



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

OHIO EPA - DSW
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OHIO EPA NEDO

November 15, 2013

Environmental Analysis Section

SUBJECT: Lorain Harbor, Lorain County, Ohio - Request for Section 401 Water Quality Certification for Scheduled 2014 Maintenance Dredging Project

Mr. Scott J. Nally
Director
Ohio Environmental Protection Agency
Division of Surface Water
P.O. Box 1049
Columbus, Ohio 43216-1049
Attn: Ric Queen

Dear Mr. Nally:

Enclosed for your review and comment is the Section 404(a) Public Notice and Section 401 State Water Quality Certification (WQC) application for our scheduled 2014 maintenance dredging project at Lorain Harbor, Ohio. This project entails the maintenance dredging of the authorized Federal navigation channel, and placement of the associated dredged material in the Harbor's existing, authorized open-lake placement site. The Public Notice has been prepared in conformance with U.S. Army Corps of Engineers (USACE) regulation, "Practice and Procedure: Final Rule for Operation and Maintenance of Army Corps of Engineers Civil Works Projects involving the Discharge of Dredged Materials into Waters of the United States or Ocean Waters," 33 Code of Federal Regulations (CFR) 337.1.

The USACE - Buffalo District, is requesting Ohio Environmental Protection Agency (OEPA) WQC for the scheduled 2014 maintenance dredging project at Lorain Harbor, or waiver thereof, under Section 401 of the Clean Water Act.

The following items are contained within this package:

- a. Enclosure 1 is the Section 404(a) Public Notice.
- b. Enclosure 2 is our Section 401 WQC application.
- c. Enclosure 3 is an aerial photograph of Lorain Harbor.
- d. Enclosures 4 and 5 are contract drawings depicting the minimum degradation and preferred alternatives.

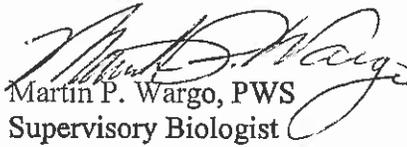
SUBJECT: Lorain Harbor, Lorain County, Ohio - Request for Section 401 Water Quality Certification for Scheduled 2014 Maintenance Dredging Project

Please note that all associated National Environmental Policy Act (NEPA) documents (Environmental Impact Statements and Environmental Assessments) and Section 404(b)(1) Evaluations (and associated Tiered Evaluation) have been completed for this maintenance dredging project, and were previously furnished to your office. The majority of the information requested in Item 10 of the WQC application is contained in these documents in further detail.

As you know, we require WQC in order to accept contract bids on this project. The bid opening date has been scheduled for May 15, 2014 and our goal is to secure the WQC prior to that date. As has been standard practice with our less controversial dredging projects recently, we respectfully request that no public hearing be scheduled for this application unless significant comments are received specifically requesting one. Please advise us regarding the status of the WQC by December 9, 2013. We appreciate your cooperation in this matter.

Questions pertaining to this matter should be directed to Mr. Eric E. Hannes at (716) 879-4311, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York, 14207-3199, or by e-mail at: Eric.E.Hannes@usace.army.mil.

Sincerely,


Martin P. Wargo, PWS
Supervisory Biologist
Environmental Analysis Section

Enclosures



US Army Corps
of Engineers

Public Notice

Issuing Office: CELRB-PM-EA
Notice No: LORAIN-14

Published: 15 NOV 2013
Expires: 15 DEC 2013

OPERATION AND MAINTENANCE DREDGING AND DREDGED MATERIAL PLACEMENT

LORAIN HARBOR LORAIN COUNTY, OHIO

This Public Notice has been prepared and distributed in conformance with U.S. Army Corps of Engineers (USACE) regulation, "Practice and Procedure: Final Rule for Operation and Maintenance of Army Corps of Engineers Civil Works Projects involving the Discharge of Dredged Materials into Waters of the United States or Ocean Waters," 33 Code of Federal Regulations (CFR) 337.1. Its purpose is to specify what dredged/fill materials would be discharged into waters of the United States by implementation of the proposed action, and advise all interested parties of the proposed project and to provide an opportunity to submit comments, or request a public hearing.

The USACE - Buffalo District anticipates the need to dredge and place material excavated from the Federal navigation channel of the Lorain Harbor project, in order to maintain sufficient depth for deep-draft commercial vessels. The attached map (Figure 1) shows the authorized limits and depths of the Federal navigation channels. To insure the minimum authorized depth in the Lake Approach and Black River Channel is maintained throughout the shipping season and to account for dredging tolerance, an additional one foot of material may be removed. An estimated total of up to 225,000 cubic yards of material will be dredged from the Lorain Harbor Federal navigation channel during the 2014 dredging operation.

The 2014 dredging operation at Lorain Harbor is tentatively scheduled to be performed during the period between 1 July 2014 and 15 April 2015.

A contractor of the Federal government will accomplish the project. Sediments will be removed from the channel bottom by a mechanical or hydraulic dredge and placed into hoppers aboard ship or scow for transport to the placement area. The method of excavation will be determined by the contractor performing the maintenance dredging. In previous years, clamshell and hopper dredges have been used to complete the required work.

The material to be dredged from the Lorain Harbor Federal navigation channel consists primarily of silts and clays. The quality of the material has been evaluated using 2000, 2001, 2005 and 2006 sediment data in accordance with the protocols and guidelines contained in the U.S. Environmental Protection Agency (USEPA)/USACE Great Lakes Dredged Material Testing and Evaluation Manual (1998). This evaluation

Enclosure 1

concluded that bottom sediments to be dredged from the Lake Approach and River Channel upstream to River Mile (RM) 2.25/Station 143+47 meet Federal guidelines for open-lake placement (Figure 1). Dredging would not take place upstream of (RM) 2.25 in 2014. Consequently, all of the dredged material will be placed in the 1.5 square mile (960-acre) earth material portion of the harbor's designated open-lake placement area, the center of which is located 3.5 miles north of the Lorain West Harbor Light at an azimuth of 350° 00' (Figure 2). This site has been used by the USACE since the 1930's for placement of Lorain Harbor dredged material.

Water Quality Certification (WQC) from the Ohio Environmental Protection Agency (OEPA) is required for this action, pursuant to Section 401 of the Clean Water Act. Therefore, a copy of this Public Notice has been provided to OEPA requesting WQC for the associated placement of dredged material.

The environmental effects of the dredging operations are documented in the *Final Environmental Statement, Lorain Harbor, Lorain County, Ohio (Maintenance) (1974)*; *Final Environmental Statement, Diked Disposal Site Facility Site No. 7, Lorain Harbor, Lorain County, Ohio (1975)*; *Section 404(b)(1) Evaluation, Lorain Harbor Operations and Maintenance, Lorain, Ohio (1981)*; *Environmental Assessment and Finding of No Significant Impact (EA/FONSI), Operations & Maintenance (Dredging and Open-lake Placement of Dredged Material) (2006)*; and *Environmental Assessment and Finding of No Significant Impact (EA/FONSI), Operations & Maintenance (Dredging and Open-lake Placement of Dredged Material) (2009)*. These documents, and supplemental documentation, have been submitted to USEPA. Copies are available for examination at the Buffalo District office.

There are no listed historic properties or properties determined as being eligible for listing in the National Register of Historic Places that will be affected by this project. By this notice, the National Park Service is advised that currently unknown archaeological, scientific, prehistorical or historical data may be lost or destroyed by the work to be accomplished.

This office has determined that the proposed project will have No Effect upon any species proposed or designated by the U.S. Department of the Interior as threatened or endangered, nor will the proposed work result in an Adverse Modification of designated critical habitat for any such species. Therefore, unless new information indicates otherwise, no further consultation pursuant to Section 7 of the Endangered Species Act Amendments of 1978 will be undertaken with the U.S. Fish and Wildlife Service.

This work will be undertaken in a manner consistent, to the maximum extent practicable, with the State of Ohio Coastal Management Program. A Coastal Management Program Federal Consistency Determination has been submitted to the Ohio Department of Natural Resources (ODNR) documenting this determination.

The decision whether to perform dredging has been based on an evaluation of the probable impact, including cumulative impacts of the proposed activity on the public interest. That decision reflects the national concern for both protection and utilization of important resources. The benefit which is reasonably expected to accrue from the proposal has been balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal have been considered including the cumulative factors thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and,

in general, the needs and welfare of the people.

This activity is being coordinated with the following agencies, as well as other appropriate Federal, State and local agencies and organizations:

Ohio Department of Natural Resources
Ohio Environmental Protection Agency
Ohio Historic Preservation Office
U.S. Coast Guard
U.S. Department of the Interior, Fish and Wildlife Service
U.S. Department of the Interior, National Park Service
U.S. Environmental Protection Agency

Any interested parties and/or agencies desiring to express their views concerning these proposed discharges of dredged material may do so by filing their comments, in writing, no later than 30 days from the date of this notice. Any person who has an interest which may be affected by the discharge of this dredged material may request a public hearing. The request must be submitted in writing to the undersigned within 30 days of the date of this Public Notice. The request must clearly set forth the interest which may be affected, and the manner in which the interest may be affected, by this activity.

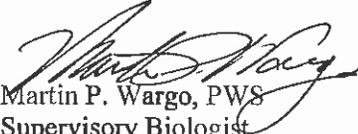
Interested parties are encouraged to contact the USACE - Buffalo District with their comments regarding the proposed dredging of Lorain Harbor. Please review this Public Notice and send your comments in writing within 30 days to the following e-mail address:

LorainDredging@usace.army.mil

or via mail to:

U.S. Army Corps of Engineers - Buffalo District
Environmental Analysis Team
1776 Niagara Street
Buffalo, NY 14207-3199
ATTN: Environmental Analysis - Lorain Dredging

This Public Notice is published in conformance with 33 CFR 337.1. All dredging and dredged material discharge will be performed in conformance with Sections 313 and 404 of the Clean Water Act (33 USC 1323 and 1344, respectively).


Martin P. Wargo, PWS
Supervisory Biologist
Environmental Analysis Section

NOTICE TO THE POSTMASTER: It is requested that the above notice be conspicuously displayed for 30 days from the date of issuance.

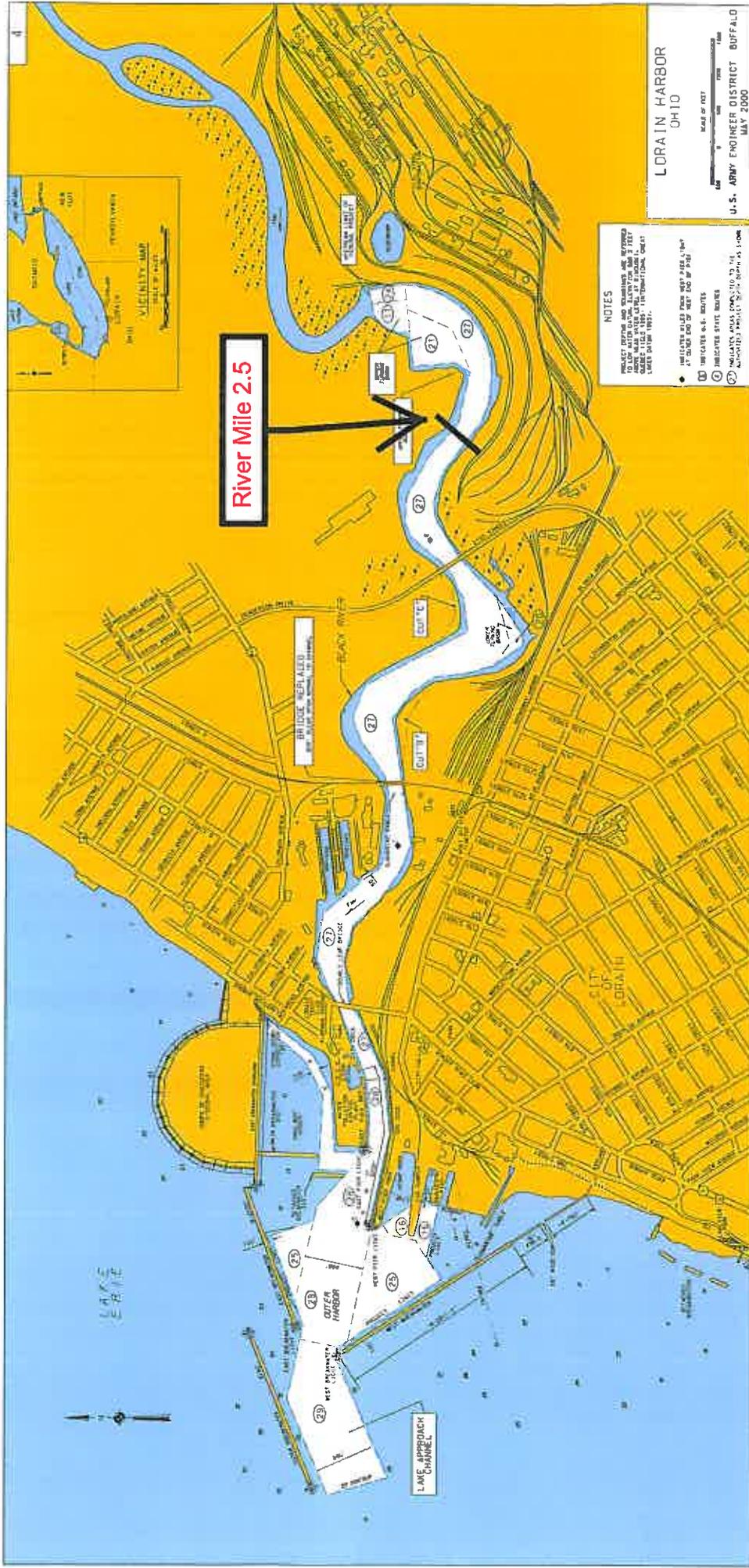


Figure 1 - Map of Lorain Harbor

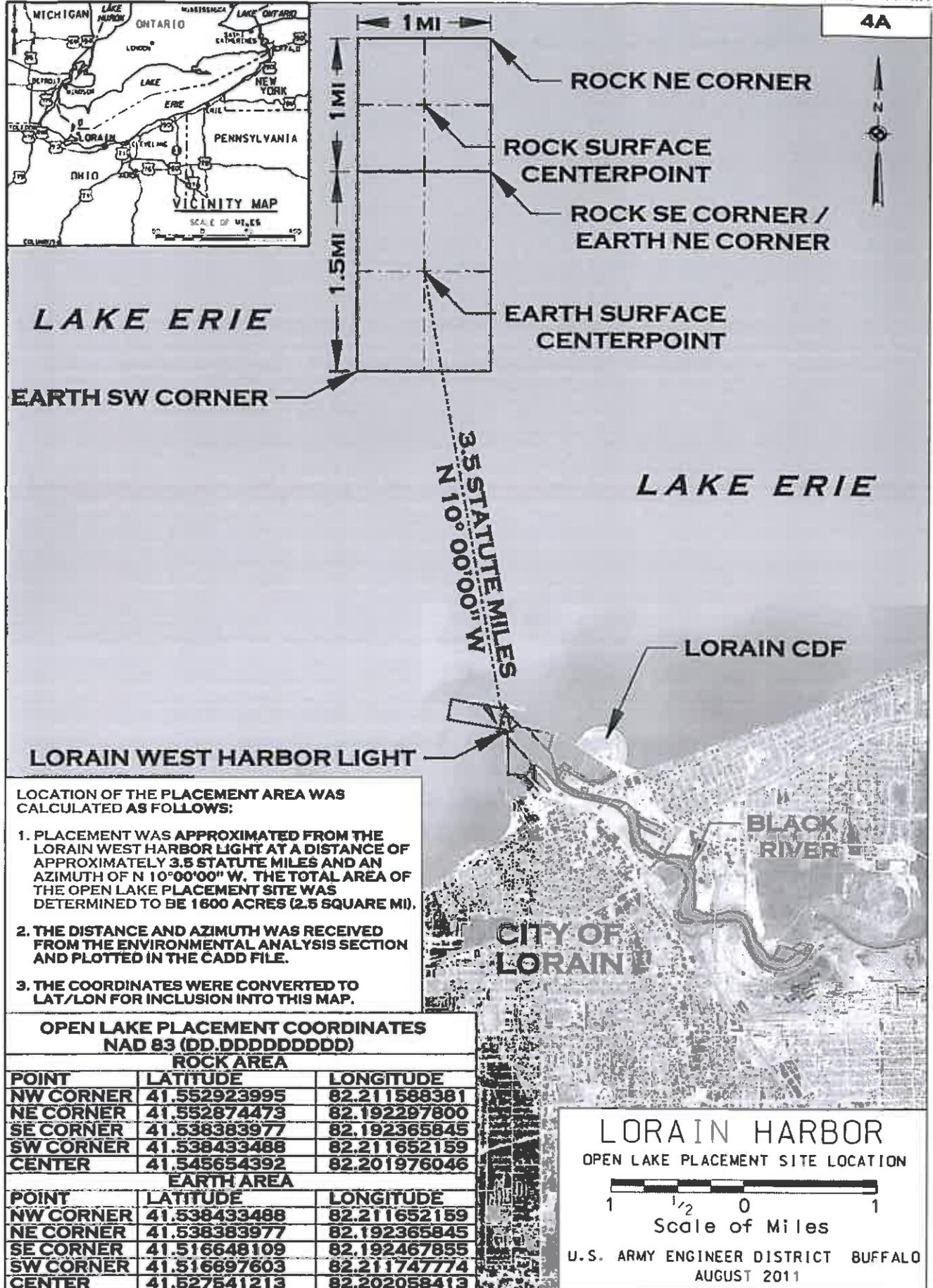


Figure 2 - Lorain Harbor Placement Site

APPLICATION FOR OHIO EPA SECTION 401 WATER QUALITY CERTIFICATION

Effective October 1, 1996
Revised August, 1998

This application must be completed whenever a proposed activity requires an individual Clean Water Act Section 401 Water Quality Certification (Section 401 certification) from Ohio EPA. A Section 401 certification from the State is required to obtain a federal Clean Water Act Section 404 permit from the U.S. Army Corps Engineers, or any other federal permits or licenses for projects that will result in a discharge of dredged or fill material to any waters of the State. To determine whether you need to submit this application to Ohio EPA, contact the U.S. Army Corps of Engineers District Office with jurisdiction over your project, or other federal agencies reviewing your application for a federal permit to discharge dredged or fill material to waters of the State, or an Ohio EPA Section 401 Coordinator at (614) 644-2001.

The Ohio EPA Section 401 Water Quality Certification Program is authorized by Section 401 of the Clean Water Act (33 U.S.C. 1251) and the Ohio Revised Code Section 6111.03(P). Ohio Administrative Code (OAC) Chapter 3745-32 outlines the application process and criteria for decision by the Director of Ohio EPA. In order for Ohio EPA to issue a Section 401 certification, the project must comply with Ohio's Water Quality Standards (OAC 3745-1) and not potentially result in an adverse long-term or short-term impact on water quality. Included in the Water Quality Standards is the Antidegradation Rule (OAC Rule 3745-1-05), effective October 1, 1996, revised October, 1997 and May, 1998. The Rule includes additional application requirements and public participation procedures. **Because there is a lowering of water quality associated with every project being reviewed for Section 401 certification, every Section 401 certification applicant must provide the information required in Part 10 (pages 3 and 4) of this application.** In addition, applications for projects that will result in discharges of dredged or fill material to wetlands must include a wetland delineation report approved by the Corps of Engineers, a wetland assessment with a proposed assignment of wetland category (ies), official documentation on evaluation of the wetland for threatened or endangered species, and appropriate avoidance, minimization, and mitigation as prescribed in OAC 3745-1-50 to 3745-1-54. Ohio EPA will evaluate the applicant's proposed wetland category assignment and make the final assignment.

Information provided with the application will be used to evaluate the project for certification and is a matter of public record. If the Director determines that the application lacks information necessary to determine whether the applicant has demonstrated the criteria set forth in OAC Rule 3745-32-05(A) and OAC Chapter 3745-1, Ohio EPA will inform the applicant in writing of the additional information that must be submitted. The application will not be accepted until the application is considered complete by the Section 401 Coordinator. An Ohio EPA Section 401 Coordinator will inform you in writing when your application is determined to be complete.

Please submit the following to "Section 401 Supervisor, Ohio EPA/DSW, P.O. Box 1049, Columbus, Ohio 43216-1049:

- Four (4) sets of the completed application form, including the location of the project (preferably on a USGS quadrangle) and 8-1/2 x 11" scaled plan drawings and sections.
- One (1) set of original scaled plan drawings and cross-sections (or good reproducible copies).

(See Application Primer for detailed instructions)

1. The federal permitting agency has determined this project: (check appropriate box and fill in blanks)
- a. requires an individual 404 permit/401 certification- Public Notice # (if known) LORAIN-14
 - b. requires a Section 401 certification to be authorized by Nationwide Permit # _____
 - c. requires a modified 404 permit/401 certification for original Public Notice # _____
 - d. requires a federal permit under _____ jurisdiction identified by # _____
 - e. requires a modified federal permit under _____ jurisdiction identified by # _____

Enclosure 2

2. Application number (to be assigned by Ohio EPA): **134287**

3. Name and address of applicant: **Martin P. Wargo**
 U.S. Army Corps of Engineers, Buffalo District
 1776 Nlagara Street
 Buffalo, NY 14207-3199

Telephone number during business hours:
 () (Residence)
 (716) 879-4116 (Office)

3a. Signature of Applicant: *Martin P. Wargo* Date: *11/7/13*

4. Name, address and title of authorized agent: **Eric E. Hannes**
 U.S. Army Corps of Engineers, Buffalo District
 1776 Nlagara Street
 Buffalo, NY 14207-3199

Telephone number during business hours:
 () (Residence)
 (716) 879-4311 (Office)

4a. Statement of Authorization: I hereby designate and authorize the above-named agent to act in my behalf in the processing of this permit application, and to furnish, upon request, supplemental information in support of the application.

Signature of Applicant: *Martin P. Wargo* Date: *11/7/13*

5. Location on land where activity exists or is proposed. Indicate coordinates of a fixed reference point at the impact site (if known) and the coordinate system and datum used.

Address:
 SEE ATTACHED CONTINUATION SHEET

Street, Road, Route, and Coordinates, or other descriptive location

Watershed	County	Township	City	State	Zip Code
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6. Is any portion of the activity for which authorization is sought complete? Yes No
 If answer is "yes," give reasons, month and year activity was completed. Indicate the existing work on the drawings.

7. List all approvals or certifications and denials received from other federal, interstate, state or local agencies for any structures, construction, discharge or other activities described in this application.

Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	Date of Denial
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SEE ATTACHED CONTINUATION SHEET

8. **DESCRIPTION OF THE ACTIVITY (fill in information in the following four blocks - 8a, 8b, 8c & 9)**

8a. Activity: Describe the Overall Activity:
 SEE ATTACHED CONTINUATION SHEET

8b. Purpose: Describe the purpose, need and intended use of the activity:

SEE ATTACHED CONTINUATION SHEET

8c. Discharge of dredged or fill material: Describe type, quantity of dredged material (in cubic yards), and quantity of fill material (in cubic yards). (OAC 3745-1-05(B)(2)(a))

SEE ATTACHED CONTINUATION SHEET

9. Waterbody and location of waterbody or upland where activity exists or is proposed, or location in relation to a stream, lake, wetland, wellhead or water intake (if known). Indicate the distance to, and the name of any receiving stream, if appropriate.

SEE ATTACHED CONTINUATION SHEET

10. To address the requirements of the Antidegradation Rule, your application must include a report evaluating the:

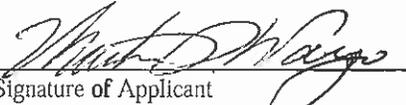
- Preferred Design (your project) and Mitigative Techniques
- Minimal Degradation Alternative(s) (scaled-down version(s) of your project) and Mitigative Techniques
- Non-Degradation Alternative(s) (project resulting in avoidance of all waters of the state)

At a minimum, item a) below must be completed for the Preferred Design, the Minimal Degradation Alternative(s), and the Non-Degradation Alternative(s), followed by completion of item b) for each alternative, and so on, until all items have been discussed for each alternative (see Primer for specific instructions). (Application and review requirements appear at OAC 3745-1-05(B)(2), OAC 3745-1-05(C)(6), OAC 3745-1-05(C)(1) and OAC 3745-1-54).

- 10a) Provide a detailed description of any construction work, fill or other structures to occur or to be placed in or near the surface water. Identify all substances to be discharged, including the cubic yardage of dredged or fill material to be discharged to the surface water. (OAC 3745-1-05(B)(2)(b))
- 10b) Describe the magnitude of the proposed lowering of water quality. Include the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species (include written comments from Ohio Department of Natural Resources and U.S. Fish and Wildlife Service), important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function. Include a Corps of Engineers approved wetland delineation. (OAC 3745-1-05(C)(6)(a, b) and OAC 3745-1-54)

- 10c) Include a discussion of the technical feasibility, cost effectiveness, and availability. In addition, the reliability of each alternative shall be addressed (including potential recurring operational and maintenance difficulties that could lead to increased surface water degradation.) (OAC 3745-1-05(C)(6)(h, j-k) and OAC 3745-1-54)
- 10d) For regional sewage collection and treatment facilities, include a discussion of the technical feasibility, cost effectiveness and availability, and long-range plans outlined in state or local water quality management planning documents and applicable facility planning documents. (OAC 3745-1-05(C)(6)(i))
- 10e) To the extent that information is available, list and describe any government and/or privately sponsored conservation projects that exist or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities on the affected water resource. (OAC 3745-1-05(B)(2)(g))
- 10f) Provide an outline of the costs of water pollution controls associated with the proposed activity. This may include the cost of best management practices to be used during construction and operation of the project. (OAC 3745-01-05(C)(6)(g))
- 10g) Describe any impacts on human health and the overall quality and value of the water resource. (OAC 3745-1-05(C)(6)(c) and OAC 3745-1-54)
- 10h) Describe and provide an estimate of the important social and economic benefits to be realized through this project. Include the number and types of jobs created and tax revenues generated and a brief discussion on the condition of the local economy. (OAC 3745-1-5(B)(2)(e), and OAC 3745-1-05(C)(6)(i))
- 10i) Describe and provide an estimate of the important social and economic benefits that may be lost as a result of this project. Include the effect on commercial and recreational use of the water resource, including effects of lower water quality on recreation, tourism, aesthetics, or other use and enjoyment by humans. (OAC 3745-1-05(B)(2)(e,f), and OAC 3745-1-05(C)(6)(e))
- 10j) Describe environmental benefits, including water quality, lost and gained as a result of this project. Include the effects on the aquatic life, wildlife, threatened or endangered species. (OAC 3745-1-05 (B)(2)(e,f), OAC 3745-1-05 (C)(6)(b) and OAC 3745-1-54)
- 10k) Describe mitigation techniques proposed (except for the Non-Degradation Alternative):
 - o Describe proposed Wetland Mitigation (see OAC 3745-1-54 and Primer)
 - o Describe proposed Stream, Lake, Pond Mitigation (see Primer)

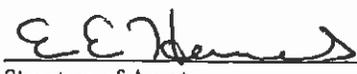
11. Application is hereby made for a Section 401 Water Quality Certification. I certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.



 Signature of Applicant

11/7/13

 Date



 Signature of Agent

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in Block 3 has been filled out and signed.

Do not send a certification processing fee with this application. The appropriate fee will be assessed when a certification is issued.

CONTINUATION SHEET

Application for OEPA Section 401 State Water Quality Certification

LORAIN HARBOR MAINTENANCE DREDGING PROJECT

5. The project is located in Lorain Harbor, Lorain County, Ohio. The latitude/longitude of the dredging activity is 41°31'13"N/81°42'59"W. The latitude/longitude of the open-lake placement area is 41°32.010'N/82°12.096'W.

7. Final Environmental Impact Statement (FEIS), Operation and Maintenance, Lorain Harbor, Ohio

- < Issuing Agency – U.S. Army Corps of Engineers
- < Type of Approval – Statement of Findings (SOF)
- < Date of Application – April 1974
- < Date of Approval – January 1975

Environmental Assessment (EA) and Section 404(b)(1) Evaluation, Operation and Maintenance, Lorain Harbor, Ohio

- < Issuing Agency – U.S. Army Corps of Engineers
- < Type of Approval – Finding of No Significant Impact (FONSI) and Section 404(b)(1) Evaluation
- < Date of Application – February 2009
- < Date of Approval – July 2009

8a. The project would entail the maintenance dredging of sediments from the authorized Federal navigation channels of Lorain Harbor, Lorain County, Ohio. The channel would be dredged to the authorized depth, with an additional one-foot of material to be dredged to ensure the minimum depth. Approximately 225,000 cubic yards of sediments will be dredged from the harbor in 2014. The dredging is scheduled to occur between 1 July 2014 and 15 April 2015. The project will be accomplished by a contractor of the Federal government. The project is described in further detail in the attached Public Notice.

8b. The purpose of the project is to maintain sufficient water depths for commercial navigation in Lorain Harbor. This project was congressionally authorized by the River & Harbor Acts of 1899, 1907, 1910, 1917, 1930, 1935, 1945, 1960, 1965 and the Water Resources Development Act of 1986. Lorain Harbor is ranked 28th among Great Lakes Ports with 2.05 million tons of material shipped or received between 2006 and 2010. Commodities shipped or received include aggregates, limestone, chemicals, ores and minerals. Bulk commodities that pass through the Harbor generate approximately \$84 million annually in direct revenue which supports over 1,794 jobs. These jobs generate over \$117 million per year in personal income.

8c. Approximately 225,000 cubic yards of sediments will be dredged from the harbor in 2014. The material to be dredged from the Lorain Harbor Federal navigation channel consists primarily of silts and clays. The quality of the material has been evaluated using 2000, 2001, 2005 and 2006 sediment data in accordance with the protocols and guidelines contained in the U.S. Environmental Protection Agency (USEPA)/USACE Great Lakes Dredged Material Testing and Evaluation Manual (1998). This evaluation concluded that bottom sediments to be dredged from the Lake Approach and River Channel upstream to River Mile (RM) 2.25/Station 143+47 meet Federal guidelines for open-lake placement (Public Notice - Figure 1). Dredging would not take place upstream of (RM) 2.25 in 2014. Consequently, all of the dredged material will be placed in the 1.5 square mile (960-acre) earth material portion of the harbor's designated open-lake placement area, the center of which is located 3.5 miles north of the Lorain West Harbor Light at an azimuth of 350° 00' (Public Notice - Figure 2). This site has been used by the USACE since the 1930's for placement of Lorain Harbor dredged material.

9. Dredging would occur in the Lorain Harbor Lake Approach Channel in Lake Erie and River Channel in the lower Black River. The Black River and Lake Erie are the receiving water for dredging activities, and Lake Erie is the receiving water for dredged material placement activities.

10. Information required under this item is included in the above noted SOF and Section 404(b)(1) Evaluation prepared for the project and furnished to OEPA. The following is a summary of the information contained in these documents that apply to this item of the application:

10a) Descriptions.

(1) *Preferred Design Alternative*: This alternative would entail the dredging of an estimated 500,000 cubic yards of material in 2014, with the placement of the dredged material at the harbor's designated open-lake placement area. A contractor of the Federal government would accomplish the project. The type of equipment used to complete the maintenance dredging operation would be selected by the contractor performing the work. Dredging would not be performed during Lake Erie storm events. The project would take approximately 120 to 150 days to complete.

(2) *Non-Degradation Alternative*: This is the "No Action" alternative. No construction or filling of surface waters would occur as a result of this alternative.

(3) *Minimum Degradation Alternative*: This alternative would entail the dredging of an estimated 225,000 cubic yards of dredged material from the Federal navigation channel in 2014, with the placement of the dredged material at the harbor's designated open-lake placement area. A contractor of the Federal government would accomplish the project. The type of equipment used to complete the maintenance dredging operation would be selected by the contractor performing the work. Dredging would not be performed during Lake Erie storm events. This project would take approximately 90 to 120 days to complete.

Note that the Minimum Degradation Alternative estimates dredging 275,000 cubic yards less than the Preferred Design Alternative. It is estimated that dredging activities specified in the Minimum Degradation Alternative will impact an estimated 46 acres (Enclosure 5), which is 57 acres less of channel bottom/habitat than the 103 acres that would be impacted under the Preferred Design Alternative (Enclosure 4) with an assumed shoal depth of three feet. The estimated "length" of Federal navigation channel (i.e., not actually stream) to be dredged under the Preferred Design and Minimum Degradation Alternatives are 10,160 and 4,467 linear feet, respectively. Note that the actual shoal depths cannot be determined until just before the dredging begins. In addition, shoal thickness will vary throughout the harbor and greatly depend on weather conditions. Therefore, the above figures are merely estimates regarding the acreage of Federal navigation channel to be dredged/impacted under either alternative.

10b) Water Quality Impacts.

(1) *Preferred Design Alternative*: The material that would be dredged under this alternative consists of sediments that have deposited in the Federal navigation channels since the last maintenance dredging effort. These types of sediments are homogenous and residually-contaminated with pollutants that are ubiquitous throughout the Great Lakes. As such, these sediments are similar in chemistry to those present in the Lake Erie environment. This alternative would result in a short-term, negligible lowering of ambient water quality, comparable to that which occurs during Lake Erie storm events. At the open-lake site, gulls and terns may be attracted to the placement activities as any organic matter contained in the dredged material may be resuspended into the water column. Waterfowl and local fish species would likely avoid the open-lake site in response to the temporary increase in vessel traffic and elevated turbidity levels. Following dredging and placement activities, fish and wildlife would return. Dredging and placement activities would directly result in the mortality and relocation of benthic organisms residing in the bottom sediments of the harbor and open-lake site. Organisms residing in the harbor sediments would be transferred to the open-lake site. The channel bottom and lake bottom (at the open-lake site) would be re-colonized by organisms living in the dredged material and those occupying nearby areas. The dredging area is quite industrialized, so benthic, fish and wildlife use of the water resource is limited; therefore, impacts in this regard would be minor. Dredging would not be performed during Lake Erie storm events. No impacts to threatened or endangered species would occur.

Lake Erie is the site of dredging operations and receiving water body for dredged material. Lake Erie is designated as exceptional warmwater habitat, superior high quality water, public water supply, agricultural water supply, industrial water supply and bathing waters (OAC 3745-1-31). The lower portion of Black River would also be the site of the dredging operations. The Black River is assigned the following water quality use designations: warmwater habitat, seasonal salmonid habitat, agricultural water supply, industrial water supply and primary contact recreation (OAC 3745-1-27).

(2) *Non-Degradation Alternative*: Since this alternative involves no construction or filling of surface waters, no lowering of water quality would result.

(3) Minimum Degradation Alternative: The water quality impacts associated with the Minimum Degradation Alternative would be similar to those described for the Preferred Design Alternative, though to a lesser extent due to the reduced dredging area and volume of dredged material to be placed.

10c) Feasibility.

(1) Preferred Design Alternative: This alternative is technically feasible, as it involves routine maintenance dredging and dredged material placement procedures. Equipment is readily available to accomplish this type of work. The Benefit/Cost (B/C) ratio for this alternative with respect to commercial navigation in the harbor is greater than or equal to 1.0. Dredging and placement activities would cost approximately \$6.50 per cubic yard. Although this alternative is viable for commercial navigation, recurrent maintenance dredging needs of the Federal navigation channels, as required, would continue to marginally and temporarily degrade water quality.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, this alternative is technically feasible and available, but would not be cost effective from a commercial navigation standpoint. Under this alternative, the Federal navigation channels would progressively shoal in and impede commercial navigation, which would result in an increased cost of commodities to the local community. Deep-draft commercial navigation in the harbor would become economically nonviable and gradually cease. As described in Section 8b above, this would negatively impact the annual \$84 million in direct revenue, 1,794 jobs, and \$117 million in personal income generated by the continued viability of the Harbor. Losses of between one and two feet of channel depth would result in increased transportation costs of between \$219,000 and \$724,000 annually. If the harbor was closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 35,113 tons of harmful particulate matter (PM-10) and increase costs by \$20,000 due to increased railroad related accidents, and \$2,022,000 due to increased trucking related accidents.

(3) Minimum Degradation Alternative: This alternative is technically feasible, as it involves routine maintenance dredging and dredged material placement procedures. Equipment is readily available to accomplish this type of work. The Benefit/Cost (B/C) ratio for this alternative with respect to commercial navigation in the harbor is greater than or equal to 1.0. Dredging and placement activities would cost approximately \$7.50 per cubic yard. Although this alternative is viable for commercial navigation, recurrent maintenance dredging needs of the Federal navigation channels, as required, would continue to marginally and temporarily degrade water quality.

10d) Regional Sewage Collection/Treatment Facilities. N/A.

10e) Water Quality Improvement/Recreation Projects:

- In 1979, the U.S. Army Corps of Engineers completed the harbor's CDF as an alternative to the placement of contaminated dredged material into Lake Erie.

- In 1990, 38,000 cubic yards of PAH-contaminated sediments were removed from the Black River at a former coke plant outfall.
- In 1994, the Stage One Black River Area of Concern (AOC) Remedial Action Plan (RAP) was completed and approved by Ohio Environmental Protection Agency (OEPA). The Black River RAP Long Range Plan (Stage Two) was adopted in 1997. The Black River RAP is continuing their efforts to restore and protect 14 beneficial uses in the AOC on a subwatershed level.

10f) Water Pollution Control Costs.

(1) *Preferred Design Alternative*: The suspension of dredging operations during storm events constitutes “blow days” which cost about \$10,000 to \$20,000 per day of lost work. Usually, the decision not to dredge based on weather conditions is for safety concerns.

(2) *Non-Degradation Alternative*: Since this alternative involves no construction or filling of surface waters, no costs result from water pollution controls.

(3) *Minimum Degradation Alternative*: The costs of adhering to the environmental window for this alternative would be significant. The moderately restrictive environmental window under this alternative raises the cost of this alternative about 10-20 percent per cubic yard. The suspension of dredging operations during storm events constitutes “blow days” which cost about \$10,000 to \$20,000 per day of lost work. Usually, the decision not to dredge based on weather conditions is for safety concerns.

10g) Human Health Impacts.

(1) *Preferred Design Alternative*: The human health impacts associated with this alternative would be indiscernible. The generation of turbidity and low dissolved oxygen in the water column would be the major effects associated with dredging and placement activities. The dredging area is within an industrialized water resource designed for commercial navigation. This alternative would result in short-term, minor, negative impacts to the quality and value of the receiving waters.

(2) *Non-Degradation Alternative*: Since this alternative involves no construction or filling of surface waters, no effects to human health would occur.

(3) *Minimum Degradation Alternative*: The human health impacts incurred under this alternative would be similar to those incurred under the Preferred Design Alternative, though due to the smaller scope of dredging under this alternative, turbidity and dissolved oxygen effects would occur over a shorter period of time when compared to the Preferred Design Alternative.

10h) Social/Economic Benefits Gained.

(1) *Preferred Design Alternative*: This alternative would restore navigable depths in the harbor for commercial vessel traffic. A large industrial base depends on the harbor to receive

commercial goods and ship them off-site for a reasonable cost. As such, it would allow for the cost-effective transport of commodities through the local community. Maintaining the harbor would have a substantial positive impact on the local economy by sustaining jobs that support industries dependent on these shipments at reasonable cost. Lorain Harbor is ranked 28th among Great Lakes Ports with 2.05 million tons of material shipped or received between 2006 and 2010. Bulk commodities that pass through the Harbor generate approximately \$84 million dollars annually in direct revenue which supports over 1,794 jobs. These jobs generate over \$117 million per year in personal income. This industrial base also generates substantial tax revenues for state and local governments. Dredging operations would directly support about 5-10 marine trade jobs in the dredging industry for a period of about 90 days.

(2) *Non-Degradation Alternative*: This alternative would involve the cessation of maintenance of harbor Federal navigation channels. However, benefits would accrue to recreational navigation until the channels shoal into a degree at which they would no longer be usable for shallow-draft vessels. Recreational benefits in this regard would include primarily those associated with local marinas and the leisure craft they support.

(3) *Minimum Degradation Alternative*: This alternative involves a reduction in the volume of dredged material and the associated social/economic benefits gained would be similar to those described for the Preferred Design Alternative.

10i) Social/Economic Benefits Lost.

(1) *Preferred Design Alternative*: Lowered water quality associated with the alternative, such as short-term turbidity and reduced dissolved oxygen levels in the water column, would be aesthetically displeasing and may not be attractive to recreational boaters in the area. Recreational fishing activities in the harbor may be temporarily negatively affected by the lowering of water quality. Except for commercial industries such as restaurants and other riparian retail establishments, the lowering of water quality would have minimal negative effects on commercial activities.

(2) *Non-Degradation Alternative*: Since this alternative involves no construction or filling of surface waters, no lowering of water quality would occur. Therefore, negative effects on the recreational use of the harbor would not occur. However, substantial effects on commercial navigation and associated industries would occur as a result of this alternative. The overall value of the harbor as a water resource to commercial navigation would progressively deteriorate to a point at which deep-draft commercial vessels would no longer be able to navigate the harbor due to inadequate depths. The large industrial base that depends on the harbor to transport commodities would no longer be able to do so cost-effectively. The harbor would no longer be a viable alternative for the transportation of goods. As described in Section 8b above, this would negatively impact the annual \$84 million in direct revenue, 1,794 jobs, and \$117 million in personal income generated by the continued viability of the Harbor. Losses of between one and two feet of channel depth would result in increased transportation costs of between \$219,000 and \$724,000 annually. If the harbor was closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 35,113 tons of harmful particulate matter (PM-10) and increase costs by \$20,000 due to increased railroad related accidents, and \$2,022,000 due to increased trucking related accidents.

(3) Minimum Degradation Alternative: Lowered water quality associated with the alternative, such as short-term turbidity and reduced dissolved oxygen levels in the water column, would be aesthetically displeasing and may not be attractive to recreational boaters in the area. Recreational fishing activities in the harbor may be temporarily negatively affected by the lowering of water quality. Except for commercial industries such as restaurants and other riparian retail establishments, the lowering of water quality would have minimal negative effects on commercial activities. The social/economic benefits lost under this alternative, although similar in nature to those of the preferred design alternative, would be less due to a reduction in the quantity of material dredged and in the amount acreage impacted.

10j) Environmental Benefits Lost/Gained.

(1) Preferred Design Alternative: This alternative would result in a short-term reduction of water quality in the receiving waters. Dredging and placement activities would result in excavation, smothering, and mortality of benthic macroinvertebrates, and temporary avoidance of work areas by fish and wildlife species (i.e., mostly waterfowl). The dredging area is quite industrialized, so benthic, fish and wildlife use of the water resource is limited; therefore, impacts in this regard would be minor. Following dredging and placement activities, benthic communities would recolonize impacted areas, and fish and wildlife would return. No effects to endangered or threatened species would occur.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, associated environmental benefits would include no degradation of water quality in receiving waters, and no physical disturbances to benthos, or fish and wildlife. No effects to endangered or threatened species would occur.

(3) Minimum Degradation Alternative: The environmental benefits lost/gained under this alternative would be similar to those incurred under the Preferred Design Alternative, though to a lesser degree given the reduced dredging area and placement quantity.

10k) Mitigative Techniques.

(1) Preferred Design Alternative: Dredging would not be performed during Lake Erie storm events. Care would be employed throughout the course of the dredging/placement operations to avoid the creation of unnecessary turbidity that may degrade water quality or adversely affect aquatic life outside the project area.

(2) Non-Degradation Alternative: N/A.

(3) Minimum Degradation Alternative: The mitigative techniques used under this alternative are similar to those used under the Preferred Design Alternative. In addition, no in-water work shall take place between 15 April and 1 July to reduce impacts to aquatic species and their habitats.

Aerial Photo Of Lorain Harbor



MINIMUM DEGRADATION ALTERNATIVE

FY14

(DREDGE 46 ACRES, 4,467 LINEAL FEET, LOCATIONS AND EXTENTS WILL BE ADJUSTED BASED ON ACTUAL SHOALING LOCATIONS AND DEPTHS)

Enclosure 5

