



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
550 MAIN STREET
CINCINNATI, OH 45202

CELRD-PD

MAY 20 2015

MEMORANDUM FOR Commander, US Army Corps of Engineers, Louisville District, (CELRD-P/Amy Babey), PO Box 59, Louisville, KY 40201-0059

SUBJECT: Approval Memorandum for Monroe Lake, 1135 Ecosystem Restoration Project, Brown and Monroe County, IN, Review Plan

1. References:

- a. Memorandum, CELRL-PM-P, subject same as above, 27 APR 2015.
- b. EC 1165-2-214, Civil Works Review, 15 DEC 2012.

2. The USACE LRD Review Management Organization (RMO) has completed their policy and quality assurance review of this Review Plan (RP). I concur with the recommendations of the RMO and approve the enclosed RP.

3. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP should be removed.

4. POC for this action within LRD is [REDACTED], 513-684-3025, [REDACTED]@usace.army.mil.

Encl

For Steve J. Kaiser
RICHARD G. KAISER
Brigadier General, USA
Commanding



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059

REPLY TO
ATTENTION OF:

APR 27 2015

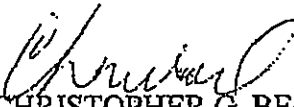
CELRL-PM-P

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, 550 West Main Street, Room 10032, Cincinnati, OH 45202-3222 (ATTN: Mr. Philip Tilly/Room 10524)

SUBJECT: Monroe Lake, Moist Soil Unit (MSU), Section 1135 Ecosystem Restoration Project, Brown and Monroe Counties, Indiana, Decision Document Review Plan

1. Please find the enclosed Review Plan for the Monroe Lake, MSU, Section 1135 Ecosystem Restoration Project, Brown and Monroe Counties, Indiana, for your review and approval. This review plan has been completed in accordance with EC 1165-2-214 "Civil Works Review" dated 15 December 2012 and reflects the current project status.
2. I recommend that the subject Review Plan be approved. Upon your review and approval, the Review Plan will be posted on the Louisville District website in accordance with EC 1165-2-214.
3. If you have any questions or need additional information, please contact [REDACTED] CELRL-PM-P-F, at (502) 315-7456.

Encl


CHRISTOPHER G. BECK
COL, EN
Commanding

**DECISION DOCUMENT REVIEW PLAN
USING THE PROGRAMMATIC REVIEW PLAN MODEL
for
Continuing Authorities Program
Section 14, 107, 111, 204, 206, 208 and 1135 Projects**

**Monroe Lake, MSU, Section 1135 Ecosystem Restoration Project
Brown County & Monroe County, Indiana
Decision Document**

Louisville District

MSC Approval Date: Pending



**US Army Corps
of Engineers®**

REVIEW PLAN

**Monroe Lake, MSU, Section 1135 Ecosystem Restoration Project
Brown County & Monroe County, Indiana
Decision Document**

TABLE OF CONTENTS

1. **PURPOSE AND REQUIREMENTS**1

2. **REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION**.....2

3. **STUDY INFORMATION**3

4. **DISTRICT QUALITY CONTROL (DQC)**4

5. **AGENCY TECHNICAL REVIEW (ATR)**.....5

6. **INDEPENDENT EXTERNAL PEER REVIEW (IEPR)**7

7. **POLICY AND LEGAL COMPLIANCE REVIEW**8

8. **COST ENGINEERING MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION**.....9

9. **MODEL CERTIFICATION AND APPROVAL**9

10. **REVIEW SCHEDULES AND COSTS**.....10

11. **PUBLIC PARTICIPATION**10

12. **REVIEW PLAN APPROVAL AND UPDATES**11

13. **REVIEW PLAN POINTS OF CONTACT**11

ATTACHMENT 1: TEAM ROSTERS.....12

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS.....13

ATTACHMENT 3: REVIEW PLAN REVISIONS.....14

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS.....15

1. PURPOSE AND REQUIREMENTS

Purpose. This Review Plan defines the scope and level of peer review for the Monroe Lake, MSU, Section 1135 Ecosystem Restoration Project, Brown County & Monroe County, Indiana, Feasibility Report.

Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, provides the authority to modify existing Corps projects to restore the environment and construct new projects to restore areas degraded by Corps projects with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. It is a Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The Continuing Authorities Program is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.>

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F.

a. **Applicability.** This review plan is based on the model Programmatic Review Plan for Section 14, 107, 111, 204, 206, 208 and 1135 project decision documents, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in EC 1165-2-214 Civil Works Review Policy. A Section 14, 107, 111, 204, 206, 208 and 1135 project does not require IEPR if ALL of the following specific criteria are met:

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS),
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

If any of the above criteria are not met, the model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate

Planning Center of Expertise (PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-214.

Applicability of the model Programmatic Review Plan for a specific project is determined by the home MSC. If the MSC determines that the model plan is applicable for a specific study, the MSC Commander may approve the plan (including exclusion from IEPR) without additional coordination with a PCX or Headquarters, USACE. The initial decision as to the applicability of the model plan should be made no later than the Federal Interest Determination (FID) milestone (as defined in Appendix F of ER 1105-2-100, F-10.e.1) during the feasibility phase of the project. A review plan for the project will subsequently be developed and approved prior to execution of the Feasibility Cost Sharing Agreement (FCSA) for the study. In addition, per EC 1165-2-214, the home district and MSC should assess at the Alternatives Formulation Briefing (AFB) whether the initial decision on Type I IEPR is still valid based on new information. If the decision on Type I IEPR has changed, the District and MSC should begin coordination with the appropriate PCX immediately.

This programmatic review plan may be used to cover implementation products. Following the format of the model programmatic review plan, the project review plan may be modified to incorporate information for the review of the design and implementation phases of the project.

b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 Dec 2012
- (2) Director of Civil Works' Policy Memorandum #1, Jan 19, 2011
- (3) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2010
- (4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

- c. Requirements.** This programmatic review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and ensuring that planning models and analysis are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for 1135 decision documents is the home MSC. The MSC maintains authority and oversight but delegates the coordination and management of decision document ATR to the District. The home District will post the MSC approved review plan on its public website. A copy of the approved review

plan (and any updates) will be provided to the appropriate Planning Center of Expertise to keep the PCX apprised of requirements and review schedules.

3. STUDY INFORMATION

- a. **Decision Document.** The Monroe Lake MSU Ecosystem Restoration Project decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The approval level of the decision document (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.
- b. **Study/Project Description.** The United States Army Corps of Engineers (USACE) project proposed for modification is the Monroe Lake Reservoir. Monroe Lake is in the lower Wabash River basin, 10 miles southeast of Bloomington, IN. The dam and much of the lake is located in Monroe County, about 3 miles east of Harrodsburg, and extends into Brown and Jackson Counties. This project's study area includes portions of the lake in Monroe and Brown counties. This project is in Indiana's 9th Congressional District.

This is a single purpose ecosystem restoration project. There are no study/project authorizations or implementation guidance specific to this project. The study will consider measures and alternatives that address the following objectives: a.) In support of the ecosystem restoration priorities identified below, address and/or manage siltation on the Crooked Creek SRA basin and its boat channel access; b.) Increase habitat heterogeneity, targeting habitat types that were flooded out when Monroe Lake was built, including aquatic, wetland and riparian habitat adjacent to Monroe Lake; c.) Increase acres of wetlands and buffering habitats that provide critical life requisites and refugia for native amphibian, bird, fish, mammal, and reptile species, including T&E; d.) Reduce and/or eradicate invasive species; e.) Increase native species richness and diversity of wetlands and buffering plant communities.

Measures to be considered include: a.) building earthen berms to create wetlands for habitat; b.) raising the elevation of a maintenance road so it can act as a berm; c.) creating wetlands for silt to settle (settling ponds); d.) creating a small island of dredge removed from a channel that has silted in; e.) removal of invasives; f.) planting native wetland flora; g.) planting native riparian buffer; h.) planting forage crops such as corn, sunflower, sorghum, millet, and/or buckwheat. Two to three project alternatives and a No Action alternative will be considered. The project will not involve any modifications to the existing Corps dam associated with Monroe Lake.

Based on the preliminary findings of the Federal Interest Determination, the estimated total cost of a potentially recommended project is \$2.75M (from FID through construction) with an estimated \$12.2K/year OMMRR&R. Of this, approximately \$400k is the estimated cost for the feasibility study.

The non-Federal sponsor is the Indiana Department of Natural Resources.

- c. **Factors Affecting the Scope and Level of Review.** No institutional challenges are anticipated since this is an 1135 restoring wetlands where a USACE project historically flooded them out. The technical difficulty is anticipated to be low to moderate because other similar restoration has been performed at Monroe Lake that can be used for reference and/or lessons learned.

A preliminary assessment has determined that the largest project risks are likely to be associated with the availability of staff to commit to the study from beginning to end. This will primarily affect study duration and costs. These consequences have been addressed in the Project Management Plan by adding a 15% contingency to study duration and cost.

This ecosystem restoration project has no bearing on life safety since there will be no measures or alternatives that are near nor involve the dam structure itself, nor any (regardless of location) that will adversely impact the Monroe Lake flood control system.

There is no request by the Governor of an affected state for a review by independent experts. The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project, nor for the environmental cost or benefit of the project, since this is on USACE owned land that is managed by IDNR for wildlife, including public access such as birdwatching and/or hunting and fishing, and no change in fundamental use is proposed.

This effort will take advantage of prevailing practices and methods. The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices because similar restoration efforts will be used for reference and/or lessons learned.

The project design is not anticipated to require redundancy, resiliency, and/or robustness above or beyond that which is common to ecosystem restoration. However, some degree of redundancy, resiliency, and/or robustness is basic to ecosystem restoration.

The project design is not anticipated to require unique construction sequencing, or a reduced or overlapping design construction schedule. However, since it is ecosystem restoration, some aspects may have to be timed according to seasons.

- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to review. At this time, no in-kind products and analyses to be provided by the non-Federal sponsor have been identified.

4. DISTRICT QUALITY CONTROL (DQC)

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

DQC Team Members/Disciplines	Expertise Required
Planning	This reviewer should be a professional with experience in CAP Section 1135 decision documents, SMART Planning, and planning policy.
Biology / Environmental Resources	This reviewer should be a professional with experience in ecosystem restoration decision documents. Experience with constructed wetlands (both habitat and water quality types) from planning through design, construction, and adaptive management is helpful but not required. Also experienced with NEPA documentation for ecosystem restoration projects is beneficial.
Hydrology & Hydraulics	This reviewer should be a professional with experience in ecosystem restoration decision documents. Experienced with decision-making using existing data and professional judgment in the absence of project-specific H&H modeling. Experienced with constructed wetlands for sediment settling as well as constructed wetlands for habitat beneficial.
Cost Engineering	This reviewer should be a professional with experience in ecosystem restoration decision documents and cost reviews for CAP projects. Experienced with decision-making using existing data and professional judgment in the absence of original data generated specific to the project.
Operations	This reviewer should be a professional experienced with managing a dam facility.

5. AGENCY TECHNICAL REVIEW (ATR)

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

- a. **Products to Undergo ATR.** ATR will be performed throughout the study in accordance with the regional Quality Management System. The ATR shall be documented and discussed at the Alternative Formulation Briefing (AFB) milestone. Certification of the ATR will be provided prior to the District Commander signing the final report. Products to undergo ATR include the draft feasibility report and the final feasibility report.
- b. **Required ATR Team Expertise.** This section briefly describes the types of expertise that should be represented on the ATR team. The expertise represented on the ATR team should reflect the significant expertise involved in the work effort and will generally mirror the expertise on the PDT.

The names, organizations, contact information, credentials, and years of experience of the ATR members will be included in Attachment 1 once the ATR team is established.

ATR Team Members/Disciplines	Expertise Required
ATR Lead - Biologist, Landscape Architect, or Water Resources Planner (or similar) with expertise in ecosystem restoration	The ATR lead should be a senior professional with experience in preparing or reviewing CAP Section 1135 decision documents, SMART Planning, and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, biology, etc).
Planning (only necessary if this is not the expertise of the ATR lead)	This reviewer should be a senior professional with experience in CAP Section 1135 decision documents, SMART Planning, and conducting ATR.
Biology / Environmental Resources (only necessary if this is not the expertise of the ATR lead)	This reviewer should be a senior professional with experience in CAP Section 1135 decision documents, SMART Planning, and conducting ATR. Experienced with constructed wetlands (both habitat and water quality types) from planning through design, construction, and adaptive management. Also experienced with NEPA documentation for ecosystem restoration projects.
Hydrology & Hydraulics	This reviewer should be a senior professional with experience in CAP Section 1135 decision documents, SMART Planning, and conducting ATR. Experienced with decision-making using existing data and professional judgment in the absence of project-specific H&H modeling. Experienced with constructed wetlands for sediment settling as well as constructed wetlands for habitat.
Cost Engineering	This reviewer should be a senior professional with experience in CAP Section 1135 decision documents, SMART Planning, and conducting ATR. The reviewer can be a COST MCX-approved reviewer outside of the Cost MCX.
Operations	This reviewer should be a senior professional experienced with managing a dam facility for flood risk management and for public access to nature opportunities such as birdwatching and/or hunting and fishing. Experienced with conducting ATR. Familiar with CAP decision documents, and with SMART Planning.

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

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost),

effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and

- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

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

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either EC 1165-2-214 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

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

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

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed prior to the District Commander signing the final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

For Section 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type I IEPR is not required unless mandatory criteria for Type I IEPR has been triggered.

- **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), is managed outside the USACE and is conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

For Section 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type II IEPR is not anticipated to be required in the design and implementation phase, but this will need to be verified and documented in the review plan prepared for the design and implementation phase of the project.

- Decision on IEPR.** Based on the information and analysis provided in the preceding paragraphs of this review plan, the project covered under this plan is excluded from IEPR because it does not meet the mandatory IEPR triggers and does not warrant IEPR based on a risk-informed analysis. If any of the criteria outlined in paragraph 1(b) are not met, this model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate PCX and approved by the home MSC in accordance with EC 1165-2-214.
- Products to Undergo Type I IEPR.** Not applicable.
- Required Type I IEPR Panel Expertise.** Not Applicable.
- Documentation of Type I IEPR.** Not Applicable.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further

recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering MCX, located in the Walla Walla District. For decision documents prepared under the model Programmatic Review Plan, Regional cost personnel that are pre-certified by the MCX, and assigned by the Cost Engineering MCX, will conduct the cost engineering ATR. The MCX will provide the Cost Engineering MCX certification. The Cost Engineering MCX will make the selection of the cost engineering ATR team member.

9. MODEL CERTIFICATION AND APPROVAL

The approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC Commanders are responsible for assuring models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Therefore, the use of a certified/approved planning model is highly recommended should be used whenever appropriate. 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. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

- a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
American Coot: HSI Model	Areal herbaceous vegetation cover, and water depth if/as possible, may be used to measure improvements in habitat. The model would be used to evaluate and compare the future without and with-project plans to aid in the selection of a recommended plan to optimize waterfowl habitat. Either this HSI, or the other, will be used. Possibly both. Website http://el.ercdc.usace.army.mil/hsi/AmericanCoot.pdf	Certified
Great Blue Heron: HSI Model	Areal herbaceous vegetation cover, and water depth if/as possible, may be used to measure improvements in habitat. The model would be used to evaluate and compare the future without and with-project plans to aid in the selection of a recommended plan to optimize waterfowl habitat. Either this HSI, or the other, will be used. Possibly both. Website http://el.ercdc.usace.army.mil/hsi/GreatBlueHeron.pdf	Certified

b. **Engineering Models.** No engineering models are proposed at this time.

10. REVIEW SCHEDULES AND COSTS

a. **ATR Schedule and Cost.** The estimated schedule for ATR: ATR will occur in approximately month 9 after start of the study - this is after alternatives have been compared and a plan tentatively selected. It is scheduled for a 30-day turnaround, which allows for 2 weeks ATR team comments, 1 week PDT responses, and 1 week back check and close-out of the ATR. The estimated cost for ATR: \$35,000. This budget includes all ATR costs such as the primary PCX, if necessary, and the Cost Engineering MCX.

b. **Type I IEPR Schedule and Cost.** Not applicable.

c. **Model Certification/Approval Schedule and Cost.** For decision documents prepared under the model Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved models are used, review of the model for use will be accomplished through the ATR process. The ATR team should apply the principles of EC 1105-2-412 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented. If specific uncertified models are identified for repetitive use within a specific district or region, the appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

11. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments. Opportunity for public comment on the decision document will be provided through the NEPA process, which is scheduled to begin in

month 13 after the start of the study. This includes that the EA will be posted for a 30 day public comment period. Significant and relevant public comments will be provided to reviewers as part of the LRD Policy Compliance Review of the decision document, which is scheduled to occur in month 18. No other public participation or reviews are anticipated or scheduled.

12. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for approving this review plan and ensuring that use of the Model Programmatic Review Plan is appropriate for the specific project covered by the plan. The review plan is a living document and may change as the study progresses. The home district is responsible for keeping the review plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the review plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. Significant changes may result in the MSC Commander determining that use of the Model Programmatic Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-214 and Director of Civil Works' Policy Memorandum #1. The latest version of the review plan, along with the Commanders' approval memorandum, will be posted on the home district's webpage.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Project Manager, Louisville District, 502-315-7456

ATTACHMENT 1: TEAM ROSTERS

PDT Team Members:

Area	Name	Phone Number
Lead Planner and Project Manager	[REDACTED]	(502) 315-7456
Biologist	[REDACTED]	502-315-3818
H&H Engineer	[REDACTED]	(502) 315-6473
Cost Engineering	[REDACTED]	(502) 315-6268
Operations Middle Wabash Area	[REDACTED]	(812) 824-9136
Real Estate	[REDACTED]	(502) 315-6956
Cultural Resources	[REDACTED]	502-315-7468
HTRW	[REDACTED]	502-315-7443
GIS	[REDACTED]	
Office of Counsel	[REDACTED]	
Public Affairs	[REDACTED]	502-315-6769

DQC Team Members:

Area	Name	Phone Number
Planning	[REDACTED]	(502) 315-6880
Biologist	[REDACTED]	
H&H Engineer	[REDACTED]	
Cost Engineering	[REDACTED]	
Operations	[REDACTED]	

ATR Team Members:

Area	Name	Phone Number
ATR Lead/Planning	[REDACTED]	309-794-5447
Biologist (possibly same as ATR lead)	[REDACTED]	
H&H Engineer	[REDACTED]	
Cost Engineering	[REDACTED]	
Operations	[REDACTED]	

Vertical Team Members:

Area	Name	Phone Number
RMO POC, LRD	[REDACTED]	513-684-6050
MSC POC, LRD	[REDACTED]	513-684-3008
District Liaison, LRD	[REDACTED]	513-684-3025

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Monroe Lake MSY CAP 1135 Ecosystem Restoration Project, Brown and Monroe County, Indiana. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name
ATR Team Leader
Office Symbol/Company

Date

SIGNATURE

Name
Project Manager (home district)
Office Symbol

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Name
Review Management Office Representative
Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

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

SIGNATURE

Name
Chief, Engineering Division (home district)
Office Symbol

Date

SIGNATURE

Name
Chief, Planning Division (home district)
Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

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