

# **REVIEW PLAN**

## **Cleveland Harbor, Ohio Dredged Material Management Plan and Environmental Impact Statement**

**Buffalo District**

**MSC Approval Date: 14 Jan 2013**

**Last Revision Date: June 2009**



**US Army Corps  
of Engineers ®**

# REVIEW PLAN

## Cleveland Harbor, Ohio Dredged Material Management Plan and Environmental Impact Statement

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## 1. PURPOSE AND REQUIREMENTS

**a. Purpose.** This Review Plan defines the scope and level of peer review for the Cleveland Harbor, Cleveland, OH Dredged Material Management Plan (DMMP) and Environmental Impact Statement (EIS).

### b. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2010
- (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
- (5) Project Management Plan for Cleveland Harbor DMMP/EIS
- (6) Engineering and Construction Bulletin, No. 2012-18, 18 May 2012, Engineering within the Planning Modernization Paradigm
- (7) USACE, Review of Civil Works Projects Planning Smart Guide, 31 May 2012

**c. Requirements.** This RP was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

## 2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this RP. The RMO for the Cleveland Harbor DMMP is the Planning Center of Expertise for Inland Navigation (PCX-IN). The RMO for the peer review effort described in this RP is [REDACTED]

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) in the Walla Walla District 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 purpose of the Cleveland Harbor DMMP and EIS is to present the U.S. Army Corps of Engineers (USACE), Buffalo District's plan for maintenance dredging and disposal of dredged materials from the Cleveland Harbor, Ohio Federal Navigation Project. Inherent in the planning of this project is the requirement that a DMMP provide for a minimum 20 years of dredged material disposal. Given the scope of the project and the timeframe for material disposal it is anticipated that an EIS will be required. Depending on the selected alternative, the EIS may be replaced by an Environmental Assessment(EA)/Finding of No Significant Impact(FONSI). As of this date, the Cleveland Harbor Interim DMMP (IDMMP) is being finalized to address the short-term need through 2018, providing the time necessary to assess the critical unknown concerning open lake suitability and investigate various long-term measures. The IDMMP is scheduled to be finalized and approved by May 2013. This DMMP and EIS will build upon the interim plan and provide the complementary plan for the remainder of the 20-year term through 2032.

This study will formulate and evaluate the technical feasibility, environmental acceptability, public/agency support and cost-effectiveness of alternative plans for dredged material management at Cleveland Harbor. The report will also summarize the public coordination accomplished to date in accordance with the National Environmental Policy Act (NEPA). It also accounts for the views of local interests (the non-Federal sponsor) who would be responsible for financially participating in the costs of construction of new disposal areas or the use of new disposal methods.

The DMMP and EIS will require approval from the Major Subordinate Command (MSC) and Headquarters (HQ). The process for accomplishing policy compliance begins with study initiation, and proceeds in partnership among the district, MSC and HQ until project authorization. Districts are responsible for policy compliance. MSCs are responsible for assuring policy compliance. This process is intended to assure that policy issues are raised and resolved as early as possible in the study, and that final policy compliance reviews of decision documents reflect the success of that process.

In a memorandum dated 8 February 2012, ██████████ outlined the planning transformation currently underway in the USACE to follow what is referred to as the SMART Planning process. At this time, it is unclear if/how this planning transformation may impact this DMMP/EIS. Aspects of Smart Planning are proposed for incorporation in this study. On October 24, 2012, the Project Delivery Team proposed holding a planning charette early in the process of this feasibility study. This is believed necessary to align the PDT, the Vertical Team and the Sponsor on a path forward and to compress the schedule as much as possible. This review plan may be subject to revision if a planning charette is held and the schedule can be compressed.

**b. Study/Project Description.** Cleveland Harbor, Cuyahoga County, Ohio, is located on the south shore of Lake Erie at the mouth of the Cuyahoga River. The port is 28 miles east of Lorain, Ohio and 33 miles west of Fairport, Ohio (Figure 1). Cleveland Harbor is a major commercial port on Lake Erie. Based on 2010 data of total tonnage handled, Cleveland Harbor is the 5th busiest port on the Great Lakes and 48th busiest port in the nation (USACE-IWR, 2010). The purpose of the project is continued maintenance of an existing deep-draft harbor.

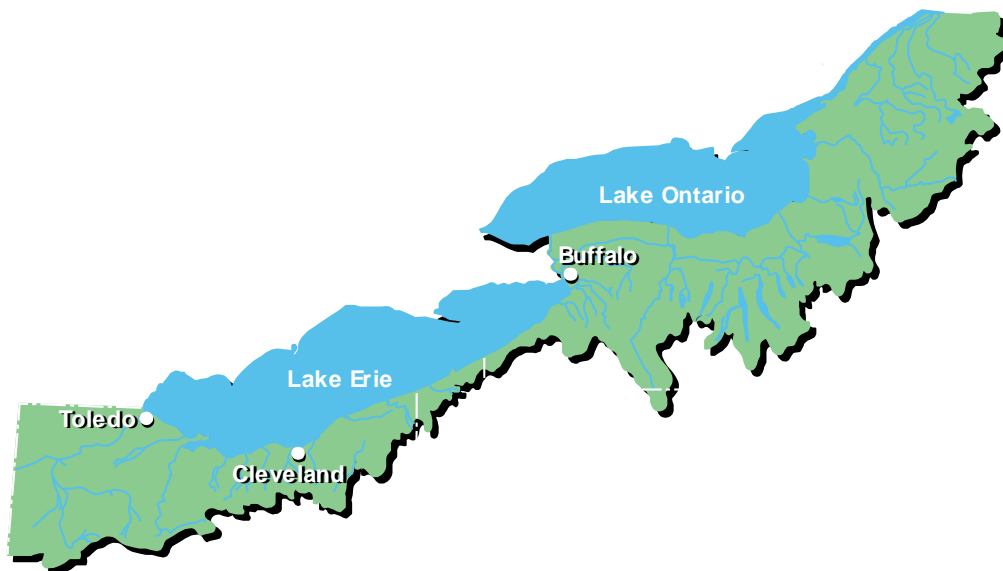


Figure 1 – Location of Cleveland Harbor, Cleveland, OH

Cleveland Harbor, Ohio, was initially authorized as a Federal harbor by Congress in the River and Harbor Act of 1875. The 1875 authorization was modified in 1886, 1888, 1896, 1899, 1902, 1907, 1910, 1916, 1917, 1935, 1937, 1945, 1946, 1958, 1960, and 1962 River and Harbor Acts. Various modifications to the project were also

authorized under the 1976 and 1986 Water Resource Development Acts (WRDA), the 1985 Supplemental Appropriations Act, and the 1988 Energy and Water Appropriations Act. Eventually, the Project Partnership Agreement (PPA) will address the project authority and the cost sharing responsibilities of the local sponsor pursuant to Section 101 of the WRDA of 1986. See Figure 2 and Figure 3 for project maps.

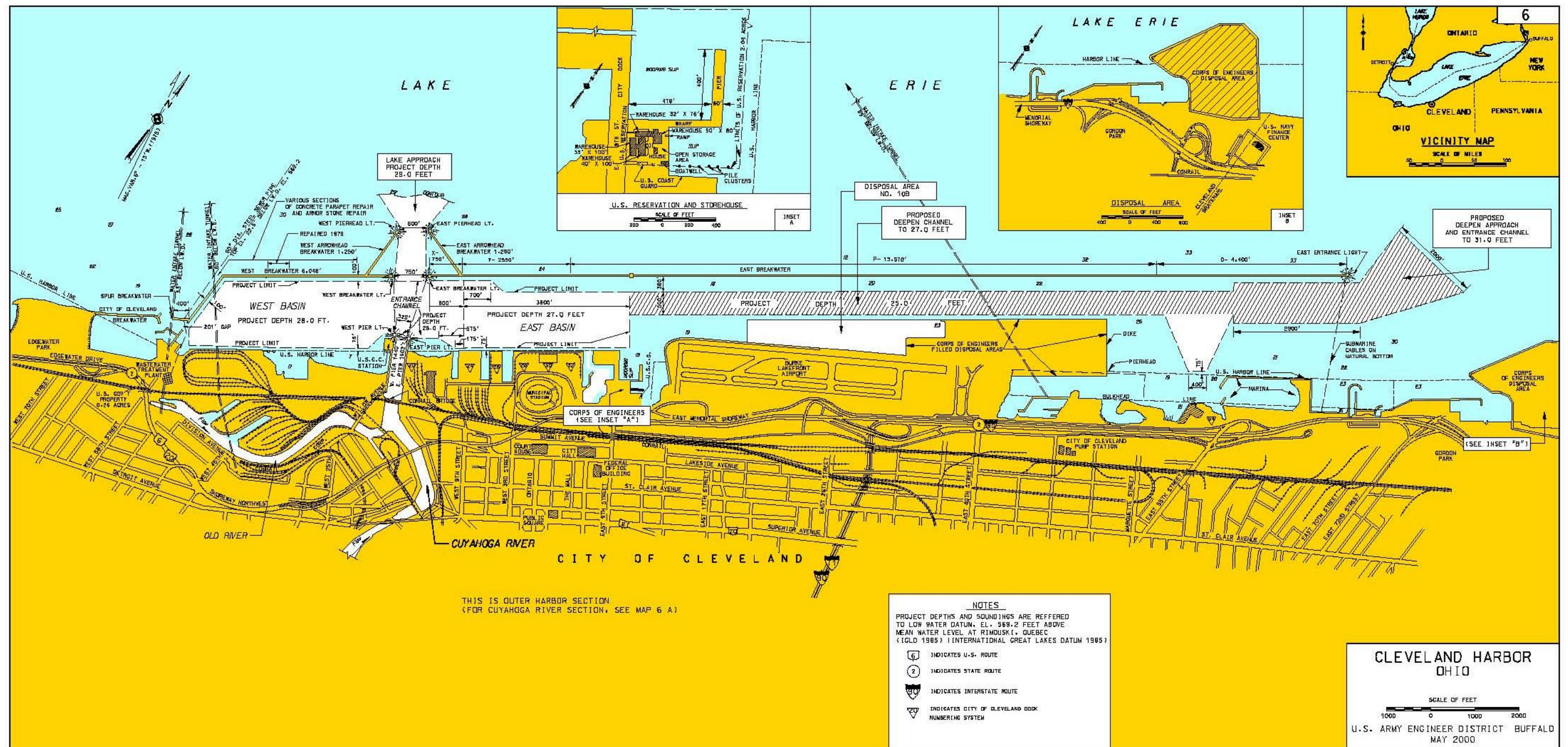


Figure 2 – Cleveland Harbor Project Map

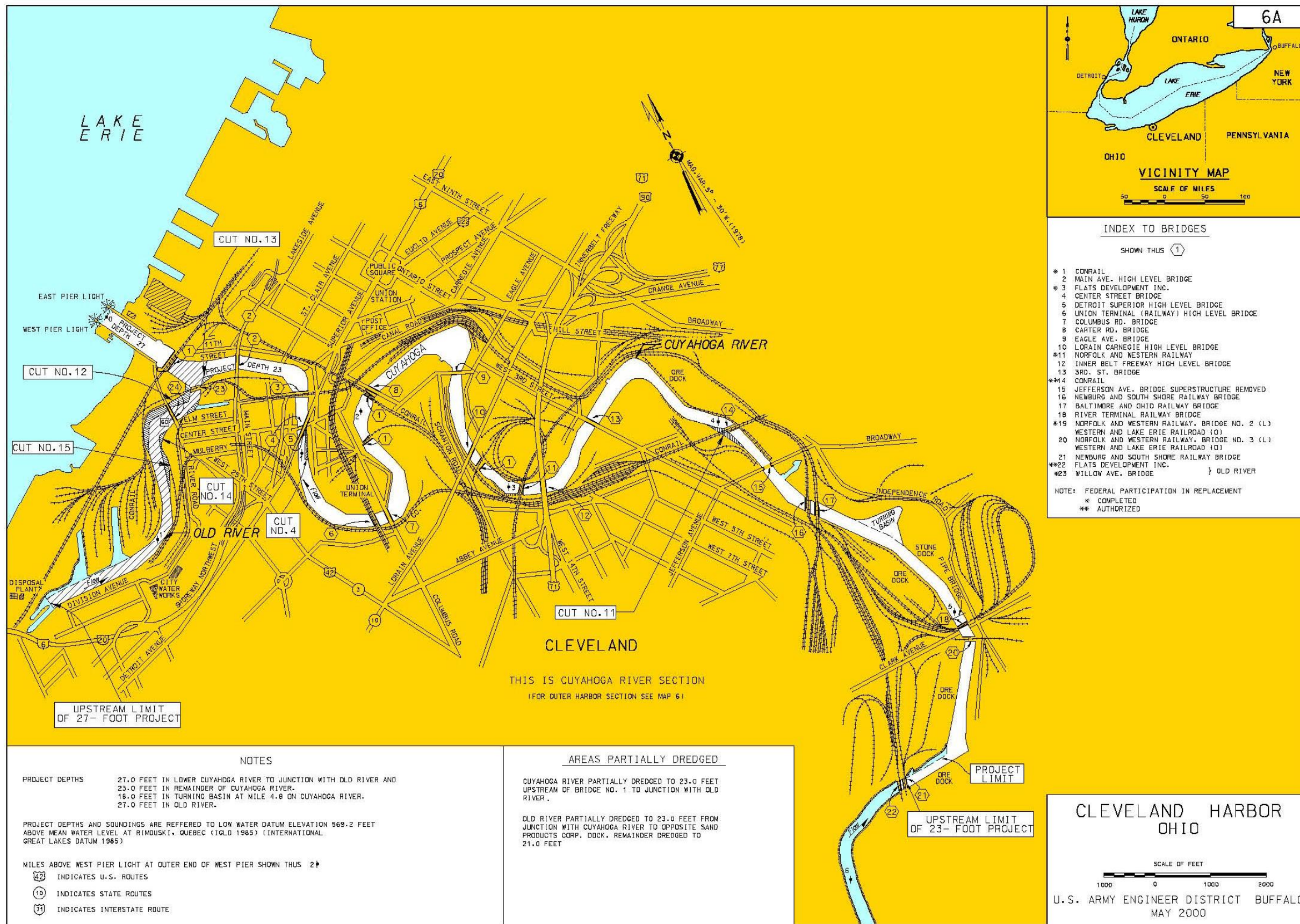


Figure 3 – Cuyahoga River, Cleveland, OH Project Map

The project provides an authorized navigation channel depth of 27 feet in the lowermost part of the Cuyahoga River, from the lake ward end of the piers to a point immediately above the junction with the Old River. Authorized channel depths in the remaining portions of the Cuyahoga River are 23 feet. The Old River navigation channel is maintained to between 21 and 23 feet.

Past and current practice for dredged sediment disposal in Cleveland has been to dispose of materials in stone dike enclosures called confined disposal facilities (CDFs) constructed along the Cleveland waterfront. Once filled, the dikes are turned over to the owner for future disposition. Cleveland Harbor is dredged every year, in the spring and fall. Sedimentation and shoaling within the Federal channel is, and has historically been, the primary driver for the need to perform dredging. The Cuyahoga River is an event-driven sediment transport system and it can convey a large sediment load in response to individual storms. The enlarged prism of the Federal channel creates a zone of sharply reduced flow velocity which acts as an efficient trap for sediments. As sediments are deposited and shoals form, they tend to obstruct navigation in the channel, and require dredging to maintain authorized depths. In the interest of maximizing remaining CDF capacities, annual dredging quantities began to be limited in 2006. Maintenance of the federally-authorized channel since that time has been accomplished by dredging an average of less than 225,000 cubic yards (cy) of sediment each year. Average annual non-federal quantities are similarly kept below a target of 25,000 cy. The required annual dredging quantity necessary to maintain a functional channel will be revisited in this DMMP, including an assessment of backlog conditions in the federal channel.

The Buffalo District has worked very closely with the project's non-Federal Sponsor - the Cleveland Cuyahoga County Port Authority to develop cost-effective, sustainable alternatives to building CDFs. Since 2010, numerous beneficial use alternatives have been brought to the attention of the Cleveland Harbor Dredging Task Force (Task Force) and the Buffalo District. A 2011 report was prepared by the Engineer Research and Development Center (ERDC)<sup>1</sup> providing a review of the technical feasibility of these beneficial uses, including an analysis of the engineering and ecological suitability, the environmental and regulatory acceptability, site specific logistical considerations, and preliminary estimates of the costs for implementing each of the beneficial use management options deemed feasible. The report included short- and long-term recommendations. This ERDC report served as the basis for the evaluation of alternatives in the Interim DMMP and it will provide very useful information on measures to be included in the DMMP.

The existing CDFs are projected to reach design capacity by current hydraulic placement methods in 2014. The Cleveland Harbor IDMP and Environmental Assessment (EA) are being finalized to address the short-term need through 2018. The recommended alternative in the IDMP is Alternative 2 – Vertical Expansion of the existing CDFs to approximate elevation +20 ft LWD by means of mechanical placement of the sediment. The DMMP/EIS will address the remaining disposal need to complete the 20-year requirement. The tentatively selected plan from the 2009 draft DMMP/EIS had an estimated project cost of \$302,670,800 for construction of a new CDF. This DMMP/EIS is expected to have project costs substantially lower than the draft 2009 DMMP/EIS.

1. Evaluation of Beneficial Use Suitability for Cleveland Harbor Dredged Material: Interim Capacity Management and Long Term Planning, August 2011 - [http://www.lrb.usace.army.mil/Portals/45/docs/Cleveland/Army\\_ERDC\\_Cleveland\\_BU\\_Final\\_Report.pdf](http://www.lrb.usace.army.mil/Portals/45/docs/Cleveland/Army_ERDC_Cleveland_BU_Final_Report.pdf)



### **c. Factors Affecting the Scope and Level of Review.**

The DMMP/EIS, is expected to require HQ USACE approval. Cleveland Harbor, Ohio is an authorized Federal harbor by Congress in the River and Harbor Act of 1875 since modified, new Congressional authorization should not be required.

- **Challenges:** The measures involved in dredging and dredge material disposal is not expected to generate significant technical, institutional, or social challenges. The greatest challenge to the project will be maintaining the project schedule to provide an implementable alternative when it is needed.
- **Project Risks:** A detailed Risk Analysis is included in the PMP and will be updated, at a minimum, on an annual basis. The overall project risk is high because failure to maintain the Federal navigation channel would result in negative economic consequences. A significant risk to the project is failure to successfully implement the selected alternative from the Interim DMMP, which would jeopardize the continued navigation of the Federal channel before a long-term alternative is approved and implemented.
- **Life Safety:** The project will not likely be justified by life safety or involve significant threat to human life/safety assurance. Failure of the project will not pose a significant threat to human life.
- **Governor Request for Peer Review:** The Governor has not requested peer review by independent experts.
- **Public Dispute:** It is not anticipated to be controversial or result in significant public dispute as to the size, nature, or effects of the project. Stakeholders and State Agencies (OEPA, ODNR, etc...) are involved throughout the process through the Cleveland Dredge Material Task Force.
- **Project Design/Construction:** The measures to be evaluated in the DMMP will take advantage of prevailing concepts from previous studies including the Interim DMMP completed by the Buffalo District and work completed by ERDC.

### **d. In-Kind Contributions.**

Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control and Agency Technical Review. At this stage, there are no in-kind products or analyses expected from the non-Federal sponsor.

## **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.

DQC is managed in the Buffalo District and may be conducted by in-house staff as long as the reviewers 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 (QMP) 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 the approval by the District Commander.

**a. Documentation of DQC.**

District Quality Control (DQC) Comment Sheets will be used to document reviewers' comments and PDT responses. Once DQC Comments have been responded, reviewers will back check and accept/reject each response. Once reviewers' comments are addressed, DQC Comment Sheets will be signed and compiled for record of the adequacy of the DQC to be assessed by the ATR team.

**b. Products to undergo DQC.**

For the Cleveland Harbor DMMP/EIS, non-PDT members and/or supervisory staff will conduct this review for major draft and final products, including products provided by the non-Federal sponsors as in-kind services following review of those products by the PDT.

**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.**

The Beneficial Use report prepared by the Engineer Research and Development Center (ERDC) has already undergone a District Quality Review (DQR). The DMMP/EIS will undergo an ATR.

**b. Required ATR Team Expertise.**

The ATR team will be comprised of approximately seven reviewers reflecting the work effort and expertise on the Project Development Team (PDT). The RMO, in cooperation with the PDT, vertical team, and other appropriate centers of expertise, will determine the final make-up of the ATR team. The following table provides examples of the types of disciplines that might be included on the ATR team, preliminary ATR team members (subject to change), and some sample descriptions of the expertise required.

ATR Team Members/Disciplines		Expertise Required
ATR Lead	[REDACTED]	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	[REDACTED]	The Planning reviewer should be a senior water resources planner with experience in Navigation O&M, dredged material management plans, as well as beneficial use of dredged sediment.
Economics	[REDACTED]	The Economist should have an understanding of navigation benefits adequate to recognize sufficiency and appropriate utilization in alternative evaluation. The review requires an understanding of economic-related requirements as depicted in EM 1110-2-1619 and ER 1105-2-101. The economist should have an ability to implement and assess risk evaluation methodology.
Environmental Resources	[REDACTED]	This team member should have extensive knowledge of the integration of environmental evaluation and compliance requirements, pursuant to national environmental statutes (NEPA); a thorough knowledge of applicable executive orders and other Federal planning requirements involved in the planning of Civil Works projects.
Civil Design Engineer	[REDACTED]	Team member should be an expert in dredged material management projects, including general earthwork design and construction, as well as geotechnical improvements necessary for modifying (i.e expanding) existing confined disposal facilities.
Cost Engineering	[REDACTED]	Team member should be experienced with preparing estimates for civil works (dredged material disposal facilities, etc.) and dredging operations. The Cost Engineer will be required to perform some quantity checks and be familiar with the USACE estimating software MII in reviewing cost estimates.

**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 1110-1-12 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)

An IEPR is 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 decision as described in EC 1165-2-209, is made by the project team as to whether an 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.
- 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.

This document must undergo a Type I IEPR primarily because of its controversial nature and the level of interagency interest since release of the draft in 2009. According to EC 1105-2-410, "In cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the project is controversial, has significant interagency interest, has a total project cost greater than [REDACTED], or has significant economic, environmental and social effects to the nation, IEPR will be conducted." This study is also expected to contain precedent-setting approaches and may be a highly influential scientific assessment. The study will have significant agency and public interest. The implementation costs associated with the previously selected plan for a new CDF was over [REDACTED]. The external labor costs for the IEPR are currently estimated to be approximately [REDACTED]. IEPR is a project cost. The IEPR panel review will be Federally-funded. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers.

All products are expected to be reviewed by the PDT and undergo DCQ and ATR prior to submittal for IEPR. This includes any products that are produced by the non-Federal sponsors as in-kind services. This is subject to change if concurrent reviews are adopted during a planning charette as a means to compress the project schedule.

**b. Products to Undergo Type I IEPR.**

An IEPR will be conducted on the entire decision document (including supporting documentation), which is available at the draft report stage. IEPR will be done in parallel with the LRD Review and Public/Agency reviews.

**c. Required Type I IEPR Panel Expertise.**

IEPR Panel Members/Disciplines	Expertise Required
Economics/Plan Formulation	The Economics Panel Member should be a scientist from academia, or a representative from a public agency, a non-governmental entity, or an Architect-Engineer or Consulting Firm with at least 10 years experience directly related to water resource economic evaluation or review, with a minimum MS degree or higher in economics. At least 5 years experience directly working for or with USACE is highly recommended. Five years experience, directly dealing with the Corps of Engineers planning process as outlined in ER 1105-2-100, Planning Guidance Notebook, especially with regard to conducting dredged material management plans and studies, outlined in Appendix E. The Panel member must have two years experience in reviewing federal water resource economic documents justifying construction efforts. This discipline may require one or two individuals depending upon the availability of individuals with a comprehensive understanding of this discipline.
NEPA Impacts Assessment	The NEPA Impacts Assessment Panel member should be a scientist from academia, or a representative from a public agency, a non-governmental entity, or an Architect-Engineer or Consulting Firm with a minimum 10 years demonstrated experience in evaluating and conducting NEPA analyses for public works projects. The Panel Member should have a minimum MS degree or higher in an appropriate field of study. Experience should encompass determining the scope and appropriate methodologies for environmental impact analyses for projects and programs with high public and interagency interests and having project impacts to nearby sensitive habitats along the Great Lakes. Active participation in related professional societies is encouraged.
Civil Engineering	Member should be a registered professional engineer with a minimum 10 years of experience in dredging and dredged material management, including the design and construction of marine structures such as confined disposal facilities and piers, wharfs, and/or fast lands in and around the Great Lakes. Special knowledge is desirable in the areas of geotechnical evaluations and designs supporting capacity improvements at existing CDFs. Active participation in related professional societies is encouraged.

**d. Documentation of Type I IEPR.**

The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-209, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 5.c above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- 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; 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.

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

## **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 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 and ATR.

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.

- 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>
Great Lakes System Analysis of Navigation Depths (GL-SAND)	The model was developed by the Buffalo District and it calculates transportation cost savings for differential dredging depths.	HQ Certification is pending

- 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>	<b>Approval Status</b>
CMS-Wave - Wave Model	A spectral wave model based on wave-action balance equation that includes wave diffraction, reflection, breaking, and dissipation. It is a two-dimensional spectral wave model formulated from a parabolic approximation equation (Mase et al. 2005a) with energy dissipation and diffraction terms to simulate a steady-state spectral transformation of directional random waves co-existing with ambient currents in the coastal zone	Classified as CoP Preferred (Preferred Software Option - Recommended)
Sigma/W	This model is a finite element model. It is used to analyze wick drain design and determination of excess pore water pressures during stage construction of embankments.	Geoslope International LTD, Calgary Canada. Approved ACEIT software
Slope/W	This model is a slope stability model which determines the stability of the raised containment dike embankments.	Geoslope International LTD, Calgary Canada. Approved ACEIT software

## 10. REVIEW SCHEDULES AND COSTS

Figure 4 below shows the DMMP/EIS review phase tasks and interdependencies, assuming reviews are conducted in series. Vertical team involvement early in the planning process could influence the review phases in accordance with the evolving SMART planning guidelines resulting in revised, concurrent reviews and a compressed project schedule.



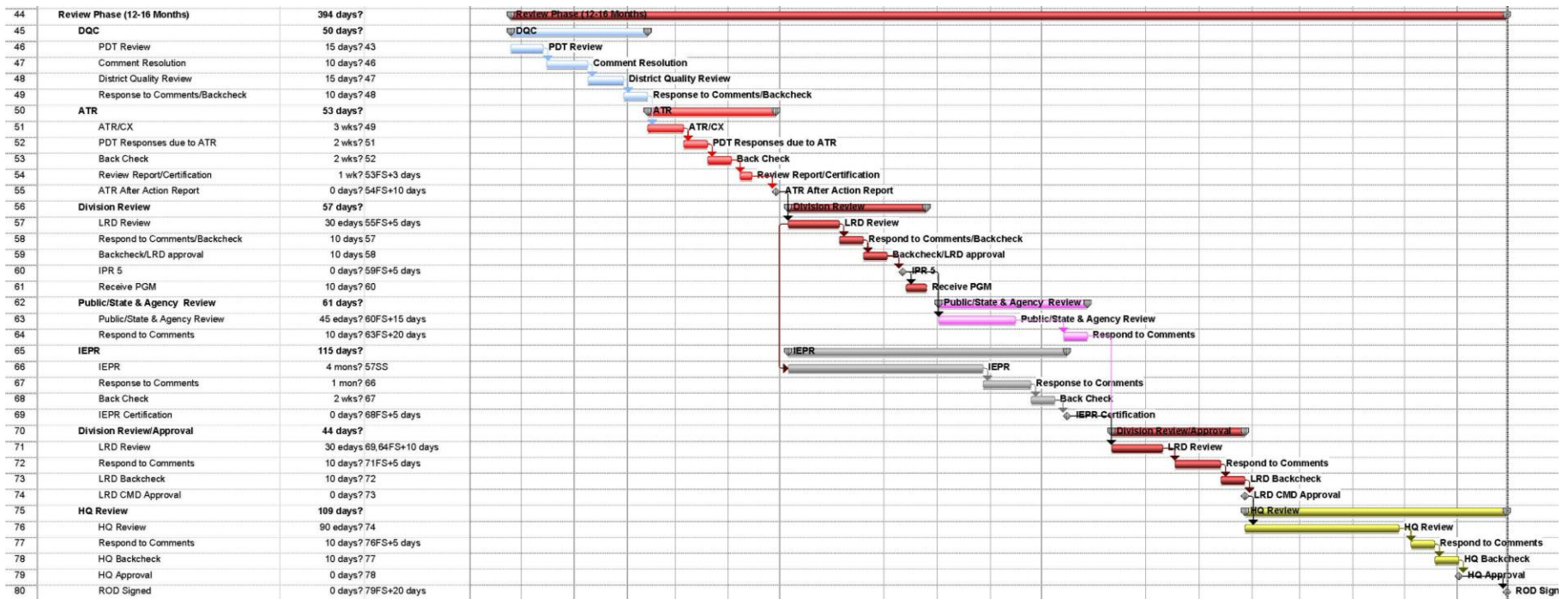


Figure 4 – Project Schedule Review Phases Gantt Chart

- a. **IPR Schedule and Cost.** IPRs are planned to be held throughout the planning process to achieve vertical team concurrence. The estimated cost of an IPR is [REDACTED] (mostly in-house labor).

Description	Scheduled Date
IPR 1	February 2013 – March 2013
IPR 2	August 2013 – September 2013

- b. **ATR Schedule and Cost.**

The ATR is estimated to take about 2 months to complete. The estimated cost of the ATR is [REDACTED].

Description	Scheduled Date
DRAFT DMMP/EIS – begin ATR	February 2014

- c. **Type I IEPR Schedule and Cost.** The IEPR is estimated to take about 5 months or 125 working days to complete. The estimated cost is for the IEPR is [REDACTED].

Description	Scheduled Date
DRAFT DMMP/EIS – begin IEPR	May 2014

- d. **Model Certification/Approval Schedule and Cost.** The GL Sand model was reviewed and HQ approval is forthcoming. The CMS-Wave Model is currently being added by ERDC to the approved list of coastal models.

**11. PUBLIC PARTICIPATION**

In accordance with NEPA, the draft EIS will be made available for a 45-day public comment period. During the public comment period, the Corps may respond by email or letter, depending on how the comment was received. The final document will be placed on the District’s web site for information purposes.

**12. REVIEW PLAN APPROVAL AND UPDATES**

The Great Lakes & Ohio River Division Commander is responsible for approving this RP. 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 RP is a living document and may change as the study progresses. The home district is responsible for keeping the RP up to date. Minor changes to the RP since the last MSC Commander approval are documented in Attachment 3. Significant changes to the RP (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 RP, along with the Commanders’ approval memorandum, should be posted on the Home District’s webpage. The latest RP should also be provided to the RMO and home MSC.

**13. REVIEW PLAN POINTS OF CONTACT**

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

POC	Title	Office Phone Number
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]



**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 <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 1165-2-209. 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 DrChecks<sup>sm</sup>.

*SIGNATURE*

Name  
ATR Team Leader  
Company, Location

\_\_\_\_\_  
Date

*SIGNATURE*

\_\_\_\_\_  
Project Manager  
CELRB-PM

\_\_\_\_\_  
Date

*SIGNATURE*

Name  
Architect Engineer Project Manager<sup>1</sup>  
Company, location

\_\_\_\_\_  
Date

*SIGNATURE*

\_\_\_\_\_  
Review Management Office Representative  
CELRH-PM-PD-F

\_\_\_\_\_  
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*

Name  
Chief, Engineering Division  
Office Symbol

\_\_\_\_\_  
Date

*SIGNATURE*

Name  
Chief, Planning Division  
Office Symbol

\_\_\_\_\_  
Date

<sup>1</sup> Only needed if some portion of the ATR was contracted

**ATTACHMENT 3: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>
Jun 2009	Cleveland Harbor, Ohio Dredged Material Management Plan/Environmental Impact Statement Review Plan approved	
Jun 2011	General updates were made expecting to prepare a revised 20-year plan	
Jan/Feb 2012	Changes were made to reflect the Interim DMMP documentation (see below) *	
November 2012	Changes were made to reflect the DMMP to complete the 20-year planning requirement	

\*During an IPR in October 2011 with vertical team members from LRD, it was agreed that the Buffalo District would complete an Interim DMMP for the disposal of dredged material in for the period through 2018. A separate Review Plan was prepared for the Interim DMMP, reviewed by the PCXIN and LRD, and is awaiting CG approval as of this date.

**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
CDF	Confined Disposal Facility		
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DMMP	Dredged Material Management Plan		
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IDMMP	Interim Dredged Material Management Plan	RTS	Regional Technical Specialist
IEPR	Independent External Peer Review	SAR	Safety Assurance Review
IPR	In Progress Review	USACE	U.S. Army Corps of Engineers
IRC	Issue Resolution Conference	WRDA	Water Resources Development Act
LRR	Limited Reevaluation Report		
MSC	Major Subordinate Command		