IEPA Log No.: **C-0024-19**
CoE appl. #: **LRC-2016-00361**

Public Notice Beginning Date: **September 27, 2019**
Public Notice Ending Date: **October 14, 2019**

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

Section 401 Water Quality Certification for Discharge of Dredged or Fill Material

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: Ron Garriques – 999 Lake Road, Lake Forest, IL 60045

Discharge Location: Near Lake Forest in SW 1/4 of Section 27 of Township 44-North, Range 12-East of the East 3rd P.M. in Lake County.

Name of Receiving Water: Lake Michigan

Project Description: Proposed shoreline protection including repair of existing steel groin, addition of a quarrystone breakwater to the existing steel groin, addition of a quarrystone island breakwater, addition of shorelined quarrystone revetment and placement of compensatory beach sand.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge dredged or fill material 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 contact Darren Gove at email darren.gove@illinois.gov or phone no. 217/782-3362.

DRG:C-0024-19_401 PN and FS_11Feb19.docx

Fact Sheet for Antidegradation Assessment
For Ron Garriques
IEPA Log No. C-0024-19
COE Log No. LRC-2016-00361
Contact: Scott Twait 217/558-2012
Public Notice Start Date: September 27, 2019

Ron Garriques ("Applicant") has requested a Section 401 water quality certification for impacts to Lake Michigan associated with proposed construction of a shoreline improvement project needed to address bluff stability and aggressive shoreline erosion occurring at 999 Lake Road in Lake Forest, Lake County, Illinois.

The proposed shoreline improvements and bluff stabilization ("activity") includes terrace construction on the bluff to correct the currently unstable slope that is resulting in active loss of tableland. The activity also includes construction of a 50 foot long island quarrystone breakwater, a 60 foot long stub quarrystone breakwater attached to the north side of the existing southern steel groin, an improved 110 foot long quarrystone revetment along the bluff toe that includes removal of the existing steel seawall, and emplacement of quarrystone adjacent to the shoreward end of the existing southern steel groin to address erosion of this structure. These activities are designed to reduce incident wave action on the subject shoreline, reduce lakebed downcutting and provide a stable shoreline as a base for stabilization efforts on the failing bluff slope. The project will also include placement of clean quarry sand to reduce beach erosion and compensate for littoral sand that would likely have been captured by the improved shoreline. The total area of fill below the Lake Michigan Ordinary High Water Mark will be less than 0.10 acres and impacts will not extend beyond 120 feet lakeward of the toe of the bluff. The island breakwater would fill 0.043 acres and the stub breakwater would fill 0.046 acres. The project site lies between two existing steel groins and would utilize the eastern end of the southern groin as an attachment point for the stub breakwater. Access steps will be integrated into the shoreline end of the southern steel groin repair work. All fill material would be clean quarried stone and sand and work would be accomplished from the shoreline and barges. The total quantities of fill include 712 cubic yards of stone and 320 cubic yards of sand would be placed below Lake Michigan Ordinary High Water Mark (581.5 feet, LGLD 1985). The project is expected to take approximately upwards of 6 months to complete.

Information used in this review was obtained from the Joint Application Form received by the Agency on February 11, 2019 and subsequently submitted materials.

Identification and Characterization of the Affected Water Body.

Illinois has jurisdiction over 1,526 square miles of Lake Michigan open water, 3.88 square miles of Lake Michigan harbors and 64 miles of Lake Michigan shoreline, which are covered under the Lake Michigan Basin Water Quality Standards. Lake Michigan shoreline protection enhancement projects take place within two Lake Michigan Water types: Lake Michigan Open Waters and Lake Michigan Shoreline.

Lake Michigan Open Waters, Waterbody Segment, QLM-01, is listed on the draft 2018 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as mercury and polychlorinated biphenyls. Aquatic life, public and food processing water supply, primary recreational contact, secondary contact and aesthetic quality uses are fully supported.

Lake Michigan Shoreline Waters comprise 51 waterbody segments that span the entire 64 miles of Lake Michigan shoreline (excluding harbors and harbor entrances) within Illinois. Each of these segments are listed on the draft 2018 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as mercury and polychlorinated biphenyls and primary contact with a potential cause of Escherichia coli.

The Illinois EPA has completed 51 Total Maximum Daily Load (TMDL) reports to address primary recreational use impairments by bacteria at beaches along Lake Michigan's Shoreline in Illinois. These TMDL reports are presented in 3 separate documents for the following areas: Lake County (9 beaches), Suburban Cook County (13 beaches), and the City of Chicago (29 beaches). These documents are available at https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/reports.aspx

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

The pollutant load increases that would occur from the proposed activity include some possible increases in total suspended solids. These increases, a normal and unavoidable result of the construction of shoreline erosion protection structures, may occur in the lake at the point of construction activity.

Material used in the construction of this project includes or may include nonerodable quarry stone of varying sizes, sand obtained from construction sand quarries and steel sheet-pile.

Benthic habitat will also be disturbed in the vicinity of the construction area as open lakebed area would be converted to shoreline protection structures or overlain by additional sand.

TMDL reports have been prepared by the Agency and approved by the USEPA for 51 beaches along Illinois' Lake Michigan shoreline to address Primary Contact Use Recreation impairments due to excess bacteria. The proposed activity may occur within an area identified by the report "Shoreline Segments in Lake County, Illinois", May 15, 2013, as a Beach Protection Area subject to that TMDL. The proposed activity would alter the shape of the shoreline in the vicinity of the project but is not expected to cause the effects associated with embayments in the nearshore waters and therefore is not considered a potential source of pathogenic bacterial loading of nearby public beaches.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids, from the construction of the quarry stone breakwater, will be local and temporary.

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 exposed clay lakebed substrates. Additionally, the voids within the proposed quarry-stone breakwater structures are expected to provide a stable and diverse habitat opportunity for fish and other aquatic species.

No mitigation is proposed for this project because the total area of waters of the U.S. impacted by this project is less than the 0.1 acres deemed by the Corps of Engineers to be the threshold of minimal adverse environmental impact.

Supplemental information provided by the applicant regarding strategies to reduce E. coli loading as a result of beach modification indicate that the project would comply with the TMDL's water quality concentration limit load allocation of 126 cfu/100ml. The proposed embayment of the shoreline would be created with clean fill materials and would feature greater slope and a smaller swash zone. These and additional proposed improvements are expected to contribute to an overall reduction of E. coli loading to the segment of Lake Michigan shoreline impacted by this project and meet the TMDL's goals.

Purpose and Anticipated Benefits of the Proposed Activity.

The purpose of Lake Michigan shoreline protection enhancement projects are to establish a more stable layer of sand that serves to reduces downcutting of the clay lakebed and prevents erosion along the project-affected length of the shoreline as well as to provide a higher level of shoreline protection during higher lake levels and larger storm waves. The purpose of the proposed sand nourishment is to offset any littoral sands whose drift would be restricted by the proposed shoreline protection structures and to maintain sand lost during storm events. Erosion of the lakebed and bluff, if not prevented, would undermine existing shoreline structures or the bluff and result in additional beach erosion and resuspension of clays found in the substrate material.

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

Given that suspended solids are the pollutants primarily associated with the Lake Michigan shoreline protection enhancement projects, the incorporation of best management practices are the most practical means of pollution prevention. Such practices include performing work with heavy machinery from outside of the water as on a barge or from the shoreline and careful placement techniques when constructing offshore breakwater structures. Practical alternatives to structural shoreline protection such as dune plantings and living shorelines generally are not recommended for coastal zones with high levels of wave action. Shoreline structures placed upland of the ordinary high-water mark such as shore parallel stone revetment may not be suitable for all stretches of shoreline. The variability of Lake Michigan's shoreline including but not limited to orientation relative to wave attack, nearby existing structures, lakeward and landward shoreline profiles, existing depths of beach sand, and proximity of residential/commercial structures all factor into the applicant's determination of shoreline protection needs. Costs of shoreline stabilization work is significant and under-engineered structures that end up failing may result in additional repair work, erosion of tableland or loss of property. The do nothing alternative would leave the eroding shoreline in its existing state, which would lead to lakebed downcutting and additional shoreline erosion. Higher lake levels and larger storm waves would cause increased vulnerability of the tableland or bluff and therefore greater risk of property loss. The construction of the proposed project would follow conditions set forth by the Agency, Illinois DNR and USACE. The least intrusive alternative would be to not complete the project. This is not an acceptable alternative given the need to protect the shoreline from additional erosion during storm surges. Completion of the proposed project would allow for protection of Lake Michigan shoreline and nearby structures.

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

On August 19, 2019 IDNR's Division of Ecosystems and Environment determined that protected resources that may be in vicinity of the proposed project are not likely to have adverse effects as a result of this activity. This review also considered cultural resource impacts of the project and concluded that the project would be in compliance with the Illinois State Historic Resources Preservation Act.

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 this assessment 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 provide a stable shoreline system that reduces the impacts of wave energy, protects benthic habitats, prevents the further bluff destabilization, retains a sandy beach area, and provides access for landowners to the lake. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.