

**ENVIRONMENTAL ASSESSMENT
FOR
CHICAGO SHORELINE PROJECT,
MONTROSE TO IRVING SEGMENT
CHICAGO, COOK COUNTY, IL**

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SECTION 1 PURPOSE AND NEED

PURPOSE

Shoreline flooding and erosion are commonly occurring problems along Chicago Park District parkland and Lake Shore Drive on the Lake Michigan shoreline between Montrose Avenue and Irving Park Road, in the Lincoln Park neighborhood of Chicago, Cook County, Illinois. The existing revetment has deteriorated needs to be replaced. Replacement of the revetment was authorized in 1999.

AUTHORITY

Under resolutions adopted by the Committee on Public Works of the U.S. House (dated December 2, 1971 and April 11, 1974), the U.S. Army Corps of Engineers was directed to study shore erosion problems and erosion control measures for the Illinois shore of Lake Michigan. Section 101(a)(12) of the Water Resources Development Act of 1996 authorized construction of the Chicago Shoreline Project. A project cooperation agreement (PCA) was executed on 17 May 1999, and provided for the non-Federal sponsors (the City of Chicago and the Chicago Park District) to build specific segments of the project.

1993 ENVIRONMENTAL ASSESSMENT

In 1993 the Corps of Engineers (USACE) released the *Illinois Shoreline Erosion Interim III, Wilmette Harbor to Illinois-Indiana State Line, Environmental Assessment*; the Environmental Assessment (EA) analyzed actions proposed to address storm damage, flooding, and erosion along the Lake Michigan shoreline. Since 1993 the Corps, in collaboration with the City of Chicago and Chicago Park District, has rebuilt several miles of shoreline revetment. The impacts of replacing shoreline revetment along Lake Shore Drive between Montrose Avenue and Irving Park Road were documented in the 1993 EA. The 1993 selected plan involved construction of a new revetment (steel sheet pile bulkhead wall, concrete promenade, stepped concrete revetment, concrete wave deflector and stone scour protection at base of bulkhead wall) on the Lake Michigan shoreline between Montrose Avenue and Irving Park Road. The selected plan was the locally preferred plan that was authorized in 1999. The National Economic Development Plan (NED), consisted of replacing the deteriorated timber crib revetments with rubble mound revetments. For this reach of the shoreline, the sponsor had elected to construct the NED Plan.

This environmental assessment is a supplement to the 1993 EA, and documents the impacts of the revised project design of the revetment reconstruction on the Lake Michigan lakefront between Montrose Avenue and Irving Park Road. The considered alternatives were selected based on consultations with the Illinois Historic Preservation Agency. Additional alternatives were considered and were evaluated as part of risk assessment.

SECTION 2 ALTERNATIVES, INCLUDING THE RECOMMENDED PLAN

There are three alternative plans considered for evaluation within this EA.

1. No Action Plan - Under this alternative, the 2,600 feet of deteriorating revetment would not be rebuilt or replaced, portions of the deteriorating revetment would fail and coastal erosion to Lincoln Park would continue.
2. One-Step limestone wall above a rubble mound revetment - Under this alternative, the 2,600 feet of deteriorating revetments in this section of Lincoln Park would be replaced with a rubble mound revetment. The top step of the existing historic limestone revetment would be restored. Lake Michigan coastal erosion would stop. However, many of the historic aspects of the existing revetment would be lost.
3. Two-Step limestone wall above a rubble mound revetment - Under this alternative the 2,600 feet of deteriorating revetments in this section of Lincoln Park would be replaced with a rubble mound revetment. The top two steps of the historic limestone revetment would be restored. The shoreline would be protected from erosion and failure due to wave overtopping. Although this alternative is more expensive, it would preserve the most important historic features of the existing revetment.

RECOMMENDED PLAN

Two-step limestone wall above a rubble mound revetment – Under this alternative the 2,600 feet of deteriorating revetments in this section of Lincoln Park would be replaced with a rubble mound revetment. The top two steps of the historic limestone revetment would be restored. The shoreline would be protected from erosion and failure due to wave overtopping. Although this alternative is more expensive, it would preserve most of the historic nature of the existing historic revetment.

Benefits of the recommended alternative include increased flood and erosion protection for the area and preservation of the most important historic features of the original revetment.

COMPLIANCE WITH ENVIRONMENTAL PROTECTION STATUTES

The proposed action is in full compliance with appropriate statutes, executive orders and regulations, including the National Historic Preservation Act of 1966, Fish and Wildlife Coordination Act, Endangered Species Act of 1973, Section 10 of Rivers and Harbors Act of 1899, Clean Air Act, Illinois Endangered Species, National Environmental Policy Act of 1969, Executive Order 12898 (Environmental Justice), Executive Order 11990 (Protection of Wetlands), Executive Order 11988 (Floodplain Management), and the Clean Water Act.

SECTION 404 (b)(1) EVALUATION, CLEAN WATER ACT

A Section 404 (b)(1) Evaluation has been completed and has been sent to the Illinois Environmental Protection Agency (IEPA) for approval (Appendix 1)

SECTION 3 AFFECTED ENVIRONMENT

PROJECT AREA

The project area (Map 1) is adjacent to the west shore of Lake Michigan, in the SW ¼ of Section 16, T40N R14E of the 2nd principal meridian, and is shown on the Chicago Loop (Illinois) USGS 7.5' topographic quadrangle map.

The project will be located on the north side of Chicago along Lake Shore Drive between Montrose Avenue and Irving Park Road. It is east of the existing Lake Shore Drive highway right-of-way.

Traffic disruption should be minimal allowing most area roads to remain open to local traffic.

Air Quality

The 2010 Illinois Annual Air Quality Report published by the IEPA presents a summary of air quality data collected throughout the State of Illinois during the calendar year 2010 (IEPA 2010). Data is presented for the six criteria pollutants (those for which National Ambient Air Quality Standards (NAAQS) have been developed - particulate matter (PM10 and PM2.5), ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead) along with heavy metals, nitrates, sulfates, volatile organic and toxic compounds. IEPA lists nonattainment area designations for counties in Illinois; nonattainment areas are regions within the country where the concentration of one or more criteria pollutants exceed the level set as the federal air quality standards. Cook County, Illinois, is considered moderate nonattainment for ozone and nonattainment for PM2.5 (particulate matter with a diameter equal or less than 2.5 microns). Particulate concentration and ozone trends are generally downward but are still elevated in the study area.

Water Quality

The IEPA annually collects chemical, physical, biological, habitat and toxicity data on rivers and streams, inland lakes, Lake Michigan and groundwater to satisfy reporting requirements found in Section 305(b) of the Federal Clean Water Act (CWA). The primary purpose of the Section 305(b) process is to provide for an assessment of the overall water quality conditions of Illinois waters. Lake Michigan is classified as a general use water body, which indicates the water quality should be protected to support aquatic life, wildlife, agricultural, primary, or secondary contact, and most industrial uses (IEPA 2012).

The State of Illinois has jurisdiction over approximately 1,526 square miles of open water and 63 shoreline miles of Lake Michigan bordering Cook and Lake Counties in the northeastern corner of the state. Of the total 1,526 square miles of Lake Michigan open waters in Illinois jurisdiction, only 196 square miles were assessed for aesthetic quality, aquatic life, fish consumption, primary contact, public and food processing water supply, and secondary contact. All 196 square miles were rated as fully supporting aquatic life, aesthetic quality, primary contact secondary contact, and public and food processing water supply. However, fish consumption use in the Illinois portion of Lake Michigan is assessed as Not Supporting (poor) due to contamination from polychlorinated biphenyls (PCBs) and mercury. In addition, all Lake Michigan beaches in Illinois were assessed as Not Supporting (poor) for primary contact use due to contamination from *Escherichia coli* bacteria. Potential sources of contamination include atmospheric deposition, urban runoff/storm sewers, combined sewer overflows, and other unknown sources.

AQUATIC COMMUNITIES

Fish

Fish surveys have been conducted around Lake Michigan for several decades. Twenty-four (24) native species and ten (10) non-native species have been identified from the surrounding area (Table 1) using the Chicago Region Fish Database (unpublished). Important rare and sensitive species include the trout perch (*Percopisis omiscomaycus*), lake chub (*Coueseuis plumbeus*), burbot (*Lota lota*), and mottled sculpin (*Cottus bairdii*). Important native game fishes include smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), rock bass

(*Ambloplites rupestris*), and yellow perch (*Perca flavescens*). Non-native, introduced game fish include the Pacific Salmonids (*Oncorhynchus* spp.), European brown trout (*Salmo trutta*), and rainbow smelt (*Osmerus mordax*). Non-native invasive species include common carp (*Cyprinus carpio*), goldfish (*Carassius auratus*), alewife (*Alosa pseudoharengus*), sea lamprey (*Petromyzon marinus*), and round goby (*Neogobius melanostomus*). Invasive species of concern for this project are the common carp and goldfish since they are herbivores.

Table 1

Species	Common Name	Species	Common Name
<i>Lepomis macrochirus</i>	bluegill	<i>Percopsis omiscomaycus</i>	trout perch
<i>Micropterus dolomieu</i>	smallmouth bass	<i>Pimephales notatus</i>	bluntnose minnow
<i>Micropterus salmoides</i>	largemouth bass	<i>Pimephales promelas</i>	fathead minnow
<i>Perca flavescens</i>	yellow perch	<i>Pungitius pungitius</i>	nine-spine stickleback
<i>Lepomis cyanellus</i>	green sunfish	<i>Rhinichthys cataractae</i>	longnose dace
<i>Lepomis gibbosus</i>	pumpkinseed	<i>Lota lota</i>	burbot
<i>Ambloplites rupestris</i>	rock bass	<i>Oncorhynchus kisutch</i> *	Coho salmon
<i>Ameiurus melas</i>	black bullhead	<i>Oncorhynchus mykiss</i> *	rainbow trout
<i>Catostomus commersonii</i>	white sucker	<i>Oncorhynchus tshawytscha</i> *	Chinook salmon
<i>Cottus bairdii</i>	mottled sculpin	<i>Salmo trutta</i> *	brown trout
<i>Couesius plumbeus</i>	lake chub	<i>Carassius auratus</i> *	goldfish
<i>Dorosoma cepedianum</i>	gizzard shad	<i>Cyprinus carpio</i> *	common carp
<i>Gasterosteus aculeatus</i>	three-spine stickleback	<i>Neogobius melanostomus</i> *	round goby
<i>Notemigonus crysoleucas</i>	golden shiner	<i>Petromyzon marinus</i> *	sea lamprey
<i>Notropis atherinoides</i>	emerald shiner	<i>Osmerus mordax</i> *	rainbow smelt
<i>Notropis hudsonius</i>	spottail shiner	<i>Alosa pseudoharengus</i> *	alewife
<i>Notropis stramineus</i>	sand shiner		

*non-native species

Phytoplankton/Benthic Algae

Phytoplankton populations are routinely monitored by the City of Chicago at the Jardine Water Purification Plant intake north of the project area. Diatoms have dominated collections between 1981 and 1985. Phytoplankton populations were also sampled in Chicago Harbor (north of the project area) and Calumet Harbor (south of the project area) in August 1980. Forty-six species were collected at Chicago Harbor and 89 species at Calumet Harbor. Diatoms comprised 46 to 97 percent of all phytoplankton populations at the nine stations sampled (at 1 and 5 meter depths). Myxophyceae were the next most abundant group and comprised 7 to 43 percent of the populations at the nine stations sampled (at 1 and 5 meter depths).

Zooplankton

In a study of the zooplankton community on Lake Michigan, Johnson (1972) found small microfilterers and larger predacious species. The dominant species included *Bosmina longirostris*, *Daphnia retrocurva*, and *Cyclopus bicuspidatus thomasi*. Copepods (Crustacea) dominate the zooplankton biomass of Lake Michigan. Protozoans (Protozoa) and rotifers (Rotifera) may also be present in large numbers. Cladocerans (Crustacea) are abundant during the summer. Cladocera, especially *Bosmina longirostris*, dominated recent samples collected between Waukegan and Zion, Illinois, north of the project area. Twenty-four species were collected in Chicago Harbor (north of the project area) and 30 species were collected in Calumet Harbor (south of the project area) in

August 1980. *B. longirostris* dominated these collections as well. Calanoid and cyclopoid mauplii were the next most abundant group.

Benthic Invertebrates

Generally, the benthic community of Lake Michigan in the study area is dominated by oligochaete worms, amphipods (*Pontoporeia affinis*), sphaeriid clams, and chironomid midge larvae (Rains 1971; McCommish 1975). Exotic species such as the zebra mussel (*Dreissena polymorpha*), quagga mussel (*Dreissena bugensis*), and the rusty crayfish (*Orconectes rusticus*) are present in the near shore habitats. Oligochaete worms (Oligochaeta) are denser in southern Lake Michigan while amphipods (Amphipoda) are denser in nearshore northern areas. The tubificids *Peloscoclex multisetosus* and *Limnodrilus cervix* are generally more populated near larger cities, demonstrating pollution tolerance in these two species.

Amphibians

The only amphibian that occurs in Lake Michigan in the study area is the mudpuppy (*Necturus maculosus*). This animal is totally aquatic and due to the amounts of rock (riprap) and abundance of the rusty crayfish, it is possible that this species occurs in the study area. However, a mudpuppy survey (Appendix 2) conducted at the request of the Illinois Department of Natural Resources found no evidence of these amphibians in the project area.

TERRESTRIAL COMMUNITIES

The parkland and golf course that currently exists in the project area provides suitable habitat for common “urban” wildlife species, including fox and gray squirrel, opossum, cottontail rabbit, striped skunk, mice, red fox, bats, and eastern moles. Typical resident birds include English sparrow, starling, robin, herring gull, Canada geese, mallard, pigeon, cardinal, chickadee, red winged blackbird, purple martin, grackle, and blue jay. The west coast of Lake Michigan is a major landmark for migrating birds, numbers of which utilize these lakeshore park areas to forage and rest during migrations.

During winter months, large groups of ducks congregate several hundred yards off shore along the Chicago lakefront during migration. Various species of ducks make up these rafts, with some of the more common ones being the greater and lesser scaup (*Athya marila* and *A. affinas*, common goldeneye (*Bucephala clangula*) and horned grebe (*Podiceps aurtius*).

NATURAL AREAS

Within this area of Lincoln Park is the Montrose Hill Bird Sanctuary. Located just to the northeast of the project area, this naturalized area of the park provides habitat as well as a feeding and resting area for migrating birds during spring and fall migrations.

THREATENED AND ENDANGERED SPECIES

The project area is urban residential, urban parkland, and a public golf course. It is within the range of the federally endangered Indiana Bat (*Myotis sodalists*) the Karner blue butterfly (*Lycaeides Melissa samuelis*), the threatened Pitcher’s thistle (*Cirsium pitcheri*), and the candidate eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*). However, the project area contains no habitat likely to be used by threatened or endangered species with the possible exception of migratory avian species.

The longnose sucker (*Catostomus catostomus*) and lake whitefish (*Coregonus clupeaformis*) are the only state-listed threatened fish which may occur at the project area; both species have been collected incidentally in or near the study area, but are commonly found in deep water habitats.

The only amphibian that possibly occurs in Lake Michigan project area is the state-listed endangered mudpuppy (*Necturus maculosus*). This animal is totally aquatic and due to the amounts of rock (riprap) and abundance of the rusty crayfish, it is possible that this species occurs in the study area. At the request of the IDNR a mudpuppy survey was conducted in the project area (Appendix 2). No mudpuppys where found.

ARCHEOLOGICAL AND HISTORIC PROPERTIES

Lincoln Park, including the project area, is on the National Register of Historic Places (listed 1994). Chicago also contains numerous additional structures listed on the National Register of Historic Places, but except for Lincoln Park, none are located near the project area. Chicago maintains its own list of City Landmarks totaling 256 individual structures and 48 historic districts. Many of these landmarks are also on the National Register of Historic Places, but there is little overlap in the area of Lincoln Park. City of Chicago Landmarks in the area include the Hutchinson Historic District located just west of the project area.

The project area is manmade artificial Lake Michigan shoreline consisting entirely of post-1920 landfill with park land created through heavily landscape modification that included grading, blading and filling to create the present park landscape. The present shoreline is armored with boulder revetments (installed in 1925) and topped with a concrete walkway (constructed 1946-1949). The adjacent lakebed immediately offshore contains no structures or historic properties, and has been disturbed by filling and wave action. No intact archaeological deposits are present.

LAND USE HISTORY

The City of Chicago created Lincoln Park in 1866, naming it for President Abraham Lincoln who had recently been assassinated. The area was originally sand dunes and the location of several cemeteries. In the following decades the cemeteries were moved out, the shoreline was stabilized and the area landscaped with fill and excavated ponds. Additional features added to the park including the Lincoln Park Zoo established in 1869, Lake Shore Drive built in 1875, and the Lincoln Park Conservatory constructed in 1892. The Lincoln Park Commission was granted the right to reclaim submerged lands from Lake Michigan in 1895. This allowed for expansion of Lincoln Park to the east as portions of the lake were filled in, a process that continued into the 1920s.

SOCIAL SETTING

Chicago is located in northeastern Illinois at the southwestern tip of Lake Michigan. It straddles the continental divide between the Great Lakes and Mississippi River watersheds. Chicago is the third most populous city in the United States with an ethnically and racially diverse population of approximately 2.8 million people. Median household income for the City of Chicago is \$43,650.00 (2006), and the median home cost is \$238,567.00 (2010). Surrounding communities include Evanston, Oak Park, Cicero, and Evergreen Park.

Recreation

Lincoln Park is a multi use urban city park containing picnic shelters, sports fields, jogging and hiking trails, beaches marinas, and fishing areas. The Sydney R. Marovitz Golf Course is located in this portion of Lincoln Park, and is within the project area.

HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW) INVESTIGATION

An HTRW investigation of the project area was completed in 2003. Supplemental database search results indicate that there is little potential for HTRW within the project area. Results of the Phase 1 site assessment are included in Appendix 3.

SECTION 4 ENVIRONMENTAL CONSEQUENCES

I IMPACTS OF “NO ACTION” PLAN

The “no action” plan could result in increased park degradation from erosion. Transportation and other public facilities could be adversely affected.

GENERAL IMPACTS (SECTION 122 OF PUBLIC LAW 91-611)

Section 122 of Public Law 91-611 identified 17 potential areas of impact that are required to be considered as part of an impact analysis of proposed projects. The proposed plan would not adversely affect **community cohesion, community growth, tax revenues, property values, public services, or regional growth. No farms, people, businesses or industrial activity** would be displaced. Impacts of the remaining areas follow:

Noise

The proposed action will cause temporary increases in noise from machinery and equipment during construction. These impacts will be temporary and will not result in significant or long-term adverse impacts.

Air Quality

The proposed action would cause temporary increases in exhaust emissions from machinery and equipment during construction. These impacts would be minimal because of emission and dust controls required by the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, and local restrictions. The Corps of Engineers specifications (CW-04130 Construction Specifications for Environmental Protection, July 1978) are included in contracts to provide protection for the local environment. Construction and operation of the project would not result in significant or long-term adverse impacts to air quality. The project would involve only a de minimis discharge of airborne pollutants, and is therefore in compliance with the Clean Air Act Conformity Rule.

Water Quality

The project will have no significant long-term impact on the quality of water of Lake Michigan will comply will all applicable water quality standards. The project will involve construction in water; therefore, both Section 401 and 404 of the Clean Water Act apply to this project because the

project will involve discharges to the waters of the United States (Section 401), and will involve disposal of fill material in the Nation's waters (Section 404).

Remaining 17 potential areas of impact

Project impacts on **natural resources, man-made resources, and employment** will be temporary. Employment could increase slightly during construction, and the region's labor force should provide the necessary workers. There will be no significant adverse effect to **public facilities**. During construction, increased traffic congestion would be localized and intermittent. Any **aesthetic** degradation would be temporary

SECTION 10 OF RIVERS AND HARBORS ACT OF 1899 - The project will involve placement of fill in navigable waters.

ENVIRONMENTAL JUSTICE

Executive Order 12898 (Environmental Justice) - A search of the EPA Environmental Justice database indicates that although minority and low-income populations are located near the project area, this project will not have an adverse effect on any low-income populations or minority populations in Chicago.

AQUATIC IMPACTS

Fish and Wildlife Coordination Act - Revetment reconstruction would involve placement of clean, inert fill material in nearshore Lake Michigan. The fill material would not release contaminants into the water column; therefore significant contaminant transference through the food web is not likely. Construction activities would cause temporary, short-term increases in turbidity and suspended solids in the immediate area; no long-term adverse impacts would occur.

Turbidity reduces the depth to which light penetrates the water. Reduction in light at a given depth may reduce the productivity of phytoplankton via a reduction in photosynthesis, may impair the ability of sight-feeding fish to capture prey, and will adversely impact filter-feeding organisms such as mussels. A reduction in phytoplankton productivity may cause a short-term reduction in zooplankton, which feeds upon phytoplankton. These zooplankton populations normally fluctuate through the season and respond quickly to changes in nutrients.

Sessile or fossorial benthic invertebrates present in the construction areas could be lost either due to mechanical damage or smothering by the stones. Species that comprise the existing benthic communities are not protected or rare and are not restricted to this location. Aquatic insects are able to quickly recolonize disturbed habitats once the environment has stabilized. Invertebrates from nearby undisturbed areas would recolonize the construction areas within a period of weeks after the work is completed. For these reasons, the proposed project is not likely to have a significant adverse impact on benthic aquatic insect or decapod communities of Lake Michigan. The turbidity created by the proposed activities would have no long-term adverse impact on the water quality. This turbidity may temporarily cause resident fish species to relocate. Turbidity created by the proposed activity is not expected to be greater than what a typical storm may generate in near-shore areas; therefore impact to the aquatic community is not expected to be greater than potential natural disturbances. Other potential effects such as localized dissolved oxygen depletion are not expected and ambient conditions would quickly return after cessation of construction activities.

Fish activity may be disrupted locally during construction, but would resume to normal shortly after project completion. The proposed project would create fish habitat suitable for foraging and spawning.

The U.S. Fish and Wildlife has been consulted (letter dated July 22, 2012) and are expected to concur with this determination. The Illinois DNR has been consulted (letter dated July 22, 2012), and under their new policy their lack of response means concurrence.

EXECUTIVE ORDER 11990 (PROTECTION OF WETLANDS) - The project will not affect wetlands since there are no wetlands within the project modifications footprint.

EXECUTIVE ORDER 11988 (Floodplain Management) - The project will not promote development in the floodplain. The project area is not in the floodplain.

COASTAL MANAGEMENT

Review of the National Oceanic and Atmospheric Administration (NOAA) Federal Consistency Regulations (15 CFR 930) indicates that since this project will take place within the boundaries of the Illinois Coastal Management Program, a Federal Consistency Determination is required. Since the proposed work is located in Lake Michigan, an Illinois Department of Natural Resources, Office of Water Resources/ Illinois Environmental Protection Agency joint permit has been applied for and is expected to be granted. The project will be consistent with the Illinois Coastal Management Program.

TERRESTRIAL IMPACTS

The project would not have an adverse impact on any wildlife or habitat. The Illinois DNR has been consulted (letter dated July 22, 2012), and under their new policy their lack of response equals concurrence with this determination. The U.S. Fish and Wildlife Service website has also been consulted (July 22, 2012) and a determination of no adverse affect has been made by the appropriate staff at the Chicago District.

THREATENED AND ENDANGERED SPECIES IMPACTS

Illinois Endangered Species - The project would not affect state-listed threatened or endangered species, or habitat likely to be used by such species. The State of Illinois has been consulted (letter dated July 22, 2012), and under their new policy their lack of response equals their concurrence with this determination. Because the state-listed mudpuppy (*Necturus maculosus*) may occur in the project area, a mudpuppy survey was conducted at the request of IDNR. No evidence of mudpuppies were found (Appendix 2).

Endangered Species Act of 1973 - The project will not affect Federal-listed, threatened, or endangered species, or habitat likely to be used by such species. The U. S. Fish and Wildlife Service website has been consulted (July 22, 2012) and the Chicago District staff have concluded that this project will have no adverse affect on any threatened or endangered species

Endangered Species - Although the project is within the known range of the Federally endangered Indiana Bat (*myotis sodalist*) and the Karner blue butterfly (*Lycaeides melissa samuelis*), two threatened state fish species the longnose sucker (*Catostomus catostomus*) and lake whitefish (*Coregonus clupeaformis*) there is no habitat present for these species within the project modification area. Therefore it has been determined that the project would not affect Federal or state-listed threatened or endangered species, or habitat likely to be used by such species. A copy

of this draft EA will be sent to the US Fish and Wildlife Service and the Illinois DNR for review. Both agencies are expected to concur with this determination.

INVASIVE SPECIES

National Invasive Species Act of 1996 P.L. 104-332, Executive order 13112 - Invasive Species, and USACE Invasive Species memorandum dated June 2, 2009 - The following goals in the National Invasive Species Management Plan are appropriate to this project;

Goal B. Preventive Goal - A number of invasive species are currently present in Lake Michigan including the Bloody Red Shrimp (*Hemimysis anomala*), zebra mussel (*Dreissena polymorpha*), quagga mussel (*Dreissena rostriformis*), spiny waterflea (*Cercopagis pengoi*), round goby (*Neogobius melanostomus*). No additional invasive species will be introduced through this project.

Goal D. Control and Management Goal - Although several invasive species are currently within the project area, the mechanical excavation, terrestrial placement, and desiccation of dredged material will minimize the survival and transfer potential of any of the resident invasive species. This project will not contribute to the spread of any invasive species.

ARCHAEOLOGICAL AND HISTORIC IMPACTS

National Historic Preservation Act of 1966 - A review of the National Register of Historic Places indicates that the project area is within the boundaries of Lincoln Park, a property listed on the National Register of Historic Places. Consultations have been conducted with the Illinois Historic Preservation Agency (IHPA) to ensure that the project will have no adverse impact on archaeological or historic properties. The Illinois Historic Preservation Agency has been consulted and has concurred with this determination in a letter dated May 22, 2013. A copy of this draft EA will be sent to the Illinois IHPA for review.

In the event of the accidental discovery of cultural resources work will cease immediately and the USACE archaeologist will be notified. Consultations will be then be conducted with the Illinois IHPA office to resolve any possible Section 106 issues.

Native American groups having an historic interest in northeastern Illinois have been consulted (letters dated July 22, 2012).

HTRW IMPACTS

An HTRW investigation of the project area was completed in 2003. Supplemental database search results indicate that there is little potential for HTRW within the project area, and the proposed project is not expected to cause disturbance or release of hazardous, toxic, or radioactive waste. Results of the Phase 1 site assessment are included in Appendix 3.

CUMULATIVE EFFECTS

Assessment of Cumulative Effects

Consideration of cumulative effects requires a broader perspective than examining just the direct and indirect effects of a proposed action. It requires that reasonably foreseeable future impacts be assessed in the context of the past and present effects to importance resources. Often it requires consideration of a larger geographic area than just the immediate "project" area. One of the most important aspects of cumulative effects assessment is that it requires consideration of how actions

by others (including those actions completely unrelated to the proposed action) have and will affect the same resources. In assessing cumulative effects, the key determinate of importance or significance is whether the incremental effects of the proposed action will alter the sustainability of resources when added to other present and reasonably foreseeable future actions.

Cumulative environmental effects for the proposed infrastructure project were assessed in accordance with guidance provided by the President's Council on Environmental Quality (USEPA, EPA 315-R-99-002, May 1999). This guidance provides an eleven-step process for identifying and evaluating cumulative effects in NEPA analysis.

The overall cumulative impact of the project is considered to be beneficial environmentally, socially, and economically.

Scoping

In this environmental assessment, the cumulative effects issues and assessment goals are established, the spatial and temporal boundaries are determined, and reasonably foreseeable future actions are identified. Cumulative effects are assessed to determine if the sustainability of any of the resources is adversely affected with the goal of determining the incremental impact to key resources that would occur should the proposal be permitted. The spatial boundary for the assessment encompasses the parkland and the associated facilities and surrounding streets served by the infrastructures to be improved. The temporal boundaries are:

1. Past-1865, when development of the area began.
2. Present-2013, when the selection plan was being developed.
3. Future-2065, the year used for determining project life end.

Projecting reasonably foreseeable future actions is difficult at best. Clearly, the proposed action is reasonably foreseeable, however, the actions by others that may affect the same resources are not as clear. Projections of those actions must rely on judgment as to what are reasonable based on existing trends and where available, projections from qualified sources. Reasonably foreseeable does not include unfounded or speculative projections. In this case, reasonably foreseeable future actions include:

1. Increased growth in water consumption.
2. Continued urban land use surrounding the project area.
3. Continued application of environmental requirements such as the Clean Water Act.

Cumulative Effects on geology and soils

The topography and soils of the area has been affected by filling, excavations, construction, and the burial of utilities. The proposed project would not alter the existing soil chemistry.

Cumulative Effects on Water Quality and Aquatic Communities

The project would have no long-term adverse effects on water quality or aquatic communities in the Lake Michigan. Although other projects have adversely affected Lake Michigan, this project will not change the existing environmental conditions. Studies of existing habitats and native species indicate this project will have no long-term adverse affects on either water quality or aquatic communities.

Cumulative Effect of Terrestrial Resources

Study of existing habitats and native species within the project area indicates that the relatively small modifications for this project will have no long-term adverse or cumulative effects to terrestrial resources, plants or animals.

Cumulative Effects on Land Use

Since land use will not change in the project area, land use will not be adversely affected by this project.

Cumulative Effects on Aesthetic Values

Aesthetic values in the project area will not be affected by this project. The project will have no cumulative adverse effects on the visual setting of the project area.

Cumulative effects on Public Facilities

The existing conditions of public facilities will not be adversely by the project. The project will have no long-term adverse effects on public facilities.

Cumulative Effects Summary

Along with direct and indirect effects, cumulative effects of the proposed project were assessed following the guidance provided by the Presidents' Council on Environmental Quality (Table 1). There have been numerous effects to resources from past and present actions, and reasonably foreseeable future actions can also be expected to produce both beneficial and adverse effects. Additional long term adverse impacts to significant resources are not expected to occur. In this context, the effects of the proposed project are relatively minor.

Table 1 –Environmental Impact Summary

Potential Impact Area	Past Actions	Proposed Direct Impacts		Cumulative Impact
		Construction	Operation	
Geology & Soils	adverse	no impact	no impact	no impact
Hydrology	adverse	no impact	no impact	no impact
Water Quality	major adverse	Short term negative but long term beneficial impact	no impact	no impact
Sediment Quality	major adverse	Minor improvement	no impact	no impact
Aquatic Resources	major adverse	no impact	no impact	no impact
Terrestrial Resources	adverse	minor negative impact	no impact	no impact
Land Use	adverse	minor adverse	no impact	no impact
Aesthetics	No impact	no impact	slight impact	no impact
Archaeology/Historic	no impact	no impact	no impact	no impact

SECTION 5 References

- Ellis, M.M. 1936. Erosion silt as a factor in aquatic environments. *Ecology* 17(1): 29-42.
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- Johnson, D. 1972. Zooplankton population dynamics in Indiana waters of Lake Michigan in 1970. MS thesis, Ball State University, Muncie, IN.
- Larrimore, R.W.; W.F. Childers and C. Heckrotte. 1959. Destruction and reestablishment of stream fish and invertebrates affected by drought. *Transactions of the American Fisheries Society* 88(4): 261-285.
- Page, Larry M., Brooks M. Burr. A Field Guide to Freshwater Fishes North America North of Mexico. New York: Houghton & Mifflin Publishing Co. 1991.
- Phillips, Christopher A., R.A. Brandon, E.O. Moll. Field Guide to Amphibians & Reptiles of Illinois. Illinois Natural History Survey, August 1999.
- Rains, J. 1971. Macroinvertebrate population dynamics in Indiana waters of Lake Michigan in 1970. Ball State University, Muncie, IN.
- U.S. Army Corps of Engineers. 1993. Burns Waterway Harbor, Indiana Breakwater Major Rehabilitation Environmental Assessment.

SECTION 6 COORDINATION

RECIPIENTS

The following elected officials, agencies, and Tribes received a copy of this environmental assessment:

ELECTED OFFICIALS

U.S. Senator Dick Durbin
230 S. Dearborn St.
Suite 3892
Chicago, IL 60604

U.S. Senator Mark Kirk
230 S. Dearborn St.
Suite 3900
Chicago, IL 60604

U.S. Senator Mark Kirk
524 Hart Senate Office Bldg
Washington, DC 20510
Senator Durbin

Congresswoman Jan Schakowsky
9th District, Illinois
5533 N. Broadway
Chicago, IL 60640

Congresswoman Jan Schakowsky
9th District, Illinois
Washington D.C. Office
2367 Rayburn HOB
Washington, DC 20515

46th Ward Alderman James Cappleman
4544 N Broadway
Chicago, IL 60640

Mayor Rahm Emmanuel
Mayors' Office
121 N. La Salle Street
City Hall
Chicago, IL 60601

Governor Pat Quinn
Office of the Governor
207 State House
Springfield, IL 62706
Senator Durbin

FEDERAL AGENCIES

Kenneth Westlake, Chief
Environmental Review Branch
U.S. EPA ME-19J
77 West Jackson
Chicago, IL 60604

US Fish and Wildlife Service
Chicago Illinois Field Office
1250 South Grove, Suite 103
Barrington, Illinois 60010
Attn: Louise Clemency

STATE AGENCIES (Illinois)

Office of Resource Review
Illinois DNR
One Natural Resource Way
Springfield, IL 62702-1271
ATTN: Todd Rettig

Illinois DNR – Realty/Planning
One Natural Resource Way
Springfield, IL 62702-1271
ATTN: Pat Malone

Illinois DNR/OWR
160 N. LaSalle St,
Suite S-700
Chicago, Illinois 60601
ATTN: Dan Injerd

Illinois EPA
Water Pollution Division
1001 N. Grand
Springfield, IL 62794
ATTN: Bruce Yurdin

Illinois Hist. Pres. Agency
1 Old State Capitol Plaza
Springfield, IL 62701
ATTN: Anne Haaker

Illinois Coastal Management Program
160 N. LaSalle St,
Suite S-700
Chicago, Illinois 60601
ATTN: Diane Tecic

IDNR/OWR
Lake Michigan Management Section
Michael A. Bilandic Building
160 N. LaSalle Street, Suite s-703
Chicago, IL 60601
Attn: James P. Casey

Sustainability Officer
Mayors' Office
121 N. La Salle Srt.
City Hall
Chicago, IL 60601
ATTN: Karen Weigert

Chicago Park District
541 N. Fairbanks
5th floor
Chicago, IL 60604
ATTN: Michael P. Kelly

Friends of the Parks
17 N. State Street
Suite 1450
Chicago, IL 60602
Attn: Erma Tranter

Lincoln Park Advisory Council
c/o M. Kehoe
Peggy Notebaert Nature Museum
2430 Cannon Drive
Chicago, IL 60657

TRIBES

Kickapoo Tribe of Oklahoma
P.O. Box 70
McCloud, OK 74851

Kickapoo of Kansas
1107 Goldfinch Rd.
Horton, KS 66434

Kickapoo Tribe of Texas
Box HC 1 9700
Eagle Pass, TX 78853

Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355
ATTN: George Strack

Citizen Potawatomi Nation
1901 S. Gordon Cooper Dr.
Shawnee, OK 74801

Forest County Potawatomi Exec. Council
P. O. Box 340
Crandon, WI 54520

Nottawaseppi Huron Potawatomi Tribal Office
2221 One-and-a-half Mile Rd.
Fulton, MI 49052

Hannahville Potawatomi Comm., Council
N 14911 Hannahville Road
Wilson, MI 49896-9728

Pokagon Band of Band of Potawatomi Indians
P.O. Box 180
Dowagiac, MI 49047

Miami Nation in Indiana
P.O. Box 41
Peru, IN 46970



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO IL 60606-7206

Planning Branch
Environmental Formulation Section

Kenneth Westlake, Chief
Environmental Review Branch
U.S. EPA ME-19J
77 West Jackson
Chicago, IL 60604

25 JUL 2012

Dear Mr. Westlake:

The Chicago District is preparing a supplemental National Environmental Policy Act (NEPA) document on impacts of a portion of the Chicago Shoreline Project in the City of Chicago, Cook County, Illinois. As part of the scoping process the Chicago District would appreciate your comments. A map of the project area is enclosed.

Shoreline flooding and erosion are commonly occurring problems along the City of Chicago's Lake Michigan shoreline between the entrance to Montrose Harbor south to Irving Park Road. The shoreline in this reach is currently comprised of a deteriorated step stone revetment.

Approximately 2050 feet of the existing deteriorated step stone revetment will be replaced with a larger, more extensive, rubble mound revetment and two concrete and steel sheet pile access structures.

Please comment within 30 days, marking your reply to the attention of Mr. Peter Bullock, U.S. Army Corps of Engineers, 111 North Canal Street, Suite 600, Chicago, Illinois 60606. Questions may be directed to Mr. Bullock at 312/846-5587, or at peter.y.bullock@usace.army.mil. Your assistance is appreciated.

Sincerely,

Susanne J. Davis, P. E.
Chief of Planning Branch

Enclosure

Bullock
M-19J-E
7/25/2012
7/23/12

Kickapoo Tribe of Oklahoma

P.O. Box 70
407 N. Hwy 102
McLoud, Oklahoma 74851

Administration Department
Phone: 405-964-4227; Fax: 405-964-4265
Email: kwilson@kickapootribefoklahoma.com

August 7, 2012

Department of the Army
Chicago District
ATTN: Peter Bullock
111 North Canal Street, Suite 600
Chicago, IL 60606-7206

*RE: Chicago Shoreline Project
City of Chicago, Cook County, IL*

Dear Mr. Bullock:

Thank you for consulting with the Kickapoo Tribe of Oklahoma in regard to the above referenced site(s). At this time, the Kickapoo Tribe of Oklahoma has no objections to the proposed improvement project at the intended site(s). However, in the event burial remains and/or artifacts are discovered during the development or construction process, the Kickapoo Tribe of Oklahoma would ask for immediate notification of such findings.

Should I be of any further assistance, please contact me at (405) 964-4227.

Sincerely,



Kent Collier
NAGPRA Contact
Kickapoo Tribe of Oklahoma

Cc: File

Gilbert Salazar
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Bullock, Peter Y LRC

From: Erma Tranter [TranterE@FOTP.ORG]
Sent: Wednesday, October 24, 2012 3:14 PM
To: Bullock, Peter Y LRC
Cc: tim jeffries
Subject: RE: Chivago Shoreline Montrose to Irving (UNCLASSIFIED)

Hi Peter,

Thank you for the update. I think the IHPA has addressed our issue of the harsh contrast between the stone revetment and the poured concrete portions. We agree that if you match the stone color it will be more compatible. And, of course, grading and restoring the running/pedestrian path is essential. We recommend using the same material the Park District uses on the running path, crushed limestone instead of gravel as the top surface level.

The reason for my call was to ask you who at the ACOE we should talk to about starting the Dredged Material Management Plan for the Confined Disposal Facility?

Can you give me a name and number?

Thanks, again.

Erma

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

From: Bullock, Peter Y LRC [mailto:Peter.Y.Bullock@usace.army.mil]
Sent: Wednesday, October 24, 2012 12:48 PM
To: Erma Tranter
Subject: Chivago Shoreline Montrose to Irving (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Ms. Tranter, Sorry I haven't returned you call, I've been out of town. However, I believe you left the Shoreline meeting before we handed out copies of the sign in sheet. Here it is, with all the contact information.

A little update for you. We've met with the IHPA. The suggested plan now includes using a similar gray colored stone for the rubble mound revetment. Restoration and resetting of the top tier of stone in place so the view looking toward the lake will not change. Grading and regraveling the existing roadway for pedestrian use. This plan should allow access to the water, and prevent the wave surges affecting the entrance to Montrose Harbor. Please let me know if you feel positive about this plan. I am

Sincerely

Peter Y. Bullock
Archaeologist
USACE
CELRC-PM-PL-E
312-846-5587
FAX 312-886-2891

Bullock, Peter Y LRC

From: Betsy Altman [betsy@eaakideas.com]
Sent: Wednesday, October 24, 2012 4:54 PM
To: Bullock, Peter Y LRC
Subject: RE: Chicago Shoreline Montrose to Irving (UNCLASSIFIED)

Great changes. I was wondering about the color and had the same idea about the top so it won't look different to the shore side viewer. I already posted on our website the PPT from last week so people can look at it.

I will ask for approval at the next LPAC meeting, assuming you would like it formally done.

Thanks for sharing the improvements with us.

Betsy

Betsy Altman

Elizabeth Altman Associates
312 635 3113 <http://www.FAAIdeas.com>

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

From: Bullock, Peter Y LRC [<mailto:Peter.Y.Bullock@usace.army.mil>]
Sent: Wednesday, October 24, 2012 12:51 PM
To: Betsy Altman
Subject: Chicago Shoreline Montrose to Irving (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Good afternoon,

I just wanted to give you an update on this project. We've met with the IHPA. The suggested plan now includes using a similar gray colored stone for the rubble mound revetment. Restoration and resetting of the top tier of stone in place so the view looking toward the lake will not change. Grading and regrading the existing roadway for pedestrian use. This should allow access to the water and prevent the wave surges affecting the entrance to Montrose Harbor. I have also included a copy of the powerpoint for you to share. Please let me know if you feel this is a positive direction. I am Sincerely

Peter Y. Bullock
Archaeologist
USACE
CELRC-PM-PL-E
312-846-5587
FAX 312-886-2891

Classification: UNCLASSIFIED
Caveats: NONE



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Friends of the Parks

17 N. State Street • Suite 1450 • Chicago, Illinois 60602-3015
Phone (312) 857-2757 • Facsimile (312) 857-0656 • Web Site www.fotp.org

November 8th, 2012

Mike Nguyen, P.E.
Project Manager
U.S. Army Corps of Engineers, Chicago District
111 N. Canal St., Suite 600
Chicago, IL 60606

Mr. Nguyen,

The need to redevelop the revetment between Montrose and Irving Park Avenues is clear. As recently as two years ago it dramatically failed and necessitated an expensive, but temporary, repairs. Friends of the Parks understands that infrastructure projects such as this are important to maintain Chicago's Lake Michigan shoreline as well as the parks along it.

In order to address our concerns, the Chicago Department of Transportation, the Chicago Park District, and United States Army Corps of Engineers met with our Policy Committee to present the plans. During these meetings we were assured that the crushed limestone path that runs parallel to the shore would be maintained, that the project would be sensitive to the historical and environmental context of Lincoln Park, and improve access at both the northern and southern sections of the project. As a result of these meetings, we are confident that the revetment project will not only ensure long-term shoreline erosion protection but enhance the amenities associated with that section of Lincoln Park. Friends of the Parks supports the redevelopment of the Montrose/Irving Park revetment and recommends that the project move forward.

Regards,

Tim Jeffries
Director of Planning and Policy
Friends of the Parks



Bullock, Peter Y LRC

From: Ellen Isaacson [vballbabe2054@sbcglobal.net]
Sent: Tuesday, November 20, 2012 4:58 PM
To: Bullock, Peter Y LRC
Cc: jefferiest@fotp.org; Betsy Altman
Subject: Revetment repairs Montrose to Irving - Recommendation

Thank you for supplying the information regarding the repair plans for the revetments between Montrose and Irving Park in Lincoln Park. The Lincoln Park Advisory Council discussed this at our November 14, 2012 meeting. It was very helpful to have copies of your presentation to review. While the solution offered doesn't necessarily match the revetments that have been replaced in the past, the consensus at the meeting was that this appears to be the best solution not only from a cost standpoint but also from an environmental standpoint. This part of the revetment was in great disrepair and we hope that this project will proceed with all due speed to provide a long term solution.

Sincerely,
Ellen Isaacson
President
Lincoln Park Advisory Council

Peter,

We received your letter indicating that the Chicago District is preparing a National Environmental Policy Act (NEPA) document for the Chicago Shoreline project. We are not aware of any particular issues that should be addressed during the scoping process regarding this project. We will plan to respond to your request to review the NEPA documents when they are complete.

Shawn Cirton
Fish and Wildlife Biologist
USFWS - Chicago Illinois Field Office
1250 South Grove Avenue, Suite 103
Barrington, IL 60010
(847)381-2253 xt.19
(847)381-2285 Fax
Wednesdays and Fridays - USACOE - (312)846-5545
<http://midwest.fws.gov/chicago>



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO IL 60606-7206

Planning Branch
Environmental Formulation Section

Illinois State Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, IL 62701-1507
ATTN: Ms. Anne Haaker
Deputy Illinois State Historic Preservation Officer

24 APR 2013

IHPA Log# 002083104

Dear Ms. Haaker:

The Chicago District of the U.S. Army Corps of Engineers is preparing to rebuild the Chicago Shoreline revetment between Montrose Avenue and Irving Park Road. The shoreline revetment is a contributing structure to Lincoln Park and is listed on the National Register of Historic Places. A map of the project area is enclosed.

The U.S. Army Corps of Engineers is proposing to replace approximately 2050 feet of the existing deteriorated step stone revetment would be replaced with a larger, more extensive, rubble mound revetment and two concrete and steel sheet pile ADA access structures. The top two steps of the existing limestone revetment would be restored and reset. The attached cross-section illustrates the construction of the proposed replacement revetment.

Earlier unaesthetic concrete and mortar repairs would be removed. Individual deteriorated stones within these top two step would be replaced with matching stone reused from the existing revetment if possible with any additional stone needed of a similar size, shape, and color.

Stone used for the rubble mound revetment would be of a similar grey color to the retained top two stone steps.

In the area of the previously applied emergency repairs, the red granite currently in place would be removed and also replaced with stone of a similar grey color. The missing top two steps of revetment stone would be restored reusing matching stone from the existing revetment if possible, with any additional stone needed being of a similar size, shape, and color.

In addition, the gravel roadway behind this step would be re-graded, re-graveled, and converted to public use as a foot path. All obstructive existing vegetation and brush along the revetment and roadway would be removed.



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO IL 60606-7206

Please contact us if you have any questions to the attention of Mr. Peter Bullock, U.S. Army Corps of Engineers, at 312/846-5587, or at peter.y.bullock@usace.army.mil. Your assistance is appreciated.

Sincerely,

Enclosure

Roy J. Deda
Deputy for Project Management

MFR: Consultation letter as required by NHPA



Illinois Historic
Preservation Agency

FAX (217) 782-8161

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Cook County
Chicago

Shoreline Revetment
Between Montrose Avenue and Irving Park Road (Lincoln Park)
COEC-LRC-2011-00713
IHPA Log #002083104

May 22, 2013

Peter Bullock
Department of The Army
U.S. Army Corps of Engineers
Chicago District
111 North Canal Street, Suite 600
Chicago, IL 60606

Dear Mr. Bullock:

We have reviewed the documentation provided for the referenced project, dated April 24, 2013. This property is within Lincoln Park, which was listed on the National Register of Historic Places on August 26, 1994.

In our opinion the project meets the Secretary of the Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings" (Standards) and we concur in a finding of no adverse effect pursuant to 36 CFR Part 800 provided that the following condition is met:

1. Our office is given an opportunity to review and approve plans and specifications to ensure conformance to the Standards.

Notifying our office of agreement with these conditions and their subsequent implementation constitutes compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

If you have any questions, please contact me at 217/785-5027.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

Map 1.



**FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT
CHICAGO SHORELINE PROJECT, MONTROSE TO IRVING SEGMENT
CHICAGO, COOK COUNTY, IL FOR**

PURPOSE

Shoreline flooding and erosion are commonly occurring problems along Chicago Park District parkland and Lake Shore Drive on the Lake Michigan shoreline at between Montrose Avenue and Irving Park Road, in the Lincoln Park Neighborhood of Chicago, Cook County, Illinois. The deteriorated revetment needs to be replaced. This would provide a buffer from Lake Michigan wave action and thus prevent further shoreline erosion.

AUTHORITY

Under resolutions adopted by the Committee on Public Works of the U.S. House (dated December 2, 1971 and April 11, 1974), the U.S. Army Corps of Engineers was directed to study shore erosion problems and erosion control measures for the Illinois shore of Lake Michigan. Section 101(a)(12) of the Water Resources Development Act of 1996 authorized construction of the Chicago Shoreline Project. A project cooperation agreement (PCA) was executed on 17 May 1999, and provided for the non-Federal sponsors (the City of Chicago and the Chicago Park District) to build specific segments of the project.

1993 ENVIRONMENTAL ASSESSMENT

In 1993 the Corps of Engineers (USACE) released the *Illinois Shoreline Erosion Interim III, Wilmette Harbor to Illinois-Indiana State Line, Environmental Assessment*; the environmental assessment (EA) analyzed actions proposed to address storm damage, flooding, and erosion along the Lake Michigan shoreline. Since 1993 the Corps, in collaboration with the City of Chicago and Chicago Park District, has rebuilt several miles of shoreline revetment. The impacts of replacing shoreline revetment along Lake Shore Drive between Montrose Avenue and Irving Park Road were documented in the 1993 assessment. The 1993 selected plan involved construction of a new revetment (steel sheet pile bulkhead wall, concrete promenade, stepped concrete revetment, concrete wave deflector and stone scour protection at base of bulkhead wall) on the Lake Michigan shoreline between Montrose Avenue and Irving Park Road.

This June 2013 environmental assessment is a supplement to the 1993 EA, and documents the impacts of revised project design of the revetment reconstruction on the Lake Michigan lakefront between Montrose Avenue and Irving Park Road.

PROJECT AREA

The project area is adjacent to the west shore of Lake Michigan on the north side of Chicago along Lake Shore Drive between Montrose Avenue and Irving Park Road. It is to the east of the existing Lake Shore Drive highway right-of-way.

ALTERNATIVES CONSIDERED

There are three alternative plans considered for evaluation within this EA.

1. No Action Plan - Under this alternative, the 2,600 feet of deteriorating revetment would not be rebuilt or replaced, portions of the deteriorating revetment would fail and shoreline erosion at Lincoln Park would continue.
2. One-Step limestone wall above a rubble mound revetment - Under this alternative, the 2,600 feet of deteriorating revetments in this section of Lincoln Park would be replaced with a rubble mound revetment. The top step of the existing historic limestone revetment would be restored. Lake Michigan coastal erosion would stop. However, many of the historic aspects of the existing historic revetment would be lost.
3. Two-step limestone wall above a rubble mound revetment – Under this alternative the 2,600 feet of deteriorating revetments in this section of Lincoln Park would be replaced with a rubble mound revetment. The top two steps of the historic limestone revetment would be restored. The shoreline would be protected from erosion and failure due to wave overtopping. Although this alternative is more expensive, it would preserve the most important historic features of the existing revetment.

RECOMMENDED PLAN

Two-step limestone wall above a rubble mound revetment – Under this alternative the 2,600 feet of deteriorating revetments in this section of Lincoln Park would be replaced with a rubble mound revetment. The top two steps of the historic limestone revetment would be restored. The shoreline would be protected from erosion and failure due to wave overtopping. Although this alternative is more expensive, it would preserve the most important historic features of the existing revetment.

Benefits of the recommended alternative include increased flood and erosion protection for the area and preservation of the most important historic features of the original revetment.

ENVIRONMENTAL COMPLIANCE

An Environmental Assessment was prepared for the proposed project. The project is in full compliance with appropriate statutes, executive orders and regulations, including the National Historic Preservation Act of 1966, Fish and Wildlife Coordination Act, Endangered Species Act of 1973, Section 10 of Rivers and Harbors Act of 1899, Clean Air Act, Illinois Endangered Species, National Environmental Policy Act of 1969, , Executive; Executive Order 12898 (Environmental Justice), Executive Order 11990 (Protection of Wetlands), Executive Order 11988 (Floodplain Management), and the Clean Water Act, and the Corps of Engineers Operational and Management regulations (33CFR 200, 335-338).

Along with direct and indirect effects, cumulative effects were assessed following the guidance provided by the Presidents' Council on Environmental Quality. The increment of effect from the proposed project when compared to cumulative effects of past, present, and reasonably foreseeable future actions is considered minor.

CONCLUSION

In accordance with the National Environmental Policy Act of 1969 and Section 122 of the Rivers and Harbors and Flood Control Act of 1970, the U. S. Army Corps of Engineers, Chicago District, has assessed the environmental impacts associated with the proposed flood control project in Chicago, Cook County, Illinois. The assessment process indicates that this project would not cause any significant effects on the quality of the human environment. Therefore, I have determined that an Environmental Impact Statement is not required.

Fredric A. Drummond Jr.
Colonel, U.S. Army
District Commander

DATE