PEER REVIEW PLAN

UPPER 15 MILE BAYOU,
WEST MEMPHIS AND MARION, ARKANSAS

MEMPHIS DISTRICT

JULY 2008

Revision 1 – July 14, 2008
FRM-PCX Review

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APPENDICES

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1. PURPOSE AND REQUIREMENTS

A. Purpose. This document outlines the Peer Review Plan for the Upper 15 Mile Bayou, West Memphis and Marion, Arkansas, Mississippi River and Tributaries (MR&T), General Reevaluation Report (GRR) and Environmental Assessment (EA) and Appendixes. Engineer Circular (EC) 1105-2-408 dated 31 May 2005, "Peer Review of Decision Documents," (1) establishes procedures to ensure the quality and credibility of U.S. Army Corps of Engineers decision documents by adjusting and supplementing the review process and (2) requires that documents have a Peer Review Plan. The Circular applies to all feasibility studies and reports and any other reports that lead to decision documents. The GRR will lead to a decision document and is therefore covered by the Circular.

B. Requirements. The Circular outlines the requirement of the two review approaches (independent technical review (ITR) and external peer review (EPR)) and provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate Center, in this case the Flood Risk Management Center of Expertise (FRM PCX).

(1) ITR. Districts are responsible for ensuring a review the technical aspects of the decision documents and their supporting interim products through the ITR approach. This ITR is separate to a District's own internal technical review. The ITR is a critical examination by a qualified person or team that was not involved in the day-to-day technical work that supports the decision document. The ITR is intended to confirm that such work was done in accordance with clearly established professional principals, practices, codes, and criteria. In addition to technical review, documents should also be reviewed for their compliance with laws and policy. The Circular also requires that DrChecks be used to document all ITR comments, responses, and associated resolution accomplished.

(2) EPR. The Circular added external peer review to the existing Corps review process. This approach does not replace the standard ITR process. The external peer review approach applies in special cases where the magnitude and risk of the project are such that a critical examination by a qualified person outside the Corps is necessary. EPR can also be used where the information is based on novel methods, presents complex interpretation challenges, contains precedent-setting methods or models, or is likely to affect policy decisions that have a significant impact. The degree of independence required for technical review increases as the project magnitude and project risk increase.

(a) Projects with low magnitude and low risk may use a routine ITR.

(b) Projects with either high magnitude/low risk or low magnitude/high risk would require both Corps and outside reviewers on the ITR team to address the portions of the project that cause the project to rate high on the magnitude or risk scale.

(c) Projects with high magnitude and high risk require a routine ITR as well as an EPR.

It is anticipated that this project would fall into the low magnitude and low risk category.

(3) PCX Coordination. The Circular outlines PCX coordination in conjunction with preparation of the review plan. Districts should prepare the plans in coordination with the appropriate PCX. The Corps PCX are responsible for the accomplishment and quality of ITR and EPR for decision documents covered by the Circular. Centers may conduct the review or manage the review to be conducted by others. Reviews will be assigned to the appropriate Center based on business programs. The Circular outlines alternative procedures to apply to decision documents. Each Center is required to post review plans to its website every three months as well as links to any reports that have been made public. The Office of Water Project Review will consolidate the lists of all review plans and establish a mechanism for soliciting public feedback on the review plans.

2. PROJECT DESCRIPTION

A. Decision Document. The purpose of the decision document, "Upper 15 Mile Bayou, West Memphis and Marion, Arkansas, Mississippi River and Tributaries (MR&T), General Reevaluation Report (GRR) and Environmental Assessment (EA) and Appendixes," is to present the results of a reevaluation study undertaken to address flood risk management problems and needs in the West Memphis and Marion Arkansas study area. The area is both urban and rural. What is required for a Federal investment decision for this project is economic viability and environmental policy compliance. Section 104 of the fiscal year 20010 Omnibus Bill authorized flood control work on Ten-Mile and Fifteen-Mile Bayous as an integral part of the St. Francis River Basin project. Section 104 states:

> *"TEN- AND FIFTEEN-MILE BAYOUS, ARKANSAS. The project for flood control, Saint Francis River Basin, Missouri and Arkansas, authorized by section 204 of the Flood Control Act of 1950 (64 Stat. 172), is modified to expand the boundaries of the project to include Ten- and Fifteen-Mile Bayous near West Memphis, Arkansas. Notwithstanding section 103(f) of the Water Resources Development Act of 1986 (100 Stat. 4086), the flood control work at Ten-Mile and Fifteen-Mile Bayous shall not be considered separable elements of the project and not subject to WRDA 86 cost sharing provisions."*

This report provides planning, engineering, and implementation details of the recommended plan to allow final design and construction to proceed subsequent to the approval of the plan.

B. General Site Description. The study area includes these streams and ditches: Upper Fifteen-Mile Bayou, Ten-Mile Bayou Diversion, Ditch 15, and Ditch 15 Diversion for a total of 14.4 miles. The actual channel reaches under study are Fifteen-Mile Bayou from the vicinity of the confluence of

Ten Mile Diversion (mile 21.5) upstream to above the confluence with Ten-Mile Bayou Diversion (mile 30.9); Ten-Mile Bayou Diversion from it's confluence with Fifteen-Mile Bayou (mile 0.0) upstream to the east to Rich Road, West Memphis (mile 1.5); Ditch 15 from its confluence with Ten-Mile Bayou Diversion (mile 0.0) upstream to the culverts under Interstate 55 (mile 2.5); and a new channel Ditch Fifteen Diversion north of Highway 64 draining approximately 1.1 miles to the West and entering the upper end of Fifteen-Mile Bayou. These are shown on figure 1.

The study area, when considered in conjunction with work already underway on Fifteen Mile and Ten Miles Bayous, encompasses approximately 270 square miles. This study addresses current urban and agricultural flooding. There are also aspects under consideration for providing ecosystem habitat improvements in the degraded watershed.

The study area is characterized by level, mostly cleared land. This delta area has a flat to slightly undulating surface created by the sedimentation of flood deposits. The rural areas are agricultural in nature while the urban centers are residential and commercial/industrial with a high concentration of transportation/distribution – including intermodal and trucking facilities. Upper Fifteen Mile Bayou provides immediate drainage to agricultural areas, and is the downstream outlet for the remaining channels while the remaining channels all directly evacuate waters from urban and commercial/industrial areas.

There are two major streams in the area, and all other ditches are man made or channelized. The first major stream is Fifteen Mile Bayou. Fifteen Mile Bayou is a tributary of Blackfish Bayou, which flows into the St. Francis River. Fifteen Mile Bayou in conjunction with Ten Mile Bayou serves as the primary drainage outlet for the city of West Memphis, Arkansas, and the surrounding area. Fifteen Mile Bayou contains a large storage basin (an old oxbow-like depressional area) above Highway 64, which is drained by an artificial channel.

The second major stream in the area is Ten Mile Bayou, which flows through the middle of the highly developed area of West Memphis. Its flow is diverted in two separate locations. One location is in the northeastern part of the city where the U.S. Army Corps of Engineers constructed a diversion dam in the channel to divert stream flow, up to bank full capacity (approximately 1,000 cfs), into the Ten Mile Bayou Diversion Ditch, also constructed by the Corps, which then flows to Fifteen Mile Bayou. It is this Diversion that is a subject of this GRR. The other location is near Edmondson, Arkansas, where the Corps of Engineers improved the channel capacity of the stream between the Missouri Pacific Railroad and Fifteen Mile Bayou. This cutoff, which carries most of the flood flows, is considered the main channel, and its confluence with Fifteen Mile Bayou at approximately river mile 21.45 is considered to be the mouth of Ten Mile Bayou. Marion Lake also serves as a natural detention basin for the headwaters of Ten Mile Bayou.

Other man made ditches include Ten Mile Diversion Ditch, Ditch 15, and other smaller ditches and tributaries. Ten Mile Diversion Ditch flows to the west, through the northern part of the city, and into Fifteen Mile Bayou at approximately river mile 30.96. Ten Mile Diversion Ditch provides a drainage outlet for the area north and northwest of the city of Memphis. Ditch 15 is the primary outlet for the city of Marion, Arkansas. It flows south where it drains into Ten Mile Diversion Ditch at approximately river mile 1.07.

C. Project Scope. This project will include the improvements to Upper Fifteen-Mile Bayou, Ten-Mile Bayou Diversion, Ditch 15, and Ditch 15 Diversion for a total of 14.4 miles. These

improvements are detailed below. Improvements on these channels will be evaluated for the authorized ten-year level of protection, as well as a lesser level of protection to ensure identification of the National Economic Development (NED) Plan. An additional objective of this project GRR report is to ensure compliance with environmental policy and requirements.

Summary of Features:

i. Fifteen-Mile Bayou – 9.4 miles of channel enlargement from the St. Louis Union Pacific Railroad crossing (mile 21.5) to stream mile 30.9 with a 55-foot earthen bottom width for a 5-year crop level of protection. Relocations required include one railroad bridge, 5 roadway bridges and various utilities. This rural feature may also include one or more section of bench channels for environmental enhancement.

ii. Ten-Mile Bayou Diversion – 1.5 miles of channel enlargement with a 50-foot earthen bottom width from the confluence of Fifteen Mile Bayou stream mile 0.0 to 1.5 for a 10-year urban level of protection. Relocations required include no remaining bridges and various utilities.

iii. Ditch 15 – 2.5 miles of channel enlargement with a 50-foot earthen bottom width from the confluence of Ten-Mile Bayou Diversion mile 0.00 to 2.5 (where extension of the enlargement becomes infeasible because of major utilities and the west I-55 service road on the top banks of the existing channel. t he Ditch 15 also bifurcates to residential drainage channel upstream of a culvert under Interstate 55 and the upper end of the Ditch 15. The 50-foot bottom width from mile 0.0 to 2.5 would provide a 10-year urban level of protection. Relocations required include two bridges and various utilities.

iv. Ditch 15 Diversion – 1.1 miles of new channel with a 10-foot bottom width earthen channel that would be constructed north of Highway 64 and immediately north of a residential area, and drain to the west and into the upper end of Fifteen-Mile Bayou. This would provide flood risk reduction to the area immediately north of Highway 64 and west of Interstate 55, as well as headwater relief to the lower section of Ditch 15. Generally, this bottom width provides a 10-year level of protection. Relocations required include one road with culverts and various utilities.

D. Estimated Costs. The proposed project area includes portions of the overall study area and will be defined by the alternatives proposed to be developed during the summer of 2008. The alternatives evaluated in this GRR will be in addition to previously approved downstream work on both Fifteen Mile Bayou and the adjacent Two Mile Bayou. The preliminary estimated total project cost developed during 2004-2006 pre-GRR activities was approximately $23 million (2005 price levels). A recent adjustment of price level without any quantities or other engineering adjustments resulted in an estimate of $26.9 million (2008 price levels). A summary of these estimated project costs is presented below:

SUMMARY OF FIRST COSTS (2008 Levels)

Feature	Amount ($000)
Lands and Damages	2,377
Relocations	11,394 (*13,500)
Channels and Canals	7,187
Engineering and Design	3,715
Construction and Management	2,229
Total	26,902 (29,000)

NOTE: This information was taken from the Design Documentation Report, dtd October 2002 for Ten and Fifteen Mile Bayou, and from subsequent Project Design Team efforts from 2004 to 2006. * There is a particular railroad bridge that may require relocation, but this is not determined yet.

These costs will change significantly given the level of plan formulation to date; however, the requirement for EPR is obviously based on the overall scope of the project.

E. Problems and Opportunities. Water and related land resource problems in this watershed are focused in two primary areas--the degraded environment and flood risk management. Addressing either of these independently would be both foolish and a waste of time and resources. A response to the flooding problems in the basin through this GRR effort will be made through alternative evaluation that best meets that needs of the study area based on Federal planning criteria.

Problems.

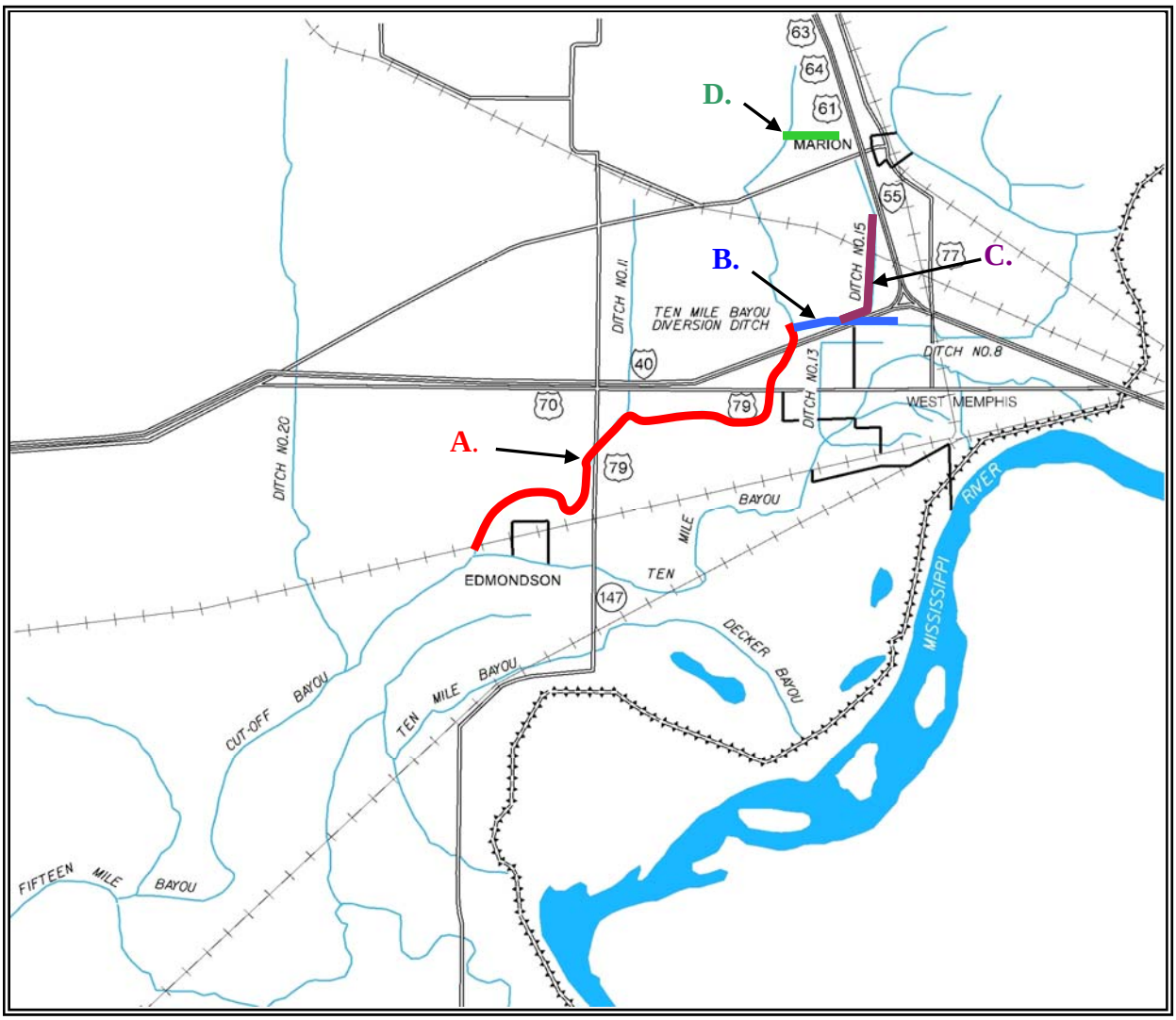
- Urban residential flooding in the towns of West Memphis and Marion, AR
- Urban commercial and light industrial flooding in the towns of West Memphis and Marion, AR
- Agricultural flooding throughout the watershed
- Degraded habitat in existing channels and ditches streams from agricultural runoff and 'cleared to top bank' land uses
- Increased stream instability and erosion due to the denuded surface conditions adjacent to channels and ditches

Opportunities.

- Urban and agricultural flood damage reduction
- Improved water quality and fisheries habitat in area streams
- Increased wetland and/or riparian habitat through avoid and minimize, and improvement measures possible during through the Flood Risk Management Project

Figure 1:
Upper Fifteen-Mile Bayou GRR Study Reaches

Feature – Channel Reach	Length
A. Upper 15-Mile Bayou	9.54 miles
B. 10-Mile Diversion	1.5 miles
C. Ditch 15	2.5 miles
D. Ditch 15 Diversion	1.1 miles



F. Product Delivery Team. The PDT is comprised of those individuals directly involved in the development of the decision document. Contact information and disciplines are listed below.

Discipline	Office
DST Manager	Programs Directorate (CEMVD-PD-KM)
Project Manager	Project Management Branch (CEMVM-PMP)
Study Manager	Project Management Branch (CEMVM-PMP)
Biologist	Environmental Branch (CEMVM-PME)
Cultural Resources	Environmental Branch (CEMVM-PME)
Economist	Project Development Branch (CEMVM-PMD)
Structural Design	Structures Team, Civil Design Branch (CEMVM-EC-D)
Channel Design	Design Team, Civil Design Branch (CEMVM-EC-D)
Real Estate Appraisal	Appraisal and Planning Branch (CEMVM-RE)
Cost Engineering	Cost Team, Civil Design Branch (CEMVM-EC-D)
Hydrologic Engineering	Hydrologic Engineering Section (CEMVM-EC-H)
Geotechnical	Geotechnical Engineering Team (CEMVM-EC-G)

The product delivery team (PDT) is comprised of those individuals directly involved in the development of the decision document. 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. Certification. The *computational models* to be employed in the Upper 15-Mile Bayou GRR have either been developed by or for the USACE. More specifically, the models to be employed in the completion this feasibility study are:

- MCACES: This is a cost estimating model that was developed by Building Systems Design Inc. The Army Corps of Engineers began using this model in 1989.

- HEC-FDA: This model, developed by the Corps' Hydrological Engineering Center, will assist the PDT in applying risk analysis methods for flood damage reduction studies as required by, EM 1110-2-1419. This program:
    - Provides a repository for both the economic and hydrologic data required for the analysis
    - Provides the tools needed to understand the results
    - Calculates the Expected Annual Damages and the Equivalent Annual Damages
    - Computes the Annual Exceedence Probability and the Conditional Non-Exceedence Probability
    - Implements the risk-based analysis procedures contained in EM 1110-2-1619

- HEC-1 (Engineering Model): By applying this model the PDT is able to:
    - Define the watersheds' physical features
    - Describe the metrological conditions
    - Estimate parameters
    - Analyze simulations

- HEC-RAS (Engineering Model): The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and man made channels. HEC-RAS major capabilities are
    - User interface
    - Hydraulic Analysis
    - Data storage and Management
    - Graphics and reporting

- HES (Habitat Evaluation System) for Water Resources Planning
    - Written by Environmental Analysis Branch – Lower Mississippi Valley Division (August 1980)
    - Evaluates environmental impacts of water resource development projects
    - Uses a habitat approach
    - Pertains to ecosystem types specifically found in the Lower Mississippi River Valley
    - The certification process was initiated (July 2008) with the Center of Expertise, MVD, and specifically Rock Island District, and the FRM-PCX

Model certification and approval for all identified planning models will be coordinated through the PCX as needed. Engineering models are not subject to Planning Certification. Project schedules and resources will be adjusted to address this process for certification and PCX coordination.

3. INDEPENDENT TECHNICAL REVIEW PLAN

As outlined above in paragraph 1.B. (1), the District is responsible for ensuring adequate technical review of decision documents. In particular, the documents that will be reviewed, including any technical information leading to one of these documents, are the Draft GRR and the Environmental Assessment. The responsible PDT District of this decision document is Memphis (MVM). It is recommended that the FRM PCX nominate individuals to serve as the review team. MVM requested consideration from the FRM PCX to nominate review members predominantly (possibly entirely) from St. Paul District. MVM provided rationale for this via email dated July 8, 2008, and the FRM provided tentative concurrence via email the following day.

A. General. An ITR Manager shall be designated for the ITR process. The proposed ITR Manager for this project is To Be Determined (TBD). The ITR Manager is responsible for providing information necessary for setting up the review, communicating with the Study Manager, providing a summary of critical review comments, collecting grammatical and editorial comments from the ITR team (ITRT), ensuring that the ITRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ITR has been conducted and resolved in accordance with policy.

Inasmuch as the Scoping Meeting has not been held yet, the policy of choosing an ITR leader from outside CEMVD will be followed. The lead PCX will select the new ITR Team Leader with input from CEMVM and CEMVD. The new ITR Team Leader will work with the established ITR Team to review project information and document the results as outlined below

B. ITR Team (ITRT). The ITRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT. It is anticipated that the team will consist of 9-11 reviewers. The ITRT members will be identified at the time the review is conducted and will be presented in appendix B. The ITRT will consist of primarily persons from the St. Paul District. The ITRT will include many of the following:

Hydraulic Engineering. The reviewer(s) should have extensive knowledge of HEC-RAS modeling, including the use of Geographic Information System (GIS) (ARC-INFO) inputs to the model. The reviewer(s) should also have a solid understanding of the geomorphology of alluvial rivers.

Cost Engineering. The reviewer should have a solid background in cost engineering and MCACES cost estimating procedures. The Cost Engineering Center at the Walla Walla District will also review the cost estimates in accordance with HQUSACE guidance.

Design Engineering. The reviewer(s) should have extensive knowledge in the design of water control structures to include floodgates, pumping stations, and weirs.

Geotechnical Engineering. The reviewer should have a thorough understanding of soils and soils analysis. The soils in the study area are generally fine-grained silts and silty clays.

Economics. The reviewer should have a solid understanding of Flood Risk Management (FRM) models for agricultural and rural residential areas along with Ecosystem Restoration models and incremental analysis.

Environmental. The reviewer should have a solid background in wetland and stream channel restoration and understand the factors that influence the reestablishment of native species of plants and animals. The reviewer should also understand environmental incremental analysis.

Real Estate. The reviewer should have recent experience in reviewing Real Estate plans for feasibility studies and be able to draw on “lessons learned” in advising the PDT of best practices.

Planning. The reviewer should have recent experience in reviewing Plan Formulation processes for multi-objective studies and be able to draw on “lessons learned” in advising the PDT of best practices.

Cultural Resources. The reviewer should be familiar with historic and prehistoric activities associated with civilization in the Mississippi River alluvial plain and should understand current policy relative to Native American coordination and the management of cultural resources activities.

Other disciplines will be brought to the team as needed. Additional team members will be recommended by the ITR Team Leader and approved by the lead PCX Program Manager. The lead PCX may coordinate with other PCXs as necessary. The ITR will focus on:

- Review of the planning process, criteria applied, and models used.
- Review of the methods of NED analysis.
- Compliance with client, program, and National Environmental Policy Act (NEPA) requirements.
- Completeness of preliminary design and support documents.
- Adequacy of parametric cost estimates.

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

(1) The team will use DrChecks to document the ITR process. The Study Manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and ITRT 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/pub/ at least one business day prior to the start of the comment period.

(2) The PDT shall send the ITR manager one hard copy (with color pages as applicable) of the document and appendices for each ITRT 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 ITR kick-off meeting virtually to orient the ITRT 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 Study Manager shall inform the ITR 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/pub/ for use during back checking of the comments.

(6) Team members shall contact ITRT 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 ITRT, the PDT, and the vertical team shall conduct an after action review (AAR) no later than 2 weeks after the policy guidance memo is received from HQUSACE for the for the AFB and draft reports.

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 Study Manager will work with the ITR manager to ensure that adequate funding is available and is commensurate with the level of review needed. The current cost estimate for this review is $60,000. 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 ITRT Study Manager to any possible funding shortages.

E. Timing and Schedule

(1) Throughout the development of this document, the team will hold planning discussions to ensure planning quality. Senior staff and subject matter experts from the PDT District and members of the vertical team (DST, Planning CoP, and RIT as needed) will participate in the discussions and provide comments on the product to date.

(2) The ITR will begin once an ITR Lead has been established. The ITR Lead will be a member of the District PDT and an introductory presentation will be conducted for this individual. A pool of qualified ITR team members shall be established early, but individual involvement of team members will occur at the direction of the ITR Lead.

(3) The ITR process for this document will generally follow the timeline below.

Task	**Date**
Selection of ITR Lead and ITR Team Members pool	Begin Week July 28 Week 1
Kickoff meeting	Week 7
ITR Comments	Week 10 (by Oct 3)
PDT Responses	Week 11 (by Oct 10)
Responses Backcheck	Week 12 (by Oct 17)
IPR w/MVD, HQ	Week 13/14 (Oct 20-31)
ITR Interim Certification	Week 16 (by Nov 14)
Draft Report Complete	Week 18 (by Nov 28)
ITR After Action Review	NLT Week 20 (by Dec 12)
Public Review (NEPA) of Draft Report	Begin Week 19 (Dec 5)
ITR Certification/Completion	Week 27 (Jan 30)
Final Report	Week 31 (Feb 27)

F. Review

(1) ITRT responsibilities are as follows:

(a) Reviewers shall review 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 ITR manager via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The ITR manager shall provide these comments to the Study Manager.

(d) Review comments shall contain these principal elements:

- a clear statement of the concern
- the basis for the concern, such as law, policy, or guidance
- significance for the concern
- 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 ITR manager and/or the Study Manager first

(2) PDT Team responsibilities are as follows:

(a) The team shall review comments provided by the ITRT 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 ITRT 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 ITR manager and, if not resolved by the ITR manager, it should be brought to the attention of the planning chief who will need to sign the certification. ITRT members shall keep

the ITR 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 ITR process, a statement of technical review will be prepared. Certification by the ITR manager and the Study Manager will occur once issues raised by the reviewers have been addressed to the review team's satisfaction and the final report is ready for submission for HQ review. 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 throughout the report approval process. An interim certification will be provided by the ITR 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/In-Progress Review

The AFB for this project will not be required because there is no congressional authorization required and the project will not proceed to ASA(CW) or Congress. The MVD RIT has requested an In-Progress Review (IPR) meeting to determine the appropriate approval level for the resultant Decision Document, whether that approval needs to be at the MSC or HQ level. The IPR will occur after the majority of the ITR comments have been resolved. It is possible that the IPR 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 ITR team lead will perform a brief review of the report to ensure that technical issues are resolved.

Since the project is already authorized there is no need to seek additional authorization. Further direction regarding the review and approval steps required for this GRR will be determined during the IPR.

4. EXTERNAL PEER REVIEW PLAN

The resultant decision document will present the details of a General Reevaluation Report Study undertaken to evaluate Flood Risk Management measures on Upper 15-Mile Bayou in West Memphis and Marion, Arkansas as described in paragraph 2 above. This project does not meet the EPR standards outlined in the Circular.

A. Project Magnitude. The magnitude of this project is determined as low. The cost of the project will not exceed the current $45 million magnitude threshold requiring an External Peer Review. It is assumed that the amount of benefits accrued by the project will be worth the cost otherwise the GRR will not result in a feasible federal project. The current body of work on the alternatives under consideration indicates total project costs of approximately $27-29 million. The current estimate benefit to cost ratio is between 2 and 2.5 to 1. Due to significantly increased first costs with a higher level of protection, major interstate bridge relocations are avoided. The hydrology of the study area is not considered to be complex. The project will likely have positive long-term cumulative effects. There are no aspects of the project that are significantly complex or controversial, and the project involves implementation of standard concepts. It is anticipated that the report will not present

influential scientific information or influential scientific assessments, thus only an ITR is anticipated to be required.

B. Project Risk. This project is considered low risk overall. The potential for failure is considered to be low because the project involves straight forward concepts with numerous successful national applications. There may be some level of risk for increased stream bank erosion during and shortly following the channel enlargement, particularly at transitional areas between stream reaches and near relocations. These situations will be well documented, however, along with measures formulated to offset these impacts. The potential for controversy regarding project implementation is low because the recommended plan will take into account public concerns. The uncertainty of success of the project is indeterminate at this time due to the stage of project formulation. However, there is a strong local sense of need for the project and so long as environmental impacts are avoided and some measure of habitat improvements can be incorporated, it is likely that the proposed project will be successful.

C. Vertical Team Consensus. This peer review plan will serve as the coordination document to obtain vertical team consensus. This ultimately is concluded following the planned IPR meeting. 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.

A separate EPR will not be conducted on the decision document and external members will not be part of the ITR team. The ITR, Public and Agency Review will serve as the main review approaches.

5. PUBLIC AND AGENCY REVIEW

Public review of the GRR will occur after the ITR review of the work products included in the draft GRR and the NEPA document, and after completion of initial ITR back checks. The period will last 30 days as required by law. As such, public comments other than those provided at any public meetings or workshops held during the planning process will not be available to the ITR team during the initial ITR review. However, the ITR Leader will be provided all comments received during the public comment period and forward comments to the appropriate ITR members as necessary. Significant public comments that result in changes to the formulation will require a new ITR.

The public review of necessary state or Federal permits will also take place during this period.

A formal state and agency review will occur concurrently with the public review. However, it is anticipated that intensive coordination with these agencies will have occurred concurrent with the planning process, thereby limiting the extent of state and agency comments. Some areas of potential concern might include concern over the release of pesticides and contaminants during removal of sediments and becoming resuspended in the water column.

Upon completion of the review period, comments will be consolidated 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.

6. PCX COORDINATION

The appropriate PCX for this document is the National Flood Risk Management Center of Expertise located at SPD. This review plan will be submitted to the PCX Director, Eric Thaut, for approval. Since it was determined that this project is low magnitude and low risk, an EPR will not be required. As such, the PCX will not be asked to manage the review, but is requested to nominate the ITR team as discussed in paragraph 3.b. above. The approved review plan will be posted to the PCX website. Any public comments on the review plan will be collected by the MSC and provided to the PDT District for resolution and incorporation if needed.

7. APPROVALS

The PDT will carry out the review plan as described. The Study Manager will submit the plan to the PDT District Planning, Programs, and Project Management Chief for approval. Coordination with PCX will occur through the Study Manager primarily, and the Senior Project Manager. Signatures by the individuals listed in Appendix A indicate approval of the plan as proposed.