



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
550 MAIN STREET
CINCINNATI, OH 45202-3222

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 Powderhorn Lake & Prairie, Burnham, Illinois

1. The attached Review Plan (RP) for Powderhorn Lake & Prairie was presented to the Great Lakes and Ohio River Division for approval in accordance with EC 1165-2-214 "Civil Works Review" dated 15 December 2012.
2. The project is a 192 acre site located primarily in Burnham, Illinois and partially within the boundary of the City of Chicago. The project is within the State of Illinois' Millennium Reserve Initiative (MR) boundary. The MR is the State's response to President Obama's America's Great Outdoors Initiative which is to protect and restore the nation's resources. One hundred and thirty acres of this site have been designated as an Illinois Nature Preserve and it has been included in the Illinois Natural Areas Inventory. Powderhorn Lake and Prairie is part of the Chicago Lakeplain physiographic area and is one of the few remaining examples of the dune and swale topography that once characterized the Calumet Region along the south shore of Lake Michigan. A feasibility study would lead to a better understanding of the surrounding area's hydrology and explore ways to improve the lake and restore the site's unique ridge and swale communities, potentially expanding the project boundaries through land acquisitions, easements, and existing Forest Preserve District of Cook County (FPDCC) owned properties while providing connectivity to adjacent natural areas within the Calumet Region.
3. The goal of the project is to restore natural hydrology, connectivity, and wetland habitat throughout the project area. The Feasibility Study Report with an integrated Environmental Assessment (FS/EA) would complete the plan formulation process, identify cost effective plans for ecosystem restoration purposes and complete preliminary design for the recommended plan. This FS will serve as the decision document for the approval of construction funding. The estimated total cost for a potentially recommended plan is between 1 and 5 million dollars. The FPDCC is the potential non-Federal sponsor.
4. 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.
5. I concur with the recommendations of the RMO and approve the enclosed RP for the Powderhorn Lake & Prairie project.

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6. 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.
7. If you have any questions please contact Dr. Hank Jarboe, CELRD-PDP, at (513) 684-6050.

A handwritten signature in black ink, appearing to read 'ROBERT D. PETERSON', with a large, stylized flourish at the end.

ROBERT D. PETERSON
Colonel, USA
Acting Commander

Encl
Review Plan

**DECISION DOCUMENT REVIEW PLAN
USING THE REGIONAL REVIEW PLAN MODEL
for**

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

Powderhorn Lake & Prairie, Burnham, Illinois

Chicago District

MSC Approval Date: Pending

Last Revision Date: 13 December 2012



**US Army Corps
of Engineers ®**

**DECISION DOCUMENT REVIEW PLAN
USING THE REGIONAL REVIEW PLAN MODEL**

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

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1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Regional Review Plan model defines the scope and level of peer review for the *Powderhorn Lake & Prairie, Burnham, Illinois* 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 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 Regional Review Plan for GLFER project documents, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in ER 1165-2-214 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 in nature.

If any of the above criteria are not met, the model GLFER Regional Review Plan model 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 1165-2-214.

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

c. References

- (1) Engineering Circular (EC) 1165-2-214, 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 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 planning model certification/approval (per EC 1105-2-412).

- (1) District Quality Control/Quality Assurance (DQC). All 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 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 documents prepared under the model GLFER Regional Review Plan, the leader of the ATR team shall be from outside the home MSC.

- (3) Independent External Peer Review (IEPR). IEPR may be required for 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 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 1165-2-214.

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

- (4) Policy and Legal Compliance Review. All 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 documents shall be coordinated with the Cost Engineering Directory of Expertise (DX), located in the Walla Walla District.

For documents prepared under the GLFER Regional 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 documents prepared under the model GLFER Regional 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 *Powderhorn Lake & Prairie, Burnham, Illinois Feasibility Study* decision document 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 Powderhorn Lake & Prairie* is a 192 acre site owned by the Forest Preserve District of Cook County (FPDCC). It is located primarily in Burnham, Illinois and partially within the boundary of the City of Chicago. The project is within the State of Illinois' Millennium Reserve Initiative (MR) boundary. The MR is the State's response to President Obama's America's Great Outdoors Initiative which is to protect and restore the nation's resources. One hundred and thirty acres of this site have been designated as an Illinois Nature Preserve and it has been included in the Illinois Natural Areas Inventory. Powderhorn Lake and Prairie is part of the Chicago Lakeplain physiographic area and is one of the few remaining examples of the dune and swale topography that once characterized the Calumet Region along the south shore of Lake Michigan. A feasibility study would lead to a better understanding of the surrounding area's hydrology and explore ways to improve the lake and restore the site's unique ridge and swale communities, potentially expanding the project boundaries through land acquisitions, easements, and existing FPDCC owned properties while providing connectivity to adjacent natural areas within the Calumet Region

The goal of the project is to restore natural hydrology, connectivity, and wetland habitat throughout the project area. This includes the following objectives:

- Restore and maintain natural hydrologic functions
- Remove unnatural urban runoff and restore natural hydrologic regimes
- Re-claim former groundwater levels
- Eradicate invasive plant species and restore critical habitat for migratory birds, fishes, amphibians, reptiles, and insects

The Feasibility Study Report with integrated Environmental Assessment (FS/EA) would complete the plan formulation process, identify cost effective plans for ecosystem restoration purposes and complete preliminary design for the recommended plan. This FS will serve as the decision document for the approval of construction funding. The estimated total cost for a potentially recommended plan is between 1 and 5 million dollars. The FPDCC is the potential non-Federal sponsor.

- b. Factors Affecting the Scope and Level of Review.** This study is a small ecosystem restoration project that is believed to be relatively straight forward in terms of being able to remedy impairments and subsequently restore habitat damage the impairments have caused. Currently, there are no identified risks that would impair the success of this habitat restoration project. Significant, adverse affects/effects for economic, environmental and social effects are not expected because the project footprint is set aside for natural area land use; therefore, significant social and economic effects are quite unlikely. Eradication of invasive species and planting of native species are expected to restore ecological function. The environmental affects/effects of this restoration project are predicted to improve the ecological integrity markedly for fish and wildlife, especially spring spawning fishes and migratory birds along the Lake Michigan portion of the Central Flyway. This project would utilize Corps expertise to restore aquatic ecosystem habitat without any novel, controversial or interagency issues.
- 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. While the FPDCC has been actively managing and monitoring the Powderhorn Lake & Prairie site, and has provided data helpful for scoping the study, no in-kind services for the study are anticipated after signing of the Feasibility Cost Sharing Agreement. The FPDCC may provide in-kind services during construction, such as invasive species removal or native planting.

4. DISTRICT QUALITY CONTROL (DQC)

District Quality Control will be achieved through the Project Management Plan and product specific Quality Control Plans as the project progresses. The PMP and QCP are living documents and will be updated as the project proceeds through the feasibility, design and implementation phases. The QCP will be used as the baseline to track the schedule and budget. The product team will prepare the QCP at the onset of each new phase. The product lead will coordinate the approval of the QCP as expeditiously as possible after preparation and concurrence by the team. The appropriate product lead will coordinate review and approval of product specific QCP. Responsible branch and section chiefs will certify that the appropriate quality procedures have been followed for specific product. Product specific QCPs will be maintained at P:\PRJ-506 Powderhorn Lake\PM-PM Project Management\QCP. The PDT will provide the QCP to the ATR team.

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 (As indicated in the Director of Civil Works’ Policy Memorandum #1, Jan 19, 2011:”the ATR lead is to be outside the home MSC unless the CAP review plan justifies an exception and is explicitly approved by the MSC Commander”).

a. Products to Undergo ATR. ATR will be performed throughout the study in accordance with the regional quality management system (QMS). 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 hydraulics analysis and draft Feasibility Study.

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with experience in preparing Section 206 or GLFER decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in GLFER Plan Formulation, Biology/NEPA/Ecosystem Output Evaluation, and Economics (CE/ICA).
Environmental Resources	Same as Planning
Cultural Resources	Same as Planning
Hydrology	The hydraulic engineering reviewer will have experience in determining natural and unnatural hydrologic conditions, and experience with ecosystem restoration projects.
Hydraulic Engineering	The hydraulic engineering reviewer will have experience with determining surficial flows and vectors, with EPA SWMM 5.0 and HEC-HMC v3.5, and experience with ecosystem restoration projects.
Coastal Engineering	NA
Civil Engineering	The reviewer representing engineering and design will have experience in GLFER projects, hydraulic and coastal structures.
Cost Engineering	The cost engineering reviewer will have experience in GLFER projects.
Real Estate	The real estate reviewer will have experience in GLFER projects.

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 Regional 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 1165-2-214.
- 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
Floristic Quality Index (FQA)	This assessment tool was designed to be used as an all inclusive method, not just as a way to identify high quality sites. The FQA was originally developed for the Chicago Region, but has since been developed for regions and states throughout North America. This method assesses the sensitivity of individual plant species that inhabit an area. Each native species is assigned a coefficient of conservatism ranging from “0 to 10”. A “0” is assigned to species that are highly tolerant to disturbance and are considered general in their habitat distribution and a “10” is assigned to species with a very low tolerance to disturbance and displays a very specific relationship to a certain habitat type. This model is used in this study to assess the ecological value of the existing site (future-without-project) condition and any proposed management measures, based on the function of the plant community.	Approved
Native Fish Species Richness	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 Chicago Region Fish Database. An increase in the sheer number of species would be a significant test for this project since the stream is currently fragmented from Lake Michigan, which has prevented any species of fish from utilizing spring spawning and rearing habitat that the north shore ravines should typically provide.	Under review for Regional Certification

- b. Engineering Models.** The following engineering 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
EPA SWMM 5.0	Hydraulic model will most likely be the EPA Storm Water Management Model (SWMM), a dynamic rainfall-runoff simulation model used for single event or long-term (continuous) simulation of runoff quantity and quality from primarily urban areas. This latest re-write of EPA SWMM was produced by the Water Supply and Water Resources Division of the EPA's Risk Management Research program with assistance from the consulting firm of CDM, Inc.
HEC-HMS v3.5	HEC-HMS is a hydrologic model developed by the Hydrologic Engineering Center. The program is designed to simulate precipitation-runoff processes of dendritic drainage basins, and will be used as necessary to determine the peak discharges for selected synthetic storm events.

8. REVIEW SCHEDULES AND COSTS

- a. ATR Schedule and Cost.** Currently the estimated schedule for the ATR is July through August 2013, and the estimated cost is \$14,500.
- b. Type I IEPR Schedule and Cost.** Not applicable.
- c. Model Certification/Approval Schedule and Cost.** For documents prepared under the model GLFER Regional 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. Currently the NEPA 30-day public review is scheduled for October 2013. Major project documents will be located on the Chicago District, U.S. Army Corps of Engineers home page, address: <http://www.lrc.usace.army.mil>.

10. REVIEW PLAN APPROVAL AND UPDATES

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

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 Study for Powderhorn Lake & Prairie, Burnham, Illinois Section 506 Project*. 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

ATR Team Leader
CEMVR-PD-P

Date

SIGNATURE

Project Manager
CELRC-PM-PM

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

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

Chief, Engineering Division
CELRC-TS-D

Date

SIGNATURE

Chief, Planning Division
CELRC-PM-PL

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
GLFER	Great Lakes Fisheries & Ecosystem Restoration	RIT	Regional Integration Team
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