceous wetlands (7%) [Figure 2]. The area has undergone extensive drainage projects conducted by local entities throughout the last century. All natural drainage has been channelized and new ditches have been constructed to facilitate drainage. Big Oak Tree State Park, owned and operated by the Missouri Department of Natural Resources, is the last remaining parcel of natural vegetation left in the Floodway. Although subject to backwater flooding, Big Oak Tree State Park does not experience beneficial flooding for periods that promote regeneration of the park's vegetation due to existing flood control projects in the area. The park's trees are being replaced by species that are more tolerant to drier conditions.

C. Project Scope. The Environmental Impact Statement will focus on FRM within the St. Johns Bayou Basin and the New Madrid Floodway. Agriculture is the primary economic resource within the project area. The flood of record at the New Madrid gage occurred in 1937. The most significant flood event since 1937 occurred in 1973, when over 56,500 acres of agricultural land in the New Madrid Floodway were inundated. According to recent data, the two-year backwater flood occurrence in the New Madrid Floodway inundates 17,316 acres, of which 11,843 acres are agricultural lands. At high Mississippi River stages, the St. Johns Bayou Basin control gates are closed to prevent backwater flooding. However, closing the gates prevents interior drainage and leads to headwater flooding. The two-year headwater flood event under these circumstances inundates approximately 10,056 acres, of which 6,312 are agricultural lands.

The decision to sign a new ROD for this project will be based on the evaluation of compensatory mitigation features, and an evaluation of the probable impact, including cumulative impacts, of the activities on the public interest. That decision would reflect the national concern for both protection and utilization of important resources. The potential benefits of the activity must be

balanced against its reasonably foreseeable detriments. The ROD will consider all reasonably foreseeable direct, indirect, and cumulative effects of the activity.

D. Problems and Opportunities. The primary flood-related problems in the project area are (1) headwater flooding in the St. Johns Bayou Basin that occurs when the outlet structures are closed to prevent Mississippi River backwater flooding and (2) Mississippi River backwater flooding that occurs through the 1,500-foot gap in the Mississippi River Mainline Levee. Constructing the flood risk management project would provide an annual benefit of \$6,772,000 to the region and nation as well as locally to East Prairie, Pinhook, and other communities.

Unavoidable impacts to fish and wildlife resources would be incurred by the reduction of flooding. Environmental concerns include impacts to the following:

- 102 acres of jurisdictional wetlands due to channel enlargement and levee closure,
- jurisdictional status to up to 520 acres of farmed wetlands due to a decrease in flooding,
- 536 acres of forested areas due to clearing necessary for construction,
- shorebird habitat due to a likely change in agricultural practices,
- waterfowl habitat during February and March in the New Madrid Floodway due to a reduction in flooding,
- in-stream habitat due to channel widening, and
- fish spawning and rearing habitat due to a reduction in flooding.

Historically the project area was made up of bottomland hardwoods that provided habitat to numerous fish and wildlife species. These areas have already been cleared for agricultural purposes. The majority of impacts of the project are on farmland. An opportunity exists to restore thousands of acres of bottomland hardwoods in the project area through compensatory mitigation. Over time, these areas will provide habitat that historically existed in the project area.

An additional opportunity exists to restore hydrology to Big Oak Tree State Park. As part of the project's compensatory mitigation, a water delivery system will be designed and constructed that allows the park to be inundated by the Mississippi River at periods and durations that historically occurred prior to drainage projects and levee construction. The historic bottomland hardwood community (cypress swamp) is being replaced by species (red maple) that are more tolerant to dry conditions.

Existing floodplain lakes within and adjacent to the project area are slowly filling in with sediment. Although this is a natural phenomenon within the Lower Mississippi River Alluvial Valley, sedimentation rates have increased due to anthropogenic impacts. Additionally, navigation features preclude the formation of new oxbow lakes. An opportunity exists to restore some of these lakes to compensate for fish spawning and rearing impacts of the project.

To reduce impacts to fish spawning and rearing habitat, the current plan allows Mississippi River backwater flooding to inundate approximately 1,727 acres¹ of floodplain in the New Madrid Floodway. Gates would be closed and pumps would be used to maintain an elevation of 284.4 feet NGVD. Fish would not be able to access the Floodway during periods that the gates are closed. However, USACE is of the opinion that fish will be able to access floodplain habitat to spawn and rear prior to gate closure. An opportunity exists to develop an operating rule curve

¹ 2416 acres corresponds to an elevation of 284 foot NGVD. The plan calls for allows backwater flooding to an elevation of 284.4 feet NGVD. Therefore, actual acreages would be greater than what is presented.

that maximizes periods that the gates are open without jeopardizing the economic benefits of the project.

Existing local drainage projects have impacted hydrology in the area. Although the project would further reduce flooding in the area, an opportunity exists to manage water levels in both basins by means of the closure gates and pumps. Gates can be used to trap water during waterfowl migration season and hold water during fish spawning and rearing seasons. Opportunities will be explored that can utilize the gates to manage water levels in a fashion that mimics natural hydrology or restores historic habitat.

E. Potential Methods. Authorized FRM measures include channel enlargement, pumping stations, and closing the 1,500-foot gap. Additional measures that avoid and minimize environmental impacts will also be explored including measures that maximize fish passage without jeopardizing the benefits of the project and restoring hydrology to Big Oak Tree State Park providing those additional measures are consistent with authorizing language.

F. Product Delivery Team. The PDT is comprised of those individuals directly involved in the development of the EIS including the project sponsor. Although the sponsor is on the PDT, no in-kind work is anticipated. Individual contact information and disciplines are presented in appendix B.

G. Vertical Team. The Vertical Team includes District management, District Support Team (DST) and Regional Integration Team (RIT) staff as well as members of the Planning Community of Practice (PCoP). Specific points of contact for the Vertical Team can be found in Appendix B.

H. Model Certification. The USACE Planning Models Improvement Program (PMIP) was established in 2003 to assess the state of planning models in the USACE and to make recommendations to assure that high quality methods and tools are available to enable informed decisions on investments in the Nation's water resources infrastructure and natural environment. The main objective of the PMIP is to carry out "a process to review, improve and validate analytical tools and models for USACE Civil Works business programs."

For the purposes of this RP section, planning models 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. It includes all models used for planning, regardless of their scope or source, as specified in the following subparagraphs. This RP section does not cover engineering models used in planning which will be certified under a separate process.

Past NEPA documents used a variety of different models to quantify impacts of the project and determine appropriate compensatory mitigation. With the exception of the terrestrial wildlife model that utilized published "blue book" HSI models, none of the models have been certified. All models will require certification. Model certification and approval will be coordinated through the ECO PCXs as needed.

- ENVIROFISH – Envirofish is a model developed by ERDC that quantifies impacts associated with reduced flooding on fish spawning and rearing habitat. The first step in Envirofish involves a GIS land cover map that categorizes land use by one-foot elevation contours. A stage area curve is established that defines land cover at or below various

elevations in the floodplain. The next step in Envirofish calculates daily flood stages over a long period of record that satisfy the requirements for fish spawning and rearing habitat. Based on the daily stage and the stage area curve one establishes the daily flooded acres of various land cover types. An average is taken over the period of record to establish average daily flooded acres (ADFA) of each cover type. The next step in Envirofish determines the habitat value (*i.e.*, Habitat Suitability Index) of each land cover type for spawning and rearing habitat. ADFA is multiplied by the habitat value to determine habitat units. Post project habitat units are subtracted from existing conditions habitat units to determine impacts of the project.

- Waterfowl Assessment Methodology (WAM) – WAM is a model that was used by the U.S. Fish and Wildlife Service to quantify impacts of the project. WAM has also been used for other water resources development projects within the Lower Mississippi Valley. WAM is a caloric model that determines the value of available flooded habitat based on the availability of food and deterioration rates.
- Shorebird Habitat Evaluation Procedures (HEP) – The Fish and Wildlife Service used a community HEP model to quantify the reduction of flooding on shorebirds. Although HEP is a certified method, the HSI values were based on interagency assumptions.
- Hydrogeomorphic (HGM) Approach – The Arkansas Delta Regional HGM Guidebook was used to quantify direct impacts of the project to vegetated and farmed wetlands. HGM is a widely utilized practice used throughout the Civil Works and Regulatory communities.

No other planning models are anticipated for use to complete the NEPA document. However, in the event that a need is determined, the use of the model will be coordinated with the appropriate PCX.

The following are engineering models, as opposed to planning models, and are not subject to the planning model certification requirements. The following engineering models were used during previous efforts. This list will be updated in the event that engineering models are required to complete the NEPA document.

- HEC-2: This model is a steady-state water surface profile computer program developed by the Hydrologic Engineering Center (HEC). HEC-2 has the following major capabilities:
 - User interface
 - Hydraulic analysis
 - Graphics and reporting
- HEC-1: The model was utilized in the development of the original project. HEC-1 has the following major capabilities:
 - User interface
 - Hydrologic analysis
 - Graphics and reporting

- HEC-FFA: The program has the following major capabilities:
 - User interface
 - Frequency analysis
 - Tabular reporting
- HUXRAIN: The program is a continuous-simulation program developed by the Memphis District to compute runoff. It utilizes API coefficients to account for soil moisture losses. A technical paper has been published that describes the API process. The original program has features that can simulate pumping and gate operations.
- STATS: The program was developed by HEC in response to the needs of Corps districts for statistical analysis of time series data. STATS has undergone several refinements since its development as new capabilities have been needed, and computer platforms change. STATS has the following major capabilities:
 - Statistical analysis
 - Graphics and reporting
- WETSORT: The program can compute a stage or elevation of land that would meet a specific definition of hydrology necessary to be considered a potential wetland. The program has algorithms that produce results very similar, if not identical, to a method developed by the Natural Resources Conservation Service to estimate a vertical boundary, below which land would be considered to have sufficient hydrology for potential classification as a jurisdictional wetland.

3. AGENCY TECHNICAL REVIEW PLAN

ATR will be managed by the PCX. For this EIS, due to the heavy emphasis on flood risk management, the PCX for FRM will identify individuals to perform ATR. Memphis District can provide suggestions on possible reviewers.

A. General. An ATR Manager shall be designated for the ATR process. The proposed ATR Manager for this project is to be determined, but will have expertise in project planning and will not be employed within MVD to ensure team objectivity. The ATR Manager is responsible for providing information necessary for setting up the review, communicating with the project manager, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATR team (ATRT), ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy. ATR will be conducted for all aspects of the EIS process including project planning, environmental compliance, economics, hydrology, hydraulic design, cost engineering, real estate, cultural resources; reviews of more specific disciplines maybe identified if necessary.

B. Agency Technical Review Team (ATRT). The ATRT will be comprised of individuals that have not been involved in the development of the EIS and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT in terms of discipline/background and wherever possible, reside outside of the Mississippi Valley Division region. It is anticipated that the team will consist of about 10 reviewers. The ATRT members will be identified at the time the review is conducted and will be presented in appendix B.

C. Communication. The communication plan for the ATR is as follows:

(1) The team will use DrChecks to document the ATR process. The project manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and

ATRT members. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in Word format at: <ftp://ftp.usace.army.mil/usace/mvm/> at least one business day prior to the start of the comment period.

(2) The PDT shall send the ATR manager one hard copy (with color pages as applicable) of the document and appendices for each ATRT member such that the copies are received at least one business day prior to the start of the comment period.

(3) The PDT shall host an ATR kick-off meeting virtually to orient the ATRT during the first week of the comment period. If funds are not available for an on-site meeting, the PDT shall provide a presentation about the project, including photos of the site, for the team.

(4) The project manager shall inform the ATR manager when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(5) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/usace/mvm/> for use during back checking of the comments.

(6) Team members shall contact ATRT members or leader as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(7) Reviewers will be encouraged to contact PDT members directly via email or phone to clarify any confusion. DrChecks shall not be used to post questions needed for clarification.

(8) The ATRT, the PDT, and the vertical team shall conduct an after action review (AAR) following the ATR process.

D. Funding

(1) The PDT district shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided through government order. The project manager will work with the ATR manager to ensure that adequate funding is available and is commensurate with the level of review needed. Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.

(2) The team leader shall provide organization codes for each team members and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes.

(3) Reviewers shall monitor individual labor code balances and alert the ATRT project manager to any possible funding shortages.

E. Timing and Schedule

(1) Throughout the development of this document, the team will conduct seamless review to ensure planning quality.

(2) The ATR will be convened early in the EIS process and will participate in the

Technical Review Strategy Session (TRSS) with the PDT and DST. The TRSS is to verify the basic plan and the rationale for key planning assumptions.

(3) The ATR will be conducted prior to the release of the Draft EIS and prior to the release of the Final EIS.

(4) The PDT will hold a “page-turn” session to review the draft report to ensure consistency across the disciplines and resolve any issues prior to the start of ATR. Writer/editor services will be performed on the draft prior to ATR as well.

(5) Table 1 provides a timeline for the ATR process. Actual dates will be scheduled once the period draws closer. All products produced for these milestones will be reviewed. No in-kind work from the non-Federal sponsor is anticipated.

Table 1. ATR Timeline, St. Johns Bayou and New Madrid Floodway, MO.

Task	Date
Participation in TRSS	July 2009
Kickoff meeting	1 st week February 2011
ATR Comments (Draft EIS)	1 st - 4 th week February 2011
PDT Responses (Draft EIS)	1 st & 2 nd week March 2011
Responses Back check (Draft EIS)	3 rd week March 2011
ATR Certification (Draft EIS)	4 th week March 2011
Project Briefing	August 2011
Public Review of Draft EIS	September 2011
ATR Comments (Final EIS)	1 st - 4 th week December 2011
PDT Responses (Final EIS)	1 st & 2 nd week January 2012
Responses Back check (Final EIS)	3 rd week January 2012
ATR Certification Final Report	Last week January 2012
ATR After Action	April 2012
Public Review Final EIS	April 2012
ROD	May 2012

F. Review

(1) ATRT responsibilities are as follows:

- (a) Reviewers shall review conference material and the draft report to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments on the report shall be submitted into DrChecks.
- (b) Reviewers shall pay particular attention to one’s discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.
- (c) Grammatical and editorial comments shall not be submitted into DrChecks.

Comments should be submitted to the ATR manager via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The ATR manager shall provide these comments to the project manager.

(d) Review comments shall contain these principal elements:

- 1 a clear statement of the concern
- 2 the basis for the concern, such as law, policy, or guidance
- 3 significance for the concern
- 4 specific actions needed to resolve the comment

(e) The “Critical” comment flag in DrChecks shall not be used unless the comment is discussed with the ATR manager and/or the project manager first.

(2) PDT Team responsibilities are as follows:

(a) The team shall review comments provided by the ATRT in DrChecks and provide responses to each comment using “*Concur*”, “*Non-Concur*”, or “*For Information Only*”. *Concur* responses shall state what action was taken and provide revised text from the report if applicable. *Non-Concur* responses shall state the basis for the disagreement or clarification of the concern and suggest actions to negotiate the closure of the comment.

(b) Team members shall contact the PDT and ATRT managers to discuss any “Non-Concur” responses prior to submission.

G. Resolution

(1) Reviewers shall back check PDT responses to the review comments and either close the comment or attempt to resolve any disagreements. Conference calls shall be used to resolve any conflicting comments and responses.

(2) Reviewers may “agree to disagree” with any comment response and close the comment with a detailed explanation. If reviewer and responder cannot resolve a comment, it should be brought to the attention of the ATR manager and, if not resolved by the ATR Manager, it should be brought to the attention of the planning chief who will need to sign the certification. ATRT members shall keep the ATR manager informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during HQ review.

H. Certification

To fully document the ATR process, a statement of technical review will be prepared. Certification by the ATR Manager and the project manager will occur once issues raised by the reviewers have been addressed to the review team’s satisfaction. Indication of this concurrence will be documented by the signing of a certification statement (Appendix A). A summary report of all comments and responses will follow the statement and accompany the report. An interim certification will be provided by the ATR team lead to indicate concurrence with the report to date until the final certification is performed when the report is considered final.

I. Alternative Formulation Briefing (AFB)

An AFB is not required for this project. However, a project briefing for all personnel (*i.e.*, PDT,

ATRT, and vertical team) will likely occur in July 2011 for this project. The briefing will take place after ATR comments have been resolved and prior to the release of the Draft EIS. It is possible that the briefing will result in additional technical or policy comments from high level reviewers for resolution. The resolution of significant policy comments may result in major changes to the document. Therefore, the ATR Manager will perform a brief review of the report to ensure that technical issues are resolved.

4. INDEPENDENT EXTERNAL PEER REVIEW PLAN

This EIS will evaluate FRM measures to address problems in the project area. EC 1105-2-408 set forth and EC 1105-2-410 reaffirmed thresholds that trigger IEPR: “In cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the project is controversial, has significant interagency interest, has a total project cost greater than \$45 million, or has significant economic, environmental and social effects to the nation, IEPR will be conducted.” This EIS is not expected to contain influential scientific information nor be a highly influential scientific assessment. This project area is rural in nature. However, this project is part of the Mississippi River and Tributaries Project that protects millions of acres of urban and non-urban areas. Therefore, there are public safety concerns. The EIS will be moderately complex because of the extensive environmental modeling. This project has the potential to be controversial and will likely have significant agency and public interest (as evidenced in past NEPA documents and litigation). It can be assumed that the ultimate cost associated with a recommended plan is likely to be approximately \$100 million. For these reasons, IEPR will be conducted. IEPR will be conducted throughout the entire EIS. IEPR is currently estimated to be \$350,000. IEPR will be fully Federally funded. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost shared expenses. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers. No in-kind work is anticipated from the non-Federal sponsor.

A. Project Magnitude. For reasons described in the preceding paragraphs, the magnitude of this project is determined as high.

B. Project Risk. This project is considered to have high overall risk. It will be important to make sound planning assumptions in application of all the modeling and judgment and to do so will require application of multiple levels of review. Public and agency input will be sought in order to minimize the potential for controversy. Uncertainty of success of the project ultimately will be low to moderate – if the proposed review processes are implemented - because the methods used for evaluating the project are standard and the concept of implementing proposed project features is not innovative.

C. Vertical Team Consensus. This Review Plan will serve as the coordination document to obtain vertical team consensus. Subsequent to PCX approval, the plan will be provide to the vertical team for approval. MSC approval of the plan will indicate vertical team consensus.

D. General. EC 1105-2-410 encourages IEPR to be conducted concurrent with public review. However, IEPR for this EIS will take place throughout the process in four different phases including following public review of the draft report to ensure that the panel can take the views of the public in consideration. In coordination with the sponsor, Memphis District, Mississippi Valley Division, and HQ, it was determined that this additional IEPR is necessary because of litigation and the U.S. District Court’s ruling. The four phases of IEPR are; (1) at the beginning

of the process, (2) prior to additional analyses, (3) prior to public review of the draft document, and (4) prior to the public review of the final document when all responses to public comment are completed.

Phase 1. The experts will review past NEPA documentation and assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analyses, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in evaluation of economic or environmental impacts of the proposed project, and any biological opinions of the project. Memphis District will consolidate past NEPA documents into one document to ensure that the latest revision is reviewed. If requested or required, presentations to the panel will be made and site visits to the project area will be scheduled. Table 2 provides the required disciplines for expert review. All review panel members should hold a PhD and be nationally recognized as experts in their respective fields.

Table 2. IEPR panel disciplines, St. Johns Bayou and New Madrid Floodway Project, MO.

Discipline	Experience
Wetland Ecologist	A history of delineating wetlands, developing wetland mitigation plans, and restoring wetlands/floodplains in degraded environments of large river system.
Waterfowl Biologist	Knowledge with the use of using caloric models that determine waterfowl usage of various land uses and a history of peer reviewed publications studying waterfowl.
Fishery Biologist	A history of peer reviewed publications studying fishes of large river systems and familiar with fish passage through culverts or other similar structures.
Water Quality Expert	Professional experience with Gulf of Mexico Hypoxia and a history of peer reviewed publications that assess water quality in large river systems.
Shorebird Biologist	A history of peer reviewed publications studying shorebirds within large river systems.
Hydrology and Hydraulics	A history of work on large river systems and a professional engineer.
Economist	Experience with Water Resources Development Projects that follow the procedures of the Water Resources Council's <u>Principles and Guidelines</u> .
NEPA Expert	A history of preparing and reviewing environmentally controversial water resource development Environmental Impact Statements.

A series of questions will be formulated by Memphis District, the sponsor, and the interagency team and submitted to the experts to guide the Phase 1 review process. If shortcomings to past analyses are found, the expert will provide an alternate methodology.

Phase 2. Based on Phase 1 review comments, the Memphis District will prepare a work plan that will provide a description of the additional analyses that will be conducted. This work plan will be forwarded to the panel for review to ensure that they agree with the approach and overall methodologies prior to starting work.

Phase 3. Once the current Working Draft NEPA document is completed and ATR conducted, the experts will review the report for concurrence prior to public review. As the EIS develops, it may be necessary to add experts to the overall panel.

Phase 4. Following public and agency comments of the draft report and when responses have been formulated, the working Final NEPA document will be forwarded to the panel of experts for review. This review will entail the review of relevant public comments and USACE’s response.

E. Schedule. Table 3 provides a schedule for IEPR.

Table 3. IEPR schedule, St. Johns Bayou and New Madrid Floodway.

Review Phase	Review Item	Review Period
Phase 1 IEPR	Review of Past NEPA Documentation	90 days
ATR	Working Draft NEPA Document	60 days
Phase 2 IEPR	Work Plan	30 days
Phase 3 IEPR	Working Draft NEPA Document	60 days
Phase 4 IEPR	Working Final NEPA Document	60 days

F. Communication and Documentation. The communication plan for the IEPR is as follows:

(1) Phase 1 Review. The following procedures will be followed for Phase 1 review:

- (a) Each member of the panel will be forwarded one copy of the consolidated NEPA document, relevant analyses, applicable legal proceedings, and questions at the start of the review period.
- (b) Approximately 30 days after the start of the review, a meeting will be conducted for the panel to ask any questions to the PDT for clarification. If required, a site visit will be scheduled.
- (c) All communication between the panel of experts and the PDT will be documented by the OEO. In addition, any communication between the experts individually or collectively with members of the interagency team or any other party will be fully documented by the OEO. No communication will take place outside the presence of the OEO.
- (d) The OEO will document the review in a report format. The report will include a certification statement that experts will be required to sign (included in Appendix 1).

(2) Phase 2 Review. The following procedures will be followed for Phase 2 reviews:

- (a) Following Phase 1 review the Memphis District will prepare a Work Plan that outlines the additional studies and analyses that will be required to complete the NEPA Document. The Work Plan will be submitted to the IEPR panel for review.
- (b) All communication between the panel of experts and the PDT will be documented by the OEO. In addition, any communication between the experts individually or collectively with members of the interagency team or any other party will be fully documented by the OEO. No communication will take place outside the presence of the OEO.
- (c) The OEO will document the review in a report format. The report will be

submitted 30 days after submittal of the Work Plan. The report will include a certification statement that experts will be required to sign (included in Appendix 1).

(3) Phase 3 Review. The following procedures will be followed for Phase 3 Review:

(a) The panel will receive a working copy of the Draft NEPA document.

(b) The panel will use DrChecks to document the IEPR process. The project manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and the OEO. An electronic version of the document and appendices shall be posted in Word format at:

<ftp://ftp.usace.army.mil/usace/mvm/> at least one business day prior to the start of the comment period.

The OEO will compile the comments of the IEPR panelists, enter them into DrChecks, and forward the comments to the District. The District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The District will enter the proposed response to DrChecks, and then return the proposed response to the panel. The panel will reply to the proposed response through the OEO, again using DrChecks. This final panel reply may or may not concur with the District's proposed response and the panels final response will indicate concurrence or briefly explain what issue is blocking concurrence. The District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the District's proposed response, the panels reply to the District's proposed response, and the final agency response will all be tracked and archived in DrChecks for the record. However, only the initial panel comments and the final agency responses will be posted.

(c) The project manager shall inform the OEO and IEPR panel when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(d) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/usace/mvm/> for use during back checking of the comments.

(e) PDT members shall contact IEPR panel members as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. The OEO will document all discussions.

(f) The OEO will prepare a report that documents the Phase 3 review. A signed certification statement from each expert will be included in the report. The report will be submitted no later than 30 days following the back check. This report will be included in the Draft NEPA document.

(4) Phase 4 Review. The following procedures will be followed for Phase 4 Review:

(a) The panel will receive a working copy of the Final NEPA document that includes public and agency comments made during the review of the Draft report and Memphis District's responses to the comments.

(b) The panel will use DrChecks to document the IEPR process. The project manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and the OEO. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in Word format at: <ftp://ftp.usace.army.mil/usace/mvm/> at least one business day prior to the start of the comment period.

The OEO will compile the comments of the IEPR panelists, enter them into DrChecks, and forward the comments to the District. The District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The District will enter the proposed response to DrChecks, and then return the proposed response to the panel. The panel will reply to the proposed response through the OEO, again using DrChecks. This final panel reply may or may not concur with the District's proposed response and the panel's final response will indicate concurrence or briefly explain what issue is blocking concurrence. The District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the District's proposed response, the panel's reply to the District's proposed response, and the final agency response will all be tracked and archived in DrChecks for the record. However, only the initial panel comments and the final agency responses will be posted.

(c) The project manager shall inform the OEO and IEPR panel when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(d) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/usace/mvm/> for use during back checking of the comments.

(e) PDT members shall contact IEPR panel members as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. The OEO will document all discussions.

(f) The OEO will prepare a report that documents the Phase 3 review. A signed certification statement from each expert will be included in the report. The report will be submitted no later than 30 days following the back check. The Memphis District will draft a response report to the IEPR final report and process it through the vertical team for discussion. This report will be included in the Final NEPA document.

G. Funding

The PCX for FRM will identify someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. IEPR activities will be fully federally funded up to \$500,000.

5. PUBLIC AND AGENCY REVIEW

The public and agencies will have multiple opportunities to participate in the NEPA process. A Notice of Intent to prepare an EIS will be published in the Federal Register during the first year. This notice will also serve as a public scoping notice. Public review of the Draft EIS will occur during the third year. The period will last a minimum of 45 days as required for an

Environmental Impact Statement. If determined necessary, one or more public meetings/workshops will be held during the public and agency review period. Comments received during the public comment period for the draft report will be provided to the IEPR team prior to completion of the final Review Report and review of the final EIS. The public review of necessary state or Federal permits will also take place during this period. A formal State and Agency review will occur concurrent with the public review. However, it is anticipated that intensive coordination with these agencies will have occurred concurrent with the planning process. Responses to all comments will be formulated and provided in a Final EIS. The Final EIS will undergo a 30-day public comment period. Upon completion of the review period, comments will be consolidated in a matrix and addressed, if needed. A comment resolution meeting will take place if needed to decide upon the best resolution of comments. A summary of the comments and resolutions will be included in the document. A plan for public participation will be developed early in the NEPA process which might identify informal as well as additional formal forums for participation in the EIS.

6. PLANNING CENTERS OF EXPERTISE COORDINATION

The appropriate PCX for this document is the National Flood Risk Management Center of Expertise located at SPD. The PCX for FRM will coordinate with the National Ecosystem Restoration Planning Center of Expertise at MVD, as appropriate. Environmental models will be coordinated through the ECO PCS. This Review Plan will be submitted to the PCX FRM Director for review and comment. Since it was determined that this project is high risk, an IEPR will be required. As such, the PCX will be asked to manage the IEPR review. For ATR, the PCX is requested to nominate the ATR team as discussed in paragraph 3.b. above. The approved Review Plan will be posted to the Memphis District's public website. Any public comments on the Review Plan will be collected by the Office of Water Project Review (OWPR) and provided to the Memphis District for resolution and incorporation if needed.

7. APPROVALS

The PDT will carry out the Review Plan as described. The project manager will submit the plan to the PDT District Planning Chief for approval. Formal coordination with PCX for FRM will occur through the PDT District Planning Chief. Upon concurrence of the PCX FRM, the Review Plan will be submitted to the MVD for the Commander's review and approval. Once the Review Plan is approved by the MVD Commander, it will be posted on a public website.

The Points of Contact for questions and comments to this Review Plan are as follows:

District Point of Contact:

REMOVED

MSC Point of Contact:

REMOVED

FRM-PCX Point of Contact:

REMOVED

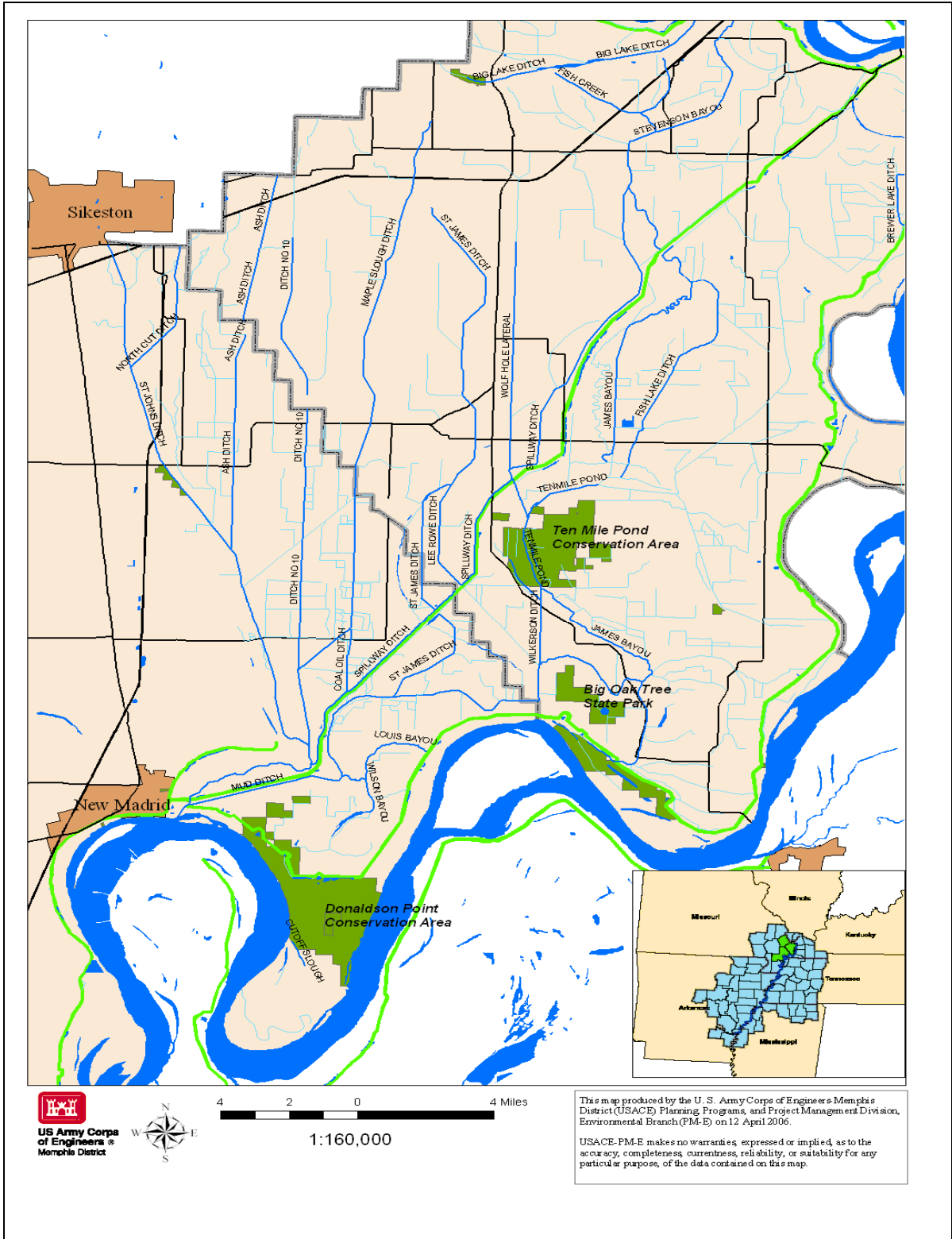


Figure 1. Vicinity map, St. Johns Bayou and New Madrid Floodway, MO.

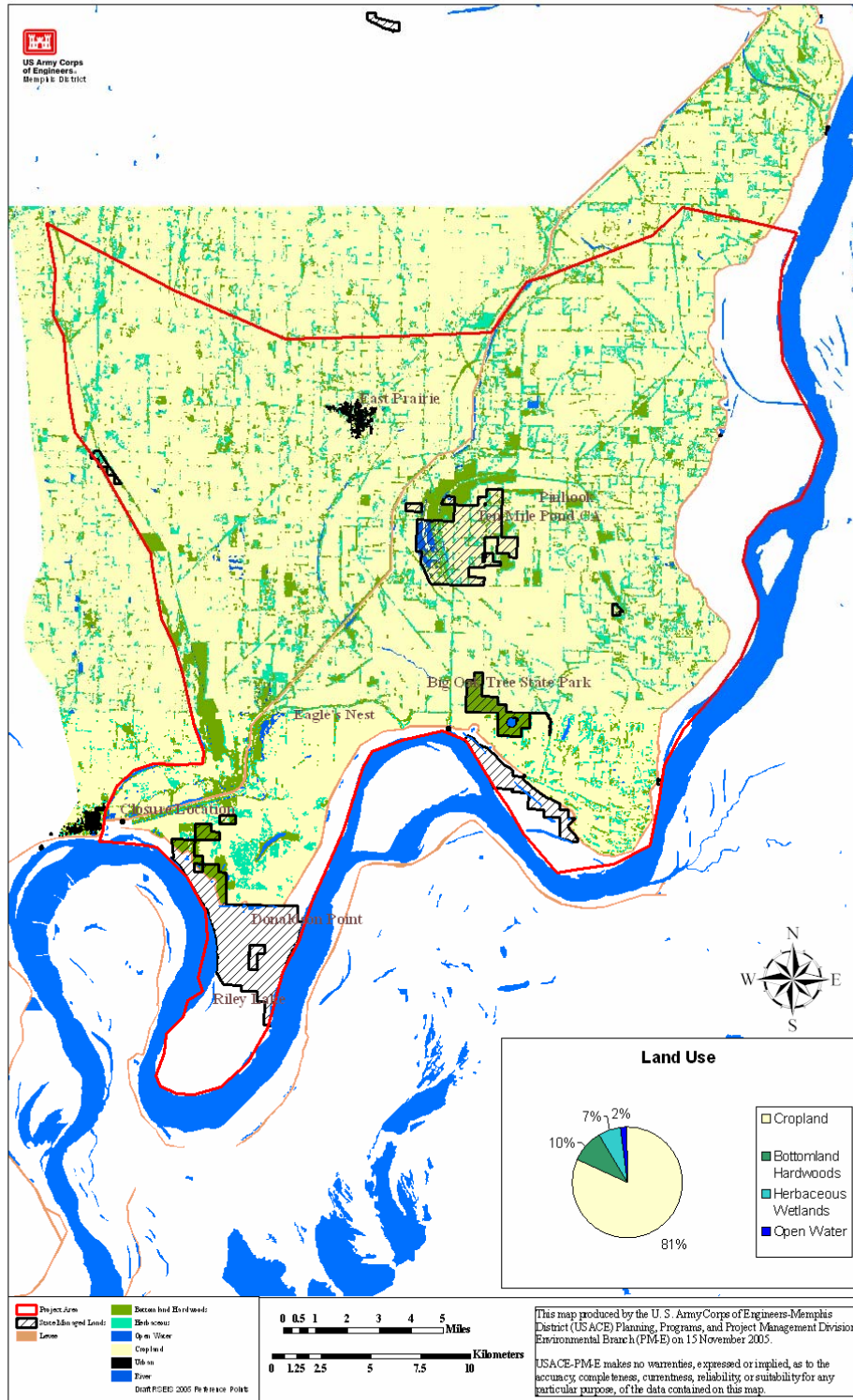


Figure 2. Land use, St. Johns Bayou and New Madrid Floodway, MO.

REVIEW PLAN

ST. JOHNS BAYOU AND NEW MADRID FLOODWAY, MO
FLOOD RISK MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT

MEMPHIS DISTRICT

APPENDIX A

STATEMENTS OF INDEPENDENT EXTERNAL PEER REVIEW
AND TECHNICAL REVIEW

**COMPLETION OF INDEPENDENT EXTERNAL PEER REVIEW
ST JOHNS BAYOU AND NEW MADRID FLOODWAY, MISSOURI
FLOOD RISK MANAGEMENT, ENVIRONMENTAL IMPACT STATEMENT AND
APPENDICES**

Certification Statement

1. I am a (current job) with special expertise in (expertise). A major area of my research concerns (major area of research). My expertise derives in part from (relevant experience).
2. I have reviewed the St. Johns Bayou and New Madrid Floodway, MO (consolidated NEPA document, Work Plan, Draft EIS, or Final EIS) provided from the U.S. Army Corps of Engineers.
3. The attached report contains my conclusions regarding the analysis of the project.

TBD _____

NAME

Date

**COMPLETION OF AGENCY TECHNICAL REVIEW
ST JOHNS BAYOU AND NEW MADRID FLOODWAY, MISSOURI
FLOOD RISK MANAGEMENT, ENVIRONMENTAL IMPACT STATEMENT AND
APPENDICES**

The Memphis District has completed the environmental impact statement and appendices of the St. Johns Bayou and New Madrid Floodway, MO Project. Notice is hereby given that an agency technical review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the agency technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an agency team composed of staff from multiple districts. All comments resulting from the ATR have been resolved.

TBD _____

NAME
Team Leader, St. Johns Bayou and New
Madrid Floodway, MO Project
Agency Technical Review Team

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

A summary of all comments and responses is attached. Significant concerns and the explanation of the resolution are as follows:

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

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

NAME
Chief, Planning Division

Date

REVIEW PLAN

ST. JOHNS BAYOU AND NEW MADRID FLOODWAY, MO
FLOOD RISK MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT

MEMPHIS DISTRICT

APPENDIX B

PRODUCT DELIVERY TEAM

Name	Discipline	Phone (901) 544 -	Email
REMOVED	Project Manager ¹		
REMOVED	Environmental Analysis		
REMOVED	Hydraulics and Hydrology		
REMOVED	Economics		
REMOVED	Cost Engineering		
REMOVED	Real Estate/Lands		
REMOVED	Cultural Resources		
REMOVED	Legal		
REMOVED	Legal		
REMOVED	Regulatory		

¹Project manager will also serve as the study manager

INDEPENDENT EXTERNAL PEER REVIEW TEAM

Name	Discipline	Phone	Email
TBD	Wetland Ecologist		
TBD	Waterfowl Biologist		
TBD	Fishery Biologist		
TBD	Water Quality Expert		
TBD	Shorebird Biologist		
TBD	Hydrology and Hydraulics		
TBD	Economist		
TBD	NEPA Expert		

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Phone	Email
TBD	ATR Manager/Plan Formulation		
TBD	Environmental Analysis		
TBD	Hydraulics and Hydrology		
TBD	Economics		
TBD	Cost Engineering ¹		
TBD	Real Estate/Lands		
TBD	Cultural Resources		
TBD	Regulatory		

¹The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Center of Expertise as required. That PCX will determine if the cost estimate will need to be reviewed by PCX staff.

VERTICAL TEAM

Name	Discipline	Phone	Email
REMOVED	District Support Team		
REMOVED	District Support Team		
REMOVED	Regional Integration Team		

PLANNING CENTER OF EXPERTISE FLOOD RISK MANAGEMENT

Name	Discipline	Phone	Email
REMOVED	Program Manager, PCX Flood Risk Management		
REMOVED	Operations Director, PCX Ecosystem Restoration		

¹ Primary PCX is FRM, who will coordinate with PCX for EC as appropriate.

ATRT Member Disciplines (Revise as required)

ATR representation is required in the disciplines listed below. In general, the review team members should have a minimum of 10 years experience and education in their respective discipline. Candidates may have fewer than 10 years if experience clearly shows expertise. A statement of qualifications is required for each discipline prior to acceptance as an ATRT member and for any subsequent changes thereto.

Hydrology & Hydraulics: Team member will be an expert in the field of hydrology & hydraulics, have a thorough understanding of the dynamics of open channel flow systems, enclosed systems, application of levees and gated outlet structures in agricultural areas, effects of best management practices that can minimize environmental impacts, and approaches that can benefit water quality.

Economics: Team member will be experienced in civil works and related flood risk reduction projects, and have a thorough understanding of agricultural benefits derived from flood risk management projects.

Plan Formulation: Team member will be experienced with the civil works process, watershed level projects, current flood risk management planning and policy guidance, and have experience in environmentally controversial flood risk management projects.

Environmental: Team member will be experienced in NEPA process and analysis, and have a biological or environmental background that is familiar with the project area and environmental modeling.

Cultural Resources: Team member will be experienced in cultural resources and tribal issues, regulations, and laws.

Cost Estimating: Team member will be familiar with cost estimating for similar civil works projects using MCACES. Team member will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. A separate process and coordination is also required through the Walla Walla District DX for cost engineering.

Real Estate: Team member will be experienced in federal civil work real estate laws, policies and guidance.

Regulatory: Team member will have a thorough understanding of the Clean Water Act, Section 10 of the Rivers and Harbors Act, permitting, and compensatory mitigation

Other disciplines/functions involved in the project included as needed with similar general experience and educational requirements.

REVIEW PLAN

**ST. JOHNS BAYOU AND NEW MADRID FLOODWAY, MO
FLOOD RISK MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT**

MEMPHIS DISTRICT

APPENDIX C

ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AAR	After Action Review	OEO	Outside Eligible Organization
ADFA	Average Daily Flooded Acre	OWPR	Office of Water Project Review
AFB	Alternative Formulation Briefing	PCop	Planning Community of Practice
ATR	Agency Technical Review	PCX	Planning Center of Expertise
ATRT	Agency Technical Review Team	PDT	Product Delivery Team
DQC	District Quality Control	PMIP	Planning Models Improvement Program
DST	District Support Team	QCP	Quality Control Plan
EC	Engineering Circular	RIT	Regional Integration Team
ECO PCX	Ecosystem Planning Center of Expertise	ROD	Record of Decision
EIS	Environmental Impact Statement	RP	Review Plan
EO	Executive Order	RTS	Regional Technical Specialist
FRM	Flood Risk Management		
FRM	Flood Risk Management	TEN	Technical Excellence Network
FRM PCX	Flood Risk Management Planning Center of Expertise	TRSS	Technical Review Strategy Session
HEC	Hydrologic Engineering Center	USACE	U.S. Army Corps of Engineers
HEP	Habitat Evaluation Procedures	WAM	Waterfowl Assessment Methodology
HGM	Hydrogeomorphic	WRDA	Water Resources Development Act
IEPR	Independent External Peer Review		
ITR	Independent Technical Review		
MSC	Major Subordinate Command		
MVD	Mississippi Valley Division		
NEPA	National Environmental Policy Act		