IEPA Log No.: **C-0020-13**
CoE appl. #: **Chicago District**

Public Notice Beginning Date: **September 8, 2014**
Public Notice Ending Date: **October 8, 2014**

Section 401 of the Federal Water Pollution Control Act
Amendments of 1972

Section 401 Water Quality Certification to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-3362

Name and Address of Discharger: Foss Park District – 1730 Lewis Avenue, North Chicago, Illinois 60064

Discharge Location: In North Chicago in Section 4 of Township 44N, Range 12E of the 3rd P.M. in Lake County.

Name of Receiving Water: Lake Michigan

Project Description: Construction of two quarry stone breakwaters at the south end of Foss Park, as well as sand fill to create a safe swimming area and to provide shoreline protection

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the waters of the state associated with a Section 404 permit application received by the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

The application, Public Notice/Fact Sheet, comments received, and other documents are available for inspection and may be copied at the IEPA at the address shown above between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please call Jenny Larsen at 217/782-3362.

JML:C-0020-13_401 PN and FS.docx

Fact Sheet for Antidegradation Assessment
For Foss Park District
IEPA Log No. C-0020-13
COE Log No. Chicago District
Contact: Diane Shasteen (217) 558-2012
Public Notice Start Date: September 8, 2014

Foss Park District ("Applicant") has applied for a 401Water Quality Certification for impacts associated with the construction of a breakwater-protected beach system along Lake Michigan in Section 4, Township 44 North, Range 12 East, Lake County, Illinois. The project site is located at 1901 Foss Park Avenue in North Chicago along the Lake Michigan shoreline of Foss Park. The proposed breakwater-protected beach system will include the construction of two quarrystone breakwaters at the south end of Foss Park, as well as sand fill, to create one swimming cell, reduce rip currents, and prevent sand washout in the system. The breakwater located to the south will be approximately 160' in length and curve in a northerly direction extending approximately 65' lakeward of the existing shoreline. Approximately 140' to the north, the second breakwater will be T-shaped extending 100 feet from the existing shoreline. The shore perpendicular portion will be approximately 120' long with a 6' wide crest and the shore parallel portion will be approximately 175' long with a 9' wide crest. Both breakwaters will have a lakeward crest height of 584' IGLD-85 (International Great Lakes Datum – 1985 adjusted). These breakwater additions will reduce wave energy, lakebed downcutting, and stabilize the sand on the beach. The purpose of the breakwater system is to provide shoreline protection for the existing bluff toe and a safe swimming area, which in its current state is unusable due to dangerous rip currents that occur regularly. The project will create a recreation destination in North Chicago and provide Foss Park with a safe, accessible beach for swimming and other recreational activities. The Applicant will use approximately 5,000 tons of clean quarried stone for construction of the breakwater which will cover approximately 0.38 acres. Approximately 6,715 tons of clean sand will be placed between the breakwaters and 80 yards to the north of the T-shaped breakwater in accordance to sand mitigation (20% overfill) required by the Illinois Department of Natural Resources (IDNR).

Information used in this review was obtained from the applicant in a document entitled; Joint Application Form for Illinois dated April 29, 2013 and revised June 12, 2013.

Identification and Characterization of the Affected Water Body.

Lake Michigan is a large oligotrophic lake subject to the Lake Michigan Basin water quality standards of 35 Ill. Adm. Code 302 Subpart E. Lake Michigan Nearshore (QLM-01) is listed as not supporting for Fish Consumption and Aesthetic Quality uses according to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List. The causes listed for impairment are Mercury and Polychlorinated biphenyls for Fish Consumption and Phosphorus (Total) for Aesthetic Quality use. Lake Michigan Nearshore is listed as fully supporting Aquatic Life, Public and Food Processing Water Supplies, Primary Contact Recreational, and Secondary Contact uses.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The pollutant load increases that would occur from this project include some possible increases in total suspended solids. These increases, a normal and unavoidable result of the placement of the quarrystone breakwater, may occur in the lake at the point of construction activity. Benthic habitat will also be disturbed in the vicinity of the construction area. The North Chicago Municipal water intake facility is located directly south of the proposed project. However, the intake for this facility is located further away from shoreline than the proposed breakwater construction and the property is protected by a stone and concrete revetment. Further to the south is the Great Lakes Naval Training Center which projects 2,100' into Lake Michigan and is protected by Great Lakes Harbor which anchors the property as a littoral barrier. In accordance with IDNR requirements, all fill material will be clean and from inland quarries. The fill includes clean quarried stone for construction of the breakwater and clean sand to be placed between the breakwater structures and 80' to the north of the T-shaped structure as sand mitigation.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids will be local and temporary. Lakebed downcutting has resulted in the loss of sand in this section of the coastline. Although the benthic habitat will be disturbed by the construction activities, it is anticipated to recover and improve over time due to the placement of sand over the downcut clay substrates and the additional habitat provided by the breakwater structures. Construction of the breakwater structures will be completed land-based using a backhoe working from the beach to place the materials along the shoreline. No disturbance is anticipated to the facilities down drift due to protection from their revetments and the location of the Great Lakes Harbor. New IDNR regulations will require surveys at one and five-year intervals to assure that a sand equilibrium is met and that the property is gaining and losing sand at a similar rate to neighboring properties.

Purpose and Social & Economic Benefits of the Proposed Activity.

The proposed breakwater system will replace an unsafe beach area (due to rip currents) in Foss Park, reduce the impacts of wave energy on the shoreline, protect benthic habitats by reducing lakebed downcutting, prevent the destabilization of the bluff face which could lead to the loss of land and infrastructure, and provide a safe, easily accessible beach for the citizens of North Chicago and the surrounding area.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

The Applicant has been working for the past 13 years to develop a plan for the Foss Park shoreline. Previous construction included a revetment with a perched wetland at the north end of the beach to protect an eroding bluff. Original plans for the shoreline protection project were determined using desktop coastal engineering, a bathymetric survey of site conditions, and several years of observations of shoreline conditions at the site. Design options considered for the proposed project are listed below.

Option 1:
Do nothing:

- Leaves currently eroding beach in existing state, which is unusable and inaccessible to residents due to lack of sand substrates and rip currents
- Storm waves will continue to erode the shoreline and cause lakebed downcutting
- Will lead to increased erosion of bluff during high lake levels
- Limits safe access to lake

Option 2:
Shore-connected Breakwater System-5 breakwater structures

- Original plan
- Provides protection of the shoreline and bluff
- Phased approach
- Dismissed due to
    - Financial reasons
    - Project became candidate in Great Lakes Fishery and Ecosystem Restoration Program (GLFER) grant program for northern shore environmental restoration and shoreline protection

Option 3:
Offshore Breakwater System- 2 breakwater structures

- Dissipates wave energy
- Prevents lakebed erosion
- Creates sand beach area at Foss Park
- Dismissed due to financial reasons

Option 4: Preferred Option
Shore-connected Breakwater System – 2 breakwater structures

- Dissipates wave energy and reduces rip currents
- Stabilizes sand on Foss Park beach and surrounding properties
- Provides protection to lakebed, beach and bluff
- Stone work creates habitat for aquatic species
- Creates a safe and accessible beach at Foss Park
- Allows park to utilize the GLFER grant program for environmental restoration

Conclusion:
The construction of the proposed project will follow conditions set forth by the Agency and USACE. The least intrusive alternative would be to not complete the project. This is not an acceptable alternative given the need to provide a safe, accessible beach area for Foss Park, as well as protect the bluff and lakebed from additional erosion during storm surges. Below average lake levels over the past few years has led to extreme beach erosion and greater lakebed downcutting and has left Foss Park with an unusable cobbled beach area plagued with rip currents. Although the beach is currently wide, the shoreline is rocky with a steep near shore profile. The best method for shore protection is in the form of a wide engineered beach that will protect the bluff toe from storm waves during extreme events and high lake levels. The smaller

system functions better from a littoral drift perspective at the reduced scale, provides a large recreational facility, and allows for participation in the GLFER grant program which will be utilized to restore the northern shoreline, considered a globally significant flyway for migratory songbirds between South America and Canada. Completion of the proposed project will allow for the protection of the Lake Michigan shoreline and nearby infrastructure, and provide residents safe access to the beach at Foss Park.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities

An EcoCAT endangered species consultation submitted on August 21, 2013 to the IDNR resulted in the identification of the Common Tern (*Sterna hirundo*) as a protected resource; IDNR has evaluated the EcoCAT information, concluded that adverse effects are unlikely, and terminated consultation for IDNR Project #1402748 on August 21, 2013.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the draft 401 Water Quality Certification was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the Lake Michigan shoreline by providing a breakwater system that reduces the impacts of wave energy, protects benthic habitats by reducing lakebed downcutting, prevents the destabilization of the bluff face which could lead to the loss of land and infrastructure, and creates a safe, accessible sandy beach for the residents North Chicago and the surrounding area. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.