

**DECISION DOCUMENT REVIEW PLAN**  
**USING THE NATIONAL PROGRAMMATIC REVIEW PLAN MODEL**  
**For**  
**Section 506, Water Resources Development Act of 2000, as Amended**  
**Great Lakes Fishery and Ecosystem Restoration (GLFER)**

*Underwood Creek, Wauwatosa, WI*  
*GLFER 506*

**MSC Initial Approval Date: 29 July 2011**  
**Last MSC Approved Revision Date: 29 April 2013**



**US Army Corps  
of Engineers®**

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

**Section 506, Water Resources Development Act of 2000, as amended  
Great Lakes Fishery Ecosystem Restoration Decision Documents**

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## 1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review for the *Underwood Creek, Milwaukee County, WI* Aquatic Ecosystem Restoration project decision document developed under Section 506, Water Resources Development Act of 2000, as amended.

Section 506 of the Water Resources Development Act of 2000, Public Law 106-541 as amended by Section 5011 of WRDA 2007, authorizes the Secretary of the Army to develop a plan for activities of the Corps of Engineers that support the management of the Great Lakes fisheries in cooperation with the signatories to the Joint Strategic Plan for Management of the Great Lakes Fisheries and other affected interests; to plan, design, and construct projects to support the restoration of the fishery, ecosystem, and beneficial uses of the Great Lakes; and develop a program to evaluate the success of the projects carried out under the GLFER authority in meeting fishery and ecosystem restoration goals in consultation with the Great Lakes Fishery Commission and appropriate Federal, state, and local agencies. Section 506 authorizes to be appropriated a Federal Program Limit of \$100,000,000 to carryout GLFER studies and projects. Total Federal participation in planning, design and construction (including monitoring) for any one project under Section 506, as amended, is limited to \$10 Million. Any per-project costs in excess of \$10 million will be a 100 percent non-Federal responsibility.

- b. **Applicability.** Per the implementation guidance dated 10 June 2011 This Section 506 review plan is based on the model National Programmatic Review Plan for Section 506 project decision documents, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in EC 1165-2-214 Civil Works Review. A Section 506 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 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 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 1165-2-214.

Applicability of the model National 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 Federal Interest Determination milestone (as defined in Appendix F of ER 1105-2-100, F-10.e.1) during the feasibility phase of the project. 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 by expanding this review plan prior to approval of the final decision document in accordance with EC 1165-2-214.

#### c. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 Dec 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 11 Mar 2011
- (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
- (6) Implementation Guidance for the Water Resources Development Act of 2007 – Section 5011, Great Lakes Fishery and Ecosystem Restoration Program

d. **Requirements.** This programmatic review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification (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 National Programmatic Review Plan, the leader of the ATR team shall be from outside the home division. Other team members must come from outside the home district that produced the work.

- (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 1165-2-214, 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 National Programmatic Review Plan, Type I IEPR is not required for Section 506 projects.

- (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 National Programmatic Review Plan, Type II IEPR is not required unless there is a risk to life safety.

- (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 National 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 National 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 Section 506 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 Underwood Creek, Wauwatosa, Wisconsin decision document will be prepared in accordance with ER 1105-2-100, Appendix F. 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.
- b. **Study/Project Description.** The Milwaukee Sewerage District has requested the assistance of the U.S. Army Corps of Engineers (Corps), Detroit District, to rehabilitate 4,400 feet of a concrete lined channel in Wauwatosa, Wisconsin. The stream was altered in the 1960s and 1970s to provide conveyance for flood discharges. These alterations included channel widening, realignment, and the construction of concrete drop structures. The concrete drop structures prohibit fish from swimming upstream during spawning season and the channel's concrete lining has negatively impacted aquatic and floodplain habitat. Alternatives that will be evaluated in this study will be designed to improve: natural riverine functions of sedimentation, erosion, and other hydraulic forces; richness and abundance of native plants, fish and wildlife; and water quality. More specifically, the alternatives considered in this study involve removing the concrete channel bottom and drop structures, adding a gravel bottom and riffles, and creating riparian wetlands. The creek's narrow right of way and strong hydraulic forces will dictate the type of restoration available for plan formulation.
- c. **Factors Affecting the Scope and Level of Review.** Factors that support the use of the programmatic review plan include: a low risk to human life and safety; strong interagency and public support for the project; the project is not highly controversial; and none of the analysis used in the decision document was derived using innovative techniques or precedent-setting methods or models. Furthermore, all the information and/or analyses used to develop the decision document are based on scientifically sound and proven methodologies frequently employed in Corps planning projects.
- b. **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.

### 4. DISTRICT QUALITY CONTROL (DQC)

District Quality Control (DQC). DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for seamless

review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander. The Major Subordinate Command (MSC)/District quality management plans address the conduct and documentation of this fundamental level of review; DQC is not addressed further in this review plan.

**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 Detail Project Report, Environmental Assessment (DPR & EA) and the Alternative Formulation Briefing (AFB).

**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 506 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 ecosystem restoration plan formulation.
Economics	Experience with Cost Effective (CE) and Incremental Cost Analysis (ICA).
Hydraulic Engineering	Hydrology & Hydraulics: Team member will be an expert in the field of hydrology & hydraulics and have a thorough understanding of open channel dynamics, application of, flood routing, and watershed hydrology and a working knowledge of HEC-RAS.
Coastal Engineering	Not required
Geotechnical Engineering	The team member should have an extensive experience in geotechnical evaluation of dams and spillway structures such as static and dynamic slope stability evaluation, evaluation of the seepage through earthen embankments and under seepage through the foundation of the structures.
Civil Engineering	Team member will be an expert in the art and science of civil design. Should also be a licensed professional engineer.
Cost Engineering	Cost Engineer: Team member shall be familiar with estimates for civil works (water retention, flood control, etc.), structural work (bridges, overpass, etc.) and environmental clean-up. The Cost Engineer will be required to perform some quantity checks. Be familiar with the USACE estimating software MII in reviewing cost estimate. In addition, the Walla Walla District, or the Cost DX, will

	be responsible for providing ATR certification.
Real Estate	The Real Estate Specialist should have extensive experience standard real estate agreements, easement determination, and determination of LERRDS .

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 1165-2-214.
- 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:

<b>Model Name and Version</b>	<b>Brief Description of the Model and How It Will Be Applied in the Study</b>	<b>Certification / Approval Status</b>
IWR – PLAN version 1.0.11.0	The model will be used in the Economic Analysis to conduct Cost Effectiveness (CE) and Incremental Cost Analysis (ICA).	Certified

- b. **Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document

<b>Model Name and Version</b>	<b>Brief Description of the Model and How It Will Be Applied in the Study</b>
HEC-RAS 4.0 (River Analysis System)	The Hydrologic Engineering Center’s River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions.
SAMwin 1.0	SAM integrates computer programs to provide a design package to aid in the design of stream restoration projects, especially as an easy-to-use platform for screening alternatives when more extensive investigations are not possible (Copeland et al., 1998).

**REVIEW SCHEDULES AND COSTS**

- c. **ATR Schedule and Cost.**

<b>Description</b>	<b>Scheduled Date</b>	<b>Cost</b>
ATR	May 2013	\$30,000
AFB package	July 2013	\$18,000

- d. **Type I IEPR Schedule and Cost.** Not applicable.
- e. **Model Certification/Approval Schedule and Cost.** For decision documents prepared under the model National 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.

**8. 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 draft report and Environmental Assessment documents will be distributed for public comment. In accordance with NEPA, the EA will be made available for a 30 day public comment period. During the public comment period, if the public comments are sent to the Corps by email, then the Corps will respond by email. If the public comments are sent to the Corps by letter, then the Corps will respond by letter. When the comment period is complete the comments will be forwarded to the ATR team leader electronically. A public meeting might be held to address concerns with the project.

## **9. REVIEW PLAN APPROVAL AND UPDATES**

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

<b>POC</b>	<b>Title</b>	<b>Office Phone Number</b>
Steven Check	Project Manager	313 226-2074
Ashley Binion	Project Planner	313 226-2657
Pauline Thorndike	Division Liaison	513-684-6212

**ATTACHMENT 1: TEAM ROSTERS****PDT Team Roster**

Discipline	Name	Office/Agency
Project Manager	Steven Check	CELRE-PM-C
Lead Planner	Ashley Binion	CELRE-PL-P
Environmental Analysis	Hal Harrington	CELRE-PL-E
Economic Analysis	Ashley Binion	CELRE-PL-P
Real Estate	Glenn Spence	CELRE-RE
Civil Design Analysis	Jihad Safa	CERLE-ED-G
Geotech Engineering	Tina Kowitz	CERLE-ED-E
Hydrology and Hydraulic Engineering	Cynthia Jarema	CELRE-HH-E
Cost Engineering	Julie Udell	CELRE-ED-C
Office of Counsel	Gary Segrest	CELRE-OC

**ATR Team Roster**

Discipline	Name	Office/Agency
Senior Water Resource Planner	Wendy Gendron	CENAE-EP-PP
Environmental Analysis		
Economic Analysis		
Real Estate	Jennifer Janik	CELRB-RE
Civil Design Analysis	Frank Lewandowski	CELRB-TD-DS
Geotech Engineering		
Hydrology and Hydraulic Engineering	Kenneth Halstead	CELRH-TD-HD
Cost Engineer	Paul Polanski	CELRB-TD-DE
QA Cost DX	Jim Neubauer	CENWW-EC-X

**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 for Underwood Creek, GLFER Section 506, Wauwatosa, Wisconsin. 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 DrChecks<sup>sm</sup>.

SIGNATURE

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ATR Team Leader  
CELRB-PM-PA

\_\_\_\_\_

Date

SIGNATURE

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Steven Check  
Project Manager  
CELRE-PM

\_\_\_\_\_

Date

SIGNATURE

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Name  
Review Management Office Representative  
Office Symbol

\_\_\_\_\_

Date

**CERTIFICATION OF AGENCY TECHNICAL REVIEW**

Significant concerns and the explanation of the resolution are as follows: [Describe the major technical concerns and their resolution.](#)

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

SIGNATURE

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Name  
Chief, Engineering Division  
Office Symbol

\_\_\_\_\_

Date

SIGNATURE

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Name  
Chief, Planning Division  
Office Symbol

\_\_\_\_\_

Date

**ATTACHMENT 3: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>
24 Apr 13	Authority updated from Section 206 to Section 506. EC reference updated to EC 1165-2-214. Section 8a updated schedule and costs. PDT and ATR team members updated.	

**ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS**

<b>Term</b>	<b>Definition</b>	<b>Term</b>	<b>Definition</b>
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