DECISION DOCUMENT REVIEW PLAN

Duluth-Superior Harbor, MN & WI
Dredged Material Management Plan

Detroit District

MSC Approval Date: 14 January 2013
Last Revision Date: none

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 Dredged Material Management Plan (DMMP) for the Duluth-Superior Harbor, MN & WI.

b. 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 Mar 2011
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

c. Requirements. This 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).

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 decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the Inland Navigation Planning Center of Expertise (PCX-IN).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

a. Decision Document. The Duluth-Superior Harbor DMMP Study will produce a DMMP Report. The report will identify a recommended plan for the management of dredged material from Duluth-Superior Harbor for at least the next twenty years. USACE policy is to accomplish disposal of dredged material in the least costly manner consistent with sound engineering practices and environmental standards. The DMMP Report will include an Environmental Assessment (EA)of the alternative plans. HQUSACE is responsible for final approval of the DMMP. The DMMP will not require specific Congressional authorization. The plan is a single-purpose project focused on meeting the disposal needs of the harbor.

b. Study/Project Description.

Duluth-Superior Harbor is located within the confines of the cities of Duluth, Minnesota (St. Louis County), and Superior, Wisconsin (Douglas County). The harbor area occupies roughly 32 square miles and has over 100 miles of waterfront. The harbor is protected by a natural barrier, a sand and gravel bar just over six miles in length, which is transected by the Duluth Ship Canal and the Superior Entry providing access to Lake Superior.

Duluth-Superior Harbor is a deep draft commercial harbor which contains over 18 miles of maintained navigation channel. The navigation channel has project depths of 28 to 32 feet in the entrance; 27 feet deep in the iron-ore route channels, and 20 to 23 feet in inner channels. Duluth-Superior is the 16th leading U.S. port (1st in the Great Lakes). Tonnage is almost equally split between Duluth and Superior Entries.

Currently, the dredged material from the channel in the Duluth-Superior Harbor is placed in the Erie Pier Confined Disposal Facility (CDF). The average dredged quantity is 110,000 cubic yards annually.

Sediment in the navigation channel has minimal levels of contamination and may be eligible for open water disposal. Chemical analysis will be completed as part of the DMMP process.

In the development of a DMMP, measures to be screened and evaluated will include potential new disposal locations, measures to reduce dredging requirements, and an assessment of potential beneficial uses of the dredged material. It is estimated that project costs will be below $30 Million.

c. Factors Affecting the Scope and Level of Review. This document outlines routine maintenance dredging and disposal, therefore the scope and level of review should be commensurate with the level of complexity of the project.

Challenges: The measures involved in dredging and disposal of dredged material from the river are not expected to generate significant technical, institutional, or social challenges. The Detroit District has significant in-house expertise in dredging and experience constructing measures such as those that will be used for this project. Likely challenge will be coordination with the local regulatory agencies over open water disposal.

Project Risks: Risks associated with this project are expected to be low. The assessment and minimization of risks associated with dredging and placement of material is well established and regulated within the District.

Life Safety: The project will neither be justified by life safety or will involve significant threat to human life/safety assurance. There is no reason to believe that any measures involved in the project are associated with a significant threat to human life.

Governor Request for Peer Review: The Governor **has not** requested peer review by independent experts.

Public Dispute: The project/study is not anticipated to be controversial nor result in significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project.

Project Design/Construction: The anticipated project design will take advantage of prevailing practices and methodologies. It is also not expected to be based on novel methods or involve the use of innovative techniques, or present complex challenges for interpretation. It is also not anticipated that the project will require unique construction sequencing or redundancy.

d. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. DMMP's are conducted at full Federal expense. No in-kind products or analyses by non-Federal sponsors will be provided.

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 document undergoing DQC shall be reviewed thoroughly and in its entirety by the DQC team to assure the technical, policy and procedural integrity. The home district shall manage DQC in accordance with Section 7.1 - Quality Plans in procedure 08504 LRD - QC / QA Procedures for Civil Works in Qualtrax. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. Documentation of DQC. The DQC reviewer will sign a DQC certificate of completion. The DQC documentation will be provided to the ATR Team for review.

b. Products to Undergo DQC. The Duluth-Superior DMMP and associated EA.

c. Required DQC Expertise. The DQC reviewer for this project must have experience in Civil Works planning studies related to navigation and familiarity with the NEPA process. A DQC Environmental reviewer may be called upon to provide additional review should the study have unexpected environmental impacts, such as contaminated sediment. Should contaminated sediments be encountered, a Hazardous, Toxic or Radioactive Waste (HTRW) expert may be called in to assist on the forward planning of the handling of such sediments.

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 for the DMMP Study will be led by the Inland Navigation Center of Expertise (PCX-IN). The ATR team will provide comments on Feasibility Scoping Meeting (FSM) documentation, Alternative Formulation Briefing (AFB) documentation, and the Draft Report.

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	Team member will have strong knowledge of current planning policies and guidance and extensive experience with weighing costs and benefits, screening measures, and plan formulation.
Economics	Team member will have a strong understanding of economic models and studies related to inland navigation.
Environmental Resources (NEPA)	Experience in NEPA for routine disposal of dredged material
Cost Engineering/Civil Design	Team member will have a strong knowledge of cost estimating practices for construction projects and civil design procedures.
Operations	Team member will be an expert in dredging operations.
Real Estate	Team member will be an expert in Real Estate

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 be 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 1110-1-12 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, based on work reviewed to date, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

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

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II

IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

- 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.

a. Decision on IEPR. Based on the criteria set forth in EC1165-2-214, the proposed study will not require Type I or Type II IEPR. As included in paragraph 3(c), the project study does not pose a significant threat to human life; the estimated total cost of the project is less the $45 million (estimated to be below $30 Million); the governor of the State has not requested a peer review by independent experts; and the DCW or the Chief of Engineers has not determined the project study to be controversial in nature or to result in significant public dispute over either the size, nature, or effects of the project or the economic or environmental costs or benefits of the project.

If, as the DMMP is developed, no IEPR is required, the District will submit a formal waiver request for an IEPR exclusion to the MSC. If any of the automatic triggers for IEPR are encountered, the review plan will be revised and an IEPR undertaken.

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. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

9. MODEL CERTIFICATION AND 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. 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, ATR, and IEPR (if required).

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
Great Lakes Systems Analysis of Navigation Depths (GL-SAND)	A computer model, Great Lakes System Analysis of Navigation Depths (GL-SAND), was developed to calculate the shipping costs associated with moving commodities on the Great Lakes during one commercial navigation season. The model uses individual vessel movements at the dock level to calculate the amount of time it takes to move commodities from their origin ports to final destination ports. This transit time is then converted to dollars using average shipping costs per hour by vessel class. Once transportation costs associated with existing operating conditions are developed, the model can then be rerun using different channel depth assumptions at the origin port. This results in transportation costs by channel depth for any Great Lakes port that needs to be evaluated. The programs calculation of transportation costs by channel depths incorporates shoaling rates; variable lake levels; vessel operating characteristics (loading/unloading rates, carrying capacity by commodity, tons per inch immersion factors, vessel speed); vessel operating costs by vessel class; available channel depths at harbors, locks, and connecting channels by month; dock characteristics (depth at docks, dock loading/unloading rates); in harbor maneuvering times and	Certified

	trip distances between ports.	
RECONS	The model, RECONS, a Regional ECONomic System model was developed by the U.S Army Corps of Engineers (USACE) Institute for Water Resources (IWR) to provide accurate and defensible estimates of regional and national job creation and other economic measures such as income, value added, and sales. RECONS was created as a modeling tool to evaluate the economic impacts of the direct investment and operational spending of the USACE and to estimate forward linkages or effects stemming from USACE business line activities. RECONS may also be used to evaluate economic consequences of USACE projects and programs at a regional level across all business lines. RECONS utilizes the IMpact on PLANning (IMPLAN) software and data system, provided by the Minnesota IMPLAN Group, to estimate the economic impacts of Federal Spending. IMPLAN model(s) were created for each USACE project, and the impact area data, multipliers, direct ratios, and geographic capture rates were extracted from the IMPLAN models and imported into RECONS. Each USACE project, associated with a program code, is linked with one or more county-based impact areas. USACE work activities were identified with single or multiple IMPLAN industry sectors, depending on the complexity of the activity, and are termed "spending profiles." IMPLAN's trade flows regional purchase coefficients and margins are primarily utilized, although in some instances they have been customized to more accurately represent USACE expenditures.	Certified

b. Engineering Models. No engineering models are anticipated to be used in the development of the decision document.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. The DMMP study will undergo the ATR reviews listed below. The listed dates are preliminary and may be adjusted as the study progresses.

The estimated cost for ATR Review of this study is $70,000.

- ATR Review of Feasibility Scoping Meeting Documents — July 2013
- Feasibility Scoping Meeting — February 2014
- ATR Review of Alternative Formulation Briefing Documents — February 2016
- Alternative Formulation Briefing — August 2016
- ATR Review of Draft DMMP — February 2017
- DMMP Review Conference — November 2017

- Draft Final Report to CELRD and HQUACE January 2018

b. Type I IEPR Schedule and Cost. Not-Applicable

c. Model Certification/Approval Schedule and Cost. Not-Applicable

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 EA will be posted for 30 day public comment period. This Review Plan will be posted on the District's internet site and comments from the public will be accepted.

12. REVIEW PLAN APPROVAL AND UPDATES

The Great Lakes and Ohio River Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, 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. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

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

ATTACHMENT 1: TEAM ROSTERS

Table 1 – Study Project Delivery Team

Discipline	Name	Phone	E-mail
Project Manager			
Chief, Plan Formulation			
Lead Planner			
Regional Economist			
Biologist			
Chemist / Biologist			
Cost Engineer			
Civil Engineer			
Geotechnical Engineer			
Coastal Engineer			
Real Estate			
Operations			

Table 2 – Major Subordinate Command Planning and Policy Team & RIT Manager

Discipline	Office	Name	Phone	E-mail
Chief, Planning & Policy				
District Liaison				
Planning & Policy				
Planning & Policy				
RIT Manager				
MSC Dredge Manager				

Table 3 – Planning Centers of Expertise Team

Discipline	Office	Name	Phone	E-mail
PCXIN				
PCXIN				

Table 4 – Agency Technical Review Team

Discipline	Office	Name	Phone	E-mail
ATR Lead/ NEPA Compliance				
Plan Formulation				
Environmental Eng/Chemist				
Economics				
Cost Engineering/Civil Design				
Cost Certification				
Operations				
Real Estate				

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. 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[sm].

SIGNATURE _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____

Name Date
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ _____

Name Date
Review Management Office Representative
Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE _____ _____

Name Date
Chief, Engineering Division
Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division
Office Symbol

[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
DPR	Detailed Project Report	O&M	Operation and maintenance
DQC	District Quality Control/Quality Assurance	OMB	Office and Management and Budget
DX	Directory of Expertise	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
EA	Environmental Assessment	OEO	Outside Eligible Organization
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PMP	Project Management Plan
ER	Ecosystem Restoration	PL	Public Law
FSM	Feasibility Scoping Meeting	QMP	Quality Management Plan
Home District/MSC	The District or MSC responsible for the preparation of the decision document	QA	Quality Assurance
HQUSACE	Headquarters, U.S. Army Corps of Engineers	QC	Quality Control
IEPR	Independent External Peer Review	RED	Regional Economic Development
ITR	Independent Technical Review	RMC	Risk Management Center
MSC	Major Subordinate Command	RMO	Review Management Organization
		RTS	Regional Technical Specialist
		USACE	U.S. Army Corps of Engineers