

Final

**ENVIRONMENTAL ASSESSMENT/
FINDING OF NO SIGNIFICANT IMPACT
FOR
DREDGING OF PORT FACILITIES**

**United States Coast Guard Station
Marblehead, Ohio**



**Contract Number DTCG83-02-D-3CL374
Task Order Number HSCG83-07-J-3CL224
USCG Project Number 469411**

FEBRUARY 2008



TETRA TECH NUS, INC.

U.S. COAST GUARD
ENVIRONMENTAL ASSESSMENT
FOR
DREDGING OF PORT FACILITIES

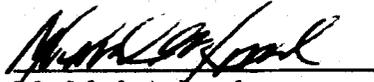
UNITED STATES COAST GUARD STATION – MARBLEHEAD, OHIO

This USCG Environmental Assessment was prepared in accordance with Commandant's Manual Instruction M16475.1D and is in compliance with the National Environmental Policy Act of 1969 (P.L. 91-190) and the Council of Environmental Quality Regulations dated 28 November 1978 (40 CFR Parts 1500-1508).

This Environmental Assessment serves as a concise public document to briefly provide sufficient evidence and analysis for determining the need to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

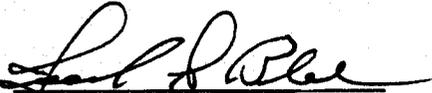
This Environmental Assessment concisely describes the proposed action, the need for the proposal, the alternatives, and the environmental impacts of the proposal and alternatives. This environmental assessment also contains a comparative analysis of the action and alternatives, a statement of the environmental significance of the preferred alternative, and a list of the agencies and persons consulted during EA preparation.

2/25/08
Date


Mr. Mark A. Lamb
Environmental Project Manager

Environmental Protection
Specialist
Title/Position

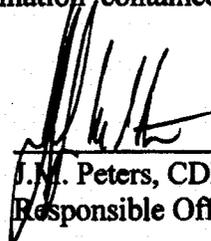
2/25/08
Date


Mr. Frank A. Blaha
Environmental Reviewer

Chief, Environmental
Compliance Section
Title/Position

In reaching my decision/recommendation on the USCG's proposed action, I have considered the information contained in this EA on the potential for environmental impacts.

2/27/08
Date


J.M. Peters, CDR
Responsible Official

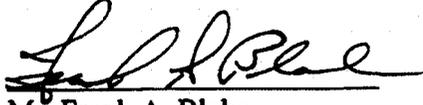
Commanding Officer,
USCG CEU Cleveland
Title/Position

U.S. COAST GUARD
FINDING OF NO SIGNIFICANT IMPACT
FOR
DREDGING OF PORT FACILITIES

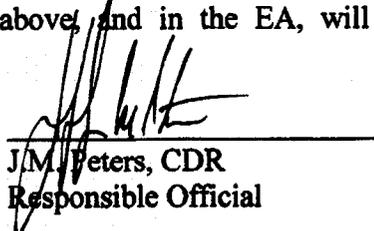
UNITED STATES COAST GUARD STATION – MARBLEHEAD, OHIO

This project has been thoroughly reviewed by the USCG and it has been determined, by the undersigned, that this project will have no significant effect on the human environment.

This Finding of No Significant Impact (FONSI) is based on the attached Environmental Assessment which has been independently evaluated by the USCG and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project and provides sufficient evidence and analysis for determining that an environmental impact statement is not required. The USCG takes full responsibility for the accuracy, scope, and content of the attached environmental assessment.

<u>2/25/08</u> Date	 Mr. Frank A. Blaha Environmental Reviewer	<u>Chief, Environmental Compliance Section</u> Title/Position
------------------------	--	--

I have considered the information contained in the EA, which is the basis for this FONSI. Based on the information in the EA and this FONSI document, I agree that the proposed action as described above, and in the EA, will have no significant impact on the environment.

<u>2/27/08</u> Date	 J.M. Peters, CDR Responsible Official	<u>Commanding Officer, USCG CEU Cleveland</u> Title/Position
------------------------	---	---

Final
ENVIRONMENTAL ASSESSMENT/
FINDING OF NO SIGNIFICANT IMPACT

FOR
DREDGING OF PORT FACILITIES
UNITED STATES COAST GUARD STATION
MARBLEHEAD, OHIO

Submitted To:
United States Coast Guard
Civil Engineering Unit
1240 East Ninth Street
Cleveland, Ohio 44199-2060

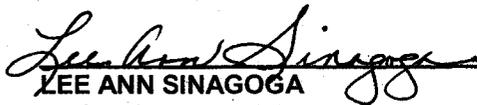
Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220

COAST GUARD CONTRACT NUMBER DTG83-02-D-3CL374
TASK ORDER NUMBER HSCG83-07-J-3CL224

February 2008

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMITTAL BY:



LEE ANN SINAGOGA
PROJECT MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA



ROGER A. CLARK, Ph.D.
PROGRAM MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
EXECUTIVE SUMMARY	ES-1
1.0 PURPOSE AND NEED.....	1-1
1.1 Introduction and Background.....	1-1
1.2 Purpose of and Need for Action.....	1-1
1.3 Related Documents and Assessments.....	1-2
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES.....	2-1
2.1 Scope of Harbor Improvements	2-1
2.2 Methods for Dredging the Boat Basin	2-2
2.2.1 Dredging Using Blasting and Mechanical Dredging	2-2
2.2.2 Enhanced Dredging Using Expansive Agents	2-3
2.3 Alternatives Eliminated from Detailed Consideration.....	2-3
2.4 No-Action Alternative	2-3
2.5 Preferred Alternative	2-4
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	3-1
3.1 Land Use and Visual Resources.....	3-1
3.1.1 Affected Environment.....	3-1
3.1.2 Environmental Consequences of Blasting and Mechanical Dredging.....	3-1
3.1.3 Environmental Consequences of Enhanced Dredging.....	3-2
3.1.4 Environmental Consequences of No Action	3-2
3.1.5 Mitigation.....	3-2
3.2 Transportation	3-2
3.2.1 Affected Environment.....	3-2
3.2.2 Environmental Consequences of Blasting and Mechanical Dredging.....	3-3
3.2.3 Environmental Consequences of Enhanced Dredging.....	3-3
3.2.4 Environmental Consequences of No Action	3-3
3.2.5 Mitigation.....	3-3
3.3 Physical Environment.....	3-3
3.3.1 Geology and Seismic Zone Considerations.....	3-3
3.3.1.1 Affected Environment	3-3
3.3.1.2 Environmental Consequences of Blasting and Mechanical Dredging	3-4
3.3.1.3 Environmental Consequences of Enhanced Dredging.....	3-5
3.3.1.4 Environmental Consequences of No Action	3-5
3.3.1.5 Mitigation	3-5
3.3.2 Climate and Air Quality	3-6
3.3.2.1 Affected Environment	3-6
3.3.2.2 Environmental Consequences of Blasting and Mechanical Dredging	3-7
3.3.2.3 Environmental Consequences of Enhanced Dredging.....	3-7
3.3.2.4 Environmental Consequences of No Action	3-7
3.3.2.5 Mitigation	3-7
3.3.3 Water Resources and Drainage.....	3-8
3.3.3.1 Affected Environment	3-8
3.3.3.2 Environmental Consequences of Blasting and Mechanical Dredging	3-8
3.3.3.3 Environmental Consequences of Enhanced Dredging.....	3-9
3.3.3.4 Environmental Consequences of No Action	3-9
3.3.3.5 Mitigation	3-9

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
3.3.4	Noise 3-10
3.3.4.1	Environmental Consequences of Blasting and Mechanical Dredging 3-11
3.3.4.2	Environmental Consequences of Enhanced Dredging..... 3-11
3.3.4.3	Environmental Consequences of No Action 3-12
3.3.4.4	Mitigation 3-12
3.3.5	Hazardous Materials and Hazardous Waste 3-12
3.3.5.1	Affected Environment 3-12
3.3.5.2	Environmental Consequences of Blasting and Mechanical Dredging 3-13
3.3.5.3	Environmental Consequences of Enhanced Dredging..... 3-14
3.3.5.4	Environmental Consequences of No Action 3-14
3.3.5.5	Mitigation 3-14
3.4	Natural Environment 3-14
3.4.1	Terrestrial Biological Resources 3-14
3.4.1.1	Affected Environment 3-14
3.4.1.2	Environmental Consequences of Blasting and Mechanical Dredging 3-16
3.4.1.3	Environmental Consequences of Enhanced Dredging..... 3-17
3.4.1.4	Environmental Consequences of No Action 3-17
3.4.1.5	Mitigation 3-17
3.4.2	Floodplains and Wetlands..... 3-17
3.4.2.1	Affected Environment 3-17
3.4.2.2	Environmental Consequences of Blasting and Mechanical Dredging 3-18
3.4.2.3	Environmental Consequences of Enhanced Dredging..... 3-19
3.4.2.4	Environmental Consequences of No Action 3-19
3.4.2.5	Mitigation 3-19
3.4.3	Aquatic Environment..... 3-19
3.4.3.1	Affected Environment 3-19
3.4.3.2	Environmental Consequences of Blasting and Mechanical Dredging 3-20
3.4.3.3	Environmental Consequences of Enhanced Dredging..... 3-21
3.4.3.4	Environmental Consequences of No Action 3-21
3.4.3.5	Mitigation 3-21
3.4.4	Threatened or Endangered Species 3-22
3.4.4.1	Affected Environment 3-22
3.4.4.2	Environmental Consequences of Blasting and Mechanical Dredging 3-23
3.4.4.3	Environmental Consequences of Enhanced Dredging..... 3-23
3.4.4.4	Environmental Consequences of No Action 3-23
3.4.4.5	Mitigation 3-23
3.4.5	Coastal Zone Considerations and Coastal Barrier Effects 3-23
3.4.5.1	Coastal Zone Management Act 3-23
3.4.5.2	Coastal Barrier Resources Act 3-24
3.5	Archaeological, Historic, and Cultural Resources..... 3-24
3.5.1	Affected Environment..... 3-25
3.5.2	Environmental Consequences of Blasting and Mechanical Dredging..... 3-26
3.5.3	Environmental Consequences of Enhanced Dredging..... 3-26
3.5.4	Environmental Consequences of No Action 3-26
3.5.5	Mitigation..... 3-26

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
3.6	Recreational Resources/Section 4(f) Analysis.....3-27
3.6.1	Affected Environment.....3-27
3.6.2	Environmental Consequences of Blasting and Mechanical Dredging.....3-27
3.6.3	Environmental Consequences of Enhanced Dredging.....3-28
3.6.4	Environmental Consequences of No Action.....3-28
3.6.5	Mitigation.....3-28
3.7	Wild and Scenic Rivers.....3-28
3.8	Socioeconomic Environment and Environmental Justice.....3-29
3.8.1	Environmental Consequences of Blasting and Mechanical Dredging.....3-29
3.8.2	Environmental Consequences of Enhanced Dredging.....3-30
3.8.3	Environmental Consequences of No Action.....3-30
3.8.4	Mitigation.....3-30
4.0	SUMMARY OF ENVIRONMENTAL CONSEQUENCES4-1
5.0	SUMMARY OF MITIGATION AND REGULATORY REQUIREMENTS5-1
5.1	Mitigation Actions.....5-1
5.2	Regulatory Requirements.....5-4
6.0	PUBLIC INVOLVEMENT6-1
7.0	CONCLUSION7-1
8.0	REPORT AUTHORS AND QUALIFICATIONS.....8-1
9.0	AGENCIES AND PERSONS CONTACTED.....9-1
10.0	REFERENCES10-1
APPENDIX A	PUBLIC AND AGENCY COMMENTS ON DRAFT EA
APPENDIX B	DRAFT AND FINAL EA DISTRIBUTION LIST
APPENDIX C	APPENDIX A MODIFIED ROCK BLASTING SPECIFICATIONS DREDGING FOR PORT FACILITIES, U.S. COAST GUARD STATION MARBLEHEAD, OHIO
APPENDIX D	COASTAL ZONE MANAGEMENT CONSISTENCY DETERMINATION
APPENDIX E	ODNR COMMENTS MARCH 20, 2007
APPENDIX F	ODNR LETTER TO AUTHORIZE BLASTING
APPENDIX G	TELEPHONE CONVERSATION RECORDS

LIST OF TABLES

<u>NUMBER</u>		<u>PAGE</u>
3-1	General Demographics for the State of Ohio, Ottawa County, Town of Danbury and Village of Marblehead	3-31

LIST OF FIGURES

<u>NUMBER</u>		<u>PAGE</u>
1-1	Map Showing Location of Marblehead Station	1-3
2-1	Area of Proposed Dredging, EA for Dredging of Port Facilities	2-5

LIST OF PHOTOS

3-1	Rock Armor and Sheet Piles Surrounding Station Harbor	3-15
3-2	Aerial Photograph Showing Harbor and Adjoining Areas	3-15
3-3	Lake Erie Shoreline North of Harbor	3-16

ACRONYMS

APE	Area of Potential Effect
AST	Aboveground Storage Tank
ATF	Alcohol, Tobacco, and Firearms (Bureau of)
CAAA	Clean Air Act Amendment
CBRA	Coastal Barrier Resources Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COMDTINST	Commandant Instruction
COTR	Contracting Officer's Technical Representative
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dBA	decibels (A-weighted)
DHS	Department of Homeland Security
DNAP	Division of Natural Areas and Preserves
DOT	Department of Transportation
DOW	Division of Wildlife
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FONSI	Finding Of No Significant Impact
FR	Federal Register
LWD	Low-Water Datum
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NWI	National Wetland Inventory
NRHP	National Register of Historic Places
OCM	Office of Coastal Management
ODNR	Ohio Department of Natural Resources
OSHA	Occupational Safety and Health Administration
PL	Public Law
RCRA	Resource Conservation and Recovery Act
RHA	Rivers and Harbors Act

SCDA	Soundless Chemical Demolition Agent
SHPO	State Historic Preservation Office
SPCC	Spill Prevention Control and Countermeasure
SR	State Route
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

EXECUTIVE SUMMARY

The following Environmental Assessment (EA) addresses the proposed dredging at the U.S. Coast Guard (USCG) Station, Marblehead, Ohio, and related improvements to the harbor facilities, including the docking and fueling facilities. The proposed improvements are necessary because the existing harbor is not sufficiently deep to service the watercraft utilized by the Marblehead Station to provide for maritime safety. The USCG prepared this EA in conformance with requirements for implementing the procedural aspects of the National Environmental Policy Act (NEPA), 42 USC §4332(2)(C), USCG Commandant Instruction M16475.1D, *National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts*, and DHS MD 5100.1, *Environmental Planning Program*.

Under the Preferred Alternative, the USCG would modernize the harbor boat basin at the Marblehead Station by dredging an area that is approximately 135 feet long, 120 feet wide on the north end, and 45 feet wide on the south end. The proposed improvements to the boat basin would be completed in 2008. The project would include modifications to the existing east haul-out dock, the installation/utilization of a temporary fuel system during project implementation for a period of six weeks, the fracturing of bedrock using drilling, blasting, and a chemical expansive agent, and the dredging of bedrock and minor overburden.

The Preferred Alternative would not involve a change in long-term employment numbers or characteristics associated with the Marblehead Station and thus would not substantially affect the local economy or demand for local fire, police, rescue, medical, educational, or recreational facilities. There is no available evidence of environmental contamination in the vicinity of the Marblehead Station; thus an impact to contaminated environmental media is not anticipated. The Preferred Alternative would not require any road improvements or result in significant traffic congestion. The Preferred Alternative would not impact land-use, prime/unique farmlands, climate or air quality, wetlands/coastal resources, site topography, or the terrestrial environment at the Marblehead Station or in the general vicinity. Significant impacts to the air quality and climate; land use; local geology and water resources; archaeological, historical, or cultural resources; the aquatic environment; recreational facilities; floodplains; structures in the local community adjoining the Marblehead Station, noise levels in the vicinity of the Marblehead Station; or threatened or endangered species are not anticipated. Importantly, the USCG will conduct a test blast program to evaluate the potential for any adverse impacts to the local community and environment prior to the implementation of the Preferred Alternative. The USCG will mitigate the potential impact to the local aquatic environment by installing a turbidity curtain in the surface waters of the harbor to minimize the impact from turbidity of the localized blasting and dredging. The Ohio Department of Natural Resources (ODNR) Division of Wildlife (DOW) has a moratorium on in-water work from March 1 to June 15 to minimize impacts to fish spawning. Should it be necessary for the work to be conducted in the spring of

the year, the USCG would reapply to the ODNR for an exemption to the moratorium on in-water work as was previously granted for the spring of 2007.

In addition to the Preferred Alternative, the EA considered other alternatives including the use of mechanical abrasion only, the use of alternative port sites, and the No-Action alternative. These alternatives are not environmentally superior to the Preferred Alternative and/or would not satisfy the USCG's purpose and need for undertaking improvements to the Marblehead Station harbor.

1.0 PURPOSE AND NEED

1.1 INTRODUCTION AND BACKGROUND

The U.S. Coast Guard (USCG) proposes to conduct dredging at the USCG Station, Marblehead, Ohio, and related improvements to the harbor facilities, including the docking and fueling facilities. The dredging is needed to correct difficulties in docking and launching boats at the USCG Station at Marblehead (hereinafter referred to as “the Marblehead Station” or “the Station”) because of insufficient depths in the harbor. This Environmental Assessment (EA) analyzes the potential environmental impacts that may result from the USCG’s undertaking of dredging and related improvements to the harbor facilities.

The Marblehead Station is located at 606 Prairie Street, Marblehead, Ohio, at the intersection of Frances Street in the Village of Marblehead, Township of Danbury, Ottawa County, Ohio. The current station was built in 1981. The overall mission of the Marblehead Station is to conduct search and rescue operations, enforce federal laws, conduct ice rescue operations, and ensure maritime homeland security.

The Marblehead Station is located on Lake Erie approximately midway between Cleveland and Toledo. It is located on the north side of the Marblehead peninsula, a popular seasonal recreational area on Lake Erie and Sandusky Bay (see Figure 1-1).

The USCG prepared this EA in conformance with requirements for implementing the procedural aspects of the National Environmental Policy Act (NEPA), 42 United States Code (USC) §4332(2)(C), USCG Commandant Instruction (COMDTINST) M16475.1D, *National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts*, and Department of Homeland Security (DHS) MD 5100.1, *Environmental Planning Program*. It evaluates the potential for environmental impacts to occur from dredging and from undertaking the other related improvements to the harbor facilities. For purposes of estimating the extent of potential impacts, as appropriate, the USCG has used a 1,500 foot radius from the Marblehead Station as the “Area of Potential Effect.” The alternative of taking no-action; i.e., not proceeding with harbor improvements at the Marblehead Station, is also considered in the EA.

1.2 PURPOSE OF AND NEED FOR ACTION

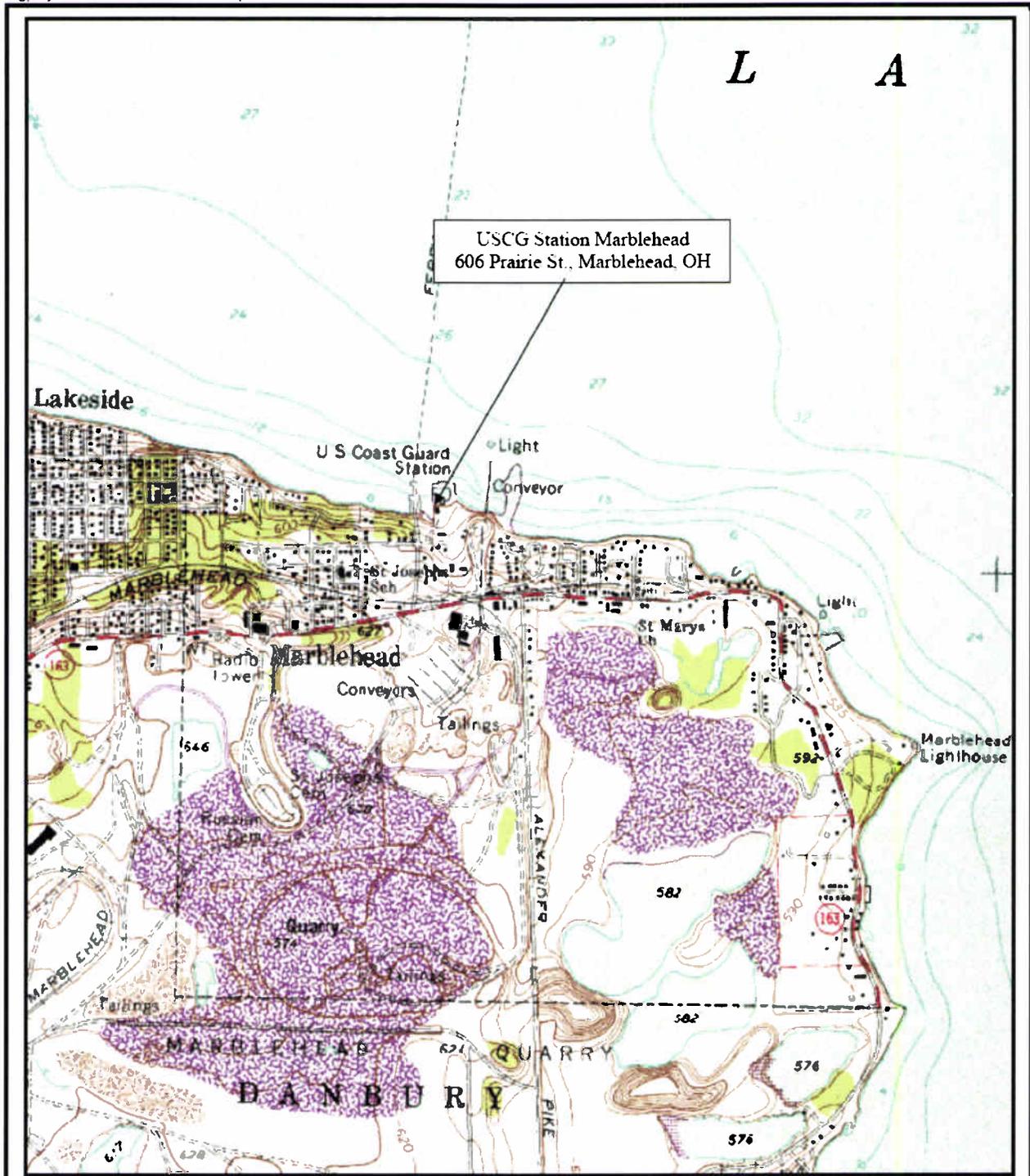
The overall purpose of the Marblehead Station is to conduct search and rescue operations, enforce federal laws, conduct ice rescue operations, and ensure maritime homeland security. Currently, the depth of the boat basin ranges from 6 to 10 feet below Low Water Datum (LWD) in the operational areas of the boat basin. USCG marine vessel operations at the facility require the depth of the boat basin to be 9 to 10 feet below LWD. The proposed dredging would achieve the desired boat basin depth to ensure safe

and efficient docking and launching operations for a 47-foot long vessel that is now stationed at Marblehead and for other vessels. Improvements to the harbor are not intended to expand the maritime safety functions for which the Marblehead Station is currently responsible.

1.3 RELATED DOCUMENTS AND ASSESSMENTS

The USCG was issued a permit by the U.S. Army Corps of Engineers (USACE) in 2004 to dredge the boat basin at the Marblehead Station. The dredging conducted in 2005 used abrasion to loosen underlying bedrock, a procedure which was found to be ineffective in removing the rock to the proper depth.

On October 10, 2006, the USCG applied for a permit from the USACE for a second attempt at dredging the boat basin. In an e-mail to the USCG dated May 22, 2007, the USACE indicated that a Letter of Permission (Permit 07-0066) modifying the existing USCG Dredging Project permit for the Marblehead Station [DA Permit 1999-00817(1)] would be issued. Through the USACE Permit Approval process, the following federal and state agencies have been consulted on the proposed project: U.S. Fish and Wildlife Service (USFWS), the Ohio Department of Natural Resources (ODNR) Office of Coastal Management (OCM), the ODNR Division of Natural Areas and Preserves (DNAP), the ODNR Division of Wildlife (DOW), the ODNR Division of Geologic Survey, and the ODNR Division of Watercraft. Consultation with the Ohio State Historic Preservation Office (SHPO) occurred during the preparation of this EA (see Appendix A Enclosures).



U.S. Coast Guard Station
Marblehead, Ohio

Figure 1-1
Location Map
EA for Dredging of Port Facilities

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 SCOPE OF HARBOR IMPROVEMENTS

The USCG proposes to modernize the harbor boat basin at the Marblehead Station by dredging and reconstructing, with improvements, the dock and fueling systems. The dredging would occur in an approximately 11,980-square foot area of the boat basin as shown in Figure 2-1. The area is approximately 135 feet long, 120 feet wide on the north end, and 45 feet wide on the south end. The proposed improvements to the boat basin would be completed in 2008.

This project requires the following activities:

Existing East Haul-Out Dock

The electrical system would be temporarily reconfigured by securing the electrical service to the shore tie on the dock and removing the conduit and/or associated wiring running below the dock deck. The approximately 67.5 feet long east haul-out dock steel superstructure would be removed and stored for reinstallation. The superstructure would be removed to expose the top surface of three support piers. The existing east haul-out dock fender system would be removed and later reinstalled. Dock support piers would be reinforced with four grouted mechanical rock anchors. Following dredging (as described below), the east haul-out dock superstructure would be reinstalled, along with the electrical system.

Temporary Fuel System

Existing boat fuel dispensing systems would not be usable during the dredging project, and so a minimum 2,000 gallon temporary diesel fuel dispensing system and a 2,000-gallon temporary gasoline fuel dispensing system would be placed onshore at a temporary fueling location on the northeast corner of the property. The dispensing systems would include aboveground storage tanks (ASTs) with secondary containment, pumps, hose and reel, nozzle, valves, controls, and electrical service connection. The temporary tanks would be provided with sufficient hose (approximately 220 feet) to allow boat fueling at a temporary fueling location along the north side of the dock. The temporary fuel system is expected to be used during project implementation for a period of six weeks, after which the temporary fuel system would be removed and the facility would resume using the existing fueling system.

Removal of Bedrock and Minor Overburden

A floating turbidity curtain would be placed across the basin entrance prior to dredging. Sediments and underlying limestone bedrock would be removed and disposed of to provide a minimum depth of 9 feet to

a maximum of 10 feet below LWD inside the boat basin area. Approximately 95 cubic yards of sediment and 625 cubic yards of underlying limestone bedrock would be removed. Prior to removing bedrock, a chemical expansive agent may be used to loosen the bedrock (see Sec. 2.2.2, below). Drilling and blasting would be used prior to removing any remaining rock within the specified area. The USCG would use existing roadways for the removal of dredge spoils to a landfill located in Marblehead. No new roadways would be constructed. ODNR DOW has a moratorium on in-water work from March 1 to June 15 to minimize impacts to fish spawning. Should it be necessary for the work to be conducted in the spring of the year, the USCG would reapply to the ODNR for an exemption to the moratorium on in-water work as was previously granted for the spring of 2007.

2.2 METHODS FOR DREDGING THE BOAT BASIN

The USCG has considered multiple technologies for the dredging of the boat basin. *Mechanical dredging* removes material by scooping it from the bottom in a dredging bucket and placing it onto a waiting barge or into a disposal area. The mechanical dredge would be placed on a barge and would be brought to the site to be dredged and secured in place. *Hydraulic dredging* works by sucking a mixture of dredged material and water from the bottom. The pipeline dredge sucks dredged material through an intake pipe and then pushes it out the discharge pipeline to a disposal site or into a hopper onboard a vessel.

Both dredging methods require the underlying bedrock to be fractured so that it can be scooped up mechanically or removed hydraulically. The USCG is considering mechanical hammering of the bedrock and other rock, conventional blasting, non-explosive expansive agents to expedite the loosening of bedrock, or a combination of methods.

2.2.1 Dredging Using Blasting and Mechanical Dredging

The traditional approach to reducing the size of large rocks has typically included the use of explosives. The mechanics and methodology of underwater blasting using explosives for rock removal are well understood because of the wide-use of this method for dredging and bridge construction. A series of boreholes would be drilled into the bedrock in the harbor, and the pre-determined explosive charge would be placed in the borehole. One or more boreholes would then be remotely detonated. Explosives specialists would oversee and operate the detonation program. Advantages of dredging using blasting include the ability to use explosives in all temperatures in addition to the ease of use in water. Another advantage is that blasting using explosives is highly successful in fracturing rock, which reduces the time period necessary to complete a dredging project. There are obvious risks posed by shockwaves and fly rock produced by blasting using explosives; however, blasting sequences can be designed to minimize potential negative environmental effects. Alternative methods to demolish rock and concrete structures have been explored and the best of the available options is described below.

2.2.2 Enhanced Dredging Using Expansive Agents

The USCG is considering the use of an alternate “soundless chemical demolition agent” (SCDA) as an alternative to conventional explosives. SCDAs are powdery materials that expand when mixed with water. The expansion, when it occurs under confinement, generates expansive pressures capable of breaking up natural rock. Under this method, a series of boreholes would be drilled into the bedrock in the harbor, and the SCDA would be placed in the borehole and mixed with a measured amount of water to affect the expansion and the desired loosening of the bedrock.

SCDAs do not make noise, explode, or generate fly rock, vibrations or toxic fumes. SCDAs are also safer than traditional explosives, which pose the threat of premature explosion and which may misfire, posing a significant threat after the planned explosion. In contrast to explosives, SCDAs produce their destructive forces in rock without generating shockwaves. However, there are several disadvantages to using SCDAs for underwater dredging. SCDAs fracture rock much slower than blasting. In addition, SCDAs may not work at all in colder temperatures (as may be the case during the proposed project time period) and may respond poorly in an aquatic setting.

2.3 ALTERNATIVES ELIMINATED FROM DETAILED CONSIDERATION

In 2005, the Marblehead Station attempted to loosen underlying bedrock of the boat basin by mechanical abrading (scraping) alone. This method of dredging was found to be ineffective and is not considered a practical alternative for this EA.

The Marblehead Station is one of only six small boat USCG stations strategically located along Lake Erie in Ohio. Relocation of the boat basin or the Marblehead Station itself to another location is not a practical alternative to upgrading the existing boat basin.

The USCG also considered the alternative of using a local marina for mooring purposes. This alternative was dismissed based on the likely increase of time to respond to emergencies, as well as management issues of staffing a remotely located vessel versus security issues if a remotely located vessel is not manned.

2.4 NO-ACTION ALTERNATIVE

Under the no-action alternative, the proposed improvements to the boat basin at the Marblehead Station would not be undertaken. The goal of deepening the boat basin to 9 to 10 feet below LWD would not be achieved, which would potentially compromise the safety and efficiency of the Marblehead Station's

search and rescue operations, enforcement of federal laws, ice rescue operations, and maritime homeland security functions.

2.5 PREFERRED ALTERNATIVE

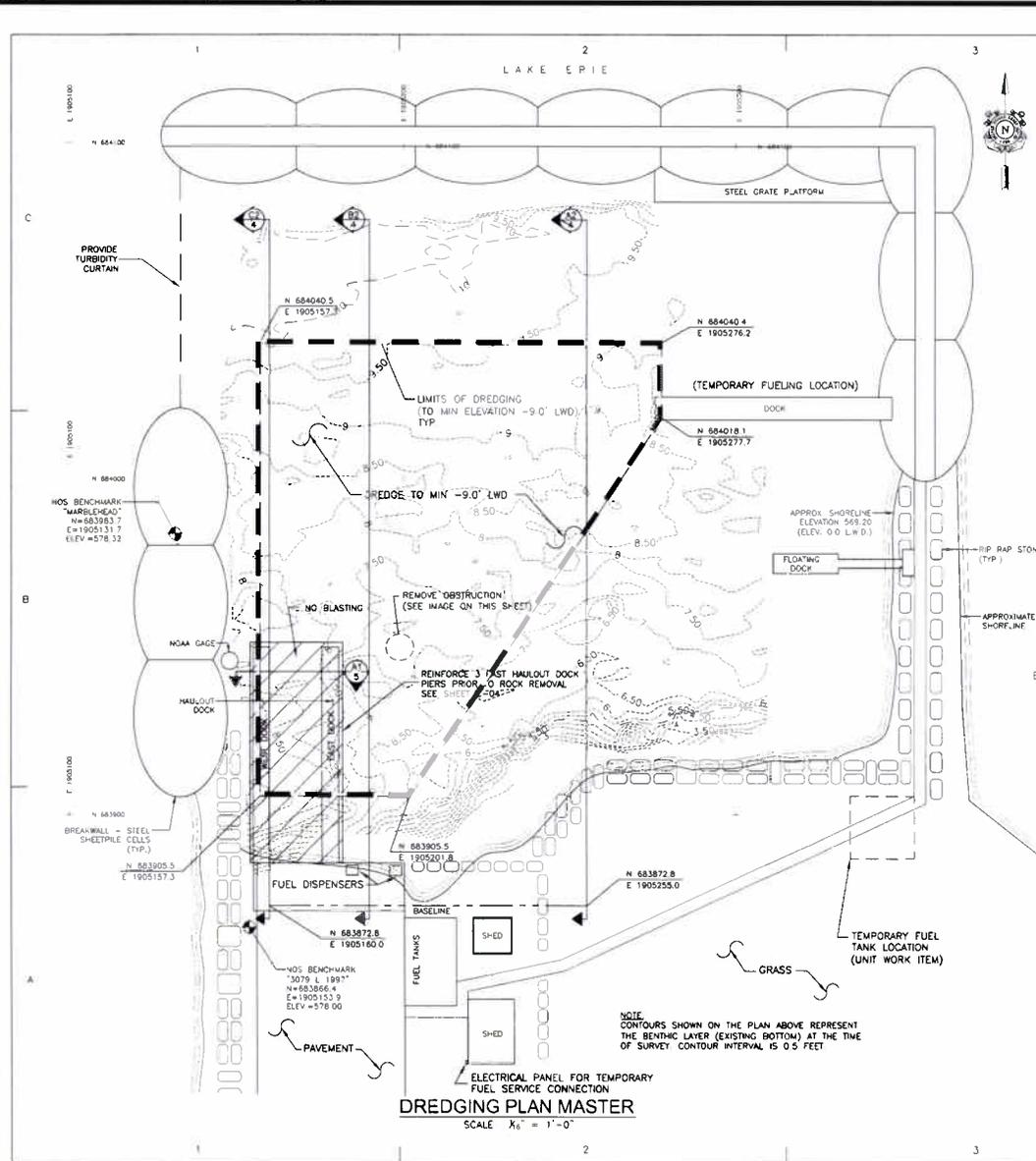
Removal of the sediments and underlying bedrock can be achieved by either mechanical or hydraulic dredging. Mechanical dredges can work well in tightly confined areas and are often used in harbors, around docks and piers, and in relatively protected channels. Hydraulic dredges generally cannot be used in confined or shallow areas, are not suitable for removal of rock fragments likely to be encountered, and are only practical when the placement of dredge spoils is nearby. Use of hydraulic dredges would therefore not be practicable.

The USCG has previously attempted to fracture the underlying bedrock using abrasion, but this effort was found impractical. In the interest of expediting the schedule for deploying the improvements to the boat basin, drilling and blasting would allow the dredging phase of the improvements to be completed faster compared with conventional mechanical hammering of the bedrock. It is in the interest of the USCG to complete the dredging and the remaining harbor improvements expeditiously in order for the Marblehead Station to resume the full range of its mission functions.

Under the preferred alternative, mechanical dredging would be conducted along with drilling and blasting using conventional explosives to loosen and remove underlying bedrock and other rock within the specified area of the harbor to be deepened. The use of expansive agents (i.e., SCDA) is proposed as an enhancement to conventional drilling and blasting. The preferred alternative would result in a boat basin depth of 9-10 ft below LWD, commensurate with USCG requirements for docking and launching its vessels at this location.

ODNR DOW has a moratorium on in-water work from March 1 to June 15 to minimize impacts to fish spawning. Should it be necessary for the work to be conducted in the spring of the year, the USCG would reapply to the ODNR for an exemption to the moratorium on in-water work as was previously granted for the spring of 2007.

The Preferred Alternative is described in the Affected Environment and Environmental Consequences section of the EA (Section 3.0) by first considering the effects from using a combination of mechanical and hydraulic dredging and traditional blasting, followed by a consideration of potential impacts from using the proposed expansive agents (enhanced dredging).



Site Aerial Photo

Figure 2-1

U.S. Coast Guard Station
Marblehead, Ohio

Area of Proposed Dredging
EA for Dredging of Port Facilities

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 LAND USE AND VISUAL RESOURCES

3.1.1 Affected Environment

The Marblehead Station is located on federal property in the Village of Marblehead, Ohio. A lifesaving or USCG station has existed on this property since 1876. The Village of Marblehead is located within Ottawa County's Danbury Township. The Village was incorporated in March 1891. The Marblehead Station is situated in a mixed residential and industrial area, with a municipal park, James Park, located across the road from the Marblehead Station. The Marblehead Station is zoned "Institutional."

There are no farmlands present at or near the Marblehead Station, and the soils on the Marblehead Station property are not characterized as "Prime Farmland" soils by the U.S. Department of Agriculture (USDA) (see Section 3.3.1.1). The provisions of the Farmland Protection Policy Act do not apply to land use decisions at the Marblehead Station.

The work to be conducted under the preferred alternative would occur within the coastal zone of the United States; therefore, provisions of the Coastal Zone Management Act (CZMA) of 1972, as amended, apply to land use at the Marblehead Station (see Section 3.3).

The main building at the Marblehead Station was built in 1981. Under the preferred alternative, no changes would be made to this structure. A temporary staging area for project related equipment and/or vehicles would be established at the edge of the property adjacent to the harbor, and a 2,000-gallon temporary gasoline fuel dispensing system and a 2,000-gallon temporary diesel fuel dispensing system would be placed onshore to service vessels until the harbor improvements are complete.

Visually, the Station appears to be typical of a small boatyard or marina. It is visually consistent with other small towns along non-metropolitan segments of the Lake Erie shoreline.

3.1.2 Environmental Consequences of Blasting and Mechanical Dredging

The proposed improvements to the harbor at the Marblehead Station would have no effect on local land use or zoning. Although very different than the surrounding land uses, the operations at the Marblehead Station exist due to the USCG's missions to conduct search and rescue operations, enforce federal laws, conduct ice rescue operations, and ensure maritime homeland security. Federal supremacy law allows the USCG to operate at this location without regulatory oversight by local government. Periodic dredging of the Marblehead Station harbor is a necessity for the Federal Government's continued use of this

property. Following completion of all planned improvements, the harbor would not appear from the land as different in size, function, or appearance from the current harbor. Mechanical dredging would therefore be consistent with the CZMA of 1972.

The proposed dredging would not permanently alter the visual appearance of the Lake Erie shoreline, as viewed from land or water. The blasting would alter the contour of the harbor bottom, but the changes would not be visible from the surface. A few vehicles and pieces of equipment would be temporarily staged at the side of the harbor but would be removed upon completion of the dredging. Because the harbor is already a developed site with a hardened shoreline, pavement, and multiple boats, the presence of the vehicles and equipment would not constitute a substantial change in the visual character of the harbor, as viewed from boats on Lake Erie or from public roadways adjoining the Station. No trees would be cut down.

3.1.3 Environmental Consequences of Enhanced Dredging

Enhanced dredging using expansive agents to loosen underlying bedrock in the harbor at the Marblehead Station would have no effect on local land use or zoning. It would likewise be consistent with the CZMA of 1972. Visual impacts would be as described for blasting and mechanical dredging.

3.1.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to land use.

3.1.5 Mitigation

None required.

3.2 TRANSPORTATION

The Marblehead Station is located in a mixed residential/industrial neighborhood, approximately 0.25 mile from SR 163, the nearest State-maintained roadway. Roads in Marblehead are used mainly by local residents and tourists.

3.2.1 Affected Environment

The proposed improvements to the harbor are expected to be completed within a 75-day period. During this period, construction equipment, workers' vehicles, and supply and disposal trucks would travel to and

from the site on a daily basis. The expected number of vehicle trips during the construction period would not exceed 10 per day.

3.2.2 Environmental Consequences of Blasting and Mechanical Dredging

During the dredging period, dredge spoils are expected to be transported from the harbor to a landfill site located in Marblehead approximately 2.25 miles away from the Marblehead Station. An estimated 95 cubic yards of sediment and 625 cubic yards of underlying limestone bedrock would be removed from the harbor and transported to the landfill by privately-owned dump trucks over the course of 1-2 weeks. Per truckload shipments will be restricted by weight and volume, and it is not known how many shipments would be required. However, truck transport of the dredge spoils would be intermittent, temporary, and minor; and no significant impacts are expected.

Transportation associated with the remaining elements of the improvements to the harbor (temporary fueling station, improvements to the pier, installation of a permanent fueling station) would be intermittent, temporary, and minor; and no significant impacts are expected.

3.2.3 Environmental Consequences of Enhanced Dredging

Enhanced dredging using an expansive agent to loosen bedrock would have no additional effect on the transportation impacts of this project as described in Section 3.2.2.

3.2.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no additional transportation to or from this location over normal daily vehicle traffic at the Marblehead Station.

3.2.5 Mitigation

None required.

3.3 PHYSICAL ENVIRONMENT

3.3.1 Geology and Seismic Zone Considerations

3.3.1.1 Affected Environment

The Marblehead Station is located on the shoreline of the Marblehead peninsula, which consists of solid limestone formed during the second glacial age. The underlying bedrock is composed of up to 175 feet of

Devonian carbonate (Delaware Limestone and Columbus Limestone) origin (416-359 million years before present) (ODNR, 2007a). Because of the geologic richness of limestone in this area of the Marblehead peninsula, limestone mining was an important part of the development and settling of the area. The Lafarge limestone quarry is currently the only active limestone mine on the Marblehead peninsula (Village of Marblehead, 2007). Blasting is commonly performed at the Lafarge quarry throughout the year as part of normal quarrying operations.

Soils in the area of the Station are classified as offshore lake sediment soils characterized by sandy to silty textures in the upper 20 inches or more (ODNR, 2007a). At the Marblehead Station, soils have been characterized as sandy lean clay with trace crushed stone and asphalt to a depth of 3.5 feet below existing grade followed by medium dense granular soils consisting of silty sand with trace gravel or poorly graded sand with silt and trace gravel to a depth of approximately 7.8 feet (TTL Associates, Inc., 2007). Below these soils is good to excellent quality bedrock consisting of occasionally fractured limestone with some shale seams. Soils in the vicinity are not classified as "Prime Farmland" by the USDA (ODNR, 2007a).

The shoreline is categorized as highly erodible and consists of muddy sand/sandy mud underlain by rock, but substrate distribution on the peninsula shoreline is considered to be complex (ODNR, 2007a). The elevation of the Marblehead Station is approximately 570 feet above sea level with a gently downward sloping topography towards Lake Erie.

No earthquakes have been documented on the Marblehead Peninsula. However, two low intensity earthquakes (magnitude 2.5 and 2.3) occurred recently (April 14 and April 24, 2007) to the north of the peninsula just off of Bass Island. The closest deep structure occurs approximately 20 miles to the southwest of the Marblehead Peninsula in the northeast corner of Sandusky County (ODNR, 2007b). The area has a karst underlying geology and collapse of underground caves or opening of sinkholes developed by groundwater dissolution of minerals has been known to occur in the surrounding areas (ODNR, 2007b). Noticeable manmade seismic effects occur several times a week on the Marblehead Peninsula due to the quarrying activities of Lafarge. These effects can be felt on the peninsula and are well recognized by the residents and workforce of the peninsula including the personnel at the Marblehead Station.

3.3.1.2 Environmental Consequences of Blasting and Mechanical Dredging

Environmental impacts of mechanical dredging of sediments in the harbor would include equipment storage and usage for construction and dredging operations. These actions may result in minor impacts to soils at the shoreline; however, shoreline soils would be restored after project completion. Best management practices would be used in accordance with federal regulations to minimize soil erosion.

Blasting for the proposed dredging project could produce seismic effects, but would be limited to a peak particle velocity of 0.5 inches per second as outlined in Section 208.15 (Vibration Control and Monitoring) of the State of Ohio Modified Blasting Specifications (see Appendix C). Because blasting could take place simultaneously with the regular blasting at the Lafarge quarry, the cumulative effects of the simultaneous use of explosives were considered. Mitigation measures, as described below in Section 3.3.1.5, would be used to minimize the potential seismic effects of the blasting. Thus, within the 1,500-foot APE, the cumulative effects of the Lafarge quarry blasting and the proposed blasting for the dredging project would be negligible.

Blasting and mechanical dredging could cause settling of soils from vibrations due to shock waves transmitted from the detonation location. Additionally, the seismic zone may be impacted and shifts in the underlying geology are possible because of the karst nature of the area. However, these effects are unlikely because the blasting would occur underwater and mitigation measures would be conducted to minimize the seismic effects of the blasting. Lake sediments would be removed in the mechanical dredging process as outlined in the scope of work for the project.

3.3.1.3 Environmental Consequences of Enhanced Dredging

Environmental impacts of enhanced dredging using expansive agents to soils in the vicinity would be limited to equipment storage and usage for construction and dredging operations. These actions would likely only impact soils directly on the surface and those soils will be restored after project completion. Enhanced dredging with chemical expansive agents would not result in significant impacts to local geologic conditions or the seismic zone.

3.3.1.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to local geology.

3.3.1.5 Mitigation

Measures would be taken as necessary to mitigate the environmental effects of the proposed construction and dredging on the local geology and seismic zone. The USCG would provide a floating turbidity curtain across the basin entrance prior to construction, blasting, or dredging. The USCG contractor would use best management practices, as needed, to prevent erosion and sedimentation of soils into Lake Erie from construction staging areas.

The USCG would use Modified Rock Blasting Specifications (see Appendix C) to implement the blast dredging operations. In accordance with the Modified Rock Blasting Specifications Section 208.07, a Test Blast Program would be conducted for up to three individual test blasts. The purpose of the test program would be to allow the USCG to establish safe limits of vibration and airblast overpressure. The test blast program would be conducted and reported in strict accordance with procedures outlined in Sections 208.15 and 208.16 of the Modified Rock Blasting Specifications covering vibration control and airblast control. Upon evidence of any damage to test structures, test blasting would cease until the USCG Contracting Officer's Technical Representative (COTR) was notified, and adjustments made. The test events would begin with a small number of charges and extend upward to the maximum yield to be used. The final test event would simulate as close as practicable to the explosive charge type, size, overlying water depth, charge configuration, charge separation, initiation methods, and emplacement conditions anticipated for the largest detonations.

Blasting for the proposed dredging project could produce seismic effects, but would be limited to a peak particle velocity of 0.5 inches per second as outlined in Section 208.15 (Vibration Control and Monitoring) of the State of Ohio Modified Blasting Specifications (see Appendix C). Blasting could take place simultaneously with the regular blasting at the Lafarge quarry. Therefore, the cumulative effects of the simultaneous use of explosives were considered. The mitigation measures designed to minimize seismic effects of the proposed blasting would ensure that within the 1,500-foot area of potential effect (APE), the cumulative effects of the Lafarge quarry blasting and the dredging project blasting would be negligible.

3.3.2 Climate and Air Quality

Located in the humid continental zone, Ohio has a generally temperate climate. Winters are cold and summers mild in the eastern highlands.

Under the Clean Air Act of 1970, as amended (CAAA, 42 USC §§ 7401 et seq.), the United States Environmental Protection Agency (USEPA) promulgated primary and secondary National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. The NAAQS set threshold levels for specific air pollutant constituents above which regulatory compliance requirements are triggered. The CAAA of 1970 identified certain areas of the country as being in non-attainment of the NAAQS. Ottawa County, Ohio, is in attainment for all of the NAAQS.

3.3.2.1 Affected Environment

The airshed surrounding Marblehead, Ohio, enjoys good air quality. Both climate and air quality in the region are influenced by the presence of Lake Erie. Temperatures are lower in summer and higher in winter than at the same latitude farther inland. The amount of snowfall is often increased by the warmth

and moisture of the lake. Lake Erie is 90 percent ice-covered by February in a normal year and it frequently freezes over completely.

3.3.2.2 Environmental Consequences of Blasting and Mechanical Dredging

Emissions caused by mechanical dredging to deepen the harbor at the Marblehead Station and related harbor improvements would be too minor to potentially have a significant effect on climate or air quality. Because of the brief period of work and small quantities of potential emissions, the USCG did not consider the risk for potentially significant emissions sufficient to warrant quantitative air dispersion modeling. Inclement winter weather conditions could preclude dredging from occurring during winter months.

The installation, use and removal of the temporary fuel systems at the Marblehead Station could result in small releases of petroleum fuels into the environment. Releases from the temporary fuel dispensing systems are not expected to be significant. An Oil Spill Prevention Control and Countermeasure (SPCC) plan dated August 2005, as required by USEPA regulations (40 CFR 112), was prepared for the Marblehead Station to prevent oil spills from occurring and to ensure safe, efficient, and timely responses in the unlikely event of an oil spill or leak. The SPCC Plan will be modified to account for the temporary fueling systems. Any accidents resulting in a substantial release of petroleum products would be cleaned up according to the SPCC Plan or the Contractor's Spill Response Plan.

3.3.2.3 Environmental Consequences of Enhanced Dredging

The potential use of expansive agents to loosen underlying bedrock would have no effect on climate or air quality. Temperature is an important factor in the deployment of chemical expansive agents. Thus, the temperature of the waters in the Marblehead Station harbor, as affected by natural climate and weather conditions, would have to be evaluated prior to use of chemical expansive agents. The use of chemical expansive agents does not produce fumes that could contribute to climate change.

3.3.2.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to climate or air quality.

3.3.2.5 Mitigation

An SPCC plan dated August, 2005, as required by USEPA regulations (40 CFR 112), was prepared for the Marblehead Station to prevent oil spills from occurring and to ensure safe, efficient, and timely responses in the unlikely event of an oil spill or leak. The SPCC Plan will be modified to account for the

temporary fueling systems. Any accidents resulting in a substantial release of petroleum products would be cleaned up according to the SPCC Plan or the Contractor's Spill Response Plan.

3.3.3 Water Resources and Drainage

3.3.3.1 Affected Environment

The Marblehead Station is located on the shore of Marblehead Peninsula on the western basin of Lake Erie. Sandusky Bay is located on the opposite side of the peninsula from the Marblehead Station. The entire peninsula is in the Lake Erie watershed. Surface water on and near the Marblehead Station drains directly into Lake Erie via runoff and small drainage channels. The peninsula is divided into two separate watersheds with the Marblehead Station located in the Cedar-Portage Watershed sub-watershed although the area drains directly into Lake Erie. The southern portion of the peninsula drains directly into the Sandusky Bay and is in the Sandusky sub-watershed. Water quality in Lake Erie has continued to improve in recent years due to point source pollutant restrictions (ODNR, 2007a).

The Marblehead Station and immediate surrounding area are served by both public water (Village of Marblehead) and public sewage (Ottawa County). The public water system supplies 130,000 to 140,000 gallons per day using two crib intakes from Lake Erie located at a distance of 375 and 550 feet from the shore. The incoming surface water from Lake Erie is very good quality (low turbidity). Approximately 600 taps are supplied by the Village of Marblehead Water Department. There is a back-up supply interconnected with the Ottawa County municipal water system. Private wells may still be in use in the outlying areas of Marblehead. However, the areas close to the Marblehead Station are supplied by the public water and sewer systems. All residents were required to abandon private septic systems when the municipal sewage system was installed (personal communication with Mr. Robert Biers, Plant Superintendent, Village of Marblehead Water Department).

Groundwater resources on the Marblehead Peninsula are typical of those found in the region and are part of an extensive carbonate aquifer system. Water is stored in numerous openings between layers of limestone bedrock (Graham, et al., 1998). Groundwater yields are typically low in the eastern part of the peninsula with rates less than 15 gallons per minute (ODNR, 1986).

3.3.3.2 Environmental Consequences of Blasting and Mechanical Dredging

Environmental impacts of mechanical dredging to water resources in the vicinity may include temporary suspension of sediments, dissolved gases from explosives used in blasting, and sedimentation from construction area runoff. Water quality in Lake Erie would only be temporarily affected by suspended sediments from mechanical dredging. A turbidity curtain would be installed. Therefore, the area of

effects from suspended sediments would be small and the duration would be short and intermittent. Blasting may produce carbon monoxide, nitrous/nitric oxides, and other gases that could partially dissolve in the water column. The effects to water quality from these gases are expected to be minimal, since they would dissipate quickly and would be diluted by mixing in the water column. Mitigation measures as described below will be implemented to ensure that water quality is not significantly changed in areas where water is used for human consumption. Sedimentation from soil erosion in the construction equipment and staging area could affect the water quality of Lake Erie near the project location. However, the impacts are expected to be minimal because best management practices will be used in accordance with federal regulations.

Shockwaves and vibrations from blasting and mechanical dredging methods have the potential to damage local water supply lines and sewage lines. Additionally, due to the karst nature of the area, wells may be impacted by shifts in the underlying geology from blasting. However, these effects are expected to be minimal as the blasting would occur underwater and mitigation measures as described below would be implemented. Therefore, impacts to water resources, supply lines, and sewage lines are expected to be minimal.

Surface water drainage patterns could be temporarily disrupted by construction and dredging operations, but the impacts are expected to be minimal and of short duration.

3.3.3.3 Environmental Consequences of Enhanced Dredging

The expansive agents that may be used for enhanced dredging are nontoxic in nature and use simple expansion in water properties to fracture bedrock. No shockwaves, vibrations or fumes are produced. Therefore, effects from enhanced dredging to water resources are expected to be minimal.

Surface water drainage patterns could be temporarily disrupted by the construction and dredging operations, but the impacts are expected to be minimal and of short duration.

3.3.3.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to water resources or drainage.

3.3.3.5 Mitigation

Mitigation measures as described in Section 3.3.1.5 and the Modified Rock Blasting Specifications would be implemented to minimize impacts to water resources. In addition, an experienced hydrologist would be

hired by the contractor to monitor water supplies and local water conditions with duties and responsibilities as outlined in Section 208.18 of the Modified Rock Blasting Specifications (see Appendix C).

3.3.4 Noise

Noise is defined as unwanted or annoying sound associated with human activities which interferes with or disrupts normal activities. Sound and noise are measured in sound pressure levels in units of decibels (dB). Response to noise varies according to its type, its perceived importance, its appropriateness in the setting and time of day, and the sensitivity of the individual receptor. Human hearing is simulated by measurements in the A-weighting (dBA) network, which de-emphasizes lower frequency sounds to simulate the response of the human ear.

The Occupational Safety and Health Administration (OSHA) has issued noise regulations and guidelines for worker exposure. The USEPA has issued guidelines on noise levels in relation to industrial construction and operations, below which the general public would be protected from activity interference and annoyance. USEPA's recommended maximum noise level for indoor areas is 55 dBA, which includes residences and office buildings (USEPA, 1977). There are no known Township of Danbury or County of Ottawa ordinances affecting construction noise.

The proposed action would result in temporary construction noise from the operation of heavy equipment, drilling, dredging, blasting, and transfer and transport of dredge spoils by dump truck to a landfill. Noises generated during the construction period would be intermittent during normal working hours for a period of 75 days, approximately, and are expected to dissipate to background noise levels beyond the 1,500-foot APE.

The primary noise sources in the vicinity of the Marblehead Station are from vehicle traffic, which is relatively light in Marblehead Village. The levels of roadway generated noise from vehicles depends upon vehicle type, speed, traffic volume, surface conditions, surface gradient, and distance between source and receptor.

Sensitive noise receptors in the vicinity of the Marblehead Station include workers inside the USCG Station office building and nearby residents. The Village of Lakeside has official "Quiet Hours" between 11 p.m. and 8:00 a.m. daily during which time no noise or conduct of any kind that would disturb slumber is permitted.

3.3.4.1 Environmental Consequences of Blasting and Mechanical Dredging

Blasting of rock in the harbor would result in short periods of blast noise that would dissipate quickly. These blasts are expected to be intermittent and temporary; and no significant impacts are expected. Blasting would occur during normal working hours and would not take place less than 1 hour before sunset or less than 2 hours after sunrise. Blasting would also not be conducted when a temperature inversion or heavy low-level cloud cover exists due to the potentially reduced ability of the noise to dissipate. Per State of Ohio modified rock blasting specifications, the USCG would employ a specialist qualified in making airblast overpressure measurements and noise control measurements on selected detonations, analyzing the results obtained and making airblast predictions for succeeding detonations. The USCG may waive this requirement if the Contractor demonstrates that the detonations will all be underwater and relatively minor in scale. Furthermore, the blasting will take place underwater, which will have a dampening effect on blast noise.

Construction noises would result from drilling activities, dredging activities, and the installation of the temporary fueling station and other improvements to the pier. Because of the relatively small scale of these improvements, the noises generated would not be unusual or severe, no significant impacts are expected.

Within the harbor, the noise from heavy equipment, construction activities and blasting would repel nearby fish, birds, and other wildlife. However, the proposed dredging and harbor improvements may occur during spawning periods for yellow perch and smallmouth bass. Although the harbor is documented spawning habitat, yellow perch and smallmouth bass would likely relocate to nearby habitat suitable for spawning when the in-water work begins. The harbor area of the Marblehead Station does not support any critical habitat for federal endangered species. No significant impacts to wildlife receptors caused by noise are expected.

Transfer of dredge spoils onto dump trucks and transport to a landfill in Marblehead Village would also cause intermittent noise during normal working hours. The noise generated would not be unusual or persistent, and no significant impacts are expected.

3.3.4.2 Environmental Consequences of Enhanced Dredging

The potential use of expansive agents to loosen underlying bedrock would not generate substantial noise because use of these agents does not produce a blast-like explosion. Drilling into bedrock to create cylindrical spaces in which to place the expansive agent may produce some minor underwater noise. No significant impacts are expected.

3.3.4.3 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to noise levels.

3.3.4.4 Mitigation

During construction activities, harbor improvement contractors would comply with all applicable federal and state laws on noise protection and abatement. To help limit noise during construction and transportation, contractors must have exhaust mufflers on their equipment as required by law. Hours of construction and dredging activity are expected to be concurrent with Marblehead Station hours.

Per Sections 208.15 and 208.16 of the State of Ohio modified rock blasting specifications (see Appendix C), the USCG will employ a specialist qualified in making airblast overpressure measurements and noise control measurements on selected detonations, analyzing the results obtained and making airblast predictions for succeeding detonations, which would not exceed 0.02 psi at the nearest structure or vessel. The USCG may waive this requirement if the Contractor determines that the detonations will all be underwater and relatively minor in scale.

To mitigate the potential effects of noise on the local community, the USCG will advise the Village of Marblehead government regarding its schedule for the proposed improvements to the harbor, so that local residents will not react negatively to sudden noises from blasting and/or the noises from dredging.

3.3.5 Hazardous Materials and Hazardous Waste

Hazardous materials are substances that pose a potential hazard to human health and/or the environment if not properly managed. Hazardous wastes are hazardous materials that are disposed, and are defined as being hazardous by the Resources Conservation and Recovery Act (RCRA) 42 USC 6901 et seq. Other than petroleum-based fuels and lubricants, the Marblehead Station does not use hazardous materials in quantities greater than those considered "household" quantities. The Marblehead Station is categorized as a Conditionally Exempt Small Quantity Generator of hazardous waste (USEPA ID# OH8690308566) under RCRA.

3.3.5.1 Affected Environment

The Marblehead Station is not on the National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). There are no underground storage tanks on site. Marblehead Station has no known historical releases or closed landfills.

The Marblehead Station discharges wastewater to the Village of Marblehead municipal treatment works including wastes from floor drains. There are five hazardous materials stored in large quantities that are needed for daily operations. These include one 2,000-gallon diesel fuel AST, one 2000-gallon gasoline AST, one 55-gallon drum of hydraulic fluid, one 250-gallon waste oil AST, and one 55-gallon drum of 15-W40 oil. The diesel, gasoline, and waste oil ASTs are all secondarily contained with a seamless 6-inch concrete vault which gives thermal/vehicle impact/projectile-resistant protection for flammable liquids. The AST piping systems are all double-walled construction. The 55-gallon drums are located in the boat house on top of a spill containment pad in the maintenance garage, which has a concrete floor. Other hazardous materials are stored in small quantities and include items such as paints, mineral spirits, brake fluid, antifreeze, caulking, WD-40, and other chemicals necessary for the maintenance of the stations structures and boats. Flammable materials are contained in a flammable material cabinet. Boats are currently fueled at the base, but prior to dredging operations a temporary fueling area would be constructed with one 2,000-gallon diesel tank and one 2,000-gallon gasoline tank. Both aboveground storage tanks would have secondary containment and construction would follow state and federal guidelines.

Procedures for the handling of hazardous material waste spills are outlined in the *Station Marblehead Standard Operating Procedures*. Explosives used by the contractor for mechanical dredging would be used and stored according to applicable federal, state, and local laws. The contractor would provide a Spill Response Plan covering all regulated materials brought to the site for the execution of work and all wastes generated as a result of the work prior to the project start date. The contractor would comply with all federal, state, and local environmental regulations dealing with the generation, management, storage, and disposal of solid, toxic, and hazardous wastes.

3.3.5.2 Environmental Consequences of Blasting and Mechanical Dredging

The proposed dredging would not generate hazardous materials. Each stage in the installation, use, and removal of the temporary fueling systems at the Marblehead Station could result in small releases of petroleum fuels into the environment. These releases are not expected to be significant. The USCG SPCC plan and the Contractor's Spill Response Plan would be prepared to ensure that no accidental spills would occur, and that response would be swift and efficient. Any accidents resulting in a substantial release of petroleum products would be subject to federal and state cleanup requirements for petroleum releases. Additionally, the contractor would be responsible for notifying the Commanding Officer and the USCG COTR should any spills occur. Releases are not expected from other hazardous materials located at the Station outside of the construction and dredging area.

3.3.5.3 Environmental Consequences of Enhanced Dredging

The proposed use of expansive agents to loosen bedrock would not generate a hazardous waste. Hazardous materials on site would not be affected by enhanced dredging materials or their application. Therefore, enhanced dredging is not expected to produce any impacts affecting the quantity of onsite hazardous materials or hazardous waste generated at the Marblehead Station.

3.3.5.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to hazardous materials or their release.

3.3.5.5 Mitigation

An SPCC plan dated August 2005, as required by USEPA regulations (40 CFR 112), was prepared for the Marblehead Station to prevent oil spills from occurring and to ensure safe, efficient, and timely responses in the unlikely event of an oil spill or leak. The SPCC Plan will be modified to account for the temporary fueling systems. Any accidents resulting in a substantial release of petroleum products would be cleaned up according to the SPCC Plan or the Contractor's Spill Response Plan.

3.4 NATURAL ENVIRONMENT

3.4.1 Terrestrial Biological Resources

Terrestrial biological resources include terrestrial vegetation and wildlife such as mammals, birds, reptiles, amphibians, insects, and soil-borne microorganisms. Executive Order (EO) 13112 requires federal agencies to review proposed actions for effects that could promote the introduction and spread of invasive species, defined as alien species whose introduction could cause economic or environmental harm or harm to human health. Invasive species posing the greatest threat to terrestrial ecosystems in the Midwestern United States are plants such as phragmites, purple loosestrife (*Lythrum salicaria*), and exotic honeysuckles that can aggressively colonize and dominate areas of disturbed soils. Such plants can replace native species with exotic species, inducing changes in water or fire regimes, causing changes in soil characteristics, adding a new or displacing an existing wildlife food source, and altering erosion and sedimentation processes (Westbrooks, 1998).

3.4.1.1 Affected Environment

The existing harbor where the proposed work would be performed under any of the alternatives lacks emergent vegetation or soft (unarmored) shorelines. Lands directly adjoining the harbor comprise paved

areas and regularly mowed lawns (Photos 3-1 and 3-2). The nearest naturally vegetated lands are situated just east of the harbor, where deciduous shrub-scrub vegetation covers sloping lands adjoining a sandy shoreline of Lake Erie (Photo 3-3).



Photo 3-1

Rock Armor and Sheet Piles Surrounding Station Harbor



Photo 3-2

Aerial Photograph Showing Harbor and Adjoining Areas



Photo 3-3

Lake Erie Shoreline North of Harbor

Rocky grasslands in the vicinity of Marblehead could contain the lakeside daisy (*Hymenoxys herbaecea*), which is listed as threatened under the Endangered Species Act of 1973, as amended (ESA). This plant is found in dry, sunny, rocky prairie grassland underlain by limestone. Habitat for the lakeside daisy has been reduced by limestone quarrying. Populations have also been reduced by plant collectors (USFWS, 1997).

3.4.1.2 Environmental Consequences of Blasting and Mechanical Dredging

All work would be performed in an existing harbor bounded everywhere, except at its entrance to the open waters of Lake Erie, by man-made concrete or rock armor (riprap). No natural vegetation or unarmored shoreline, including potential habitat for the Lakeside daisy, would be disturbed. Shock waves caused by blasting could cause small, brief water waves within the harbor, but those waves would be confined within the harbor and not inundate areas of terrestrial vegetation. Equipment staging would be limited to paved lands or lawns directly adjoining the harbor on USCG property. Any lawn areas damaged by staging activities would be repaired and seeded with the same ornamental lawn grasses prevalent in the rest of the lawn. No areas of disturbed soils would remain that could provide an opportunity for establishment of invasive plant species. The proposed work would therefore be compliant with EO 13112.

3.4.1.3 Environmental Consequences of Enhanced Dredging

Impacts would generally be as described for mechanical dredging alternative. The enhanced dredging alternative would therefore also be compliant with EO 13112.

3.4.1.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to terrestrial habitats.

3.4.1.5 Mitigation

None required.

3.4.2 Floodplains and Wetlands

EO 11988 requires federal agencies that are planning to conduct actions affecting floodplains to consider alternatives that avoid adverse effects and to modify their actions whenever possible to reduce adverse impacts. It defines floodplains as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year" (i.e., the 100-year floodplain).

EO 11990 requires federal agencies to minimize the destruction, loss, or degradation of, and to preserve and enhance the natural and beneficial values of, wetlands. Wetlands adjacent to navigable waters or tributaries to navigable waters, or with a significant nexus to interstate commerce, are also regulated under the federal Clean Water Act (CWA). Wetlands are defined in 33 CFR 328.3b as "those areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." A wetland delineation involves the collection of onsite vegetation, soils, and hydrology data to ascertain whether undeveloped land areas meet the federal definition for a wetland (Environmental Laboratory, 1987).

3.4.2.1 Affected Environment

Floodplains: Flood Insurance Rate Maps indicate that the Marblehead Station is situated in the 100-year floodplain associated with coastal flooding on the shore of Lake Erie. Specifically, the Marblehead Station is located in Zone A2 with a reported base flood elevation of 578 feet. The National Oceanic and Atmospheric Administration (NOAA) reports a LWD of approximately 569.2 feet for Lake Erie at the Marblehead, Ohio, gauging station (Station 9063079). Water level elevations over the first eight months

of 2007 have been generally in a range between 569 and 573 feet above mean sea level; i.e., in a range extending approximately 4 feet over the Lake Erie LWD. Flooding to an elevation of 578 feet would therefore result in a water depth of approximately 8.8 feet above the low water datum, or approximately 5 feet higher than the highest water level reported so far for 2007 (NOAA, 2007). Coastal areas adjoining the western part of Lake Erie are subject to heavy flooding from seiches driven by strong southwest and northeast winds (USEPA, 2006). Seiches are tide-like fluctuations in water levels in enclosed or semi-enclosed bodies of water similar to water sloshing in a bathtub. In the Great Lakes, seiches are commonly initiated by prolonged strong winds that cause water levels to rise downwind and drop upwind (Wisconsin Sea Grant, 1997).

Wetlands: Other than Lake Erie itself, which is a water of the United States, National Wetland Inventory (NWI) maps do not depict any wetlands within 1,500 feet of the Station. The location of the proposed action, Marblehead Station harbor, lacks emergent vegetation or soft (unarmored) shorelines; hence, an onsite wetland delineation was not necessary. The nearest wetlands depicted on the maps are a cluster of freshwater ponds and emergent wetlands within a quarry approximately 2,500 feet southeast of the Marblehead Station and a cluster of emergent wetlands approximately 3,000 feet to the southwest. Emergent wetlands support grasses, forbs, and other herbaceous vegetation; and scrub-shrub wetlands support woody vegetation generally less than 20 feet in height.

The nearshore waters of Lake Erie, including the Marblehead Station harbor, are shown on the NWI maps as Lacustrine littoral waters with an unconsolidated (soft but unvegetated) bottom. Lacustrine habitats are associated with lakes (or dammed river channels) over 20 acres in surface area (Cowardin *et al.*, 1979). The harbor shoreline consists entirely of rock armor or concrete with no emergent vegetation (Photo 3-1). The harbor and other waters comprising the United States portion of Lake Erie are also designated as navigable waters regulated under Section 10 of the Rivers and Harbors Act (RHA).

3.4.2.2 Environmental Consequences of Blasting and Mechanical Dredging

Floodplains: Although the proposed mechanical dredging would take place in the 100-year floodplain associated with the south shore of Lake Erie, it would not substantially alter the character of the floodplain or local or regional patterns of flooding. All work would be performed in an existing harbor bounded everywhere, except at its entrance to the open waters of Lake Erie, by man-made concrete or rock armor (riprap). No natural vegetation or unarmored shoreline would be disturbed. The layout of the harbor and associated shoreline stabilization would not be changed, and the direction of water movement during seiches and other wind-driven water surges would not be changed. Shockwaves generated by underwater detonation of explosives could cause brief water waves that momentarily raise water levels in the harbor. However, the program of underwater explosions would be designed to ensure that water levels do not even temporarily rise above the elevation of the riprap and concrete surrounding the harbor

and flood adjoining uplands. The proposed mechanical dredging is therefore consistent with the objectives of EO 11988.

Wetlands: The proposed dredging would occur in an area designated as a water of the United States but the area does not meet the definition of a wetland under the CWA. The USCG has applied to the USACE for a combined permit under Section 404 of the CWA and Section 10 of the RHA to conduct work in a water of the United States. No work would proceed until the permit is received. No areas meeting the federal definition of a wetland would be disturbed; hence, the proposed dredging is consistent with the objectives of EO 11990.

3.4.2.3 Environmental Consequences of Enhanced Dredging

Floodplains: Impacts would generally be as described for mechanical dredging. The shockwaves generated by underwater use of expansive agents placed in the bedrock could cause brief water waves that momentarily raise water levels in the harbor. However, the program would be designed to ensure that water levels do not even temporarily rise above the elevation of the riprap and concrete surrounding the harbor and flood adjoining uplands. The proposed enhanced dredging is therefore consistent with the objectives of EO 11988.

Wetlands: Impacts and permitting would be as described for mechanical dredging. No areas meeting the federal definition of a wetland are present in the area potentially affected by the shockwaves generated by the proposed use of expansive agents. The proposed enhanced dredging is therefore consistent with the objectives of EO 11990.

3.4.2.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to wetlands or floodplains.

3.4.2.5 Mitigation

None required.

3.4.3 Aquatic Environment

3.4.3.1 Affected Environment

The benthic environment near the Marblehead Station consists of muddy sand/sandy mud underlain by rock (ODNR, 2007a). Lake Erie contains approximately 107 different species of fish including both

established native and established introduced species (Cudmore-Vokey and Crossman, 2000). Fish species that inhabit the coast near the Marblehead Station are those typical of the Western Lake Erie Basin and include species (among others) such as the walleye (*Sander vitreus*), yellow perch (*Perca flavescens*), white perch (*Morone americana*), smallmouth bass (*Micropterus dolomieu*), freshwater drum (*Aplodinotus*), white bass (*Morone chrysops*), gizzard shad (*Dorosoma cepedianum*), emerald shiner (*Notropis atherinoides*), spottail shiner (*Notropis hudsonius*), and trout-perch (*Percopsis omiscomaycus*) (ODNR, 2007d). This area is well known for high quality perch and small mouth bass fishing. The ODNR has indicated that the area near the Marblehead Station where the construction and dredging would occur is documented spawning habitat for yellow perch and smallmouth bass (email from ODNR to USACE dated March 20, 2007). Benthic macroinvertebrates would consist of taxa typical to the Western Basin of Lake Erie including gastropoda, oligochaeta, chironomidae, amphipoda, ephemeroptera, nematode, hirudinea, trichoptera, hydracarina, and sphaeriidae (Bur, et al., 2006).

EO 13112 requires federal agencies to review proposed actions for effects that could promote the introduction and spread of invasive species, defined as alien species whose introduction could cause economic or environmental harm or harm to human health. Several invasive and nuisance species such as zebra mussels (*Dreissena polymorpha*) and the sea lamprey (*Petromyzon marinus*) occur within Lake Erie. Zebra mussels are notorious for their biofouling capabilities by colonizing water supply pipes of hydroelectric and nuclear power plants, public water supply plants, and industrial facilities. They primarily consume phytoplankton, but other suspended material is filtered from the water column including bacteria, protozoans, zebra mussel veligers, other microzooplankton and silt (Benson and Raikow, 2007). The sea lamprey is an aggressive parasite -- equipped with a tooth-filled mouth that flares open at the end of its eel-like body. When attacking, the lamprey fastens onto its prey and rasps out a hole with its rough tongue (University of Wisconsin Sea Grant Institute, 2007).

3.4.3.2 Environmental Consequences of Blasting and Mechanical Dredging

Construction operations would not have a significant impact on fish, benthic invertebrates, and other aquatic biota. Fish would likely relocate when construction operations begin and benthic invertebrates will recolonize rapidly when displaced. Sedimentation from runoff can impact benthic invertebrates; however, best management practices will be used in accordance with federal regulations to minimize sedimentation from erosion. Impacts from blasting are expected. Fish are very sensitive to vibrations and shockwaves produced by explosives, as are benthic invertebrates (Keevin and Hempen, 1997). Spawning habitat for the yellow perch and smallmouth bass could be impacted by blasting. ODNR has voiced concern about the timing and duration of the blasting for this reason (email from ODNR to USACE dated March 20, 2007). ODNR DOW has a moratorium on in-water work from March 1 to June 15 to minimize impacts to fish spawning. ODNR indicated during the application process that the DOW would waive a portion of the in-water work restriction to allow in-water work from March 15 to April 30, 2007, and

requested that the blasting be done as early in this period as possible to minimize disruptions to the spawning of the yellow perch and smallmouth bass. Because the time period for the project in the original permit has been delayed by at least one year, another exemption will be requested if the work would take place during the spring of a year. Additionally, although this area is documented spawning habitat, the affected area is small when compared to the amount of suitable spawning habitat in the vicinity of the harbor. Furthermore, yellow perch and smallmouth bass would likely relocate to nearby habitat suitable for spawning when the in-water work begins. Mechanical dredging would also suspend sediments which may harm aquatic biota; however, a floating turbidity curtain would be installed by the USCG to contain the effects to a localized area. Mechanical dredging would not promote an increase in the abundance of invasive species such as the zebra mussel and sea lamprey. The proposed work would therefore be compliant with EO 13112.

3.4.3.3 Environmental Consequences of Enhanced Dredging

Impacts of enhanced dredging using expansive agents would be limited to temporary displacement of fish, benthic invertebrates, and other aquatic biota and would not have a significant impact. Fish would likely relocate when construction operations begin and benthic invertebrates will recolonize rapidly when displaced. Enhanced dredging would not promote an increase in the abundance of invasive species such as the zebra mussel and sea lamprey. The proposed work would therefore be compliant with EO 13112.

3.4.3.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no impacts to aquatic biota.

3.4.3.5 Mitigation

Should it be necessary for the work to be conducted in the spring of a year, the USCG will reapply to the ODNR for an exemption to the moratorium on in-water work as was previously granted for the spring of 2007. The in-water work would be completed as early in the waived moratorium period as possible to minimize disruptions to yellow perch and small mouth bass spawning. Small testing detonation charges would effectively drive fish and other aquatic biota from the area of impact before full-scale blasting would occur. The blasting plan will also be designed with the protection of aquatic organisms in mind. The USCG would provide a floating turbidity curtain across basin entrance prior to construction, blasting, or dredging. The USCG contractor would use best management practices, as needed, to prevent erosion and sedimentation of soils into Lake Erie from construction staging areas. The USCG contractor will ensure all aquatic equipment, (e.g., barges, curtains, diving gear) would be washed prior to use and prior to leaving the site to prevent the spread or introduction of invasive species as defined by EO 13112.

3.4.4 Threatened or Endangered Species

3.4.4.1 Affected Environment

Correspondence was initiated by the USACE with the ODNR, Division of Natural Areas and Preserves (DNAP) and Division of Wildlife (DOW) in addition to the USFWS. The ODNR DNAP indicated that it had no records of threatened or endangered species at the project location in their Natural Heritage Database. The ODNR DOW made no comments regarding threatened and endangered species. In an email to USCG dated May 22, 2007, the USACE indicated that the USFWS had no further comment regarding the proposed dredging project. A database search was conducted for known occurrences of federally threatened or endangered species in Ottawa County, and another search was conducted for federally threatened or endangered species occurring within four miles of the Marblehead Station. Five species were identified as occurring in Ottawa County. These include the bald eagle (*Haliaeetus leucocephalus*), Indiana bat (*Myotis sodalis*), Lakeside daisy (*Hymenoxys herbacea*), eastern prairie fringed orchid (*Platanthera leucophaea*), and the Lake Erie watersnake (*Nerodia sipedon insularum*) (EDR, 2007).

The USFWS issued a notice in the *Federal Register* (72 FR 37346 et seq.) on July 9, 2007, that effective August 8, 2007, the bald eagle would be removed from the ESA List of Endangered and Threatened Wildlife and Plants. The bald eagle will still be protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (USFWS, 2007). The Indiana bat and the eastern prairie fringed orchid have no documented sightings within four miles of the Marblehead Station (EDR, 2007). The Lake Erie watersnake has been documented as occurring within 2-4 miles to the south of the Station (EDR, 2007). The ESA affords protection only to the Lake Erie watersnakes located on western Lake Erie offshore islands and adjacent waters of the United States. Offshore islands and waters are those located greater than one mile from the Ohio mainland and the Ontario mainland. Federal protection does not include watersnakes found on the United States mainland or adjacent near-shore islands, due to those areas having a high occurrence of northern watersnakes (*N. s. sipedon*), intergrades between the two subspecies, and the low occurrence of Lake Erie watersnakes (50 CFR Part 17). This implies that the Lake Erie watersnakes located on Ohio's Catawba/Marblehead Peninsula, Mouse Island and Johnson Island (also referred to as Johnson's Island) are not protected under the ESA (USFWS, 2003). Numerous occurrences of the Lakeside daisy have been reported within 4 miles of the Station. Many of the documented occurrences are in the Lakeside Daisy State Nature Preserve which is just south of the Station (EDR, 2007).

3.4.4.2 Environmental Consequences of Blasting and Mechanical Dredging

The only federally threatened or endangered specie in the vicinity of the Marblehead Station is the Lakeside daisy; the Station is located approximately 0.5 miles northeast of the closest documented occurrence (EDR, 2007). No known populations of the Lakeside daisy have been documented on USCG property, which consists mostly of pavement and mowed lawns. Critical habitat for the Lakeside daisy would not be destroyed from construction operations or mechanical dredging. Impacts to the Lakeside daisy are not expected from blasting used during mechanical dredging. Therefore, federally listed species protected under the ESA would not be impacted from the proposed improvements to the harbor using mechanical dredging.

The harbor is located on the Ohio mainland. Any Lake Erie watersnakes occurring in the harbor would not be protected as threatened under the ESA.

3.4.4.3 Environmental Consequences of Enhanced Dredging

Enhanced dredging using expansive agents would not pose any impacts to federally threatened or endangered species.

3.4.4.4 Environmental Consequences of No Action

Under the no action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no impacts to federally threatened or endangered species.

3.4.4.5 Mitigation

None required.

3.4.5 Coastal Zone Considerations and Coastal Barrier Effects

3.4.5.1 Coastal Zone Management Act (CZMA)

The coast line of Lake Erie is protected under the CZMA of 1972. The CZMA requires that federal agency activities that have reasonably foreseeable effects on any land or water use or natural resource of a state's designated coastal area must be consistent to the maximum extent practicable with the enforceable policies of the state's federally approved Coastal Management Program. The Act delegates day-to-day management decisions to the states (ODNR, 2007a). The Ohio Coastal Management Program, as federally approved by the Department of Commerce's National Oceanic and Atmospheric

Administration in 1997, identifies nine issue areas relevant to the protection of the coastal zone: 1) Coastal Erosion and Flooding, 2) Water Quality, 3) Wetlands and other Ecologically Sensitive Resources, 4) Ports and Shoreline Development, 5) Recreation and Cultural Resources, 6) Fish and Wildlife Management, 7) Environmental Quality, 8) Energy and Mineral Resources, and 9) Water Quality.

Neither blasting and mechanical dredging nor enhanced dredging would adversely affect the coastal zone resources as outlined by the Ohio Coastal Management Plan other than as evaluated elsewhere in this EA. An email correspondence from ODNR to USACE (March 20, 2007) stated that the ODNR Office of Coastal Management (OCM) had no comment on the proposed dredging project. Additionally, the USCG Station Marblehead conducted a coastal zone evaluation and submitted an ODNR Coastal Zone Consistency Certification Statement on December 12, 2006.

3.4.5.2 Coastal Barrier Resources Act (CBRA)

The Coastal Barrier Resources Act (CBRA) of 1982 seeks to minimize the loss of human life, wasteful expenditure of federal revenues, and the damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic and Gulf coasts and along the shore areas of the Great Lakes.

It restricts future federal expenditures and financial assistance that have the effect of encouraging development of coastal barriers by establishing the John H. Chafee Coastal Barrier Resources System, and by considering the means and measures by which long-term conservation of these fish, wildlife, and other natural resources maybe achieved. The Marblehead Station is not located in a John H. Chafee Coastal Barrier Resource System Zone; however, there are several in the vicinity of the Station. The closest is the Bay Point Unit OH-06, which is located approximately 3 miles to the south. Other nearby units occur to the northeast on the northern side of Kelley's Island (North Pond Unit OH-03), to the southeast near Sandusky (Old Woman Creek Unit OH-04 and Sheldon Marsh Unit OH-05), to the east (Toussaint River Unit OH-10), and to the northwest (Middle Bass Island Unit OH-07, North Bass Island Unit OH-08, and Fox Marsh Unit OH-09). Suspension and transport of disturbed sediments and displacement of aquatic biota from the vicinity of the Marblehead Station to the nearby Units is unlikely, considering the distances from the station. Therefore, the proposed dredging (both mechanical and enhanced) and construction-related activities are not expected to significantly impact any of these Units.

3.5 ARCHAEOLOGICAL, HISTORIC, AND CULTURAL RESOURCES

Late Prehistoric cultures lived in the river valleys at the western end of Lake Erie, and archaeologists working at sites in the region have found the remnants of a culture referred to as the "Sandusky." Based on artifacts from the sites, Early Sandusky (ca. AD 1000) people lived in villages where they fished, hunted, gathered plants, and grew some crops. They also moved to smaller camps when seasonal foods were available. By about AD 1400, Sandusky people lived in larger, more permanent villages. Farming was more important, especially the growing of beans. Depletion of soil and firewood required some or all

villagers to move. Thus, the Sandusky people spread across the western Lake Erie basin (Ohio Historical Society, 2007).

An important archaeological site was discovered in July 2003 in Danbury Township, across the Marblehead peninsula from the Marblehead Station on Sandusky Bay. Studies of artifacts from this site provide evidence for significant Late Archaic (prior to 1000 BC), Woodland (1000 BC to AD 1000), and Prehistoric (AD 1000 to 1500) occupations of this site (Redmond, 2006).

Prior to European settlement, the area was home to the Ottawa and Wyandot Indians. An east-west trail existed along the shore of Lake Erie. The area was in Indian control until after the War of 1812. (State of Ohio, 2007).

During the Civil War, Johnson's Island, which is part of Marblehead, housed a Northern prison camp for mainly Southern officers. Today, this site is a National Historic Landmark under the National Historic Preservation Act (NHPA) and is the focus of archaeological studies led by Heidelberg College's Center for Historic and Military Archaeology. There is important archaeological interest in the region not only onshore but offshore, due to the history of shipwrecks in Lake Erie. Confirmed shipwreck locations have been estimated at around 270 (Great Lakes Historical Society, 2007). The closest documented shipwreck, the sailing vessel *Exchange*, exists approximately 3.5 miles to the north of the Station, 200 feet off of the southwest shore of Kelley's Island (Wachter and Wachter, 2001).

Section 106 of the NHPA of 1966 (as amended) requires federal agencies to consider the impacts of their actions on historic properties and to seek comments from the SHPO and nearby Native American Tribes. Section 106 requirements are set forth in 36 CFR Part 800, and additional USCG compliance procedures are contained in Part D of COMDTINST M16475.1D.

3.5.1 Affected Environment

A lifesaving or Coast Guard station has existed at the Marblehead Station since 1876. The current station building was built in 1981 and is not eligible for inclusion on the National Register of Historic Places (NRHP). Three locations in Marblehead are listed in the NRHP, the closest property to the Marblehead Station being the First Congregational Church, 802 Prairie Street. This site is less than 0.25 mile from the Marblehead Station. In addition, the Lakeside Historic District, which comprises 1,600 acres and 766 buildings, is on the NRHP. The historic district begins approximately 0.5 miles from the Marblehead Station. The Alexander Clemons House is about 0.66 miles from the Marblehead Station, and the Marblehead Lighthouse, the oldest lighthouse in Ohio, is approximately 1.3 miles from the Marblehead Station.

In accordance with Section 106 of the NHPA, the USCG has contacted the State of Ohio Historic Preservation Office to determine the State's interest in the USCG harbor improvements at the Marblehead Station. The results of that communication are provided in Appendix A.

3.5.2 Environmental Consequences of Blasting and Mechanical Dredging

Although unlikely to be encountered, blasting and mechanical dredging of the harbor could yield artifacts of interest to archaeologists. In the event that artifacts are discovered during dredging, USCG would undertake actions to determine whether the artifacts were archaeologically significant including a temporary halt to dredging activities, as necessary.

Blasting using conventional explosives to loosen rock prior to dredging may result in shockwaves reaching nearby properties. Blasting will be conducted according to State of Ohio regulations for rock blasting (see Appendix C), which call for a series of test blasts and subsequent evaluations of any nearby damages to properties, and a survey of structures within the area of potential effect (APE), defined as 1,500 feet by the USCG. The intensity and frequency of blasting in the harbor would be carefully planned in order to protect nearby historic properties from damage. No significant effects to nearby historic properties or documented shipwrecks are expected. The related improvements to the harbor, including the temporary fuel station and the improvements to the dock, would not affect historic or cultural resources.

3.5.3 Environmental Consequences of Enhanced Dredging

The use of expansive agents to loosen underlying bedrock in the harbor would not produce any noise or significant shockwaves; therefore, no effects to nearby historic properties or are expected from their use. Subsequent dredging of bedrock along with other rock and sediments to deepen the harbor may yield cultural artifacts, as discussed in Sec. 3.5.2.

3.5.4 Environmental Consequences of No-Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no effects on historic or cultural resources.

3.5.5 Mitigation

The USCG has contacted the local government officials to inform the community about its plans to deepen the harbor by blasting and dredging in compliance with State of Ohio blasting regulations, and the possibility of using expansive agents. Concerns expressed by the public will be considered when

finalizing the plans for deploying the improvements to the harbor. As outlined in Section 208.14 of the Modified Rock Blasting Specifications, a Pre-Blast Condition Survey of structures within the Area of Potential Effect (1,500 feet from the Marblehead Station) would be conducted in order to evaluate the potential for damage to nearby structures from blasting. Under Section 106 of the NHPA, the Ohio Historic Preservation Office was contacted to provide comments to the USCG on its determination that the proposed project would not have an adverse effect to archaeological, historical, and cultural resources. The results of that communication are provided in Appendix A.

In the event that artifacts are discovered during dredging, the USCG would undertake actions to determine whether the artifacts were archaeologically significant including a temporary halt to dredging activities, as necessary.

3.6 RECREATIONAL RESOURCES/SECTION 4(F) ANALYSIS

Section 4(f) of the Department of Transportation (DOT) Act (49 USC 303), as referenced in COMDTINST M16475.1D, obligates the USCG to evaluate whether any proposed program or project would require the use of any publicly owned land from a public park, recreation area, wildlife or waterfowl refuge of national, state, or local significance, land from an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and the project includes all possible planning to minimize harm resulting from its use. The “use” of any publicly owned land has been expanded to also include consideration of whether the enjoyment or value of such nearby properties, as described above, would be diminished by the proposed action.

3.6.1 Affected Environment

The proposed improvements to the Marblehead Station harbor would occur in and alongside a harbor adjacent to federal property that is not specifically used as a park or for recreation, is not listed on the National Register of Historic Places, and is not a wildlife or waterfowl refuge. The Marblehead Station is, however, across from a municipal park, James Park, which would be within the 1,500-ft APE for the proposed action. In addition, the waters off the Marblehead peninsula are widely used by recreational boaters, fishermen, etc. The area nearby the Marblehead Station includes East Harbor State Park, the Mazurik State Fishing Access, and the athletic fields for Danbury High School; however, these state and municipal facilities are outside the 1,500-ft APE for the proposed action.

3.6.2 Environmental Consequences of Blasting and Mechanical Dredging

Noise associated with blasting, dredging, and dump trucks, and other vehicular traffic would be heard by users of James Park. This noise is expected to be intermittent, and no significant impacts are anticipated

particularly if the harbor improvements are conducted during fall, winter, or spring of the year when there would be fewer park visitors compared with summer recreational use of James Park by residents and tourists.

Recreational boaters and fishermen may be able to view and hear the noise from blasting and dredging depending on their distance from the harbor. The noises from blasting and dredging would dissipate rapidly, and no significant impacts are anticipated.

3.6.3 Environmental Consequences of Enhanced Dredging

The potential use of expansive agents to loosen underlying bedrock would have no effect on recreational activities.

3.6.4 Environmental Consequences of No Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to recreation.

3.6.5 Mitigation

The USCG would notify the Village of Marblehead government about its schedule for the proposed improvements to the Marblehead Station harbor in order to alert the citizenry about the noises associated with blasting and dredging. These communications should ensure that no persons using James Park or recreational boaters or fishermen would be affected by sudden noises.

3.7 WILD AND SCENIC RIVERS

The National Wild and Scenic River System was created by the Wild and Scenic Rivers Act (PL 90-542, 16 USC 1271 et seq.) to preserve select rivers having outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural or other important values in free-flowing condition. Rivers in this national system are protected for the benefit and enjoyment of present and future generations (National Wild and Scenic Rivers System, 2007).

No Wild and Scenic River as defined by the Wild and Scenic Rivers Act exists in the vicinity of the Marblehead Station, with the nearest federally protected river being the Big and Little Darby Creeks located approximately 100 miles south from Marblehead. The State of Ohio pioneered the river preservation movement in 1968 with the passage of the nation's first scenic rivers act, which affords protection to Ohio's remaining high quality streams and rivers. The nearest State of Ohio protected river is

the Sandusky River, which empties into the southwest corner of Sandusky Bay near Fremont, Ohio, approximately 25 miles from Marblehead.

Because of the distance from Marblehead to the nearest protected wild and scenic rivers, the proposed improvements to the Marblehead Station harbor would have no effect on federal- or state-protected wild and scenic rivers.

3.8 SOCIOECONOMIC ENVIRONMENT AND ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to examine the potential for their actions to adversely affect the human health and environment of minority and/or low-income communities (EO 12898, July 14, 1982; 24 CFR § 58.15).

Table 3-1 presents general demographic data for the State of Ohio, Ottawa County, Township of Danbury, and Village of Marblehead. Population figures available for Marblehead in the census data do not reflect the substantial increases in population throughout the Marblehead peninsula during the summer months.

Marblehead, Ohio, had a total available labor force of 379 with an unemployment rate of 4.2 percent at the time of the 2000 Census. Census 2000 data for Ottawa County show an unemployment rate of 2.6 percent (U.S. Bureau of the Census, Census 2000, 2007). Tourism factors greatly into the Marblehead peninsula economy and Census 2000 figures may not reflect seasonal increases in employment. Permanent residents of Marblehead had a per capita income in 2000 of \$26,184, with 4.7 percent of the population below the poverty level. This compares to per capita income in 2000 for the Township of Danbury of \$27,945 with 3.7 percent of the population below poverty level, and a per capita income for Ottawa County of \$21,973, with 5.9 percent of the population below poverty level. For the state of Ohio, per capita income was \$21,003 in 2000, with 10.6 percent of the population below the poverty level in 1999 (US Bureau of the Census, Census 2000, 2007).

3.8.1 Environmental Consequences of Blasting and Mechanical Dredging

No businesses or residences would be relocated in order to complete the proposed dredging and other improvements at the Marblehead harbor. Dredging and construction activities would generate a short-term increase in the local economy due to construction-period expenditures and the employment of construction contractors. The economic growth would be beneficial but not significant.

After the harbor improvements are complete, the USCG would continue to operate the harbor facilities. The number of persons employed by the USCG would not increase. In the long term, the proposed improvements to the harbor would have little socioeconomic impact on the community. No changes in the demand for local fire, police, rescue, medical, educational, or recreational facilities or housing would occur.

Comparison of the population, employment, income, and poverty data for the State of Ohio, Ottawa County, the Township of Danbury, and the Village of Marblehead shows that implementation of the proposed action would occur in an area with extremely low minority populations; low rates of unemployment; average per capita income; and a low percentage of persons living in poverty. The proposed harbor improvements would not result in the displacement of any existing or planned development. No residences or businesses would be relocated. Thus, the proposed improvements to the harbor would cause minimal socioeconomic impacts overall and would not result in disproportionately high and adverse environmental impacts on minority and/or low income populations of the area.

3.8.2 Environmental Consequences of Enhanced Dredging

Enhanced dredging using expansive agents to loosen bedrock would have no additional effect on the socioeconomic or environmental justice impacts of this project as described in Sec. 3.8.1.

3.8.3 Environmental Consequences of No-Action

Under the no-action alternative, the proposed improvements to the harbor at the Marblehead Station would not occur; therefore, there would be no changes to the regional economy and population, and no environmental justice impacts.

3.8.4 Mitigation

None required.

TABLE 3-1

GENERAL DEMOGRAPHICS FOR THE STATE OF OHIO, OTTAWA COUNTY,
TOWN OF DANBURY AND VILLAGE OF MARBLEHEAD

	STATE OF OHIO ¹	OTTAWA COUNTY ²	TOWN OF DANBURY ³	VILLAGE OF MARBLEHEAD ⁴
Total population	11,353,140	40,985	4631	762
White	9,645,453 (85%)	39,576 (96.6%)	4521 (97.6%)	746 (97.9%)
Black or African American	1,301,307 (11.5%)	265 (0.6%)	21 (0.5%)	2 (0.3%)
American Indian and Alaska Native	24,486 (0.2%)	85 (0.2%)	19 (0.4%)	2 (0.3%)
Asian	132,633 (1.2%)	94 (0.2%)	7 (0.2%)	2 (3%)
Native Hawaiian and Other Pacific Islander	2749 (<0.1%)	20 (<0.1%)	2 (<0.1%)	0 (0%)
Two or more races	157,885 (1.4%)	356 (0.9%)	26 (0.6%)	5 (0.7%)
Some other race	128,671 (1.1%)	589 (1.4%)	35 (0.8%)	5 (0.7%)
Hispanic or Latino (of any race)	217,123 (1.9%)	1,535 (3.7%)	77(1.7%)	11 (1.4%)

¹ US Census (2000), "Table DP-1. Profile of General Demographic Characteristics: 2000; Geographic Area: Ohio"

² US Census (2000), "Census 2000 Demographic Profile Highlights: Ottawa County, Ohio"

³ US Census (2000), "Table DP-1. Profile of General Demographic Characteristics: 2000, Geographic Area: Danbury, Ohio"

⁴ US Census (2000), "Table DP-1, Profile of General Demographic Characteristics: 2000, Geographic Area: Marblehead Village, Ohio"

4.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The proposed improvements to the Marblehead Station harbor would be conducted over a period of approximately 75 days, during which time there would be a temporary change in the visual setting of the Marblehead Station. The dredging activity associated with the proposed improvements, construction activities associated with the dock, and temporary changes to the fuel distribution system would not be out of character with the operations of the Marblehead Station. No sensitive visual resources are anticipated to be affected. Dredge spoils and other solid waste generated during the project would be handled and disposed of in accordance with state and federal laws, regulations, and guidelines governing waste transportation and disposal. Explosive materials and any other hazardous materials use, handling, and storage would be managed in accordance with state and federal laws and regulations governing those materials, thereby lowering the risk of impacts.

There are no other known developments or projects expected to occur affecting the environment at the Marblehead Station. As shown in Section 3.0, the direct and indirect impacts of implementing the preferred alternative would not significantly impact the environment. Implementation of the Preferred Alternative would not create additional environmental impacts except those that would be temporary, of short duration, and would no longer occur after the proposed project was completed. Thus, no cumulative impacts to any impact categories discussed in this EA would be expected to occur from the Preferred Alternative, both present and future. There would be no significant environmental consequences or cumulative impacts from the proposed harbor improvements to air quality; biological resources; coastal resources; cultural and historic resources; farmlands; fish, wildlife, and plants; floodplains and wetlands; drainage and water resources; geology and soils; land use; noise levels; recreational resources; socioeconomics and environmental justice concerns; solid and hazardous waste management; transportation; water quality; and wild and scenic rivers.

Appropriate mitigation actions to avoid potential, temporary adverse environmental effects during construction have been identified and would be employed as appropriate. No impacts to the environment are expected to remain after completion of the harbor improvements specified in the Preferred Alternative.

5.0 SUMMARY OF MITIGATION AND REGULATORY REQUIREMENTS

The following mitigation actions and regulatory requirements apply to the USCG's Preferred Alternative to dredge and undertake other related improvements to the Marblehead Station harbor.

5.1 MITIGATION ACTIONS

Mitigation # 1

The USCG would provide a floating turbidity curtain across the basin entrance prior to construction, blasting, or dredging. This floating turbidity curtain would serve to limit the area of turbid water and would also act as a barrier to fish and other waterborne wildlife potentially entering the area of disturbance.

Mitigation # 2

The USCG contractor would use best management practices, as needed, to prevent erosion and sedimentation of soils into Lake Erie from construction staging areas.

Mitigation # 3

The USCG and its contractors would use Modified Rock Blasting Specifications (see Appendix C) to implement the blast dredging operations. The following mitigation measures specified in the Modified Rock Blasting Specifications will be employed:

- a) Per Sections 208.15 and 208.16 of the State of Ohio Modified Rock Blasting Specifications (see Appendix C), the USCG will employ a specialist qualified in making airblast overpressure measurements and noise control measurements on selected detonations, analyzing the results obtained and making airblast predictions for succeeding detonations, which would not exceed 0.02 psi at the nearest structure or vessel.
- b) In accordance with the Modified Rock Blasting Specifications Section 208.07, a Test Blast Program would be conducted for up to three individual test blasts. The purpose of the test program would be to allow the USCG to establish safe limits of vibration and airblast overpressure. The test blast program would be conducted and reported in strict accordance with procedures outlined in Sections 208.15 and 208.16 of the Modified Rock Blasting Specifications covering vibration control and airblast control. Upon evidence of any damage to test structures, test blasting would cease until the USCG COTR was notified, and adjustments made. The test events would begin with a small number of charges and extend upward to the maximum yield to

be used. The final test event would simulate as close as practicable the explosive charge type, size, overlying water depth, charge configuration, charge separation, initiation methods, and emplacement conditions anticipated for the largest detonations.

- c) Blasting for the proposed dredging project could produce seismic effects, but would be limited to a peak particle velocity of 0.5 inches per second as outlined in Section 208.15 (Vibration Control and Monitoring) of the State of Ohio Modified Blasting Specifications (see Appendix C).
- d) To further mitigate the potential effects of turbidity caused by dredging and blasting, and in addition to the floating turbidity curtain, an experienced hydrologist would be hired by the contractor to monitor water supplies and local water conditions with duties and responsibilities as outlined in the Modified Rock Blasting Specifications Section 208.17.
- e) As outlined in Section 208.14 of the Modified Rock Blasting Specifications, a Pre-Blast Condition Survey of structures within the Area of Potential Effect (1,500 feet from the Marblehead Station) would be conducted in order to evaluate the potential for damage to nearby structures from blasting.

Mitigation # 4

During construction activities, harbor improvement contractors would comply with all applicable federal and state laws on noise abatement. To help limit noise during construction and transportation, contractors must have exhaust mufflers on their equipment as required by law. Hours of construction and dredging activity are expected to be concurrent with Marblehead Station hours.

Mitigation # 5

To further mitigate potential effects of noise, the USCG will advise the Village of Marblehead government regarding the scheduling of the proposed improvements to the harbor, so that local residents, especially visitors to James Park and recreational fishermen, will not react negatively to sudden noises from blasting and/or dredging.

Mitigation # 6

An SPCC plan dated August 2005, as required by USEPA regulations (40 CFR 112), was prepared for the Marblehead Station to prevent oil spills from occurring and to ensure safe, efficient, and timely responses in the unlikely event of an oil spill or leak. The SPCC Plan will be modified to account for the

temporary fueling systems. Any accidents resulting in a substantial release of petroleum products would be cleaned up according to the SPCC Plan or the Contractor's Spill Response Plan.

Mitigation # 7

Should it be necessary for the work to be conducted in the spring of a year, the USCG would reapply to the ODNR for an exemption to the moratorium on in-water work as was previously granted for the spring of 2007. The in-water work would be completed as early in the waived moratorium period as possible to minimize disruptions to yellow perch and small mouth bass spawning. Small testing detonation charges would effectively drive fish and other aquatic biota from the area of impact before full-scale blasting would occur. The blasting plan will also be designed to protect aquatic organisms.

Mitigation # 8

The USCG contractor will ensure all aquatic equipment, (e.g., barges, curtains, diving gear) would be washed prior to use and prior to leaving the site to prevent the spread or introduction of invasive species as defined by EO 13112.

Mitigation # 9

In the event that artifacts are discovered during dredging, the USCG would undertake actions to determine whether the artifacts were archaeologically significant including a temporary halt to dredging activities, as necessary.

Mitigation #10

Based on a recommendation from the United States Department of the Interior Fish and Wildlife Service, the USCG will actively monitor for the presence of the Lake Erie watersnake during blasting/construction if construction occurs during the warm weather months (i.e., from June through September). (Please see Appendix A, Enclosure No. 3)

Mitigation #11

Based on a request from the Village of Marblehead, the USCG will notify Mr. Robert Biers (Chief Operating Engineer and Superintendent, Village of Marblehead Water Treatment Plant) three days prior to commencement of field work for the project. (Please see Appendix A, Enclosure No. 4).

5.2 REGULATORY REQUIREMENTS

Local

There are no known local requirements affecting the Preferred Alternative.

State

State of Ohio Modified Rock Blasting Specifications will be followed during the duration of this project (see Appendix C).

Federal

This Environmental Assessment evaluates by section the applicability of federal environmental regulatory requirements and Executive Orders pertaining to air, water, noise, biota, floodplains, wetlands, coastal zone, waste management, transportation, and cultural and historic resources, etc. Compliance with these regulatory requirements are a requirement of contractors working on behalf of the USCG on this project.

In addition, the Bureau of Alcohol, Tobacco, and Firearms (ATF) has enforcement, inspection, and investigative jurisdiction in all matters pertaining to explosives. The contractor for the harbor improvements must notify the appropriate office of ATF in writing with copies to the local law enforcement authority and the USCG contracting officer as to all related facilities, plans and procedures, prior to construction of explosives storage facilities, if any, or receipt of explosives on the site. All transportation, storage, handling, and security of explosives will be in strict accordance with ATF regulations. Specific federal regulations to which the contractor for the harbor improvements must comply are found in the State of Ohio Modified Rock Blasting Specifications found in the Appendix C.

An SPCC plan dated August 2005, as required by USEPA regulations (40 CFR 112), was prepared for the Marblehead Station to prevent oil spills from occurring and to ensure safe, efficient, and timely responses in the unlikely event of an oil spill or leak. The SPCC Plan will be modified to account for the temporary fueling systems. Any accidents resulting in a substantial release of petroleum products would be cleaned up according to the SPCC Plan or the Contractor's Spill Response Plan.

Under Section 106 of the NHPA, the Ohio Historic Preservation Office provided comments to the USCG on its determination that the proposed project would not have an adverse effect to archaeological, historic, or cultural resources. Those comments are provided in Appendix A of this EA.

On October 10, 2006, the USCG applied for a permit under Section 404 of the CWA from the USACE to dredge the boat basin. The USACE has indicated to the USCG that it expects to issue a Letter of

Permission (Permit 07-0066) modifying the existing USCG Dredging Project permit for the Marblehead Station [DA Permit 1999-00817(1)].

6.0 PUBLIC INVOLVEMENT

During the preparation of this EA, the USCG consulted with a number of federal, state and local agencies and organizations (see Section 9). The USCG engaged in a dialogue with the Village of Marblehead government to inform the local community about its plans to dredge the harbor and to make other related improvements at the Marblehead Station associated with the proposed project. The USCG published the Draft EA and issued it to the coordinating agencies listed in Chapter 9.0 and the affected public for review. The USCG placed copies of the Draft EA for public viewing at the Village of Marblehead offices at 513 West Main Street, Marblehead, Ohio 43440. A public notice was placed in the *Port Clinton News Herald* and the *Peninsula News* on October 26, 2007, to inform the community about the availability of the Draft EA. Coordinating agencies and the public were provided a 30-day review and encouraged to provide comments. All comments received from the coordinating agencies and the public are presented in Appendix A.

As provided by NEPA, Council on Environmental Quality (CEQ) Regulations 40 CFR 1501.4(e)(2), and as referenced in COMDTINST M16475.1D, the expected Finding of No Significant Impact (FONSI) for the Preferred Alternative will be made available for public review for a period of not less than 30 days before the final determination is made and the action is implemented. The USCG will complete any necessary consultations and will receive any necessary permits during this period. The USCG will not initiate any construction activities until the environmental review process for the dredging and other proposed improvements to the Marblehead Station harbor has been completed.

7.0 CONCLUSION

This EA document examines alternatives to and the potential for proposed improvements to the harbor at the USCG Station, Marblehead (Ohio), to result individually or cumulatively in significant impacts on the environment. During the development of this document, the USCG conformed to procedural and technical requirements set forth in the National Environmental Policy Act (NEPA), 42 USC §4332(2)(C), USCG Commandant Instruction M16475.1D, *National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts*, and DHS MD 5100.1, *Environmental Planning Program*.

The USCG evaluated several alternatives for the dredging of the harbor and for other related improvements. Based on the detailed analysis contained in this EA, all projected environmental impacts can be avoided or reduced to insignificant levels through application of the mitigation measures described in this document. As a result, the USCG finds that implementation of the proposed action would not cause significant changes in the quality of the human environment, and a Finding of No Significant Impact (FONSI), as described in Section 2(B)(4) of COMDTINST M16475.1D, is warranted and is included with this EA. When issued, the FONSI will formalize the USCG's plans to dredge and make other related improvements to the USCG Station, Marblehead, harbor.

8.0 REPORT AUTHORS AND QUALIFICATIONS

This Environmental Assessment was developed and prepared by Tetra Tech NUS, Inc., Germantown, Maryland, and Pittsburgh, Pennsylvania. The following staff contributed to the production of this document:

Doub, Peyton, M.S., botany, University of California at Davis; B.S., plant sciences, Cornell University; 17 years of experience in environmental science, environmental planning, and natural resource management. Mr. Doub served as a contributing author of this environmental assessment.

Griben, Mic, M.S., natural resources management, University of Washington; B.S., Marine Science, Southampton College of Long Island University; over 30 years of experience in the environmental and technology services industries both domestically and internationally. Mr. Griben served as technical reviewer of this environmental assessment.

Poles, James S., M.E.M., environmental management, Duke University; B.A., economics, Duke University; 20 years experience in providing federal environmental regulatory development and compliance. Mr. Poles served as a contributing author of this environmental assessment.

Sinagoga, Leeann, M.S., environmental chemical hazard assessment, University of Pittsburgh; B.S., biological science; 27 years of experience as a risk assessment specialist and chemist/toxicologist. Ms. Sinagoga served as Project Manager for this environmental assessment.

Smith, Preston, M.S. (expected), environmental science, Wright State University; B.S. biology (environmental science); University of Pittsburgh; 3 years of experience in aquatic toxicology and laboratory management. Mr. Smith served as a contributing author of this environmental assessment.

9.0 AGENCIES AND PERSONS CONTACTED

The U.S. Coast Guard or its representatives contacted the following agencies/individuals by letter, electronic mail, telephone, or in-person during the preparation of this document:

Federal Agencies:

Mr. Allen Sisselman
U.S. Army Corp of Engineers
Buffalo District, Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207-3199

Mr. Richard J. Ruby
U.S. Army Corps of Engineers
Buffalo District
Attn: Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207-3199

Ms Courtney Williamson
US Fish and Wildlife Service
Reynoldsburg Ecological Services Field Station
6950 Americana Parkway
Suite H
Reynoldsburg, Ohio 43068-4127

Mr. J. Franklin (CW03)
U.S. Coast Guard Marblehead Station
606 Prairie St
Marblehead, Ohio 43440

Mr. Frank Blaha
U.S. Coast Guard
Civil Engineering Unit Cleveland
1240 East Ninth Street, Room 2179
Cleveland, Ohio 44199-2060

State Agencies:

Mr. Mark J. Epstein, Department Head
Ohio Historic Preservation Office
Resource Protection and Review
567 East Hudson Street
Columbus, Ohio 43211-1030

Ms. Vickie Deisner
(Contact and Clearinghouse for ODNR Divisions)
Environmental Administrator
Division of Real Estate & Land Management
Ohio Department of Natural Resources
2045 Morse Rd., C4
Columbus, Ohio 43229-6693

Ohio Department of Natural Resources
Office of Coastal Management
105 W. Shoreline Drive
Sandusky, Ohio 44870

Ohio Department of Natural Resources
Division of Geological Services
2045 Morse Road, Building C1
Columbus, Ohio 43229-6693

Ohio Department of Natural Resources
Division of Natural Areas and Preserves
2045 Morse Road
Building F1
Columbus, Ohio 43229-6693

Mr. David M. Graham, Chief
Ohio Department of Natural Resources
Division of Wildlife
2045 Morse Road
Building G
Columbus, Ohio 43229-6693

Local Agencies:

Ms. Kimberly A. Watts
Village of Marblehead, Fiscal Officer
513 W. Main St.
P.O. Box 306
Marblehead, Ohio 43440

Mr. Todd Bickley
Ottawa Regional Planning Commission, Assistant Director of Planning
315 Madison Street – Room 107
Port Clinton, Ohio 43452

Ms. Debbie Redmond,
Ottawa County Health Department
1856 E. Perry Street
Port Clinton, Ohio
43452-1991

Mayor Jacqueline A. Bird
Village of Marblehead
513 W. Main Street
Marblehead, Ohio 43440

Mr. Robert Biers
Plant Superintendent
Village of Marblehead Water Department
Marblehead, Ohio 43440

Mr. Hal Clagg
Chairman of the Zoning Commission
Village of Marblehead
Marblehead, Ohio 43440

Mr. Bob Hruska
Zoning Inspector
Village of Marblehead
Marblehead, Ohio 43440

10.0 REFERENCES

Benson, A. J. and D. Raikow, 2007. *Dreissena polymorpha*. USGS Nonindigenous Aquatic Species Database, Gainesville, FL,

<http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=5>>Revision Date: 1/10/2007. 1/10/2007.

Bur, M., Stapanian, M., Kocovsky, P., Edwards, W., and Jones, J., 2006. Surveillance and Status of Fish Stocks in Western Lake Erie, 2005. US Geological Survey.

Cowardin, L.M., V.Carter, F.C.Golet, E.T. LaRoe.1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.htm> (Version 04DEC98).

Cudmore-Vokey, B and Crossman, E., 2000. Checklist of the Fish Fauna of the Laurentian Great Lakes and Their Connecting Channels. Great Lakes Fishery Commission. December.

EDR (Environmental Data Resources), 2007. EDR NEPACheck® Natural Areas Map and Findings for US Coast Guard Station Marblehead, 606 Prairie Street, Marblehead, OH 43440. Inquiry Number: 02014220.1r. August 24, 2007.

Environmental Laboratory, 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1.

Graham, G., N'Jie, N., and Brown, L., 1998. Water Resources of Ottawa County. AEX-480.62-98. Ohio State University Extension.

Great Lakes Historical Society, 2007. [Peachman Lake Erie Shipwreck Research Center](http://www.inlandseas.org/plesre/index.html). Inland Sea Maritime Museum. Accessed on October 4, 2007. Available at <http://www.inlandseas.org/plesre/index.html>.

Keevin, T. and Hempen, G., 1997. The Environmental Effects of Underwater Explosions with Methods to Mitigate Impacts. US Army Corps of Engineers. August.

National Wild and Scenic Rivers System, 2007. Wild and Scenic Rivers by State. Available at <http://www.rivers.gov/wildriverslist.html#oh>. Accessed on September 13.

NOAA (National Oceanic and Atmospheric Administration). 2007. Tides and Currents Online Data for Station 9063079, Marblehead, Ohio. Available at

http://tidesandcurrents.noaa.gov/station_info.shtml?stn=9063079%20Marblehead,%20OH

ODNR, 1986. Ground-Water Resources of Ottawa County Map. Available at
<http://www.dnr.state.oh.us/tabid/3695/default.aspx>. Accessed on September 24, 2007.

ODNR, 2007a. The Ohio Coastal Atlas. Office of Coastal Management. Available at
<http://www.dnr.state.oh.us/tabid/9351/default.aspx>. Accessed September 7.

ODNR, 2007b. The Ohio Seismic Network. Division of Geological Survey.
<http://www.dnr.state.oh.us/ohioseis/default/tabid/8144/Default.aspx>. Accessed September 7.

ODNR, 2007c. Ohio's State Scenic Rivers. Available at
http://www.dnr.state.oh.us/Home/rivers/scenic_rivers_main/tabid/985/Default.aspx. Accessed on
September 13.

ODNR, 2007d. Ohio's Lake Fisheries 2006. Lake Erie Fisheries Unit. Division of Wildlife.

Ohio Historical Society, 2007. Historic American Indian Tribes of Ohio, 1654-1843. Ohio Historical Society website.

State of Ohio, 2007. Information obtained from www.ohiohistorycenter.org

Redmond, 2006. "Saving the Danbury Site: Investigation of Woodland to Late Prehistoric Settlement and Mortuary Behavior Along the Lake Erie Shore," Ohio Archaeological Council website. Article dated February 26, 2006.

TTL Associates, Inc., 2007. Geotechnical Subsurface Investigation Proposed Telecommunication Tower U.S. Coast Guard Station Marblehead, Ottawa County, Ohio. Letter to Mike Byers, Tower Inspection Inc., dated April 24.

University of Wisconsin Sea Grant Institute, 2007. Sea Lamprey Fact Sheet. Available at
<http://www.seagrant.wisc.edu/greatlakesfish/sealamprey>.

U S Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

U.S. Census Bureau, Census 2000. Data retrieved from the internet, September 2007.

U.S. EPA. (U.S. Environmental Protection Agency), 1977. Noise: A National Strategy for Noise Control. Office of Noise Abatement Control.

U.S. EPA (U.S. Environmental Protection Agency), 2006. Lake Erie Lakewide Management Plan Report. Available at <http://www.epa.gov/glnpo/lakeerie/2006update/index.html>.

USFWS (U.S. Fish and Wildlife Service), 2007. 50 CFR Part 17 Endangered and Threatened Wildlife and Plants; Removing the Bald Eagle in the Lower 48 States From the List of Endangered and Threatened Wildlife; Final Rule; Endangered and Threatened Wildlife and Plants; Draft Post-Delisting and Monitoring Plan for the Bald Eagle (*Haliaeetus leucocephalus*) and Proposed Information Collection; Notice. *Federal Register*. Volume 72(130): 37346-37372. July 9, 2007.

USFWS (U.S. Fish and Wildlife Service), 2003. Lake Erie Watersnake (*Nerodia sipedon insularum*) Recovery Plan. U. S. Fish and Wildlife Service, Fort Snelling, MN. 111 pp.

USFWS (U.S. Fish and Wildlife Service), 1997. Species fact sheet for lakeside daisy (*Hymenoxys acaulis* var. *glabra*), Region 3, Endangered Species Division, Fort Snelling, Minnesota. Available at <http://www.fws.gov/midwest/endangered/plants/lakeside.html>.

Village of Marblehead, 2007. <http://www.marbleheadvillageohio.com/about.html>. accessed August 24

Wachter, G. and Wachter, M. 2001. Erie Wrecks West: A Guide to Shipwrecks of Western Lake Erie. Corporate Impact. Avon Lake, Ohio.

Westbrooks, R. G. 1998. Invasive Plants: Changing the Landscape of America. Federal Interagency Committee for the Management of Noxious and Exotic Weeds. pp. 1-9, 57-59, 65-66. Washington, D. C. Available at <https://www.denix.osd.mil/denix/Public/ES-Programs/Conservation/Invasive/intro.html>

Wisconsin Sea Grant, 1997. What is a Seiche? Available at <http://www.seagrants.wisc.edu/communications/lakelevels/seiche.htm>.

APPENDIX A

PUBLIC AND AGENCY COMMENTS ON DRAFT EA

APPENDIX A ENCLOSURES

The following enclosures present the text of the public notice of availability for the Draft Environmental Assessment (EA) for Dredging of Port Facilities at the United States Coast Guard Station – Marblehead Ohio as well as all communication received from coordinating agencies and the public regarding the Draft EA:

- **Enclosure No. 1 – Notice of Availability of an Environmental Assessment for Dredging of Port Facilities, U.S. Coast Guard, Marblehead Ohio.** The notice was published in the *Port Clinton News Herald* and the *Peninsula News* on October 26, 2007. The public comment period commenced on October 26, 2007 and concluded on November 26, 2007.
- **Enclosure No. 2 –**

Correspondence from the Ohio Historic Preservation Office to the U.S. Coast Guard dated November 19, 2007. The OHPO concluded that "...no historic properties will be affected by the proposed construction. No further coordination is required unless the scope of the project changes or properties are accidentally discovered." No further response/action required.

Correspondence from the U.S. Coast Guard to the Ohio Historic Preservation Office dated September 17, 2007. The USCG concluded "...that the proposed project will not have an adverse effect to an historic property. Therefore, the USCG is not intending to initiate further consultation under Section 106 of the National Historic Preservation Act."
- **Enclosure No. 3 – Correspondence from the U.S. Department of the Interior Fish and Wildlife Service to U.S. Coast Guard dated November 27, 2007.** The USFWS recommended that the U.S. Coast Guard coordinate with the Ohio Department of Natural Resources (ODNR) regarding the Lake Erie water snake. The USFWS further recommended that during warm weather months (i.e., from June through September) the construction site be actively monitored for snakes before and during construction by an individual who can identify a Lake Erie water snake. Per Electronic mail (E-mail) correspondence included as Enclosures No. 5 and No. 7, the U.S. Coast Guard has coordinated with the ODNR regarding species potentially impacted by the proposed project. As noted in Enclosures No. 5 and No. 7, the ODNR has no specific recommendations regarding the Lake Erie water snake. As recommended by the USFWS, the U.S. Coast Guard will actively monitor for the presence of the Lake Erie water snake before and during construction (if the construction occurs from June through September).
- **Enclosure No. 4 – Telephone conversation (November 30, 2007) between the Village of Marblehead and the U.S. Coast Guard.** The Mayor of the Village of Marblehead indicated that the Village would not be providing comments on the Draft EA and requested that the U.S. Coast Guard advise Mr. Robert Biers, Chief Operating Engineer and Superintendent, Village of Marblehead Water Treatment Plant, three days prior to commencement of field work. The Coast Guard will notify Mr. Biers as requested.
- **Enclosure No. 5 – Electronic Mail Correspondence from the ODNR to U.S. Coast Guard dated December 13, 2007.** The ODNR indicated that the Agency's Division of Natural Areas and Preserves, Natural Heritage Database contains no records of rare species or unique natural features within the proposed project and there are no state nature preserves, state parks, wildlife areas, or scenic rivers in the vicinity of the site. No further response/action required.

- **Enclosure No. 6 - Correspondence from the Ohio Department of Natural Resources to the U.S. Coast Guard dated December 13, 2007.** The ODNR concluded that “the proposed project is consistent with the enforceable policies of the Ohio Coastal Management Program, on the condition that any required State of Ohio authorizations are obtained for the project”. No further response/action required.
- **Enclosure No. 7 – Electronic Mail Correspondence from the ODNR to U.S. Coast Guard dated January 2, 2008.** The ODNR concluded that “Due to the location of this project, the type of work proposed, and location where Lake Erie water snakes have been found in Ohio, the ODNR, Division of Wildlife believes this project is not likely to have an impact on the Lake Erie water snake.” No further response/action required.

Enclosure 1

- Public Notice of Availability of Environmental Assessment (10.26.07)

DEPARTMENT OF HOMELAND SECURITY

United States Coast Guard

Notice of Availability of an Environmental Assessment for Dredging of Port Facilities, U.S. Coast Guard Station, Marblehead, Ohio

AGENCY: U.S. Coast Guard (USCG), DHS

ACTION: Notice of Availability and Public Comment Period

SUMMARY: The USCG has prepared a Draft Environmental Assessment (EA) for its proposed dredging of port facilities and related improvements at the USCG Station, Marblehead, Ohio. The proposed improvements are necessary because the existing harbor is not sufficiently deep to service the watercraft utilized by the Station to provide for maritime safety. The EA addresses the potential environmental effects of a Preferred Alternative and other options. Under the Preferred Alternative, the USCG would dredge an area that is approximately 135 feet long, 120 feet wide on the north end, and 45 feet wide on the south end. The proposed improvements would be completed in calendar year 2008. The project would include modifications to the east haul-out dock, installation/utilization of a temporary fuel system during project implementation for a period of six weeks, fracturing of bedrock using drilling, blasting, and the dredging of bedrock and minor overburden.

In accordance with the National Environmental Policy Act, as amended (NEPA), 42 U.S.C. 4332 (2)(C), the USCG prepared this Draft EA to determine whether this project would have a significant impact on environmental quality. The USCG would like to make this Draft EA available for review by the public for 30 day period. The USCG encourages the public and interested parties to provide comments regarding this Draft EA. The USCG will review and consider all public comments before the final determination is made and the action is implemented. Comments regarding the Draft EA should be mailed to Mark A. Lamb, Environmental Specialist, United States Coast Guard, CEU Cleveland (ER), 1240 East Ninth Street, Room 2179, Cleveland, OH 44199-2060.

DATES: Comments must be received on or before November 26, 2007.

ADDRESSES: The Draft EA will be available for public review on Friday, October 26, 2007, at the Village of Marblehead Business Office, 513 West Main Street, Marblehead, Ohio 43440. Individual copies of the Draft EA can be ordered by contacting Mark A. Lamb, Environmental Specialist, United States Coast Guard, CEU Cleveland (ER), 1240 East Ninth Street, Room 2179, Cleveland, OH 44199-2060.

Issued in Cleveland, Ohio, on October 22, 2007.

G.S. Placzek, P.E.
Technical Director, Civil Engineering Unit
By direction of the Commanding Officer

Enclosure 2

- U.S.C.G Correspondence to Ohio Historic Preservation Office (9.17.07)
- Ohio Historic Preservation Office Response (11.19.07) to U.S.C.G Correspondence of 9.17.07

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Tuesday, November 27, 2007 8:18 AM
To: Sinagoga, Lee Ann
Cc: Poles, Jim
Subject: RE: Marblehead

Attachments: ✓ OH SHPO Ltr to USCG Sta Marblehead 11-19-07.pdf



OH SHPO Ltr to
USCG Sta Marble..

Lee Ann

Attached is the OH SHPO response. On 11-21 I received a call from Jenny Finfera of USFWS about the EA. She was reviewing the document and asked me what expansive agents were? I told her I didn't know all the different types of agents but I thought that grout would be one. She asked how they worked underwater. I told her that our conclusion was that they wouldn't work very well under the conditions of our project and that was presented in the EA. She asked when the project would be conducted. I told her probably next fall and she was happy to hear that. I said there was a possibility of in the spring but that would be with ODNR approval and receipt of an ODNR exemption to the spring moratorium with a restricted window..... She didn't think there were any serious issues and she said they were preparing a response.
Mark

-----Original Message-----

From: LeeAnn.Sinagoga@tetrattech.com [mailto:LeeAnn.Sinagoga@tetrattech.com]
Sent: Monday, November 26, 2007 12:59 PM
To: Lamb, Mark
Cc: Poles, Jim
Subject: Marblehead

Mark,

Did any comments come in for the EA for Marblehead?? Please let me know when we can move forward on the finalization of the EA and the prep of the FONSI.

Thanks for your time and support,

Lee Ann

Lee Ann Sinagoga | Project Manager/Risk Assessor
Direct: 412.921.8887 | Main: 412.921.7090 | Personal Fax: 412.921.4040
leeann.sinagoga@ttnus.com

Tetra Tech NUS, Inc. | Chemistry and Risk Assessment
661 Andersen Drive Foster Plaza No. 7 | Pittsburgh, PA 15220 | www.tetrattech.com
<file://www.tetrattech.com>

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

[Handwritten signature]
11/24



November 19, 2007

G.S. Placzek
United States Coast Guard
1240 E. Ninth Street
Room 2179
Cleveland, Ohio 44199-2060

Dear Mr. Placzek:

Re: Improvements to USCG Station Marblehead, Marblehead, Ohio

This is in response to your letter of September 17, 2007 concerning the proposed project. Our comments submitted in accordance with the provisions of Section 106 of the Historic Preservation Act (36 CFR 800).

Your documentation indicates that there is one historic property (the First Congressional Church, 802 Prairie Street) in the area of potential effects but that it is not eligible for inclusion on the National Register of Historic Places. It is actually listed on the National Register of Historic Places. A check of our records shows a number of other inventoried buildings in the area of potential effects (see blue squares on the enclosed map). For future projects it may be helpful for you to register for our on-line GIS mapping. Information is available at <http://www.ohpo.org/gis/login.jsp>.

However, based on the information you provided the visual effects of the project will be minimal and the maximum vibration level resulting from blasting will be too low to result in physical damage to adjacent buildings. Therefore it is our opinion that that no historic properties will be affected by the proposed construction. No further coordination is required unless the scope of the project changes or historic properties are accidentally discovered.

Any questions concerning this matter should be directed to me at (614) 298-2043 or through electronic mail to jquinlan@ohiohistory.org.

Sincerely,

[Handwritten signature: Julie Quinlan]
Julie Quinlan, Program Reviews Manager
Resource Protection and Review

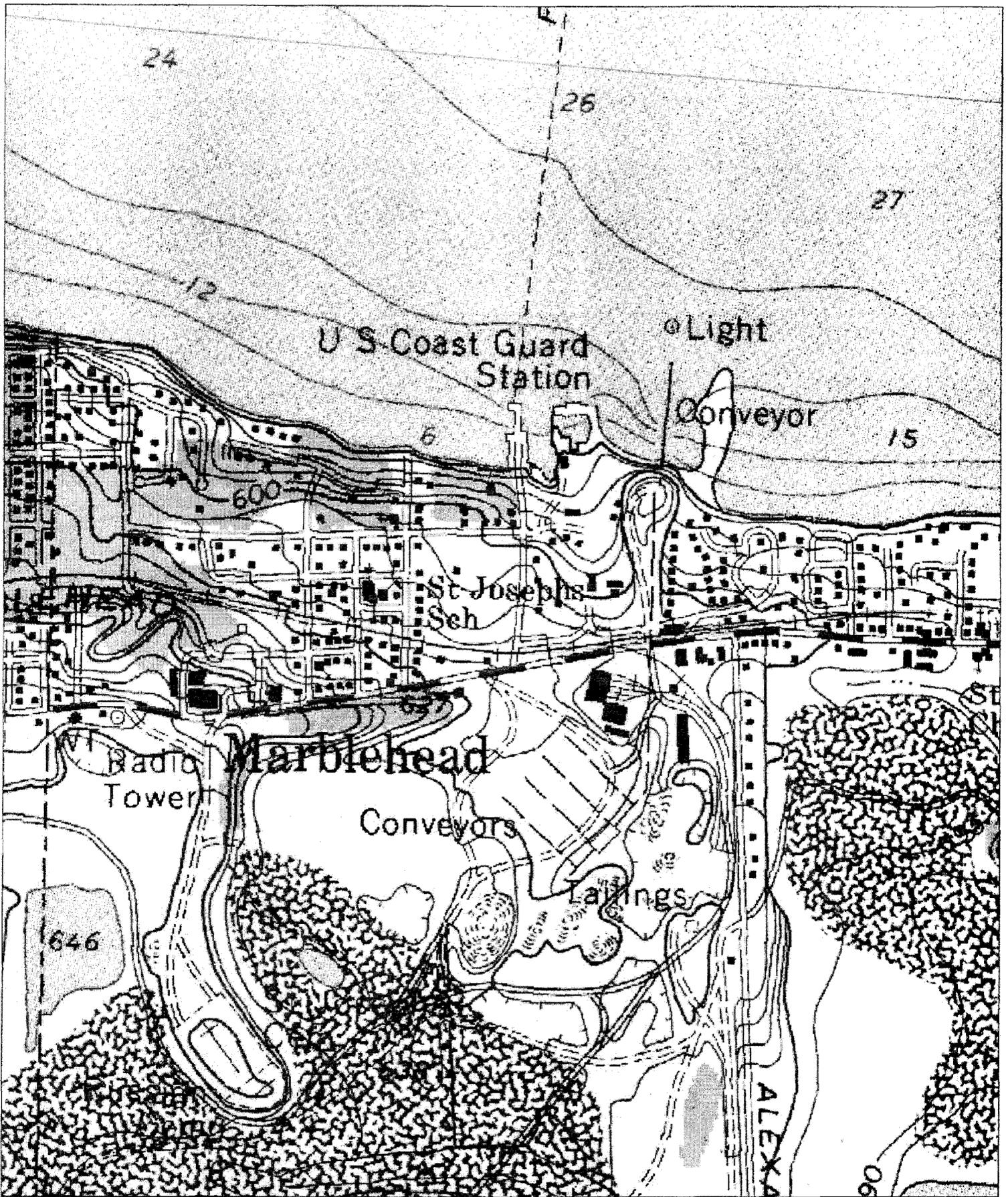
1015486

enclosure: map

OHIO HISTORICAL SOCIETY

Ohio Historic Preservation Office

567 East Hudson Street, Columbus, Ohio 43211-1030 ph: 614.298.2000 fx: 614.298.2037
www.ohiohistory.org



Ohio Historic Preservation Office
Ohio Historical Society

82 0 82 164 Meters



1:8169



Map printed 11/19/2007

U.S. Department of
Homeland Security

United States
Coast Guard



Commanding Officer
United States Coast Guard
Civil Engineering Unit Cleveland

1240 East Ninth Street
Room 2179
Cleveland Ohio 44199-2060
Staff Symbol: ER
Phone: (216) 902-6304
Fax: (216) 902-6277
Email: mark.a.lamb@uscg.mil

11000

SEP 17 2007

Mark J. Epstein, Department Head
Ohio Historic Preservation Office
Resource Protection and Review
567 East Hudson Street
Columbus, OH 43211-1030

Dear Mr. Epstein:

The U.S. Coast Guard (USCG) intends to prepare an Environmental Assessment (EA) for proposed improvements to the port facilities at the USCG Station Marblehead, Marblehead, Ohio. These improvements would include deepening the existing boat basin, installing two temporary fueling systems, and temporarily removing and reinstalling existing pier components. The EA will include an assessment of potential environmental impacts from deepening the boat basin using mechanical dredging (abrading or hammering) and/or using expansive agents (i.e., using explosives or chemicals to expedite the loosening of bedrock). All reasonable alternatives will be considered including a no-action alternative. USCG is preparing this EA pursuant to the National Environmental Policy Act of 1969, as amended (NEPA), 42 U.S.C. §4332(2)(C), DHS MD 5100.1, and USCG COMDTINST M16475.D.

The USCG Station Marblehead port facilities are located on Lake Erie at 606 Prairie Street, Marblehead, Ohio 43440 (coordinates: 41°32'32.56"N and 82°43'55.64"W). A site location map is presented in Enclosure (1) Figure (1). The proposed project description, area of potential effects, and findings are presented in Enclosure (2). Enclosure (3) contains Construction Drawings T-01, and C-01 through C-04. Rock blasting activities for this proposed project will be conducted in accordance with the Modified Rock Blasting Specifications presented in Enclosure (4) which are modified from Section 208 of the Ohio Department of Transportation (ODOT) "Construction and Materials Specifications".

As a result of our evaluation of the area of potential effects, the USCG concludes that the proposed project will not have an adverse effect to an historic property. Therefore, the USCG is not intending to initiate further consultation under Section 106 of the National Historic Preservation Act. If you have any questions or comments, please contact Mr. Mark Lamb of my staff at (216) 902-6304.

Sincerely,

A handwritten signature in black ink, appearing to read "G.S. Placzek".

G.S. PLACZEK, P.E.

Technical Director, Civil Engineering Unit
By direction of the Commanding Officer

COPY

Enclosures

- (1) Figures 1 – 2
- (2) Project Description, Area of Potential Effects, and Findings
- (3) Construction Drawings T-01, and C-01 through C-04
- (4) Modified Rock Blasting Specifications

Copy

CG CEU CLEVELAND DA with enclosures

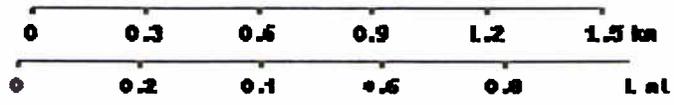
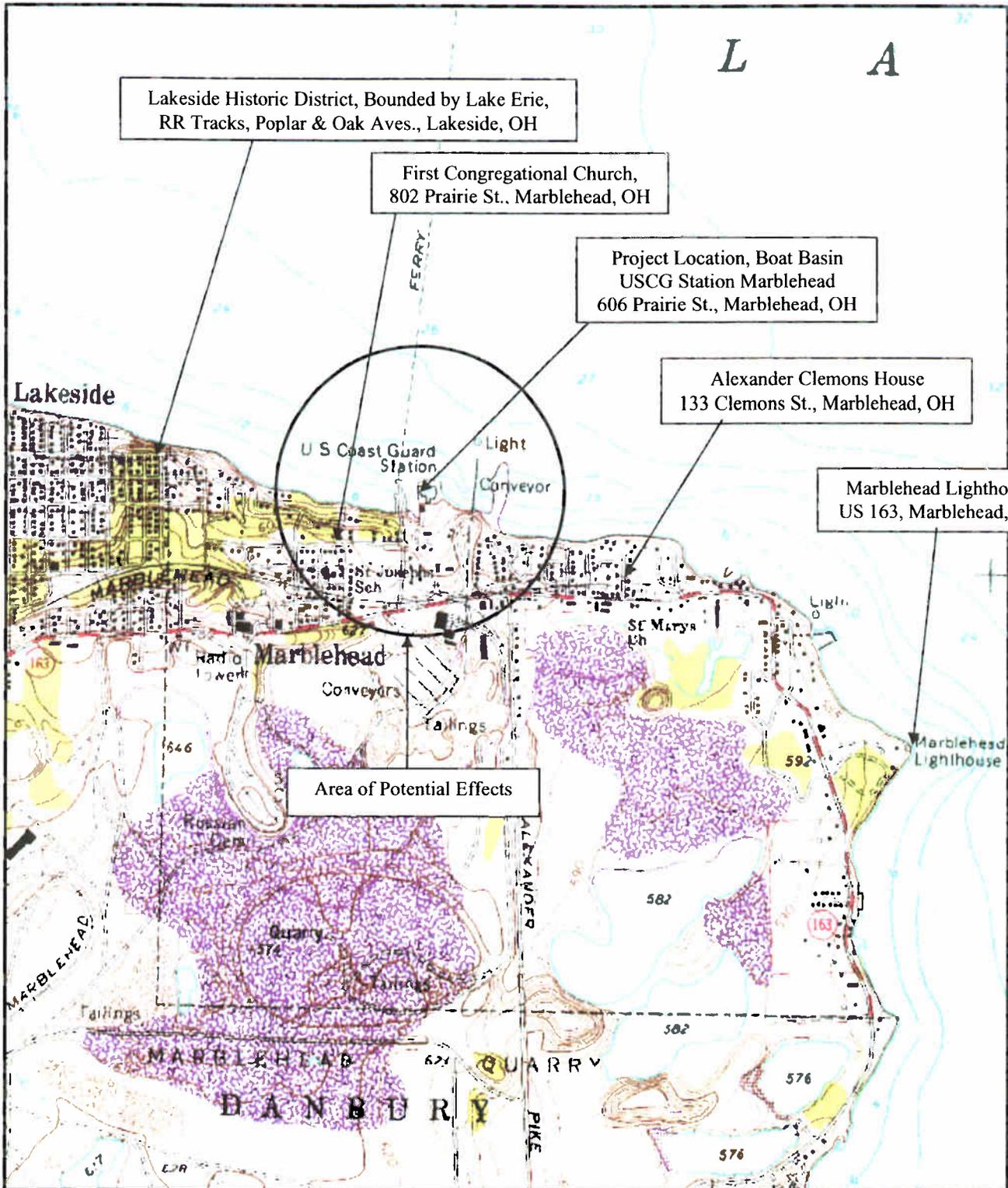
Z:\MLamb\Public\SHPO\Projects 2007\Marblehead EA\USCG Ltr to OH SHPO Sta Marblehead 9-14-07.doc

ENCLOSURE (1)

FIGURES 1 – 2

FIGURE (1): SITE LOCATION MAP

FIGURE (2): AREA OF POTENTIAL EFFECTS



USGS Kelleys Island (OH) Quadrangle

N=-7.235
G=-1.146

Figure (2): Area of Potential Effects, USCG Station Marblehead, Marblehead, OH

ENCLOSURE (2)

**PROJECT DESCRIPTION, AREA OF POTENTIAL
EFFECTS, AND FINDINGS**

**PROJECT DESCRIPTION, AREA OF POTENTIAL EFFECTS, AND FINDINGS
DREDGE EXISTING BOAT BASIN
U.S. COAST GUARD STATION MARBLEHEAD
MARBLEHEAD, OH**

Project Location and Description of Buildings

The U.S. Coast Guard (USCG) owns and operates a small boat search and rescue facility at 606 Prairie Street, Marblehead, Ottawa County, Ohio. The facility location is shown on the Site Location Map in Enclosure (1). The facility is bordered by the Lafarge to the east, Lake Erie to the north, a vacant property to the west, and a Village of Marblehead park to the south. The area around the facility is residential and light commercial.

The facility is currently used by the USCG to implement missions of maritime safety, maritime security, search and rescue, and law enforcement. Facility structures include a Station Building (with a boat maintenance garage, administrative offices, and quarters), two wooden sheds, a boat basin (with piers and a boat haulout), and three aboveground storage tanks. The USCG operates five marine vessels at Station Marblehead including a 47-ft Lifeboat, a 27-ft Utility Boat, a 23-ft Utility Boat, a 25-ft Response Boat, and a 14-ft Skiff.

Marblehead Lifeboat Station was established on June 20, 1874. Official opening of the station was in September 1876. A more modern station was built in 1921. The current Station Building was built in 1981.

Project Description

The depth USCG Station Marblehead boat basin ranges from 6 to 10 feet below Low Water Datum (LWD) in the operational areas of the boat basin. The USCG marine vessel operations at the facility require the boat basin be 9 to 10 feet below LWD. The USCG proposes to dredge an approximate 11,980-square foot area of the boat basin as shown in Enclosure (3) Construction Drawing C-01. The area is approximately 135 feet long, 120 feet wide on the north end, and 45 feet wide on the south end. The major items of the scope of work are summarized as follows and as shown on Construction Drawings T-01, and C-01 through C-04 in Enclosure (3).

Existing East Haul-out Dock Work:

1. Secure electrical service to shore tie on the dock and remove conduit/associated wiring running below dock deck. Remove and store for reinstallation the approximately 67.5 feet long east haul-out dock steel superstructure including main beam, grating and other framing components so to expose the top surface of three support piers. Remove and reinstall existing east haul-out dock fender system. Drill and reinforce existing east haul-out dock support piers with four grouted mechanical rock anchors, or replace piers in kind. Reinstall the east haul-out dock superstructure. Restore shore tie components and electrical service to shore tie.

Temporary Fuel System:

2. Provide and install a minimum 2,000 gallon temporary diesel fuel dispensing system and a 2,000 gallon temporary gasoline fuel dispensing system. System shall include tanks with secondary containment, pumps, hose and reel, nozzle, valves, controls, and electrical service connection for a complete and operational system. Tanks shall be generally located as shown and be provided with sufficient hose (approximately 220 feet) to permit boat fueling at indicated temporary fueling location (along north side of dock). Fuel delivery rate shall be minimum 25 GPM for diesel and minimum 10 GPM for gasoline. Provide and install minimum 200 LF of temporary wood fuel truck access from paved area and across the grass area to temporary fuel tank location. Access construction shall be minimum 8 feet wide by 6 inches thick laminated hardwood wood mat with ramp at paved end. Remove all temporary work upon completion of use. Provide system layout and description of features and materials submittal. Unit work item shall be based on providing temporary fuel system for a time period of 6 weeks.

Removal of Bedrock and Minor Overburden:

3. Provide floating turbidity curtain across basin entrance prior to blasting and dredging. Remove and dispose of sediment and underlying limestone bedrock to provide a minimum depth of 9 feet to a maximum of 10 feet below Low Water Datum (LWD) inside the boat basin area indicated on the project drawings. Remove and dispose of approximately 95 cubic yards of sediment and 625 cubic yards of underlying limestone bedrock. Utilize mechanical methods (hydraulic breaker, etc.) and/or non-explosive demolition agent to fracture bedrock material in and around the haul-out docks prior to rock removal.

**PROJECT DESCRIPTION, AREA OF POTENTIAL EFFECTS, AND FINDINGS
DREDGE EXISTING BOAT BASIN
U.S. COAST GUARD STATION MARBLEHEAD
MARBLEHEAD, OH**

Utilize drilling and blasting to fracture bedrock material to 10 feet below LWD within all other work areas.
Utilize mechanical methods to remove overburden and to remove broken bedrock.

On 10 October 2006, the USCG requested a permit from the United States Army Corps of Engineers (USACE) for the proposed project. In an email dated 22 May 2007 from Mr. Richard Ruby (USACE), the USCG has been told that a Letter of Permission will be issued (Permit 07-0066) modifying the USCG Dredging Project - DA Permit #1999-00817(1).

Through the USACE Permit Approval process, the following agencies have been contacted and consulted: United States Fish and Wildlife Service, the Ohio Department of Natural Resources (ODNR) including ODNR Office of Coastal Management, ODNR Division of Natural Areas and Preserves, ODNR Division of Wildlife, ODNR Division of Geologic Survey, and the ODNR Division of Watercraft.

The USCG intends to contact/notify the Village of Marblehead regarding the proposed action as well as the public.

Area of Potential Effect

The USCG will use Modified Rock Blasting Specifications presented in Enclosure (4) to implement the blast dredging operations. Prior to initiating the blast program, a Pre-Blast Condition Survey will be conducted for structures within a 1,500-foot radius of the project site. Any existing outstanding architectural defects will be documented.

In accordance with the Modified Rock Blasting Specifications, a test blast program shall be conducted for up to 3 individual test blasts. The purpose of the test program is to allow the Contractor to establish safe limits of vibration and airblast overpressure. The test blast program shall be conducted and reported in strict accordance with procedures outlined in the sections of these specifications covering vibration control and airblast control. Upon evidence of any damage to test structures, test blasting shall cease until the Contracting Officer has been notified, and adjustments made. The test events shall begin with a small number of charges and extend upward to the maximum yield to be used. The final test event shall simulate as close as practicable to the explosive charge type, size, overlying water depth, charge configuration, charge separation, initiation methods, and emplacement conditions anticipated for the largest detonations. After the test blasts, the structures examined during the preblast survey shall be re-examined. All new damage resulting from the test blasting shall be reported and documented. At the conclusion of the test blast program, all reports, surveys, test data, and other pertinent information shall be examined and conclusions reached shall be the basis for developing a completely engineered procedure for blasting. Before commencing full-scale blasting operations, demonstrate the adequacy of the proposed *Blasting Plan*. Drill, blast, and excavate short test sections to determine which combination of methods, hole spacing, and charge works best. Use a test section with lengths up to 120 feet (36 m) for production blasting when field conditions warrant.

In accordance with the Modified Rock Blasting Specifications, blasting operations will be subject to vibration control and monitoring. Blasting shall be controlled in such a manner that the maximum ground vibration level at any structure which is vulnerable to damage shall not exceed a zero-to-peak particle velocity of 0.5 inches per second or an energy ratio of 1.0. If the vibration limits are exceeded, then all operations shall stop until the vibration specialist reports that no damage has occurred or will occur and that corrective action has been taken to lower the vibration.

In accordance with the Modified Rock Blasting Specifications, blasting operations will be subject to airblast and noise control. If required, an airblast monitoring system will be installed between the main blasting area and the nearest structure subject to blast damage or annoyance. The maximum peak positive airblast overpressure at any structures, vehicles, or vessels moored or underway, with glass windows shall not exceed 0.02 psi (or 134 db). Blasting operations shall not be conducted from 1 hour before sunset to 2 hours after sunrise or when a temperature inversion or heavy low-level cloud cover exists. The peak positive airblast overpressure as developed by the Test Blast Program shall be accurately measured (within +/- 10 percent) at three or more locations and to peak overpressure levels at or below 0.01 psi. The airblast overpressures from the test events should be monitored at ranges extending from the range of the closest structure to any planned detonation

**PROJECT DESCRIPTION, AREA OF POTENTIAL EFFECTS, AND FINDINGS
DREDGE EXISTING BOAT BASIN
U.S. COAST GUARD STATION MARBLEHEAD
MARBLEHEAD, OH**

outward of an overpressure level of 0.01 psi or over a range from 500 to 3000 feet, whichever is greater. If the overpressure limits are exceeded, all operations shall stop until the airblast and noise control specialist reports that no damage has occurred or will occur and that corrective action has been taken to lower the airblast. Lower the overpressure limit if it proves too high based on damage or complaints. Results from the initial monitoring of the Test Blast Program shall be used to predict airblast overpressures for succeeding events and to insure peak positive overpressures do not exceed 0.02 psi at the closest structure or vessel moored or underway.

The Area of Potential Effects (APE) is the 1,500-foot radius around the boat basin.

Identification of Historic Properties

The document search for historic properties consisted of reviewing Coast Guard records, the National Register of Historic Places (NRHP) database, and the National Park Service database, and the Ohio Historic Preservation Office database revealed one historic property found within the APE. The historic property is the First Congressional Church, 802 Prairie Street, Marblehead, OH. The USCG Station Marblehead is not historic, nor is it eligible for inclusion in the NRHP.

Findings

The USCG concludes that the proposed project will not have an adverse effect to the historic property. The work will not result in physical destruction or damage to all or part of the property. The Modified Rock Blasting Specifications provides the necessary level of evaluation to ensure the historic property will not be damaged. The work will not result in an alteration of the property. No part of the property will be removed from its historic location. The work will not change the character of the property's use or the physical features within the property's setting that contribute to its historic significance. The visual, atmospheric, and audible elements of this project should not diminish the integrity of the property's significant historic features.

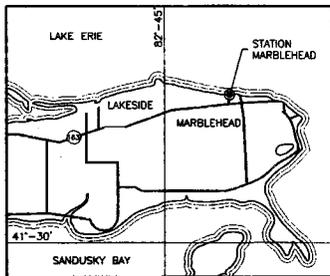
ENCLOSURE (3)

**CONSTRUCTION DRAWINGS T-01, AND C-01
THROUGH C-04**



U.S. COAST GUARD
DREDGE BOAT BASIN
AT
STATION MARBLEHEAD
MARBLEHEAD, OHIO

UNITED STATES COAST GUARD
 CIVIL ENGINEERING UNIT
 CLEVELAND, OHIO



LOCATION MAP
SCALE: NONE

LIST OF DRAWINGS	
SHEET NO.	SHEET TITLE
T-01	TITLE SHEET
C-01	DREDGING PLAN MASTER
C-02	DREDGING PLANS
C-03	SECTIONS AND DETAILS
C-04	HAULOUT SECTIONS AND DETAILS

COLLINS ENGINEERS
 887 Collins Street, Cleveland, OH 44114-2387
 Tel: (216) 394-4182 Fax: (216) 394-4137 www.collinseng.com

CONSULTANTS



U. S. COAST GUARD
 CIVIL ENGINEERING UNIT
 CLEVELAND



USCG, CEU CLEVELAND
 1240 EAST 9TH STREET
 CLEVELAND, OH 44199-2060

MARK	DATE	DESCRIPTION
-	04/20/07	ISSUE SUBMITTAL
	03/03/07	ISSUE SUBMITTAL
	07/05/07	FINAL SUBMITTAL

SCALE: AS SHOWN PLOT SCALE: 1:1

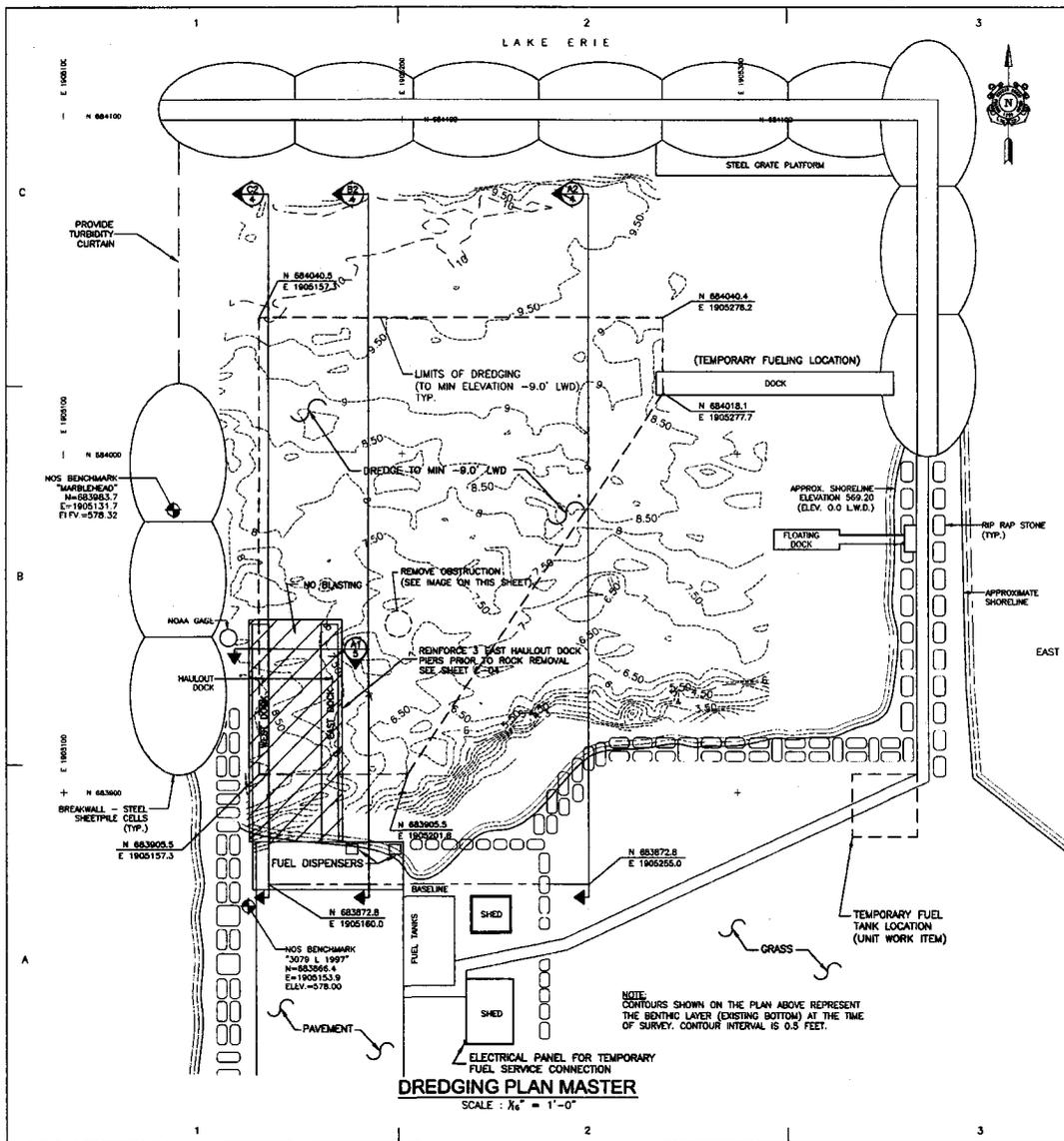
SHEET TITLE

DREDGE BOAT BASIN
 CG STATION MARBLEHEAD
 MARBLEHEAD, OHIO
 WATERFRONT
 GENERAL
 TITLE SHEET

REVISIONS BY: [Signature] DATE: [Date]
 CHECKED BY: [Signature] DATE: [Date]
 APPROVED BY: [Signature] DATE: 7/12/07
 APPROVING OFFICER: [Signature] DATE: [Date]

PROJECT NUMBER	DRAWING NUMBER
254622	7473-D

DISCIPLINE/SIT NO. 1-01 SHEET 1 OF 5



SURVEY NOTES:

1. THE HYDROGRAPHIC SURVEY WAS COMPLETED ON MAY 22-23, 2006 BY COLLINS ENGINEERS, INC. AND CAN ONLY BE CONSIDERED AS REPRESENTING THE CONDITIONS EXISTING AT THAT TIME.
2. SOUNDINGS WERE OBTAINED USING A CONTINUOUS RECORDING PRECISION FAHOMETER OPERATING AT 200 KHZ WITH A 3.5 DEGREE TRANSDUCER.
3. HORIZONTAL POSITIONING WAS OBTAINED USING A REALTIME SUB-METER DOPPS SYSTEM. HORIZONTAL COORDINATES ARE IN FEET REFERENCED TO U.S. STATE PLANE COORDINATE SYSTEM, NAD 1983, OHIO NORTH GRID.
4. ALL CONTOURS SHOWN REPRESENT DEPTHS IN FEET AND ARE REFERENCED TO THE INTERNATIONAL GREAT LAKES DATUM (IGLD 85) LWD. ELEVATION 569.2' (IGLD 85 & NAVD 88) = ELEV. 0.0' LOW WATER DATUM (LWD).
5. HORIZONTAL AND VERTICAL BENCHMARK IS COASTAL GEODETIC SURVEY BRONZE DISK LOCATED ON THE SEAWALL, STAMPED "MARBLEHEAD" AND WITH A REFERENCE ELEVATION OF 578.32 FT, IGLD 85 DATUM.
6. HYDROGRAPHIC INFORMATION SHOWN ON THIS DRAWING IS THE RESULT OF A FIELD SURVEY PERFORMED BY COLLINS ENGINEERS, INC. USING THE REFERENCED BENCHMARK(S).

GENERAL NOTES:

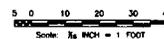
1. ALL ITEMS ARE EXISTING UNLESS NOTED OTHERWISE.
2. VERIFY EXISTING CONDITIONS, LOCATIONS, AND DIMENSIONS PRIOR TO THE START OF WORK. LOCATIONS, DIMENSIONS, AND CONDITIONS SHOWN ARE APPROXIMATE. ACTUAL CONDITIONS MAY VARY FROM THOSE SHOWN.
3. CONTRACTOR SHALL CONDUCT WORK AND TAKE NECESSARY PRECAUTIONS SO THAT NO DEBRIS, MATERIALS, OR EQUIPMENT ENTERS ANY WATERS. ANY MATERIALS, DEBRIS OR EQUIPMENT WHICH ACCIDENTLY ENTERS OR IS DELIBERATELY PLACED IN ANY WATERS SHALL BE REMOVED AND DISPOSED OF AT NO ADDITIONAL COST TO THE GOVERNMENT.
4. ALL ELECTRICAL RELATED WORK IS TO BE PER N.E.C. AND PERFORMED BY MASTER ELECTRICAL CONTRACTOR.



SONAR IMAGE OF OBSTRUCTION
(CONCRETE-FILLED PIPE PILE ON BASIN BOTTOM)
SEE PLAN FOR LOCATION

DREDGING NOTES:

1. MATERIAL TO BE REMOVED IS SAND WITH SILT (OVERBURDEN) AND LIMESTONE ROCK.
2. ROCK IS TO BE REMOVED PRIMARILY BY IN-WATER DRILLING AND BLASTING. ADJACENT TO STRUCTURES, SUPPLEMENTAL METHODS TO REMOVE ROCK WILL INCLUDE DRILLING AND USE OF NON-EXPLOSIVE EXPANSIVE AGENTS AND MECHANICAL METHODS.
3. NO BLASTING WITHIN 3' OF HULL-OUT DOCK SUPPORT PIERS AND NO BLASTING BETWEEN EAST AND WEST HULL-OUT DOCKS IS PERMITTED. ROCK IN THESE AREAS SHALL BE REMOVED BY OTHER MEANS.
4. OVERBURDEN AND ROCK MATERIAL REMOVED IS TO BE DISPOSED OF AT AN UPLAND SITE.
5. APPROXIMATE REMOVAL QUANTITIES ARE:
6. OVERBURDEN MATERIAL: 95 CY
ROCK TO -9.0' LWD DESIGN DREDGE DEPTH: 245 CY
ROCK TO -10' LWD OVERDREDGE DEPTH: 360 CY
TOTAL: 770 CY



COLLINS ENGINEERS
167 Collins Street, Toledo, OH 44115-1217
Tel: (419) 391-9162 Fax: (419) 391-9167 www.collinseng.com

CONSULTANTS



U. S. COAST GUARD
CIVIL ENGINEERING UNIT
CLEVELAND



USCG, CEU CLEVELAND
1240 EAST 9TH STREET
CLEVELAND, OH 44199-2060

MARK	DATE	DESCRIPTION
-	04/20/07	85% SUBMITTAL
-	05/07/07	100% SUBMITTAL
-	07/06/07	FINAL SUBMITTAL

MARK	DATE	DESCRIPTION
------	------	-------------

AVE PROJECT NO: 5034-50
CAD FILE NAME: MARBLEHEAD DREDGE.DWG
DESIGNED BY: N. G. RUSSELL
DRAWN BY: J. B. WATERS
EDITED BY: M. GIPSON
CHECKED BY: N. G. POPE
SCALE: AS SHOWN PLOT SCALE: 1:1

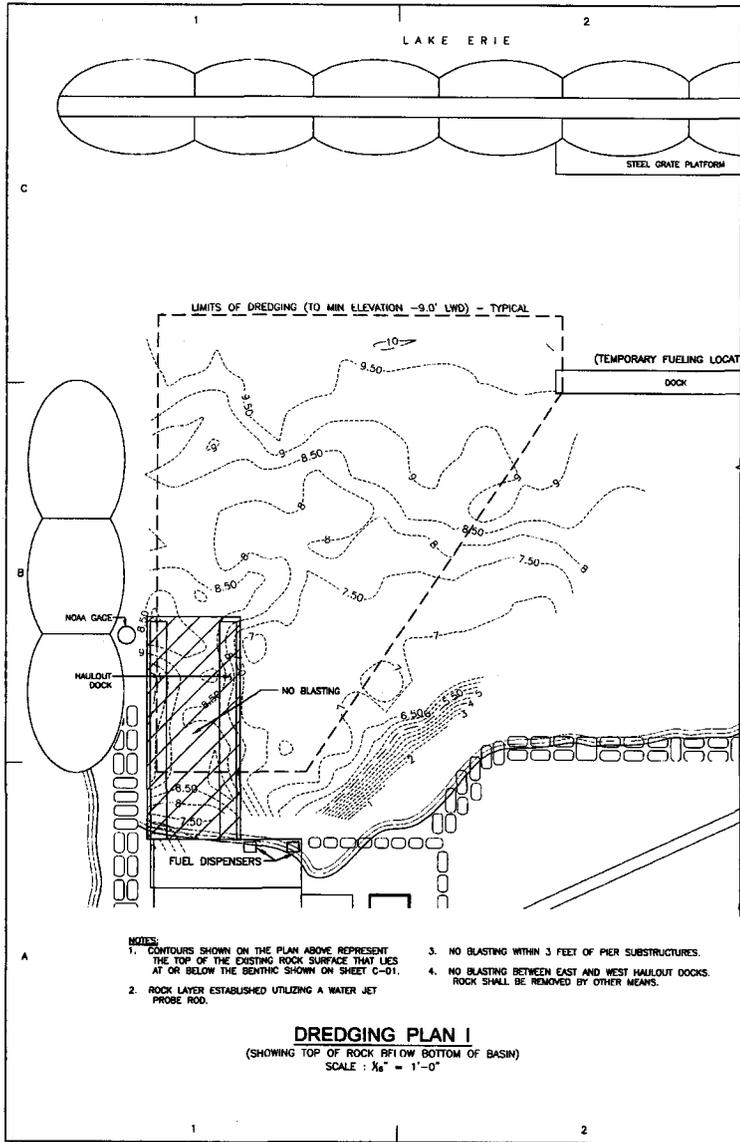
SHEET TITLE

DREDGE BOAT BASIN
CG STATION MARBLEHEAD
MARBLEHEAD, OHIO
WATERFRONT
CIVIL
DREDGING PLAN MASTER

REVIEWED BY: [Signature] DATE: [Date]
CHECKED BY: [Signature] DATE: [Date]

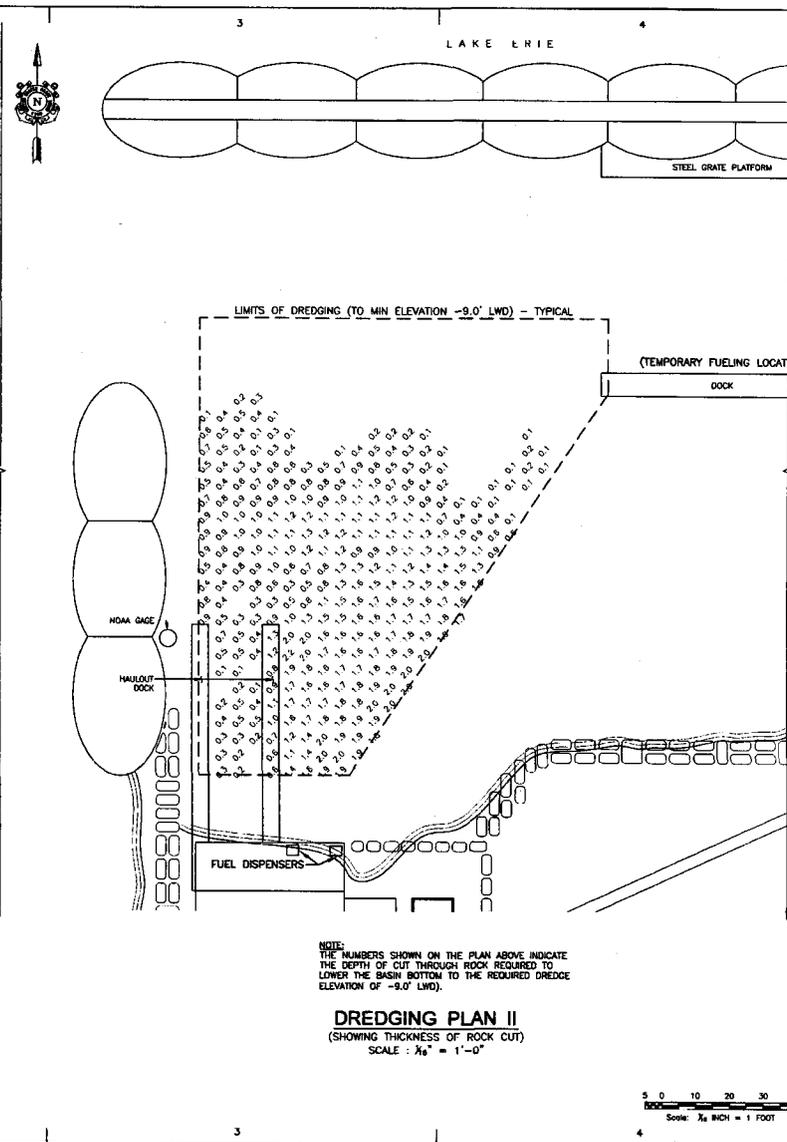
J. M. PETERS, CDR. 7/12/07
APPROVING OFFICER DATE

PROJECT NUMBER	DRAWING NUMBER
254622	7473-D
USCPLN/SH NO C-01	SHEET 2 OF 5



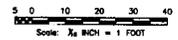
- NOTES:**
1. CONTOURS SHOWN ON THE PLAN ABOVE REPRESENT THE TOP OF THE EXISTING ROCK SURFACE THAT LIES AT OR BELOW THE BENTHIC SHOWN ON SHEET C-01.
 2. ROCK LAYER ESTABLISHED UTILIZING A WATER JET PROBE ROD.
 3. NO BLASTING WITHIN 3 FEET OF PIER SUBSTRUCTURES.
 4. NO BLASTING BETWEEN EAST AND WEST HAULOUT DOCKS. ROCK SHALL BE REMOVED BY OTHER MEANS.

DREDGING PLAN I
(SHOWING TOP OF ROCK & BOTTOM OF BASIN)
SCALE : 1/8" = 1'-0"



- NOTE:**
THE NUMBERS SHOWN ON THE PLAN ABOVE INDICATE THE DEPTH OF CUT THROUGH ROCK REQUIRED TO LOWER THE BASIN BOTTOM TO THE REQUIRED DREDGE ELEVATION OF -9.0' LWD).

DREDGING PLAN II
(SHOWING THICKNESS OF ROCK CUT)
SCALE : 1/8" = 1'-0"



COLLINS ENGINEERS
191 Collins Street, Suite 1400, Cleveland, OH 44114-2007
Tel: (416) 393-4122 Fax: (416) 393-4127 www.collinseng.com



U. S. COAST GUARD
CIVIL ENGINEERING UNIT
CLEVELAND



USCG, CEU CLEVELAND
1240 EAST 9TH STREET
CLEVELAND, OH 44199-2060

MARK	DATE	DESCRIPTION
-	04/20/07	85% SUBMITTAL
	06/05/07	100% SUBMITTAL
	07/02/07	FINAL SUBMITTAL

MARK	DATE	DESCRIPTION

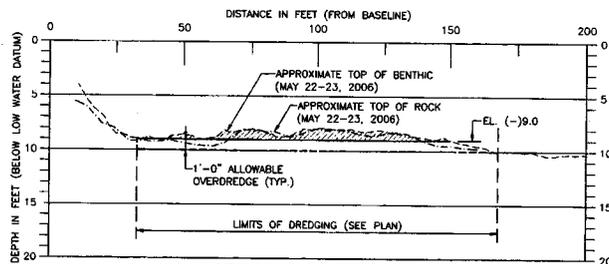
A/E PROJECT NO: 5034-30
CAD FILE NAME: MARBLEHEAD_DREDGE.DWG
DESIGNED BY: M. O. RUSSELL
DRAWN BY: J. B. WATERS
EDITED BY: M. GIPSON
CHECKED BY: M. K. POPE

SCALE: AS SHOWN PLOT SCALE: 1:1
SHEET TITLE

DREDGE BOAT BASIN
CG STATION MARBLEHEAD
MARBLEHEAD, OHIO
WATERFRONT
CIVIL
DREDGING PLANS

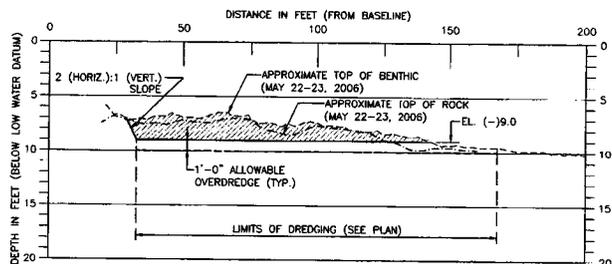
REMOVED BY: R.A. PAX / J.C. COFFMAN / U.S. PROJECT
PROJECT NO: 5034-30
SEARCHED BY: M. PETERS, CDR. 7/12/07
APPROVING OFFICER: DATE

PROJECT NUMBER	DRAWING NUMBER
254622	7473-D
DISCIPLINE/SHT NO	SHEET
C-02	3 OF 5



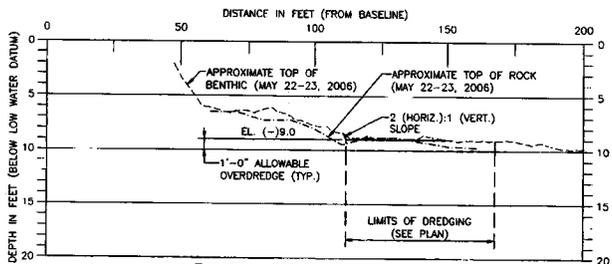
DREDGING SECTION (C2)

HORIZ. SCALE : 1" = 20'-0"
VERT. SCALE : 1" = 5'-0"



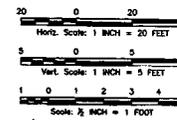
DREDGING SECTION (B2)

HORIZ. SCALE : 1" = 20'-0"
VERT. SCALE : 1" = 5'-0"



DREDGING SECTION (A2)

HORIZ. SCALE : 1" = 20'-0"
VERT. SCALE : 1" = 5'-0"



COLLINS ENGINEERS

877 Collins Street, Suite 1000, Cleveland, OH 44114-1507
Tel: (216) 391-4422 Fax: (216) 391-4117 www.collinseng.com

CONSULTANTS



U. S. COAST GUARD
CIVIL ENGINEERING UNIT
CLEVELAND



USCG, CEU CLEVELAND
1240 EAST 9TH STREET
CLEVELAND, OH 44199-2060

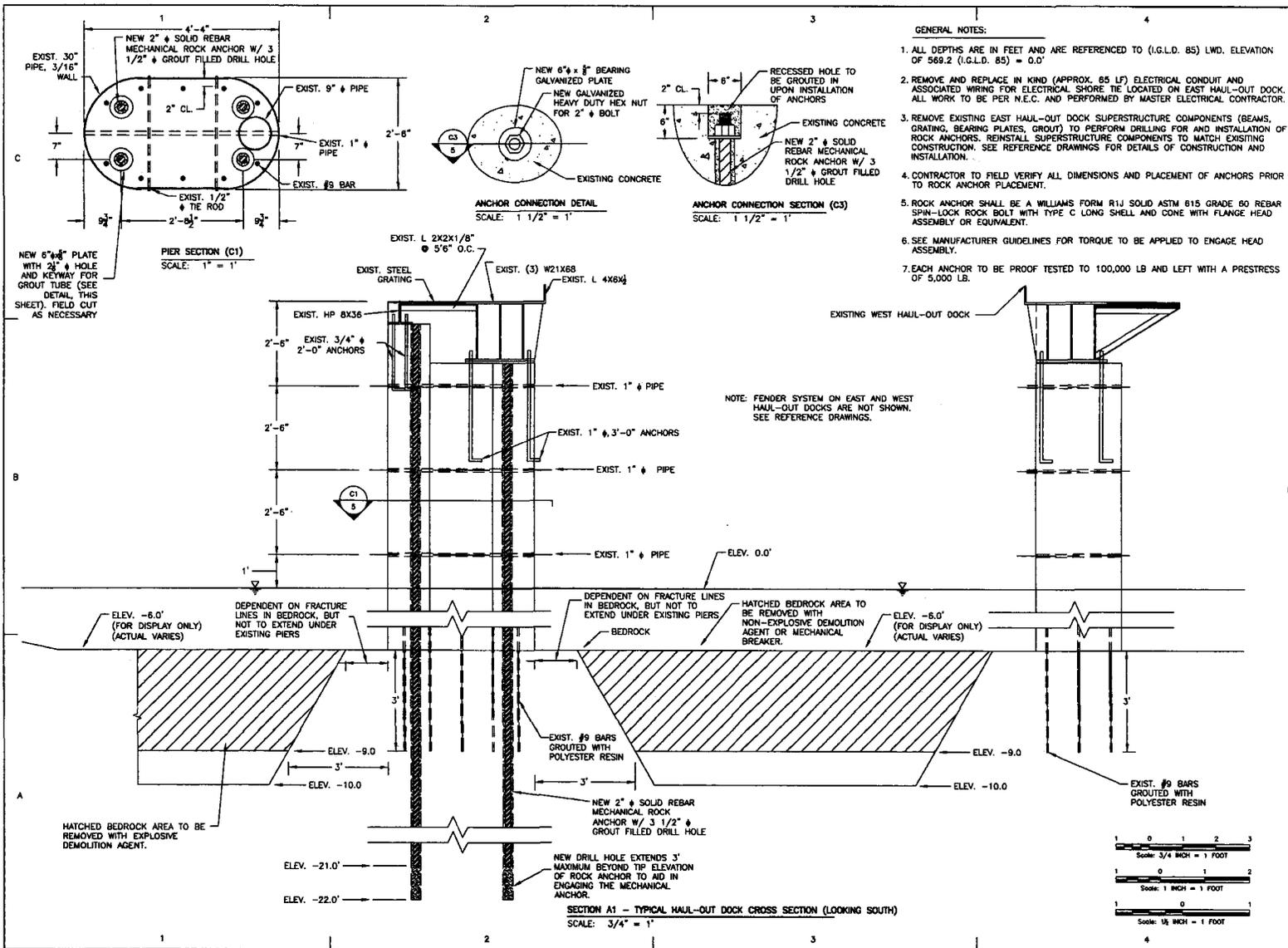
MARK	DATE	DESCRIPTION
~	04/20/07	95% SUBMITTAL
	06/05/07	100% SUBMITTAL
	07/08/07	FINAL SUBMITTAL

AVE PROJECT NO: 5034-50
CAD FILE NAME: MARBLEHEAD_DREDGE.DWG
DESIGNED BY: M. O. RUSSELL
DRAWN BY: J. B. WATERS
EDITED BY: M. GISPSON
CHECKED BY: H. K. POPE

SCALE: AS SHOWN PLOT SCALE: 1:1
SHEET TITLE

DREDGE BOAT BASIN
CG STATION MARBLEHEAD
MARBLEHEAD, OHIO
WATERFRONT
CIVIL
SECTIONS AND DETAILS

REVIEWED BY: [Signature]	APPROVED BY: [Signature]
R.A. [Signature]	C. [Signature]
PROJECT CHIEF	BRANCH CHIEF / TECH. DIRECTOR
[Signature]	PETERS, CDR.
APPROVING OFFICER	DATE: 7/12/07
PROJECT NUMBER: 254622	DRAWING NUMBER: 7473-D
DISCIPLINE/SHEET NO: C-03	SHEET 4 OF 5



U.S.C.G. CEU
CLEVELAND, OHIO
216-902-6200

CONSULTANTS



U. S. COAST GUARD
CIVIL ENGINEERING UNIT
CLEVELAND



USCG, CEU CLEVELAND
1240 EAST 9TH STREET
CLEVELAND, OH 44199-2060

ISSUE	MARK	DATE	DESCRIPTION
		04/20/07	85% SUBMITTAL
		05/05/07	100% SUBMITTAL
		7/09/07	FINAL SUBMITTAL

MARK	DATE	DESCRIPTION

A/E PROJECT NO. 5034-50
CAD FILE NAME: MARBLEHEAD_DREDGE.DWG
DESIGNED BY: M. G. RUSSELL
DRAWN BY: J. B. WATERS
EDITED BY: M. GIPSON
CHECKED BY: M. G. RUSSELL

SCALE: 1" = 20' PLOT SCALE: 1:1

SHEET TITLE
DREDGE BOAT BASIN
CG STATION MARBLEHEAD
MARBLEHEAD, OHIO
WATERFRONT
CIVIL

HAUL-OUT SECTIONS & DETAILS

REVISIONS:
BY: M. G. RUSSELL
DATE: 04/20/07
BY: J. B. WATERS
DATE: 05/05/07
BY: M. GIPSON
DATE: 07/09/07

APPROVED BY: M. G. RUSSELL, CDR. DATE: 7/12/07

PROJECT NUMBER: 254622 DRAWING NUMBER: 7473-D

DESIGNER/CHK NO: C-04 SHEET 5 OF 5

ENCLOSURE (4)

MODIFIED ROCK BLASTING SPECIFICATIONS

ITEM 208 ROCK BLASTING

- 208.01 Description
- 208.02 Regulations on the Use of Explosives
- 208.03 Product Specifications
- 208.05 Blasting Plan Submittal
- 208.06 Production Holes
- 208.07 Blasting Test Sections
- 208.08 Safety Procedures
- 208.10 Cushion (Trim) Blasting
- 208.12 Blaster
- 208.13 Blasting Consultant
- 208.14 Pre-Blast Condition Survey
- 208.15 Vibration Control and Monitoring
- 208.16 Airblast and Noise Control
- 208.17 Hydrologist
- 208.18 Flyrock Control
- 208.19 Public Meetings
- 208.20 Record Keeping

Preface: This Appendix is modified Section 208 from Ohio Department of Transportation (ODOT) "Construction and Materials Specifications" and is a part of the project specifications. In this and other referenced ODOT sections, the term "Director" shall be taken to mean Contracting Officer and the term "Engineer" shall be taken to mean Contracting Officers Technical Representative (COTR).

208.01 Description. This work consists of using production blasting techniques to fracture rock to dredge template depths. Production blasting refers to the rock fragmentation blasts resulting from more widely spaced production holes drilled throughout the main excavation area adjacent to the controlled blast line. Detonate production holes in a controlled delay sequence.

The Contractor's blasting program and methods shall be those necessary to accomplish the excavation shown on the contract drawings in accordance with the procedures specified herein. The Contractor will be required to make necessary plans, examinations, surveys, and test blasts to determine the quantity of explosives that can be fired without damaging property, and to thereafter control the quantity of explosives fired in any one blast to prevent injuries to persons or damage to structures, homes, utilities, vehicles, vessels moored or underway, or any property.

208.02 Regulations on the Use of Explosives. Perform all blasting operations according to all applicable Federal, State, and local laws and regulations, and the provisions of Ohio Specifications Section 107.09. These regulated blasting operations include but are not limited to the following:

A. Storage, handling, and security of explosives, blasting agents, and detonators.

(1) The Bureau of Alcohol, Tobacco, and Firearms (ATF) has enforcement, inspection, and investigative jurisdiction in all matters pertaining to explosives. The Contractor shall notify the appropriate office of the ATF in writing with copies to the local law enforcement authority and the Contracting Officer as to all related facilities, plans and procedures, prior to construction of explosives storage facilities, or receipt of explosives on the site. All transportation, storage, handling, and security of explosives shall be in strict accordance with ATF regulations.

(2) The Contractor shall be responsible for obtaining and displaying all licenses, permits, and approvals, and the keeping of accounts and records, as well as arranging the transportation and protection of all explosives on the project. Should the Contractor fail to comply with above requirements, the Contracting Officer may order a suspension of that part of work involved until the deficiencies are corrected. The Contractor's attention is also directed to subparagraphs (c)(2) and (c)(2)(i) for additional specific liability to be assumed by the Contractor.

(3) All personnel proposed for involvement with explosives, prior to any such involvement, shall be interviewed, their employee records checked, and their history checked through local police records, for any indication of mental instability, criminal connection, or other factors which might render them a poor security risk. These records shall be made available to the ATF and the Contracting Officer for review. No person with any such risk indication shall be permitted any involvement with explosives, unless individually approved by law enforcement authorities.

(4) Any storage facilities for explosives shall be constructed, as a minimum, to conform to Type 2 Storage Facilities as specified in Part 181 of Title 26, Code of Federal Regulations, listed in the above references, subpart J, which includes requirements for hinges and hasps, and the locking system.

(5) Storage magazines/containers conforming to the referenced standards shall be enclosed by a 7-foot chain-link fence, with 3-strand barbed wire overhand mounted on steel arms facing outward at a 45-degree angle. The fence gate shall be secured at all times when not in actual use by 5-tumbler padlocks protected by 1/4-inch steel caps constructed so as to prevent sawing or lever action on the locks. The keys to the locks will be of a non-duplicating type and shall be strictly controlled by one approved individual.

(6) The explosives storage area shall be protected by security lighting installed in a manner that will provide illumination equivalent to normal daylight in the storage area.

Enclosure (4)

(7) If required by Coast Guard, an approved armed security guard shall be posted at the storage site 24-hours per day while explosives are stored at the job site. All security safeguards described above shall be implemented by the Contractor.

(8) The Contractor shall keep a daily record of transactions, to be maintained at each storage magazine. The inventory records shall be updated at close of business each day. Records shall show class and quantities received and issued, and total remaining on hand at end of each day. The remaining stock shall be checked each day, and any discrepancies that would indicate a theft or loss of explosive materials shall be reported immediately.

(9) Should a loss or theft of explosives occur, all circumstances and details of the loss/theft will be immediately reported to the nearest office of the ATF as well as to the local law enforcement authorities and the Contracting Officer's representative.

- B. Use of explosives in character and amount as allowed.
- C. Storage plan, including the type of magazine or explosive storage facility to be used on the job site. (Change to come before current part A).
- D. Record keeping, placarding, safe distances, and all other requirements concerning storage.
- E. Obtaining and displaying magazine permits.
- F. The Contractor shall comply fully with all applicable sections of the following regulations:

(1) Organized Crime Control Act of 1970, Title XI, Regulation of Explosives (P.L. 91-452) (obtainable from Internal Revenue Service as Publication 730).

(2) Commerce in Explosives, Part 181 of Title 26, Code of Federal Regulations (implements the provisions of Title XI, Regulation of Explosives, and is obtainable from the Internal Revenue Service as Publication 739).

(3) Safety and Health Regulations for Construction, Title 29, Labor Chapter XVII, Bureau of Labor Standards, Department of Labor, Parts 1910 & 1926 (published in Federal Register, Volume 36, Number 75).

(4) U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, edition in effect on the date the solicitation for this contract is issued, and changes and amendments thereto.

(5) Interstate Commerce Commission Regulations.

(6) Applicable U.S. Coast Guard regulations and state, county, municipal, or port authority codes, rules, regulations, and laws.

(7) Federal Register, Volume 36, Number 10, 15 January 1971, Department of the Treasury.

208.02.1 Liabilities

The Contractor's attention is called to the PERMITS AND RESPONSIBILITIES and PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS clauses of this contract which define the Contractor's responsibilities relative to the references listed in the subsequent paragraphs. The Contractor shall assume all liability and hold and save the Government, its officers, agents, and employees harmless for any and all claims for personal injuries, property damages, or other claims arising out of or in connection with handling of explosives under the contract. The Contractor shall, in addition, process any and all claims of private citizens arising out of said use of explosives promptly; in particular, all property damage claims shall be acknowledged by the Contractor (or his agent) immediately, and the claimed damage inspected within 30 calendar days following initial notification, and processed to a conclusion (honored, denied, or compromised) within 90 calendar days after cessation of all blasting on the contract; but, in no case shall the claim(s) remain unresolved for a period exceeding six months.

A. PERMITS AND RESPONSIBILITIES

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occurs as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

B). PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

i) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which is not to be removed and which does not unreasonably interfere with the work required under this contract. Note that the West Haul-out Dock is immediately adjacent to the work area. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

ii) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those

facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

208.03 Product Specifications. Be aware that delay elements in blasting caps may deteriorate with age. Aged explosives are known to deliver much less than the rated energy.

If evaporation occurs or if improperly mixed, bulk explosives (such as ammonium nitrate and fuel oil) may not contain the proper amount of diesel oil. Low diesel oil drastically reduces the energy content of the explosive and commonly produces reddish brown or yellow fumes upon detonation even in dry blast holes.

Use products conforming to manufacturers' specifications. Ship the manufacturer recommended expiration dates with the products delivered to the project. Do not use any blasting product that either is in excessive age or is in a deteriorated condition. Cease all work until the product's age or quality is determined.

208.05 Blasting Plan Submittal (GA)

(i) General. The blasting program and methods shall be those developed by the test blasting program and procedure to accomplish the excavation shown on the contract drawings in accordance with the procedures specified herein.

(ii) Blasting. Two weeks prior to the commencement of drilling and blasting operations, the Contractor shall submit a Blasting Plan. Any time the drilling or blasting methods change, the Contractor shall submit the revised Blasting Plan for review at least one week prior to the commencement of work.

The Blasting Plan shall include, at a minimum, the following:

- A. General details of the drilling and blasting patterns and controls proposed to use for the production blasting.
- B. Station limits of proposed shots. Critical distances to structures. Place the pre-blast survey limits detailed in 208.14 on the Right-of-Way or plan view sheets.
- C. One plan and section view per main excavation cut of the proposed typical range of drill patterns including a range of free face, burden, blast hole spacing, blast hole diameters, blast hole angles, lift heights, and sub-drill depths.
- D. A typical loading diagram showing the type and amount of explosives, primers, and initiators and location and depth of stemming.
- E. Typical range of initiator sequence of blast holes including delay times and delay system.
- F. Manufacturers' data sheets for all explosives, primers, and initiators to be employed.
- G. Anticipated peak particle velocity and maximum peak positive airblast overpressure at the nearest structure to the blast.

H. A description and purpose of special methods.

I. Use the blasters or blasting plan forms in FHWA Publication FHWA-HI-92-001 *Course Rock Blasting and Overbreak Control Manual*. Adapt these forms to meet the project requirements.

In a subsequent submittal, submit one Detailed Plan for all test sections. (Submit or fax at least 24 hours before the shot.) Detail the specific proposed amounts of materials and work described in 208.05.A through 208.05.G above on this Detailed Plan.

The Blasting Plan submittal is for quality control, informational, and record keeping purposes. The review of the Blasting Plan does not relieve the Contractor of the responsibility for using existing drilling and blasting technology and for obtaining the required results.

The use an approved and experienced underwater blasting consultant, conforming to 208.13, to assist with the blast design and to ensure that the Blasting Plan is carried out will be required at all times if blasting is used on the project in any extent.

208.06 Production Holes.

Perform all production blasting, including blasting carried out in conjunction with the blasting test section requirements of 208.07, according to the following requirements:

A. Drill the production blast holes on the patterns and to the depths submitted in the Blasting Plan and Detailed Plan, as specified in 208.05, but not exceeding a depth of 5 feet (18 m). Drill the production blast holes within two blast hole diameters of the staked collar location. If the blaster does not drill the production holes then the blaster shall inspect the holes and review the drilling logs prior to loading the holes.

B. Deepen or clean-out blast holes if they are plugged or unable to be fully loaded. Check and measure blast holes before any explosives are loaded into any of the holes to eliminate any safety hazard resulting from drilling near loaded holes.

C. Maintain a burden distance that is equal to or less than the bench height in order to control the blasting effects.

D. Drill the row of production blast holes immediately adjacent to the controlled blast line on a plane approximately parallel to the controlled blast line. Drill the production blast holes no closer than 6 feet (2 m) to the controlled blast line. Drill the bottom of the production holes no lower than the bottom of the controlled blast holes except by the amount of subdrilling used in the production holes. Do not exceed 6 1/4 inches (160 mm) in diameter for the production blast holes. Delay the detonation sequence of the production holes toward a free face.

E. Maintain a stemming depth of at least 0.7 times the burden distance. If water is present or when blasting within 200 feet (61 m) of a structure, use crushed No. 8 coarse aggregate for holes less than 4 inches (100 mm) in diameter and crushed No. 57 coarse aggregate for holes 4 inches (100 mm) in diameter and larger for the stemming material. Use the coarse aggregate gradations of Nos. 8 and 57 gradations on Table 703.01-1. If gravel is used, use crushed material with a

minimum of two mechanically fractured faces on 60 percent of the material. In other locations, the Contractor may use drill cuttings for stemming, if it does not compromise the shot integrity.

F. Take all necessary precautions in the production blasting to minimize blast damage to the rock backslope.

G. Drill a line of buffer holes on a parallel plane adjacent to the presplit holes if presplit results are not satisfactory and production holes are damaging the presplit line. Drill the buffer hole 3 ± 1 inch (75 ± 25 mm) in diameter. Drill the line of buffer holes approximately 3 feet (1 m) from the presplit line, and space 3 to 5 feet (1 to 1.5 m) center-to-center. Do not load the buffer holes with more than 50 percent of the full explosive load that could be placed in a 3-inch (75 mm) production hole. Delay the detonation sequence toward a free face.

208.07 Blasting Test Sections.

Test Blast Program.

(i) A test blast program shall be conducted by the Contractor consisting of up to 3 individual test blasts. The purpose of the test program is to allow the Contractor to establish safe limits of vibration and airblast overpressure. The test blast program shall be conducted and reported in strict accordance with procedures outlined in the sections of these specifications covering vibration control and airblast control.

(ii) Upon evidence of any damage to test structures, test blasting shall cease until the Contracting Officer has been notified, and adjustments made. The test events shall begin with a small number of charges and extend upward to the maximum yield to be used. The final test event shall simulate as close as practicable to the explosive charge type, size, overlying water depth, charge configuration, charge separation, initiation methods, and emplacement conditions anticipated for the largest detonations. One copy of the record for the test blasts shall be submitted in tabular form to the Contracting Officer daily.

(iii) After the test blasts, the Contractor shall examine the representative structures of the preblast survey as previously specified. All new damage resulting from the test blasting shall be reported in detail to the Contracting Officer, including photographs.

(iv) At the conclusion of the test blast program, the Contractor shall examine all reports, surveys, test data, and other pertinent information and conclusions reached shall be the basis for developing a completely engineered procedure for blasting. The procedure shall include sketches showing blasting patterns, weights of explosives, wiring, and charge emplacement. Four copies of the developed procedure shall be submitted for review to the Contracting Officer, and upon completion of the review and acceptance, it shall be appended to and become a part of the aforementioned operational blasting plan. In no event shall operational blasting proceed until the review of the developed procedure for blasting has been completed. If the procedure is not acceptable, the Contractor shall revise and resubmit the procedure. The Contracting Officer shall have up to 2 calendar days to review and accept the revised procedure.

Before commencing full-scale blasting operations, demonstrate the adequacy of the proposed Blasting Plan. Drill, blast, and excavate short test sections to determine which combination of methods, hole spacing, and charge works best. Use a test section with lengths up to 120 feet (36 m) for production blasting when field conditions warrant.

Begin the controlled blasting tests with the controlled blast holes spaced 36 inches (900 mm) apart, then adjust, if needed, until the spacing for full-scale blasting operations is approved. A new test section is required to increase the spacing to a maximum of 42 inches (1050 mm).

Apply the requirements specified for production blasting operations to the test section blasting.

For production blasts within 10 feet (3 m) of the finished slope, do not drill ahead of the test shot area until the test section has been excavated and the results evaluated. If the test shots are unsatisfactory, revise methods as necessary to achieve the required results. Unsatisfactory test shot results include an excessive amount of fragmentation beyond the indicated lines and grade, excessive flyrock, or violation of other requirements within Item 208.

If the drilling and blasting methods do not produce the desired result of a uniform slope and shear face, within the tolerances specified, drill, blast, and excavate short sections, not exceeding 120 feet (36 m) for a production hole line, until a technique produces the desired results.

The blasting consultant shall witness the test sections drilling and loading operations and be present when all test sections are shot. The time spent witnessing these operations is considered part of the time required to observe the loading, drilling, and blasting operations, as specified in 208.13.

208.08 Safety Procedures.

A. Warnings and Signals. Establish a method of warning all employees on the job site of an impending blast.

Define the limits of the blasting area where there is a flyrock danger. Control the access to the blasting area to prevent the presents of livestock or unauthorized persons at least ten minutes before each blast.

Notify all employees in the area that a blast shall be fired with a 1-minute signal. After the blast is over, sound an "all clear" signal so all employees in the area understand that all blasting operations are finished.

One minute before the blast, sound three long signals, lasting 5 seconds, on an air horn or siren. For the all "clear" signal, sound one long signal, lasting at least 5 seconds, to indicate that all blasting has ceased.

B. Lightning Protection. Furnish, maintain, and operate lightning detection equipment during the entire period of blasting operations and during the periods that explosives are used at the site. The equipment shall be approved by the Contracting Officer, and shall be similar or equal to the Thomas Instruments SD250 Storm Alert as manufactured by DL Thomas Equipment, Keene, New Hampshire or the Litton TSM/C Thunderstorm Monitor and Lightning Warning Instrument, as manufactured by Litton Industries, Inc., Environmental Systems Division, Camarillo, California. Once approved, install the equipment where approved by the Contracting Officer.

If the lightning detection device indicates a blasting hazard potential, evacuate personnel from all areas where explosives are present. If a lightning detector indicates a blasting hazard, perform the following:

1. Clear the blasting area of all personnel.
 2. Notify the Engineer of the potential hazards and precautions to be taken.
 3. Terminate the loading of holes and return the unused explosives to the day storage area.
 4. If blast holes are loaded and would pose a hazard to traffic if detonated, close the roads until the lightning hazard has passed.
 5. When the hazard dissipates, inform the Engineer that production blasting can continue.
- C. Check for Misfires. Observe the entire blast area for a minimum of 5 minutes following a blast to guard against rock fall before commencing work in the cut. The 5-minute delay between blasting and not allowing anyone but the blaster to enter the area is needed to make sure that no misfires have occurred.

During the 5-minute delay, the blaster is responsible for going into the shot area and checking all the holes to make sure that they have detonated. If any holes have not fired, the blaster shall handle these misfires before others enter the work area.

Halt the blasting operations if the methods being employed result in the required slopes not being in a stable condition or the safety and convenience of the traveling public is jeopardized.

D. Misfire Handling Procedures. If a visual inspection indicates that complete detonation of all charges did not take place, proceed as follows:

1. If the system was energized and no charges fired for electric systems, test the lead wire continuity before inspection of the remainder of the blast. For non-electric systems, check the lead in or tube to make sure that detonation has entered the blast area.
2. If an inspection of the trunkline or lead in tubing-line indicates that there is a break in the line or if the tubing did not fire, repair the system and re-fire the blast. If the inspection indicates that the trunkline has fired, and misfired charges remain, the blaster shall do the following:
 - a. Exclude all employees except those necessary to rectify the problem.
 - b. Close traffic, if a premature explosion could be a hazard to traffic on nearby roads.
 - c. Correct the misfire in a safe manner. If the misfire poses a problem that the blaster cannot safely correct, the Contractor shall call a consultant or an explosive company representative skilled in the art of correcting misfires to rectify the problem.

E). Where a Drill Boat or Barge is Used.

- a. Provisions shall be made for jettisoning explosives overboard in emergencies.

b. No high explosives shall be stored on the boat or barge deck in the open except for the one case that is to be loaded immediately into the bore holes. Any explosives remaining on deck shall be returned to the day magazine prior to the firing of any blast.

c. The firing line reel or spool shall be mounted on the rig in a manner that it cannot be lost overboard. An approved blasting machine shall be used for detonation regardless of the number of caps used.

d. Stray Ground Currents. Prior to blasting, a test shall be made for stray ground currents. The Contractor shall furnish both AC and DC voltmeters capable of reading 0.05 volts and shall employ the proper techniques in conducting the tests. Electrical blasting operations shall not be carried out when the maximum reading by the AC and DC voltmeters exceeds 0.05 ampere. The Contractor shall take all precautions outlined under "Stray Current", contained on pages 179 and 181 of DuPont's Blasters Handbook (16th Edition), to prevent premature detonation from stray ground currents.

208.10 Cushion (Trim) Blasting.

If the horizontal distance from the cut face to the existing rock face is less than 15 feet (4.5 m), the Contractor may use cushion blasting instead of presplitting. Perform cushion blasting according to 208.09, except as follows:

A. Detonate along the cut face after the detonation of all production holes.

B. Between the trim line and the nearest production row, use a difference in delay time of 25 to 75 milliseconds.

208.12 Blaster

Use an experienced blaster in charge of all blasting operations. Use a blaster with at least 5 years of proven experience in underwater rock blasting and with a sufficient amount of proven experience of the type of rock blasting required by the Contract.

Submit a resume of the credentials (GA) of the proposed blaster. Include in the resume a list of at least five underwater rock blasting projects on which the blaster was responsibly in charge of the rock blasting. List a description of the projects, with details of the blasting operations. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the blaster before beginning any drilling and blasting work. Allow 20 days for the review of this documentation. The blaster shall perform the following:

A. Control the ground vibrations by the use of properly designed delay sequences and by using allowable charge weights per delay.

B. Base the allowable charge weights per delay on vibration levels that will not cause damage.

C. Establish the allowable charge weights per delay by carrying out trial blasts and measuring the vibration levels.

D. Independently measure the vibrations and airblast at the closest structure using the criteria and limits set in 208.15 and 208.16. Ensure that only trained and certified personnel set up the seismographs.

E. Use appropriate blast hole patterns, detonation systems, and stemming to prevent venting of blasts and to minimize airblast and noise levels produced by the blasting operations.

F. Carry out the trial blasts according to the blasting test section requirements of 208.07.

G. Report the vibrations (velocity and frequency) and airblasts on both seismographs before the next blast. This report shall denote whether or not these numbers exceeded the allowable set by the vibration specialist.

H. Modify 208.12.A through 208.12.F above as required to limit ground vibrations and airblast to the levels established by the vibration specialist, and the airblast and noise control specialist.

I. Coordinate and review the blast hole layout and drilling operations.

208.13 Blasting Consultant.

It is the Contractors responsibility to retain an experienced and recognized blasting consultant to assist in the blast design. The blasting consultant shall assist in the design of the production blasting and have experience working in close proximity to structures.

Retain a blasting consultant with at least 5 years of proven experience in underwater rock blasting design and with a sufficient amount of proven experience of the type of rock blasting design required by the Contract. The Contractor shall not use a blasting consultant that is an employee of the Contractor, explosives manufacturer, or explosives distributor.

Submit a resume of the credentials (GA) of the proposed blasting consultant. Include in the resume a list of at least five marine rock blasting projects on which the blasting consultant was responsibly in charge of the rock blasting design. List a description of the projects, with details of the blast plans and modifications made during the project. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the blasting consultant before beginning any drilling and blasting work. Allow 20 days for the review of this documentation.

The blasting consultant shall observe the loading, drilling, or blasting operations for at least 8 hours per week if these operations are in progress for 40 or more hours per week. The blasting consultant shall witness the drilling, loading and blasting of the first shot in each major cut. At a minimum, the blasting consultant shall witness the drilling, loading and blasting of every 20th shot on the project. The blasting consultant shall write a written report to the Contracting Officer at least once a month detailing the blasting operations. The time spent writing this report is not considered part of the time required to observe the loading, drilling, and blasting operations. The Contractor shall coordinate the blasting consultant's hours with the Engineer.

208.14 Pre-Blast Condition Survey.

The Contractor shall provide one person from his organization and his specialist on vibration control to work as a team with a representative of the Contracting Officer in making a preblast structural survey.

The survey shall include any buildings, structures, or utilities within 1500 feet (460m) or to the nearest ½-miles radius of the blasting operations. Use a greater radius if the structures are potentially at risk from blasting damage.

--OR--

A representative sample of structures (approximately 20 percent), as determined by the Contractor, that could receive seismic motion greater than 0.4 inch per second or airblast overpressure greater than 0.01 psi, will be inspected and their condition documented.

Any existing outstanding architectural defects such as broken or fallen plaster or broken windows shall be photographically documented.

The Contractor shall use a survey method acceptable to its insurance company. The Contractor is responsible for any damage resulting from blasting.

If owners or occupants fail to allow access to the property for the pre-blast survey, send a certified letter to the owner or occupant. Make the notification effort and the certified letter part of the pre-blast survey records.

Deliver a copy of the pre-blast survey records to the Contracting Officer before beginning the blasting operations at the critical blasting locations.

Notify occupants of local buildings before the commencement of blasting.

208.15 Vibration Control and Monitoring.

Vibration Control: Where blasting is necessary, the Contractor shall employ a specialist qualified in vibration control methods capable of analyzing results obtained from seismograph readings. The specialist shall have at least 5 years of proven experience in monitoring vibrations on marine rock blasting projects and with a sufficient amount of proven experience of the type of rock blasting vibration monitoring required by the Contract. A minimum of 20 calendar days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with bona fides (GA) of the seismic specialist to include, but not be limited to, past experience, training, and education. A list a description of the projects, with details of the vibration interpretations made on the project should be included. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the vibration specialist before beginning any drilling and blasting work. The acceptability of the specialist is subject to the approval of the Contracting Officer. The

Contractor shall not use a vibration specialist that is an employee of the Contractor, explosives manufacturer, or explosives distributor.

The contractor shall establish what vibration limits are being used and explain why they are being used to the Contracting Office before blasting begins near structures denoted in the pre-blast survey in 208.14.

The Contractor shall provide a minimum of two seismographs to measure and record ground movements caused by each blast detonated under the contract. Seismograph operators shall be qualified personnel capable of setting up instruments at designated locations and efficiently recording the blast. The seismographs shall be placed at locations to include, but not limited to, the nearest buildings, structures, or utilities and such locations are to be approved by the Contracting Officer.

Blasting shall be controlled in such a manner that the maximum ground vibration level at any structure which is vulnerable to damage shall not exceed a zero-to-peak particle velocity of 0.5 inches per second or an energy ratio of 1.0. The instrumentation shall record three orthogonal components (vertical, radial, and transverse with respect to the location of the blast) of particle velocity direct (or shall have sufficient resolution of acceleration or displacement such that particle velocity can be readily and accurately determined from the records). The instantaneous vector sum of the three directional components of vibration will be used to compute the maximum vibration level. Stop all operations if the vibration limits are exceeded until the vibration specialist reports to the Engineer that no damage has occurred or will occur and that corrective action has been taken to lower the vibration.

The record for each blast shall consist of seismograph records identified by instrument number, name of approved observer and interpreter, location of instruments positively identified, date and time and location of blast, amount of explosives used, peak particle velocity, type of ground at recording station and material on which the instrument is sitting, and all other data necessary to adequately control blasting operations. Furnish the data recorded for each shot before the next blast. (OR...A memorandum or telephone report on vibration intensity shall be submitted within 24 hours when specifically requested by the Contracting Officer or without request when such intensity exceeds a peak particle velocity of 0.5 inches per second.) The Contractor shall submit a copy of the record in tabular form for each blast on a semi-monthly basis.

208.16 Airblast and Noise Control.

Airblast control: Where blasting is necessary, the Contractor shall employ a specialist qualified in making airblast overpressure measurements and noise control measurements on selected detonations, analyzing the results obtained and making airblast predictions for succeeding detonations. This may be waived at the Blasting Consultants written request as the detonations will all be underwater and relatively minor in scale. If required, the specialist shall have at least 5 years of proven experience in airblast and noise control on heavy/highway rock blasting projects and with a sufficient amount of proven amount of proven experience of the type of rock blasting airblast and noise control monitoring required by the Contract. A minimum of 20 calendar days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with the bona fides (GA) of the airblast specialist to include, but not be limited to, past experience, training, and education. Include a list of at least five heavy/highway

rock blasting projects on which the airblast and noise control specialist was responsibly in charge of the airblast and noise control of the highway rock blasting operations. List a description of the projects, with details of the airblast and noise monitoring made on the project. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. The Contractor shall not use an airblast and noise control specialist that is an employee of the Contractor, explosives manufacturer, or explosives distributor. The acceptability of the specialist is subject to the approval of the Contracting Officer.

If required, the Contractor shall install an airblast monitoring system between the main blasting area and the nearest structure subject to blast damage or annoyance. The maximum peak positive airblast overpressure at any structures, vehicles, or vessels moored or underway, with glass windows shall not exceed 0.02 psi (or 134 db). Blasting operations shall not be conducted from 1 hour before sunset to 2 hours after sunrise or when a temperature inversion or heavy low-level cloud cover exists. The peak positive airblast overpressure as developed by the Test Blast Program shall be accurately measured (within +/- 10 percent) at three or more locations and to peak overpressure levels at or below 0.01 psi. The airblast overpressures from the test events should be monitored at ranges extending from the range of the closest structure to any planned detonation outward of an overpressure level of 0.01 psi or over a range from 500 to 3000 feet, whichever is greater.

Stop all operations if the overpressure limits are exceeded until the airblast and noise control specialist reports to the Engineer that no damage has occurred or will occur and that corrective action has been taken to lower the airblast. Lower the overpressure limit if it proves too high based on damage or complaints. The airblast and noise control specialist may establish the peak overpressure limits higher than 134 dB. Submit information explaining why higher limits are needed and are safe to the Contracting Officer before blasting begins near structures denoted in the pre-blast survey in 208.14.

Results from the initial monitoring of the Test Blast Program shall be used to predict airblast overpressures for succeeding events and to insure peak positive overpressures do not exceed 0.02 psi at the closest structure or vessel moored or underway.

One permanent, signed copy of the airblast records from each test blast identified, date and time and location of blast, amount of explosives used, peak positive overpressure shown, and all prediction curves necessary to adequately control blasting operations shall be furnished the Contracting Officer at the completion of the initial test blasts (or after each shot or use the same reporting procedures for vibration in 208.15).

208.17 Hydrologist.

Use of a qualified hydrologist to monitor the before, during, and after blasting and quality of the water supplies within 1500 feet (460 m) of the blasting areas. The water supplies shall include, but not be limited to, all wells, springs, or other water supplies for human consumption.

Retain an experienced hydrologist (GA). The Contractor shall not use a hydrologist that is an employee of the Contractor, explosives manufacturer, or explosives distributor.

Before or at the preconstruction conference, submit a resume of the credentials of the proposed hydrologist. Include in the resume a list of at least five heavy/highway projects on which the hydrologist was responsibly in charge of monitoring water quality and quantities. List a description of the projects, with details of the water monitoring or modeling made on the projects. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the hydrologist before beginning any major excavation, drilling, or blasting work. Allow 20 days for the review of this documentation.

The hydrologist shall perform, at minimum, all of the following:

- A. Review the available public records, including Ohio DNR well logs, to obtain background information and to identify the locations and geology of water supplies within 1500 feet (460 m) of the blasting areas or major excavations.
- B. Examine private wells, and public and industrial water supplies (as allowed by property owners or occupants), and measure water levels and well depths with a water level meter. Clean the water level meter before and between each use.
- C. Collect water quality data (pH, e-coli, specific conductivity, turbidity, sulfur, and iron) from private wells, and public and industrial water supplies to determine the major excavation work or blasting affects on the water supplies by using field instruments.
- D. Measure the water quality and water level for a minimum of two times per week for 2 weeks before, during, and 2 weeks after major excavation or blasting within 1500 feet (460 m) of the water supplies.
- E. Perform an associated field survey of the locations and elevations of wells and springs.
- F. Evaluate the need for piezometers to monitor the ground water conditions. Place and monitor the piezometers as necessary.
- G. Provide a monitoring plan report detailing the proposed activities, frequencies, testing, and any recommendations for monitoring the water supplies as detailed in 208.17.A through 208.17.F above. Submit this report at least 10 days before beginning the scheduled blasting or major excavation.
- H. Provide a monthly report of the conclusions and results of the monitoring plan.
- I. Provide a final report on the final condition or affect of the blasting or major excavation on the water supplies. Submit this report within 20 days after the blasting or major excavation is completed on the project.
- J. Meet with the Contracting Officer in order to coordinate this work and provide input, update the project schedule, report progress (including completed work and updated schedule), and make recommendations. Allow for two meetings.

The Contractor is not responsible for damages to the above denoted water supplies if the blasting or excavation is done according to this specification. The Contractor is responsible for damage caused by negligence, vibration or noise above the allowable limits, flyrock, or back break.

208.18 Flyrock Control.

Before firing any blast in areas where flying rock may result in personal injury or unacceptable damage to property or the work, cover the rock with blasting mats, soil, or other equally serviceable material to prevent flyrock.

If flyrock leaves the construction site or lands on a traveled road, the Contractor shall cease all blasting operations until the blasting consultant specified in 208.13 reviews the site and determines the cause and solution to the flyrock problem. Before blasting proceeds, submit a written report addressing the following:

- A. Why the flyrock left the construction site or landed on a traveled road.
- B. What corrective measures were taken to prevent this from reoccurring?

208.19 Public Meetings.

If a blasting consultant, vibration specialist, airblast and noise control specialist, or hydrologist is specified in the Contract, make the consultant, specialists Contractor's superintendent and blaster available for 1 day to prepare for and participate in a public meeting organized and conducted by the Engineer to better inform the public about anticipated drilling and blasting operations. The consultant and specialists shall be prepared to answer any questions dealing with the magnitude of seismic motion, vibrations, airblast overpressure, flyrock, and water problems that may affect the public.

208.20 Record Keeping.

- A. **Daily Explosive Material Consumption.** Keep a daily record of the transactions at each storage magazine. Update inventory records at the close of every business day. Show on the records the class and quantities received and issued and total remaining on hand at the end of each day. Check the remaining explosive inventory each day and report any discrepancies that would indicate a theft or loss of explosive material.
- B. **Report of Loss.** If a loss or theft of explosives occur, report all circumstances and details of the loss or theft immediately to the nearest Bureau of Alcohol, Tobacco and Firearms, as well as to the local law enforcement authorities and the Engineer.
- C. **Daily Drilling and Blasting Logs.** On a weekly basis, provide a daily log of the drilling and blasting operations. Update the log at the close of each business day.

Fill out the Department or blasters' drilling form to document the following: burden, spacing, bench height, hole depth and diameter, and subdrill depth. Document additional information about the drilling such as voids, mud seams, air pressure loss and lack of cuttings. The driller shall give this form to the blaster and the Department.

Document on the blasting log the number of blasts, times and dates of blasts, the blasting locations and patterns, and all of the following information:

1. Station limits of the shot.
2. Plan and section views of drill pattern including free face, burden, blast hole spacing, blast hole diameters, blast hole angles, lift height, and subdrill depth.
3. Loading diagram showing type and amount of explosive, primers, and initiators and location and depth of stemming.
4. Initiators sequence of blast holes including delay times and delay system in each blast hole.
5. Trade names and sizes of all explosives, primers, and initiators to be employed.
6. Signature of the blaster in charge.
7. Use the blasters blasting form or the Blasting Report form in the current version of the *NHI Course Rock Blasting and Overbreak Control Manual*. Adapt these forms to meet the project requirements.

The drilling and blasting logs are for quality control, informational, and record keeping purposes. Review of the blast log by the Engineer does not relieve the Contractor of responsibility for the accuracy and adequacy of the drilling and blasting log.

D. Video Recording of Blasts. Take video tape recordings of each blast. Index the tapes or sections of tapes in a manner to properly identify each blast. Furnish copies of the blast videotapes on a weekly basis. This video may be preformed by using electronic files.

Enclosure 3

- United States Department of Interior Fish and Wildlife Services
Correspondence (11.27.07)

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Thursday, December 13, 2007 2:13 PM
To: Sinagoga, Lee Ann
Subject: USFWS Response to Draft EA Marblehead

Attachments: USFWS Response to USCG Marblehead Draft EA 11-27-07.pdf



USFWS Response
to USCG Marbleh...

Lee Ann

FYI

Mark A. Lamb, CHMM
Environmental Specialist
U.S. Coast Guard, CEU Cleveland (ER)
1240 East Ninth Street, Room 2179
Cleveland, OH 44199-2060
216.902.6304 phone
216.902.6277 fax
mark.a.lamb@uscg.mil



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923/FAX (614) 469-6919
November 27, 2007

Mr. Mark Lamb
United States Coast Guard
Civil Engineering Unit Cleveland
1240 East Ninth Street, Room 2179
Cleveland, OH 44199-2060

TAILS: 31420-2008-TA-0062

Dear Mr. Lamb:

This is in response to the letter we received October 22, 2007 requesting comments on possible impacts to Federally-listed threatened or endangered species within the vicinity of a proposed project site in Marblehead, Ottawa County, Ohio. The project involves improvements to the port facilities at the U.S. Coast Guard (USCG) Station. Activities include deepening the existing boat basin, installing two temporary fueling systems, and temporarily removing and reinstalling existing pier components. The study site consists of the boat basin and the associated USCG Station onshore. The station includes part of the coastal zone, paved areas, mowed lawn, and is located within a mixed residential and industrial area. Any equipment staging areas would be established in the paved areas or lawn on the USCG property. The harbor lacks any emergent vegetation and any unarmored shorelines.

There are no Federal wildlife refuges, wilderness areas, or Critical Habitat within the vicinity of this site.

In general, the U.S. Fish and Wildlife Service recommends that proposed activities minimize water quality impacts and impacts to quality fish and wildlife habitat. No in-water activity should occur between April 15 and June 30 in order to protect fish spawning activities. You have indicated that a turbidity curtain will be used to reduce the impact from dredging.

According to the information provided the proposed project will use best management practices to reduce sedimentation from soil erosion at the equipment staging areas. Prevention of non-native, invasive plant establishment is critical in maintaining quality habitats. All disturbed areas should be mulched and re-vegetated with native plants. According to the information provided all dredge material will be disposed of at a landfill in Marblehead.

The project lies within the range of the bald eagle, a species protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Due to the project type, location, and onsite habitat, this species would not be expected within the project area, and no impact to this species is expected. Relative to this species, this precludes the need for further action on this

project as required by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a Federally-listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Summer habitat requirements for the species are not well defined but the following are considered important:

- (1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;
- (2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;
- (3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

You have indicated that no trees would be cut down. Due to the lack of suitable bat habitat onsite and the project description we do not anticipate that any significant impacts to the Indiana bat will occur as a result of the proposed project as described.

The project lies within the range of the **eastern prairie fringed orchid** (*Platanthera leucophaea*), a Federally-listed threatened species. This tall showy orchid is found in wet prairies, sedge meadows, and moist road-side ditches. Due to the lack of suitable habitat onsite this species would not be expected within the project area, and no impact to the eastern prairie fringed orchid is expected.

The project lies within the range of the **eastern massasauga** (*Sistrurus catenatus catenatus*), a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate species. Due the project location and lack of suitable habitat no impact is expected for this species.

The proposed project lies within the range of the **piping plover** (*Charadrius melodus*), a Federally-listed endangered species. Plover habitat includes sand or pebble beaches with sparse vegetation along the shore of Lake Erie. You have indicated that the harbor lacks any emergent vegetation and any unarmored shorelines. Due to the lack of suitable habitat onsite this species would not be expected within the project area, and no impact is expected.

The project lies within the range of the **Lakeside daisy** (*Hymenoxys herbacea*), a Federally-listed threatened species. This plant occurs on the Marblehead Peninsula and Kelleys Island and is found in dry, rocky prairie underlain by limestone or in cliff and alvar crevices of exposed limestone rock outcrops. Lakeside daisy requires an open habitat with full sun exposure. According to the information provided the area around the harbor includes paved areas and mowed lawn. Due to the lack of suitable habitat onsite this species would not be expected within the project area, and no impact is expected.

The project lies within the range of the **Lake Erie watersnake** (*Nerodia sipedon insularum*), a Federally-listed threatened species. Lake Erie watersnakes on the islands in the western basin of Lake Erie receive federal protection. Any Lake Erie watersnakes that occur on the mainland are protected as state-listed endangered species. The Service recommends that you coordinate with the Ohio Department of Natural Resources for this species. We recommend that during warm months (i.e., from June through September) the construction site should be actively monitored for snakes before and during construction by an individual that can identify a Lake Erie watersnake.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C.661 et seq.), the Endangered Species Act of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

If you have any questions regarding our response or if you need additional information, please contact Jennifer Finfera at extension 13.

Sincerely,



Mary Knapp, Ph.D.
Field Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH
Ohio EPA, 401/Wetland Section, Attn: Randy Bournique, Columbus, OH
USACE, Buffalo District, Buffalo, NY

10/2/89

Enclosure 4

- Conversation between U.S.C.G (Mr. Mark Lamb) and Village of Marblehead (Ms. Jacqueline Bird) (11.30.07)

Enclosure 4

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Monday, December 03, 2007 8:56 AM
To: Sinagoga, Lee Ann; Pipak, Raymond
Subject: Conversation with Mayor Bird, Marblehead EA

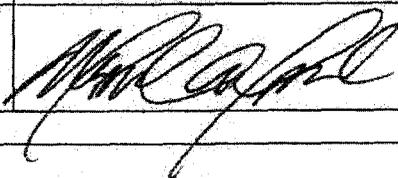
Attachments: ConRec J Bird Marblehead EA 11-30-07.pdf



ConRec J Bird
Marblehead EA 11...
Lee Ann
To be included in EA.

Ray
Action Item.

Mark A. Lamb, CHMM
Environmental Specialist
U.S. Coast Guard, CEU Cleveland (ER)
1240 East Ninth Street, Room 2179
Cleveland, OH 44199-2060
216.902.6304 phone
216.902.6277 fax
mark.a.lamb@uscg.mil

CONVERSATION RECORD		Date: 11/30/2007		Time: 1155	
NAME OF PERSON(S) CONTACTED OR IN CONTACT		ORGANIZATION:		TELEPHONE NO.:	
Jacqueline Bird, Mayor		Village of Marblehead		419-625-2454 ext 1540	
TYPE OF CONVERSATION					
VISIT		CONFERENCE		TELEPHONE: incoming outgoing	
SUBJECT:					
USCG Station Marblehead, Proposed Project to Dredge the Boat Basin, Comments to Draft Environmental Assessment					
SUMMARY:					
<p>Ms. Bird called on behalf of the Village of Marblehead to say that the Village would not be providing comments to the Draft Environmental Assessment (EA). She requested that the USCG provide three days notice prior to beginning field work to Bob Biers, Chief Operating Engineer and Superintendent, Water Treatment Plant at 419-798-5836. She said the Village feels that the protective measures described in the Draft EA should adequately protect the water intake, but she would like Mr. Biers to know when the field work will be conducted.</p> <p>She also indicated that the project had been discussed at recent Village Council Meetings / Board of Public Affairs Meetings.</p>					
ACTION REQUIRED					
Provide three days notice to Bob Biers, Village of Marblehead, prior to beginning blasting.					
NAME OF PERSON DOCUMENTAING CONVERSATION		SIGNATURE		DATE	
Mark Lamb, USCG, CEU Cleveland (ER) Environmental Protection Specialist				11/30/2007	
ACTION TAKEN					
SIGNATURE		TITLE		DATE	
OTHER					

Enclosure 5

- Email Correspondence from Ohio Department of Natural Resources (Mr. Brian Mitch, Environmental Review Manager) to U.S.C.G (Mr. Mark Lamb) (12.13.07)

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Monday, January 28, 2008 9:18 AM
To: Sinagoga, Lee Ann
Subject: FW: USFWS Response to Draft EA Marblehead

Attachments: USFWS Response to USCG Marblehead Draft EA 11-27-07.pdf



USFWS Response
to USCG Marbleh...

-----Original Message-----

From: Lamb, Mark
Sent: Thursday, December 13, 2007 3:29 PM
To: 'Brian.Mitch@dnr.state.oh.us'
Subject: FW: USFWS Response to Draft EA Marblehead

Brian

I would like to discuss the first paragraph on page 3 of USFWS's letter (attached).

Mark A. Lamb, CHMM
Environmental Specialist
U.S. Coast Guard, CEU Cleveland (ER)
1240 East Ninth Street, Room 2179
Cleveland, OH 44199-2060
216.902.6304 phone
216.902.6277 fax
mark.a.lamb@uscg.mil

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Thursday, December 13, 2007 1:50 PM
To: Sinagoga, Lee Ann
Subject: FW: 07-0261; Draft EA for Port Facilities, Marblehead, Ohio
Attachments: oledata.mso; image001.gif

Lee ANN
ODNR Response.
MAL

-----Original Message----- <<image001.gif>> -
From: Brian.Mitch@dnr.state.oh.us [<mailto:Brian.Mitch@dnr.state.oh.us>]
Sent: Thursday, December 13, 2007 8:30 AM
To: Lamb, Mark
Subject: 07-0261; Draft EA for Port Facilities, Marblehead, Ohio

Mark,

Please reply so I know you got these. Thanks.

ODNR COMMENTS TO Mr. Mark Lamb, Environmental Specialists, USCG, 1240 East Ninth Street, Room 2179, Cleveland, Ohio 44199-2060.

Location: The USCG Station Marblehead port facilities are located on Lake Erie at 606 Prairie Street, Marblehead, Ohio 43440.

Project: The USCG has prepared a Draft Environmental Assessment for proposed improvements to the port facilities at the USCG Station in Marblehead, Ohio. These improvements would include deepening the existing boat basin, installing two temporary fueling systems, and temporarily removing and reinstalling existing pier components. The Draft EA includes an assessment of potential environmental impacts from deepening the boat basin using blasting and mechanical dredging, and/or using expansive agents in order to loosen and remove bedrock.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Rare and Endangered Species: The ODNR, Division of Natural Areas and Preserves, Natural Heritage Database contains no records of rare species or unique natural features within the proposed project and there are no state nature preserves, state parks, wildlife areas, or scenic rivers in the vicinity of the site.

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has no comments regarding this Draft EA.

Coastal Management: The ODNR, Office of Coastal Management comments that the proposed project is subject to a Federal Consistency review pursuant to the Coastal Zone Management Act of 1972, as amended. Based on the information provided, the Federal Consistency review began on October 22, 2007 and will last no longer than 60 days from that date.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6378 or Vicki Deisner at (614) 265-6873 if you have questions about these comments or need additional information.

Brian Mitch, Environmental Review Manager

Vicki Deisner, Environmental Policy Coordinator

Ohio Department of Natural Resources

Environmental Services Section

2045 Morse Road, Building C-4

Columbus, Ohio 43229-6693

Office: (614) 265-6378

FAX: (614) 267-4764

brian.mitch@dnr.state.oh.us

Enclosure 6

- Federal Consistency Concurrence Letter from Ohio Department of Natural Resources (Mr. Steve Holland, MPA) to U.S.C.G (Mr. Mark Lamb) (12.13.07)

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Thursday, December 13, 2007 2:09 PM
To: Sinagoga, Lee Ann
Subject: FW: Marblehead EA Consistency

Attachments: Coast Guard Marblehead 07 consistency.pdf



Coast Guard
Marblehead 07 cons..

-----Original Message-----

From: Steven.Holland@dnr.state.oh.us [mailto:Steven.Holland@dnr.state.oh.us]
Sent: Thursday, December 13, 2007 1:14 PM
To: Lamb, Mark
Cc: Ruby, Richard J LRB; Mitch, Brian
Subject: Marblehead EA Consistency

Hello Mark,

Attached is the Federal Consistency concurrence letter related to the draft EA for Marblehead. The original will be mailed to you. If you have any questions, please feel free to contact me. Also, if it is decided that any construction or modification to erosion control structures will be involved in this project, please notify me ASAP so that we can address permitting requirements. Thanks.

Steve Holland, M.P.A.
Federal Consistency Coordinator

Ohio Coastal Management Program
ODNR Office of Coastal Management
105 West Shoreline Drive
Sandusky, Ohio 44870
(419) 626-7980

www.ohiodnr.com/coastal <<http://www.ohiodnr.com/coastal>>



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

OFFICE OF COASTAL MANAGEMENT
105 WEST SHORELINE DRIVE
SANDUSKY, OHIO 44870
(419) 626-7980
FAX (419) 626-7983

December 13, 2007

United States Coast Guard
Civil Engineering Unit Cleveland
1240 East Ninth Street, Room 2179
Cleveland, Ohio 43229-2060
ATTN: Mr. Mark Lamb

RE: Draft Environmental Assessment for Dredging Port Facilities, Marblehead

Dear Mr. Lamb:

This letter regards the above referenced document dated October 22, 2007. The draft assessment relates to the proposed dredging of material in an approximately 11,980 square foot area of the Marblehead Station boat basin in 2008.

The Coastal Zone Management Act and its corresponding Federal Regulations provide that any federal agency activity affecting any coastal use or resource of a state's designated coastal zone must be conducted in a manner consistent to the maximum extent practicable with the enforceable policies of that state's approved coastal management program. ODNR is the designated state agency under the Ohio Coastal Management Program. As such, ODNR is responsible for concurring with or objecting to Federal agency consistency determinations.

This letter is to inform you that the proposed project is consistent with the enforceable policies of the Ohio Coastal Management Program, on the condition that any required State of Ohio authorizations are obtained for this project.

If you need additional information or have any questions regarding this consistency review or State of Ohio authorizations, please contact me at (419) 626-7980.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Holland".

Steve Holland, M.P.A.
Federal Consistency Coordinator

c: Richard Ruby, U.S. Army Corps of Engineers
John Watkins, ODNR Office of Coastal Management
Brian Mitch, ODNR Office of Environmental Policy



Enclosure 7

- Email Correspondence from Ohio Department of Natural Resources (Mr. Brian Mitch, Environmental Review Manager) to U.S.C.G (Mr. Mark Lamb) (01.02.08)

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Friday, February 01, 2008 11:30 AM
To: Sinagoga, Lee Ann
Subject: FW: USFWS Response to Draft EA Marblehead

Attachments: USFWS Response to USCG Marblehead Draft EA 11-27-07.pdf



USFWS Response
to USCG Marbleh...

-----Original Message-----

From: Lamb, Mark
Sent: Friday, February 01, 2008 11:08 AM
To: Sinagoga, Lee Ann
Subject: FW: USFWS Response to Draft EA Marblehead

Lee Ann

I think we should include this email with Enclosure 7 of Appendix A. It is the USCG's request to coordinate with the ODNR about the Lake Erie watersnake as recommended by the USFWS.

Mark

-----Original Message-----

From: Lamb, Mark
Sent: Thursday, December 13, 2007 3:29 PM
To: 'Brian.Mitch@dnr.state.oh.us'
Subject: FW: USFWS Response to Draft EA Marblehead

Brian

I would like to discuss the first paragraph on page 3 of USFWS's letter (attached).

Mark A. Lamb, CHMM
Environmental Specialist
U.S. Coast Guard, CEU Cleveland (ER)
1240 East Ninth Street, Room 2179
Cleveland, OH 44199-2060
216.902.6304 phone
216.902.6277 fax
mark.a.lamb@uscg.mil

Sinagoga, Lee Ann

From: Mark.A.Lamb@uscg.mil on behalf of Lamb, Mark [Mark.A.Lamb@uscg.mil]
Sent: Friday, February 01, 2008 7:56 AM
To: Sinagoga, Lee Ann
Subject: FW: 07-0261; DRAFT EA for USCG Station, Marblehead, Ohio

-----Original Message-----

From: Brian.Mitch@dnr.state.oh.us [mailto:Brian.Mitch@dnr.state.oh.us]
Sent: Wednesday, January 02, 2008 9:23 AM
To: Lamb, Mark
Subject: 07-0261; DRAFT EA for USCG Station, Marblehead, Ohio

Mark,

Here is our response to the comments in the USFWS letter regarding the Lake Erie Water Snake:

Due to the location of this project, the type of work proposed, and location where Lake Erie water snakes have been found in Ohio, the ODNR, Division of Wildlife believes this project is not likely to have an impact on the Lake Erie water snake.

Brian Mitch, Environmental Review Manager
Ohio Department of Natural Resources
Division of Real Estate and Land Management
Environmental Services Section
2045 Morse Rd., Building C-4
Columbus, OH 43229-6693
Office: (614) 265-6378
FAX: (614) 267-4764
brian.mitch@dnr.state.oh.us

APPENDIX B

DRAFT AND FINAL EA DISTRIBUTION LIST

**APPENDIX B
DRAFT EA DISTRIBUTION LIST**

Mr. Robert Biers, Plant Superintendent, Water Department, Village of Marblehead, Ohio

Ms. Jacqueline Bird, Mayor, Village of Marblehead, Ohio

Mr. Hal Clagg, Chairman, Zoning Commission, Village of Marblehead, Ohio

Ms. Vicki Diesner, Ohio Department of Natural Resources

Mr. J.A. Franklin, U.S. Coast Guard Station, Marblehead, Ohio

Mr. Robert Hruska, Inspector, Zoning Commission, Village of Marblehead, Ohio

Mr. Mark Lamb, U.S. Coast Guard, Civil Engineering Unit, Cleveland, Ohio

Mr. Richard Ruby, U.S. Army Corps of Engineers, Buffalo District, Buffalo, New York

Ms. Courtney Williamson, U.S. Fish and Wildlife Service, Ecological Services Field Office, Reynoldsburg, Ohio

APPENDIX C

**MODIFIED ROCK BLASTING SPECIFICATIONS
DREDGING FOR PORT FACILITIES
U.S. COAST GUARD STATION MARBLEHEAD, OHIO**

**APPENDIX A
MODIFIED ROCK BLASTING SPECIFICATIONS
DREDGING FOR PORT FACILITIES
U.S. COAST GUARD STATION MARBLEHEAD, OHIO**

Preface: This Appendix is modified Section 208 from Ohio Department of Transportation (ODOT) "Construction and Materials Specifications" and is a part of the project specifications. In this and other referenced ODOT sections, the term "Director" shall be taken to mean Contracting Officer and the term "Engineer" shall be taken to mean Contracting Officers Technical Representative (COTR).

208.01 Description. This work consists of using production blasting techniques to fracture rock to dredge template depths. Production blasting refers to the rock fragmentation blasts resulting from more widely spaced production holes drilled throughout the main excavation area adjacent to the controlled blast line. Detonate production holes in a controlled delay sequence.

The Contractor's blasting program and methods shall be those necessary to accomplish the excavation shown on the contract drawings in accordance with the procedures specified herein. The Contractor will be required to make necessary plans, examinations, surveys, and test blasts to determine the quantity of explosives that can be fired without damaging property, and to thereafter control the quantity of explosives fired in any one blast to prevent injuries to persons or damage to structures, homes, utilities, vehicles, vessels moored or underway, or any property.

208.02 Regulations on the Use of Explosives. Perform all blasting operations according to all applicable Federal, State, and local laws and regulations, and the provisions of Ohio Specifications Section 107.09. These regulated blasting operations include but are not limited to the following:

A. Storage, handling, and security of explosives, blasting agents, and detonators.

(1) The Bureau of Alcohol, Tobacco, and Firearms (ATF) has enforcement, inspection, and investigative jurisdiction in all matters pertaining to explosives. The Contractor shall notify the appropriate office of the ATF in writing with copies to the local law enforcement authority and the Contracting Officer as to all related facilities, plans and procedures, prior to construction of explosives storage facilities, or receipt of explosives on the site. All transportation, storage, handling, and security of explosives shall be in strict accordance with ATF regulations.

(2) The Contractor shall be responsible for obtaining and displaying all licenses, permits, and approvals, and the keeping of accounts and records, as well as arranging the transportation and protection of all explosives on the project. Should the Contractor fail to comply with above requirements, the Contracting Officer may order a suspension of that part of work involved until the deficiencies are corrected. The Contractor's attention is also directed to subparagraphs (c)(2) and (c)(2)(i) for additional specific liability to be assumed by the Contractor.

(3) All personnel proposed for involvement with explosives, prior to any such involvement, shall be interviewed, their employee records checked, and their history checked through local police records, for any indication of mental instability, criminal connection, or other factors which might render them a poor security risk. These records shall be made available to the ATF and the Contracting Officer for review. No person with any such risk indication shall be permitted any involvement with explosives, unless individually approved by law enforcement authorities.

(4) Any storage facilities for explosives shall be constructed, as a minimum, to conform to Type 2 Storage Facilities as specified in Part 181 of Title 26, Code of Federal Regulations, listed in the above references, subpart J, which includes requirements for hinges and hasps, and the locking system.

(5) Storage magazines/containers conforming to the referenced standards shall be enclosed by a 7-foot chain-link fence, with 3-strand barbed wire overhand mounted on steel arms facing outward at a 45-degree angle. The fence gate shall be secured at all times when not in actual use by 5-tumbler padlocks protected by 1/4-inch steel caps constructed so as to prevent sawing or lever action on the locks. The keys to the locks will be of a non-duplicating type and shall be strictly controlled by one approved individual.

(6) The explosives storage area shall be protected by security lighting installed in a manner that will provide illumination equivalent to normal daylight in the storage area.

(7) If required by Coast Guard, an approved armed security guard shall be posted at the storage site 24-hours per day while explosives are stored at the job site. All security safeguards described above shall be implemented by the Contractor.

(8) The Contractor shall keep a daily record of transactions, to be maintained at each storage magazine. The inventory records shall be updated at close of business each day. Records shall show class and quantities received and issued, and total remaining on hand at end of each day. The remaining stock shall be checked each day, and any discrepancies that would indicate a theft or loss of explosive materials shall be reported immediately.

(9) Should a loss or theft of explosives occur, all circumstances and details of the loss/theft will be immediately reported to the nearest office of the ATF as well as to the local law enforcement authorities and the Contracting Officer's representative.

B. Use of explosives in character and amount as allowed.

C. Storage plan, including the type of magazine or explosive storage facility to be used on the job site. (Change to come before current part A).

- D. Record keeping, placarding, safe distances, and all other requirements concerning storage.
- E. Obtaining and displaying magazine permits.
- F. The Contractor shall comply fully with all applicable sections of the following regulations:
 - (1) Organized Crime Control Act of 1970, Title XI, Regulation of Explosives (P.L. 91-452) (obtainable from Internal Revenue Service as Publication 730).
 - (2) Commerce in Explosives, Part 181 of Title 26, Code of Federal Regulations (implements the provisions of Title XI, Regulation of Explosives, and is obtainable from the Internal Revenue Service as Publication 739).
 - (3) Safety and Health Regulations for Construction, Title 29, Labor Chapter XVII, Bureau of Labor Standards, Department of Labor, Parts 1910 & 1926 (published in Federal Register, Volume 36, Number 75).
 - (4) U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, edition in effect on the date the solicitation for this contract is issued, and changes and amendments thereto.
 - (5) Interstate Commerce Commission Regulations.
 - (6) Applicable U.S. Coast Guard regulations and state, county, municipal, or port authority codes, rules, regulations, and laws.
 - (7) Federal Register, Volume 36, Number 10, 15 January 1971, Department of the Treasury.

208.02.1 Liabilities

The Contractor's attention is called to the PERMITS AND RESPONSIBILITIES and PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS clauses of this contract which define the Contractor's responsibilities relative to the references listed in the subsequent paragraphs. The Contractor shall assume all liability and hold and save the Government, its officers, agents, and employees harmless for any and all claims for personal injuries, property damages, or other claims arising out of or in connection with handling of explosives under the contract. The Contractor shall, in addition, process any and all claims of private citizens arising out of said use of explosives promptly; in particular, all property damage claims shall be acknowledged by the Contractor (or his agent) immediately, and the claimed damage inspected within 30 calendar days following initial notification, and processed to a conclusion (honored, denied, or compromised) within 90 calendar days after cessation of all blasting on the contract; but, in no case shall the claim(s) remain unresolved for a period exceeding six months.

A. PERMITS AND RESPONSIBILITIES

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occurs as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

B). PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

i) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which is not to be removed and which does not unreasonably interfere with the work required under this contract. Note that the West Haul-out Dock is immediately adjacent to the work area. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

ii) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

208.03 Product Specifications. Be aware that delay elements in blasting caps may deteriorate with age. Aged explosives are known to deliver much less than the rated energy.

If evaporation occurs or if improperly mixed, bulk explosives (such as ammonium nitrate and fuel oil) may not contain the proper amount of diesel oil. Low diesel oil drastically reduces the energy content of the explosive and commonly produces reddish brown or yellow fumes upon detonation even in dry blast holes.

Use products conforming to manufacturers' specifications. Ship the manufacturer recommended expiration dates with the products delivered to the project. Do not use any blasting product that either is in excessive age or is in a deteriorated condition. Cease all work until the product's age or quality is determined.

208.05 Blasting Plan Submittal (GA)

(i) General. The blasting program and methods shall be those developed by the test blasting program and procedure to accomplish the excavation shown on the contract drawings in accordance with the procedures specified herein.

(ii) Blasting. Two weeks prior to the commencement of drilling and blasting operations, the Contractor shall submit a Blasting Plan. Any time the drilling or blasting methods change, the Contractor shall submit the revised Blasting Plan for review at least one week prior to the commencement of work.

The Blasting Plan shall include, at a minimum, the following:

- A. General details of the drilling and blasting patterns and controls proposed to use for the production blasting.
- B. Station limits of proposed shots. Critical distances to structures. Place the pre-blast survey limits detailed in 208.14 on the Right-of-Way or plan view sheets.
- C. One plan and section view per main excavation cut of the proposed typical range of drill patterns including a range of free face, burden, blast hole spacing, blast hole diameters, blast hole angles, lift heights, and sub-drill depths.
- D. A typical loading diagram showing the type and amount of explosives, primers, and initiators and location and depth of stemming.
- E. Typical range of initiator sequence of blast holes including delay times and delay system.
- F. Manufacturers' data sheets for all explosives, primers, and initiators to be employed.
- G. Anticipated peak particle velocity and maximum peak positive airblast overpressure at the nearest structure to the blast.
- H. A description and purpose of special methods.
- I. Use the blasters or blasting plan forms in FHWA Publication FHWA-HI-92-001 *Course Rock Blasting and Overbreak Control Manual*. Adapt these forms to meet the project requirements.

In a subsequent submittal, submit one Detailed Plan for all test sections. (Submit or fax at least 24 hours before the shot.) Detail the specific proposed amounts of materials and work described in 208.05.A through 208.05.G above on this Detailed Plan.

The Blasting Plan submittal is for quality control, informational, and record keeping purposes. The review of the Blasting Plan does not relieve the Contractor of the responsibility for using existing drilling and blasting technology and for obtaining the required results.

The use an approved and experienced underwater blasting consultant, conforming to 208.13, to assist with the blast design and to ensure that the Blasting Plan is carried out will be required at all times if blasting is used on the project in any extent.

208.06 Production Holes.

Perform all production blasting, including blasting carried out in conjunction with the blasting test section requirements of 208.07, according to the following requirements:

- A. Drill the production blast holes on the patterns and to the depths submitted in the Blasting Plan and Detailed Plan, as specified in 208.05, but not exceeding a depth of 5 feet (18 m). Drill the production blast holes within two blast hole diameters of the staked collar location. If the blaster does not drill the production holes then the blaster shall inspect the holes and review the drilling logs prior to loading the holes.
- B. Deepen or clean-out blast holes if they are plugged or unable to be fully loaded. Check and measure blast holes before any explosives are loaded into any of the holes to eliminate any safety hazard resulting from drilling near loaded holes.
- C. Maintain a burden distance that is equal to or less than the bench height in order to control the blasting effects.
- D. Drill the row of production blast holes immediately adjacent to the controlled blast line on a plane approximately parallel to the controlled blast line. Drill the production blast holes no closer than 6 feet (2 m) to the controlled blast line. Drill the bottom of the production holes no lower than the bottom of the controlled blast holes except by the amount of subdrilling used in the production holes. Do not exceed 6 1/4 inches (160 mm) in diameter for the production blast holes. Delay the detonation sequence of the production holes toward a free face.
- E. Maintain a stemming depth of at least 0.7 times the burden distance. If water is present or when blasting within 200 feet (61 m) of a structure, use crushed No. 8 coarse aggregate for holes less than 4 inches (100 mm) in diameter and crushed No. 57 coarse aggregate for holes 4 inches (100 mm) in diameter and larger for the stemming material. Use the coarse aggregate gradations of Nos. 8 and 57 gradations on Table 703.01-1. If gravel is used, use crushed material with a minimum of two mechanically fractured faces on 60 percent of the material. In other locations, the Contractor may use drill cuttings for stemming, if it does not compromise the shot integrity.
- F. Take all necessary precautions in the production blasting to minimize blast damage to the rock backslope.

G. Drill a line of buffer holes on a parallel plane adjacent to the presplit holes if presplit results are not satisfactory and production holes are damaging the presplit line. Drill the buffer hole 3 ± 1 inch (75 ± 25 mm) in diameter. Drill the line of buffer holes approximately 3 feet (1 m) from the presplit line, and space 3 to 5 feet (1 to 1.5 m) center-to-center. Do not load the buffer holes with more than 50 percent of the full explosive load that could be placed in a 3-inch (75 mm) production hole. Delay the detonation sequence toward a free face.

208.07 Blasting Test Sections.

Test Blast Program.

(i) A test blast program shall be conducted by the Contractor consisting of up to 3 individual test blasts. The purpose of the test program is to allow the Contractor to establish safe limits of vibration and airblast overpressure. The test blast program shall be conducted and reported in strict accordance with procedures outlined in the sections of these specifications covering vibration control and airblast control.

(ii) Upon evidence of any damage to test structures, test blasting shall cease until the Contracting Officer has been notified, and adjustments made. The test events shall begin with a small number of charges and extend upward to the maximum yield to be used. The final test event shall simulate as close as practicable to the explosive charge type, size, overlying water depth, charge configuration, charge separation, initiation methods, and emplacement conditions anticipated for the largest detonations. One copy of the record for the test blasts shall be submitted in tabular form to the Contracting Officer daily.

(iii) After the test blasts, the Contractor shall examine the representative structures of the preblast survey as previously specified. All new damage resulting from the test blasting shall be reported in detail to the Contracting Officer, including photographs.

(iv) At the conclusion of the test blast program, the Contractor shall examine all reports, surveys, test data, and other pertinent information and conclusions reached shall be the basis for developing a completely engineered procedure for blasting. The procedure shall include sketches showing blasting patterns, weights of explosives, wiring, and charge emplacement. Four copies of the developed procedure shall be submitted for review to the Contracting Officer, and upon completion of the review and acceptance, it shall be appended to and become a part of the aforementioned operational blasting plan. In no event shall operational blasting proceed until the review of the developed procedure for blasting has been completed. If the procedure is not acceptable, the Contractor shall revise and resubmit the procedure. The Contracting Officer shall have up to 2 calendar days to review and accept the revised procedure.

Before commencing full-scale blasting operations, demonstrate the adequacy of the proposed Blasting Plan. Drill, blast, and excavate short test sections to determine which combination of methods, hole spacing, and charge works best. Use a test section with lengths up to 120 feet (36 m) for production blasting when field conditions warrant.

Begin the controlled blasting tests with the controlled blast holes spaced 36 inches (900 mm) apart, then adjust, if needed, until the spacing for full-scale blasting operations is approved. A new test section is required to increase the spacing to a maximum of 42 inches (1050 mm).

Apply the requirements specified for production blasting operations to the test section blasting.

For production blasts within 10 feet (3 m) of the finished slope, do not drill ahead of the test shot area until the test section has been excavated and the results evaluated. If the test shots are unsatisfactory, revise methods as necessary to achieve the required results. Unsatisfactory test shot results include an excessive amount of fragmentation beyond the indicated lines and grade, excessive flyrock, or violation of other requirements within Item 208.

If the drilling and blasting methods do not produce the desired result of a uniform slope and shear face, within the tolerances specified, drill, blast, and excavate short sections, not exceeding 120 feet (36 m) for a production hole line, until a technique produces the desired results.

The blasting consultant shall witness the test sections drilling and loading operations and be present when all test sections are shot. The time spent witnessing these operations is considered part of the time required to observe the loading, drilling, and blasting operations, as specified in 208.13.

208.08 Safety Procedures.

A. Warnings and Signals. Establish a method of warning all employees on the job site of an impending blast.

Define the limits of the blasting area where there is a flyrock danger. Control the access to the blasting area to prevent the presents of livestock or unauthorized persons at least ten minutes before each blast.

Notify all employees in the area that a blast shall be fired with a 1-minute signal. After the blast is over, sound an "all clear" signal so all employees in the area understand that all blasting operations are finished.

One minute before the blast, sound three long signals, lasting 5 seconds, on an air horn or siren. For the all "clear" signal, sound one long signal, lasting at least 5 seconds, to indicate that all blasting has ceased.

B. Lightning Protection. Furnish, maintain, and operate lightning detection equipment during the entire period of blasting operations and during the periods that explosives are used at the site. The equipment shall be approved by the Contracting Officer, and shall be similar or equal to the Thomas Instruments SD250 Storm Alert as manufactured by DL Thomas Equipment, Keene, New Hampshire or the Litton TSM/C Thunderstorm Monitor and Lightning Warning Instrument, as manufactured by Litton Industries, Inc., Environmental Systems Division, Camarillo, California. Once approved, install the equipment where approved by the Contracting Officer.

If the lightning detection device indicates a blasting hazard potential, evacuate personnel from all areas where explosives are present. If a lightning detector indicates a blasting hazard, perform the following:

1. Clear the blasting area of all personnel.
 2. Notify the Engineer of the potential hazards and precautions to be taken.
 3. Terminate the loading of holes and return the unused explosives to the day storage area.
 4. If blast holes are loaded and would pose a hazard to traffic if detonated, close the roads until the lightning hazard has passed.
 5. When the hazard dissipates, inform the Engineer that production blasting can continue.
- C. Check for Misfires. Observe the entire blast area for a minimum of 5 minutes following a blast to guard against rock fall before commencing work in the cut. The 5-minute delay between blasting and not allowing anyone but the blaster to enter the area is needed to make sure that no misfires have occurred.

During the 5-minute delay, the blaster is responsible for going into the shot area and checking all the holes to make sure that they have detonated. If any holes have not fired, the blaster shall handle these misfires before others enter the work area.

Halt the blasting operations if the methods being employed result in the required slopes not being in a stable condition or the safety and convenience of the traveling public is jeopardized.

D. Misfire Handling Procedures. If a visual inspection indicates that complete detonation of all charges did not take place, proceed as follows:

1. If the system was energized and no charges fired for electric systems, test the lead wire continuity before inspection of the remainder of the blast. For non-electric systems, check the lead in or tube to make sure that detonation has entered the blast area.
2. If an inspection of the trunkline or lead in tubing-line indicates that there is a break in the line or if the tubing did not fire, repair the system and refire the blast. If the inspection indicates that the trunkline has fired, and misfired charges remain, the blaster shall do the following:
 - a. Exclude all employees except those necessary to rectify the problem.
 - b. Close traffic, if a premature explosion could be a hazard to traffic on nearby roads.
 - c. Correct the misfire in a safe manner. If the misfire poses a problem that the blaster cannot safely correct, the Contractor shall call a consultant or an explosive company representative skilled in the art of correcting misfires to rectify the problem.

E). Where a Drill Boat or Barge is Used.

- a. Provisions shall be made for jettisoning explosives overboard in emergencies.
- b. No high explosives shall be stored on the boat or barge deck in the open except for the one case that is to be loaded immediately into the bore holes. Any explosives remaining on deck shall be returned to the day magazine prior to the firing of any blast.
- c. The firing line reel or spool shall be mounted on the rig in a manner that it cannot be lost overboard. An approved blasting machine shall be used for detonation regardless of the number of caps used.
- d. Stray Ground Currents. Prior to blasting, a test shall be made for stray ground currents. The Contractor shall furnish both AC and DC voltmeters capable of reading 0.05 volts and shall employ the proper techniques in conducting the tests. Electrical blasting operations shall not be carried out when the maximum reading by the AC and DC voltmeters exceeds 0.05 ampere. The Contractor shall take all precautions outlined under "Stray Current", contained on pages 179 and 181 of DuPont's Blasters Handbook (16th Edition), to prevent premature detonation from stray ground currents.

208.10 Cushion (Trim) Blasting.

If the horizontal distance from the cut face to the existing rock face is less than 15 feet (4.5 m), the Contractor may use cushion blasting instead of presplitting. Perform cushion blasting according to 208.09, except as follows:

- A. Detonate along the cut face after the detonation of all production holes.
- B. Between the trim line and the nearest production row, use a difference in delay time of 25 to 75 milliseconds.

208.12 Blaster

Use an experienced blaster in charge of all blasting operations. Use a blaster with at least 5 years of proven experience in underwater rock blasting and with a sufficient amount of proven experience of the type of rock blasting required by the Contract.

Submit a resume of the credentials (GA) of the proposed blaster. Include in the resume a list of at least five underwater rock blasting projects on which the blaster was responsibly in charge of the rock blasting. List a description of the projects, with details of the blasting operations. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the blaster before beginning any drilling and blasting work. Allow 20 days for the review of this documentation. The blaster shall perform the following:

- A. Control the ground vibrations by the use of properly designed delay sequences and by using allowable charge weights per delay.

- B. Base the allowable charge weights per delay on vibration levels that will not cause damage.
- C. Establish the allowable charge weights per delay by carrying out trial blasts and measuring the vibration levels.
- D. Independently measure the vibrations and airblast at the closest structure using the criteria and limits set in 208.15 and 208.16. Ensure that only trained and certified personnel set up the seismographs.
- E. Use appropriate blast hole patterns, detonation systems, and stemming to prevent venting of blasts and to minimize airblast and noise levels produced by the blasting operations.
- F. Carry out the trial blasts according to the blasting test section requirements of 208.07.
- G. Report the vibrations (velocity and frequency) and airblasts on both seismographs before the next blast. This report shall denote whether or not these numbers exceeded the allowable set by the vibration specialist.
- H. Modify 208.12.A through 208.12.F above as required to limit ground vibrations and airblast to the levels established by the vibration specialist, and the airblast and noise control specialist.
- I. Coordinate and review the blast hole layout and drilling operations.

208.13 Blasting Consultant.

It is the Contractor's responsibility to retain an experienced and recognized blasting consultant to assist in the blast design. The blasting consultant shall assist in the design of the production blasting and have experience working in close proximity to structures.

Retain a blasting consultant with at least 5 years of proven experience in underwater rock blasting design and with a sufficient amount of proven experience of the type of rock blasting design required by the Contract. The Contractor shall not use a blasting consultant that is an employee of the Contractor, explosives manufacturer, or explosives distributor.

Submit a resume of the credentials (GA) of the proposed blasting consultant. Include in the resume a list of at least five marine rock blasting projects on which the blasting consultant was responsibly in charge of the rock blasting design. List a description of the projects, with details of the blast plans and modifications made during the project. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the blasting consultant before beginning any drilling and blasting work. Allow 20 days for the review of this documentation.

The blasting consultant shall observe the loading, drilling, or blasting operations for at least 8 hours per week if these operations are in progress for 40 or more hours per week. The blasting consultant shall witness the drilling, loading and blasting of the first shot in each major cut. At a minimum, the blasting consultant shall witness the drilling, loading and blasting of every 20th shot on the project. The blasting consultant shall write a written report to the Contracting Officer at least once a month detailing the blasting operations. The time spent writing this report is not considered part of the time required to observe the loading, drilling, and blasting operations. The Contractor shall coordinate the blasting consultant's hours with the Engineer.

208.14 Pre-Blast Condition Survey.

The Contractor shall provide one person from his organization and his specialist on vibration control to work as a team with a representative of the Contracting Officer in making a preblast structural survey.

The survey shall include any buildings, structures, or utilities within 1500 feet (460m) or to the nearest ½-miles radius of the blasting operations. Use a greater radius if the structures are potentially at risk from blasting damage.

--OR--

A representative sample of structures (approximately 20 percent), as determined by the Contractor, that could receive seismic motion greater than 0.4 inch per second or airblast overpressure greater than 0.01 psi, will be inspected and their condition documented.

Any existing outstanding architectural defects such as broken or fallen plaster or broken windows shall be photographically documented.

The Contractor shall use a survey method acceptable to its insurance company. The Contractor is responsible for any damage resulting from blasting.

If owners or occupants fail to allow access to the property for the pre-blast survey, send a certified letter to the owner or occupant. Make the notification effort and the certified letter part of the pre-blast survey records.

Deliver a copy of the pre-blast survey records to the Contracting Officer before beginning the blasting operations at the critical blasting locations.

Notify occupants of local buildings before the commencement of blasting.

208.15 Vibration Control and Monitoring.

Vibration Control: Where blasting is necessary, the Contractor shall employ a specialist qualified in vibration control methods capable of analyzing results obtained from seismograph readings. The specialist shall have at least 5 years of proven experience in monitoring vibrations on marine rock blasting projects and with a sufficient amount of proven experience of the type of rock blasting vibration monitoring required by the Contract. A minimum of 20 calendar days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with bona fides (GA) of the seismic specialist to include, but not be limited to, past experience, training, and education. A list a description of the projects, with details of the vibration interpretations made on the project should be included. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the vibration specialist before beginning any drilling and blasting work. The acceptability of the specialist is subject to the approval of the Contracting Officer. The Contractor shall not use a vibration specialist that is an employee of the Contractor, explosives manufacturer, or explosives distributor.

The contractor shall establish what vibration limits are being used and explain why they are being used to the Contracting Office before blasting begins near structures denoted in the pre-blast survey in 208.14.

The Contractor shall provide a minimum of two seismographs to measure and record ground movements caused by each blast detonated under the contract. Seismograph operators shall be qualified personnel capable of setting up instruments at designated locations and efficiently recording the blast. The seismographs shall be placed at locations to include, but not limited to, the nearest buildings, structures, or utilities and such locations are to be approved by the Contracting Officer.

Blasting shall be controlled in such a manner that the maximum ground vibration level at any structure which is vulnerable to damage shall not exceed a zero-to-peak particle velocity of 0.5 inches per second or an energy ratio of 1.0. The instrumentation shall record three orthogonal components (vertical, radial, and transverse with respect to the location of the blast) of particle velocity direct (or shall have sufficient resolution of acceleration or displacement such that particle velocity can be readily and accurately determined from the records). The instantaneous vector sum of the three directional components of vibration will be used to compute the maximum vibration level. Stop all operations if the vibration limits are exceeded until the vibration specialist reports to the Engineer that no damage has occurred or will occur and that corrective action has been taken to lower the vibration.

The record for each blast shall consist of seismograph records identified by instrument number, name of approved observer and interpreter, location of instruments positively identified, date and time and location of blast, amount of explosives used, peak particle velocity, type of ground at recording station and material on which the instrument is sitting, and all other data necessary to adequately control blasting operations. Furnish the data recorded for each shot before the next blast. (OR...A memorandum or telephone report on vibration intensity shall be submitted within 24 hours when specifically requested by the Contracting Officer or without request when such

intensity exceeds a peak particle velocity of 0.5 inches per second.) The Contractor shall submit a copy of the record in tabular form for each blast on a semi-monthly basis.

208.16 Airblast and Noise Control.

Airblast control: Where blasting is necessary, the Contractor shall employ a specialist qualified in making airblast overpressure measurements and noise control measurements on selected detonations, analyzing the results obtained and making airblast predictions for succeeding detonations. This may be waived at the Blasting Consultants written request as the detonations will all be underwater and relatively minor in scale. If required, the specialist shall have at least 5 years of proven experience in airblast and noise control on heavy/highway rock blasting projects and with a sufficient amount of proven amount of proven experience of the type of rock blasting airblast and noise control monitoring required by the Contract. A minimum of 20 calendar days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with the bona fides (GA) of the airblast specialist to include, but not be limited to, past experience, training, and education. Include a list of at least five heavy/highway rock blasting projects on which the airblast and noise control specialist was responsibly in charge of the airblast and noise control of the highway rock blasting operations. List a description of the projects, with details of the airblast and noise monitoring made on the project. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. The Contractor shall not use an airblast and noise control specialist that is an employee of the Contractor, explosives manufacturer, or explosives distributor. The acceptability of the specialist is subject to the approval of the Contracting Officer.

If required, the Contractor shall install an airblast monitoring system between the main blasting area and the nearest structure subject to blast damage or annoyance. The maximum peak positive airblast overpressure at any structures, vehicles, or vessels moored or underway, with glass windows shall not exceed 0.02 psi (or 134 db). Blasting operations shall not be conducted from 1 hour before sunset to 2 hours after sunrise or when a temperature inversion or heavy low-level cloud cover exists. The peak positive airblast overpressure as developed by the Test Blast Program shall be accurately measured (within +/- 10 percent) at three or more locations and to peak overpressure levels at or below 0.01 psi. The airblast overpressures from the test events should be monitored at ranges extending from the range of the closest structure to any planned detonation outward of an overpressure level of 0.01 psi or over a range from 500 to 3000 feet, whichever is greater.

Stop all operations if the overpressure limits are exceeded until the airblast and noise control specialist reports to the Engineer that no damage has occurred or will occur and that corrective action has been taken to lower the airblast. Lower the overpressure limit if it proves too high based on damage or complaints. The airblast and noise control specialist may establish the peak overpressure limits higher than 134 dB. Submit information explaining why higher limits are needed and are safe to the Contracting Officer before blasting begins near structures denoted in the pre-blast survey in 208.14.

Results from the initial monitoring of the Test Blast Program shall be used to predict airblast overpressures for succeeding events and to insure peak positive overpressures do not exceed 0.02 psi at the closest structure or vessel moored or underway.

One permanent, signed copy of the airblast records from each test blast identified, date and time and location of blast, amount of explosives used, peak positive overpressure shown, and all prediction curves necessary to adequately control blasting operations shall be furnished the Contracting Officer at the completion of the initial test blasts (or after each shot or use the same reporting procedures for vibration in 208.15).

208.17 Hydrologist.

Use of a qualified hydrologist to monitor the before, during, and after blasting and quality of the water supplies within 1500 feet (460 m) of the blasting areas. The water supplies shall include, but not be limited to, all wells, springs, or other water supplies for human consumption.

Retain an experienced hydrologist (GA). The Contractor shall not use a hydrologist that is an employee of the Contractor, explosives manufacturer, or explosives distributor.

Before or at the preconstruction conference, submit a resume of the credentials of the proposed hydrologist. Include in the resume a list of at least five heavy/highway projects on which the hydrologist was responsibly in charge of monitoring water quality and quantities. List a description of the projects, with details of the water monitoring or modeling made on the projects. List the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. Obtain approval of the hydrologist before beginning any major excavation, drilling, or blasting work. Allow 20 days for the review of this documentation.

The hydrologist shall perform, at minimum, all of the following:

- A. Review the available public records, including Ohio DNR well logs, to obtain background information and to identify the locations and geology of water supplies within 1500 feet (460 m) of the blasting areas or major excavations.
- B. Examine private wells, and public and industrial water supplies (as allowed by property owners or occupants), and measure water levels and well depths with a water level meter. Clean the water level meter before and between each use.
- C. Collect water quality data (pH, e-coli, specific conductivity, turbidity, sulfur, and iron) from private wells, and public and industrial water supplies to determine the major excavation work or blasting affects on the water supplies by using field instruments.

- D. Measure the water quality and water level for a minimum of two times per week for 2 weeks before, during, and 2 weeks after major excavation or blasting within 1500 feet (460 m) of the water supplies.
- E. Perform an associated field survey of the locations and elevations of wells and springs.
- F. Evaluate the need for piezometers to monitor the ground water conditions. Place and monitor the piezometers as necessary.
- G. Provide a monitoring plan report detailing the proposed activities, frequencies, testing, and any recommendations for monitoring the water supplies as detailed in 208.17.A through 208.17.F above. Submit this report at least 10 days before beginning the scheduled blasting or major excavation.
- H. Provide a monthly report of the conclusions and results of the monitoring plan.
- I. Provide a final report on the final condition or affect of the blasting or major excavation on the water supplies. Submit this report within 20 days after the blasting or major excavation is completed on the project.
- J. Meet with the Contracting Officer in order to coordinate this work and provide input, update the project schedule, report progress (including completed work and updated schedule), and make recommendations. Allow for two meetings.

The Contractor is not responsible for damages to the above denoted water supplies if the blasting or excavation is done according to this specification. The Contractor is responsible for damage caused by negligence, vibration or noise above the allowable limits, flyrock, or back break.

208.18 Flyrock Control.

Before firing any blast in areas where flying rock may result in personal injury or unacceptable damage to property or the work, cover the rock with blasting mats, soil, or other equally serviceable material to prevent flyrock.

If flyrock leaves the construction site or lands on a traveled road, the Contractor shall cease all blasting operations until the blasting consultant specified in 208.13 reviews the site and determines the cause and solution to the flyrock problem. Before blasting proceeds, submit a written report addressing the following:

- A. Why the flyrock left the construction site or landed on a traveled road.
- B. What corrective measures were taken to prevent this from reoccurring?

208.19 Public Meetings.

If a blasting consultant, vibration specialist, airblast and noise control specialist, or hydrologist is specified in the Contract, make the consultant, specialists Contractor's superintendent and blaster available for 1 day to prepare for and participate in a public meeting organized and conducted by the Engineer to better inform the public about anticipated drilling and blasting operations. The consultant and specialists shall be prepared to answer any questions dealing with the magnitude of seismic motion, vibrations, airblast overpressure, flyrock, and water problems that may affect the public.

208.20 Record Keeping.

A. **Daily Explosive Material Consumption.** Keep a daily record of the transactions at each storage magazine. Update inventory records at the close of every business day. Show on the records the class and quantities received and issued and total remaining on hand at the end of each day. Check the remaining explosive inventory each day and report any discrepancies that would indicate a theft or loss of explosive material.

B. **Report of Loss.** If a loss or theft of explosives occur, report all circumstances and details of the loss or theft immediately to the nearest Bureau of Alcohol, Tobacco and Firearms, as well as to the local law enforcement authorities and the Engineer.

C. **Daily Drilling and Blasting Logs.** On a weekly basis, provide a daily log of the drilling and blasting operations. Update the log at the close of each business day.

Fill out the Department or blasters' drilling form to document the following: burden, spacing, bench height, hole depth and diameter, and subdrill depth. Document additional information about the drilling such as voids, mud seams, air pressure loss and lack of cuttings. The driller shall give this form to the blaster and the Department.

Document on the blasting log the number of blasts, times and dates of blasts, the blasting locations and patterns, and all of the following information:

1. Station limits of the shot.
2. Plan and section views of drill pattern including free face, burden, blast hole spacing, blast hole diameters, blast hole angles, lift height, and subdrill depth.
3. Loading diagram showing type and amount of explosive, primers, and initiators and location and depth of stemming.
4. Initiators sequence of blast holes including delay times and delay system in each blast hole.
5. Trade names and sizes of all explosives, primers, and initiators to be employed.

6. Signature of the blaster in charge.

7. Use the blasters blasting form or the Blasting Report form in the current version of the *NHI Course Rock Blasting and Overbreak Control Manual*. Adapt these forms to meet the project requirements.

The drilling and blasting logs are for quality control, informational, and record keeping purposes. Review of the blast log by the Engineer does not relieve the Contractor of responsibility for the accuracy and adequacy of the drilling and blasting log.

D. Video Recording of Blasts. Take video tape recordings of each blast. Index the tapes or sections of tapes in a manner to properly identify each blast. Furnish copies of the blast videotapes on a weekly basis. This video may be preformed by using electronic files.

APPENDIX D

COASTAL ZONE MANAGEMENT CONSISTENCY DETERMINATION

U.S. Department of
Homeland Security

United States
Coast Guard



Commanding Officer
United States Coast Guard
Civil Engineering Unit Cleveland

1240 East Ninth Street
Cleveland, OH 44199-2060
Staff Symbol: DA
Phone: 216-902-6200
Fax: 216-902-6277
Email: raymond.a.pipak@uscg.mil

11000
DEC 12 2006

U.S. Army Corps of Engineers
Buffalo District
Attn: Regulatory Branch, Mr. Richard J. Ruby
1776 Niagara Street
Buffalo, NY 14207-3199

Dear Mr. Ruby,

As you requested, a signed Consistency Certification Statement for our project to perform dredging within the boat basin at U.S. Coast Guard Station Marblehead is enclosed.

Per your recent discussion with Mr. Ray Pipak of my staff, this is provided to supplement my letter dated 10 October 06 requesting modifications to Letter of Permission Processing Number 1999-00817 (1).

Please contact Mr. Pipak, at 216-902-6227 if you need any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "J. M. Peters".

J. M. PETERS
Commander
U.S. Coast Guard

Enclosure: Consistency Determination Statement

Copy: Ohio DNR, Office of Coastal Management

COPY

Consistency Certification Statement

I, J. M. Peters, do certify that the proposed activity complies with the enforceable policies of Ohio's approved coastal management program and will be conducted in a manner consistent with such program (15 C.F.R. 930.57 and O.R.C. 1506.03).

Address: Commanding Officer
U.S. Coast Guard Civil Engineering Unit Cleveland
1240 East Ninth St.

City: Cleveland State: OH Zip Code: 44199-2000

Telephone Number: (216) 402-6200

Applicant's Signature: [Signature] Date: 12/11/06

Project Name Description: Commander, USCG
Dredge Boat Basin at USCG

station Marblehead, Ottawa County, OH

Please send a signed, original copy of this document to:
Steve Holland, Consistency Coordinator
Office of Coastal Management
Ohio Department of Natural Resources
105 West Shoreline Drive
Sandusky, Ohio 44870

APPENDIX E

ODNR COMMENTS MARCH 20, 2007

ODNR COMMENTS TO Richard Ruby, U.S. Army Corps of Engineers, Buffalo District, 1776
Niagara Street, Buffalo, New York, 14207

Location: The project is located within the boat basin at the U.S. Coast Guard Station
Marblehead, Ottawa County, Ohio.

Project: The U.S. Coast Guard was issued a permit in 2004 to dredge the boat basin at
their Marblehead Station in Ottawa County. The dredging was unsuccessful at removing the
rock to the proper depth of 8 feet below IGLD

1985 which would allow safe navigation for the 47 foot long vessel that is now stationed
at Marblehead. The applicant is now requesting that drilling and blasting is used to
remove the rock. The applicant would also like authorization for the removal and
reinstallation of the two existing haulout docks to facilitate rock removal and address
any possible damage to them due to rock removal operations. The current permit restricts
in-water work from March 1 to June 15. The applicant is requesting a wavier from the in-
water work restriction in order to complete the work. To minimize disruptions and dangers
to station operations, the applicant desires to work from about March
15 to May 30, 2007.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above
referenced project. These comments were generated by an inter-disciplinary review within
the Department. These comments have been prepared under the authority of the Fish and
Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National
Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other
applicable laws and regulations. These comments are also based on ODNR's experience as
the state natural resource management agency and do not supersede or replace the
regulatory authority of any local, state or federal agency nor relieve the applicant of
the obligation to comply with any local, state or federal laws or regulations.

Rare and Endangered Species: The ODNR, Division of Natural Areas and Preserves (DNAP),
Natural Heritage Database contains no data at this project site.

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has the following comments.

The applicant must obtain a letter of permission from the Chief of the Ohio Department of
Natural Resources, Division of Wildlife prior to any in-water blasting. Therefore, the
applicant should submit a letter to the Chief of the DOW requesting permission to blast.
The letter should include an explanation of the need to blast, location of the proposed
blasting, and approximate dates of blasting.

The area where this project is located is documented spawning habitat for yellow perch and
smallmouth bass. Dredging in the project area during the restricted period will
potentially have negative effects on both of these species. If absolutely necessary, the
DOW will waive a portion of the in-water work restriction to allow in-water work from
March 15 to April 30, 2007. However, if blasting must be done during this period, the DOW
requests that blasting is done as early in this period as possible.

Geological Survey: The ODNR, Division of Geological Survey offered comment on this project
on April 8, 2004, which remain unchanged.

Coastal Management: The ODNR, Office of Coastal Management has no comments.

Boating and Navigation: The Division of Watercraft supports this proposed activity.
Currently the U.S. Coast Guard and the Ohio Division of Watercraft partner in providing
safety services to recreational boaters in the waters of Lake Erie and other waterways in
Ohio. The Division of Watercraft has and will continue to utilize this boat basin for
mooring Law Enforcement/Safety vessels towards the benefits of recreational boating.
Watercraft considers this improvement to be a high priority as it potentially affects the
health, safety and welfare of the users of Ohio's waterways.

ODNR appreciates the opportunity to provide these comments. Please contact Mindy Bankey
at 614.265.6836 if you have questions about these comments or need additional information.
Mindy Bankey

Environmental Administrator

Division of Real Estate & Land Management Ohio Department of Natural Resources

2045 Morse Rd, C4
Columbus, Ohio 43229-6693
614.265.6836
Fax 614.267.4764

APPENDIX F

ODNR LETTER TO AUTHORIZE BLASTING



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Wildlife
David M. Graham, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

April 19, 2007

C. Bonheim
Lieutenant Commander
United States Coast Guard
Civil Engineering Unit
1240 E. 9th Street
Cleveland, OH 44199-2060

RE: Letter to Authorize Blasting; U.S. Coast Guard Station Marblehead, Ottawa County

Dear Lieutenant Commander Bonheim:

This letter will serve as written permission, as required by Section 1533.58 of the Ohio Revised Code, to use explosives in connection with the removal of bedrock from the bottom of the Lake Erie boat basin at the U.S. Coast Guard Station Marblehead, Ottawa County, OH. The purpose of the bedrock removal is to provide adequate depth of water for Station Marblehead to safely perform critical operations. To comply with the provisions of ORC Section 1533.58 it will be necessary for a Wildlife Officer to be present during any blasting which may result in the loss of wild animals. We understand the work is anticipated to be a one-time event done in the period of October/November 2007 and remain entirely within the confined Coast Guard basin with a total of approximately 625 cubic yards of rock removed. Therefore, permission for the use of explosives in Lake Erie is conditioned subject to the following provisions:

1. At the earliest possible time, you will contact Mr. Kevin Ramsey, Lake Erie Enforcement Unit, 305 E. Shoreline Dr., Sandusky, OH 44870, (419) 625-8062 with a proposed schedule of blasting for this project.
2. Forty-eight (48) working day hours prior to each blasting shot you will contact Mr. Ramsey to ensure the presence of an officer on-site during blasting.
3. Payment will be made to the Division of Wildlife for the value of wild animals lost due to blasting, as determined by the Division representative present during blasting activity.

PAGE TWO
Lieutenant Commander Bonheim
April 19, 2007

Please note **this letter is for blasting authorization only**. It does not obviate the need to secure permission required by the U.S. Army Corps of Engineer or the EPA to place any fill material into Lake Erie.

Should you have any questions regarding this authorization, please contact Mr. Ramsey or Ms. Becky Jenkins, Environmental Specialist at (614) 265-6631.

Sincerely,



DAVID M. GRAHAM
Chief

DMG/BJ/al

cc: Kevin Ramsey, Lake Erie Enforcement Unit
John Navarro, Wildlife, Program Administrator
Becky Jenkins, Wildlife, SCEA Unit

174 • 211

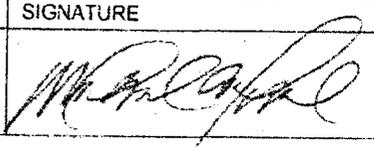
0719 210 211

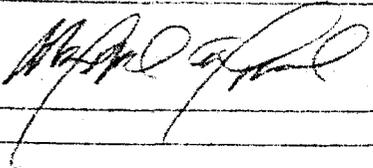
APPENDIX G

TELEPHONE CONVERSATION RECORDS

CONVERSATION RECORD		Date: 11/30/2007	Time: 1155
NAME OF PERSON(S) CONTACTED OR IN CONTACT		ORGANIZATION:	TELEPHONE NO.:
Jacqueline Bird, Mayor		Village of Marblehead	419-625-2454 ext 1540
TYPE OF CONVERSATION			
VISIT	CONFERENCE	TELEPHONE:	incoming outgoing
SUBJECT:			
USCG Station Marblehead, Proposed Project to Dredge the Boat Basin, Comments to Draft Environmental Assessment			
SUMMARY:			
<p>Ms. Bird called on behalf of the Village of Marblehead to say that the Village would not be providing comments to the Draft Environmental Assessment (EA). She requested that the USCG provide three days notice prior to beginning field work to Bob Biers, Chief Operating Engineer and Superintendent, Water Treatment Plant at 419-798-5836. She said the Village feels that the protective measures described in the Draft EA should adequately protect the water intake, but she would like Mr. Biers to know when the field work will be conducted.</p> <p>She also indicated that the project had been discussed at recent Village Council Meetings / Board of Public Affairs Meetings.</p>			
ACTION REQUIRED			
Provide three days notice to Bob Biers, Village of Marblehead, prior to beginning blasting.			
NAME OF PERSON DOCUMENTAING CONVERSATION	SIGNATURE	DATE	
Mark Lamb, USCG, CEU Cleveland (ER) Environmental Protection Specialist		11/30/2007	
ACTION TAKEN			
SIGNATURE	TITLE	DATE	
OTHER			

CONVERSATION RECORD		Date: 09/27/2007	Time: 1500
NAME OF PERSON(S) CONTACTED OR IN CONTACT		ORGANIZATION:	TELEPHONE NO.:
Jacqueline Bird, Mayor		Village of Marblehead	419-625-2454 ext 1540
TYPE OF CONVERSATION			
VISIT	CONFERENCE	TELEPHONE: <u>incoming</u>	outgoing
SUBJECT:			
USCG Station Marblehead, Proposed Project to Dredge the Boat Basin			
SUMMARY:			
<p>I told her that I worked for the USCG CEU Cleveland in the Environmental Section. I described the proposed project to dredge the boat basin. I said that we have problems getting our 47-foot vessel in the boat basin and we need the basin dredged. We tried to dredge it by scraping and abrading about 3 years ago but were unsuccessful. I said we would like to dredge it using blasting technology. I said that all blasting would conform to the ODOT blasting specifications which include conducting pre-blast field survey of structures, test blasts, and air and noise monitoring.</p> <p>I told her of our requirement to assess the effects of the proposed project to the environment. We are in the process of preparing an Environmental Assessment (EA) and that we intended to send copies of the Draft EA to the Village, as well as make additional copies of the EA available at the Village offices for the public to review. We would inform the Village residents of the Draft EA availability in the local paper. I said that I had already spoken with Hal Clagg and Bob Hruska.</p> <p>She said that the only other issue she was aware of was that the public water intake for the Village water treatment plant was located approximately one-quarter mile away from the boat basin. Our project needs to consider not damaging the water intake. For further discussions about the public water intake and water treatment plant, we should contact Bob Biers at 419-798-5836. She said it was acceptable to have the Draft EA available at the Village offices for public review.</p>			
ACTION REQUIRED			
He is to receive a copy of the Draft EA.			
NAME OF PERSON DOCUMENTAING CONVERSATION	SIGNATURE	DATE	
Mark Lamb, USCG, CEU Cleveland (ER) Environmental Protection Specialist		10/02/2007	
ACTION TAKEN			
SIGNATURE	TITLE	DATE	
OTHER			

CONVERSATION RECORD		Date: 09/26/2007	Time: 1130
NAME OF PERSON(S) CONTACTED OR IN CONTACT		ORGANIZATION:	TELEPHONE NO.:
Hal Clagg, Zoning Commission Chairman		Village of Marblehead	419-798-5467
TYPE OF CONVERSATION			
VISIT	CONFERENCE	TELEPHONE:	incoming outgoing
SUBJECT:			
USCG Station Marblehead, Proposed Project to Dredge the Boat Basin			
SUMMARY:			
<p>I told him that I worked for the USCG CEU Cleveland in the Environmental Section. I described the proposed project to dredge the boat basin. I said that we have problems getting our 47-foot vessel in the boat basin and we need the basin dredged. We tried to dredge it by scraping and abrading about 3 years ago but were unsuccessful. I said we would like to dredge it using blasting technology. I said that all blasting would conform to the ODOT blasting specifications which include conducting pre-blast field survey of structures, test blasts, and air and noise monitoring.</p> <p>I told him of our requirement to assess the effects of the proposed project to the environment. We are in the process of preparing an Environmental Assessment (EA) and that we intended to send copies of the Draft EA to the Village, as well as make additional copies of the EA available at the Village offices for the public to review. We would inform the Village residents of the Draft EA availability in the local paper.</p> <p>He said that he didn't think this project was subject to the jurisdiction of any Village requirements. He thought that our public participation component was reasonable. He asked me to contact Mr. Bob Hruska (Village Zoning Inspector at 419-798-5704 or 419-261-8008 cell) to confirm that the project was not subject to any Village requirements. He indicated that we may want to ensure that the project was not subject to the Ohio Department of Mines blasting requirements.</p>			
ACTION REQUIRED			
He is to receive a copy of the Draft EA.			
NAME OF PERSON DOCUMENTAING CONVERSATION		SIGNATURE	DATE
Mark Lamb, USCG, CEU Cleveland (ER) Environmental Protection Specialist			10/02/2007
ACTION TAKEN			
SIGNATURE		TITLE	DATE
OTHER			

CONVERSATION RECORD		Date: 09/26/2007	Time: 1430
NAME OF PERSON(S) CONTACTED OR IN CONTACT		ORGANIZATION:	TELEPHONE NO.:
Bob Hruska, Zoning Commission Inspector		Village of Marblehead	419-798-5704 419-261-8008 cell
TYPE OF CONVERSATION			
VISIT	CONFERENCE	TELEPHONE:	incoming <u>outgoing</u>
SUBJECT:			
USCG Station Marblehead, Proposed Project to Dredge the Boat Basin			
SUMMARY:			
<p>I told him that I worked for the USCG CEU Cleveland in the Environmental Section. I described the proposed project to dredge the boat basin. I said that we have problems getting our 47-foot vessel in the boat basin and we need the basin dredged. We tried to dredge it by scraping and abrading about 3 years ago but were unsuccessful. I said we would like to dredge it using blasting technology. I said that all blasting would conform to the ODOT blasting specifications which include conducting pre-blast field survey of structures, test blasts, and air and noise monitoring.</p> <p>I told him of our requirement to assess the effects of the proposed project to the environment. We are in the process of preparing an Environmental Assessment (EA) and that we intended to send copies of the Draft EA to the Village, as well as make additional copies of the EA available at the Village offices for the public to review. We would inform the Village residents of the Draft EA availability in the local paper.</p> <p>He said the project was not subject to the jurisdiction of any Village requirements because there are no shoreline issues. He said that if dredge spoils are to be placed inside the Village, then Village review and approval would be required. He thought that our public participation component was sufficient. He said to make sure that blast consultant understands that any blast monitoring sensors be placed on the same tectonic plate that the boat basin is located on.</p>			
ACTION REQUIRED			
He is to receive a copy of the Draft EA.			
NAME OF PERSON DOCUMENTAING CONVERSATION		SIGNATURE	DATE
Mark Lamb, USCG, CEU Cleveland (ER) Environmental Protection Specialist			10/02/2007
ACTION TAKEN			
SIGNATURE		TITLE	DATE
OTHER			