

**Great Lakes Fisheries and Ecosystem Restoration (GLFER) Program
Section 506, Water Resources Development Act of 2000, as amended**

**DECISION DOCUMENT REVIEW PLAN
USING THE NATIONAL PROGRAMMATIC REVIEW PLAN MODEL**

City of Elkhart Dams Section 506

Chicago District, US Army Corps of Engineers

MSC Approval Date: 28 October 2011

Last Revision Date: October 2011



**US Army Corps
of Engineers ®**

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1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review for the City of Elkhart Dams project located in Elkhart, Indiana. This project is part of the Great Lakes Fisheries and Ecosystem Restoration (GLFER) Program which was authorized by Section 506, Water Resources Development Act of 2000, as amended by Section 5011 of the Water Resources Development Act of 2007.

Section 506 of the WRDA of 2000 provides programmatic authority for restoration of the Great Lakes fishery and ecosystem. Section 506 called for the Secretary to develop a plan to support the management of Great Lakes fisheries not later than one year after the date of enactment of the legislation. That plan, coined the "Support Plan", provides the guidance for the planning, design, construction, and evaluation of projects to restore, the fishery, ecosystem, and beneficial uses of the Great Lakes in cooperation with other Federal, State, and local agencies and the Great Lakes Fisheries Commission. Costs for the planning, design, construction, and evaluation of restoration projects are cost-shared 65 percent Federal and 35 percent non-Federal. Non-Federal interests may contribute up to 100 percent of their share for projects in the form of services, materials, supplies, or other in-kind contributions. Non-Federal interests will receive credit for lands, easements, rights-of-way, relocations, and dredged material disposal areas needed for project construction and must be responsible of the operation, maintenance, repair, rehabilitation, and replacement of projects. Non-Federal interests may include private and non-profit entities.

The planning process of the GLFER program was closely modeled after planning and implementation program described for section 206 of the WRDA 1996 in the Continuing Authorities Program. Generally projects for study are selected by an integrated panel of Federal and non-Federal Great Lakes ecosystem restoration experts. Projects selected for further study go through a Federally funded reconnaissance phase that results in a document called a "Preliminary Restoration Plan" (PRP). Projects are approved for feasibility level studies based on factors such as benefits to the Great Lakes fisheries and ecosystem, applicability to the GLFER program, implementation costs, and level of sponsorship. The studies are classified as either a Planning Design Analysis (PDA) or Detailed Project Report (DPR) based on estimated total Federal project costs. Projects utilizing a PDA format have an estimated Federal cost of \$1,500,000 or less, and projects that require a DPR have estimated Federal costs which exceed \$1,500,000. In cases where the total Federal cost of the project is expected to exceed \$10,000,000, the Support Plan recommends the procedures for specifically authorized projects be followed which require an individual review plan.

- b. **Applicability.** This review plan is based on the model National Programmatic Review Plan for GLFER project decision documents, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in ER 1165-2-209 Civil Works Review Policy. A GLFER project generally does not require IEPR if it is determined during the course of the study that 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 is not likely to have significant economic, environmental, and/or social effects to the Nation;

- The project/study is not likely to have significant interagency interest;
- The project/study is not likely highly controversial;
- The decision document is not likely to contain influential scientific information or be a highly influential scientific;
- The information in the decision document or proposed 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; and
- The project has not been deemed by the USACE Director of Civil Works or Chief of Engineers to be controversial nature.

If any of the above criteria are not met, the model GLFER Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the National Ecosystem Planning Center of Expertise (ECO-PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-209.

Applicability of the model GLFER 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 the ECO-PCX or Headquarters, USACE. The initial decision as to the applicability of the model plan should be made no later than the completion of the Preliminary Restoration Plan. In addition, the home district and MSC should assess at the Alternatives Formulation Briefing (AFB) whether the initial decision on the use of the model plan is still valid or if a project specific review plan should be developed based on new information. If a project specific review plan is required, it must be approved prior to execution of the Feasibility Cost Sharing Agreement (FCSA) for the study.

This review plan does not cover implementation products. A review plan for the design and implementation phase of the project will be developed prior to approval of the final decision document in accordance with EC 1165-2-209.

c. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2010.
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

- d. **Requirements.** This programmatic review plan was developed in accordance with EC 1165-2-209, 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 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

- (1) District Quality Control/Quality Assurance (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 Major Subordinate Command (MSC).
- (2) 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 US Army Corps of Engineers (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 a designated Review Management Organization (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.

For decision documents prepared under the model GLFER Programmatic Review Plan, the leader of the ATR team shall be from outside the home district, but may be from within the home MSC.

- (3) 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 1165-2-209, 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 is generally for decision documents and Type II is generally for implementation products.
 - (a) 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 1165-2-209.

For decision documents prepared under the model GLFER Programmatic Review Plan, Type I IEPR is not required.

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

For decision documents prepared under the model GLFER Programmatic Review Plan, Type II IEPR is not required except where public safety issues are present.

- (4) 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.
- (5) Cost Engineering DX Review and Certification. All **decision documents** shall be coordinated with the Cost Engineering Directory of Expertise (DX), located in the Walla Walla District.

For decision documents prepared under the GLFER Programmatic Review Plan Model, Regional cost personnel that are pre-certified by the DX will conduct the cost estimate ATR. The DX will provide the Cost Engineering DX certification.

- (6) Model Certification/Approval. EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities; to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required). EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. The use of engineering models is also subject to DQC, ATR, and IEPR (if required).

For decision documents prepared under the model GLFER Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved model are used, approval of the model for use will be accomplished through the ATR process. The ATR team will 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.

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 GLFER decision documents is the home MSC. The MSC will coordinate and approve the review plan and manage the ATR. The home District will post the approved review plan on its public website. A copy of the approved review plan (and any updates) will be provided to the National Ecosystem Planning Center of Expertise (ECO-PCX) to keep the PCX apprised of requirements and review schedules.

3. STUDY INFORMATION

- a. **Decision Document.** The Feasibility Study decision document for the City of Elkhart Dams project, located in Elkhart County, Indiana, will be prepared in accordance with the Great Lakes Fisheries Support Plan April 2006. The approval level of decision documents (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.

Study/Project Description. The study area is part of the St. Joseph River system and is located in north central Indiana in Elkhart County. The proposed restoration project for the Elkhart River would be located northeast of Elkhart Avenue and Waterfall Drive in the City of Elkhart, Indiana. The proposed restoration project for Christiana Creek would be located northeast of East Crawford and Cassopolis Street (High Dive Park) in the City of Elkhart, Indiana.

The goal of this proposed project is to restore riverine connectivity to the Elkhart River and Christiana Creek, while providing riverine species with critical habitat for all stages of their life cycles. This includes the following objectives:

- Provide fish passage for all native species
- Restore free flowing condition an additional combined mileage of nearly 50 miles
- Improve riverine habitat for endangered/threatened fish and mussel species
- Stabilize stream banks and naturalize sediment transport
- Improve safety for recreational canoeing and boating

- b. **Factors Affecting the Scope and Level of Review.** This is a low-risk ecosystem restoration project that focuses on restoring native plant communities and wetlands. There is no threat to human health and life associated with this project.

- There are no foreseeable technical, institutional or social challenges.
- There is no reason to believe there will be any significant economic, environmental or social effects to the Nation
- The project/study will not be highly controversial for the reason stated above.

- c. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR, similar to any products developed by USACE. During Feasibility there are no WIK contributions.

4. DISTRICT QUALITY CONTROL (DQC)

The product team is responsible for producing quality services and/or products. The technical element assembling the DPR is the Environmental Plan Formulation Section (PM-PL-E). Methodology, concurrence, technical adequacy and product quality (i.e., format, grammar, spelling, consistency, computations, etc.) are obtained through periodic internal reviews by the product team and technical supervisors. Within engineering and real estate, the Branch Chiefs responsible for product preparation will document this internal review through certification of product development checklists. The checklists, to be followed by the product team and certified by the technical supervisors, are not attached to this RP, but rather are part of the study Quality Control Plan. Each PDT member is responsible for following current checklist, and coordinating review of document and checklist with their technical supervisor for signature.

5. AGENCY TECHNICAL REVIEW (ATR)

- a. **Products to Undergo ATR.** ATR will be performed throughout the study in accordance with the District and MSC Quality Management Plans. The ATR shall be documented and discussed at the AFB milestone. Certification of the ATR will be provided prior to the District Commander signing the final report. Products to undergo ATR include the DPR.
- b. **Required ATR Team Expertise.** For this small, low risk Ecosystem Restoration Study, the ATR Lead will represent all disciplines except for Cost Engineering, H&H and Real Estate. The cost analysis will be reviewed by a certified cost ATR reviewer, and certified by NWW. Real Estate ATR will be conducted using the RE ATR process.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a RTS Regional Technical Expert in Plan Formulation and NEPA.
Planning	Same as ATR Lead
Environmental Resources	Same as ATR Lead
Cultural Resources	Same as ATR Lead
Cost Engineering	The cost ATR Reviewer will be a certified cost ATR reviewer.
Real Estate	The Real Estate reviewer will be a qualified real estate specialist.
Hazardous, Toxic and Radioactive Waste (HTRW)	Same as ATR Lead (if no HTRW issues are identified)

- 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 ER 1110-2-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

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

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

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of 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)

- a. **Decision on IEPR.** Based on the information and analysis provided in paragraph 3(c) 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, the model National Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the National Ecosystem Planning Center of Expertise (ECO-PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-209.

- b. **Products to Undergo Type I IEPR.** Not applicable.
- c. **Required Type I IEPR Panel Expertise.** Not Applicable.
- d. **Documentation of Type I IEPR.** Not Applicable.

7. MODEL CERTIFICATION AND APPROVAL

- 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
Qualitative Habitat Evaluation Index (QHEI)	<p>The QHEI developed by the Ohio EPA would be employed to assess the physical riverine habitat quality. Riverine habitat would be surveyed in transects. The sites would be assessed from a river right descending perspective. A variable of impoundment would be added to the QHEI for this particular study under the channel morphology section to give weight to stream connectivity. If backwater effects from a downstream structure impacted the stream section, a score of zero was received, if the stream section was free flowing, a score of nine was received. Other impacts of dams were indirectly reflected in stream morphology and function parameter. The QHEI consists of eight sections with a maximum total of 100 points:</p> <ol style="list-style-type: none"> 1. Characterization of substrate types and the effects of siltation 2. Characterization of in-stream cover 3. Characterization of channel morphology 4. Characterization of the riparian zone and bank erosion 5. Assessment of the pool / glide & riffle / run 6. Gradient 7. Shade 8. Channel incision 	Under Review for Regional Certification
Native Fish Species Richness & Abundance	<p>This portion of the assessment uses fish species richness (R), which is the total number of native fish species. An assessment was done utilizing the City of Elkhart Aquatic Biology Department's fish collection database that has been updated yearly since 1998. The City has been collecting native fish species abundance near both dams for 14 years. Analysis of</p>	Not Certified

	the database shows a common occurrence of 48 native fish species in or near the area below both dams that do not have access to upstream reaches.	
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b. Engineering Models. The following engineering models will be used.

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study
HEC-RAS 4.1	1-dimensional hydraulic model. Will be used to compute water-surface profiles of Elkhart River and Christiana Creek, for both existing and with-project conditions. May be used for sediment transport analysis if required.
HEC-HMS 3.4	Hydrologic model that simulates rainfall-runoff response of a watershed and computes streamflow hydrographs. May be used to create hydrographs for use in the hydraulic model, but only if unsteady/quasi-unsteady hydraulic modeling is required.

8. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost.** An estimate of 10K has been budgeted for ATR. ATR is scheduled for January 2012.
- b. **Type I IEPR Schedule and Cost.** Not applicable.
- c. **Model Certification/Approval Schedule and Cost.** For decision documents prepared under the model GLFER Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved model are used, approval of the model for use will be accomplished through the ATR process. The ATR team will 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.

9. 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. Public will have an opportunity to comment during the NEPA process.

10. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for approving this review plan and ensuring that use of the GLFER 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 1165-2-209. The latest version of the review plan, along with the MSC Commanders' approval memorandum, will be posted on the home district's webpage.

11. REVIEW PLAN POINTS OF CONTACT

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

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 Feasibility Report. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. 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.

Date

Date

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: There are no significant concerns.

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

Date

Date



ATTACHMENT 1: TEAM ROSTERS

PDT Members

Discipline
Project Manager
Lead Planner / Restoration Ecologist
Fish Biologist / Planner
Cultural & Arch. Resources
Real Estate
GIS Support
Cost Engineer
Civil Engineer
Environmental
H&H Coastal Engineer
Geo Technical Engineer
Surveyor
City of Elkhart

ATR Team Members

Discipline
Formulation & Compliance
H&H
Cost
PCX Cost Cert

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
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
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CELRD-PDS-P

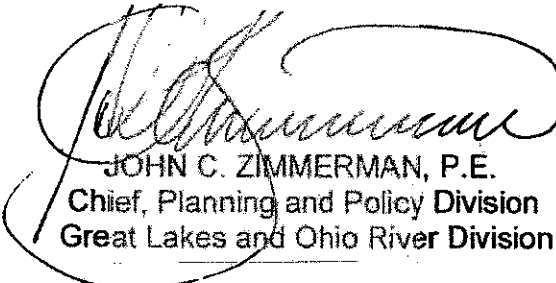
28 October 2011

MEMORANDUM FOR Commander, Chicago District

SUBJECT: Major Subordinate Command (MSC) Approval of the Review Plan (RP) for City of Elkhart Dams, Elkhart, IN Section 506 Great Lakes Fishery and Ecosystem Restoration

1. The RP for the City of Elkhart Dams, Elkhart, IN has been presented to the Great Lakes and Ohio River Division for approval in accordance with memorandum from Major General Don T. Riley, Director of Civil Works, and subject titled "Review Process" dated 30 March 2007.
2. The study area is located in the St. Joseph River watershed in north central Indiana in Elkhart County. The specific location of the project on the Elkhart River would be northeast of Elkhart Avenue and Waterfall Drive and the project on Christiana Creek would be located northeast of East Crawford and Cassopolis Street, both in the City of Elkhart, Indiana. The goal of the project is to restore connectivity to the Elkhart River and Christiana Creek, while providing riverine species with critical habitat for all life stages. Proposed restoration activities will reconnect nearly 50 linear miles of stream and improve aquatic habitat for native and endangered and threatened fish and mussel species. Project activities will also help to stabilize stream banks and naturalize sediment transport.
3. The purpose of a RP is to assign the appropriate level and review independence, establish procedures, and assign responsibilities for conducting Agency Technical Review (ATR), Safety Assurance Review (SAR) and if necessary, Independent External Peer Review (IEPR).
4. Policy compliance and quality management verification for the City of Elkhart Dams, Elkhart, IN, Section 506 RP have been completed. Division staff has confirmed the RP has been formulated using the programmatic review plan model for Section 506 and is in accordance with the requirements of the Corps Review Process, which is set forth in EC 1165-2-209 (Civil Works Review Policy), EC 1105-2-412 (Assuring Quality of Planning Models) and the Director of Civil Work's Policy Memorandum #1 (Continuing Authority Program Planning Process Improvements, January 19, 2011).

5. The Chicago District is requested to post the RP to its web site. Prior to posting, the names of individuals in the RP should be removed.
6. The RP for the City of Elkhart Dams, Elkhart, IN Section 506 project is approved by the Great Lakes and Ohio River Division. Chief of Planning and Policy Division. The MSC point of Contact for this effort is (CELRD-PDS-P).



JOHN C. ZIMMERMAN, P.E.
Chief, Planning and Policy Division
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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
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CELRD-PD-G

21 FEB 2013

MEMORANDUM FOR Commander, U.S. Army Engineer District, Chicago (Susanne Davis/CELRD-PM-PL), 111 N. Canal, Suite 600, Chicago, IL, 60606-7206

SUBJECT: Review Plan for Chicago Sanitary & Ship Canal Aquatic Nuisance Species Dispersal Barriers

1. The attached Review Plan (RP) for Chicago Sanitary & Ship Canal (CSSC) Aquatic Nuisance Species Dispersal Barriers was presented to the Great Lakes and Ohio River Division for approval in accordance with EC 1165-2-214 "Civil Works Review" dated 15 Dec 2012.
2. The CSSC Dispersal Barriers project consists of the electrical barriers, the Efficacy Study, and Asian Carp location monitoring. Products planned and currently under development are a decision document, plans and specifications, operations and maintenance, and other products including hydroacoustics and monitoring summary reports.

The decision document is the *Comprehensive Efficacy Report*, to include a summary of all interim reports completed to date and will include a summary of the efforts underway by the other agencies making up the Asian Carp Regional Coordinating Committee. The report will document the improvements made to increase the efficacy of the electric barriers. Further, the report will contain evaluation of additional risk reduction measures to specifically address the open pathways to Lake Michigan: the Grand Calumet River which outlets at the Indiana Harbor and Canal; and the Little Calumet River, which outlets at Burns Ditch.

Plans and Specifications refers to the construction of a permanent Barrier I facility, and studies performed on the Barrier II electrical upgrades in order to determine the cause of power quality issues at Barriers IIA and IIB and develop solutions.

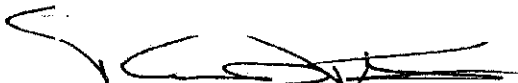
Operations and Maintenance references the active and continuously operation of the barriers, 24 hours a day, 7 days a week. The electric and structural barriers must be maintained to insure their continued effectiveness.

Hydroacoustics is a monitoring technology that can detect fish in a water column. A hydroacoustics systems will be designed, tested, and installed around the electric barriers that will allow monitoring to determine whether fish (if any) are crossing over the barriers. A pilot program is currently under development to research available systems and determine which is most suitable for application at the Barriers. Finally, Monitoring Summary Reports will include a summary of USACE work on the telemetry and eDNA programs.

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3. The RP defines the scope and level of peer review for the activities to be performed for the subject project. The USACE LRD Review Management Organization (RMO) has reviewed the attached RP and concurs that it describes the scope of review for work phases and addresses all appropriate levels of review consistent with the requirements described in EC 1165-2-214.
4. I concur with the recommendations of the RMO and approve the enclosed RP for CSSC Barriers project.
5. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP and the dollar values of all project costs should be removed.
6. If you have any questions please contact



ROBERT D. PETERSON
Colonel, USA
Acting Commander

Encl

1. Review Plan
2. Memo from Jodi Creswell (ECO PCX), 11 Dec 2012

