

IEPA Log No.: **C-0083-17**
CoE appl. #: **LRC-2017-00262**

Public Notice Beginning Date: **November 29, 2017**
Public Notice Ending Date: **December 20, 2017**

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

Section 401 Water Quality Certification to Discharge into Waters of the United States

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: Ed Fiorentino – 603 Lansdowne Lane, Lake Bluff, IL 60044

Discharge Location: Near Lake Bluff in South East 1/4 of Section 21 of Township 44N, Range 12E of the 3rd P.M. in Lake County.

Name of Receiving Water: Lake Michigan

Project Description: Proposed bluff and shoreline protection structures.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the Waters of the United 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 Darren Gove at 217/782-3362.

DRG:C-0083-17_401 PN and FS_15Mar17.docx

Fact Sheet for Antidegradation Assessment
For Ed Fiorentino
IEPA Log No. C-0083-17
COE Log No. LRC-2017-00262
Contact Abby Brokaw 217-782-0513
Public Notice Start Date: November 29, 2017

Ed Fiorentino (“Applicant”) has applied for a 401 Water Quality Certification for impacts associated with the construction of a quarystone and sand shoreline protection project along Lake Michigan in Section 21, Township 44 North, Range 12 East, Lake County, Illinois. The project site is located at 603 Lansdowne Lane in Lake Bluff.

The proposed shoreline protection project will stabilize approximately 220 feet of Lake Michigan shoreline. The existing conditions of the shoreline at this project site include a short steel groin at the southern extent of the Applicant’s property and a longer steel groin approximately 375 feet to the north. There is a drainage ravine outlet that is just south of this northern steel groin. The proposed shore stabilization features will extend from the southern steel groin to just south of the ravine.

The project will feature two short stone groins at the south and north limits of the project. Between these stub groins, continuous armor stone revetment will be emplaced immediately adjacent to the eroding bluff. The southern stub groin will be tied directly into the existing steel groin structure and proposed bluff toe revetment and will extend north lakeward approximately 60 feet. At the northern project limit a 65-foot long stub groin will be constructed to provide transition from the proposed bluff toe revetment to ravine drainage outlet.

Drainage discharge functions of the ravine are not expected to be hindered by the stone groin. The two quarystone groins will collectively form an embayment that will assist with holding sand for the restored beach. The area of fill within Lake Michigan associated with the south groin and connected revetment is reportedly 0.07 acres and 0.01 acres for the north stub groin. For both proposed groins, 276 cubic yards of clean quarystone will be placed below the Ordinary High Water Mark (OHWM) of 581.5 ft (IGLD85). Because the area of fill within waters of the U.S. is less than 0.1 acres the applicant has not proposed a compensatory mitigation plan. Additionally, bluff toe stabilization consisting of 190 feet of armor stone revetment will be placed outside of jurisdictional waters of the U.S. and will tie together the two stub groins. The 800 cubic yards of exposed beach clay will be excavated lakeward of the bluff toe but landward of the OHWM to be used as compacted fill to provide a more stable slope where a highly eroding escarpment now exists. The beach clay excavation will be filled with clean beach sand and graded to a stable sand beach slope of 10:1, sand fill below the OHWM amounts to 594 cubic yards.

The purpose of the shoreline protection project is to provide a stable shoreline and beach system capable of withstanding wave attack during all lake levels and protecting residential structures immediately upland. Information used in this review was obtained from the Joint Application Form and additional information for the project titled “Proposed Bluff Stabilization and Shoreline Protection Structure” received by the Agency on March 17, 2017.

Identification and Characterization of the Affected Water Body

Lake Michigan is classified as a Lake Michigan Basin Use Water and has zero cfs of flow during critical 7Q10 low-flow conditions. Lake Michigan, Waterbody Segment IL_QLM-01, is listed on the draft 2016 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 aesthetic quality use with potential cause given as phosphorus. Aquatic life, public and food processing water supply, primary recreational contact, and secondary contact uses are fully supported. Lake Michigan is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor is it given an integrity rating in that document. A Total Maximum Daily Load (TMDL) Report has been prepared 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 does not occur within an area identified by the May 15, 2013 report "Shoreline Segments in Suburban Lake County, Illinois" as a Beach Protection Area and therefore is not subject to this TMDL.

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 quarrystone groin structures and revetment, may occur in the lake at the point of construction activity. Benthic habitat will also be disturbed in the area of construction, but impacts to aquatic life uses of this area are not anticipated. Due to the heavily eroded conditions of the project area and the exposure of lakebed clay and loss of sand, the project may improve water quality by minimizing erosion and may provide an improved habitat for aquatic species. All fill material will be clean (uncontaminated) quarried stone for construction of the groins and clean sand will be used to restore beach area with beach nourishment sand. A list of Best Management Practices to address *E. Coli* impairments have been provided for incorporation into the design and maintenance of the residential shoreline protection structure.

Fate and Effect of Parameters Proposed for Increased Loading

The increase in suspended solids will be local and temporary. Historic shoreline modifications and 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 new quarrystone habitat and beach sand nourishment.

Implementation of erosion control measures consistent with the Illinois Urban Manual www.aiswcd.org/illinois-urban-manual will be required for all construction activities.

Purpose and Social & Economic Benefits of the Proposed Activity

The proposed groin and revetment shoreline protection system will help retain a sandy beach area, prevent the destabilization of the bluff and reduce the impact of storm wave energy on lakebed downcutting which in turn will protect benthic habitat. Failure to protect the shoreline could lead to the loss of land and infrastructure and continued downcutting of the lakebed.

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

Four design options were considered for the proposed project.

Option 1:

Do nothing:

- Leaves currently eroding beach in existing state, which has frequently been a non-existent sand beach
- Storm waves will continue to attack bluff
- Will lead to increased erosion of bluff during high lake levels

Option 2:

Construct stable beach profile with armored slopes and bluff:

- Regrades clay surface beach to 15H:1V slope
- Reuses excavated clay to create a stable beach profile protected with armor stone
- Fills regraded slopes with sand
- Creates revetment to address unstable vertical slope
- Creates two stone groins

Option 3:

Beach Creation

- Requires large groins to hold beach
- Includes shoreline protection features of option 2

Option 4:

Vertical Wall Slope Stabilization

- Difficult access for required pile driven or drilled supports
- Costly and impracticable for this site
- Would require wall toe armor stone to protect from wave attack

Conclusion:

Applicant has selected Option 2 for implementation. 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 protect the bluff and lakebed from additional erosion during storm surges. Completion of the proposed project will allow for protection of the Lake Michigan shoreline and nearby residential structure.

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

On August 1, 2017, IDNR's Division of Ecosystems and Environment issued notification under Project #1711534 that an EcoCAT endangered species consultation determined that adverse effects from the proposed activities are unlikely and consultation has been terminated. However, IDNR noted that the state-threatened plan ground juniper (*Juniperus communis*) may occur in the project area. While correcting the erosion issue will likely provide benefits, the plant could be harmed during project implementation. IDNR recommends the contractor search for the plant and avoid if found. If avoidance is not possible, consider seed collection, re-planting, and topsoil conservation to help promote the continued existence of this plant in the area. Pursuant to the Illinois Endangered Species Protection Act, state-listed plants belong to the landowner and express written permission should be obtained to "take" listed plants.

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 benefit the Lake Michigan shoreline by providing a stable shoreline system that reduces the impacts of wave energy, protects benthic habitats by reducing lakebed downcutting, prevents the further bluff destabilization which could lead to the loss of land and infrastructure, retains a sandy beach area, and provides access for landowners and their watercraft 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.