



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

19 FEB 14

CELRD-PD-G

MEMORANDUM FOR Commander, U.S. Army Engineer District, Chicago (Susanne Davis/CELRD-PM-PL), 231 South LaSalle Street, Suite 1500, Chicago, IL, 60604

SUBJECT: Decision Document Review Plan for Lockport Prairie, Section 206

1. The attached Review Plan (RP) for Lockport Prairie Nature Preserve 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 approximately 365-acre study area includes Lockport Prairie Nature Preserve (LPNP) and the Prairie Bluff Preserve (PBP) to the west, in Will County, Illinois. The study will address concerns including: (1) Ecosystem degradation causing the decline in Hine's Emerald Dragonfly habitat and floristic quality caused by a drop in the ground water that discharges into LPNP; (2) The area of PBP, located within the recharge zone of the LPNP aquifer and impacted by an extensive system of drain tiles carrying precipitation away from the aquifer where soil does not support the deep-rooted native vegetation that encourages infiltration; (3) Surface water of poor quality from the major highway that borders the western edge of LPNP negatively impacting the integrity of the site; (4) An area along the bluffs next to the intersection of Division Street which is negatively influenced by large quantities of surface water runoff and where an eroded denuded gully has formed; and, (5) Invasive species which have established themselves in small but ever greater sections of the project area, disrupting the functionality of the aquatic ecosystem and posing a larger threat of soon displacing native plant species along with Federally listed species that depend on the native plant species. The types of measures/alternatives to be considered in the study include drain tile disablement, native plant restoration, and erosion control.
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 the Lockport Prairie Nature Preserve project.


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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 Dr. Hank Jarboe, CELRD-PDP, at (513) 684-6050, or Ms. Pauline Thorndike, CELRD-PDG, at (513) 684-6212.

Encl
Review Plan


MARGARET W. BURCHAM
Brigadier General, USA
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**

**Lockport Prairie Nature Preserve, Will County, Illinois
Section 206 Project**

Chicago District, US Army Corps of Engineers

MSC Approval Date: October 31, 2012

Last Revision Date: 24 October 2012

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

**Lockport Prairie Nature Preserve, Will County, Illinois
Section 206 Project**



**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 Lockport Prairie Nature Preserve, Will County, Illinois, Section 206 project decision document.

Section 206 of the Water Resources Development Act of 1996, Public Law 104-305, authorizes the Secretary of the Army to carry out a program of aquatic ecosystem restoration 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. This authority also allows for dam removal. 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.

- b. **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 ER 1165-2-209 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 1165-2-209.

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 1165-2-209, 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. The 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.

c. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (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

- 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 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 Section 206 decision documents is the home MSC. The MSC will coordinate and approve the review plan. The MSC has delegated ATR management authority to the District. 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 Lockport Prairie Nature Preserve, Will County, Illinois 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 approximately 365-acre study area includes Lockport Prairie Nature Preserve (LPNP) and the Prairie Bluff Preserve (PBP) to the west, in Will County, Illinois. The local sponsor, The Forest Preserve District of Will County, and other stakeholders are most concerned about ecosystem degradation including problems with quality of native plant communities, environmental degradation and invasive species; therefore, the study focuses on the restoration of the hydrology and enhancement of the current native plant communities.

LPNP contains wet and wet-mesic dolomite prairie, a globally rare type of plant community. Less than 19 acres have been identified across the globe. It also supports 3 Federally-listed species and numerous other state-listed species. For these reasons it has undergone a number of ecological studies, especially of ground water dynamics, which supports most of the species of concern, especially the Hine's Emerald Dragonfly, a Federally-endangered species. An investigation by Chicago District of these earlier studies plus 2006 field work conducted by the District using the Floristic Quality Assessment (FQA) method indicated that the floristic quality had dropped since 2002, along with a shift toward species that prefer a drier habitat. These findings correlate with a concurrent study performed by the FPDWC that showed a drop in ground water elevations. Other signs of hydrologic disturbance have also been observed, most notably the death of several of the state-listed spotted turtles due to the drawdown of ground water while they hibernated. Therefore, the project site is a strong candidate for an aquatic ecosystem restoration project.

The study will address concerns including: (1) Ecosystem degradation causing the decline in Hine's Emerald Dragonfly habitat and floristic quality caused by a drop in the ground water that discharges into LPNP; (2) The area of PBP, located within the recharge zone of the LPNP aquifer and impacted by an extensive system of drain tiles carrying precipitation away from the aquifer where soil does not support the deep-rooted native vegetation that encourages infiltration; (3) Surface water of poor quality from the major highway that borders the western edge of LPNP negatively impacting the integrity of the site; (4) An area along the bluffs next to the intersection of Division Street which is negatively influenced by large quantities of surface water runoff and where an eroded denuded gully has formed; and (5) Invasive species which have established themselves in small but ever greater sections of the project area, disrupting the functionality of the aquatic ecosystem and posing a larger threat of soon displacing native plant species along with Federally listed species that depend on the native plant species.

The types of measures/alternatives to be considered in the study include drain tile disablement, native plant restoration, and erosion control. The estimated cost for a potentially recommended plan is in the range of \$4 to \$5 million.

c. 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. Because the sponsor has been managing the site and is familiar with that factors affecting its degradation, the study is not likely to be particularly technically, institutionally or socially challenging. Project uncertainties include the likeliness of a greater project scope as the unaddressed site degradation continues, and effectiveness of the hydrologic measures. Risks from these uncertainties are relatively low because sufficient measures can be constructed within the Section 206 Federal cost-share limits, and because adequate hydrologic studies have been completed for the site.

- The project does not involve a significant threat to human life/safety, as the project site is a nature preserve.
- There is no request by the Governor of an affected state for a peer 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, or as to the economic or environmental cost or benefit of the project, because the project is within the nature preserve and will support 3 Federally-listed species and numerous other state-listed species.
- 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. Within about the last five years, the Chicago District, in conjunction with non-Federals sponsors, has restored over 900 acres in the Chicago region with similar measures.
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule. Construction would be completed during conventional planting seasons, to ensure greatest success of sustaining the native plant restoration.

d. 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 in-kind products anticipated.

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.

The product team is responsible for producing quality services and/or products. The technical element assembling the Detailed Project Report (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. 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 the specific product. Product specific QCPs will be maintained at P:\PRJ-206 Lockport Prairie\PM-PM Project Management\QCP, and QC checklists will be provided 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.

- 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 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 DPR.
- b. **Required ATR Team Expertise.** For this small, low risk Ecosystem Project 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 senior professional preferably with experience in preparing Section 206 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). The ATR Lead MUST be from outside the home district’s MSC.
Planning	The Planning reviewer should be a senior water resources planner with experience in not only crafting ecological restoration feasibility studies, but also have field experience in restoring ecological systems.
Environmental Resources	Experience in how natural systems function and expertise with environmental compliance statutes, in particular the National Environmental Policy Act (NEPA).
Hydraulic Engineering	The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of urban storm sewer design and application of engineered measures for wetland

	restoration.
Cost Engineering	Cost DX Staff or Cost DX Pre-Certified Professional with experience preparing cost estimates for ecosystem restoration projects.
Real Estate	The real estate reviewer will have experience in Section 206 or 506 (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)

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 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 Section 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type I IEPR is not required.

- **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 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.

- a. 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 1165-2-209.

- 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. 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 DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, 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 DX will conduct the cost engineering ATR. The DX will provide the Cost Engineering DX certification. The RMO will coordinate with the Cost Engineering DX on 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
Floristic Quality Assessment (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
IWR Planning Suite	IWR Planning Suite assists with plan formulation by combining user-defined solutions to planning problems and calculating the effects of each combination, or “plan.” The program can assist with plan comparison by conducting cost effectiveness and incremental cost analyses, identifying the plans which are best financial investments and displaying the effects of each on a range of decision variables.	Certified

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	Approval Status
HEC-RAS v4.1.0 (River Analysis System)	HEC-RAS is a one-dimensional hydraulic model designed to perform computations for a full network of natural and constructed channels. The program will be used to develop flow characteristics of the ravines under design conditions. Selected parameters from the model output will be used to appropriately design selected measures for the design conditions.	Approved
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. It will be used to determine the peak discharges for selected synthetic storm events which will subsequently be used as	Approved

	input into the HEC-RAS model.	
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10. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost.** Currently the estimated schedule for the ATR is July through August 2014, and the estimated cost is \$20,000.
- b. **Type I IEPR Schedule and Cost.** Not applicable.
- c. **Model Review 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 model 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. The public will have opportunities to comment on the draft decision document during the NEPA process. The final decision document and associated review reports will be made available to the public through the LRC website.

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 1165-2-209 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:

Lead Planner/Restoration Ecologist

Project Manager

ATTACHMENT 1: TEAM ROSTERS. Include contact information for the PDT, ATR team, and MSC. The credential and years of experience for the ATR team should be included when it is available.

PDT Members

Discipline	Name	Phone	E-mail
Project Manager			
Resource Manager			
Lead Planner/Restoration Ecologist			
Fisheries Biologist			
Cultural & Arch. Resources			
Real Estate			
Cost Engineer			
Civil Engineer			
Environmental			
Geotechnical			
H&H Engineer			
Forest Preserve District of Will County			

ATR Team Members

Planning ATR
Lead/Planning/Environmental
Cost Engineering and Risk Analysis
Cost Engineering
H&H Engineering
Real Estate

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 [Detailed Project Report \(DPR\)](#) for [the Lockport Prairie Nature Preserve, Will County, Illinois, Section 206 Project](#). 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.

SIGNATURE

ATR Team Leader
[CEMVP-PD-P](#)

Date

SIGNATURE

Project Manager (home district)
[CELRC-PM-PM](#)

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Review Management Office Representative
[CELRD-PDS-P](#)

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: [There are no significant technical concerns.](#)

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

SIGNATURE

Chief, Engineering Division (home district)
[CELRC-TS-D](#)

Date

SIGNATURE

Chief, Planning Division (home district)
[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
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