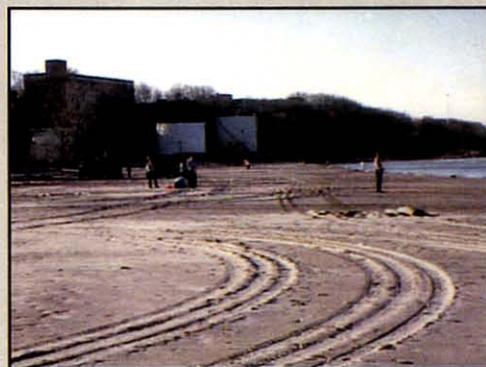


ENVIRONMENTAL ASSESSMENT

ASSAULT CRAFT UNIT 1 RESERVE TRAINING EXERCISES AT NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS



DEPARTMENT OF THE NAVY



ENVIRONMENTAL ASSESSMENT

**ASSAULT CRAFT UNIT 1 RESERVE
TRAINING EXERCISES AT NAVAL TRAINING CENTER
GREAT LAKES, ILLINOIS**



**DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA**

July 2002

**DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY**

**ENVIRONMENTAL ASSESSMENT (EA) AND A FINDING OF NO SIGNIFICANT
IMPACT (FONSI) FOR ASSAULT CRAFT UNIT 1 (ACU-1) RESERVE TRAINING
EXERCISES AT NAVAL TRAINING CENTER (NTC) GREAT LAKES, ILLINOIS**

Pursuant to the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4331 *et seq.*, as amended, the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared to conduct Assault Craft Unit 1 (ACU-1) reserve training exercises at Naval Training Center (NTC) Great Lakes, Great Lakes, Illinois. Based upon the EA, it has been determined that the preparation of an Environmental Impact Statement (EIS) is not required for the proposed reserve military training exercises or action(s).

Proposed Action(s)

The U.S. Naval Reserve ACU-1 Reserve Detachment proposes to conduct training exercises at beach sites on Lake Michigan located within ten (10) nautical miles of NTC Great Lakes using the Landing Craft, Mechanized (LCM-8). The purpose of the training exercises is to maintain mobilization readiness. The proposed amphibious beach training and landing exercises would be conducted up to two (02) times per month for eight (08) months (a maximum of 32 days) between the months of March and October, of each year, with a crew of approximately ten (10) to fourteen (14) personnel, which includes the standard boat crew of four (04) persons, boat officers, and various training crew members. Personnel on-load/off-load the LCM-8 in the Inner Harbor via gangplank, whereas, equipment and vehicles are loaded from the beach area. Training involves the LCM-8 craft positioned in the surf zone with operation of equipment and vehicles in the beach landing area limited to a distance of fifty (50) to one hundred (100) feet from (or of) the shore of Lake Michigan and may occur during the day or the evening/night time hours. During these training exercises, personnel located on the beach area may discharge small arms loaded with blank ammunition into the air to simulate hostile fire; however, in no case would live ammunition be used during Navy Reserve (NR) ACU-1 training exercises. No equipment, vehicles, or personnel would remain on the beach or extend beyond the landing area. Additionally, critical habitat, including dune systems, would not be affected.

Purpose of and Need for the Proposed Action(s)

Associated with the proposed action is the maintenance dredging of the Inner Harbor at NTC Great Lakes. The LCM-8 assault craft are operated and maintained at the boathouse/marina located at the Inner Harbor area, and when water (depth) conditions allow for the craft to be removed from the water, the craft are generally stored inside the boathouse during the winter months (November through February). A mechanized synchro-lift, located on the western jetty wall of the Inner Harbor, is used to remove the LCM-8 from the water. Low water conditions and sediment deposition in the Inner Harbor currently prevent the synchro-lift equipment from removing the LCM-8 craft from the water during the winter months. In order to provide a sufficient seasonal operating depth, the Navy proposes to remove accumulated sediment down to a maximum of 15 feet below the normal water

depth of Lake Michigan. A total of 1,540 cubic yards would be removed via a small diver-operated very surgical vacuum dredge operation to minimize disturbance of the sediments and due to the access restrictions of the pier and pilings. This would be treated as a hazardous waste operation and would not be expected to further impact the surrounding waters or environment in general. The use of the vacuum technology has already received approval from the U.S. Army Corps of Engineers (USACE). The dredged material would be dewatered by pumping and temporary storage in large geotubes to reduce the volume requiring disposal or management. Following the dewatering process a representative sample will be analyzed, including Toxicity Characteristic Leaching Procedure (TCLP) and analysis for polychlorinated biphenols (PCBs), to determine the proper procedure for disposal of the dredged material and proper hazardous waste management, if any. Permits have been received from the Illinois Department of Natural Resources (IDNR), Illinois Environmental Protection Agency, and USACE to perform the proposed dredging activity.

Alternatives Considered and Analyzed

The alternatives analyzed in the EA included the Action and the No Action Alternatives. The No Action Alternative was cessation of NR ACU-1 training at NTC Great Lakes. Since the No Action Alternative did not meet mission requirements, it was eliminated from detailed analysis. The Action Alternative is the performance of Amphibious and Maritime Prepositioning Force Operations-required training exercises and landings at four alternate beaches located in the vicinity of NTC Great Lakes, Illinois. The use of four beach training sites would provide schedule flexibility, a variety of training conditions, and would minimize impact to the public and the environment. The four alternate beach sites analyzed in the EA included: Johns Manville Beach, Sandy Beach, Nunn Beach, and Fort Sheridan Beach. Johns Manville Beach is located on private property, owned by Johns Manville International, Inc., located south of Illinois Beach State Park and north of Waukegan Beach. The Navy has entered into an agreement with Johns Manville International, Inc., for right of access to conduct the proposed training exercises on the site. Sandy and Nunn Beaches are located at NTC Great Lakes, and Fort Sheridan Beach is located on Navy-owned property adjacent to the Navy's Fort Sheridan housing area.

Effects of the Proposed Action

Short-term, direct adverse impacts from beach training exercises would include the following: minor beach sand disturbance, exhaust emission from the assault craft and training vehicles, and water agitation. Other direct effects include minimal impact to aquatic vegetation and habitat; minor restrictions of recreational beach use; potential effects from noise from LCM-8 operation; generation of sediment from dredging of the inner harbor that would require proper disposal; and a slight potential for an increase in the number of requests for local emergency services from nearby communities. These unavoidable impacts, and related mitigation are not anticipated to be significant. Coordination with the IDNR and the U.S. Fish and Wildlife Service (USFWS) concerning the proposed training exercises and potential effects to Federal-listed and state-listed threatened and endangered species and critical habitat at Johns Manville Beach has been performed. Based on response letters received, no adverse environmental impact or modification to critical habitat, protected habitat or Federal- and State-listed threatened and endangered species is expected. No direct, long-term effects to the recreational resources of the area would be anticipated as a result of the implementation of the proposed action. Indirect effects

may include increased use of nearby public beaches during the annual training days to avoid ACU-1 training exercises. The associated dredging operation would not be expected to further impact the surrounding waters or environment in general.

The waves and tides of Lake Michigan smooth out the surface of the beach after training exercises are complete. Restoration through wave and tide action will occur within approximately 24 hours. The Navy and the dredging contractor have or will implement fuel and petroleum management and contingency plans to reduce or eliminate the potential for environmental contamination from accidental spills and releases. Mitigation of noise effects will occur when the LCM-8 is throttled down after deployment. Fuel spills or releases would be mitigated through adherence to *Naval Reserve Assault Craft Unit Operations Manual* requirements pertaining to the provision of booms, adsorbent materials, and other basic spill response equipment on-board during training exercises. In addition, immediate notification of the U.S. Environmental Protection Agency and the U.S. Coast Guard in the event of a fuel release would result in emergency spill response and release control. To allow potential spring and fall migrant plovers and other protected bird species to land, nest, and forage at Johns Manville Beach, training exercises at that location would be restricted to between June 1 and August 15 of each year. The USFWS also recommended annual surveys be conducted at this site to avoid adversely affecting any nesting plovers in the area. The Navy will survey the area prior to any scheduled training at this location. During ACU-1 training at Johns Manville Beach, care will be taken to minimize disturbance of near-shore sediments through review of bathymetric survey data and maintenance of a beach landing buffer zone.

Based on the information gathered during preparation of, and presented within the EA, the Navy finds that conducting the proposed ACU-1 training exercises at the four alternate sites proposed will not significantly impact the environment. The EA addressing this action may be obtained from: Commanding Officer, Southern Division, Naval Facilities Engineering Command, P.O. Box 190010, North Charleston, South Carolina 29419-9010 (Attn: Mr. Rodney Fleming, Code ES12/RF), commercial telephone (843) 820-5721. A limited number of copies of the EA are available to fill single copy requests.



J. B. POTUSHEK
Vice Admiral, U. S. Naval Reserve
Commander, Naval Reserve Force
New Orleans, Louisiana

7/18/02
Date

Annexed Notice

DEPARTMENT OF DEFENSE DEPARTMENT OF THE NAVY

NOTICE OF AVAILABILITY (NoA) OF THE ENVIRONMENTAL ASSESSMENT (EA) AND THE FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR ASSAULT CRAFT UNIT 1 (ACU-1) RESERVE TRAINING EXERCISES AT NAVAL TRAINING CENTER (NTC) GREAT LAKES, GREAT LAKES, IL

Pursuant to Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4331 *et seq.*, as amended, the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared and that an Environmental Impact Statement (EIS) is not required to conduct Assault Craft Unit 1 (ACU-1) reserve training exercises at Naval Training Center (NTC) Great Lakes, Great Lakes, Illinois.

The U.S. Naval Reserve ACU-1 Reserved Detachment proposes to conduct military training exercises at beach sites on Lake Michigan located within ten (10) nautical miles of NTC Great Lakes using the Landing Craft, Mechanized (LCM-8), a military tactical assault craft and/or landing vehicle. The proposed amphibious beach training and landing exercises would be conducted up to two (02) times per month, the majority on weekends, for eight (08) months between the months of March and October each year with a crew of approximately ten (10) to fourteen (14) personnel. Training involves utilization of the LCM-8 craft positioned in the surf zone with deployment of equipment and vehicles in the beach landing area. Associated with the proposed action is the maintenance dredging of the area immediately beneath the supports and lowering arm of the synchro-lift used to remove the LCM-8 from the water to perform maintenance and to allow for winter storage inside the boathouse.

The alternatives analyzed in the EA included the Action and No Action Alternatives. The No Action Alternative, cessation of ACU-1 reserve training at NTC Great Lakes, was eliminated from detailed analysis since it did not meet mission requirements. The Action Alternative is the performance of Amphibious and Maritime Prepositioning Force Operations -required training exercises and landings at four alternate beach sites - Johns Manville Beach on private property, and Sandy Beach, Nunn Beach, and Fort Sheridan Beach, Department of Navy properties - located in the vicinity of the NTC Great Lakes.

Short-term, direct adverse impacts from beach training exercises would include the following: minor beach sand disturbance, exhaust emission from the assault craft and training vehicles and water agitation. Other direct effects include minimal impact to aquatic vegetation and habitat; minor restrictions of recreational beach use; potential effects from noise from LCM-8 operation; generation of sediment from dredging of the inner harbor that would require proper disposal; and a slight potential for an increase in the number of requests for local emergency services from nearby communities. These unavoidable impacts, and related mitigation are not anticipated to be significant. Additionally, no adverse environmental impact or modification to critical habitat, protected habitat or Federal-listed and State-listed threatened and endangered species is expected. No direct, long-term effects to the recreational resources of the area would be anticipated as a result of the implementation of the proposed action. Indirect effects may include increased use of nearby public beaches during the annual training days to avoid ACU-1 training exercises.

Based on the information gathered during preparation of, and presented within the EA, the Navy finds that conducting the proposed ACU-1 training exercises at the four alternate sites proposed will not significantly impact the environment. Copies of the Environmental Assessment (EA) and the Finding of No Significant Impact (FONSI) addressing this action may be obtained from : Commanding Officer, Southern Division Naval Facilities Engineering Command, P.O. Box 190010, North Charleston, South Carolina 29419-9010 (Attn: Mr. Rodney Fleming, Code ES12/RF), commercial telephone (843) 820-5721. A limited number of copies of the EA are available to fill single copy requests.

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Publisher's Certificate

THIS IS TO CERTIFY that the notice, a true copy of which is hereto annexed, was published in The News-Sun a secular newspaper of general circulation in the County of Lake and State of Illinois, published daily except Sunday in the City of Waukegan, Lake County and State of Illinois by Fox Valley Publications, Inc., a corporation organized and existing under the laws of the

State of Illinois, 1 times, the 10 day

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ENVIRONMENTAL ASSESSMENT

Responsible Agency:

Department of the Navy

Title:

Environmental Assessment for Assault Craft Unit 1 Reserve Training Exercises at Naval Training Center Great Lakes, Illinois

Additional Information:

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Type of Report:

Environmental Assessment (EA)

Abstract:

The United States Naval Reserve Assault Craft Unit 1 (ACU-1) Reserve Detachment proposes to conduct training exercises at beach sites on Lake Michigan located within 10 nautical miles (18.5 kilometers) of Naval Training Center (NTC) Great Lakes using the Landing Craft, Mechanized (LCM-8). The proposed amphibious beach training and landing exercises would be conducted up to twice per month, the majority on weekends, for eight months between March and October each year with a crew of approximately 10 to 14. Training involves the LCM-8 craft positioned in the surf zone with deployment of equipment and vehicles in the beach landing area. Associated with the proposed action is the maintenance dredging of the area immediately beneath the supports and lowering arm of the synchro-lift used to remove the LCM-8 from the water to perform maintenance and to allow for winter storage inside the boathouse. The alternatives analyzed by this EA include the Action and No Action Alternatives. The No Action Alternative, cessation of ACU-1 reserve training at NTC Great Lakes, was eliminated from detailed analysis since it does not meet mission requirements. The Action Alternative is the performance of Amphibious and Maritime Prepositioning Force Operations-required training exercises and landings at four alternate beach sites—Johns Manville Beach on private property, and Sandy Beach, Nunn Beach, and Fort Sheridan Beach, Department of Navy properties—located in the vicinity of the NTC Great Lakes.

SUMMARY

SUMMARY

1.0 TYPE OF DOCUMENT

The document is an Environmental Assessment (EA).

2.0 NAME OF ACTION

Assault Craft Unit 1 (ACU-1) Reserve Training Exercises at Naval Training Center (NTC) Great Lakes, Illinois.

3.0 DESCRIPTION OF ACTION

The United States (U.S.) Naval Reserve (NR) ACU-1 Reserve Detachment proposes to conduct training exercises at beach sites on Lake Michigan located within 10 nautical miles (18.5 kilometers [km]) of NTC Great Lakes using the Landing Craft, Mechanized (LCM-8). The proposed amphibious beach training and landing exercises would be conducted up to twice per month for eight months (a maximum of 32 days) between March and October each year with a crew of approximately 10 to 14, which includes the standard boat crew of 4, boat officers, and various training crew members. Personnel on-load/off-load the LCM-8 in the Inner Harbor via gangplank, whereas, equipment and vehicles are loaded from the beach area. Training involves the LCM-8 craft positioned in the surf zone with operation of equipment and vehicles in the beach landing area limited to 50 to 100 feet (15 to 30 meters [m]) of the shore of Lake Michigan and may occur during the day or the evening/night. During these training exercises, personnel located on the beach area may discharge small arms loaded with blank ammunition into the air to simulate hostile fire; however, in no case would live ammunition be used during NR ACU-1 training exercises. No equipment, vehicles, or personnel would remain on the beach or extend beyond the landing area; critical habitat, including dune systems, would not be affected.

Associated with the proposed action is the maintenance dredging of the Inner Harbor at NTC Great Lakes. The LCM-8 assault craft are operated and maintained at the boathouse/marina located at the Inner Harbor area, and when water (depth) conditions allow for the craft to be removed from the water, the craft are generally stored inside the boathouse during the winter months (November through February). A mechanized synchro-lift, located on the western jetty wall of the Inner Harbor, is used to remove the LCM-8 from the water. Low water conditions and sediment deposition (accumulation of approximately 6 feet) in the Inner Harbor currently prevent the synchro-lift equipment from removing the LCM-8 craft from the water during the winter months. In order to provide a sufficient seasonal operating depth, the Navy proposes to remove accumulated sediment down to a maximum of 15 feet (4.6 m) below the normal water depth of Lake Michigan. A total of 1,540 cubic yards (1,177 cubic meters) would be removed via a small diver-operated very surgical vacuum dredge operation to minimize disturbance of the sediments and due to the access restrictions of the pier and pilings. This would be treated as a hazardous waste operation and would not be expected to further impact the surrounding waters or environment in general. The use of the vacuum technology has already received approval from the U.S. Army Corps of Engineers (USACE). The dredged material would be dewatered by pumping and temporary storage in large geotubes to reduce the volume requiring disposal or management. Following the dewatering process a representative sample will be analyzed, including Toxicity Characteristic Leaching Procedure (TCLP) and analysis

for polychlorinated biphenols (PCBs), to determine the proper procedure for disposal of management. Permits have been received from the Illinois Department of Natural Resources, Illinois Environmental Protection Agency, and USACE to perform the proposed dredging activity.

4.0 ALTERNATIVES

The alternatives analyzed by this EA include the Action and the No Action Alternatives. The No Action Alternative is cessation of NR ACU-1 training at NTC Great Lakes. Since the No Action Alternative does not meet mission requirements, it was eliminated from detailed analysis. The Action Alternative is the performance of Amphibious and Maritime Prepositioning Force (MPF) Operations-required training exercises and landings at four alternate beaches located in the vicinity of the NTC Great Lakes, Illinois. The four alternate beach sites analyzed by this EA are listed below:

- Johns Manville Beach (Alternate Site A)
- Sandy Beach (Alternate Site B)
- Nunn Beach (Alternate Site C)
- Fort Sheridan Beach (Alternate Site D)

The Action Alternative (consisting of the use of four alternate beaches) proposed for training operations must meet the specific operational and logistical criteria listed below:

- Within 10 nautical miles (18.5 km) (one-half to one hour cruising distance) of NTC Great Lakes
- Draft and water depth sufficient for a loaded LCM-8
- No obstructions to vehicles, craft or personnel
- Sand or equivalent beach material
- Minor to no environmental impact and minimal disturbance to the public
- Safe for craft, personnel, and vehicle access
- Accessible during the 16 to 32 planned training days
- Compliance with environmental regulations and the NTC's Natural Resource Plan
- Road or vehicular access to beach for rolling stock training exercises (preferred)

5.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The NR ACU-1 at NTC Great Lakes supports the Amphibious and MPF Operations by providing trained personnel capable of ship-to-shore movement of assault material and equipment, coastal material and equipment, personnel, and ammunition transport. The NR ACU-1 Detachment currently restricts amphibious assault operations training to Nunn Beach and Sandy Beach at NTC Great Lakes. However, the Naval Reserve wants to perform mission essential training exercises up to twice a month for eight months, a maximum of 32 days annually, at four alternate Lake Michigan beach sites, three Navy-owned and one Navy-leased, in the vicinity of NTC Great Lakes. The purpose of the exercises is to maintain mobilization readiness. The use of four possible beach training sites would provide schedule flexibility, a variety of training conditions, and would minimize impact to the public and the environment.

There is a need for the NR ACU-1 Detachment to train enlisted boat crews to perform MPF operations, to support two Maritime Prepositioning Squadrons (MPSRONS), and to provide qualified Debarkation Officers and/or Lighterage Control Officers for the on-load/off-load of MPF ships as directed by the Department of the Navy, Commander Naval Surface Reserve Force (COMNAVSURFRESFOR) Instruction 3501.2C (U.S. Navy 2001a). During the summer months, Nunn Beach is generally restricted to recreational use by military personnel and their dependents on weekends and Sandy Beach cannot support equipment/vehicle on-load/off-load, thus, alternate beach training locations must be identified to perform the training needed to produce fully qualified crewmembers.

6.0 SUMMARY OF ENVIRONMENTAL IMPACT

Short-term, direct adverse impacts from beach training exercises would include the following: minor beach sand disturbance, exhaust emission from the assault craft and training vehicles, and water agitation. Other direct effects include minimal impact to aquatic vegetation and habitat; minor restrictions of recreational beach use; potential effects from noise from LCM-8 operation; generation of sediment from dredging of the inner harbor that would require proper disposal; and a slight potential for an increase in the number of requests for local emergency services from nearby communities. These unavoidable impacts, and related mitigation are not anticipated to be significant. No direct, long-term effects to the recreational resources of the area would be anticipated as a result of the implementation of the proposed action. Indirect effects may include increased use of nearby public beaches during the annual training days to avoid NR ACU-1 training exercises. The associated dredging operation would not be expected to further impact the surrounding waters or environment in general.

7.0 MEANS TO MITIGATE ADVERSE ENVIRONMENTAL IMPACTS

Disturbed sands may be swept or raked by Navy personnel, if needed, but equipment and vehicle wheel tracks and ruts are usually removed within 24 hours by wind action and Lake Michigan wave and tide action. The Navy and the dredging contractor have or will implement fuel and petroleum management and contingency plans to reduce or eliminate the potential for environmental contamination from accidental spills and releases. Mitigation of noise effects will occur when the LCM-8 is throttled down after deployment. Fuel spills or releases would be mitigated through adherence to *Naval Reserve Assault Craft Unit Operations Manual* requirements pertaining to the provision of booms, adsorbent materials, and other basic spill response equipment on-board during training exercises. In addition, immediate notification of the U.S. Environmental Protection Agency and the U.S. Coast Guard in the event of a fuel release would result in emergency spill response and release control. To allow potential spring and fall migrant plovers and other protected bird species to land, nest, and forage at Johns Manville Beach (Alternate Site A), training exercises at that location would be restricted to between June 1 and August 15 of each year. The U.S. Fish and Wildlife Service also recommended annual surveys be conducted at this site to avoid adversely affecting any nesting plovers in the area. The Navy will survey the area prior to any scheduled training at this location. During NR ACU-1 training at Johns Manville Beach, care will be taken to minimize disturbance of near-shore sediments through review of bathymetric survey data and maintenance of a beach landing buffer zone. Additionally, during training operations Navy Environmental or cognizant personnel would be present to assure that training operations are not allowed to enter the adjacent sensitive panne/wetland area located to the south of Nunn Beach (Alternate Site C), the location of several state-listed species.

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Figure 3-1	Sensitive Habitats Adjacent to Nunn Beach

ABBREVIATIONS AND ACRONYMS

ACU	Assault Craft Unit
ADID	Advanced Identification
a.k.a.	also known as
AOA	Amphibious Objective Area
AQCR	Air Quality Control Region
C	Celsius
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COMNAVSURFRESFOR	Commander, Naval Surface Reserve Force
CONOPS	Concept of Operations
COPC	constituents of potential concern
CWA	Clean Water Act
dB	decibel
dba	decibel, A-Weighted Scale
D.C.	District of Columbia
DDT	dichloro-diphenyl-trichloroethane
DOD	Department of Defense
D-SA	Diesel, Stationary Access
E	East
EA	Environmental Assessment
e.g.	<i>exempli gratia</i> , for example
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
et seq	<i>et sequentia</i> , and the following ones
F	Fahrenheit
FBI	Federal Bureau of Investigation
GLPD	Great Lakes Police Department
ha	hectare(s)
HMMV	highly mobile military vehicle
IAC	Illinois Administrative Code
IDNR	Illinois Department of Natural Resources
IDPH	Illinois Department of Public Health
i.e.	<i>id est</i> , that is
IEPA	Illinois Environmental Protection Agency
IESPB	Illinois Endangered Species Protection Board
IHPA	Illinois Historic Preservation Act
IL	Illinois
ILCS	Illinois Compiled Statutes
INAI	Illinois Natural Areas Inventory
INPC	Illinois Nature Preserves Commission
INRMP	Integrated Natural Resources Management Plan
km	kilometer(s)
LCDR	Lieutenant Commander
LCM	Landing Craft, Mechanized

LCSMC	Lake County Stormwater Management Commission
L _{eq}	day-night equivalent sound level
M	Mechanized or Military
m	meter(s)
mg	milligrams
Mg	Megagrams
MPF	Maritime Prepositioning Force(s)
MPRSA	Marine Protection, Research, and Sanctuaries Act
MPSRONs	Maritime Prepositioning Squadrons
MSCDC	Missouri State Census Data Center
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
msl	mean sea level
MWR	Morale, Welfare and Recreation
N	North
NAAQS	National Ambient Air Quality Standards
NAB	Naval Amphibious Base
NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
NR	Naval Reserve
NRC	Naval Reserve Center
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTC	Naval Training Center
NWI	National Wetland Inventory
O ₃	ozone
OPNAVINST	Chief of Naval Operations Instruction
PAH	polynuclear aromatic hydrocarbons
PC	Pettibone Creek
PCB	polychlorinated biphenyl
ppb	parts per billion
ppm	parts per million
R	Range
REDCOM	Naval Reserve Readiness Command
RONA	Record of Non-applicability
RTC	Recruit Training Command
SCS	Soil Conservation Service
SEAL	Sea, Air, Land
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMC	Stormwater Management Commission
SODIV	Southern Division of the Naval Facilities Engineering Command
spp	species
St.	Saint or Street
SVOC	semi volatile organic compounds

T	Township
TC&B	Turner Collie & Braden Inc.
TCLP	Toxicity Characteristic Leaching Procedure
T&E	threatened and endangered
TPY	tons per year
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMCR	U.S. Marine Corps Reserve
VOC	volatile organic compound
WDO	Watershed Development Ordinance
°	degrees

1.0 PURPOSE OF AND NEED FOR ACTION

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

A United States (U.S.) Naval Reserve (NR) Detachment of the Assault Craft Unit 1 (ACU-1) is located at the Naval Training Center (NTC) Great Lakes, Illinois. The ACU-1 is assigned to the Great Lakes Naval Reserve Center (NRC) and is one of four ACU-1 detachments supporting the Gaining Command located at the Naval Amphibious Base (NAB) in Coronado, California. The mission of the ACU-1 is to operate, maintain, and provide assault craft as required by the Amphibious Task Force Commander for waterborne ship-to-shore movement during and after an amphibious assault. The ACU-1 must also provide crews to assist in the off-loading of Maritime Prepositioning Force (MPF) ships to support military or relief operations ashore. One of the primary duties of the ACU-1 is to man Landing Craft, Mechanized (LCM-8) that are pre-staged aboard MPF ships and ferry cargo (i.e., U.S. Marine Corps equipment) from the MPF ships to the beach (U.S. Navy, 2001a). The NR ACU-1 Detachment at Great Lakes is considered part of the MPF, has been included in Navy force estimates, and must conduct routine assault craft training for crewmembers to meet mission requirements.

The NR ACU-1 Detachment owns, operates, and trains with three LCM-8 assault craft. The NR ACU-1 Detachment received LCM-6 aluminum craft in 1981 from the NAB Coronado and currently restricts amphibious assault operations training to Nunn Beach and Sandy Beach at NTC Great Lakes, although the beach at Fort Sheridan has been previously used when these sites were not available. The LCM-8 is 73 feet (22.2 m) long with a beam of 22 feet (6.7 m), and has an unloaded draft of 54 inches (137 centimeters [cm]). When loaded, the draft is 62 inches (157 cm), it weighs 60 tons (54 metric tons), and is powered by a twin diesel engine capable of carrying up to 60 tons (54 metric tons) in deadweight cargo (U.S. Navy, 2001e).

The three LCM-8 assault craft located at NTC Great Lakes are operated and maintained at the boathouse/marina located at the Inner Harbor area, and when water (depth) conditions allow for the craft to be removed from the water, the craft are generally stored inside the boathouse during the winter months (November through February). A mechanized synchro-lift, located on the western jetty wall of the Inner Harbor, is used to remove the LCM-8 from the water. The LCM-8 is transferred between the boathouse and the synchro-lift along skid tracks or rails. Synchro-lift operations require the use of a 55-inch (140-cm) high cradle to rest the LCM-8 on so that it can be moved on the rail system. To safely rest the LCM-8 on the cradle requires 24 inches (61 cm) clearance of water above the cradle when it is lowered in the water. Sediment samples taken in the area of the synchro-lift indicate accumulation of approximately 6 feet (1.8 m) of sediment (see *Appendix C*). Low water conditions and sediment deposition in the Inner Harbor currently prevent the synchro-lift equipment from removing the LCM-8 craft from the water (U.S. Navy, 2001b). Approximately 15.6 feet (4.8 m) of water is generally needed to remove the craft; however, there is typically only 9.0 to 10.0 feet (2.7 to 3.0 m) of water under the synchro-lift. In order to provide a sufficient seasonal operating depth, the Navy proposes to remove accumulated sediment by dredging an area of approximately 70 feet (21 m) by 110 feet (34 m) under the synchro-lift. Dredging was last performed in the area prior to 1985. A discussion of the dredging activity and permitting is contained in *Section 1.6*.

This EA has been prepared in accordance with the Council on Environmental Quality's (CEQ) National Environmental Policy Act (NEPA) regulations, as implemented by the Navy's Environmental and Natural Resources Program Manual (Chief of Naval Operations Instruction [OPNAVINST] 5090.1B, *Change 2*). NR ACU-1 training exercises are currently conducted on Nunn Beach and Sandy Beach located at the NTC Great Lakes. This EA will analyze the environmental consequences of on-going ACU-1 training activities, as well as ACU-1 training at two additional proposed beach training sites.

1.2 PURPOSE OF AND NEED FOR ACTION

The NR ACU-1 at NTC Great Lakes supports the Amphibious and MPF Operations by providing trained personnel capable of ship-to-shore movement of assault material and equipment, coastal material and equipment, personnel, and ammunition transport. The Naval Reserve wants to perform mission essential training exercises up to twice a month for eight months, a maximum of 32 days annually, at four alternate Lake Michigan beach sites, three Navy-owned and one Navy-leased, in the vicinity of NTC Great Lakes. The purpose of the exercises is to maintain mobilization readiness. The use of four possible beach training sites would provide schedule flexibility, a variety of training conditions, and would minimize impact to the public and the environment.

There is a need for the NR ACU-1 Detachment to train enlisted boat crews to perform MPF operations, to support two Maritime Prepositioning Squadrons (MPSRONS), and to provide qualified Debarkation Officers and/or Lighterage Control Officers for the on-load/off-load of MPF ships as directed by the Department of the Navy, Commander Naval Surface Reserve Force (COMNAVSURFRESFOR) Instruction 3501.2C (U.S. Navy, 2001a). During the summer months, Nunn Beach is generally restricted to recreational use by military personnel and their families on weekends and Sandy Beach cannot support equipment/vehicle on-load/off-load, thus, alternate beach training locations must be identified to perform the training needed to produce fully qualified crewmembers.

1.3 SUMMARY OF THE PROPOSED ACTION

The NR ACU-1 Detachment proposes to conduct training exercises using the LCM-8 at four beach sites located on Lake Michigan within 10 nautical miles (18.5 kilometers [km]) of NTC Great Lakes (*Figure 1-1*) (U.S. Navy, 2001b). There are up to a maximum of 32 possible training days per year scheduled for the ACU-1 Reserve Detachment. The proposed boat crew training and landing exercises would be conducted with a crew of 10 to 14 persons (which includes the standard boat crew of 4, boat officers, and various training crew members) up to twice per month primarily during March through October. Training would occur at one of the four alternate beach sites during each training session and could be performed during the day or the evening/night. Typically, weekend operations are underway from 9:00 a.m. to 3:30 p.m. Additionally, two of the training operations are typically reserved to include after sunset operations and generally occur between 2:00 p.m. and 10:00 p.m. Personnel on-load/off-load the LCM-8 in the Inner Harbor via gangplank, whereas, equipment and vehicles are loaded from the beach area. Training involves the LCM-8 craft positioned in the surf zone with operation of equipment and vehicles in the beach landing area within approximately 50 to 100 feet (15 to 30 meters [m]) of the shore (U.S. Navy, 2001c). During these training exercises, personnel located on the beach area may discharge small arms loaded with blank ammunition into the air to simulate hostile fire; however, at no time would live ammunition be used

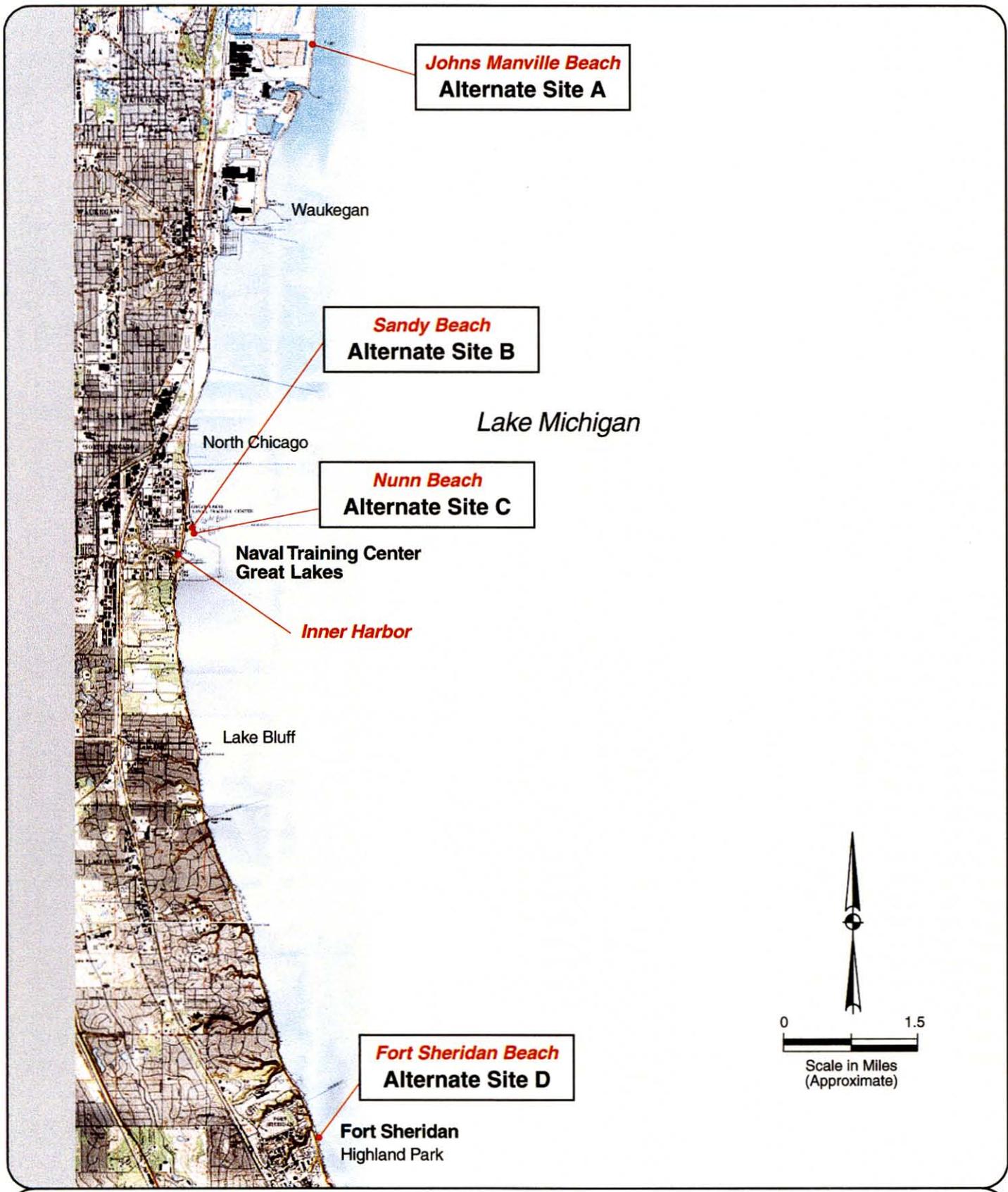


Figure 1-1. Vicinity Map

Note: To convert miles to kilometers, multiply by 1.60935.

during NR ACU-1 training exercises. No equipment, vehicles, or personnel would remain on the beach or extend beyond the landing area; critical habitat, including dune systems, would not be affected.

No material, equipment, or debris (including spent blank cartridges) is left at the beach after training operations are completed. Restoration of beach sand contours would involve sweeping, if needed, by Navy personnel, and equipment and vehicle wheel tracks and ruts are normally removed within 24 hours by wave and tide action, as well as wind action (U.S. Navy, 2001c). The *Naval Reserve Assault Craft Operations Manual* establishes guidance for the operation, safety, maintenance, and material management, including fuel spill response of NR assault craft. *Figure 1-2* presents photographs of some of the typical training exercises. Associated with the proposed action is the maintenance dredging of the Inner Harbor at NTC Great Lakes that requires permitting from the U.S. Army Corps of Engineers (USACE). A discussion of the dredging activity and permitting is contained in *Section 1.6*.

The alternatives analyzed by this EA include the Action and the No Action Alternatives. The No Action Alternative is cessation of ACU-1 training at NTC Great Lakes. Since No Action Alternative does not meet mission requirements, it was eliminated from further analysis. The Action Alternative is the performance of Amphibious and MPF Operations-required training exercises and landings at four alternate beach sites located in Lake County, Illinois, in the vicinity of the NTC.

The four alternate beach sites analyzed by this EA are listed below and depicted by *Figure 1-1*:

- Johns Manville Beach
- Sandy Beach
- Nunn Beach
- Fort Sheridan Beach

Nunn Beach and Sandy Beach, located at NTC Great Lakes, are open to the public for swimming and recreation between Memorial Day and Labor Day. The NTC Great Lakes Morale, Welfare and Recreation (MWR) office manages Nunn Beach and Sandy Beach and maintains the hours of operation to provide for recreational access by military personnel and their dependents. Alternate Amphibious Objective Area (AOA) sites are needed for training during the summer months (late May through late August) to allow flexibility in training scheduling necessary to meet mission requirements while minimizing impact to the recreational activities of military personnel and their dependents.

1.4 DECISIONS NEEDED

This Environmental Assessment (EA) was developed to provide the Navy decision makers with the information required to understand the environmental consequences of the Action and No Action Alternatives. The Action Alternative is the performance of Amphibious and MPF Operations-required training exercises at alternate beaches located in the vicinity of the NRC Great Lakes. The No Action Alternative is the cessation of NR ACU-1 training at NTC Great Lakes and was eliminated from detailed analysis and further consideration. The decision to be made is which, if any, beach training site(s) can be used for NR ACU-1 training exercises.



Photo 1 - Vehicle exiting the LCM-8.



Photo 2 - Vehicle approaching beach from the LCM-8.



Photo 3 - Beach training and landing exercises.



Photo 4 - Beach training and landing exercises.



Photo 5 - Beach traffic controlmen.



Photo 6 - Beach training and landing exercises.

Figure 1-2. Beach Training Exercises

1.5 AGENCY COORDINATION

A listing of federal, state, and local agencies that received project coordination letters is included as *Section 6.0* of this EA. Response letters from agencies are provided as *Appendix A*.

Relevant issues identified through review of the coordination response letters are provided below:

- A dredging permit is required from the USACE for Inner Harbor maintenance dredging.
- Johns Manville Beach is located in an area designated as critical habitat for the endangered piping plover (*Charadrius melodus*).
- Johns Manville Beach is located within 660 feet (201 m) of two Advanced Identification (ADID) sites identified by the U.S. Environmental Protection Agency (EPA).
- Johns Manville Beach is located within the Waukegan Beach Illinois Natural Areas Inventory (INAI) site and adjacent to the Illinois Beach Nature Preserve.
- Johns Manville Beach is located in proximity to Illinois Beach State Park, which is home to three federally endangered species.
- Sandy Beach and Nunn Beach are reported to contain marram grass (*Ammophila breviligulata*), little green sedge (*Carex viridula*), seaside surge (*Chamaesyce polygonifolia*), and sea rocket (*Cakile edentula*), which are all state-listed threatened and endangered species.
- Fort Sheridan Beach is located adjacent to the Fort Sheridan INAI Site.
- A natural beach area is 200 feet (61 m) from Nunn Beach, separated by a wall from the NTC Great Lakes, and provides habitat for threatened and endangered species.
- In the past, analysis of harbor sediments indicated contamination with polychlorinated biphenyls (PCBs), heavy metals, and possibly other substances. The area to be dredged will be tested for the presence of contamination so that proper dredging techniques and disposal methods can be used.
- Conflicts associated with boat traffic are possible given existing sport fishing and recreational boat use of Lake Michigan.
- Fuel discharge by the LCM-8 and prop wash may affect natural habitat in shallow water.
- The Illinois Department of Natural Resources (IDNR) and the Illinois Natural History Survey use gear in shallow water of Lake Michigan. Coordination of these activities and ACU-1 training exercises should occur to prevent accidents.
- The U.S. Environmental Protection Agency states that NEPA documentation needs to include a clear statement of purpose and need for the proposed action, quantifiable criteria associated with the project need, a cumulative impact discussion, an identification of adverse impacts and mitigation, listing of necessary permits, and an analysis of impacts associated with maintenance dredging.
- Dredged material placed within a regulatory floodplain should occur in compliance with federal, state, and local floodplain management requirements.

The following issues or concerns were identified by the agencies as possibly being relevant to the proposed action. The explanation of how each comment was considered is provided in italics following the issue/concern.

- Sandy Beach, Nunn Beach, and Inner Harbor at NTC Great Lakes are located within the boundaries of the NTC Great Lakes Historic District. *No historic or any other structure is associated with the beach training areas. Training operations will take place in conformance to established historic resource management agreements as identified by the Base Historic Preservation Officer(s) at NTC Great Lakes and Fort Sheridan.*
- Archeological sites are documented along the bluff near Fort Sheridan and along the Inner Harbor area at NTC Great Lakes. *Beach training will not occur in the vicinity of the Fort Sheridan bluff or on land in the vicinity of the Inner Harbor area at NTC Great Lakes. The dredging proposed for an area of the Inner Harbor is for maintenance purposes. Since dredging has occurred in the area in the past, no archeological resources would be present.*
- The Inner Harbor at NTC Great Lakes has recorded occurrences of sea rocket, forked aster (*Aster furcatus*), green yellow sedge (*Carex viridula*), and seaside surge. *The dredging proposed for an area of the Inner Harbor is for maintenance purposes. Since dredging has occurred in the area in the past, these plant species would not be expected in the vicinity of the area proposed for dredging.*
- The beach adjacent to Fort Sheridan is now a passive recreation area used by Highland Park and Highwood area residents. *The proposed beach training site is U.S. Navy property, not a public beach maintained for the general public's recreational use. Aesthetic impacts would not occur since the proposed activities are of short duration, limited extent, and non-permanent in nature.*
- The Lake County Stormwater Management Commission (SMC) states that consistency with the Lake County Watershed Development Ordinance (WDO) would be required for a Major Development. *Since the proposed action does not include development, a stormwater consistency determination is not necessary.*
- A Soil Erosion and Sediment Control Plan are required for all development to meet the objectives of the WDO. *Since the proposed action does not constitute development activities, a soil erosion and sediment control plan would not be necessary.*

1.6 PERMITS

In order to provide a sufficient seasonal operating depth for the synchro-lift to remove the LCM-8 craft from the water (see *Section 1.1*), the Navy proposes to remove accumulated sediment down to a maximum of 15 feet (4.6 m) below the normal water depth of Lake Michigan by dredging an area of approximately 70 feet (21 m) by 110 feet (34 m) under the synchro-lift. *Appendix C* contains a copy of the joint permit application submitted to the USACE for the project. The permit application includes information on the limits of dredging, soundings, sediment sampling, and the results of the sediment sampling analysis. In addition, dredging in public waters requires authorization from the IDNR, Office of Water Resources, pursuant to Title 17 Illinois Administrative Code (IAC), Part 3704 and the River, Lakes, and Streams Act (615 Illinois Compiled Statutes [ILCS] 5). State authorization is also obtained through use of the joint permit application submitted to the USACE.

A total of 1,540 cubic yards (1,177 cubic meters) of material would be removed via small diver-operated vacuum dredge operation to minimize disturbance of the sediments and due to the access restrictions of the pier and pilings. The USACE has already approved use of this procedure. The saturated dredged material would be dewatered by pumping and temporary storage in large geotubes. Once dewatered, the material would be reduced in volume, to approximately 1,200 to

1,300 cubic yards (917 to 994 cubic meters), thereby minimizing the amount of dredged material requiring disposal or management.

During May 2001, core samples of the sediment were obtained within the proposed dredging area and laboratory analyses were conducted in an effort to characterize the sediment prior to the permit application process. These analyses indicate that results for total volatile solids and total organic carbon, as well as organochloride pesticides, are below laboratory detection limits, but all four of the samples resulted in some polynuclear aromatic hydrocarbon (PAH) levels above Illinois Environmental Protection Agency (IEPA) Universal Waste Standards. Analysis for total metals show that all eight metals were present in two of the samples, and all but silver were present in the other two samples (see *Appendix C*). TCLP and analysis for PCBs were outside the scope of the project and were not included. Based on results of the total metals concentration methodology analysis performed on the sediment at the ACU dock no determination can be made if the dredging sediments would be regulated as a hazardous waste. However, review of prior studies conducted in the vicinity of the planned dredging operation; *Site Inspection report for Pettibone Creek, Boat Basin and Harbor Areas (Draft)*, *Technical Memorandum for Sediment Coring Activities, Draft SI Report of Sediment and Surface Water Testing, Draft Geophysical Investigation Report, Great Lakes Naval Training Center*, and *Letter Report, Pettibone Creek Investigation North Chicago, Lake County, Illinois*; appear to indicate that levels of contaminants in the Boat Basin and Inner Harbor generally decrease in relationship to the distance from the location where the mouth of Pettibone Creek discharges into the Boat Basin. Also levels of contamination appear to decrease in samples obtained from outside of the direct flow of water from the mouth of Pettibone Creek to Lake Michigan. As the ACU dock is in the Inner Harbor away from the Boat Basin and the mouth of Pettibone Creek, and is removed from direct flow path from the Mouth of Pettibone Creek to Lake Michigan, contaminant levels in the ACU dock sediments are anticipated to be lower than those in the sediments in the Boat Basin or portions of the Inner Harbor directly in the flow path from Pettibone Creek. Therefore, dredging in the area of the ACU dock poses no risk of spreading contamination to the surrounding areas as sediments in those areas exhibit higher contaminate levels. As no final determination of the regulatory status of the dredge spoils can be made until pre-disposal testing is performed following the dredging operation, all dredging activities will be conducted in conformance with standards for hazardous waste operations (the most conservative). Upon completion of the dewatering process, a representative sample or samples of dredge materials would be fully analyzed, including TCLP and analysis for PCBs, to determine the proper method of disposal. Dependant upon the results of these analyses, dewatered dredged material would be disposed of in accordance with applicable local, state, and federal regulations. If the sediment are determined to be state regulated, but non-federal hazardous waste, they would be disposed at a nearby landfill (Zion or Grayslake) in accordance with local, state, and federal regulations or, if analyses determine the sediment non-regulated, may be used within NTC property for landscape or fill material.

The required dredging permits have been received from the IDNR, IEPA, and USACE to perform the proposed dredging activity. Copies of these permits, including related agency correspondence and conditions, are contained in *Appendix D*. Additionally, as indicated in IEPA's letter dated October 26, 2001, a construction and operation permit (required under 35 IAC 309.202 and 309.203) will have to be obtained and complied with. This permit will be obtained by the dredging contractor prior to performing any dredging activities.

Applicable federal, state, and local environmental regulations and laws would be followed during implementation of the proposed project. As requested by the U.S. Fish and Wildlife Service (USFWS), NR ACU-1 training at Johns Manville Beach, if determined appropriate, will not occur before June 1 or after August 15 to provide habitat for landing, nesting, and foraging for migratory plovers and other protected bird species.

1.7 ORGANIZATION OF REPORT

This EA consists of a Summary, Abstract, seven sections, and two appendices. The *Summary* includes the major conclusions, issues to be resolved, and project alternatives. *Section 1.0* provides the purpose of and need for the proposed action. *Section 2.0* describes the alternatives and summarizes the alternatives analysis performed. *Section 3.0* describes and is limited to the affected environment at the alternate beach training sites and the Inner Harbor area at NTC Great Lakes. *Section 4.0* discusses the environmental impact of the proposed action, including any adverse impacts that cannot be avoided, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitment of resources as a result of the proposed action. *Section 5.0* lists the various agencies and public entities that were consulted during the preparation of this document. *Section 6.0* lists the persons who were primarily responsible for the preparation of this EA. *Section 7.0* lists the references cited throughout the document. *Appendix A* includes agency coordination response letters, *Appendix B* contains a record of non-applicability (Conformity Analysis) pertaining to the proposed action, *Appendix C* contains a copy of the joint permit application submitted to the USACE for the project, and *Appendix D* contains copies of the IDNR, IEPA, and USACE dredging permits and related correspondence.

2.0 ALTERNATIVES

2.0 ALTERNATIVES

This section presents a description of the alternatives considered for future NR ACU-1 training at NTC Great Lakes. The alternatives analyzed include the Action Alternative (performance of training at four alternate beach sites) and the No Action Alternative (cessation of ACU-1 training at NTC Great Lakes). The section also discusses alternative beach sites identified but not carried forward for further analysis.

2.1 DESCRIPTION OF THE PROPOSED ACTION

The NR ACU-1 detachment proposes to conduct training exercises using the LCM-8 at four beach sites located on Lake Michigan within 10 nautical miles (18.5 km) of NTC Great Lakes (U.S. Navy, 2001b). There are a maximum of 32 training days per year scheduled for the ACU-1 Reserve Detachment during the months of March through October of each year. The proposed beach training and landing exercises would be conducted with a crew of 10 to 14 (which includes the standard boat crew of 4, boat officers, and various training crew members) up to twice per month, primarily during the spring and summer months of the year. Training would occur at one of the four alternate beach sites during each training session and could be performed during the day or the evening/night. Each training evolution typically lasts 6 hours, with the training being at least 4 hours as a minimum and up to 12 hours as a maximum, often going into evening/night operations. Personnel on-load/off-load the LCM-8 in the Inner Harbor via gangplank, whereas, equipment and vehicles are loaded from the beach area. Training involves the LCM-8 craft positioned in the surf zone with operation of equipment and vehicles in the beach landing area within approximately 50 to 100 feet (15 to 30 m) of the shore (U.S. Navy, 2001c). During these training exercises, personnel located on the beach area may discharge small arms loaded with blank ammunition into the air to simulate hostile fire; however, at no time would live ammunition be used during NR ACU-1 training exercises. No equipment, vehicles, or personnel would remain on the beach or extend beyond the landing area; critical habitat, including dune systems, would not be affected.

Equipment and cargo or other debris (including spent blank cartridges) would be removed from the beach after training exercises have been completed. Disturbed sands may be swept or raked by Navy personnel, if needed, but equipment and vehicle wheel tracks and ruts are usually removed within 24 hours by wind action and Lake Michigan wave and tide action (U.S. Navy, 2001c). Associated with the proposed action is the maintenance dredging of the Inner Harbor at NTC Great Lakes that requires permitting from the USACE. There is no alternative to the required dredging other than ceasing training operations (implementation of the No Action Alternative—see *Section 2.3*). A discussion of the dredging activity and permitting is contained in *Section 1.6*.

For waterborne ship-to-shore movement, the LCM-8 is loaded into the amphibious ships for transit to and from an AOA. Presently, the standard AOAs used to simulate waterborne ship-to-shore movement are Nunn Beach and Sandy Beach located at NTC Great Lakes. Training activities that simulate the off-loading of MPF ships (a.k.a., roll-on/roll-off training) are difficult to conduct because ACU-1 does not own equipment that could simulate MPF ship off-loading such as M-60 tanks, bulldozers, 4 x 4 trucks, Highly Mobile Military Vehicles (HMMVs), M-149 water trailers, or 110 combat loaded infantry (U.S. Navy, 2001a). The maximum ACU-1 training that could occur would include a combination of HMMVs, trucks, or heavy equipment weighing up to 60 tons

(54 metric tons). The U.S. Marine Corps Reserve (USMCR) Unit at Fort Sheridan owns HMMVs that are used during roll-on/roll-off training when the USMCR and NR training schedules can be synchronized.

2.2 ACTION ALTERNATIVE

The Action Alternative is the performance of Amphibious and MPF Operations-required training exercises and landings at four alternate beach sites located in the vicinity of the NTC Great Lakes (the specific action is described in *Section 2.1*). The four alternate sites represent a range of reasonable alternatives given the project criteria established by the Navy (U.S. Navy, 2001b). The specific operational and logistical criteria follow:

- Within 10 nautical miles (18.5 km) (½ to 1 hour cruising distance) of NTC Great Lakes
- Draft and water depth sufficient for a loaded LCM-8
- No obstructions to vehicles, craft, or personnel
- Sand or equivalent beach material
- Minor to no environmental impact and minimal disturbance to the public
- Safe for craft, personnel, and vehicle access
- Accessible during the 16 to 32 planned training days
- Compliance with environmental regulations and the NTC's Natural Resource Plan
- Road or vehicular access to beach for rolling stock training exercises (preferred)

The four alternate beach sites analyzed by this EA are listed below and, as a group, meet the operational and logistical criteria established by the NR ACU-1 Detachment. Site maps are provided by *Figures 2-1* through *2-3*.

- Johns Manville Beach (Alternate Site A)
- Sandy Beach (Alternate Site B)
- Nunn Beach (Alternate Site C)
- Fort Sheridan Beach (Alternate Site D)

Each of the alternate beach training sites is located in Lake County, Illinois along the shore of Lake Michigan and is described in more detail below.

2.2.1 Alternate Site A – Johns Manville Beach

The Johns Manville Beach is the northernmost beach identified for NR ACU-1 training exercises and is found at Township (T) 45 North (N), Range (R) 12 East (E), Section 11, as shown on the Zion, Illinois 7.5-minute quadrangle map (U.S. Geological Survey [USGS], 1993a).

Due to lack of landside beach access to simulate off-loading cargo, Johns Manville Beach would not be used for the roll-on/roll-off training. NR ACU-1 training would be restricted to local expeditionary warfare, emergency exercises, and ship-to-shore training exercises (U.S. Navy, 2001c). Expeditionary warfare is the pick-up/delivery of combat equipment and personnel from/to a hostile beach. Emergency exercise is the pick-up or delivery of damaged equipment or injured

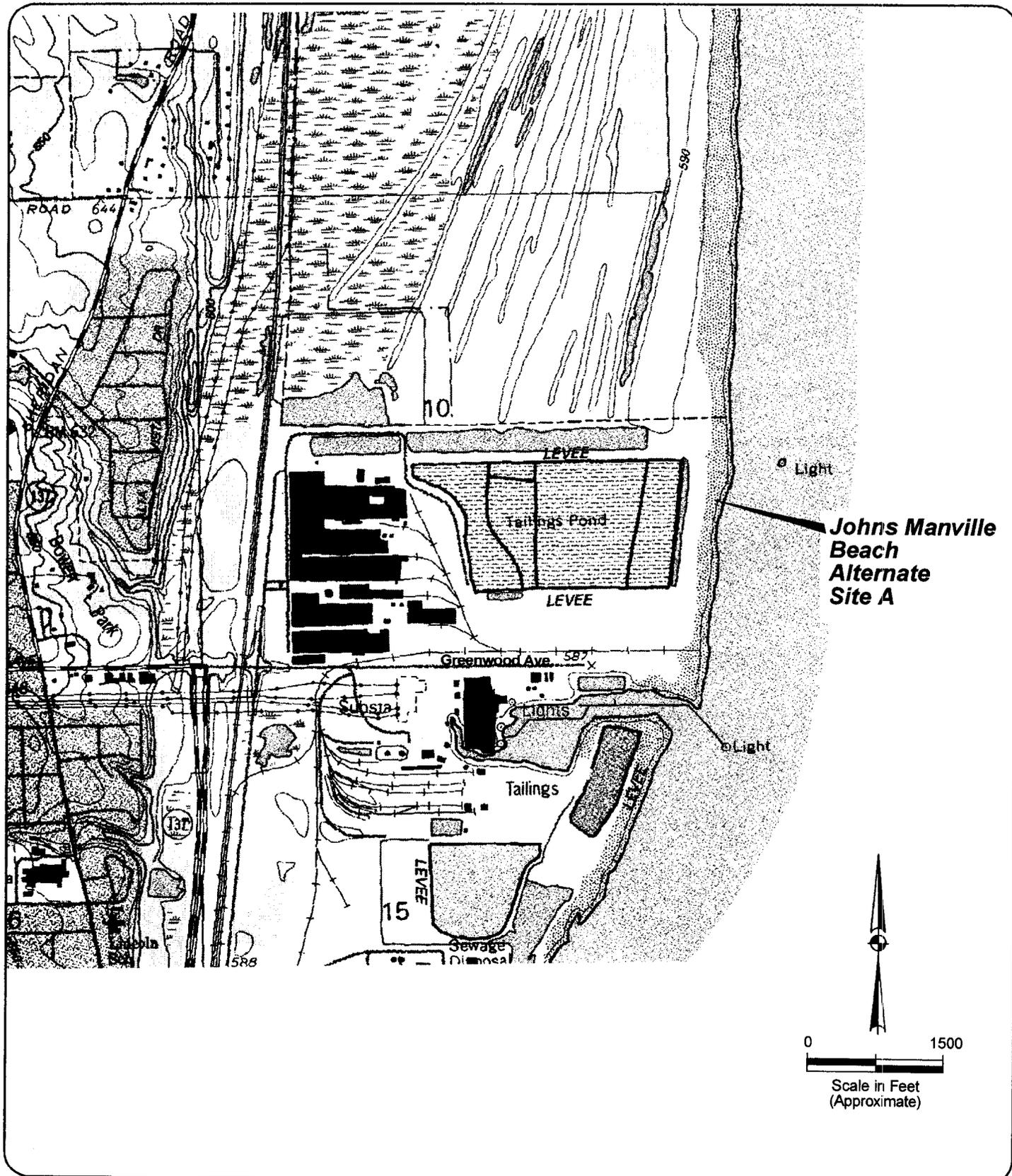


Figure 2-1. Site Map - Alternate Site A, Johns Manville Beach (USGS, 1993a)

Note: To convert feet to meters, multiply by 0.3048.

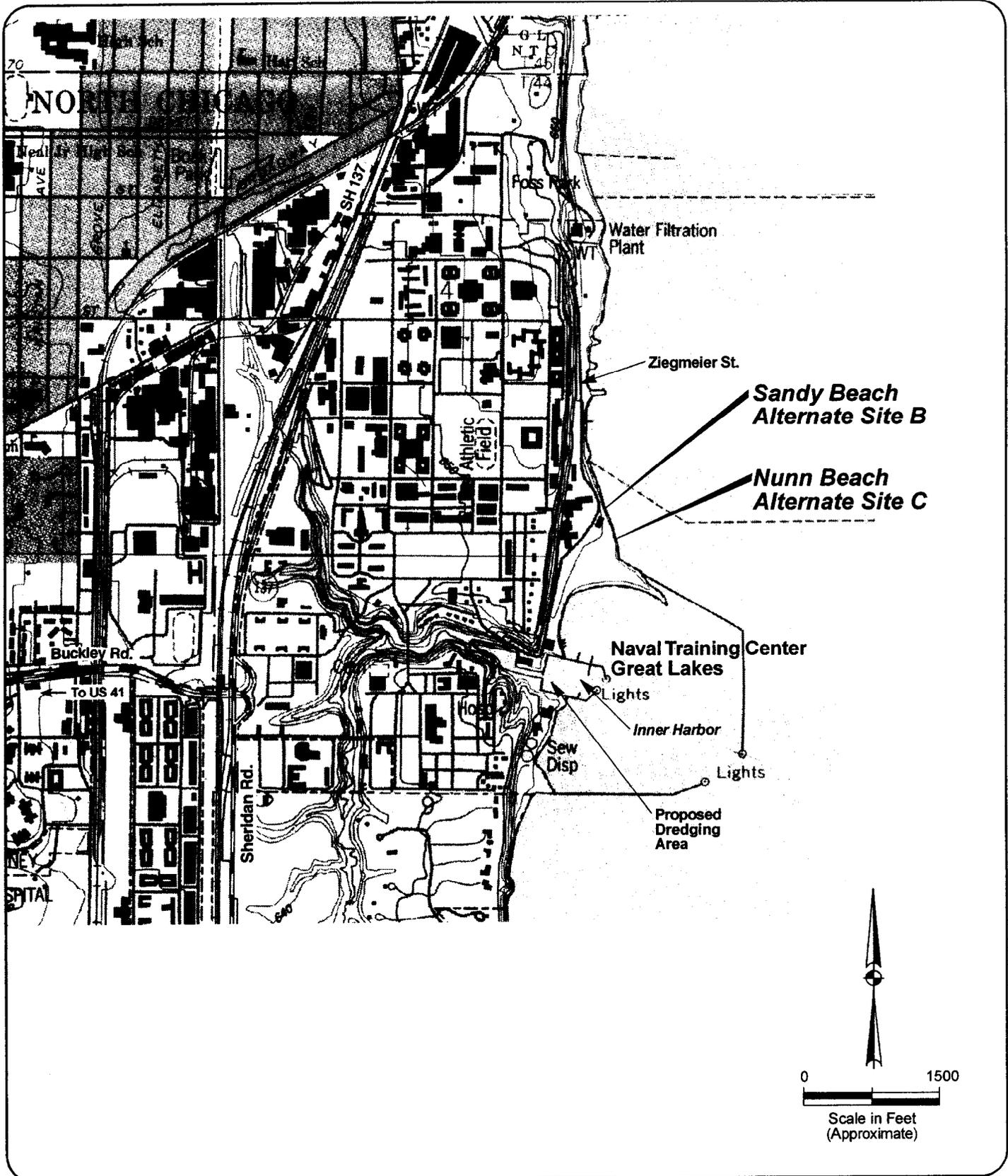


Figure 2-2. Site Map - Alternate Sites B and C, Sandy Beach and Nunn Beach (USGS, 1993b)

Note: To convert feet to meters, multiply by 0.3048.

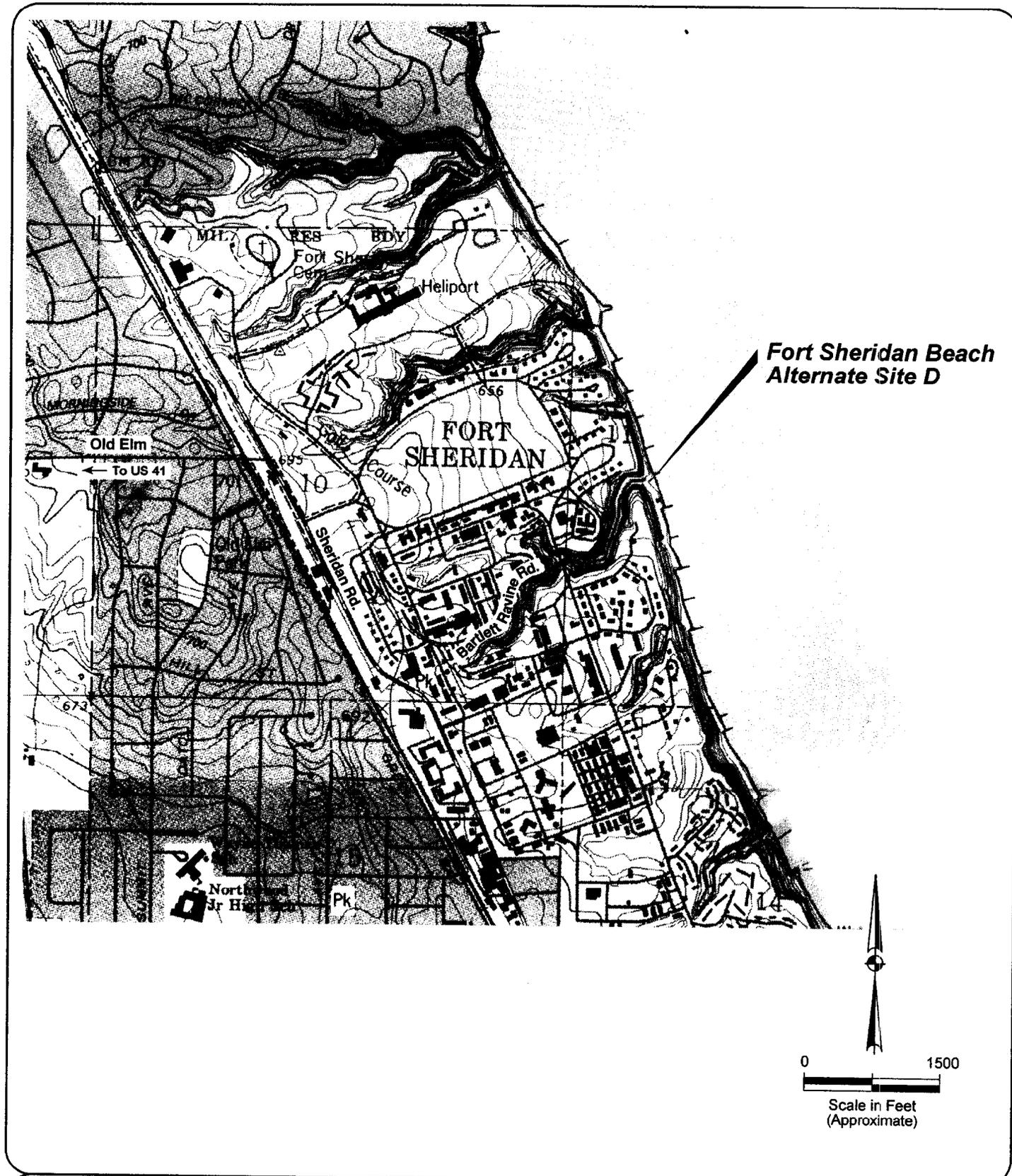


Figure 2-3. Site Map - Alternate Site D, Fort Sheridan Beach (USGS, 1993c)

Note: To convert feet to meters, multiply by 0.3048.

personnel from/to a beach. Ship-to-shore training is the simulation of MPF operations, the delivery and pick-up of Marine equipment to a forward-deployed staging area.

The Johns Manville Beach is the only alternate training site that is not owned and controlled by the U.S. Navy. Since this is the case, the U.S. Navy has entered into an agreement with Johns Manville International, Inc. to allow right of access to conduct amphibious training exercises subject to certain conditions, including health and safety of Navy personnel, minimizing site impacts, and waste disposal (U.S. Navy, 2001b).

2.2.2 Alternate Site B – Sandy Beach

Sandy Beach is located at the NTC Great Lakes, north of the MWR building used for beach access and concessions. Sandy Beach is currently used for NR ACU-1 training exercises and is found at T44N, R12 E, Section 4 as shown on the Waukegan, Illinois, 7.5-minute quadrangle map (USGS, 1993b). Sandy Beach is currently used for roll-on/roll-off, expeditionary, emergency, and ship-to-shore training activities.

2.2.3 Alternate Site C – Nunn Beach

Nunn Beach is located at the NTC Great Lakes, south of the MWR building used for beach access and concessions. Nunn Beach is currently used for NR ACU-1 training exercises and is found at T44N, R12 E, Section 4, as shown on the Waukegan, Illinois, 7.5-minute quadrangle map (USGS, 1993b). Nunn Beach is currently used for roll-on/roll-off, expeditionary, emergency, and ship-to-shore training activities.

2.2.4 Alternate Site D – Fort Sheridan Beach

Fort Sheridan Beach is located along Lake Michigan on Navy-owned property adjacent to the Town of Fort Sheridan at T43N, R12 E, Section 11, as shown on the Highland Park, Illinois, 7.5-minute quadrangle map (USGS, 1993c). Fort Sheridan Beach is not currently used for NR ACU-1 training exercises (U.S. Navy, 2001b). It is proposed to perform roll-on/roll-off, expeditionary, emergency, and ship-to-shore training activities.

2.3 NO ACTION ALTERNATIVE

The No Action Alternative is cessation of NR ACU-1 training activities at NTC Great Lakes. The No Action Alternative has been eliminated from detailed consideration since it does not meet mission requirements.

2.4 ALTERNATIVE SITES ELIMINATED FROM DETAILED ANALYSIS

Alternative beach landing sites within training range of NTC Great Lakes were identified early during the impact assessment process (U.S. Navy, 2001b). The following alternative sites were eliminated from further consideration based on the selection criteria listed in *Section 2.2*.

- Federal Bureau of Investigation (FBI) Beach
- Foss Park Beach
- NTC Great Lakes Water Plant Beach

The FBI Beach Site was eliminated from further consideration because the FBI refused to allow beach training exercises in the vicinity of the firing range berm that parallels Lake Michigan, because live ammunition is used for a variety of weapons and safety could not be assured. Foss Park is a public beach not owned by the U.S. Navy and, because it is open for use by the public at the same time it would be utilized for ACU-1 training, it could not be used for long-term, on-going training activities. The beach located near the NTC Great Lakes Water Plant is a rock beach unacceptable for NR ACU-1 training exercises that require sandy lake bottom conditions.

2.5 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 2-1 presents an environmental consequences evaluation matrix of the alternate sites considered for NR ACU-1 training exercises, including potential consequences of the proposed dredging activities. This summary of impact evaluation was developed from detailed analysis documented in *Section 4.0*. The potential impacts of proposed maintenance dredging operations are also provided below and described in the opening paragraphs of *Section 4.1, 4.2, and 4.3*.

Maintenance dredging in the western portion of the Inner Harbor at NTC Great Lakes would be performed immediately beneath the synchro-lift in an area of approximately 70 feet (21 m) by 110 feet (34 m). There has been sediment deposition around the support pilings of the synchro-lift and this accumulation must be removed potentially through use of 4-inch (10 cm) diameter, diver-operated suction dredges. A volume of 1,540 cubic yards (1,177 cubic meters) of material would be removed, dewatered, and disposed of or otherwise safely managed. During May 2001, core samples of the sediment were obtained within the proposed dredging area and composite laboratory analyses was conducted in an effort to characterize the sediment prior to the permit application process. These analyses indicate that results for total volatile solids and total organic carbon, as well as organochloride pesticides, are below laboratory detection limits, but all four of the samples resulted in some PAH levels above IEPA Universal Waste Standards. Analysis for total metals show that all eight metals were present in two of the samples, and all but silver were present in the other two samples (see *Appendix C*). Toxicity Characteristic Leaching Procedure (TCLP) and analysis for PCBs were outside the scope of the project and were not included. Based on results of the total metals concentration methodology analysis performed on the sediment at the ACU dock no determination can be made if the dredging sediments would be regulated as a hazardous waste. However, review of prior studies conducted in the vicinity of the planned dredging operation; *Site Inspection report for Pettibone Creek, Boat Basin and Harbor Areas (Draft)*, *Technical Memorandum for Sediment Coring Activities, Draft SI Report of Sediment and Surface Water Testing, Draft Geophysical Investigation Report, Great Lakes Naval Training Center, and Letter Report, Pettibone Creek Investigation North Chicago, Lake County, Illinois*; appear to indicate that levels of contaminants in the Boat Basin and Inner Harbor generally decrease in relationship to the distance from the location where the mouth of Pettibone Creek discharges into the Boat Basin. Also levels of contamination appear to decrease in samples obtained from outside of the direct flow of water from the mouth of Pettibone Creek to Lake Michigan. As the ACU dock is in the Inner Harbor away from the Boat Basin and the mouth of Pettibone Creek, and is removed from direct flow path from the Mouth of Pettibone Creek to Lake Michigan, contaminant levels in the ACU dock

sediments are anticipated to be lower than those in the sediments in the Boat Basin or portions of the Inner Harbor directly in the flow path from Pettibone Creek. Therefore, dredging in the area of the ACU dock poses no risk of spreading contamination to the surrounding areas as sediments in those areas exhibit higher contaminate levels. As no final determination of the regulatory status of the dredge spoils can be made until pre-disposal testing is performed following the dredging operation, all dredging activities will be conducted in conformance with standards for hazardous waste operations (the most conservative). Upon completion of the dewatering process, a representative sample or samples of dredge materials would be fully analyzed, including TCLP and analysis for PCBs, to determine the proper method of disposal. Dependant upon the results of these analyses, dewatered dredged material would be disposed of in accordance with applicable local, state, and federal regulations. If the sediment are determined to be state regulated, but non-federal hazardous waste, they would be disposed at a nearby landfill (Zion or Grayslake) in accordance with local, state, and federal regulations or, if analyses determine the sediment non-regulated, may be used within NTC property for landscape or fill material. Since applicable federal, state, and local environmental regulations and laws would be followed, and dredging operations would occur using hand-operated equipment, no significant environmental impact is expected. There may be localized effects from turbidity in the immediate vicinity of dredging operations, but these effects would be localized and limited to the immediate area to be dredged. The associated dredging operation would not be expected to further impact the surrounding waters or environment in general.

As summarized by *Table 2-1*, environmental consequences related to the performance of NR ACU-1 training exercises at any of the four alternate sites (the Action Alternative) are expected to be minimal. Implementation of the No Action Alternative would result in no training of the NR ACU-1 Detachment. This action would not be conducive to maintaining a combat-ready ACU-1 reserve force critical to national defense.

TABLE 2-1 ENVIRONMENTAL CONSEQUENCES MATRIX

Resource	Alternate Site A (Johns Manville Beach)	Alternate Site B (Sandy Beach)	Alternate Site C (Nunn Beach)	Alternate Site D (Fort Sheridan Beach)	Dredging Activities (NTC Great Lakes)
Topography/ Bathymetry	No impact.	No impact.	No impact.	No impact.	Project would restore bathymetry beneath the synchro-lift
Geology	No impact.	No impact.	No impact.	No impact.	No impact.
Soils	No impact.	No impact.	No impact.	No impact.	No impact.
Climate	No impact.	No impact.	No impact.	No impact.	No impact.
Air Quality	No impact.	No impact.	No impact.	No impact.	No impact.
Sound	Sound levels similar to existing conditions; no impact.	Sound levels similar to existing conditions; no impact.	Sound levels similar to existing conditions; no impact.	Sound levels similar to existing conditions; no impact.	Minimal noise impact to nearby residents.
Water Resources	No impact.	No impact.	No impact.	No impact.	Localized turbidity may occur but these effects would be minimal, of short duration, and limited to the immediate areas to be dredged.
Hazardous Material/Waste	No discharge of hazardous material/waste.	No discharge of hazardous material/waste.	No discharge of hazardous material/waste.	No discharge of hazardous material/waste.	No discharge of hazardous material/waste.
Shoreline Vegetation	No impact.	No impact.	No impact.	No impact.	No impact.
Aquatic Habitat	No impact.	No impact.	No impact.	No impact.	Restores aquatic habitat to previous conditions.
Wildlife	No impact.	No impact.	No impact.	No impact.	No impact.
Threatened & Endangered Species	No impact. ¹	No impact. ²	No impact. ²	No impact. ²	No impact.
Wetland Resources	No impact.	No impact.	No impact.	No impact.	No impact.
Land Use	No impact.	No impact.	No impact.	No impact.	No impact.
Environmental Justice	No impact.	No impact.	No impact.	No impact.	No impact.
Local Protection and Emergency Response	No impact.	No impact.	No impact.	No impact.	No impact.
Recreation	No impact.	Use of other recreation sites likely during monthly ACU-1 training.	Use of other recreation sites likely during monthly ACU-1 training.	Use of other recreation sites likely during monthly ACU-1 training.	No impact.
Cultural Resources	No impact.	No impact.	No impact.	No impact.	No impact.
Transportation	No impact.	No impact.	No impact.	No impact.	No impact.
Navigation	No impact.	No impact.	No impact.	No impact.	No impact.

¹The U.S. Fish and Wildlife Service (USFWS) recommends that training at Alternative Site A not take place before June 1 or after August 15 of each year, to protect potential habitat for migratory Piping Plovers that may use the beach for landing, foraging, and nesting during the spring or fall months of the year (see *Section 4.2.4*).

²The USFWS has indicated that it does not appear that the project is likely to adversely affect any Federally threatened or endangered species or adversely modify critical habitat of such species at Nunn Beach, Sandy Beach, or Fort Sheridan Beach (see *Section 4.2.4*).

3.0 AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

Section 3.0 provides baseline information for understanding the environmental consequences of the NR ACU-1 Great Lakes training alternatives. It provides information to serve as a baseline from which to identify and evaluate environmental consequences resulting from the proposed action. Resources evaluated address the project setting and existing conditions associated with the physical, biological and socioeconomic environment. Resource issues discussed are provided in order below:

- Topography and Bathymetry (Earth Resources)
- Geology and Soils (Earth Resources)
- Climate and Air Quality (Air Resources)
- Sound
- Water Resources
- Hazardous Materials/Hazardous Waste
- Shoreline Vegetation
- Aquatic Habitat
- Wildlife
- Threatened and Endangered Species
- Wetland Resources
- Land Use
- Environmental Justice
- Police, Fire and Emergency Medical Services
- Recreation
- Cultural Resources
- Transportation and Navigation

The region of influence and study area boundaries for the majority of resources are the immediate vicinity, within approximately 0.5 to 1.0 mile (0.8 to 1.6 km), of the proposed alternate beach training sites. Climate and air quality resources are considered on a regional scale; air quality considerations are established by the boundaries of the applicable Illinois-Indiana air quality control area.

3.1 PHYSICAL ENVIRONMENT

3.1.1 Earth Resources

Topography

Lake County is located on the Wheaton Morainal Complex of the Great Lakes Section of the Central Lowland Physiographic Province (U.S. Navy, 1993a). The NTC Great Lakes is located within the Bluff-Ravine Complex characterized by level land bordered by steep bluffs facing the shore of Lake Michigan and a network of interior ravines. The eastern boundary of NTC Great Lakes is a sand beach along the shore of Lake Michigan.

Alternate Site A, Johns Manville Beach, is shown on the Zion, Illinois quadrangle map (*Figure 2-1*) (USGS, 1993a). The site is located on a gently sloping, sand and rock beach at an elevation of

580 feet (177 m) National Geodetic Vertical Datum (NGVD) on the western shore of Lake Michigan. A dune formation runs north-south along the western edge of the beach. Land to the west of this proposed site is almost level, with a gradual rise to over 640 feet (195 m) NGVD (U.S. Navy, 1990).

Alternate Sites B and C, Sandy Beach and Nunn Beach, are shown on the Waukegan, Illinois 7.5-minute topographic quadrangle map (USGS, 1993b) (*Figure 2-2*). Alternate Site D, Fort Sheridan Beach, is shown on the Highland Park, Illinois quadrangle map (USGS, 1993c) (*Figure 2-3*). These three alternate sites are located on the western shore of Lake Michigan at an elevation of approximately 580 feet (177 meters [m]) NGVD. There are steep bluffs behind the beach at Alternate Sites B, C, and D. Bluffs at Sandy Beach and Nunn Beach reach elevations of approximately 650 feet (198 m) NGVD. The Fort Sheridan bluffs reach an elevation of 625 feet (190 m) NGVD (U.S. Navy, 2001g and 1994).

Bathymetry

Shelf bathymetry along the Lake Michigan shoreline is characterized by a slope of approximately 100 feet (30 m) per mile (805 km). Lake Michigan bottom surveys were conducted within the past year by NR personnel for all of the alternate beach training sites. All of the training exercises would typically be outside of the 24-foot (7-m) bathymetric depth curve. The bottom survey for Alternate Site A was conducted between two navigational lights about 100 feet (30.5 m) east of the shoreline. Bottom depths range from 2.5 feet (0.75 m) at 30 feet (9.2 m) from shore to 5 feet (1.5 m) at 100 feet (30.5 m) from the shoreline. Two sandbars were noted parallel to the shoreline. Water depths were at 2 feet (0.6 m) over the sandbar 100 feet (30.5 m) from shore and 1.5 feet (0.45 m) at the larger one located 30 feet (9.2 m) from shore. Unobstructed ingress at Alternate Site A occurs between the ends of the sandbars and the navigational lights (U.S. Navy, 2000b and 2001i).

Alternate Sites B and C have no obstruction to Navy craft (U.S. Navy, 2001b). Bottom depths generally range from 2 feet (0.6 m) at a distance of 50 feet (15.3 m) from the shore to 4 feet (1.2 m) deep at a distance of 200 feet (61 m) from the shore (U.S. Navy, 2000b and 2000f).

Alternate Site D is approximately 200 yards (183 m) long, between two groins extending 300 feet (91.5 m) from the shore. Depth readings range from 3 feet (0.9 m) at a distance of 100 feet (30.5 m) from the shoreline to 5 feet (1.5 m) at a distance of 300 feet (91.5 m). An aggregate obstruction of pilings, stumps, and rocks was observed between two groins identifying the beach location. Several large rocks were also observed at various locations between the walls (U.S. Navy, 2000b and 2000f).

Bottom depth survey readings were taken for the proposed dredging area in the Inner Harbor in the vicinity of the ACU-1 synchro-lift. Depth readings were consistently at 9 feet (2.7 m) in the vicinity of the support pilings of the synchro-lift and near the piers (U.S. Navy, 2000b and 2000f).

Geology

The surficial geology of Lake County and the project area is dominated by deposits laid down by glacial ice, water, and wind during several periods of glaciation during the past 600,000 years. Unconsolidated glacial till of the Equality Formation overlies Silurian Age dolomite. A generalized lithologic column described from ground surface to bedrock is 100 to 150 feet (30 to 46 m) of fine-grained till underlain by 10 to 50 feet (3 to 15 m) of sand and gravel. The sand and gravel is underlain by 10 to 50 feet (3 to 15 m) of fine-grained till that overlays Silurian Age dolomitic

bedrock. The most recent period of glaciation is primarily responsible for present-day landforms (U.S. Department of Agriculture [USDA], 1970). Sand deposits are present along Lake Michigan.

Soils

The dominant soil type at all four alternate sites is beach sand (USDA, 1970). Beach sand consists of sand and water-rounded stones and occurs along the entire shoreline of Lake Michigan. The beach sand area is wide and fairly stable north of Waukegan but is narrow and irregular south of Waukegan and below the bluffs (U.S. Navy, 1990). There are no beaches when the Lake Michigan water level is high. During high water periods, the Lake Michigan bluffs erode at a rate estimated at 5 feet (1.5 m) per year. In recent years, piers or groins that reach 100 to 300 feet (30.5 to 91.5 m) into the lake have been placed along the shoreline in the Fort Sheridan area in an attempt to prevent shoreline erosion. Although not necessarily effective for bluff erosion, these structures have been effective in preventing or slowing shoreline erosion, and on the south side of the groins, beach deposits have built up. There are no piers or groins at Johns Manville Beach, Sandy Beach, or Nunn Beach. In the winter or during a storm, large amounts of sand are reworked and carried southward by shore currents, altering the configuration of the existing well-defined beaches. Beach sand is suitable only for recreational use (USDA, 1970).

3.1.2 Air Resources

Climate

NTC Great Lakes is located on the western shore of Lake Michigan, in Lake County, Illinois. The climate of the area is continental, characterized by frequent changes in temperature, humidity, cloudiness, and wind direction. Prolonged summer warm spells and major droughts are infrequent but long dry periods may occur during the growing season. Much of the local variation in weather is caused by proximity to Lake Michigan (U.S. Navy, 1993a). The slow temperature change of such a large body of water can exert a moderating influence on near-shore areas. Compared to breezes in inland areas, a summer breeze from the lake may be 10 to 15 degrees (°) cooler, or a winter breeze from the lake may be up to 20° warmer on land in near-shore areas (USDA, 1970). The average daily low temperature in January is 14.7° Fahrenheit (F) (-9.6° Celsius [C]) and the average daily high temperature in July is 83.1°F (28.4°C). Annual precipitation in the region averages less than 32 inches (81 cm), with the majority occurring from May to September. Frequent thunderstorms, sometimes accompanied by strong winds and hail, occur during May to early July. The average annual snowfall is approximately 40 inches (102 cm), with most of the snowfall occurring from December to March. Prevailing winds during most of the year are westerly, except in May when prevailing winds are northerly or northeasterly (U.S. Navy, 1998a and 2001g). Lake Michigan water levels have dropped significantly in the last few years, the result of drought conditions.

Air Quality

The project area is located in the Metropolitan Chicago Interstate (Illinois-Indiana) Air Quality Control Region (AQCR). The Metropolitan Chicago Interstate AQCR is classified as a severe *non-attainment* area for ozone due to the recorded exceedances of the National Ambient Air Quality Standards (NAAQS) for ozone (one-hour per day reading of greater than 0.12 parts per million [ppm]). The current standard for ozone is 0.08 ppm for an eight-hour period. All other pollutants are in compliance with the standards. The nearest air-monitoring station to the NTC Great Lakes area is

located in Waukegan, Illinois. During 1999, this station recorded a one-hour high of 0.116 ppm for ozone, and an eight-hour high of 0.093 ppm (IEPA, 1999).

The EPA has published final rules on general conformity that apply to Federal actions in areas designated *non-attainment* for any of the criteria pollutants under the Clean Air Act (CAA). Since the Metropolitan Chicago Interstate AQCR is classified as a severe *non-attainment* area for ozone (O₃), proposed Federal actions must show conformity to the State Implementation Plan (SIP) before they can be implemented. An applicability analysis has been performed to determine whether a formal conformity determination is required. The Record of Non-Applicability is found in *Appendix B*.

3.1.3 Sound Environment

Alternate Site A is private property located within the property boundaries of the Johns Manville International, Inc. facility and is an open beach area bounded by Lake Michigan to the east. Land use immediately surrounding Alternate Site A consists of the Illinois Beach State Park to the north and industrial sites to the south and west. Alternate Sites B and C are located within NTC Great Lakes. Lake Michigan shapes the eastern boundary of the NTC. Land use immediately surrounding Alternate Sites B and C consists of NTC Great Lakes (the NTC steam generating plant to the north and undeveloped panne and dune areas to the south) and Lake Michigan. The area of proposed dredging within the Inner Harbor is bordered by Lake Michigan and NTC facilities. Alternate Site D belongs to the U.S. Navy and is located at the bottom of Bartlett Ravine along Lake Michigan and adjacent to the Town of Fort Sheridan. Alternate Site D is accessed along the western beach boundary by Bartlett Ravine Road and can be also be accessed by a road from the north. Alternate Site D is an open beach area bounded by the beach access road extending from Bartlett Ravine Road on the west, Lake Michigan to the south, east and north. Barlett Ravine is an incised channel that cuts through the Lake Michigan bluffs. Bluffs are located approximately 50-feet (15-m) shoreward of Alternate Site D.

The decibel (dB) scale is used to quantify sound intensity. Since the human ear is not equally sensitive to all frequencies within the entire spectrum, measurements for sound are generally weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting" (expressed as dBA). Additionally, sound sources typically are not constant. Sound levels vary in frequency and their intensity fluctuates over time; therefore, a day-night equivalent sound level, expressed as "L_{eq}," is used to express a single number to describe varying sound levels over a period of time.

Sound levels along the lakefront are typically associated with natural phenomena such as wind and wave activity and avian wildlife. Occasional automobile and boat traffic and related human activities also can add to ambient sound levels. Daily sound levels associated with these variables can range from 60 to 70 dBA, depending on the intensity and duration; however, during storm events, sound levels could increase to 75 to 80 dBA or more. Sound levels in residential areas typically vary from approximately the low-50 to mid-60 dBA level, depending on the time of day and activity level. Because of the proximity to the lakefront environment, the residential areas located near the alternate training sites tend to have sound levels similar to those exhibited by the adjacent lakefronts. Sound levels near the various commercial areas, industrial areas, and rail-lines generally range from 60 to 80 dBA or more (U.S. Navy, 2001g).

3.1.4 Water Resources

The water bodies at the alternate sites consist of Pettibone Creek/Ravine (Alternate Sites B and C), Bartlett Creek/Ravine (Alternate Site D), and Lake Michigan (all four alternate sites). Other than Lake Michigan, no other water resources (creeks/ravines) are located at Alternate Site A. All four of the alternate beach sites are located within the 100-year floodplain of Lake Michigan.

The Pettibone Creek system consists of a north and south fork that merge and flow east into Lake Michigan via the Boat Basin. Construction of the Boat Basin in 1906 and additional construction in the Basin, Inner Harbor, and Outer Harbor during the 1940s at NTC Great Lakes altered the lower reach of Pettibone Creek and a portion of Lake Michigan. Silt has filled in most of this area, reducing surface water depth from less than 1.0 foot (0.3m) to 5.0 feet (1.5m).

Lake Michigan is at its lowest level in 35 years due to local drought and additional interrelated factors, exposing rocks in some areas that were not visible several years ago and requiring boaters to be cautious. As of March 2001, the lake was just 68 feet (20 m) above the record low in 1964, according to the Great Lakes Environmental Research Laboratory. The water level problem has been building since 1997, due to a combination of factors: lower precipitation, lower runoff, higher air temperatures and higher evaporation.

All 63 miles (101 km) of the Illinois shoreline of Lake Michigan were assessed as full use/threatened for the 1998 water quality report (IEPA, 1998). The full use/threatened designation was based on the sport fish consumption advisory resulting from priority organics such as PCBs and chlordane (IEPA, 1998). During 1989 to 1992, as a part of a proposed harbor-dredging project, sediments and water in the Boat Basin and Inner Harbor were sampled and tested (U.S. Navy, 1993b). Concentrations of contaminants in water sampled in the harbor and Lake Michigan during historical investigations were below the Illinois State Water Quality criteria used to define contaminated conditions.

At Alternate Site D, Bartlett Ravine Road provides access to the beach. Along both sides of the road are channelized ditches underlain by concrete and a storm sewer lies under the road surface. Numerous storm water systems ultimately feed into this ravine carrying water to Lake Michigan in the roadside ditches (U.S. Navy, 1992).

3.1.5 Hazardous Materials/Hazardous Waste

As part of an application made in July 2001 to the USACE for a 10-year maintenance-dredging permit, sediment core samples were collected from several locations within the boat launch area. Sediment sampling events in the 1980's and 1990's indicated that some semi-volatile organic carbons (SVOCs), metals, and PCBs were present at elevated levels, some exceeding current USEPA guidelines. More recent sampling has determined that some PAHs, pesticides and metals are constituents of potential concern (COPC) (U.S. Navy 2002). Composite laboratory analyses of the core samples, obtained within the proposed dredging area in May of 2001, did not include the TCLP method or analysis for PCBs. However, the sediment was determined to be primarily fine grained and results for total volatile solids, total organic carbon, and organochloride pesticide analyses were all below laboratory detection limits. Tests results for total metals indicate the presence of seven of the eight metals tested for in all of the samples and the eighth metal present in two of the four. Analysis for PAHs determined the presence of ten or more constituents above IEPA standards (see *Appendix C*). Based on this limited analysis of this sampling, it is not known whether the metals that

are present would be regulated as hazardous waste. However, the sediment removal procedure would be treated as a hazardous waste operation.

At Fort Sheridan, numerous investigations were conducted as part of the base's closure pursuant to the Base Realignment and Closure Act. No hazardous waste sites are present in the vicinity of the proposed NR ACU-1 beach training exercises (U.S. Army Environmental Center, 1995). One important cleanup issue for Fort Sheridan has been closure of landfills, in particular Landfills No. 6 and No. 7. However, these landfills do not appear to be of concern to Alternate Site D as they are located approximately 0.7 mile (1.1 km) south and 0.5 mile (0.8 km) south-southeast, respectively, of this alternate site.

The Johns Manville International, Inc. property is a Federal Superfund site that has undergone remediation and closure. This facility manufactured asbestos products for industrial and commercial purposes and operated asbestos disposal pits. The source of contamination associated with past land use is at least 1,000 feet (305 m) west of Alternate Site A. In 1998, additional asbestos-containing areas were discovered outside the property fence line and are scheduled for remediation (EPA, 2000). One site, a tract just south of the Johns Manville factory, is approximately 0.75-mile (1.20-km) southwest of the alternate site. A second site is 1.0-mile (1.6-km) southwest of the site. The third additional asbestos-containing area is approximately 1.0-mile (1.6-km) west-northwest of the site.

At Illinois Beach State Park, located over 400 feet (122 m) north of Alternate Site A, asbestos building materials were discovered on the beach in 1997. Samples of approximately 200 air, water and sand samples were taken within the park. Representatives from the Illinois Department of Public Health (IDPH), IDNR, and IEPA reviewed the analytical results. Air samples were collected aggressively, with blowers used to stir the sand and air for 30 minutes before sample collection. This method assured that any asbestos fibers that may have settled to the ground would be more likely to be captured in the air samples. Since no standards have been established for outdoor exposure to asbestos, strict federal indoor standards for schools were applied to the sand samples that were positive for asbestos. The asbestos content of the positive samples was less than 1.0 percent and the EPA states that only material containing greater than 1.0 percent asbestos is considered asbestos-containing material. The asbestos levels in the few sand samples from the beach and shoreline that were positive for asbestos (23 of 179 samples) were so low that they would not be considered a health risk. According to the IDPH, exposure to small amounts of asbestos for short time periods has not been found to be associated with human disease (IDNR, 1998). Efforts by the EPA and others to identify the source of the asbestos-containing materials are continuing.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Shoreline Vegetation

Most of the native vegetation within Lake County has been cleared for development, with the remaining areas supporting native vegetation being generally restricted to the lake bluffs, ravine slopes, creek bottoms, and beaches, mostly in areas away from the shoreline. Within the four alternate sites, the plant communities consist of mostly herbaceous plants adapted to the beach environment, dunes, sandy prairies, wetlands found between open water and lake bluffs, and wooded lake bluffs and ravines. The vegetation within the ravines and on bluffs consists of elm (*Ulmus* spp.), mixed oaks (*Quercus* spp.), sugar maple (*Acer saccharum*), silver maple (*Acer saccharinum*), and ash (*Fraxinus* spp.). Shrubs include blueberry (*Vaccinium* spp.), huckleberry (*Gaylussacia* spp.), blackberry (*Rubus* spp.), and immature trees of the overstory as well as willow (*Salix* spp.), red osier

dogwood (*Cornus stolonifera*), sassafras (*Sassafras albidum*), and black oak (*Quercus velutina*) (U.S. Navy, 1994). The ravines and lake bluffs also support a diversity of herbaceous plants.

Beaches within the alternate sites have a variety of habitat types, including unvegetated sands, sparsely vegetated sands, well-vegetated sand dune communities, and wetlands found between sand ridges and lake bluffs. The beach and sand dune communities are dominated by herbaceous plants, and have relatively high species diversity. *Table 3-1* lists common plants found in the upland dunes and beach areas. Sandy Beach and Nunn Beach are mostly unvegetated sand. Plant communities adjacent to and south of Nunn Beach include a sand dune community (see *Table 3-1* for typical plants), a panne wetland (*Table 3-2*), and a lakefront wetland (*Table 3-3*). Fort Sheridan Beach is also mostly unvegetated sand, but has some patches of sparsely vegetated beach and wetland plant communities similar to those found near Nunn and Sandy Beaches. The beach immediately adjacent to the shoreline at Alternate Site A is sand with little vegetation; however, vegetation begins to appear in a developing foredune approximately 100 feet (30 m) away from the water. A well-vegetated sand dune is also present behind the foredune. The common plants located in these areas are similar to the communities indicated for the other locations. Exact species composition in any of these plant communities can vary from year to year; however, a core set of species usually persists in each community.

3.2.2 Aquatic Habitat

The Inner and Outer Harbor at NTC Great Lakes and the shoreline of Fort Sheridan provide a variety of habitats for several species of fish. The rock jetties and groins of the harbor and along the beaches provide conditions suitable for rock bass (*Ambloplites rupestris*). Lakeshore and nearshore waters are suitable for white crappie (*Pomoxis annularis*), lake whitefish (*Coregonus clupeaformis*), northern pike (*Esox lucius*), lake sturgeon (*Acipenser fulvescens*), rainbow smelt (*Osmerus mordax*), and yellow perch (*Perca flavescens*). Fish surveys conducted in 1983, 1984, and 1986 documented twenty species of fish within the harbors of NTC Great Lakes (*Table 3-4*). Although no fish surveys have been conducted in the area of Alternate Site A, the potential fish species in the area would be similar to those located near the lakeshore and nearshore waters of Alternate Sites B, C, and D.

3.2.3 Wildlife

Reptiles and Amphibians

No amphibians or reptiles have been found within Pettibone Ravine, on bluffs, or in wetlands of the lakeshore based on recent fauna surveys at NTC Great Lakes, although potential habitat for these species is present. Based on known distributions and vegetation types, species of amphibians and reptiles that may occur on NTC Great Lakes include snapping turtles (*Chelydras serpentina*), musk turtle (*Sternotherus odoratus*), Eastern plains garter snake (*Thamnophis radix*), fox snake (*Elaphe vulpina*), Eastern hognose snake (*Heterodon platyrhinos*), Eastern tiger salamander (*Ambystoma tigrinum tigrinum*), Fowler's toad (*Bufo woodhousei fowleri*), Western chorus frog (*Pseudacris triseriata triseriata*), and green frog (*Rana clamitans melanota*) (U.S. Navy, 2000a and 1995).

Amphibians and reptiles are also documented at Fort Sheridan. Historically, the amphibians located in this area are green frogs, Western chorus frogs, Fowler's toad, American toad (*Bufo americanus*), and Eastern tiger salamander. Reptiles inhabiting Fort Sheridan are snapping turtle, musk turtle, Eastern plains garter snake, fox snake, Eastern hognose snake, and Chicago garter snake (*Thamnopsis sirtalis semifasciata*) (U.S. Navy, 2000a and 1995). Of the species of reptiles and amphibians

TABLE 3-1 COMMON PLANTS OF THE UPLAND DUNES AND BEACHES FOUND ON AND NEAR NTC GREAT LAKES

Common Name	Scientific Name
Cottonwood	<i>Populus deltoides</i>
Sandbar willow	<i>Salix interior</i>
Black raspberry	<i>Rubus allegheniensis</i>
Sand reed	<i>Calamovilfa longifolia</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Tall goldenrod	<i>Solidago altissima</i>
Scouring rush	<i>Equisetum arvense</i>
Quackgrass	<i>Agropyron ripens</i>
Evening primrose	<i>Oenothera biennis</i>
Virginia wild rye	<i>Elymus virginicus</i>
Sweet clover	<i>Melilotus alba</i>
Bull thistle	<i>Cirsium arvense</i>

Source: U.S. Navy, 2000a

TABLE 3-2 COMMON AND STATE-LISTED THREATENED OR ENDANGERED PLANTS OF THE PANNE WETLANDS NEAR THE OUTER HARBOR AT NTC GREAT LAKES

Common Name	Scientific Name
Peach-leaved willow	<i>Salix amygdaloides</i>
Sandbar willow	<i>Salix interior</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Canada rush	<i>Juncus canadensis</i>
Three-square bulrush	<i>Scirpus pungens</i>
Water horehound	<i>Lycopus americana</i>
Green yellow sedge (E)	<i>Carex viridula</i>
Seaside spurge (E)	<i>Chamaesyce polygonifolia</i>
Sea rocket (T)	<i>Cakile edentula</i>

(E) State-listed as endangered

(T) State-listed as threatened

Source: U.S. Navy, 2000a

TABLE 3-3 COMMON AND STATE-LISTED ENDANGERED PLANTS OF THE LAKEFRONT WETLANDS AT NTC GREAT LAKES

Common Name	Scientific Name
Barnyard grass	<i>Echinochloa crusgalli</i>
Nut sedge	<i>Cyperus esculentus</i>
Softstem bulrush	<i>Scirpus validus</i>
Cattails	<i>Typha</i> spp.
Three-square bulrush	<i>Scirpus pungens</i>
Cottonwood	<i>Populus deltoides</i>
Spikerush	<i>Eleocharis</i> spp.
Purple loosestrife	<i>Lythrum salicaria</i>
Marram's grass (E)	<i>Ammophila breviligulata</i>

(E) State-listed as endangered

Source: U.S. Navy, 2000a

TABLE 3-4 FISH DOCUMENTED IN NTC GREAT LAKES HARBORS AND ADJACENT LAKE MICHIGAN

Common Name	Scientific Name
Alewife	<i>Alosa pseudoharengus</i>
Rock Bass	<i>Ambloplites rupestris</i>
Black Bullhead	<i>Ameiurus melas</i>
White Sucker	<i>Catostomus commersoni</i>
Lake Whitefish	<i>Coregonus clupeaformis</i>
Carp	<i>Cyprinus carpio</i>
Carp x Goldfish	<i>Cyprinus carpio x Carassius auratus</i>
Gizzard Shad	<i>Dorosoma cepedianum</i>
Northern Pike	<i>Esox lucius</i>
Golden Shiner	<i>Notemigonus crysoleucas</i>
Emerald Shiner	<i>Notropis atherinoides</i>
Coho Salmon	<i>Oncorhynchus kisutch</i>
Rainbow Trout	<i>Oncorhynchus mykiss</i>
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>
Rainbow Smelt	<i>Osmerus mordax</i>
Yellow Perch	<i>Perca flavescens</i>
Bluntnose Shiner	<i>Pimephales notatus</i>
White Crappie	<i>Pomoxis annularis</i>
Brown Trout	<i>Salmo trutta</i>
Lake Trout	<i>Salvelinus namaycush</i>

Source: U.S. Navy, 1993b

historically found at NTC Great Lakes and Fort Sheridan, the most likely to be encountered in the lakeshore habitats are the snapping turtle, Western chorus frog, Fowler's toad, and green frog. Although no surveys have been conducted at Alternate Site A, the potential amphibian and reptilian species in the area would be similar to those located at Alternate Sites B, C, and D.

Birds

Many species of resident and migratory birds make use of the lake bluffs and the beaches of Lake Michigan. Recent bird surveys at NTC Great Lakes documented 34 species of breeding birds and 100 species of migratory birds. At Fort Sheridan, 23 breeding and 98 migratory species were documented during recent surveys (U.S. Navy, 2000a and 1995). *Table 3-5* presents those species that are indicated to inhabit or nest on beaches or lakeshore wetlands. Some of the species listed as migratory may in fact be resident year-round on NTC Great Lakes, but most species appear to use ravines, lake bluffs, and beaches for resting and feeding during migrations. Because of their mobility, these species of birds would also have the potential to use Alternate Site A.

The beaches and lakeshore wetlands of NTC Great Lakes and Fort Sheridan provide valuable nesting and foraging habitat for species of wading and shorebirds. Spotted Sandpipers (*Actitis macularia*), Killdeer (*Charadrius vociferous*), and Common Terns (*Sterna hirunda*) use beaches and unvegetated sands for nesting and foraging, and are known to breed on NTC Great Lakes and Fort Sheridan. Forster's Tern (*Sterna forsteri*), Common Snipes (*Gallinago gallinago*) Great Blue Herons (*Ardea herodias*), and Black-crowned Night Herons (*Nycticorax nycticorax*) are known to nest in pannes and other lakeshore wetlands such as those on NTC Great Lakes and Fort Sheridan, but also use beaches for foraging. Several migratory species use beaches and lakeshore wetlands during their spring and fall migrations (*Table 3-5*), and are known to frequent NTC Great Lakes and Fort Sheridan. The majority of breeding species are extremely common in the Chicago area, tolerant of human activities and able to survive in a landscape affected by human activity. The limited number of breeding species in the area is a reflection of the limited amount of native vegetation resembling pre-settlement plant communities.

The eastern end of the beach and wetlands along the north jetty of Outer Harbor at NTC Great Lakes is managed as a bird sanctuary. *Figure 3-1* presents photographs of the sensitive habitats in this area. During June 2000, a colony of Common Terns, state-listed as endangered, nested in the sanctuary. Thirteen nests were counted; however, all nests failed to fledge young (U.S. Navy, 2001g). This colony is believed to be the same colony that traditionally nested near Commonwealth Edison's Waukegan generating station, the only colony of Common Terns known to nest in the State of Illinois along Lake Michigan. The sanctuary is not within the proposed training areas.

Six species of waterfowl are known to nest on NTC Great Lakes or Fort Sheridan. In addition to using open water areas of Lake Michigan and the harbors of NTC Great Lakes, Mallards (*Anas platyrhynchos*) and Canada Geese (*Branta canadensis*) may nest in the panne and lakeshore wetlands, although most Canada Geese are found near ponds within NTC Great Lakes. Blue-winged Teal (*Anas discors*), Lesser Scaups (*Aythya affinis*), and Northern Pintails (*Anas acuta*) nest in grassy areas and uplands, such as found in the dune communities of the lakeshore. Wood Ducks (*Aix sponsa*) may nest in tree cavities of the woodland of the lake bluffs. Several other species of migratory waterfowl (*Table 3-5*) are known to use Lake Michigan and the harbors of NTC Great Lakes and Fort Sheridan during migration.

TABLE 3-5 BREEDING AND MIGRATORY SPECIES OF BIRDS THAT INHABIT OR NEST ON BEACHES OR LAKESHORE WETLANDS OF LAKE MICHIGAN

Common Name	Scientific Name	Habitat Used⁽¹⁾	Breeding Status⁽²⁾
Spotted Sandpiper	<i>Actitis macularia</i>	B	Br
Dunlin	<i>Calidris alpina</i>	B	M
Sanderling	<i>Calidris alba</i>	B	M
Killdeer	<i>Charadrius vociferous</i>	B	Br
Ruddy Turnstone	<i>Arenaria interpres</i>	B	M
American Avocet	<i>Recurvirostra americana</i>	B	M
Common Tern	<i>Sterna hirundo</i>	B	Br
Forster's Tern	<i>Sterna forsteri</i>	Bw	Br
Caspian Tern	<i>Sterna caspia</i>	B	M
Great Blue Heron	<i>Ardea herodias</i>	Bw	Br
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	Bw	Br
Common Snipe	<i>Gallinago gallinago</i>	W	Br
Sora	<i>Porzana carolina</i>	W	M
American Coot	<i>Fulica americana</i>	W	M
Green Heron	<i>Batorides striatus</i>	W	M
Mallard	<i>Anas platyrhynchos</i>	W, O	Br
Redhead	<i>Aythya americana</i>	O	M
Wood Duck	<i>Aix sponsa</i>	WL, O	Br
Canada Goose	<i>Branta canadensis</i>	W, O	Br
Snow Goose	<i>Anser caerulescens</i>	O	M
Northern Pintail	<i>Anas acuta</i>	U, O	Br
Blue-winged Teal	<i>Anas discors</i>	U, O	Br
Lesser Scaup	<i>Aythya affinis</i>	U, O	Br
Bufflehead	<i>Bucephala albeota</i>	O	M
Hooded Merganser	<i>Lophodytes cucullatus</i>	O	M
Redbreasted Merganser	<i>Mergus serrator</i>	O	M
Green-winged Teal	<i>Anas crecca</i>	O	M

(1) B = Beaches, W = Wetlands, Bw = Beaches and wetlands, U = Uplands and grassy dunes,
O = Open water, WL = Woodlands

(2) Br = Breeding, M = Migrant

Source: U.S. Navy, 2000a

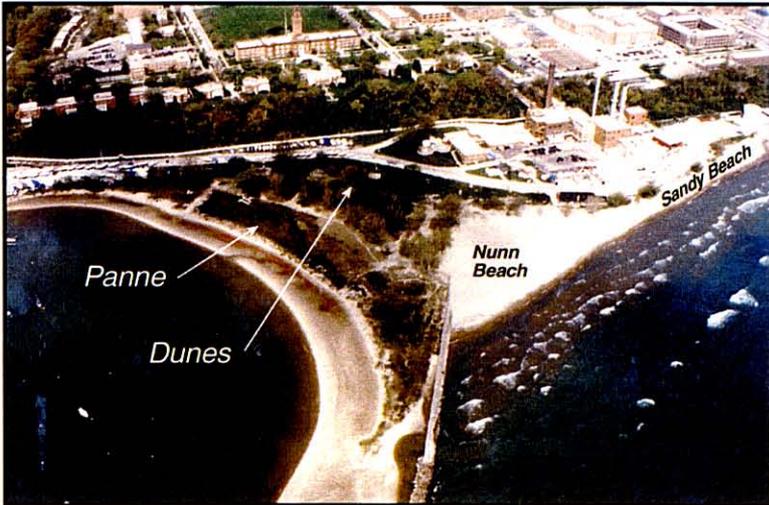


Photo 1 - Aerial view of the panne and sand dune community adjacent to Nunn Beach.

Photo 2 - View of panne showing the encroachment of woody vegetation.

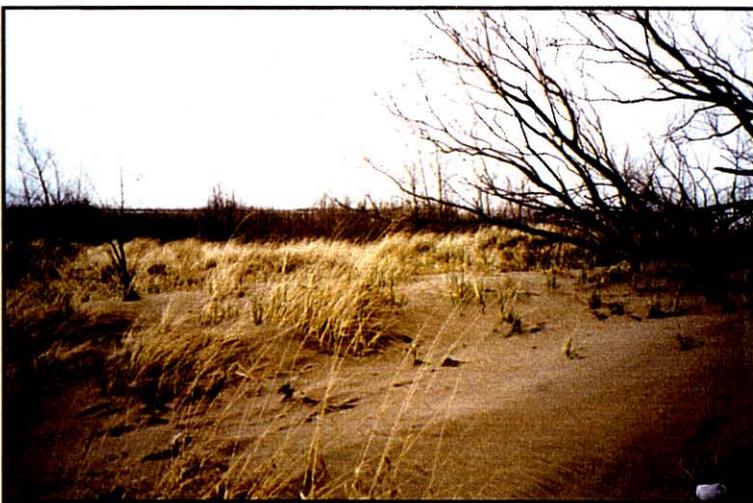


Photo 3 -View of sand dune community showing encroachment of woody vegetation.

Figure 3-1. Sensitive Habitats Adjacent to Nunn Beach

All of the species previously discussed would have the potential to use Alternate Site A. Additionally, several Federal- and state-listed endangered or threatened species have been indicated to occur at or near Alternate Site A (see *Section 3.2.4*).

Mammals

Native mammals that may inhabit the beach and lakeshore wetland plant communities at any of the sites include the deer mouse (*Peromyscus maniculatus*), white-footed mouse (*Peromyscus leucopus*), Eastern cottontail (*Sylvilagus floridanus*), and the raccoon (*Procyon lotor*) and coyote (*Canis latrans*) while foraging. Most lakeshore plant communities at Alternate Sites A, B, C and D are limited in extent and do not support medium and large-bodied mammals on a permanent basis, but are large enough to support small mammals that are habitat generalists. The Norway rat (*Rattus norvegicus*) and Red fox (*Vulpes vulpes*) are both occasional inhabitants of Sites B and C. Non-native species, such as the house mouse (*Mus musculus*), may inhabit the beach communities as well.

3.2.4 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) lists three species of animals and one plant species as threatened or endangered in Lake County (USFWS, 1999). Lack of suitable habitat for most of these species and urbanization surrounding NTC Great Lakes and Fort Sheridan greatly reduces the possibility of finding any Federal-listed threatened or endangered species on these locations. The Illinois Endangered Species Protection Board (IESPB) lists 299 species of plants as endangered and 58 as threatened in Illinois. In addition, 21 species of fish are state-listed as endangered and nine species as threatened. Nine species of amphibians and reptiles are state-listed as endangered, with the same number listed as threatened. Thirty-two species of birds are state-listed as endangered and nine species as threatened. Six species of mammals are state-listed as endangered, and three as threatened.

Plants

One plant species, the Eastern prairie fringed orchid (*Platanthera leucophaea*), is Federal-listed as threatened in Lake County (USFWS, 1999). This species was not documented in a floral survey of NTC Great Lakes and Fort Sheridan conducted in 1995. The Eastern prairie fringed orchid requires mesic to wet prairies, a habitat that does not exist at NTC Great Lakes or Fort Sheridan. The Eastern prairie fringed orchid has been identified near Alternate Site A, located within the adjacent Illinois Beach State Park, an area outside the proposed training site (USFWS, 2001).

Lakeshore dunes provide potentially suitable conditions for the Federal-listed endangered Pitcher's thistle (*Cirsium pitcheri*) on NTC Great Lakes and Fort Sheridan, and this plant eventually may colonize either location. The Pitcher's thistles are also located within the Illinois Beach State Park, near Alternate Site A (USFWS, 2001). The USFWS re-introduced Pitcher's thistle to Lake County as part of the recovery effort for this plant (USFWS, 1999).

The 1995 floral survey found within NTC Great Lakes five species of plants on the state threatened and endangered species lists, and seven state-listed threatened and endangered species on Fort Sheridan (*Table 3-6*). Most of these species were found on the lake bluffs and in the panne community. Forked aster was found only in Pettibone Ravine at NTC Great Lakes, and black-seeded rice grass only in Bartlett Ravine at Fort Sheridan. A lone white cedar tree was found on the lake bluff of Fort Sheridan, but this tree was not expected to survive because of slope erosion occurring

**TABLE 3-6 STATE-LISTED THREATENED AND ENDANGERED SPECIES
DOCUMENTED ON OR NEAR BEACHES AND LAKESHORE
WETLANDS OF NTC GREAT LAKES AND FORT SHERIDAN**

Common Name	Scientific Name	Status*	NTC Great Lakes*	Fort Sheridan*
Marram grass	<i>Ammophila breviligulata</i>	E	X	
Golden sedge	<i>Carex aurea</i>	E, PFE		X
Buffalo berry	<i>Sheperdia canadensis</i>	E		X
Sea rocket	<i>Cakile edentula</i>	T	X	X
Seaside spurge	<i>Chamaesyce polygonifolia</i>	E	X	X
Forked aster	<i>Aster furcatus</i>	T	X	
Green yellow sedge	<i>Carex viridula</i>	E	X	
Common juniper	<i>Juniperus communis</i>	T		X
Black-seeded rice grass	<i>Oryzopsis racemosa</i>	T		X
White cedar	<i>Thuja occidentalis</i>	T		X
Pied-billed Grebe	<i>Podilymbus podiceps</i>	T	X	X
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T		X
Osprey	<i>Pandion haliaeteus</i>	E		X
Black-crowned Night Heron	<i>Nycticocorax nycticocorax</i>	E	X	
Forster's Tern	<i>Sterna forsteri</i>	E	X	X
Common Tern	<i>Sterna hirundo</i>	E	X	

*T = threatened, E = endangered, PFE = Proposed Federal Endangered, X = present at this location

Source: U.S. Navy, 1995 and 2000a; IDNR, 2001a

around it. State-listed species occurring at or near Alternate Site A include marram grass (*Ammophila breviligulata*), balsam poplar (*Populus balsamifera*), seaside spurge (*Chamaesyce polygonifolia*), dune willow (*Salix syrticola*), and sea rocket (*Cakile edentula*) (Illinois Department of Natural Resources [IDNR], 2001a).

Invertebrates

The USFWS currently lists the Karner blue butterfly (*Lycaeides melissa samuelis*) as extirpated in Lake County (USFWS, 1999), but also states that the potential for this butterfly to inhabit the county remains. The loss of oak savannahs and pines to urbanization and suppression of naturally occurring fires are the primary reasons for the loss of the Karner blue butterfly within Lake County (USFWS, 2000a). Because Alternate Sites A, B, C, and D lack these types of plant communities, the presence of the Karner blue butterfly is unlikely.

Reptiles and Amphibians

No species of reptiles or amphibians within Lake County is Federal-listed as threatened or endangered (USFWS, 1999). Because no amphibians or reptiles were documented on NTC Great Lakes during recent faunal surveys, the potential that state-listed threatened or endangered species of reptile or amphibian would be found are minimal. None of the reptiles or amphibians documented at Alternate Sites A or D are Federal- or state-listed as threatened or endangered.

Birds

No Federal-listed threatened or endangered bird species are established in Lake County. The Piping Plover (*Charadrius melodus*) and Bald Eagle (*Haliaeetus leucocephalus*) are potential transient migrants along the shores of Lake Michigan (U.S. Navy, 1998a), though none are likely to nest on NTC Great Lakes or Fort Sheridan. The Piping Plover prefers nesting on undisturbed sandy beaches near water bodies. The nearest designated critical habitat for the Piping Plover to NTC Great Lakes is 3.0 miles (4.0 km) to the north, north of the Waukegan Beach groin or break wall. Alternate Sites B, C, and D are easily accessible to foot traffic, which creates a relatively low, but constant, level of disturbance. This disturbance makes these beaches unsuitable as nesting habitat for Piping Plovers. Alternate Site A is located within the recently designated Piping Plover Habitat Unit IL-1, Illinois Beach State Park and Nature Preserve to Waukegan Beach. This area is indicated as being historically used for nesting prior to 1985 (*Federal Register*, 2001). The area surrounding Alternate Sites A, B, C, and D are urbanized and lack sufficient nesting trees for the Bald Eagle.

NTC Great Lakes and Fort Sheridan are used as feeding and resting sites by migrant birds, and are important to the conservation of state-listed threatened and endangered species. Four species initially identified in 1995 during a breeding bird survey of NTC Great Lakes and Fort Sheridan are state-listed as endangered and two are listed as threatened (*Table 3-6*) (U.S. Navy, 1995). The survey classified the noted bird species as migrants, not breeding birds. These species were using NTC Great Lakes as a feeding and loafing site during migration or while nesting off-site.

A nesting colony of Common Terns was documented on NTC Great Lakes during the summer of 2000 (U.S. Navy, 2001g). This colony appeared to be a colony that was displaced from a location north of NTC Great Lakes. The colony did not successfully breed during the summer of 2000. Apparently, human activities on the beach frequently flushed nesting birds, leaving the nests exposed to predation and causing stress in the nesting pairs.

State-listed species occurring at or near Alternate Site A include the Black-crowned Night Heron (*Nycticorax nycticorax*), Upland Sandpiper (*Bartramia longicauda*), Henslow's Sparrow (*Ammodramus henslowii*), and Common Terns (IDNR, 2001a).

Mammals

The Indiana bat (*Myotis sodalis*) is considered endangered in all counties of Illinois (USFWS, 1999) and is the only Federal-listed threatened or endangered species of mammal in Lake County. The normal hibernation habitat (caves and abandoned mines) is not found at Alternate Sites A, B, C, or D. This bat requires riparian and floodplain forests to form successful maternity colonies and as foraging habitat. Because this type of habitat is not found at the proposed alternate sites, the presence of this bat is highly unlikely.

Based on a recent faunal study, the presence of state-listed threatened or endangered mammals at Alternate Site B, C, or D is unlikely because of the high degree of urbanization and limited amount of available habitat (U.S. Navy 2000a and 1995). No state-listed threatened or endangered mammals are present at Alternate Site A (IDNR, 2001a).

Aquatic Species

The pallid sturgeon (*Scaphirhynchus albus*) is the only Federal-listed endangered species of fish in Illinois (USFWS, 1999 and 2000b). This fish is an inhabitant of large river systems with silty bottoms and having a diversity of depths and velocities formed by braided channels, sand bars, sand flats, and gravel bars. These conditions do not exist at Alternate Sites A, B, C or D. Eighteen species of fish are state-listed as endangered, and eight as threatened, within Illinois. None of these species were documented from the harbors or Lake Michigan along the shore of NTC Great Lakes or Fort Sheridan during previous surveys.

Of the state-listed threatened and endangered species of fish, four species (lake sturgeon, longnose sucker, cisco, and greater redhorse) may occur in the lakeshore areas of the proposed training sites. These species are found in large lakes at various depths, with the lake sturgeon usually occurring at the greatest depths. The other fish state-listed as threatened or endangered are inhabitants of streams, rivers, or vegetated lakes and ponds, conditions that do not occur at Alternate Sites A, B, C, or D.

3.2.5 Wetland Resources

Based on site inspection and review of National Wetland Inventory (NWI) maps, no potential wetland areas are located at Alternate Site A.

A wetlands delineation was performed on NTC Great Lakes, excluding Willow Glen Golf Course, in September 1999 (U.S. Navy, 1999). The Chicago District, USACE verified this delineation in March 2000 (U.S. Navy, 2001g). Five wetlands, covering approximately 14 acres (5.7 hectares [ha]), were found within NTC. No wetlands are found at Alternate Sites B or C. Two wetlands are to the south of Alternate Site C along the shoreline of Lake Michigan. The remaining wetlands verified by the USACE are located within the boundaries of the NTC. The largest lakeshore wetland covers 12.3 acres (5.0 ha) and is located within the Outer Harbor along the shoreline and jetty. This wetland is dominated by herbaceous plants, such as barnyard grass (*Echinochloa crusgalli*), purple loosestrife (*Lythrum salicaria*), nut sedge (*Cyperus esculentus*), three-square bulrush (*Scirpus pungens*), spike

rush (*Eleocharis* spp.), and seedlings of eastern cottonwood (*Populus deltoides*). Purple loosestrife is an invasive exotic species that quickly invades and displaces native species of plants in wetlands. A panne wetland, covering 1.25 acres (0.51 ha), is found between a beach foredune and beach sand ridge adjacent to Alternate Site C. Willows (*Salix amygdaloides* and *Salix inerior*), purple loosestrife, Canada rush (*Juncus canadensis*), three-square bulrush, and water horehound (*Lycopus americana*) dominate the plant community of the panne.

Three large wetlands were reported to be present along the shore of Lake Michigan at Fort Sheridan based on surveys performed during the 1993 base closure process; however, these wetlands are not located at Alternate Site D (U.S Navy, 1995).

3.3 SOCIOECONOMIC ENVIRONMENT

3.3.1 Land Use

Alternate Site A is private property located within the property boundaries of the Johns Manville International, Inc. facility in the City of Waukegan. Alternate Site A is an open beach area bounded by Lake Michigan to the east. The beach is not open to the public. Land use immediately surrounding Alternate Site A consists of the Illinois Beach Nature Preserve to the north and industrial to the south and west. Alternate Site A is located near Waukegan Beach Illinois Natural Areas Inventory (INAI) Site and adjacent to Illinois Beach Nature Preserve.

Alternate Sites B and C are located within NTC Great Lakes in the City of North Chicago. Lake Michigan shapes the eastern boundary of the NTC. Land use at NTC Great Lakes includes a mixture of training and support facilities, recreational areas, maintained open areas, and natural areas. Alternate Sites B and C are open beach areas. Land use immediately surrounding Alternate Sites B and C consists of NTC Great Lakes (the NTC steam generating plant to the north, the undeveloped panne wetland and dune areas to the south) and Lake Michigan. The area of proposed dredging within the Inner Harbor is along Lake Michigan adjacent to NTC facilities.

Alternate Site D, undeveloped property owned by the Navy (i.e., NTC Great Lakes property), is located adjacent to the Town of Fort Sheridan, an unincorporated area that is located within the incorporated boundaries of the Cities of Highland Park and Highwood. Alternate Site D is an open beach area bound by Bartlett Ravine to the north and west, Lake Michigan to the east, and an approximate 50-foot (15-m) bluff to the south. The Town of Fort Sheridan residential area is present on the bluff that borders the beach to the west and south. Alternate Site D is adjacent to the Fort Sheridan Beach INAI Site.

3.3.2 Environmental Justice

Executive Order 12898

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, mandates that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of the programs on minority and low-income populations. A minority population is defined as a group of people and/or a community experiencing common conditions of exposure or impact that consists of persons classified by the U.S. Census Bureau as Black or African-American; Asian; American Indian or Alaska Native; Native Hawaiian or other Pacific Islander; Hispanic or Latino; or other non-white

persons, including those persons of two or more races. A low-income population is defined as a group of people and/or a community that, as a whole, live below the national poverty level. The average poverty level threshold for a family of four people in 1989 was a total annual household income of \$12,674 (U.S. Department of Commerce, Bureau of the Census, 2000), while it was \$17,050 in 2000 (65 *Federal Register* 7555-7557, February 15, 2000). Disproportionate environmental impact occurs when the risk or rate for a minority population or low-income population from exposure to an environmental hazard exceeds the risk or rate of the general population and, where available, to another appropriate comparison group(s) (U.S. Department of Defense [DOD], 1995; U.S. EPA, 1998). The comparison groups for the purpose of this EA are Lake County and the cities of Waukegan, North Chicago, Highwood, and Highland Park. The potential effects of the proposed action have been evaluated in accordance with the requirements of the Executive Order, and are documented in *Section 4.3.2*.

The four alternate sites are cumulatively located within or immediately adjacent to three 1990 Census Block Groups and five 2000 Census Blocks. A Census Block is the smallest geographic unit for which the U.S. Census Bureau tabulates data. Census Block Groups are a collection of Census Blocks within a Census Tract. Census Tracts, averaging approximately 4,000 persons, are small-scale statistical subdivisions of a county. Census data at the Block level is not readily available for the 1990 Census. Although population and race/ethnicity data at the Tract and Block level are available from the U.S. Census Bureau for the 2000 Census, income and poverty level data has not yet been released; therefore, available demographic data (i.e., percent minority and poverty level status) from the 1990 and 2000 Census is provided in this EA for the purposes of environmental justice analysis. Population and demographic data for the 1990 Block Groups and 2000 Blocks and for Lake County is provided in *Table 3-7*. Based upon available Census data, the percent of the population that is classified as minority or low-income within and immediately surrounding the four alternate sites is consistent with or lower than that of Lake County and the cities of Waukegan, North Chicago, and Highland Park.

Executive Order 13045

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, mandates that Federal agencies identify and assess environmental health and safety risks that may disproportionately affect children as a result of the implementation of Federal policies, programs, activities, and standards (62 *Federal Register* 19883-19888, April 23, 1997). The nearest public schools are located more than one mile (1.6 km) from the four alternate sites.

3.3.3 Police and Fire Protection and Emergency Medical Services

The City of Waukegan is unable to provide police protection, fire protection, and emergency medical services to Alternate Site A because the beach location is not accessible by road. Alternate Site A is fenced since it is private property owned by Johns Manville International, Inc. Security for the site is provided by Johns Manville International, Inc. (U.S. Navy, 2001f).

The Great Lakes Police Department (GLPD) and, as needed, military personnel comprising the Auxiliary Security Force, provide police protection and security services at NTC Great Lakes, which includes Alternate Sites B and C. The GLPD has concurrent jurisdiction with the City of North Chicago for the security of the NTC, with military and civilian guards providing security at the gates. Fire protection at Alternate Sites B and C is provided by the NTC Great Lakes Fire Department, which is staffed by full-time Federal civilian personnel. NTC Great Lakes is located in Quadrant IV

TABLE 3-7 ENVIRONMENTAL JUSTICE ANALYSIS

Geographic Area¹	Population	% Minority² or % Low-Income³
Lake County	644,356	27%
Waukegan ^a	87,901	69%
North Chicago ^b	35,918	61%
Highland Park ^c	31,365	14%
Highwood ^c	4,143	43%
Tract 8617.01, Block 1000 ^a	0	0%
Tract 8617.01, Block 1034 ^a	0	0%
Tract 8630.01, Block 1005 ^b	2,872	33%
Tract 8655.01, Block 2010 ^c	35	0%
Tract 8655.01, Block 2020 ^c	41	22%
Lake County	516,418	5%
Waukegan ^a	69,392	10%
North Chicago ^b	34,978	15%
Highland Park ^c	30,575	3%
Highwood ^c	5,331	9%
Block Group 8617.00:9 ^a	0	0%
Block Group 8630.00:9 ^b	22,231	9%
Block Group 8651.00:9 ^c	2,405	3%

Notes: ^aAlternative Site A; ^bAlternative Sites B and C and the NTC Inner Harbor; ^cAlternative Site D

*Although population and race/ethnicity data at the Census Tract and Block level is available from the U.S. Census Bureau for the 2000 Census, income and poverty level data has not yet been released; therefore, available demographic data (i.e., percent minority and poverty level status) from the 1990 and 2000 Census is provided in this table. Census Block and Block Group data is compared to county- and city-wide data for the purpose of environmental justice analysis, as discussed in *Sections 3.3.2 and 4.3.2*.

Source: ¹Geography Network, undated; ²U.S. Census Bureau, 2000; ³MSCDC, 2001

under the Mutual Aid Box Alarm System, which enables local jurisdictions to assist one another in case of extreme fire events. Emergency medical services are provided by the Navy Hospital (Medical Regional Center Command) located at NTC Great Lakes (U.S. Navy, 2000e).

Police protection is provided by NTC Great Lakes to Fort Sheridan, including Alternate Site D, via police patrols from NTC Great Lakes. There is a fire department provided by NTC Great Lakes on-site at Fort Sheridan. Emergency medical services to Alternate Site D are provided by a private contractor (U.S. Navy, 2000e).

3.3.4 Recreation

Alternate Sites A, B, and C are not open to the general public since they are located on either private land (Alternate Site A) or DOD property (Alternate Sites B and C). Although Alternate Site D is also located on DOD property, it can be accessed by the general public; however, it is not maintained for the general public's use. Alternate Sites B, C, and D are open to Navy personnel and their families for swimming, sunbathing, and picnicking. The Great Lakes Marina, which offers boating, sailing, or fishing to Navy personnel and their families, is located outside of the Inner Harbor adjacent to and south of Alternate Sites B and C. In addition, the Marina operates a recreational vehicle camping facility located north of Alternate Sites B and C.

The lake is used for water-sport activities such as boating, sailing, water skiing, and fishing. There are a total of 34 charter-fishing boats at Waukegan Harbor that may be fishing in the area of the NTC Great Lakes (IDNR, 2001a). The NTC Harbor Master must approve craft entering and exiting of the NTC Inner Harbor (U.S. Navy, 2001f).

3.3.5 Cultural Resources

There are no buildings or structures located on Alternate Site A. The Illinois Historic Preservation Agency (IHPA) did not identify any historic properties or archeological sites located within Alternate Site A (IHPA, 2001).

Alternate Sites B and C and the Inner Harbor are located within the approximate 193-acre (78-hectare [ha]) historic district located on the east side of the NTC, adjacent to Lake Michigan (IHPA, 2001). The historic district contains 124 buildings, structures, and sites. Of these, 44 represent contributing components of major significance to the historic district, 19 are of minor significance, and the remainder (61) are non-contributing properties. None of the buildings are located on Alternate Site B or C. The properties of minor significance include the many structures along the lakeshore, such as breakwaters, small craft berths, bulkheads, and jetties. In addition to the buildings and structures described, certain sites and natural features are important to the character and significance of the historic district. Man-made features include the Inner Harbor and the parade ground known as Ross Field. Both retain their original appearance and contribute strongly to the historic context of the area. Pettibone Ravine, Pettibone Creek, and the lakeshore are all natural features that were critical to the founding, organization, and development of the NTC. These natural features retain their appearance, and enhance the historic character of the district (U.S. Navy, 2000c and 2001g). In 1991, a Programmatic Agreement was made between NTC Great Lakes, the Advisory Council on Historic Preservation, and the Illinois State Historic Preservation Officer (SHPO) concerning the historic district. Pursuant to that agreement, any planned work within or immediately adjacent to the historic district, which includes Alternate Sites B and C and the Inner Harbor, are subject to review and evaluation by the SHPO (U.S. Navy, 1994 and 2001g).

An archeological survey conducted during 1999 at NTC Great Lakes resulted in the documentation of seven previously unrecorded archeological sites. Only one of the seven sites, a concentration of apparent World War I era artifacts and a compacted gravel and tar surface that probably represents the location of a temporary wooden structure (Site 11-L-627), was recommended as eligible for inclusion on the National Register of Historic Places (NRHP); however, none of the seven sites are located within Alternate Site B or C. Although there is a reported archeological site on top of the bluff adjacent to the Inner Harbor (Site 11-L-628), it is not located within the area of proposed dredging (U.S. Navy, 2000d and 2001g; IHPA, 2001).

There are 16 historic properties located at Fort Sheridan. However, none of these properties is located within or immediately adjacent to Alternate Site D (U.S. Navy, 2001g and 2001h). Although there are reported archeological sites on top of the bluff adjacent to Alternate Site D, the IHPA did not identify any archeological sites located within Alternate Site D (IHPA, 2001).

3.3.7 Transportation and Navigation

Alternate Site A is accessible via State Highway (SH) 137, also known as Amstutz Expressway, to Greenwood Avenue. There is a security gate on Greenwood Avenue at the Johns Manville International, Inc. facility. After entering the gate, private roads within the interior of the facility are used to access Alternate Site A; however, the road to the beach does not run all the way to Alternate Site A but ends at the sand dune behind the beach.

Primary access to NTC Great Lakes is via SH 137 (Buckley Road), traversing west to east, and Sheridan Road. Both Buckley and Sheridan roads are four lanes wide. Military Traffic Command study data indicate that Buckley Road now functions as a Navy corridor, with more than 80 percent of vehicle movement related to the NTC (U.S. Navy, 2000e). Alternate Sites B and C are accessed via interior NTC roads, with Ziegemeier Street being the primary north-south NTC road that runs along the beach.

Primary access to Fort Sheridan is via Sheridan Road. Alternate Site D is accessed via interior Fort Sheridan roads, with Bartlett Ravine Road providing access to the beach. When required for training exercises at Nunn Beach and Sandy Beach (Alternate Sites B and C), HMMVs or similar military vehicles from Fort Sheridan would be transported to the NTC (U.S. Navy, 2001f) via Old Elm Street to U.S. Highway (US) 41. Buckley Road provides access from US 41 to the NTC.

Boat traffic on Lake Michigan includes military, commercial, and private watercraft. The lake is also used for water-sport activities such as boating, sailing, water skiing, and fishing. There are a total of 34 charter-fishing boats at Waukegan Harbor that may be fishing in the area of the NTC Great Lakes. The IDNR and the Illinois Natural History Survey use gear such as gill nets and trap nets in shallow water in the vicinity of the NTC Great Lakes (IDNR, 2001a). The NTC Harbor Master must approve craft entering and exiting of the NTC Inner Harbor (U.S. Navy, 2001f). Bathymetric surveys of the beach training sites would be performed each year to assist in navigation during training exercises.

4.0 ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

This section provides an analysis of the anticipated direct, indirect, and cumulative environmental impacts that may result from conducting NR ACU-1 training exercises at alternate beach sites. The potential direct, indirect, and cumulative impacts of the proposed action on the local physical, biological, and socioeconomic environment are discussed. The No Action Alternative is cessation of NR ACU-1 training activities at NTC Great Lakes and was eliminated from detailed analysis. The impacts of the maintenance dredging that is associated with the Action Alternative are summarized and provided in *Sections 4.1, 4.2, and 4.3* as a stand-alone discussion.

4.1 PHYSICAL ENVIRONMENT

Maintenance dredging in the western portion of the Inner Harbor at NTC Great Lakes would be performed immediately beneath the synchro-lift in an area of approximately 70 feet (21 m) by 110 feet (34 m). There has been sediment deposition around the support pilings of the synchro-lift and this accumulation must be removed potentially through use of 4-inch (10-cm) diameter, diver-operated suction dredges. A volume of 1,540 cubic yards (1,177 cubic meters) of material would be removed, dewatered, and disposed of or otherwise safely managed. Sampling events in the region of the ACU dock in the 1980's and 1990's indicated that some SVOCs, metals, and PCBs were present at elevated levels, some exceeding current USEPA guidelines. More recent sampling has determined that some PAHs, pesticides and metals are constituents of potential concern (COPC) (U.S. Navy 2002). Composite laboratory analyses of core samples, obtained within the proposed dredging area in May of 2001, did not include the TCLP method or analysis for PCBs. However, the sediment was determined to be primarily fine grained and results for total volatile solids, total organic carbon and organochloride pesticide analyses were all below laboratory detection limits. Tests results for total metals indicate the presence of seven of the eight metals tested for in all of the samples and the eighth metal present in two of the four. Analysis for PAHs determined the presence of ten or more constituents above IEPA standards (see *Appendix C* for analytical results). As discussed in Section 2.0, based on this sampling prior to sediment removal and dewatering it is not known whether metals present would be regulated as hazardous waste. Existing analysis has shown that contamination in the ACU dock area is lower than the rest of the harbor and there would, therefore, be no risk of spreading contamination to the remaining harbor area. However, the removal would be treated as a hazardous waste operation. Upon completion of the dewatering process, a representative sample or samples of the dewatered material will be fully analyzed, including but not limited to TCLP as well as analysis for PCBs, VOCs, and PAHs. Depending upon results of post-dewatering sampling, disposal of dewatered dredged material (1,200 to 1,300 cubic yards [917 to 994 cubic meters]) would be according to state and federal regulations, or if analyses determine the sediment non-regulated, used within NTC property for landscape or fill material. *Appendix C* contains a copy of the joint permit application submitted to the USACE for the project. The permit application includes information on the limits of dredging, soundings, sediment sampling, and the results of the sediment sampling analysis. The required dredging permits have been received from the IDNR, IEPA, and USACE to perform the proposed dredging activity. Copies of these permits, including related agency correspondence and conditions, are contained in *Appendix D*.

Local bathymetry would be minimally affected since as much as 6 feet (1.8 m) of sediment beneath the synchro-lift would be removed to restore the area to previous depths. Localized turbidity may occur during dredging but these effects would be minimal, of short duration, and limited to the immediate area to be dredged. Sound levels from the maintenance dredging would not impact military residents

located on the bluffs above the Inner Harbor due to the separation distance, and elevation difference, from the source. Generally, there is a 6-dBA decrease in sound levels for each doubling-of-distance from the source. During dredging operations, a volume of 1,540 cubic yards (1,177 cubic meters) of material would be removed and dewatered prior to disposal. This material may be temporarily stored within the 100-year floodplain of Lake Michigan until it is fully dewatered. Disposal of dewatered material would be to a nearby landfill or used within NTC property, outside the 100-year floodplain, for landscape or fill material. The temporary storage of as much as 1,540 cubic yards (1,177 cubic meters) of dredged material is not anticipated to impact the storage volume of the Lake Michigan watershed. Since applicable federal, state, and local environmental regulations and laws would be followed, and dredging operations would occur using hand-operated equipment, no significant environmental impacts are anticipated.

4.1.1 Earth Resources

Topography and Bathymetry

Construction or demolition activities would not be required in order to conduct ACU-1 landing exercises at any of the four alternate beach sites. Although annual bathymetric surveys would be conducted and all reasonable efforts would be made to avoid disturbances to sand bars and the lake bottom during LCM-8 training exercises, there may be minor, temporary effects to topography and bathymetry at the beach training site when cargo, vehicles, and NR crew are off-loaded in the surf zone and turn around on the beach for reloading to the LCM-8. Effects to submerged beach sediments would be expected to be temporary, and should be restored to their original condition by wave action in the area. At Alternate Site A, deployment would take place near the surf zone to prevent or minimize beach sediment disturbance. Additionally, Alternate Site A would not be used for roll-on/roll-off training, the site would be restricted to local expeditionary warfare, emergency exercises, and ship-to-shore training exercises (U.S. Navy, 2001c). Topographic elevations would remain virtually unchanged.

Geology and Soils

Construction activities are not required for proposed alternate beach sites and ACU-1 landing exercises would not be expected to cause the mixing of soil layers. At Alternate Site A, landside road access to the training beach is not available. For this reason there would be no need for access to the dunes on the landward side of the beach. Training activities that would simulate the offload of MPF ships (a.k.a., roll-on/roll-off training) would not occur at Alternate Site A. When needed, vehicles used for training exercises would exit the roadways adjacent to Alternate Sites B and C and cross directly to the loading area. On those occasions that might require vehicle access across Alternate Site D, traffic would utilize an adjacent roadway that would alleviate the need for driving on the beach. Vehicular activity at Alternates Sites B, C, and D would be kept to a minimum and any resulting disturbance to beach sands would be short-term and restored within 24 hours by wind and wave actions. An increase in soil erosion would not be expected from these exercises and no direct or indirect impacts to geology would occur.

4.1.2 Air Resources

The LCM-8 exhaust emissions are anticipated to be minor and of short duration and moderate intensity during training activities. Particulate matter and other air pollutants resulting from training activities would have a short-term air quality impact on the immediate vicinity, but no permanent

direct or indirect or long-term impacts to regional air quality related to implementation of the proposed project are anticipated to occur.

Since the Metropolitan Chicago Interstate AQCR is classified as a severe *non-attainment* area for ozone (O₃), proposed federal actions must show conformity to the SIP before they can be implemented. Therefore, an applicability analysis was performed to determine whether a formal conformity determination would be required. The training exercises and maintenance dredging operations were determined to be exempt from a formal Conformity Determination (see *Appendix B, Record of Non-Applicability*).

4.1.3 Sound Environment

Primary noise impacts resulting from the proposed training exercises would include noise from the landing craft and cargo or vehicles that may be used in the landing operations. Dosimeter readings taken during a previous training exercise produced 8-hour noise level readings of 90 and 99 dBA for activities occurring on deck and in the engine room of the LCM-8, respectively. Sound levels along the shoreline of the proposed beaches would be expected to be approximately 82 to 85 dBA from those LCM-8's operational activities located in the surf zone (50 to 100 feet [15 to 30 m] of the shore) based on standard sound attenuation. Sound levels approximately 100 feet (30 m) inland from the shoreline, where most of the onshore activities would occur, would be expected to be approximately 74 to 77 dBA, or consistent with the conditions in the lakefront area occurring during storm events (typically 70 to 80 dBA or more). As a result, some biological species would be expected to avoid the area during the duration of the training activities.

Sound levels along the shoreline from the vehicles used in the training operations, and the military personnel located on the shore, would be consistent with the day-to-day sound levels that are typical of the surrounding lakefront environment, ranging from 60 to 70 dBA, depending on the intensity and duration of the activities being performed. However, during storm events, typical sound levels in a lakefront environment can increase to 70 to 80 dBA or more. In addition to the sounds occurring from the LCM-8 operations, vehicles, and military personnel training, small arms firing blank ammunition may be discharged to simulate hostile fire from the beach area. The discharge of these small arms would produce numerous high-volume noise spikes. Although the specific small arms and blank ammunition types are not currently known, it has been assumed that the potential noise spikes would range from approximately 155 to 170 dB, as a worst-case condition, based on centerfire rifle data (FreeHearingTest.com 2002). The majority of these spikes would be drowned-out by the more predominate noise occurring from the LCM-8 operations and typical wind and wave noise. The overall L_{eq} , day-night equivalent sound level, would not be anticipated to increase as a result of the proposed discharge of small arms.

Alternate Site A is a private, open beach area with no nearby residential areas, thus there would not be any anticipated noise impacts to residential areas (the human environment).

The nearest residential area (military housing) to Alternate Sites B and C is located approximately 825 to 900 feet (251 to 274 m) to the west, located along the top of the bluff some 70 feet (21 m) above the beach elevation. Sound levels at the base of the bluff, located approximately 450 to 600 feet (137 to 183 m) inland from the shorelines of the sites would be expected to be approximately 67 to 70 dBA based on standard sound attenuation. Sound levels occurring at the top of the bluff near the military housing would be expected to be approximately 65 to 68 dBA, or

consistent with the conditions expected to be within a residential area located near a lakefront environment.

The nearest residential area to Alternate Site D is located approximately 675 feet (206 m) to the northwest, located along the top of the bluff some 50 feet (15 m) above the beach elevation. Sound levels at the base of the bluff, located approximately 100 feet (30 m) inland from the shoreline would be expected to be approximately 74 to 77 dBA based on standard sound attenuation. Sound levels occurring at the top of the densely vegetated bluff near the residential housing would be expected to be approximately 66 to 69 dBA, or consistent with the conditions expected to be within a residential area located near a lakefront environment.

Additionally, the sound levels from these operations would be of a short duration and, although evening/night operations do occur, the majority of the operations would occur during daylight hours when noise is more easily tolerated. Indirect impacts to the sound environment at Alternate Sites B, C, and D may include avoidance of the areas by local residents during training exercises. No significant impacts are anticipated.

4.1.4 Water Resources

No discharge from operations of the LCM-8 into the water should occur, although the potential for spillage does exist (U.S. Navy, 2001b). All NR ACU-1 operations would be expected to conform to and strictly observe the provisions of the Oil Pollution Act of 1990, and the Clean Water Act, insofar as these Acts prohibit the discharge of oil, regardless of whether or not the Acts pertain specifically to naval reserve vessels and shore activities (U.S. Navy, 1998b). The intent is to prohibit the discharge of all waste oil and oily mixtures, in all areas except where operational emergencies exist.

Only minor short-term direct impact to water turbidity might be expected as the landing craft makes contact with the shoreline and again when the ramp is lowered and raised for on- and off-loading. No refueling activities or craft maintenance and repair involving petroleum products would take place during the landing exercises and bilge water would not be pumped. The ACU-1 is equipped with basic spill response equipment, such as booms and absorbent materials, to be used in the event of an accidental release of fuel or other petroleum products from the ACU-1. Since spill response by land is not possible at Alternate Site A, the U.S. EPA spill response aquatic unit and the U.S. Coast Guard would be notified in the event of an accidental release at Alternate Site A, depending on the magnitude of the release. The *Naval Reserve Assault Craft Unit Operations Manual* establishes guidance for the operation, safety, maintenance, and material management of NR assault craft. These requirements would be followed to prevent impact to the water resources environment as a result of fuel or other petroleum product spills or releases. A portable sanitary facility is provided during training and any waste would be disposed of upon return to the NTC Great Lakes. The presence of the landing craft should not have any direct or indirect effect on the overall water chemistry or currents in the area.

Executive Order 11988, *Floodplain Management*, requires that Federal agencies avoid activities that directly or indirectly result in development of floodplain areas. Although the proposed training exercises would be conducted within the 100-year floodplain boundaries of Lake Michigan, they would not result in the development of the floodplain.

4.1.5 Hazardous Materials/Hazardous Waste

As discussed in *Section 4.1.4*, no discharge from operations of the LCM-8 should occur, although the potential for spillage does exist. All NR ACU-1 operations are expected to conform to and strictly observe the provisions of the Oil Pollution Act of 1990 and the Clean Water Act. Additionally, the *Naval Reserve Assault Craft Unit Operations Manual* establishes guidance for the operation, safety, maintenance, and material management of NR assault craft. These requirements would be followed to prevent impact to the environment as a result of fuel or other petroleum product spills or releases. Potential hazardous waste generation activities would be limited to LCM-8 maintenance at the boathouse on-shore. Any wastes generated would be expected to be disposed of consistent with current hazardous materials practices at NTC Great Lakes in compliance with applicable state and Federal regulations. The discharge of small arms firing blank ammunition to simulate hostile fire from the beach area would normally result in the ejection of spent cartridges (brass) onto the beach; however, devices would be attached to the small arms to capture the spent cartridges (brass) to preclude this from occurring. Based on existing analysis of sediments located at the ACU dock it has been determined that contamination in that area is lower than in the rest of the harbor. Due to insufficient analytical parameters for the May 2001 sediment sampling, it is not certain whether the metals present in the sediment would be regulated as hazardous waste. However, the vacuum procedure would be treated as a hazardous waste operation. Sampling and analysis of dewatered dredge material following completion of the dewatering process would determine whether the remaining material would be classified as hazardous. Dependant upon results of this analysis, dewatered dredge material would be disposed of according to current state and federal regulations, or if unregulated, in a nearby landfill or used within NTC property for landscape or fill material.

Although hazardous materials are not anticipated to be encountered at any of the alternate beach sites, annual bathymetric surveys would be conducted and all reasonable efforts would be made to avoid disturbances to sand bars and the lake bottom during LCM-8 training exercises. Only minor short-term direct impact to water turbidity due to disturbance of bottom sediments might be expected as the landing craft makes contact with the shoreline and again when the ramp is lowered or raised for on- and off-loading. Any sediment disturbed would resettle to the lake bottom once the exercises are completed. No significant impacts are anticipated.

4.2 BIOLOGICAL ENVIRONMENT

Maintenance dredging in the western portion of the Inner Harbor at NTC Great Lakes would be performed immediately beneath the synchro-lift in an area of approximately 70 feet (21 m) by 110 feet (34 m). A volume of 1,540 cubic yards (1,177 cubic meters) of material would be removed, dewatered, and disposed of or otherwise safely managed. Composite laboratory analyses of the core samples obtained within the proposed dredging area are discussed in *Section 3.1.5*. Upon completion of the dewatering process, a representative sample or samples of dredge materials would be fully analyzed, including TCLP and analysis for PCBs, to determine the proper method of disposal. Dependant upon the results of these analyses, dewatered dredged material would be disposed of at a nearby landfill (Zion or Grayslake) in accordance with local, state, and federal regulations or, if analyses determines the sediments are unregulated, may be used within NTC property for landscape or fill material.

The impacts of dredging activities, increased turbidity and sediment suspension, can be detrimental to finfish. Suspended materials can cause gill clogging and impact species but these effects will be minimal. Filter feeding finfish species would be most susceptible to impacts of dredging and

suspended materials. Juvenile fish have lower tolerance levels and less mature gills making them more susceptible to suspended material impacts than adults. However, hand-operated dredging equipment would be used for this dredging operation, thus the mobility of the fish would allow them to avoid turbid areas during the proposed dredging operations. Since applicable federal, state, and local environmental regulations and laws would be followed, and dredging operations would occur using hand-operated equipment, no significant environmental impacts are anticipated to biological resources.

4.2.1 Shoreline Vegetation

The proposed training generally involves the LCM-8 craft positioned in the surf zone with deployment of equipment and vehicles on an unvegetated beach area within approximately 50 to 100 feet (15 to 30 m) of the lakefront, and no deployment of personnel and equipment occurring in a landward direction. The one exception is at Alternate Site A where no equipment or vehicle deployment from the land would occur, only the deployment of personnel. The proposed operations would occur within unvegetated sections of the four alternate beach sites, away from dunes and other vegetated areas, causing no vegetation to be removed or damaged during the training. No direct or indirect impact to shoreline vegetation would be expected.

4.2.2 Aquatic Habitat

Effects of the proposed training operations would be minimal to the fish species at any of the four alternate sites because of their mobility. Fish are able to avoid the area until the training operations have been completed. During dredging operations, turbidity will be minor and localized at the pier and will not impact aquatic habitat.

4.2.3 Wildlife

Reptiles and Amphibians

Generally, reptiles and amphibians would avoid the activities on the beaches by leaving the immediate area. The distance each species would temporary relocate would be species-dependent. The disturbance to reptiles and amphibians would be short-term and insignificant with the reptiles and amphibians returning to the area after the training operations have been completed. No indirect effects on reptiles and amphibians are anticipated.

Birds

Generally, most birds would avoid the training activities on the beaches by leaving the immediate area (flying away). The distance each species would temporary relocate would be species-dependent. In the area of the sensitive panne/wetland area located adjacent to Nunn Beach, a minimum setback of 1,000 to 1,200 feet would be established to reduce the potential impact on birds if small arms are to be discharged during the training exercises. The disturbance to most birds would be short-term and insignificant with the birds returning to the area after the training operations have been completed. No indirect effects on birds are anticipated.

Mammals

Generally, mammals would avoid the activities on the beaches by leaving the immediate area. The distance each species would temporarily relocate would be species-dependent. The disturbance to mammals would be short-term and insignificant with the mammals returning to the area after the training operations have been completed. No indirect effects on mammals are anticipated.

4.2.4 Threatened and Endangered Species

The USFWS indicated that Alternate Site A is in proximity to the Illinois Beach State Park, home to three Federally endangered species: the Eastern prairie fringed orchid, the Pitcher's thistle, and the Karner blue butterfly. Alternate Site A is also located within the recently designated Piping Plover Habitat Unit IL-1, which extends from Illinois Beach State Park and Nature Preserve to Waukegan Beach. This area is indicated as being historically used for nesting prior to 1985 (*Federal Register*, 2001). The USFWS initially indicated that they could not concur with a determination of no adverse effects to listed species for this site (USFWS, 2001a). Further consultation has occurred between the USFWS and Navy to ensure that the proposed actions will not affect critical habitat for the listed species. The USFWS issued a supplemental coordination response letter dated June 13, 2001 that states, "because the effects are temporary, and plovers are not present, we conclude that the species and critical habitat are not likely to be adversely affected." The letter goes on to state, "With respect to the overall training project, we recommend that training on the subject beach not take place before June 1 of each year, and not take place after August 15 of each year" (USFWS, 2001b). The restricted training at Alternate Site A during the summer months of the year provides potential habitat for migratory plovers that may use the beach for landing, foraging, and nesting during the spring or fall months of the year. The USFWS also recommended annual surveys be conducted at this site to avoid adversely affecting any nesting plovers in the area. The Navy will survey the area prior to any scheduled training at this location. There are also several state-listed species occurring in proximity to Alternate Site A (see *Section 3.2.4*). The IDNR initially requested on-site meetings to clearly identify areas to be affected, and discuss ways to avoid or minimize potential direct and indirect impacts (IDNR, 2001a). After additional coordination, the IDNR formed a biological opinion that the proposed training exercises would not adversely affect any Illinois Natural Area Inventory Site and would be unlikely to adversely affect any State-listed endangered or threatened species (IDNR, 2001c).

The USFWS has indicated that they do not believe that any Federally endangered or threatened species occur in the vicinity of Nunn Beach, Sandy Beach, or Fort Sheridan Beach (USFWS, 2001). The USFWS indicated that it does not appear that the project is likely to adversely affect any Federally threatened or endangered species or adversely modify critical habitat of such species at these locations. The USFWS also indicated that this precludes the need for consultation on those project sites in accordance with *Section 7* of the Endangered Species Act of 1973, as amended (USFWS, 2001). Additionally, during training operations Navy Environmental or cognizant personnel would be present to assure that training operations are not allowed to enter the adjacent sensitive panne/wetland area located to the south of Nunn Beach (Alternate Site C), the location of several state-listed species (see *Section 3.2.4*). As discussed in *Section 4.2.3*, a 1,000- to 1,200-foot minimum setback would also be established in the area to reduce the potential impact on birds if simulated small arms fire were to be included in exercises. No direct or indirect impacts to threatened and endangered species at Alternate Sites A, B C, and D are expected to occur based on coordination with the USFWS and the IDNR.

4.2.5 Wetland Resources

No impacts to wetlands are anticipated as part of conducting any of the training operations at any of the proposed alternate sites. The closest wetland and panne to any of the training would be near Nunn Beach; however, during training operations Navy Environmental or cognizant personnel would be present to assure that those areas would be avoided. No direct or indirect impacts are anticipated to occur.

4.3 SOCIOECONOMIC ENVIRONMENT

Maintenance dredging in the western portion of the Inner Harbor at NTC Great Lakes would be performed in an area immediately beneath the synchro-lift and 1,540 cubic yards (1,177 cubic meters) of sediment would be removed, dewatered, and disposed or otherwise safely managed. Since proposed dredging operations would occur using hand-operated equipment due to site access constraints, the Navy may use their own divers to perform the sediment removal. Since a minimum volume of sediment beneath the synchro-lift would be removed, and Navy divers may perform necessary labor, the cost to perform the permitted maintenance dredging would be minimized. NTC Great Lakes emergency response personnel would respond in the unlikely event of an accident during dredging. No significant direct or indirect impacts to socioeconomic resources would be expected as a result of the proposed dredging or dredged material handling, reuse or disposal.

4.3.1 Land Use

All four alternate sites would remain as open beach areas. Alternate Sites B, C, and D are located within military installations with their land use being mostly water-related activities defined by the military installation (e.g., recreation, training). Recreation is the typical activity occurring at these sites. During scheduled training operations, it is anticipated that the military installation would modify the use of these sites to include the proposed training and restrict the sites from recreational use for the duration of the exercise. Training exercises would only be conducted up to twice per month for eight months (March-October), for 16 to 32 days per year, which would leave the sites available for recreational uses for at least 333 days out of the year. The land use within and surrounding all four alternate sites and the Inner Harbor would not be affected by the implementation of the proposed action. Alternate Site A is located in proximity to Waukegan Beach INAI Site and adjacent to Illinois Beach Nature Preserve. Alternate Site D is adjacent to the Fort Sheridan Beach INAI Site. Local land use plans would not be affected by the implementation of the proposed action since the proposed activities would conform to requirements stipulated by the Illinois Natural Areas Preservation Act (525 ILCS 30/17). No direct or indirect effects on land use are anticipated as a result of implementation of the Action Alternative.

4.3.2 Environmental Justice

Based upon available Census data (see *Section 3.3.2* and *Table 3-7*), the percent of the population that is classified as minority or low-income within and immediately surrounding the four alternate sites is generally lower than or consistent with that of Lake County and the cities of Waukegan, North Chicago, and Highland Park. Minority or low-income populations would not be expected to be disproportionately and adversely affected as a result of the implementation of the proposed action at any of the four alternate sites. In addition, no direct or indirect disproportionate environmental health or safety risks to children would be anticipated as a result of the implementation of the proposed action.

4.3.3 Police and Fire Protection and Emergency Medical Services

Typically, there are trained military medical personnel on-site during training exercises and NTC medical personnel at the NTC hospital would attend to most injuries sustained by reservists. Local police protection, fire protection, or emergency medical services would not likely be required during the proposed training exercises, except in the rare case of a life-threatening injury where the entity that could respond most quickly would be called (U.S. Navy, 2001f). Since training exercises would only be conducted up to twice per month for eight months, for a maximum of 32 days per year, the likelihood that any local police protection, fire protection, or emergency medical services would be needed would be minimal, although there could be a slight increase in the number of requests for emergency services. No other direct or indirect impact to police protection, fire protection, or emergency medical services would be anticipated as a result of the implementation of the proposed action at any of the four alternate sites.

4.3.4 Recreation

Training exercises would only be conducted up to twice per month for eight months (March-October), for 16 to 32 days per year, which would leave the four alternate sites undisturbed by training exercises for at least 333 days out of the year. The beach at Alternate Site A is not open to the public or military personnel for recreational purposes. Alternate Sites B, C, and D would not be available for use by Navy personnel and their families during training exercises for a maximum total of 32 days, depending on which site is used and the training exercises conducted. During training exercises, the beach sand would be slightly disturbed (*Figure 1-2, Photo 3*); however, wind action and the tides and wave action from Lake Michigan would aid in resettling disturbed sand within 24 hours. No direct long-term effects to the recreational resources of the area would be anticipated as a result of the implementation of the proposed action. An indirect effect may be increased use of nearby public beaches in the summer during the 16 to 32 days of NR ACU-1 training exercises.

4.3.5 Cultural Resources

The IHPA did not identify any historic properties or archeological sites located within Alternate Site A. As discussed in *Section 3.3.5*, there are several historic properties located within NTC Great Lakes and Fort Sheridan; however, none of these properties are located within Alternate Site B, C, or D or the Inner Harbor. There are no known archeological sites located within Alternate Site B or C or the Inner Harbor, and the IHPA did not identify any archeological sites within Alternate Site D. If, however, any archeological or historical remains are uncovered at any of the four alternate sites during the proposed training activities, or dredging in the Inner Harbor, training or dredging activities would cease, and the Illinois SHPO would be notified. No direct or indirect impact to historic or archeological resources would occur as a result of the implementation of the proposed action at any of the four alternate sites.

4.3.7 Transportation and Navigation

Private roads within the interior of the Johns Manville International, Inc. facility are used to access the general area of Alternate Site A, with the road that leads to the beach not extending all the way to Alternate Site A, but ending at the fence installed west of the beach. No vehicles would be driven over the sand dune. Training exercises would typically occur at Alternate Site B and/or C during the months when these beaches are not open to public for swimming. Up to six HMMVs or similar

military vehicles would be transported via major roads, such as US 41, from Fort Sheridan to the NTC for training exercises at Nunn Beach and Sandy Beach. Roll-on/roll-off training using the HMMVs would occur approximately two to three exercises per year and no additional traffic would be associated with the proposed action (U.S. Navy, 2001f). No significant direct or indirect impacts to area roadways or traffic would be anticipated as a result of the implementation of the proposed action at any of the four alternate sites.

The Commanding Officer at the NTC and NRC and the NTC Harbor Master would approve the training exercises in advance and the assault craft would have applicable nautical charts onboard. Except for the harbor exit and entry and beach landings, all of the training courses would typically be outside of the 24-foot (7-m) depth curve (U.S. Navy, 2001f). Dredging activities within the Inner Harbor would require coordination with the Harbor Master. No direct or indirect impacts to boat or other watercraft traffic on Lake Michigan would be anticipated.

4.4 CUMULATIVE IMPACTS

Cumulative impacts are those changes to the physical, biological, and socioeconomic environments that would result from the combination of the associated impacts resulting from the implementation of the proposed action when added to other past, present, and reasonably foreseeable actions. Past projects, or those implemented or built before 2001, can be considered part of the existing environment baseline presented in this EA. Included within the concept of past projects are any past training activities, including reserve training, performed at NTC Great Lakes. Past actions also include the transfer of Fort Sheridan to the Navy, and resultant privatization as a residential community, and restoration activities near the Inner Harbor area along Pettibone Creek. Future actions include the NTC redevelopment to support recruit training and the implementation of the Integrated Natural Resources Management Plan that establishes five Natural Resources Management Units to assist with the land and wildlife management issues. Illinois Natural Areas Inventory (INAI) sites are located at Fort Sheridan and Waukegan Beach. Alternate Site A is located near the Waukegan Beach INAI and Alternate Site D is located within the Fort Sheridan INAI.

The Naval Reserve Readiness Command (REDCOM) Mid-West is a major reserve command at the NTC whose mission is to train naval reservists for mobilization to active duty in the event of war or national emergency. REDCOM Mid-West provides training and support guidance for centers located in the upper Midwest and is provided advance notice of the proposed NR ACU-1 training exercises.

Future NR ACU-1 training at NTC Great Lakes may include expeditionary warfare training with the Naval Reserve SEALs, the USMCR stationed at Fort Sheridan, Illinois and Fort McCoy, Wisconsin. In addition, there may be Reserve Team Training drills at Nunn Beach, Sandy Beach, and Johns Manville Beach. Family Day at the NTC or Fort Sheridan may occur to provide opportunities to the public to view and inspect NR ACU-1 training facilities. Local Reserve and active Naval units, the Reserve Officers Training Center, cadets and midshipmen from Northern Illinois University and other midwestern universities, and a group sponsored by the Marine Corps known as the "Young Marines" may continue to actively participate in annual amphibious training at the NTC Great Lakes.

Maintenance dredging of the Inner and Outer Harbor at NTC Great Lakes, although not currently scheduled, would be performed in the future. Pettibone Creek is being restored, and contaminants would be remediated in the future. The IDNR and the Illinois Natural History Survey are performing fisheries research along Lake Michigan. Johns Manville International, Inc. has and will continue to perform remediation landward of Alternate Site A related to past manufacturing activities. The Illinois

EPA and other agencies have been concerned with the drop in Lake Michigan water levels due to climatic changes and drought conditions. Asbestos related to construction debris has been found at Illinois Beach State Park although testing performed by the IEPA indicated no public health concerns remained after cleanup.

Alternate Sites A, B, C, and D are located adjacent to Lake Michigan north of Chicago, an area influenced by existing industrial, commercial, residential, and recreational development. Although there are no current plans for recreational or infrastructure development adjacent to the alternate beach training sites, it may be anticipated that the area would continue to be influenced by existing industrial, commercial, residential, and recreational development. It is unlikely that the proposed training exercises at these sites would stimulate or eliminate any future industrial, commercial, residential, recreational development activities or necessary infrastructure expansions or upgrades. In addition, it is unlikely that NR ACU-1 training would affect or be impacted by area remediation or management of natural resources at the NTC, Waukegan INAI, or Fort Sheridan INAI.

4.5 COMPLIANCE WITH VARIOUS LAND USE POLICIES AND CONTROLS

This EA has been prepared in accordance with the following regulations:

- The Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations (P.L. 91-190; 42 United States Code [USC] 4321 *et seq*; 40 Code of Federal Regulations [CFR] 1500-1508).
- OPNAVINST 5090.1B (*Change 2*), which implements, within the Department of the Navy, the requirements set forth by NEPA.

A summary of the various laws and coordination requirements and the extent to which the proposed action complies or conflicts with each of these laws and requirements are presented in this section.

4.5.1 National Environmental Policy Act

The National Environmental Policy Act of 1969, as amended, contains policy and guidance to ensure that potential impacts from proposed federal actions are assessed using a systematic and interdisciplinary approach. This EA has been prepared in accordance with *Section 102(2)(c)* of NEPA, CEQ regulations on implementing NEPA procedures (40 CFR 1500-1508), and Department of the Navy regulations on implementing NEPA procedures (32 CFR 775).

4.5.2 Clean Water Act

The Clean Water Act, as amended, regulates discharges to the waters of the United States. Compliance with applicable provisions of the Clean Water Act will be accomplished by coordination with the appropriate resource agencies, submittal of dredging permit applications and, if required, response to agency review. Fuel spills or releases would be promptly contained, remediated, and the proper authorities would be notified. *Section 404* of the Act regulates the discharge of dredged or fill material. As indicated in *Section 1.6*, a permit was applied for and obtained to perform maintenance dredging in the Inner Harbor at NTC Great Lakes. Any point sources of pollution associated with the proposed action will comply with NPDES permit requirements.

4.5.3 Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act of 1899 prohibits the unauthorized obstruction or alteration of any navigable water of the United States unless the Secretary of the Army has authorized the work by a permit. As indicated in *Section 1.6*, a permit was applied for and obtained to perform maintenance dredging in the Inner Harbor at NTC Great Lakes.

4.5.4 Clean Air Act

The Clean Air Act, as amended, provides for protection and enhancement of the nation's air resources. Particulate matter and other air pollutants resulting from training activities would have a short-term air quality impact on the immediate vicinity, but no permanent or long-term impacts to regional air quality related to implementation of the proposed project are anticipated to occur. Since the Metropolitan Chicago Interstate AQCR is classified as a severe *non-attainment* area for ozone (O₃), proposed federal actions must show conformity to the SIP before they can be implemented. The training exercises and maintenance dredging operations are exempt from a formal Conformity Determination. Otherwise, the proposed action would need to produce less than the *de minimis* level of 25 tons per year (TPY) (22.7 metric TPY) for each of the ozone precursors: oxides of nitrogen and volatile organic compounds, to avoid a conformity determination. An applicability analysis has been performed to determine and a formal conformity determination is not required. The Record of Non-Applicability is found in *Appendix B*.

4.5.5 Fish and Wildlife Coordination Act

Section 10 of the Fish and Wildlife Coordination Act (16 USC 661-666) directs federal agencies to consult with USFWS, National Marine Fisheries Service (NMFS), and state agencies before authorizing alterations to water bodies. The purpose of this Act is to ensure that wildlife conservation receives equal consideration during the decision-making process. Any funded projects that include alternations to water bodies would be coordinated with these agencies prior to any construction activity. Minimal alteration would occur at the Inner Harbor of NTC Great Lakes during maintenance dredging. The USFWS, NMFS, and state agencies, including the IDNR, have been contacted concerning this project and maintenance dredging will occur as permitted by the USACE and the IDNR.

4.5.6 Endangered Species Act

Section 7 of the Endangered Species Act of 1973, as amended, requires the responsible federal agency to consult with USFWS and NMFS concerning endangered and threatened species under their jurisdiction. Lists of potential endangered or threatened species possibly present at NTC Great Lakes received from the USFWS and IDNR were reviewed. The USFWS indicated that Alternate Site A is in proximity to the Illinois Beach State Park, home to three Federally endangered species: the Eastern prairie fringed orchid, the Pitcher's thistle, and the Karner blue butterfly. Alternate Site A is also located within the recently designated Piping Plover Habitat Unit IL-1, which extends from Illinois Beach State Park and Nature Preserve to Waukegan Beach. This area is indicated as being historically used for nesting prior to 1985. The USFWS has stated that the proposed training activities would not adversely impact critical habitat or endangered species as long as migratory birds, including the Piping Plover, are provided the opportunity to forage, land, and nest during the spring and fall months of the year. For this reason, proposed beach training exercises may occur between June 1 and August 15 of each year. The USFWS also recommended annual surveys be

conducted at this site to avoid adversely affecting any nesting plovers in the area. The Navy will survey the area prior to any scheduled training at this location. *Section 4.2.4* documents potential impacts to threatened and endangered species and the coordination that has occurred regarding threatened and endangered species.

4.5.7 Migratory Bird Treaty Act

Johns Manville Beach (Alternate Site A) is adjacent to Waukegan Beach INAI Site and adjacent to the Illinois Beach Nature Preserve. The following birds are present or potentially present in this area: Black-crowned Night Heron (*Nycticorax nycticorax*), Upland Sandpiper (*Bartramia longicauda*), Henslow's Sparrow (*Ammodramus henslowii*), and Common Terns (*Sterna hirundo*), which have nested on this site for the last six years. All the birds mentioned are protected pursuant to the federal Migratory Bird Treaty Act (16 USC 703 *et seq.*) and Title 50 CFR Part 10. The proposed NR ACU-1 training exercises will not adversely impact migratory birds. It is anticipated that birds will not be affected by short-term (generally less than eight hours in duration), non-destructive training activities and will temporarily vacate the area until exercises are concluded.

4.5.8 National Historic Preservation Act

As discussed in *Section 3.3.5*, the IHPA did not identify any historic properties or archeological sites located within Alternate Site A. As discussed in *Section 3.3.5*, there are several historic properties located within NTC Great Lakes and Fort Sheridan; however, none of these properties are located within Alternate Site B, C, or D or the Inner Harbor. There are no known archeological sites located within Alternate Site B or C or the Inner Harbor and the IHPA did not identify any archeological sites within Alternate Site D. However, if any archeological or historical remains are found at any of the four alternate sites during the proposed training activities and dredging, training or dredging activities at the site would cease, and the Illinois SHPO would be notified. No impact to historic or archeological resources would occur as a result of the implementation of the proposed action.

4.5.9 Coastal Zone Management

The Coastal Zone Management (CZM) Act of 1972, as amended, provided for the effective management, beneficial use, protection, and development of the resources of the nation's coastal zone. The State of Illinois does not have an approved CZM program, so this requirement does not apply.

4.5.10 Floodplain Management

Executive Order 11988, *Floodplain Management*, requires that Federal agencies avoid activities that directly or indirectly result in development of floodplain areas. Although the proposed training exercises would be conducted within the 100-year floodplain boundaries of Lake Michigan, they would not result in the development of the floodplain. During dredging operations, a volume of 1,540 cubic yards (1,177 cubic meters) of material would be removed and dewatered prior to disposal. This material may be temporarily stored within the 100-year floodplain of Lake Michigan until it is fully dewatered. Disposal of dewatered material would be to a nearby landfill or used within NTC property, outside the 100-year floodplain, for landscape or fill material. The temporary storage of as much as 1,540 cubic yards (1,177 cubic meters) of dredged material is not anticipated to impact the storage volume of the Lake Michigan watershed.

4.5.11 Local Land Use Plans

Implementation of the proposed action would not require a change in land use at the NTC Great Lakes, Fort Sheridan, or Alternate Site A. Johns Manville Beach (Alternate Site A) is located in proximity to Waukegan Beach INAI Site and adjacent to Illinois Beach Nature Preserve. Fort Sheridan Beach (Alternate Site D) is adjacent to the Fort Sheridan Beach INAI Site. Local land use plans would not be affected by the implementation of the proposed action since the proposed activities would conform to requirements stipulated by the Illinois Natural Areas Preservation Act (525 ILCS 30/17).

4.5.12 Wetlands

Executive Order 11990, *Protection of Wetlands*, directs agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands on federal property. Implementation of the proposed action at NTC Great Lakes does not affect wetlands resources and no destruction, loss, or degradation of wetlands would occur.

4.5.13 Administration of Environmental Policy (Environmental Justice)

The potential effects of the proposed action have been evaluated in accordance with the requirements of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; and Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. These executive orders mandate that federal agencies identify disproportionately high and adverse human health or environmental effects on minority and low-income populations and children. As discussed in *Section 4.3.2*, no disproportionate and adverse impacts to minority or low-income populations would be anticipated as a result of the implementation of the proposed action. In addition, no disproportionate environmental health or safety risks to children would be anticipated as a result of the implementation of the proposed action.

4.6 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Energy, in the form of various fossil fuels and electricity, would be required during the operation and maintenance of the LCM-8 for beach training exercises and during dredging operations. Prudent energy conservation features will be incorporated into this project wherever possible. Energy requirements for the proposed action would have no impact on energy resources or requirements of the United States or the greater Chicago area.

4.7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Maintenance and operation of the proposed LCM-8 craft and activities associated with training exercises would require the commitment of various resources. These resources could include the commitment of labor, capital, energy, biological resources, and land resources. Short-term commitments of labor, capital, and fossil fuels would result directly from maintenance dredging and performance of beach training exercises, and indirectly from the provisions of services necessary to support NR training. Long-term commitments of resources would result directly from maintenance and operation of the alternate beach sites, and indirectly from the provisions of water, sewage, electricity, gas, and solid waste services for the support of the Naval Reserve Center at NTC Great Lakes. The LCM-8s, buildings that house the LCM-8s, and Naval Reserve building at the NTC Great Lakes would remain long-term commitments.

4.8 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term commitments would include labor, capital, and fossil fuels that result directly from dredging and training activities, and indirectly from the provision of services to the various beach sites during training. No physical systems would be modified due to the effects of the dredging or NR ACU-1 training.

4.9 ADVERSE ENVIRONMENTAL IMPACTS THAT CANNOT BE AVOIDED SHOULD THE PROPOSED ACTION BE IMPLEMENTED

Short-term, direct adverse impacts from beach training exercises would include the following: minor beach sand disturbance, exhaust emission from the assault craft and training vehicles, and water agitation. Other direct effects include minimal impact to aquatic vegetation and habitat; minor restrictions of recreational beach use; potential effects from noise from LCM-8 operation; generation of sediment from dredging of the inner harbor that would require proper disposal; and a slight potential for an increase in the number of requests for local emergency services from nearby communities. These unavoidable impacts, and related mitigation are not anticipated to be significant. No direct, long-term effects to the recreational resources of the area would be anticipated as a result of the implementation of the proposed action. Indirect effects may include increased use of nearby public beaches during the annual training days to avoid NR ACU-1 training exercises. The associated dredging operation would not be expected to further impact the surrounding waters or environment in general.

4.10 MEANS TO MITIGATE ADVERSE ENVIRONMENTAL IMPACTS

Disturbed sands may be swept or raked by Navy personnel, if needed, but equipment and vehicle wheel tracks and ruts are usually removed within 24 hours by wind action and Lake Michigan wave and tide action. The Navy and the dredging contractor have or will implement fuel and petroleum management and contingency plans to reduce or eliminate the potential for environmental contamination from accidental spills and releases. Mitigation of noise effects will occur when the LCM-8 is throttled down after deployment. Fuel spills or releases would be mitigated through adherence to *Naval Reserve Assault Craft Unit Operations Manual* requirements pertaining to the provision of booms, adsorbent materials, and other basic spill response equipment on-board during training exercises. In addition, immediate notification of the U.S. Environmental Protection Agency and the U.S. Coast Guard in the event of a fuel release would result in emergency spill response and release control. To allow potential spring and fall migrant plovers and other protected bird species to land, nest, and forage at Johns Manville Beach (Alternate Site A), training exercises at that location would be restricted to between June 1 and August 15 of each year. The USFWS also recommended annual surveys be conducted at this site to avoid adversely affecting any nesting plovers in the area. The Navy will survey the area prior to any scheduled training at this location. During NR ACU-1 training at Johns Manville Beach, care will be taken to minimize disturbance of near-shore sediments through review of bathymetric survey data and maintenance of a beach landing buffer zone. Additionally, during training operations Navy Environmental or cognizant personnel would be present to assure that training operations are not allowed to enter the adjacent sensitive panne/wetland area located to the south of Nunn Beach (Alternate Site C), the location of several state-listed species.

5.0 LIST OF PREPARERS

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6.0 COORDINATION

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Federal, state, and local regulatory agencies and governmental entities were consulted prior to and during the preparation of this Environmental Assessment. Most agencies and government entities were either contacted in writing, by telephone, or visited during the course of the study. The agencies and governmental entities contacted are listed below. *Appendix A* contains agency response letters.

Federal

- U. S. Environmental Protection Agency, Region 5
- U.S. Department of the Army
- U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Department of Agriculture, Natural Resources Conservation Service

State

- Illinois Environmental Protection Agency
- Illinois Department of Natural Resources, Endangered Species Consultation Program
- Illinois Department of Natural Resources, Office of Water Resources
- Illinois Department of Natural Resources, Fisheries Management Division
- Illinois EPA, Bureau of Water Quality, Surface Water Section
- Illinois Department of Natural Resources
- Illinois State Clearinghouse
- Illinois Historic Preservation Agency
- Illinois Department of Natural Resources, Bureau of Land Water Resources
- Illinois Department of Natural Resources, Floodplain Management
- Illinois Environmental Protection Agency
- Illinois Department of Transportation
- Illinois Department of Conservation

Local

- Lake Forest/Lake Bluff Chamber of Commerce
- City of North Chicago
- Village of Lake Bluff
- Shields Township
- Town of Fort Sheridan
- Lake County Stormwater Management Commission
- Moraine Township
- Northeastern Illinois Planning Commission
- Waukegan Harbor Citizen Advisory Group
- Lake County Department of Planning, Zoning & Environmental Quality
- City of Highland Park

7.0 BIBLIOGRAPHY

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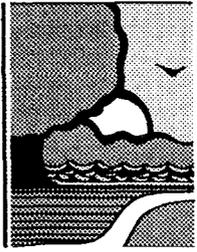
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APPENDIX A



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

524 South Second Street, Springfield 62701-1787

George H. Ryan, Governor ● Brent Manning, Director

March 30, 2001

Ms. Kelly Krenz, Project Manager
Turner Collie & Braden Inc.
P.O. Box 130089
Houston, Texas 77219-0089

Dear Ms. Krenz:

Re: Environmental Assessment for ACU-1 Response/
Reserve Training Exercise TC&B Job No. 32-1109-001

Thank you for your letter of March 16, 2001 notifying us of the U.S. Department of the Navy's training exercises along the shoreline of Lake Michigan. After reviewing your letter, we need to direct you to two areas in order for you to address the concerns identified in your letter. The Office of Water Resources, along with the Illinois Environmental Protection Agency, issues a joint permit for dredging of the proposed area.

For issues regarding sediment sampling for the dredging, you can contact Mr. Bruce Yurdin, Illinois Environmental Protection Agency/Water Pollution at 217/782-3362.

For concerns with aquatic and terrestrial issues, Ms. Debra Nelson, IDNR/ Natural Heritage Biologist - Lake County at 815/675-2385 will be able to help identify endangered, threatened and candidate species in the area.

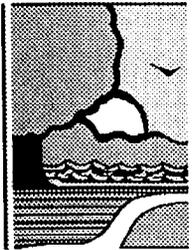
You may contact Mr. Jim Casey, Civil Engineer of my staff, at 312/793-5947 for questions concerning the general permit.

If we can be of further assistance, please feel free to contact us at 217/782-2152.

Sincerely,

Donald R. Vonnahme
Director

cc: Debra Nelson
Bruce Yurdin



Illinois
Department of
Natural Resources

Code 0102172

<http://dnr.state.il.us>

524 South Second Street • Springfield, Illinois 62701-1787

George H. Ryan, Governor • Brent Manning, Director

April 13, 2001

Kelly Krenz
Project Manager
Turner, Collie & Braden, Inc.
P.O. Box 130089
Houston, Texas 77219-0089

**RE: Naval Training Exercises, Lake County
Endangered Species Consultation Program
Natural Heritage Database Review #0102172
TC&B Job No. 32-11090-001**

Dear Kelly Krenz:

The Division of Resource Review and Coordination acts as the Department's single point of contact regarding requests for information and comment.

Reference is made to your letters of March 16, 2001, concerning plans by the U.S. Department of the Navy (Naval Reserve) to conduct training exercises along the shoreline of Lake Michigan within ten miles of the Naval Reserve Center (NRC), Great Lakes, Illinois. The U.S. Navy proposes to prepare an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the proposed training exercises. Your letter requests specific information, issues, or concerns that should be addressed in the EA, including listed species, sensitive plant communities, and other natural resource concerns.

We would appreciate additional information concerning the proposed training exercises. It would be helpful to know what exactly will be involved in the exercises, such as how many assault craft and how many naval personnel will typically be involved, what will occur when the assault craft reach the beaches, and approximately how long a typical exercise will last. We would also like to know if the proposed exercises are to begin this year or next year, and if they are expected to occur on a periodic or annual basis in the future.

Based on the map appended to your letter, it appears that five locations are being considered for the proposed training exercises, as follows:

- Johns Manville Beach - Township 45 North, Range 12 East, Section 11
- Sandy Beach - Township 44 North, Range 12 East, Section 4
- Nunn Beach - Township 44 North, Range 12 East, Section 4
- Inner Harbor - Township 44 North, Range 12 East, Section 9
- Fort Sheridan Beach - Township 43 North, Range 12 East, Section 11

As you may be aware, a great many species of plants and animals listed by the State of Illinois pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11] utilize the Lake Michigan shoreline. We have consulted the Illinois Natural Heritage Database and find that each of these five locations contain Illinois-listed endangered/threatened species records and/or Illinois Natural Areas Inventory (INAI) sites identified pursuant to the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17].

A prohibited "take" of a State-listed animal or plant is a Class A misdemeanor which may result in a fine not to exceed \$2,500, one year's imprisonment, or both. Adverse modification of a Nature Preserve dedicated pursuant to the *Illinois Natural Areas Preservation Act* may result in similar fines and penalties, plus civil damages up to \$10,000 per day. These statutes and the relevant Parts of the Illinois Administrative Code may be reviewed on our Department web site at <http://www.dnr.state.il.us>.

State-listed species occurring at or in close proximity to the **Johns Manville Beach** (which is contained within the **Waukegan Beach INAI Site** and adjacent to **Illinois Beach Nature Preserve**) include the following. Birds: the **black-crowned night heron** (*Nycticorax nycticorax*), **upland sandpiper** (*Bartramia longicauda*), **Henslow's sparrow** (*Ammodramus henslowii*), and **common terns** (*Sterna hirundo*), which have nested at this site during six of the last ten years. Insects: the **red-veined prairie leafhopper** (*Aflexia rubranura*). Plants: **marram grass** (*Ammophila breviligulata*), **balsam poplar** (*Populus balsamifera*), **seaside spurge** (*Chamaesyce polygonifolia*), **dune willow** (*Salix syrticola*), and **sea rocket** (*Cakile edentula*).

Sandy Beach and **Nunn Beach** possess records for **marram grass** (*Ammophila breviligulata*), **little green sedge** (*Carex viridula*), **seaside spurge** (*Chamaesyce polygonifolia*), and **sea rocket** (*Cakile edentula*).

Occurrence records near the **Inner Harbor** site include **sea rocket** (*Cakile edentula*) and **forked aster** (*Aster furcatus*).

Fort Sheridan Beach lies adjacent to the **Fort Sheridan Bluff INAI Site**, and occurrence records in the area include **ground juniper** (*Juniperus communis*), **marram grass** (*Ammophila breviligulata*), **golden sedge** (*Carex aurea*), **buffaloberry** (*Shepherdia canadensis*), **dog violet** (*Viola conspersa*), **arbor vitae** (*Thuja occidentalis*), and **downy Solomon's seal** (*Polygonatum pubescens*).

All of the birds mentioned above are also protected pursuant to the federal *Migratory Bird Treaty Act*, [16 USC 703 et seq.] and Title 50 *Code of Federal Regulations* Part 10.

The potential for adverse impacts to any of these species will obviously depend on the nature of the proposed exercises. While the landing of assault craft in the surf zone might not involve

significant impacts, the off-loading of personnel and equipment and any subsequent deployment landward could have serious consequences.

In addition to endangered/threatened species concerns, the following are some issues that the Department believes may need to be addressed in the EA:

Maintenance dredging of inner harbor at Great Lakes NTC – It is our understanding that analysis of the harbor sediments several years ago indicated contamination with PCB's, heavy metals, and possibly other substances. The area to be dredged may need to be tested for pollutants, and an appropriate dredging method and disposal site may need to be identified. Dredging in public waters requires authorization from the Department's Office of Water Resources pursuant to Title 17 *Ill. Admin. Code* Part 3704 and the *Rivers, Lakes, and Streams Act* [615 ILCS 5].

Recreational vessel traffic – Sport fishing and recreational boats heavily use the area of Lake Michigan adjacent to the NTC and the identified beaches, particularly on weekends during the proposed training period. There are a total of 59 charter fishing boats at North Point Marina and 34 at Waukegan Harbor that may be fishing in the training area. In addition, approximately 15,300 non-charter sport fishing boat trips occurred at North Point Marina and Waukegan Harbor (combined) last year from April 1 through September 30. Boats fishing for salmon and trout run fishing lines well to the sides and rear of the vessel. When these lines are deployed the vessel's ability to change direction and speed may be greatly restricted.

A potential exists for navigational conflicts, and even collisions, involving these vessels and assault craft or with other vessels attempting to avoid the assault craft. Because Lake Michigan waters are regulated by Illinois pursuant to the *Rivers, Lakes, and Streams Act* [615 ILCS 5], it may be necessary to seek permits from the Department's Office of Water Resources pursuant to Title 17 *Ill. Admin. Code* Part 3704 for activities which may restrict public navigation.

Fuel discharge and prop wash from the assault craft – Any excessive discharge of fuel by the assault craft could be both a pollution and safety concern, and prop wash and lake bottom scouring could have habitat impacts in the shallow water areas near the beaches. Prop wash and bottom scouring could also resuspend contaminants such as asbestos known to occur in the lake bottom sediments near the **Johns Manville** site.

Assessment fishing gear – Both the IDNR Division of Fisheries and the Illinois Natural History Survey utilize gear such as gill nets and trap nets in shallow water in the proposed training area. Although this equipment is usually not left in the lake on weekends, it is sometimes left in place or retrieved on weekends because of weather conditions. Since an assessment vessel lifting a net is literally unable to maneuver, there is an obvious need for close coordination of sampling activities with the training exercises.

We are available to discuss the proposed Environmental Assessment at your convenience, and can provide detailed mapping of nature preserve and natural area boundaries, listed species

Kelly Krenz, Turner, Collie & Braden, Inc.
Naval Training Exercises, Lake County
April 13, 2001

occurrence records, and other sensitive features. We would appreciate the opportunity for appropriate IDNR staff to meet on-site with representatives of your firm and the Department of the Navy to clearly identify the areas to be affected, locate sensitive species likely to be impacted, and discuss alternatives that might avoid or at least minimize those impacts.

Please contact me at 217-785-5500 if the Department can be of further assistance.

Sincerely,



Keith Shank
Chief, Impact Assessment Section
Endangered Species Consultation Program
Division of Resource Review and Coordination

KS:rs

cc: IDNR/ORC (Cole, Hess, Garrow, Nelson)
IDNR/OWR (Casey, Injerd)
INPC (Heidorn, Nelson)
IEPA (Yurdin)
USCOE (Beal)
USFWS (Rogner)
USEPA (Pierard)



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chicago Illinois Field Office
1250 South Grove Avenue, Suite 103
Barrington, Illinois 60010
847-381-2253 Fax 847-381-2285

FWS/AES-CIFO

April 16, 2001

Kelly Krenz
Turner, Collie, & Braden, Inc.
P.O. Box 130089
Houston, Texas 77219-0089

Dear Ms. Krenz:

This responds to your letter dated March 16, 2001 requesting information on endangered or threatened species and/or resources of concern on or near the four proposed sites for the U.S. Department of the Navy training exercises. The locations of these four sites are as follows:

- Nunn Beach, located on Navy property at the Naval Training Center (NTC) Great Lakes, Illinois as depicted on the map enclosed.
- Sandy beach, located on Navy property at the Naval Training Center (NTC) Great Lakes, Illinois as depicted on the map enclosed.
- Fort Sheridan Beach, located at Fort Sheridan, Illinois as depicted on the map enclosed.
- an unidentified beach adjacent to the Johns Manville property in Waukegan, Illinois, approximately 3,000 feet south of Illinois Beach State Park

Please note that we are aware of a natural beach area approximately 200 feet away, and separated by a wall, from property of the Great Lakes Naval Training Center (NTC). This beach area provides habitat for state threatened and endangered species. Per a conversation with Bob Van Bendegom, it is our understanding that this beach area will not be utilized for the described Navy training exercises.

However it must be noted that the last site, the beach adjacent to the Johns Manville property in Waukegan, Illinois, is in very close proximity to the Illinois Beach State Park, which is the home of three federally endangered species. These are the eastern prairie fringed orchid (*Platanthera leucophaea*), the Pitcher's thistle (*Cirsium pitcheri*), and the Karner blue butterfly (*Lycaeides melissa samuelis*). This reach of Lake Michigan Shoreline is also within designated critical habitat, to be released in May 2001, for the endangered piping plover (*Charadius melodos*). Therefore, we cannot concur with a determination of no adverse effects to listed species for this site. In addition, this site is less than 1/8 of a mile from two ADID (Advanced Identification) sites. ADID studies are conducted under the auspices

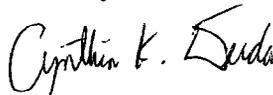
of the U.S. Environmental Protection Agency to identify in advance of specific projects, those wetlands that are of the highest function and value. The results of ADID studies provide landowners and planners with information about the most important aquatic resources in a given area so that advance planning can take them into account. ADID site # 191 is determined to have high biological values for the presence of state threatened or endangered species (bird and plant), as well as high hydrological values for sediment/toxicant retention and nutrient removal/ transformation. ADID site # 9 is determined to have high biological values for the presence of state threatened or endangered species (birds and plants), high quality plant communities, and being designated an Illinois Natural Area Inventory Site. This ADID site is also determined to have high hydrological values for sediment/ toxicant retention and nutrient removal/ transformation. We strongly caution you to avoid impacts to this last site.

Based on the information provided in your submittal and a review of our records, we do not believe that any federally endangered or threatened species occur in the vicinity of the first three sites. Based on the information provided, it does not appear that the project is likely to adversely affect any federally threatened or endangered species or adversely modify critical habitat of such species at the first three sites. This precludes the need for consultation on those project sites in accordance with section 7 of the Endangered Species Act of 1973, as amended. Should project modifications or new information indicate that endangered or threatened species may be affected, and the project is authorized, funded or carried out by a federal agency, then consultation with the Service should be initiated by the federal action agency.

This letter only addresses federally listed species; the Illinois Department of Natural Resources should be contacted for information on state-listed species. Any impacts to wetlands or waters of the United States will require a permit from the U.S. Army Corps of Engineers. This letter does not preclude separate evaluation and comment by the U.S. Fish and Wildlife Service on wetland impacts proposed for section 404, Clean Water Act authorization.

If you have any questions, please contact Mr. Jeff Mengler at 847/381-2253, ext. 226 or Cathy Pollack at 847/381-2253, ext. 239.

Sincerely,



John D. Rogner
Field Supervisor

cc: Great Lakes Naval Training Center, Bob Van Bendegom
IDNR, Deb Nelson
ELFO, Jack Dingleline



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 19 2001

REPLY TO THE ATTENTION OF

Ms. Kelly Krenz
Turner Collie & Braden Inc.
P.O. Box 130089
Houston, TX 77219-0089

B-19J

Re: Environmental Assessment for Assault Craft Unit (ACU)-1 Response, Naval Reserve Center, Great Lakes, Illinois (TC&B Job No. 32-11090-001)

Dear Ms. Krenz,

Consistent with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) has reviewed the referenced document dated March 16, 2001. According to the document you submitted, the U.S. Navy will prepare an Environmental Assessment (EA) to evaluate the potential environmental impacts of conducting training exercises along Lake Michigan. The proposed training will occur a maximum of 16 days per year, one weekend per month during the months of April through October, and will include exercises involving beach landings. In addition, the project includes required maintenance dredging of a 150-foot by 300-foot area at the inner harbor of the Naval Training Center (NTC), Great Lakes, Illinois. Furthermore, based on a April 19, 2001 telephone conversation with Mr. Donald Kathan of my staff, you informed us that no live munitions will be used as part of the training exercise, that the exercise will be conducted each year for the foreseeable future, and that dredging will be accomplished by private contractor with separate analysis of dredged material conducted before disposal.

In order to assist you in preparing the EA, we offer the following comments:

- The environmental documentation you submit should include a clear statement of purpose and need which identifies and describes the underlying problem or deficiency (not the proposed action), as well as facts and analyses supporting the problem or deficiency in the particular location at the particular time;
- Each need for action should have an associated measurable objective or specification with which the effectiveness of the proposed action and each alternative in fulfilling the need for action can be evaluated;
- A cumulative effects analysis should be included which describes the impacts from other past, present and reasonably foreseeable future actions on both ecosystems and human populations;

- Any adverse environmental effects which cannot be avoided should be stated along with mitigation measures which will be committed to, and finally implemented;
- A list of all necessary permits or other required coordination with Federal, State and/or local agencies should be included as an attachment to the environmental documentation;
- Options and environmental impacts associated with management/disposal of dredged material should be analyzed as part of the EA.

The U.S. EPA Region 5 contact for this project is Mr. Donald Kathan. Please mail all future correspondence related to this project directly to him at U.S. EPA, 77 W. Jackson Blvd. (Mailcode B-19J), Chicago, IL 60604. Also, information can be faxed to him at (312) 353-5374. His direct telephone line is (312) 886-0448.

Thank you for the opportunity to participate in the planning process in order to assess the project's environmental impacts. We look forward to receiving a copy of the draft EA once it is completed.

Sincerely,



Kenneth A. Westlake
Chief, Environmental Planning and Evaluation Branch
Office of Strategic Environmental Analysis



**SINGLE POINT
OF CONTACT**

*Illinois State
Clearinghouse*

Administered by the
**Illinois Department
of Commerce and
Community Affairs**

James R. Thompson Center
100 West Randolph
Suite 3-400
Chicago, IL 60601

312/814-6028
FAX: 312/814-8485
TDD: 312/419-0667

*George H. Ryan
Governor*

*Pam McDonough
Director*

April 20, 2001

Turner Collie & Braden, Inc.
Ms. Kelly Krenz, Project Manager
P. O. Box 130089
Houston, TX 77219

SAI: 01-032319
REGION: 01
CFDA #
TITLE: U. S. Department of the Navy (Naval Reserve)
Environmental Assessment for ACU-1
Response/Reserve Training Exercise TC & B Job
No. 32-11090-001

The Illinois State Clearinghouse has processed the subject notification pursuant to Federal Executive Order 12372. Representatives of State, regional and local organizations whose activities might be affected by action on this project have been provided an opportunity for review and comment.

Based on the information provided and responses of interested parties, it has been determined that:

 X No comments were received during the 30-day review period, which indicates that the proposed project is apparently not in conflict with the State's plans, policies and priorities.

 The comments received during the 30-day review period indicate that the proposed project is apparently not in conflict with the State's plans, policies and priorities. However, the attached comment(s) and/or recommendations(s) should be taken into consideration by the applicant and the funding agency.

 The comments received during the 30-day review period indicate that the proposed project is not in conflict with the State's plans, policies and priorities provided the provision(s) outlined in the attachment(s) is/are met.

 The comments received during the 30-day review period indicate that the proposed project is in conflict with the plans, policies and priorities of the State. See attachment(s) for further explanation.

This notice neither waives the necessity to obtain, nor excuses the failure to obtain, any additional notification, approval, permit, license, contract, right, or other arrangement which may be required for this project. The funding agency will conduct a programmatic review which is separate and distinct from this Executive Order 12372 review.

This letter is valid for two years from this date. However, any updated documents must be submitted to the State Clearinghouse if revision, continuation, or augmentation is sought for the project. Please reference the State Application Identifier (SAI) number in any future correspondence concerning this project.

Thank you for participating in the State Clearinghouse process. We wish you every success in your endeavors.

Virginia Bova
Virginia Bova
Coordinator/Single Point of Contact



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/782-0547

May 1, 2001

Ms. Kelly Krenz
Project Manager
Turner Collie & Braden Inc.
Post Office Box 130089
Houston, Texas 77219-0089

Re: Naval Reserve Center – Training Exercise

Dear Ms. Krenz:

Thank you for opportunity to comment on the proposed project for the Naval Reserve Center, Great Lakes, Illinois.

The Agency has reviewed this submission and has no comments or objections to the proposed project at this time. Please contact the Corp of Engineers for any permit requirements for dredge and fill activities under Section 404 of the Clean Water Act.

Please note, insufficient information was submitted regarding dredged materials in that area containing asbestos materials. Dredgings will most likely have to be managed as a waste. Please contact Mike Nechvatal at 217/785-9407 for further information.

Sincerely,

A handwritten signature in cursive script that reads "Bernard P. Killian".

Bernard P. Killian
Deputy Director

GEORGE H. RYAN, GOVERNOR



STORMWATER MANAGEMENT COMMISSION

May 8, 2001

Kelly Krenz
Turner Collie & Braden Inc.
P.O. Box 130089
Houston, TX 77219-0089

Subject: Environmental Assessment for ACU-1
Response/Reserve Training Exercise

Dear Ms. Krenz:

Thank you for notifying SMC of the Environmental Assessment, via the March 16, 2001 correspondence, that is to be performed at the locations designated for training exercises along the Lake Michigan shoreline. Your correspondence has indicated that maintenance dredging will be completed as part of the proposed project. In accordance with the Memorandum of Understanding (MOU) between the United States Department of the Navy and the Lake County Stormwater Management Commission, SMC understands that the proposed project will be reviewed by the Navy, with comment from SMC, for consistency with the Lake County Watershed Development Ordinance (WDO). SMC has the following clarifications with respect to the proposed project.

1. This development would be classified as a Major Development with respect to the application requirements of the WDO [WDO Art. IV, Sect.B.2].
2. *Hydraulically equivalent compensatory storage requirements for fill or structures in a non-riverine Regulatory Floodplain shall be at least equal to 1.0 times the volume of Regulatory Floodplain storage lost or displaced [WDO Art. IV, Sec. C.2.d.(2)].*

Compensatory storage should be provided for all fill within Regulatory Floodplain, including dredged material placed within the limits of Regulatory Floodplain. Alternatively, the dredged material could be deposited outside of the Regulatory Floodplain.

3. Detention should be provided for the proposed project if the development exceeds the detention threshold requirements of the Article IV Section A.1.f of the WDO.

CELEBRATING OUR FIRST 10 YEARS

Richard A. Welton, Chairman Ward S. Miller, Executive Director

333-B Peterson Road • Libertyville, Illinois 60048 • 847/918-5260 • FAX 847/918-9826

U:\WPDATA\Nkw\letters01\great lakes exercise area_0424.doc
Printed on Recycled Paper

Kelly Krenz
May 8, 2001
page 2

4. *A soil erosion and sediment control plan showing all measures appropriate for the development is required to meet the objectives of the WDO throughout all phases of construction and permanently after the completion of development. [WDO Art.IV, Sec. B.2.b.(8)].*

A soil erosion and sediment control plan should be included in the set of construction plans.

5. The Lake County Watershed Development Ordinance (WDO) is available for purchase from our office and can be downloaded from our website www.co.lake.il.us/smc. Additionally, SMC is available to meet to discuss any specific WDO provisions.
6. Permits from U.S. Army Corps of Engineers (COE) and Illinois Department of Natural Resources -- Office of Water Resources (IDNR/OWR) may be required prior to construction. To initiate the permitting process, please contact Michael Murphy of the COE at 312-353-6400 ext.4032 and Timothy Kosiek of IDNR/OWR at 847-705-4341.

We would like to be of assistance. If you have any questions, or would like to set up a meeting, please call me at (847)918-7690 or Joy Corona at (847)918-5263.

Sincerely,

LAKE COUNTY STORMWATER MANAGEMENT COMMISSION



Naomi K. Wilson
Assistant Permit Engineer



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chicago Illinois Field Office
1250 South Grove Ave, Suite 103
Barrington, Illinois 60010
Telephone (847) 381-2253; Fax: (847) 381-2285

FWS/AES-CIFO

June 13, 2001

Mr. Bob VanBendegom
NTC Environmental Department Code N457c
201 Decatur Ave.
Great Lakes, Illinois 60088-2801

Dear Mr. VanBendegom:

This letter follows our letter of April 16, 2001, and additional project information provided by your consultants on June 12, 2001. The U.S. Navy proposes to conduct training activities on Lake Michigan Beaches up to one weekend per month between the months of March and October. One of the beaches being considered is located south of Illinois Beach State Park (Johns Manville property) is within designated critical habitat for the piping plover (*Charadrius melodus*), a federally listed endangered species. You have asked for clearance to conduct training operations at this beach on June 18, 2001.

Staff from our office conducted a thorough search of this beach on June 8, 2001, and did not find any piping plovers, or other federally listed species. The beach habitat seemed to be ideal for piping plovers, however. The information provided by your consultant indicated that impacts to the beach would be temporary.

Section 7 of the Endangered Species Act requires Federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify designated critical habitat. In the specific case of conducting training operations on June 18, 2001, because the impacts are temporary, and plovers are not present, we conclude that the species and its critical habitat are not likely to be adversely affected. Therefore you may proceed with the training for June 18, 2001. We would like the opportunity to survey the area after the training operations are completed to get a first hand view of the effects to the habitat.

With respect to the overall training project, we recommend that training on the subject beach not take place before June 1 of each year, and not take place after August 15 of each year. Spring and fall migrant plovers should not be deterred from landing and foraging on the beach. Spring migrants may choose to nest on the beach, and fall migrants may return and nest the following spring. The presence of people and vehicles on the beach associated with training operations

Mr. Bob VanBendegom

2

may in effect make the habitat unsuitable for the birds during that time period. Vehicles and people may discourage plovers from landing or foraging on the beach. To avoid adversely affecting nesting plovers, surveys should be conducted each year to ensure that no plovers are nesting. If nesting plovers are found, you should delay training on that beach until plovers have finished nesting and left the area.

Thank you for your interest in endangered species. If you have any questions, please call Karla Kramer at (847) 381-2253 ext. 230.

Sincerely,



John D. Rogner
Field Supervisor



Illinois
Department of
Natural Resources

Code 0102172

<http://dnr.state.il.us>

524 South Second Street, Springfield, Illinois 62701-1787

George H. Ryan, Governor • Brent Manning, Director

June 15, 2001

Kelly Krenz
Project Manager
Turner, Collic & Braden, Inc.
P.O. Box 130089
Houston, Texas 77219-0089

**RE: Naval Training Exercises, Lake County
Endangered Species Consultation Program
Natural Heritage Database Review #0102172
TC&B Job No. 32-11090-001**

Dear Kelly Krenz:

The Division of Resource Review and Coordination has reviewed the additional information submitted.

Based on your description, it is our biological opinion that the exercises to be carried out are unlikely to adversely modify any Illinois Natural Area Inventory Site, and are unlikely to adversely affect any State-listed endangered or threatened species.

With regard to the proposed dredging of the NTC harbor, the Department will reserve comment until such time as the Navy seeks the required permit from the Department's Office of Water Resources, at which time it would be expected that additional information regarding the results fo contaminant testing and the proposed disposal site(s) will be available.

Coordination with the Coast Guard is expected to avoid conflicts with civilian navigation in the vicinity.

Please contact me at 217-785-5500 if the Department can be of further assistance.

Sincerely,

Keith Shank
Chief, Impact Assessment Section
Endangered Species Consultation Program
Division of Resource Review and Coordination

Kelly Krenz, Turner, Collie & Braden, Inc.
Naval Training Exercises, Lake County
June 15, 2001

cc: IDNR/ORC (Cole, Hess, Garrow, Nelson)
IDNR/OWR (Casey, Injerd)
INPC (Heidorn, Nelson)
IEPA (Yurdin)
USCOE (Beal)
USFWS (Rogner)
USEPA (Pierard)

APPENDIX B

RECORD OF NON-APPLICABILITY FOR CLEAN AIR ACT CONFORMITY

Naval Reserve ACU-1 Training Exercises
Naval Training Center
Great Lakes, Illinois

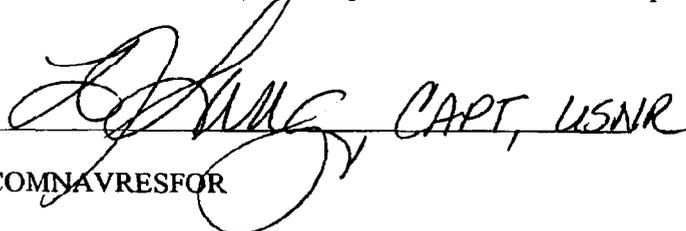
I have reviewed the Environmental Assessment and attached Applicability Determination for the proposed action of conducting NR ACU-1 Detachment training exercises using the LCM-8 at four alternate beach sites located on Lake Michigan within 10 nautical miles of Naval Training Center (NTC) Great Lakes, Illinois. The project also includes proposed maintenance dredging of the Inner Harbor at NTC Great Lakes. The proposed action was evaluated with particular regard to Section 176(c) of the Clean Air Act (CAA), as amended. The legislation states that federal actions occurring in *non-attainment* or maintenance areas are required to demonstrate conformity with the air pollutant emissions policies and controls in the State Implementation Plan (SIP) before they can be implemented. Conformity is defined as conformity to the SIP purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious *attainment* of such standards.

Potential air quality impacts resulting from the proposed action include air emissions generated from the proposed training exercises and maintenance dredging. These activities would occur in the Metropolitan Chicago Interstate (Illinois-Indiana) Air Quality Control Region (AQCR), which is classified as a severe *non-attainment* area for ozone. Ozone is not emitted directly, but is formed in the atmosphere from a photochemical reaction between ozone precursors, primarily oxides of nitrogen (NO_x) and volatile organic compounds (VOCs).

The following facts concerning this proposed action dictate that the proposed action is exempt from conformity requirements:

- Maintenance dredging and dredged material disposal is exempt per 40 CFR 93.153 (c)(2)(ix), where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site.
- The training exercises are a continuation of recurring activities [40 CFR 93.153(c)(2)(ii)], by the NR ACU-1 Detachment, where the air emissions are already part of the ambient air quality of the area (no emissions increase).
- The Environmental Protection Agency has granted an exemption, pursuant to *Section 182(f) NO_x Exemptions*, from the general conformity requirements for NO_x within the Lake Michigan Ozone Study modeling domain, which includes the states of Illinois, Indiana, Michigan, and Wisconsin (61 Federal Register 2428-January 26, 1996).

Therefore, a formal Conformity Determination is not required.


COMNAVRESFOR

4 April 02
Date

APPLICABILITY DETERMINATION FOR CONFORMITY

Naval Reserve ACU-1 Training Exercises Naval Training Center Great Lakes, Illinois

This format follows the step-by-step process outlined in OPNAVINST 5090.1B, July 30, 2001 – Review Draft.

Step 1: Define the Federal action. **To conduct NR ACU-1 Detachment training exercises using LCM-8 assault craft at four alternate beach sites located on Lake Michigan within 10 nautical miles of NTC Great Lakes. Associated with the proposed action is the maintenance dredging of the Inner Harbor at NTC Great Lakes.**

Step 2: Is the action in an air quality *non-attainment* or maintenance area? **Yes, these activities would occur in the Metropolitan Chicago Interstate AQCR, which is classified as a severe *non-attainment* area for ozone. Ozone is not emitted directly, but is formed in the atmosphere from a photochemical reaction between ozone precursors, primarily oxides of nitrogen (NO_x) and volatile organic compounds (VOCs).**

Step 3: Does the action result in the emission of criteria pollutants? **Yes, it can be anticipated that both NO_x and VOCs would be emitted.**

Step 4: Is the action (or portion of the action) exempt from conformity requirements? **Yes, 1) maintenance dredging and dredged material disposal is exempt per 40 CFR 93.153 (c)(2)(ix), where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site. The proposed maintenance dredging and disposal will meet all of these requirements. 2) Actions which would result in no emissions increase or an increase in emissions that is clearly *de minimis*, 40 CFR 93.153(c)(2), are not subject to conformity determinations. The training exercises are a continuation of recurring activities [40 CFR 93.153(c)(2)(ii)], by the NR ACU-1 Detachment, although not covered by previous NEPA documentation, where the air emissions are already part of the ambient air quality of the area (no emissions increase). 3) The Environmental Protection Agency has also granted an exemption, pursuant to *Section 182(f) NO_x Exemptions*, from the general conformity requirements for NO_x within the Lake Michigan Ozone Study modeling domain, which includes the states of Illinois, Indiana, Michigan, and Wisconsin (61 Federal Register 2428-January 26, 1996). Because the total action was determined to be exempt, the analysis was stopped.**

APPENDIX C



Cochran & Wilken, Inc.

Consulting Engineers & Scientists

5201 South Sixth Street Road
Springfield, IL 62703-5143

Phone: (217) 585-8300
FAX: (217) 585-1890
E-mail: cwi@cochran-wilken.com
<http://cochran-wilken.com>

July 27, 2001

Department of the Army
Chicago District, Corps of Engineers
Regulatory Branch
111 North Canal Street
Chicago, Illinois 60604-1797

Attn: Mr. Brian Smith

Re: Application for Maintenance Dredging Permit within a Select Area of the Inner Harbor of the Great Lakes Naval Training Center in Lake County, Illinois.

Dear Mr. Smith:

The Great Lakes Naval Training Center wishes to acquire a 10-year maintenance-dredging permit, which includes an emergency dredging permit that would allow for Fall, 2001 dredging. The area that is to be included within this maintenance-dredging permit is specifically within the approximate limits of the 40 ft. by 80 ft. pier and platform shown on the attached Plan sheets. It is an area of approximately 70 ft. by 110 ft. and extends approximately 15 ft. outside the limits of the pier. This pier is used to deploy amphibious training vehicles. Since the platform must lower into the water to a depth sufficient for deployment, the soft accumulated sediment must be removed to a minimum depth of 12 feet below LWD (577.5). In order to provide a sufficient seasonal operating depth, we propose to remove the sediment down to a maximum depth of 15 feet. The limits of the dredging must extend out 15 feet beyond the edge of the platform in order to allow for sloughing since the average water depth under and around the perimeter of the pier is approximately 9.6 feet at LWD (577.5), then a total quantity of 1,540 cubic yards (in-situ) will be removed via small diver-operated suction dredge due to the access restrictions of the pier and pilings. Composite laboratory analyses of the core samples obtained within the proposed pier dredging area indicate that the sediment is primarily fine grained and environmentally acceptable (non-hazardous) according to Illinois EPA standards (see attached laboratory results).

The sediment will be pumped into a series of geotextile tubes (Geotubes) for onsite dewatering and temporary storage. The 45 ft. circumference polypropylene Geotubes will be of varying lengths that total approximately 320 linear feet. Each Geotube will be pumped to a final height of 6 to 8 feet and will store approximately 4 cubic yards of material per linear foot of Geotube. The density of the dewatered material within the Geotube will be of a greater density than the sediment to be dredged from under the pier.

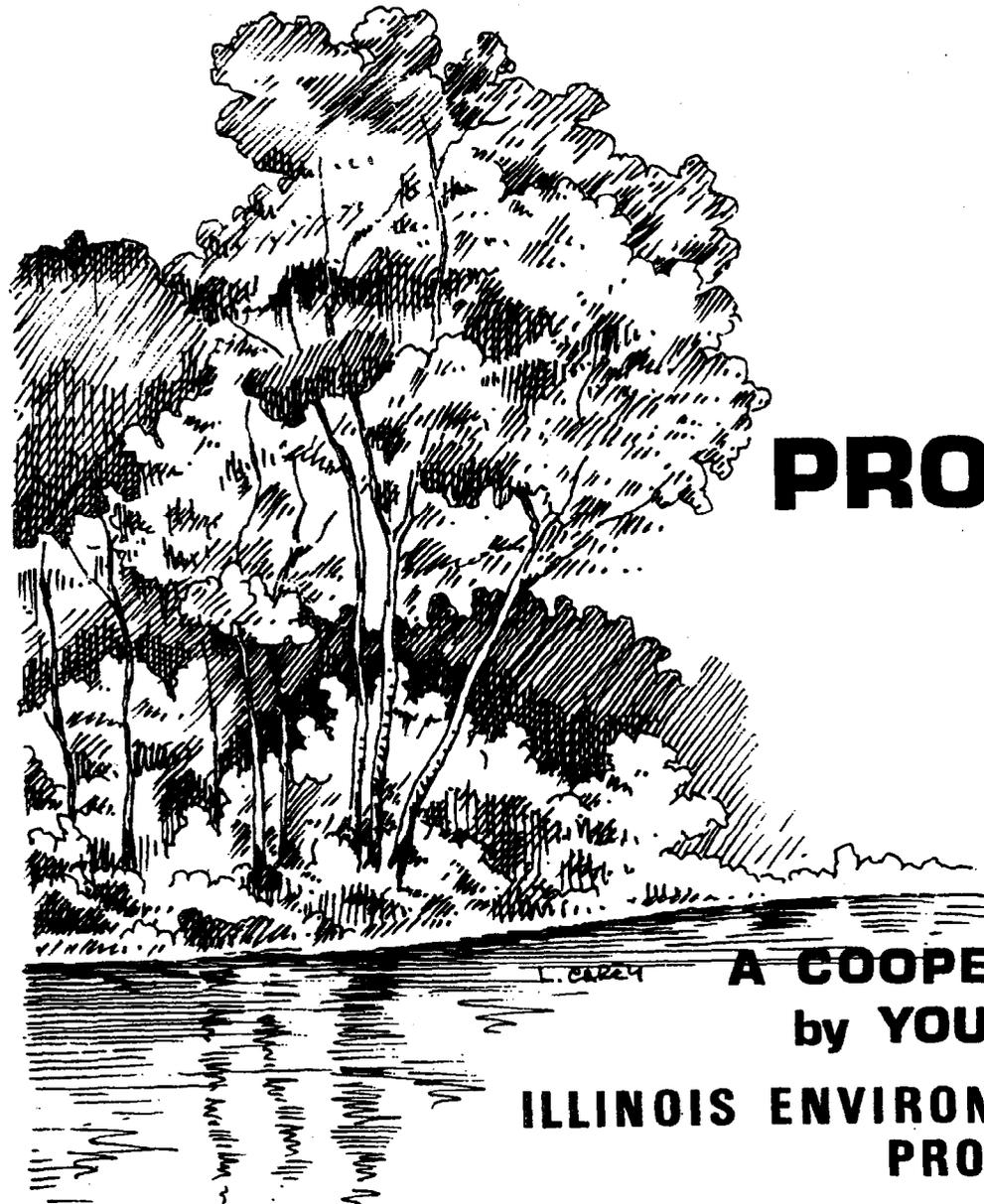
Therefore, the total volume of dewatered sediment will amount to approximately 1,200 to 1,300 cubic yards. A flocculent (Aquamark AQ 200 – see attached test results) will be introduced into the 4-inch diameter dredge pipeline to allow for efficient dewatering through the permeable Geotube fabric. Once the sediment is sufficiently dewatered and consolidated (approximately 7 to 14 days), the sediment will be hauled to a nearby landfill (Zion or Grays Lake) or utilized within the Naval Training Center property for landscape or fill material. If you have any questions or need additional information, please feel free to call me.

Very Truly Yours,

A handwritten signature in black ink, appearing to read "Peter Berrini". The signature is fluid and cursive, written over a white background.

Peter Berrini, P.G., Project Manager

Cc: Mr. Bruce Yurdin, Illinois EPA
Mr. James Casey, Illinois DNR
Ms. Kelly Krenz, Turner, Collie & Braden
Mr. Robert Vanbendegom, Great Lakes NTC
Mr. James Allison, Illinois EPA



PROTECTING ILLINOIS WATERS

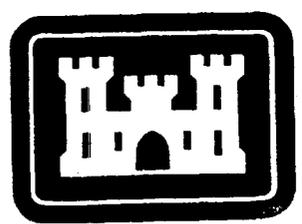
**A COOPERATIVE EFFORT:
by YOU and**

**ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY**

**ILLINOIS DEPARTMENT OF TRANSPORTATION,
DIVISION OF WATER RESOURCES**

ILLINOIS DEPARTMENT OF CONSERVATION

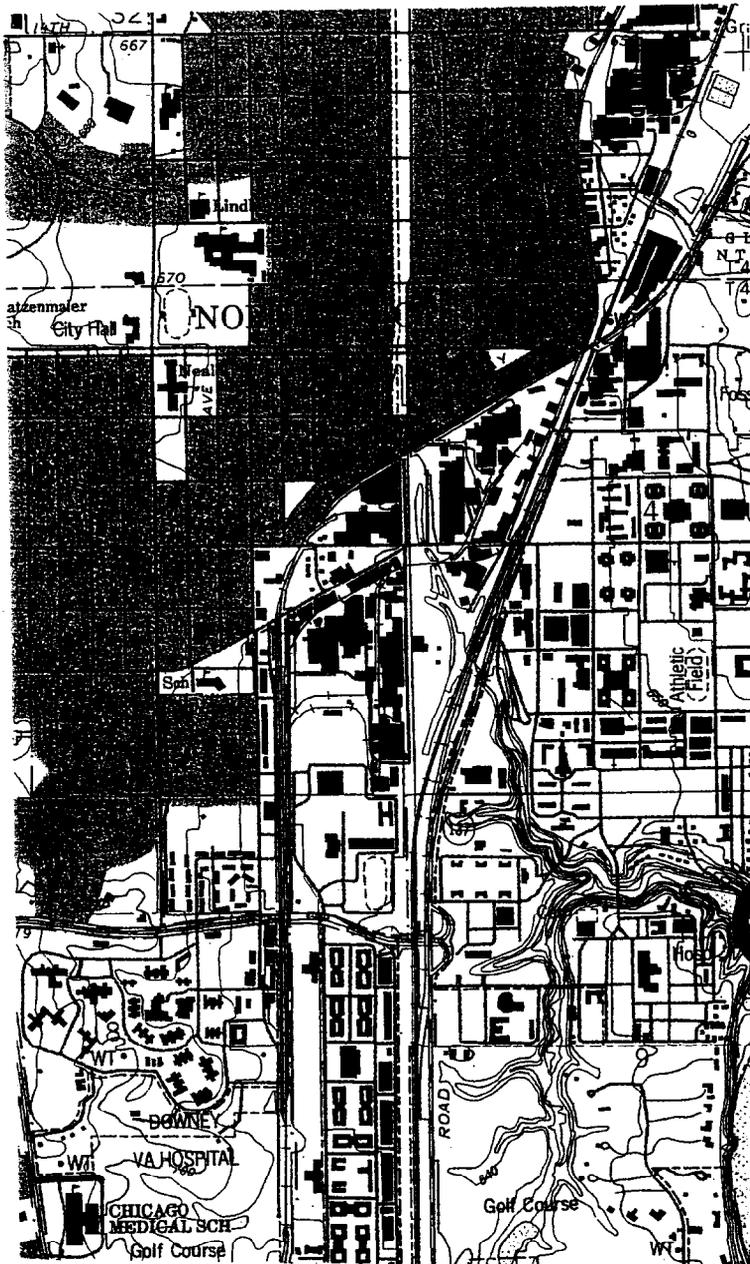
U. S. ARMY CORPS OF ENGINEERS



JOINT APPLICATION FORM

1. Application Number (To be assigned by Agency)	2. Date 18 7 2001 <small>Day Month Year</small>	3. For Agency use only (Date Received)										
4. Name and address of applicant DEPARTMENT OF THE NAVY 615 BARRY RD., BLDG NAVAL TRAINING CENTER GREAT LAKES, IL 60088 -5707 Telephone no. during business hours A/C (247) 688-5999 A/C ()	5. Name, address, and title of authorized agent COCHRAN & WILKIN, INC. 5201 SOUTH SIXTH ST. ROAD SPRINGFIELD, IL 62703 ATTN: PETER BERRINI, PROJECT MANAGER Telephone no. during business hours A/C (217) 585-8300 A/C ()											
6. Describe in detail the proposed activity, its purpose, and intended use. If additional space is needed, attach additional support information to each agency application. <p align="center">The Great Lakes NTC wishes to acquire a 10-year maintenance-dredging permit, which includes an emergency dredging permit for Fall, 2001 dredging. The area lies within 15 feet of the limits of the 40 ft. by 80 ft. pier and platform shown on the attached Plan sheets. This pier is used to deploy amphibious training vehicles and requires a minimum depth of 12 feet. We propose to dredge 1,540 cubic yards of sediment down to a maximum depth of 15 feet using a small diver-operated suction dredge due to the access restrictions of the pier and pilings. The sediment will be pumped into geotextile tubes (Geotubes) for onsite dewatering and temporary storage. The 45 ft. circumference polypropylene Geotubes will be of varying lengths that total approximately 320 linear feet. Each Geotube will be pumped to a final height of 6 to 8 feet and will store approximately 4 cubic yards of material per linear foot of Geotube. The dewatered sediment within the Geotubes will be of a greater density than the sediment to be dredged from under the pier. Once the sediment is sufficiently dewatered and consolidated (approximately 7 to 14 days), the sediment (approximately 1,200 to 1,330 cubic yards) will be hauled to a nearby landfill (Zion or Grays Lake) and/or utilized within the Naval Training Center property for landscape or fill material.</p>												
7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of subject property if different from applicant. DEPARTMENT OF THE NAVY												
8. Location of activity Address: SOUTH PIER IN INNER HARBOR, GLNTC <small>Street, road, or other descriptive location</small> GREAT LAKES, NORTH CHICAGO <small>In or near city or town</small> LAKE IL 60088-5707 <small>County State Zip Code</small>	Legal Description: NE 9 44 N 12 E 3rd <small>1/4 Sec. Twp. Rge. P.M.</small> Tax Assessor's Description (if known): Map No. Subdiv. No. Lot No. Name of waterway at location of the activity LAKE MICHIGAN											
9. Date activity is proposed to commence FALL, 2001 Date activity is expected to be completed FALL, 2011												
10. Is any portion of the activity for which authorization is sought now complete? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer is "Yes" give reasons in the remark section. Month and Year the activity was completed _____ Indicate the existing work on drawings.												
11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Transportation, and Illinois Environmental Protection Agency, these agencies need not be listed. <table style="width:100%; border-collapse: collapse;"><thead><tr><th style="text-align: left;"><u>Issuing Agency</u></th><th style="text-align: left;"><u>Type Approval</u></th><th style="text-align: left;"><u>Identification No.</u></th><th style="text-align: left;"><u>Date of Application</u></th><th style="text-align: left;"><u>Date of Approval</u></th></tr></thead><tbody><tr><td colspan="5">N/A</td></tr></tbody></table>			<u>Issuing Agency</u>	<u>Type Approval</u>	<u>Identification No.</u>	<u>Date of Application</u>	<u>Date of Approval</u>	N/A				
<u>Issuing Agency</u>	<u>Type Approval</u>	<u>Identification No.</u>	<u>Date of Application</u>	<u>Date of Approval</u>								
N/A												
12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "Yes", explain in remarks.)												
13. Remarks												
14. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.												


Signature of Applicant or Authorized Agent



VICINITY MAP

GREAT LAKES
NAVAL TRAINING CENTER

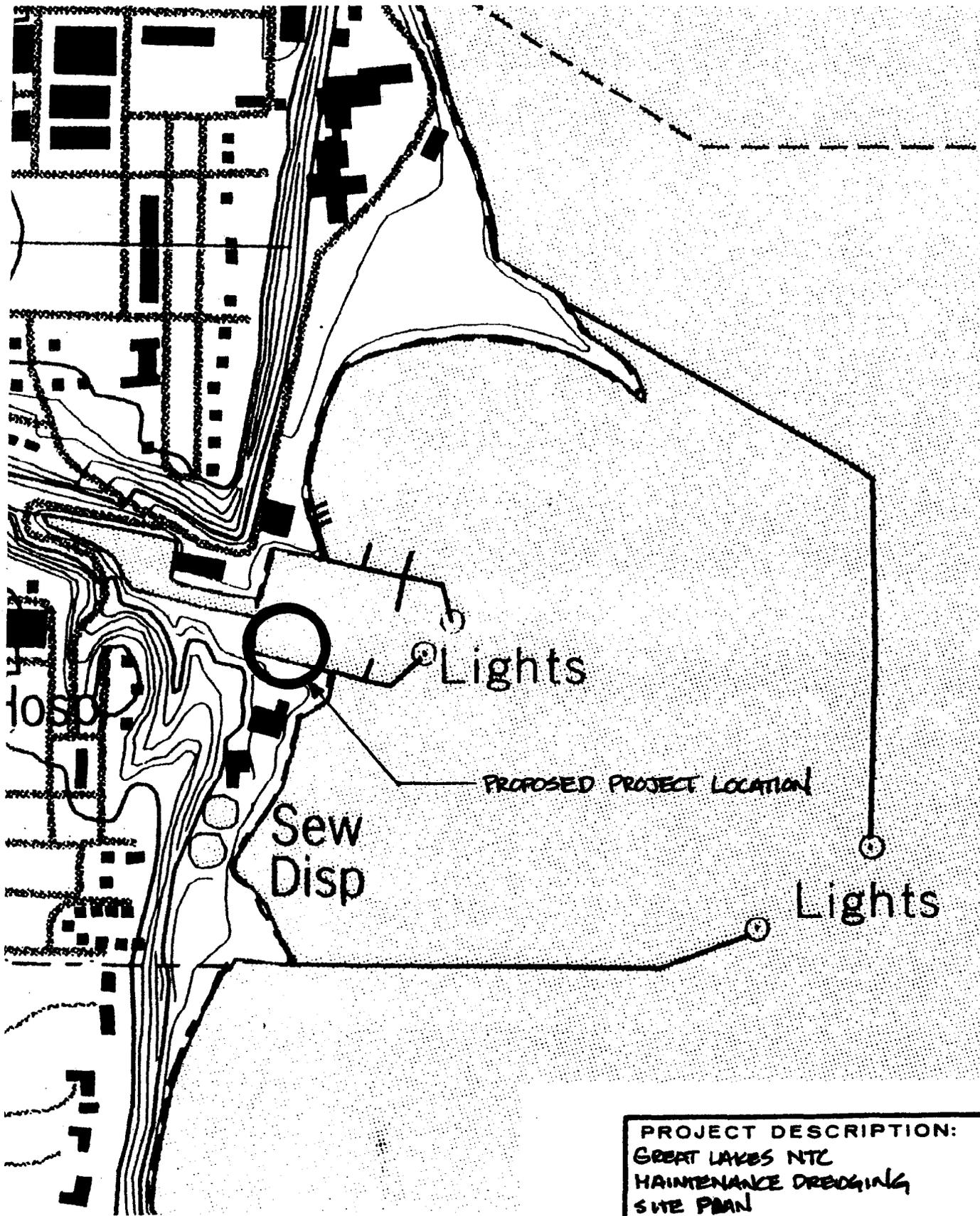
AQUEDUCT

PROJECT
LOCATION

LIST OF ADJACENT PROPERTY OWNERS

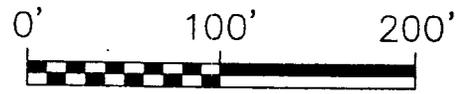
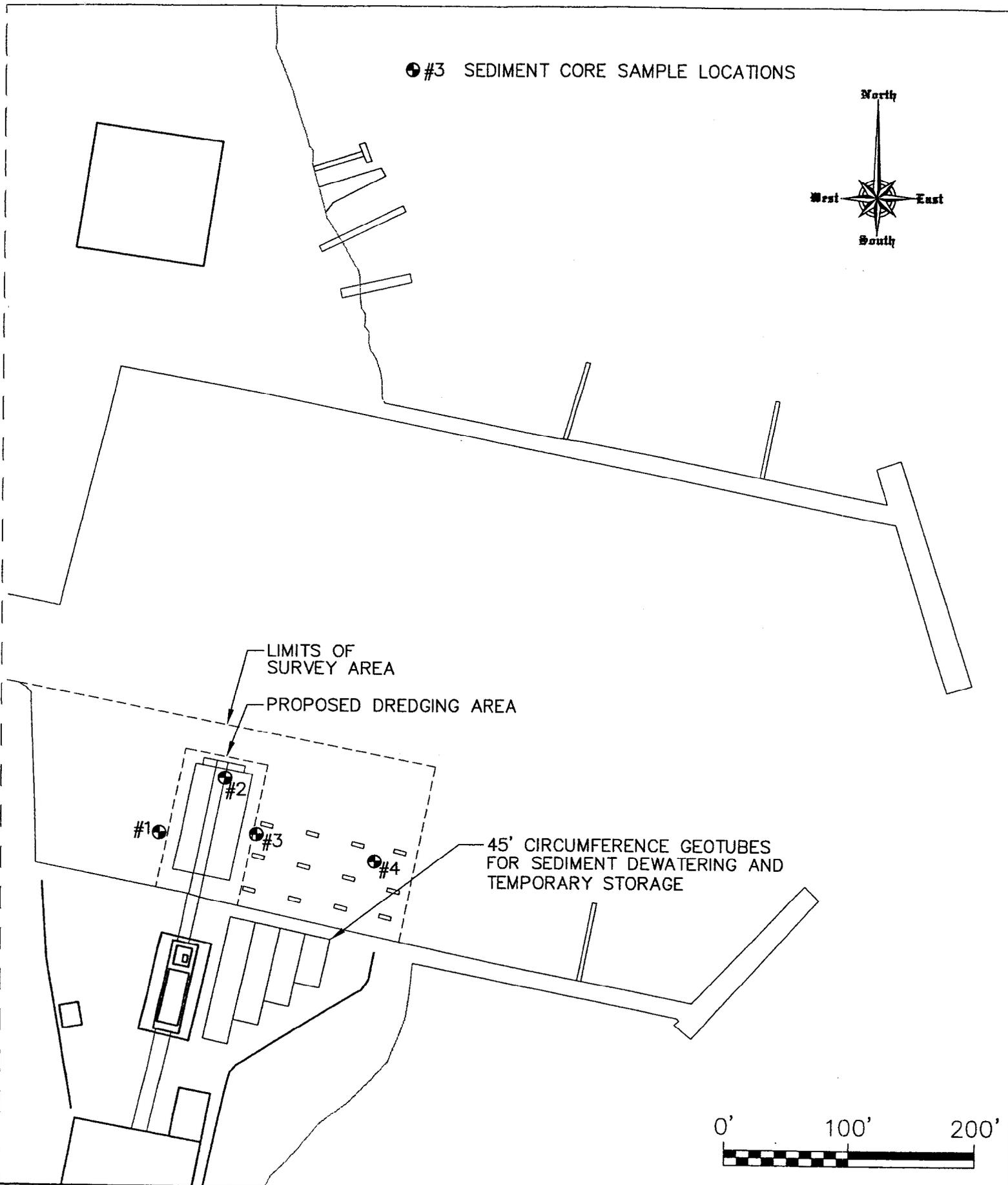
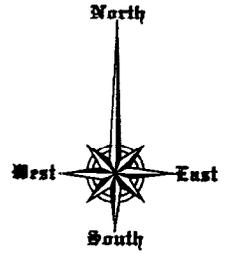
NO.	NAME	ADDRESS
1.	DEPARTMENT OF THE NAVY NAVAL RESERVE CENTER	
2.	615 BARRY ROAD, BLDG 190 NAVAL TRAINING CENTER	
3.	GREAT LAKES, IL 60088 - 5707	
4.		

PROJECT DESCRIPTION:
GREAT LAKES NAVAL TRAINING CTR.
MAINTENANCE DREDGING
LOCATION MAP
LOCATION:
NORTH CHICAGO, IL

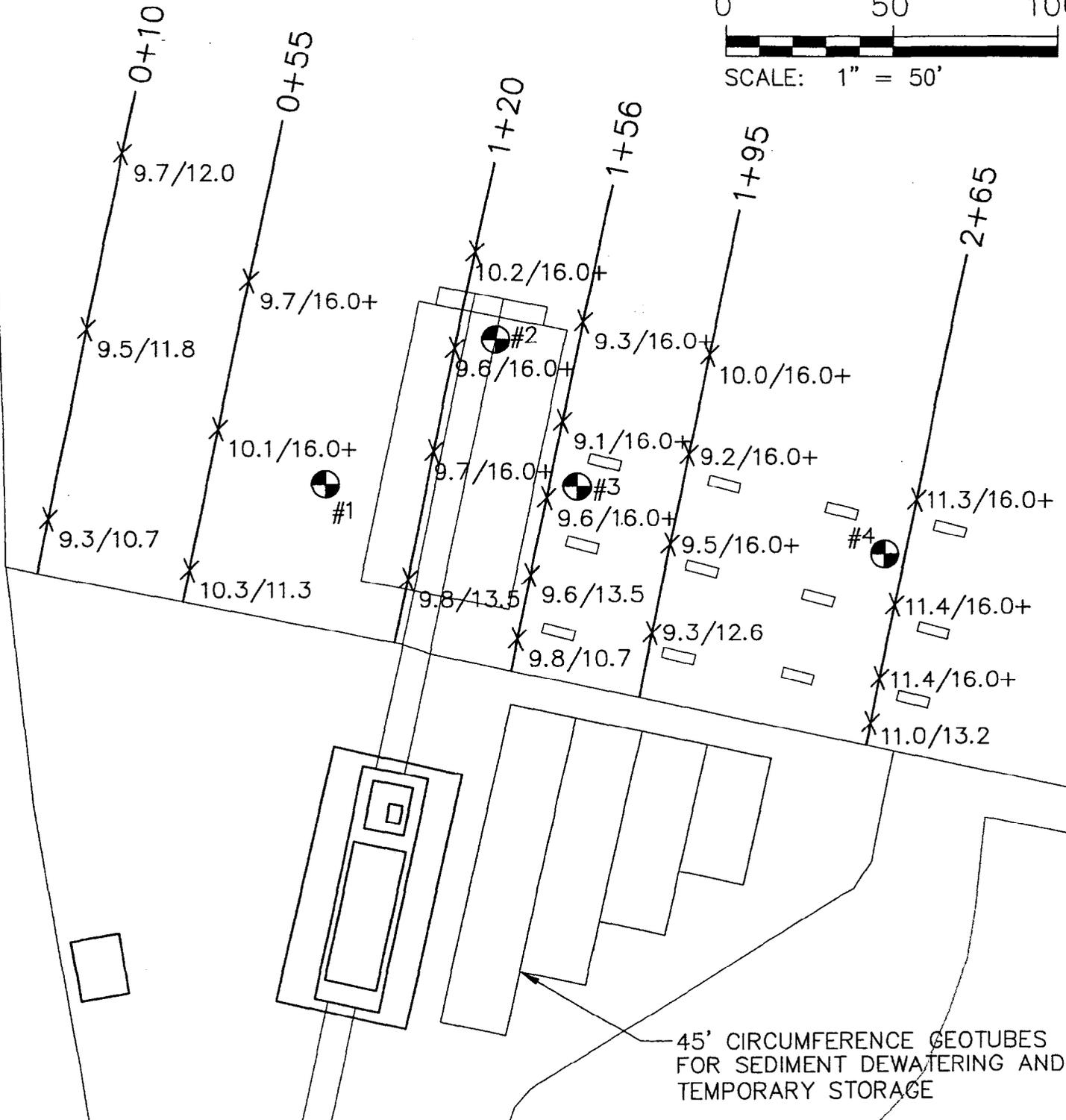
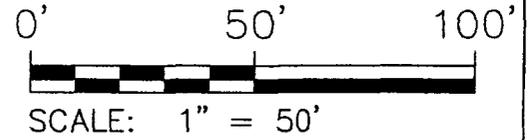
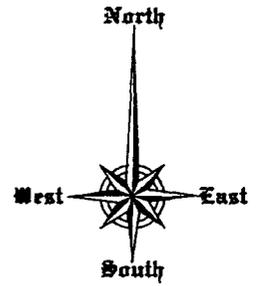


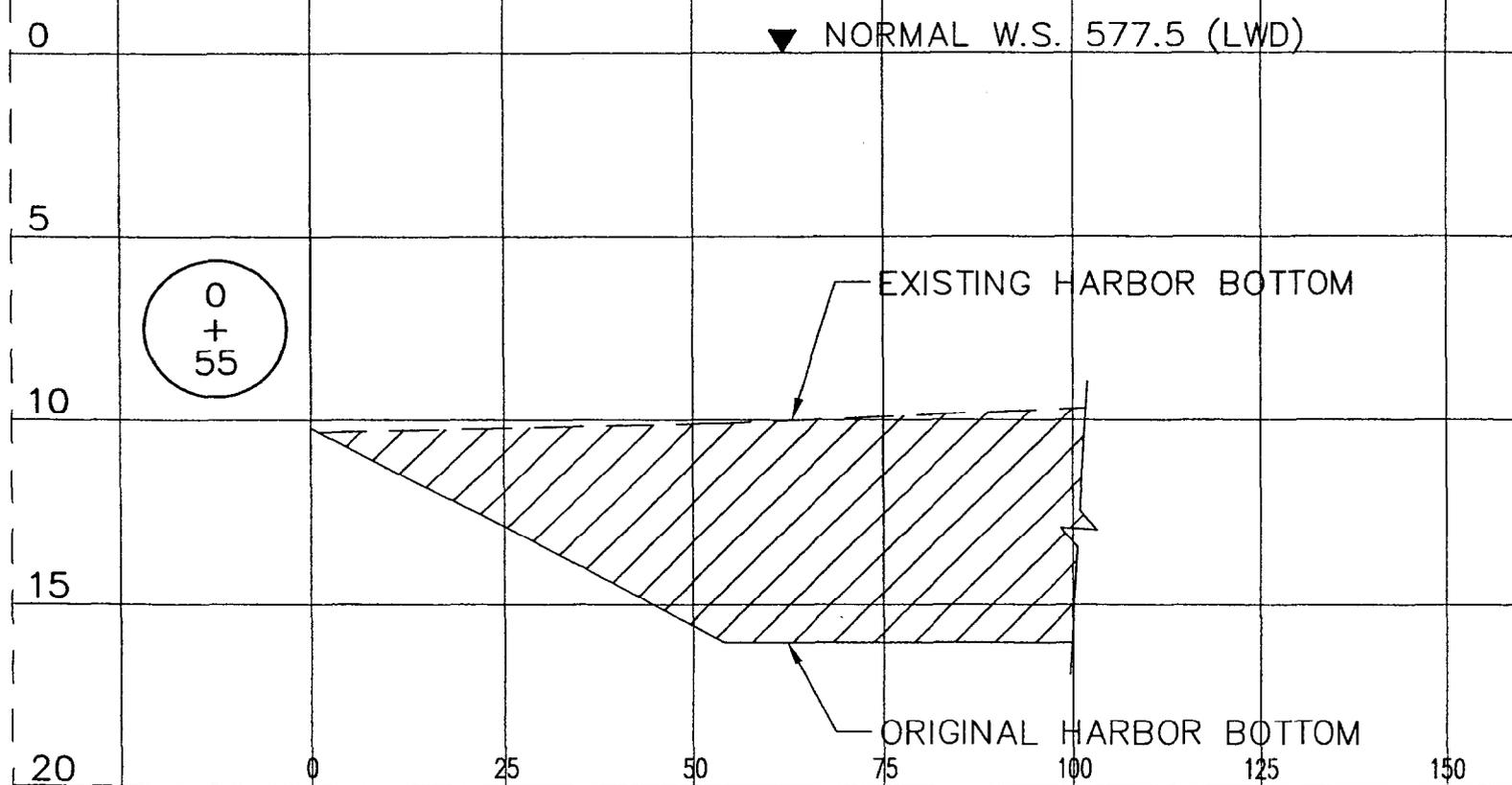
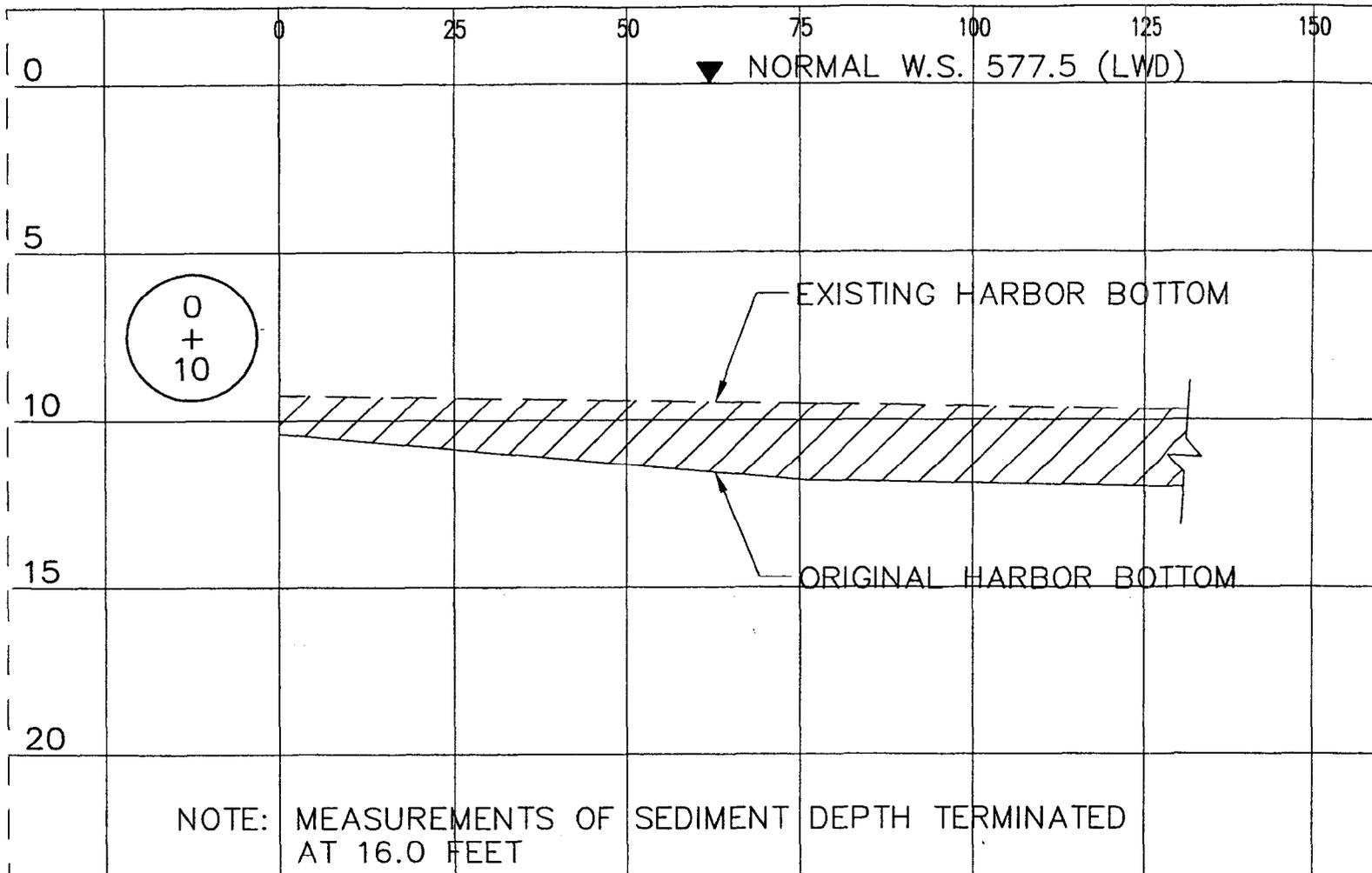
PROJECT DESCRIPTION:
 GREAT LAKES NTC
 MAINTENANCE DREDGING
 SITE PLAN
 LOCATION:
 NORTH CHICAGO, IL

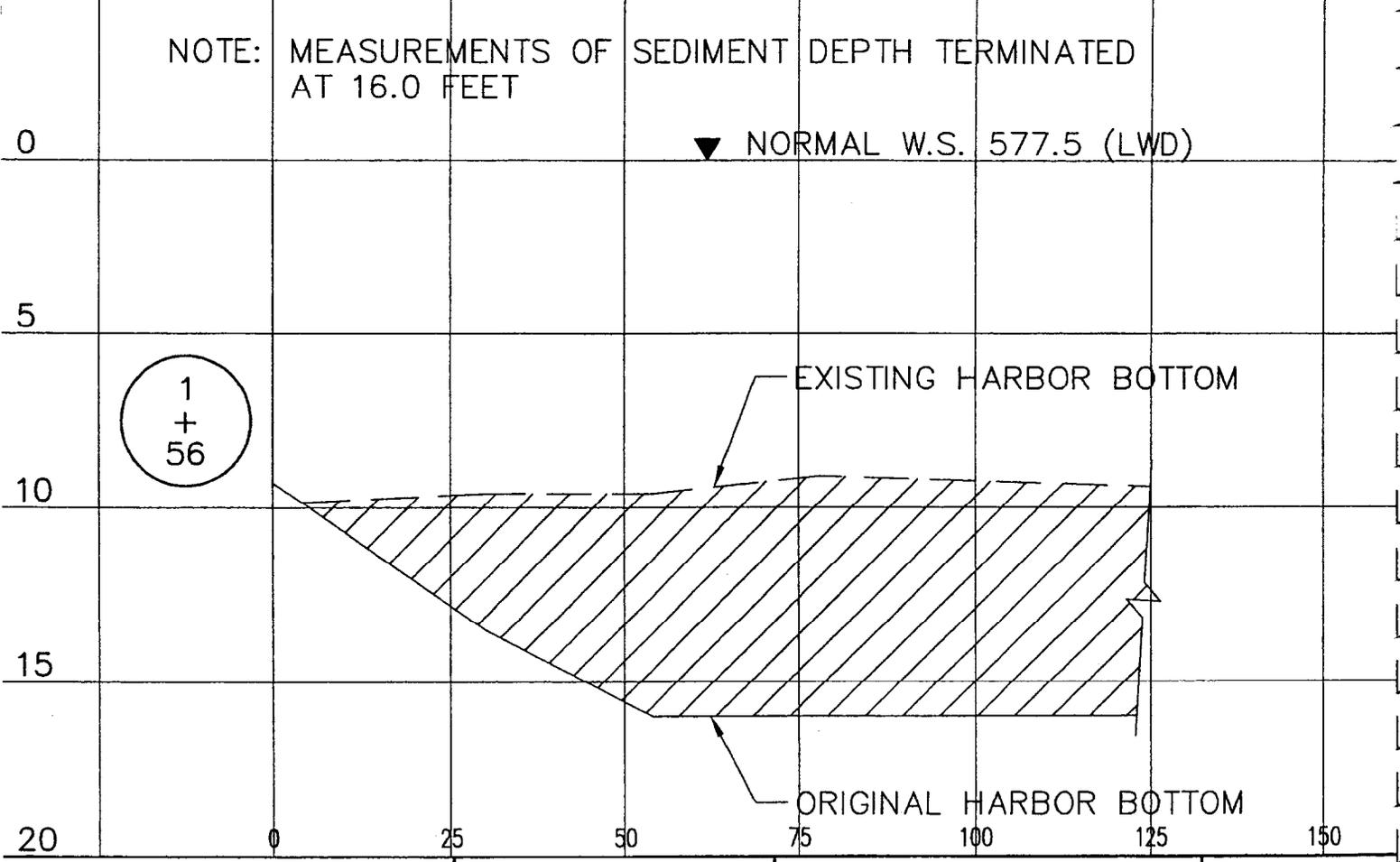
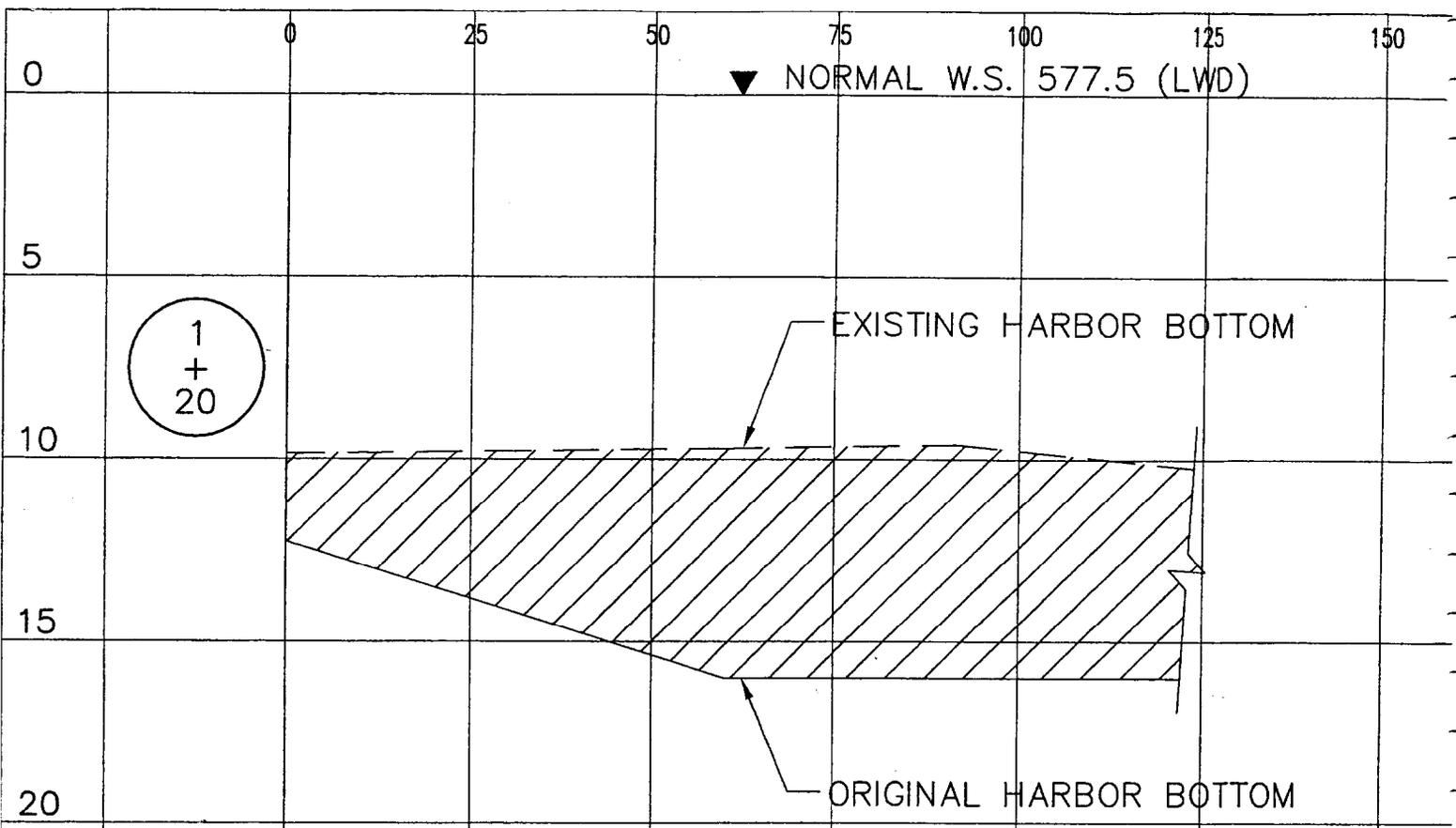
● #3 SEDIMENT CORE SAMPLE LOCATIONS

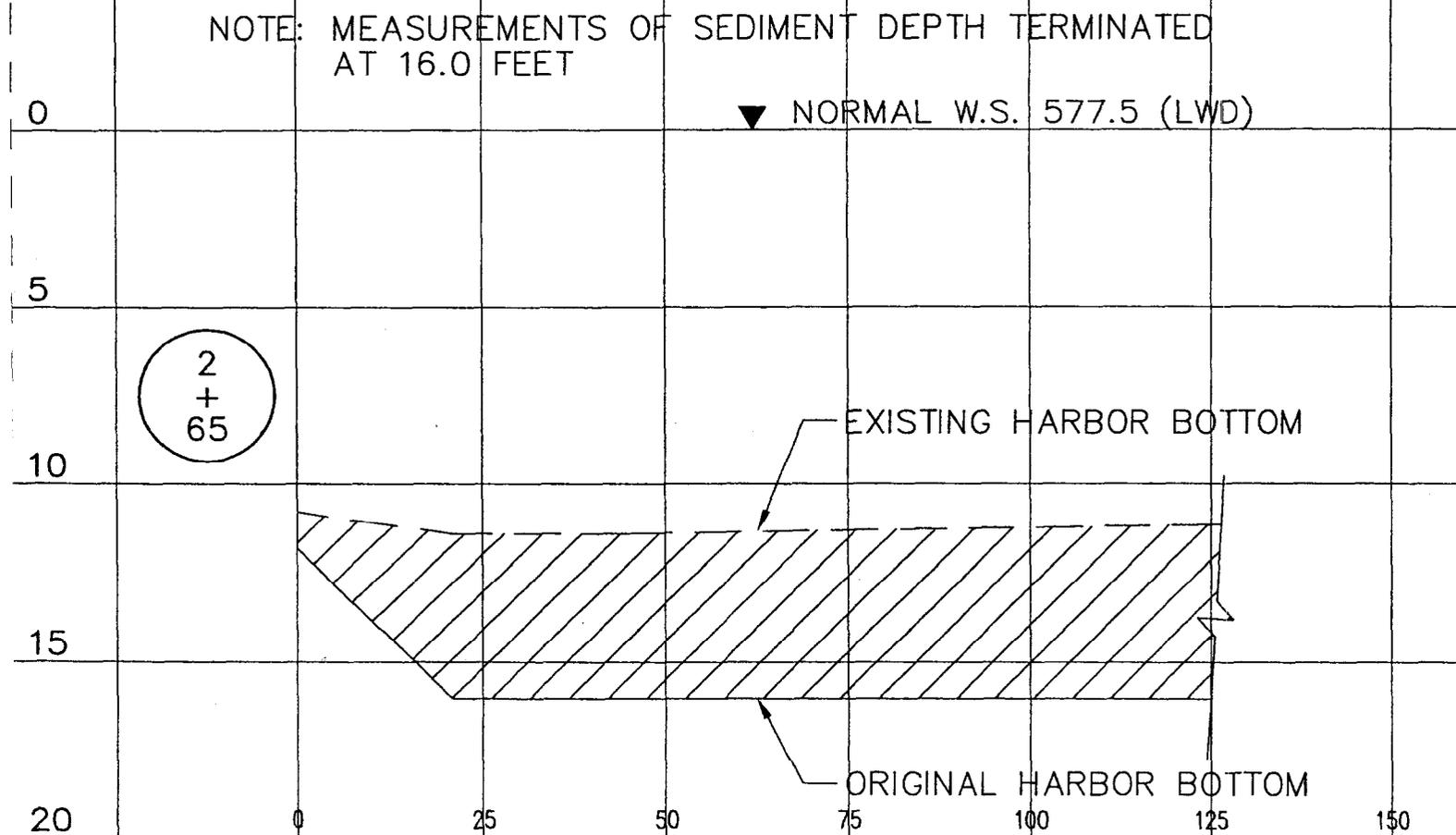
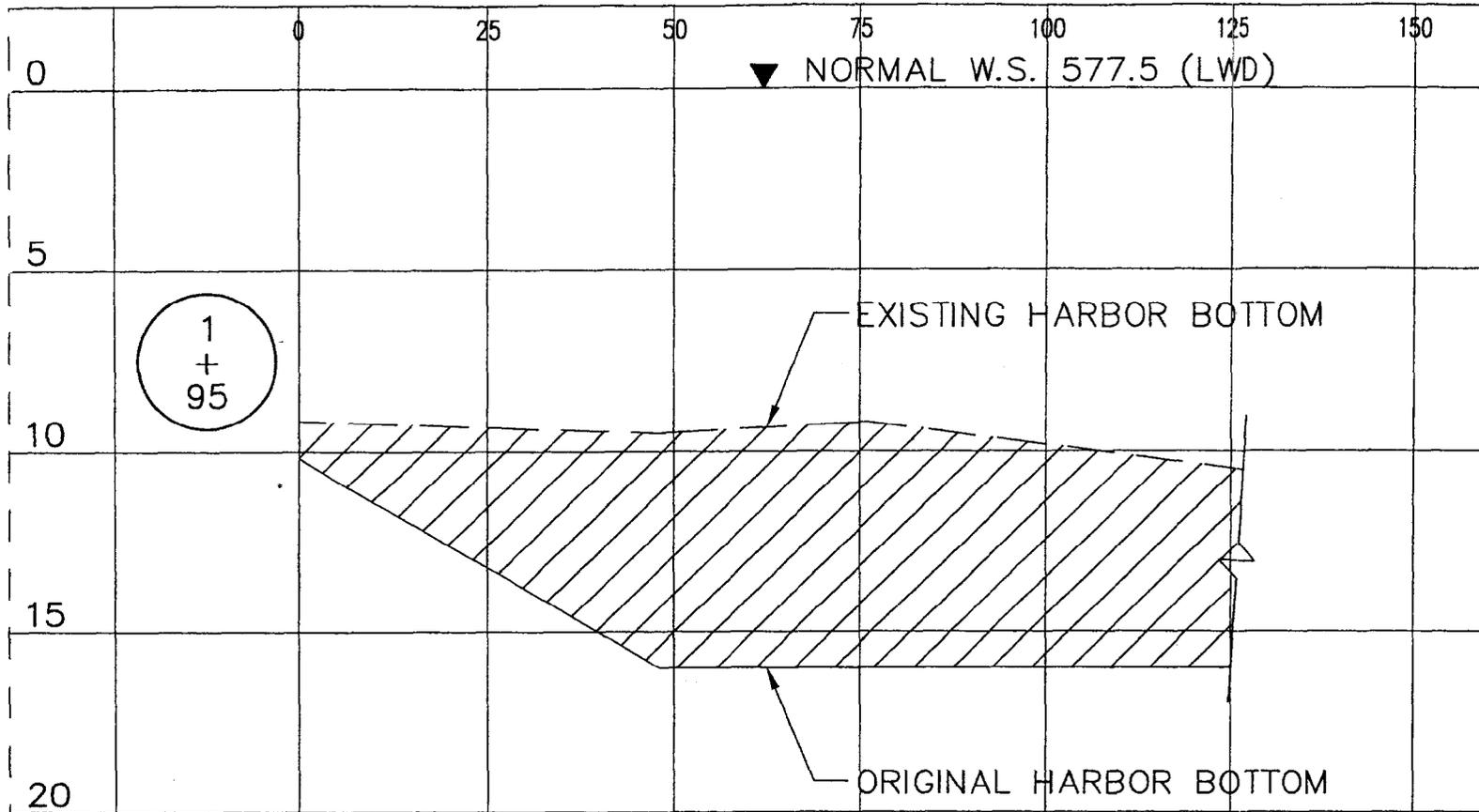


W.S. ELEV. = 577.5 (LWD)
 9.7/12.0 EXISTING DEPTH/ORIGINAL DEPTH
 #1 SEDIMENT CORE SAMPLE LOCATIONS









Certificate of Analysis



Cochran & Wilken, Inc.
5201 South Sixth Street Road
Springfield, IL 62703

1265 Capital Airport Drive
Springfield, IL 62707-8490
Phone: 217-753-1148
Facsimile: 217-753-1152
E-Mail: IL100323@aol.com

Client Project: **Great Lakes Naval Training Ctr**
PAS Project Code: **CWA-025**

Sample Description:	#1	#2	#3	#4	---
PAS Sample Number:	01051806771	01051806772	01051806773	01051806774	---
Matrix:	Solid	Solid	Solid	Solid	---
Date Sampled:	16-May-01	16-May-01	16-May-01	16-May-01	---
Date Received:	18-May-01	18-May-01	18-May-01	18-May-01	---
Date Analyzed:	29-May-01	29-May-01	29-May-01	29-May-01	---
Date Reported:	19-Jun-01	19-Jun-01	19-Jun-01	19-Jun-01	---

Organic Compound(s) Analysis

Parameter(s)	RL / Unit	Result	Result	Result	Result	Result	Method
Organochlorine Pesticides by GC							
Aldrin	2.2 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1016	33.5 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1221	57.0 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1232	43.5 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1242	43.5 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1248	60.3 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1254	67.0 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1260	67.0 µg/kg	U	U	U	U	---	8081A(1)
Aroclor-1268	67.0 µg/kg	U	U	U	U	---	8081A(1)
α-BHC	1.9 µg/kg	U	U	U	U	---	8081A(1)
β-BHC	3.3 µg/kg	U	U	U	U	---	8081A(1)
γ-BHC	2.0 µg/kg	U	U	U	U	---	8081A(1)
δ-BHC	1.1 µg/kg	U	U	U	U	---	8081A(1)
α-Chlordane	1.5 µg/kg	U	U	U	U	---	8081A(1)
γ-Chlordane	1.5 µg/kg	U	U	U	U	---	8081A(1)
4,4'-DDD	4.2 µg/kg	U	U	U	U	---	8081A(1)
4,4'-DDE	2.5 µg/kg	U	U	U	U	---	8081A(1)
4,4'-DDT	3.6 µg/kg	U	U	U	U	---	8081A(1)
Dieldrin	1.9 µg/kg	U	U	U	U	---	8081A(1)
Endosulfan I	2.1 µg/kg	U	U	U	U	---	8081A(1)
Endosulfan II	2.4 µg/kg	U	U	U	U	---	8081A(1)
Endosulfan sulfate	3.6 µg/kg	U	U	U	U	---	8081A(1)
Endrin	3.6 µg/kg	U	U	U	U	---	8081A(1)
Endrin Aldehyde	1.6 µg/kg	U	U	U	U	---	8081A(1)
Heptachlor	2.0 µg/kg	U	U	U	U	---	8081A(1)
Heptachlor Epoxide	2.1 µg/kg	U	U	U	U	---	8081A(1)
Methoxychlor	11.6 µg/kg	U	U	U	U	---	8081A(1)
Toxaphene	5.7 µg/kg	U	U	U	U	---	8081A(1)

Certificate of Analysis



Cochran & Wilken, Inc.
5201 South Sixth Street Road
Springfield, IL 62703

1265 Capital Airport Drive
Springfield, IL 62707-8490
Phone: 217-753-1148
Facsimile: 217-753-1152
E-Mail: IL100323@aol.com

Client Project: **Great Lakes Naval Training Ctr**
PAS Project Code: **CWA-025**

Sample Description:	#1	#2	#3	#4	---
PAS Sample Number:	01051806771	01051806772	01051806773	01051806774	---
Matrix:	Solid	Solid	Solid	Solid	---
Date Sampled:	16-May-01	16-May-01	16-May-01	16-May-01	---
Date Received:	18-May-01	18-May-01	18-May-01	18-May-01	---
Date Analyzed:	29-May-01	29-May-01	29-May-01	29-May-01	---
Date Reported:	19-Jun-01	19-Jun-01	19-Jun-01	19-Jun-01	---

Organic Compound(s) Analysis

Parameter(s)	RL / Unit	Result	Result	Result	Result	Result	Method
PAH(s)							
Naphthalene	0.660 mg/kg	U	U	U	U	---	8270C(1)
Acenaphthene	1.200 mg/kg	U	U	U	7.39	---	8270C(1)
Anthracene	0.660 mg/kg	U	U	U	49.6	---	8270C(1)
Fluoranthene	0.660 mg/kg	3.41	2.49	3.67	56.5	---	8270C(1)
Fluorene	0.140 mg/kg	U	0.431	0.159	9.43	---	8270C(1)
Pyrene	0.180 mg/kg	2.89	4.18	2.75	33.8	---	8270C(1)
Benzo (a) Anthracene	0.0087 mg/kg	1.42	4.18	2.75	33.8	---	8270C(1)
Benzo (a) Pyrene	0.015 mg/kg	0.821	0.462	0.944	5.15	---	8270C(1)
Benzo (b) Fluoranthene	0.011 mg/kg	0.876	0.44	0.958	0.979	---	8270C(1)
Benzo (k) Fluoranthene	0.011 mg/kg	0.623	0.391	0.679	0.832	---	8270C(1)
Chrysene	0.100 mg/kg	1.43	0.942	1.94	5.02	---	8270C(1)
Dibenzo (a,h) Anthracene	0.020 mg/kg	U	U	U	U	---	8270C(1)
Indeno (1,2,3-c,d) Pyrene	0.029 mg/kg	0.400	0.12	0.356	0.653	---	8270C(1)
Acenaphthylene	0.660 mg/kg	U	U	U	U	---	8270C(1)
Benzo (g,h,i) Perylene	0.051 mg/kg	0.732	0.147	0.366	0.057	---	8270C(1)
Phenanthrene	0.660 mg/kg	1.22	2.01	1.86	48.2	---	8270C(1)

Inorganic(s) Analysis

Parameter(s)	RL / Unit	Result	Result	Result	Result	Result	Method
Total Volatile Solids	10.0 mg/kg	U	U	U	U	---	2540E(2)
Total Organic Carbon	10.0 mg/kg	U	U	U	U	---	9060M(1)
Elutriate							
Ammonia (as N), Total	0.10 mg/L	2.92	1.81	2.25	2.54	---	4500-NH3(2)

Certificate of Analysis



Cochran & Wilken, Inc.
 5201 South Sixth Street Road
 Springfield, IL 62703

1265 Capital Airport Drive
 Springfield, IL 62707-8490
 Phone: 217-753-1148
 Facsimile: 217-753-1152
 E-Mail: IL100323@aol.com

Client Project: **Great Lakes Naval Training Ctr**
 PAS Project Code: **CWA-025**

Sample Description:	#1	#2	#3	#4	---
PAS Sample Number:	01051806771	01051806772	01051806773	01051806774	---
Matrix:	Solid	Solid	Solid	Solid	---
Date Sampled:	16-May-01	16-May-01	16-May-01	16-May-01	---
Date Received:	18-May-01	18-May-01	18-May-01	18-May-01	---
Date Analyzed:	29-May-01	29-May-01	29-May-01	29-May-01	---
Date Reported:	19-Jun-01	19-Jun-01	19-Jun-01	19-Jun-01	---

Element(s) Analysis

Parameter(s)	RL / Unit	Result	Result	Result	Result	Result	Method
Total Element(s)							
Chromium (⁵³ Cr), Total	0.05 mg/kg	10.2	12.5	13.4	11.6	---	200.8(3)
Arsenic (⁷⁵ As), Total	0.05 mg/kg	3.27	4.13	3.19	3.70	---	200.8(3)
Selenium (⁸² Se), Total	0.05 mg/kg	1.18	1.18	1.95	1.16	---	200.8(3)
Silver (¹⁰⁷ Ag), Total	0.05 mg/kg	0.697	1.52	U	U	---	200.8(3)
Cadmium (¹¹¹ Cd), Total	0.05 mg/kg	1.07	1.46	1.78	1.05	---	200.8(3)
Barium (¹³⁷ Ba), Total	0.05 mg/kg	25.5	25.1	31.2	26.7	---	200.8(3)
Mercury (²⁰² Hg), Total	0.004 mg/kg	0.315	0.440	0.296	0.173	---	200.8(3)
Lead (²⁰⁸ Pb), Total	0.05 mg/kg	63.2	95.7	101	55.8	---	200.8(3)

Elutriate

Chromium (⁵³ Cr), Total	0.001 mg/L	0.009	0.011	0.19	0.021	---	200.8(3)
Arsenic (⁷⁵ As), Total	0.001 mg/L	U	U	U	U	---	200.8(3)
Selenium (⁸² Se), Total	0.001 mg/L	0.002	0.008	0.009	0.006	---	200.8(3)
Silver (¹⁰⁷ Ag), Total	0.001 mg/L	U	0.014	U	U	---	200.8(3)
Cadmium (¹¹¹ Cd), Total	0.001 mg/L	U	U	U	U	---	200.8(3)
Barium (¹³⁷ Ba), Total	0.001 mg/L	0.040	0.042	0.042	0.084	---	200.8(3)
Mercury (²⁰² Hg), Total	0.0001 mg/L	U	U	U	U	---	200.8(3)
Lead (²⁰⁸ Pb), Total	0.001 mg/L	0.025	0.047	0.079	0.075	---	200.8(3)

Inorganic(s) Analysis

Parameter(s)	RL / Unit	Result	Result	Result	Result	Result	Method
Moisture Content	0.01%	19.4	21.3	18.2	19.2	---	D2216(4)
Density, Bulk	0.01 g/cm ³	1.88	1.91	1.9	1.96	---	D4292(4)

Certificate of Analysis



Cochran & Wilken, Inc.
5201 South Sixth Street Road
Springfield, IL 62703

1265 Capital Airport Drive
Springfield, IL 62707-8490
Phone: 217-753-1148
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Date Analyzed:	29-May-01	29-May-01	29-May-01	29-May-01	---
Date Reported:	19-Jun-01	19-Jun-01	19-Jun-01	19-Jun-01	---

Sieve Analysis

<u>Sieve</u>	Sieve Opening (mm)	Percentage Retained	ASTM Method				
0.75" - 3"	19-75	0	0	0	0	---	D422(4)
No. 4	4.75	0	0	0	0	---	D422(4)
No. 10	2.00	0	0	0	2.6	---	D422(4)
No. 40	0.425	0	0.2	1.2	0.9	---	D422(4)
No. 200	0.075	3.7	4.4	16.7	4.4	---	D422(4)

Particle Size Distribution

<u>Particle(s)</u>	Particulate Size (mm)	Percentage Present	ASTM Method				
Gravel	>4.75	0.0	0.0	0.0	0.0	---	D422(4)
Sand, Course	4.74-2.00	0.0	0.0	0.0	2.6	---	D422(4)
Sand, Medium	1.99-0.425	0.0	0.2	1.2	0.9	---	D422(4)
Sand, Fine	0.424-0.075	3.7	4.4	16.7	4.4	---	D422(4)
Silt	0.074-0.005	78.2	76.0	60.9	61.9	---	D422(4)
Clay	<0.005	18.1	19.4	21.2	30.2	---	D422(4)
Colloids	<0.001	14.1	19.1	13.3	24.2	---	D422(4)

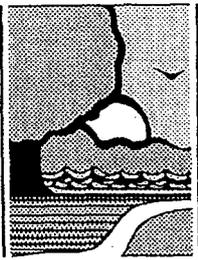
End of Report

- (2) - Analysis performed using "Standard Methods for the Examination of Water and Wastewater", 20th Edition
- (3) - Analysis performed using "Methods for Chemical Analysis of Water and Wastes"
- (4) - Analysis performed using ASTM Method

Illinois EPA Universal Waste Standards

Regulated Constituent Common Name	Wastewater Standard Conc. (in mg/l ²)	Nonwastewater Std. Conc. (in mg/kg)	GLNTC Sediment Core #1	GLNTC Sediment Core #2	GLNTC Sediment Core #3	GLNTC Sediment Core #4
Polynuclear Aromatic Hydrocarbons (PAH's)						
Acenaphthylene	0.059	3.4	U	U	U	U
Acenaphthene	0.059	3.4	U	U	U	7.39
Anthracene	0.059	3.4	U	U	U	49.6
Benz(a)anthracene	0.059	3.4	1.42	4.18	2.75	33.8
Benzo(b)fluoranthene	0.11	6.8	0.876	0.44	0.958	0.979
Benzo(k)fluoranthene	0.11	6.8	0.623	0.391	0.679	0.832
Benzo(g,h,i)perylene	0.0055	1.8	0.732	0.147	0.366	0.057
Benzo(a)pyrene	0.061	3.4	0.821	0.462	0.944	5.15
Chrysene	0.059	3.4	1.43	0.942	1.94	5.02
Dibenz(a,h)-anthra-cene	0.055	8.2	U	U	U	U
Fluoranthene	0.068	3.4	3.41	2.49	3.67	56.5
Indeno (1,2,3-c,d) pyrene	0.0055	3.4	0.4	0.12	0.356	0.653
Naphthalene	0.059	5.6	U	U	U	U
Phenanthrene	0.059	5.6	1.22	2.01	1.86	48.2
Pyrene	0.067	8.2	2.89	4.18	2.75	33.8

APPENDIX D



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

310 South Michigan Avenue, Room 1606, Chicago 60604

George H. Ryan, Governor ● Brent Manning, Director

January 8, 2002

Mr. Robert Vanbendegom
Department of the Navy
615 Barry Road, Bldg.
Naval Training Center
Great Lakes, IL 6088-5707

RECEIVED

JAN 14 2002

Cochran & Wilken, Inc.
SPRINGFIELD, ILLINOIS

Dear Mr. Vanbendegom:

We are enclosing Illinois Department of Natural Resources, Office of Water Resources' (Department) Permit No. LM2001019 and the Illinois Environmental Protection Agency's (IEPA) final determination letter, authorizing the annual dredging of approximately 1,500 cubic yards of material from the area surrounding the South Pier in the inner harbor of Great Lakes Naval Base, in Lake Michigan, in Lake County.

If any changes in the location or plans of the work are found necessary, revised plans should be submitted promptly to the Department and the IEPA so that approval is received prior to the beginning of the work.

Feel free to contact me at (312) 793-5947 if you have any questions.

Sincerely,

James P. Casey
Lake Michigan Management Section

JC:jc

Enclosures: IDNR/OWR Permit and IEPA Final Determination Letter

cc: Corps of Engineers (Kara Hellige), w/enclosures
IEPA (Bruce Yurdin), w/IDNR/OWR Permit
Cochran & Wilken, Inc. (Peter Berrini)



PERMIT NO. LM2001019

DATE: December 28, 2001

State of Illinois
Department of Natural Resources, Office of Water Resources
and
Environmental Protection Agency

Permission is hereby granted to: **U.S. Department of the Navy**
615 Barry Road, Building
Naval Training Center
Great Lakes, Illinois 60088-5707

To annually dredge and remove approximately 1500 cubic yards of sediment from the area surrounding the South Pier in the inner harbor of Great Lakes Naval Base, in Lake Michigan in Lake County.

In accordance with an application dated July 18, 2001, and the plans and specifications entitled:

GREAT LAKES NTC MAINTENANCE DREDGING SITE PLAN, ONE SHEET, UNDATED, RECEIVED AUGUST 1, 2001.

INNER HARBOR SITE PLAN GREAT LAKES NAVAL BASE, FIGURES 1-5 OF 5, DATED JULY 5, 2001, RECEIVED AUGUST 1, 2001.

Examined and Recommended:

Daniel Injerd, Chief
Lake Michigan Management Section

Approval Recommended:

Donald R. Vonnahme, Director
Office of Water Resources

Approved:

Brent Manning, Director
Department of Natural Resources

This PERMIT is subject to the terms and special conditions contained herein and in the attached NOTICE OF FINAL DETERMINATION of the Illinois Environmental Protection Agency. This PERMIT is not valid unless a NOTICE OF FINAL DETERMINATION of the Illinois Environmental Protection Agency as required by Section 39(a) of the Environmental Protection Act is attached.

PERMIT NO. LM2001019

THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

- 1) This permit is granted in accordance with the Rivers, Lakes and Streams Act, "615 ILCS 5," and the Environmental Protection Act "415 ILCS 5/1."
- 2) This permit does not convey title to the permittee or recognize title of the permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the activity or any part thereof will be located, or otherwise grant to the permittee any right or interest in or to the property, whether the property is owned or possessed by the State of Illinois or by any private or public party or parties.
- 3) This permit does not release the permittee from liability for damage to persons or property resulting from the work covered by this permit, and does not authorize any injury to private property or invasion of private rights.
- 4) This permit does not relieve the permittee of the responsibility to obtain other federal, state or local authorizations required for the construction of the permitted activity; and if the permittee is required by law to obtain approvals from any federal or other state agency to do the work, this permit is not effective until the federal and state approvals are obtained.
- 5) The permittee shall, at the permittee's own expense, remove all temporary piling, cofferdams, false work, and material incidental to the construction of the project from Lake Michigan. If the permittee fails to remove such structures or materials, the Department may have removal made at the expense of the permittee.
- 6) In public waters, if future need for public navigation or other public interest by the state or federal government necessitates changes in any part of the structure or structures, such changes shall be made by and at the expense of the permittee or the permittee's successors as required by the Department or other properly constituted agency, within sixty (60) days from receipt of written notice of the necessity from the Department or other agency, unless a longer period of time is specifically authorized.
- 7) The execution and details of the work authorized shall be subject to the review and approval of the Department and/or the Agency. Department and Agency personnel shall have the right of access to accomplish this purpose.
- 8) Starting work on the activity authorized will be considered full acceptance by the permittee of the terms and conditions of the permit.
- 9) The Department and Agency in issuing this permit have relied upon the statements and representations made by the permittee; if any substantive statement or representation made by the permittee is found to be false, this permit will be revoked and when revoked, all rights of the permittee under the permit are voided.
- 10) The permittee and the permittee's successors shall make no claim whatsoever to any interest in any accretions caused by the activity.
- 11) In issuing this permit, the Department and Agency do not ensure the adequacy of the design or structural strength of the structure or improvement.
- 12) Noncompliance with the conditions of this permit will be considered grounds for revocation.
- 13) If the construction activity here permitted is not completed on or before **December 31, 2011**, this permit shall cease and be null and void. When all work is constructed, the permittee shall notify the Department so that a final inspection can be completed.

THIS PERMIT IS SUBJECT TO FURTHER SPECIAL CONDITIONS AS FOLLOWS:

- 1) Special conditions 1-6 of the October 26, 2001 Illinois Environmental Protection Agency's letter of final determination.
- 2) The dredged material will be disposed of offsite and not placed back into Lake Michigan.
- 3) Notify the Department at (312) 793-5947 each year upon completion of the dredging.



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

RENEE CIPRIANO, DIRECTOR

217/782-3362

October 26, 2001

Illinois Department of Natural Resources
Office of Water Resources
310 South Michigan Avenue
Room 1606
Chicago, IL 60604

Chicago District Corps of Engineers
111 North Canal Street, 6th Floor
Chicago, IL 60606

Re: Department of the Navy - Great Lakes Naval Training Center
Permit # 2001-LM-4388
Log # 4388-01

Gentlemen:

This Agency received a request on July 31, 2001 from Cochran & Wilken, Inc. requesting necessary comments concerning the dredging of approximately 1,600 cubic yards of material from the South Pier in the Inner Harbor of the Great Lakes Naval Training Center with temporary disposal in geotubes in an area immediately south of the harbor, along the shoreline of Lake Michigan. We offer the following comments.

Based on the information included in this submittal, it is our engineering judgment that the proposed project may be completed without causing water pollution as defined in the Illinois Environmental Protection Act, provided the project is carefully planned and supervised.

These comments are directed at the effect on water quality of the construction procedures involved in the above described project and are not an approval of any discharge resulting from the completed facility, nor an approval of the design of the facility. These comments do not supplant any permit responsibilities of the applicant toward the Agency.

This Agency hereby issues certification under Section 401 of the Clean Water Act (PL 95-217) and final determination under Section 39 of the Illinois Environmental Protection Act, subject to the applicant's compliance with the following conditions:

1. The applicant shall not cause:
 - a. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation;
 - b. water pollution defined and prohibited by the Illinois Environmental Protection Act; or
 - c. interference with water use practices near public recreation areas or water supply intakes.

GEORGE H. RYAN, GOVERNOR

RECEIVED
NW 6 10 01
OFFICE OF WATER RESOURCES
DIVISION OF RESOURCE MANAGEMENT

2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency.
4. A construction and operation permit issued by the Agency under 35 Il. Adm. Code Section 309.202 and 309.203 must be obtained and any conditions thereof complied with.
5. The permittee shall utilize a geotube material that contains a woven mesh that is small enough to contain the material placed within the geotube so as to prevent water quality violations resulting from the discharge from the geotube.
6. The permittee shall provide additional containment for the geotube discharge for the purpose of creating a collection point for discharge sampling and to prevent discharge from overflowing or accidental spillage.

This certification and final determination becomes effective when the Department of the Army, Corps of Engineers, and the Illinois Department of Natural Resources, Office of Water Resources, includes the above condition # 1 through # 6 as conditions of the requested permit issued pursuant to Section 404 of PL 95-217, and Section 39 of the Illinois Environmental Protection Act and Chapter 19, par.65, Ill. Rev. Stat.

This certification and final determination does not grant immunity from any enforcement action found necessary by this Agency to meet its responsibilities in prevention, abatement, and control of water pollution.

Sincerely,



Bruce J. Yurdin
Manager, Watershed Management Section
Bureau of Water

cc: IEPA, Records Unit
IEPA, DWPC, FOS, DesPlaines
USEPA, Region 5
Dept. of the Navy
Cochran & Wilken, Inc.



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO, ILLINOIS 60606-7206

JAN 14 2002

REPLY TO
ATTENTION OF:

Construction-Operations Division
Regulatory Branch
200101183

SUBJECT: Permit Application to Dredge Approximately 1,540 Cubic Yards of Sediment at South Pier in Inner Harbor, Great Lakes Naval Training, Lake Michigan, North Chicago, Lake County, Illinois

Department of the Navy
Attn: Robert Vanbendegom
615 Barry Road, Building
Naval Training Center
Great Lakes, Illinois 60088-5707

RECEIVED

JAN 17 2002

Cochran & Wilken, Inc.
SPRINGFIELD, ILLINOIS

Dear Mr. Vanbendegom:

The U.S. Army Corps of Engineers has made a favorable determination on your application for a Department of the Army individual permit.

Two copies of your permit for the above-referenced project are enclosed. If the terms and conditions of the permit are acceptable, please sign both copies on the line above the word "PERMITTEE" and return them to this office. Upon receipt, I will sign both copies and return one to you for your records. You are not authorized to do any work until you receive your signed copy of the permit.

Please review the conditions and Notification of Applicant Options before signing the permit. If you object to the terms and conditions of the enclosed permit, you may appeal, according to 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and a Request for Appeal (RFA) form. If you request to appeal the terms and conditions of the enclosed permit, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Ms. Suzanne Chubb, Division Review Officer
Great Lakes and Ohio River Division
CELRD-ET-CO-F
550 Main Street
Cincinnati, OH 45201-1159
Phone: 513-684-6212

If you concur with the terms and conditions, submittal of the RFA form to the Division office is not necessary. Your signature constitutes your specific agreement to the enclosed permit. Failure to meet any of the conditions may result in revocation of your permit. If the copies of the permit with your signature are not returned to this office within thirty (30) days of the date of this letter, your authorization will no longer be valid and the application will be considered withdrawn. If you wish to reinstate your permit request after the thirty (30) day time period, this office reserves the right to reevaluate your project, which may include the reissuance of a public notice. Under Federal regulations, no fee is required for permits issued to agencies or instrumentalities of Federal, state or local governments.

If you object to this determination, please contact this office. This permit does not obviate your responsibility to obtain any required state or local approvals for this project. If you have any questions, please contact Ms. Kara Hellige of my staff by telephone at (312) 353-6400, extension 4034, or email at kara.a.hellige@usace.army.mil

Sincerely,



Mitchell A. Isoe
Chief, Regulatory Branch

Enclosures

Copies Furnished:

Cochran and Wilken, Inc. (Berrini)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 5145-01

PERMIT NO.: 2001-EA-5145

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS

DATE ISSUED: December 28, 2001

PREPARED BY: Cochran & Wilkins, Inc.

SUBJECT: Great Lakes Naval Training Center – South Pier Hydraulic Dredge

PERMITTEE TO CONSTRUCT, OWN, AND OPERATE

Department of the Navy
Great Lakes Naval Training Center
615 Barry Road
Naval Training Center, Bldg 190
Great Lakes, IL 60088-5707

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows:

The facility consists of three (3) 100 foot long geotextile tubes with a 45 foot circumference to be placed on the paved surface of the parking lot near the south pier for the disposal of hydraulically dredged material from an area near the south pier in the Inner Harbor of the Great Lakes Naval Training Center on Lake Michigan. Approximately 1,600 cubic yards of material will be dredged.

This operating permit expires on December 1, 2006.

This permit is issued subject to the following Special Conditions(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

Page 1 of 2

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

BJY:JRA:

BUREAU OF WATER

cc: IEPA, DesPlaines Region
Records
Binds
Cochran & Wilkens, Inc.



Bruce J. Yurdin
Manager, Watershed Management Section

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 5145-01

PERMIT NO.: 2001-EA-5145

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS

DATE ISSUED: December 28, 2001

PREPARED BY: Cochran & Wilkins, Inc.

SUBJECT: Great Lakes Naval Training Center – South Pier Hydraulic Dredge

SPECIAL CONDITION 1: The permittee shall monitor the effluent from the disposal facility for total suspended solids, ammonia nitrogen (as N), pH, and temperature. Samples shall be collected once per week and results shall be submitted to the Agency once per month, by the 15th day of the month following sampling.

SPECIAL CONDITION 2: The permittee shall operate the dredge and the disposal facilities such that the effluent does not exceed 15 mg/L total suspended solids, and otherwise complies with the water quality standards of 35 II. Adm. Code, Subtitle C.

SPECIAL CONDITION 3: The permittee shall have the facility inspected by a registered engineer to assess for damage and necessary repairs if dredged material is removed to allow for further disposal operations. The report of the engineer shall be filed with the Agency, and any repairs shall be permitted under supplemental permit, as required.

SPECIAL CONDITION 4: The flocculent, Aquamark polymer AQ200, if used, shall be added at rates that will not cause water quality violations due to toxicity. The permittee shall perform bench tests and submit the results to Illinois EPA if the flocculent Aquamark polymer AQ200 is to be used at rates greater than 30 mg/L. The permittee shall notify the Illinois EPA, Watershed Management Section, of either a proposed change in subject flocculent rate above 30 mg/L or a change to a different flocculent and receive approval of the change prior to use.



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

RENEE CIPRIANO, DIRECTOR

217/782-3362

October 26, 2001

Illinois Department of Natural Resources
Office of Water Resources
310 South Michigan Avenue
Room 1606
Chicago, IL 60604

Chicago District Corps of Engineers
111 North Canal Street, 6th Floor
Chicago, IL 60606

Re: Department of the Navy – Great Lakes Naval Training Center
Permit # 2001-LM-4388
Log # 4388-01

Gentlemen:

This Agency received a request on July 31, 2001 from Cochran & Wilken, Inc. requesting necessary comments concerning the dredging of approximately 1,600 cubic yards of material from the South Pier in the Inner Harbor of the Great Lakes Naval Training Center with temporary disposal in geotubes in an area immediately south of the harbor, along the shoreline of Lake Michigan. We offer the following comments.

Based on the information included in this submittal, it is our engineering judgment that the proposed project may be completed without causing water pollution as defined in the Illinois Environmental Protection Act, provided the project is carefully planned and supervised.

These comments are directed at the effect on water quality of the construction procedures involved in the above described project and are not an approval of any discharge resulting from the completed facility, nor an approval of the design of the facility. These comments do not supplant any permit responsibilities of the applicant toward the Agency.

This Agency hereby issues certification under Section 401 of the Clean Water Act (PL 95-217) and final determination under Section 39 of the Illinois Environmental Protection Act, subject to the applicant's compliance with the following conditions:

1. The applicant shall not cause:
 - a. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation;
 - b. water pollution defined and prohibited by the Illinois Environmental Protection Act; or
 - c. interference with water use practices near public recreation areas or water supply intakes.

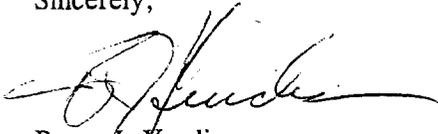
GEORGE H. RYAN, GOVERNOR

2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency.
4. A construction and operation permit issued by the Agency under 35 Il. Adm. Code Section 309.202 and 309.203 must be obtained and any conditions thereof complied with.
5. The permittee shall utilize a geotube material that contains a woven mesh that is small enough to contain the material placed within the geotube so as to prevent water quality violations resulting from the discharge from the geotube.
6. The permittee shall provide additional containment for the geotube discharge for the purpose of creating a collection point for discharge sampling and to prevent discharge from overflowing or accidental spillage.

This certification and final determination becomes effective when the Department of the Army, Corps of Engineers, and the Illinois Department of Natural Resources, Office of Water Resources, includes the above condition # 1 through # 6 as conditions of the requested permit issued pursuant to Section 404 of PL 95-217, and Section 39 of the Illinois Environmental Protection Act and Chapter 19, par.65, Ill. Rev. Stat.

This certification and final determination does not grant immunity from any enforcement action found necessary by this Agency to meet its responsibilities in prevention, abatement, and control of water pollution.

Sincerely,



Bruce J. Yurdin
Manager, Watershed Management Section
Bureau of Water

cc: IEPA, Records Unit
IEPA, DWPC, FOS, DesPlaines
USEPA, Region 5
Dept. of the Navy
Cochran & Wilken, Inc.



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO, ILLINOIS 60606-7206

APR 09 2002

REPLY TO
ATTENTION OF:

Construction-Operations Division
Regulatory Branch
200101183

SUBJECT: Permit Application to Dredge Sediment at the South Pier
within Inner Harbor, Great Lakes Naval Training, Great Lakes,
North Chicago, Lake County, Illinois

Mr. Bruce Mack DIRFAC
Commander COMNAVSURFRESFOR Midwest
2601 B Paul Jones Street
Great Lake, IL 60088-2845

Dear Mr. Mack:

The U.S. Army Corps of Engineers has authorized the above-referenced project under Section 10 of the Rivers and Harbors Act of 1899, as described in your notification and as shown on the site plan dated July 5, 2001, prepared by Cochran and Wilken, Inc. Enclosed is your copy of the executed permit which becomes effective on the date of this letter.

This determination covers only your project as described above. If the design, location, or purpose of the project is changed, you should contact this office to determine the need for further authorization. If it is anticipated that the activity as described cannot be completed within the time limits of the authorization, you must submit a request for a time extension to this office at least thirty (30) calendar days prior to the expiration date of your permit. Failure to do so will result in the District's re-evaluation of your project, which may include the issuance of a public notice.

Once you have completed your project, please sign and return the enclosed compliance certification. If you have any questions, contact Ms. Kara Hellige of the Regulatory Branch, at telephone number (312) 353-6400, extension 4034.

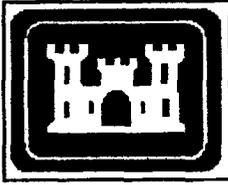
Sincerely,

Mitchell A. Isoe
Chief, Regulatory Branch

Enclosures

Copies Furnished (w/ permit):

United States Fish & Wildlife Service (Rogner)
Illinois Environmental Protection Agency (Yurdin)
Illinois Department of Natural Resources (Schanzle)
Illinois Department of Natural Resources/OWR (Jereb)
Cochran and Wilken, Inc. (Berrini)



PERMIT COMPLIANCE
CERTIFICATION

Permit Number: 200101183

Permittee: Department of the Navy

Date of Issuance: APR 09 2002

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of said permit and that compensatory wetland mitigation was completed in accordance with the approved mitigation plan.¹

PERMITTEE

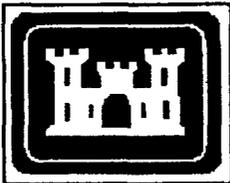
DATE

Upon completion of the activity authorized by this permit and any mitigation required by the permit, this certification must be signed and returned to the following address:

U.S. Army Corps of Engineers
Chicago District, Regulatory Branch
ATTN: Enforcement/Compliance
111 North Canal Street, 6th Floor
Chicago, Illinois 60606-7206

Please note that your permitted activity is subject to compliance inspections by Corps of Engineers representatives. If you fail to comply with this permit, you may be subject to permit suspension, modification, or revocation.

¹ If compensatory mitigation was required as part of your authorization, you are certifying that the mitigation area has been graded and planted in accordance with the approved plan. You are acknowledging that the maintenance and monitoring period will begin after a site inspection by a Corps of Engineers representative or after thirty days of the Corps' receipt of this certification. You agree to comply with all permit terms and conditions, including additional reporting requirements, for the duration of the maintenance and monitoring period.



DEPARTMENT OF THE ARMY

PERMIT

Permittee: Department of the Navy
Application No.: 200101183
Issuing Office: CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS

DEFINITIONS: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform the work in accordance with the terms and conditions specified below.

Project Description: Request for a 10-year maintenance dredging permit to dredge approximately 1,540 cubic yards of sediment at the South Pier in Inner Harbor, Great Lakes Naval Training, as described in your notification and as shown on the site plan dated July 5, 2001, prepared by Cochran and Wilken, Inc.

Project Location: The project is located in Lake Michigan, at the South Pier in the Inner Harbor of the Great Lakes Naval Training Center, North Chicago, Lake County, Illinois (Northeast Quarter of Section 9, Township 44 North, Range 12 East).

Permit Conditions:**General Conditions**

1. The time limit for completing the authorized work ends on January 1, 2012. If you find that you need more time to complete the authorized activity(s), submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you

abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being accomplished in accordance with the terms and conditions of your permit.

Special Conditions

1. This permit is based on all material submitted as part of application number 200101183. You must comply with all applicable regulations. Failure to comply with the terms and conditions of this permit may result in suspension and revocation of your permit.

2. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

3. You shall provide written notification to this office at least ten (10) days prior to the commencement of work indicating the start date and estimated end date of activity.

4. You shall comply with the water quality certification issued under Section 401 of the Clean Water Act by the Illinois

Environmental Protection Agency for the project. Conditions of the certification are conditions of this authorization.

5. You are responsible for all work authorized herein and for ensuring that all contractors are aware of the terms and conditions of this authorization. A copy of this authorization must be present at the project site during all phases of construction.

6. You shall notify this office of any proposed modifications to the project, including revisions to your dredging plans and/or to the dredged material disposal plan. You must receive approval from this office before work affected by the proposed modification is performed.

7. You shall notify this office prior to the transfer of this authorization and liabilities associated with compliance with its terms and conditions. The transferee must sign the authorization in the space provided and forward a copy of the authorization to this office.

8. The permittee understands and agrees that, if future operations by the United States require removal, relocation, or other alteration of the structure or work authorized herein, or if, in the opinion of the Secretary of the Army or his authorized representative said structure or work shall cause unreasonable obstruction to the free navigation of the navigable water, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

(x) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(x) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this Authorization.

a. This permit does not obviate the need to obtain other federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. The Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on the behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modifications, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in the reliance on the information you provided.

5. Reevaluation of Permit Decision. The office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

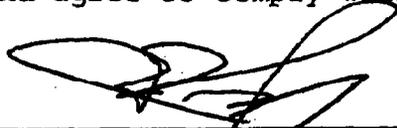
c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation

procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 established a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as a permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



PERMITTEE
Department of the Navy
615 Barry Road, Building
Naval Training Center
Great Lakes, Illinois 60088-5707

21 MARCH '02
DATE

This authorization becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



FOR AND ON BEHALF OF
Mark A. Roncoli
Colonel, U.S. Army
District Engineer

21 MARCH 2002
DATE

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

TRANSFEREE

DATE

ADDRESS

TELEPHONE