

IEPA Log No.: **C-0367-16**
CoE appl. #: **2016-668**

Public Notice Beginning Date: **December 4, 2017**
Public Notice Ending Date: **January 4, 2018**

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
Division of Water Pollution Control
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-3362

Name and Address of Discharger: BLM Heritage, LLC, 1741 Harding, Northfield, IL 60093

Discharge Location: Section 21, T42N, R13E of the 3rd P.M. in Cook County within Winnetka

Name of Receiving Water: Lake Michigan.

Project Description: Breakwater Protected Beach and Revetment 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 Thaddeus Faught at 217/782-3362.

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Fact Sheet for Antidegradation Assessment
BLM Heritage, LLC – Lake Michigan – Cook County
IEPA Log # C-0367-16
COE # LRC-2016-668
Contact: Abby Brokaw 217/782-3362
December 4, 2017

BLM Heritage, LLC, (“Applicant”) has applied for a 401 Water Quality Certification for impacts associated with the construction of a breakwater and revetment protection project along Lake Michigan in Cook County, Illinois. The project site is located at 333 Willow Road in Winnetka.

The proposed shoreline stabilization project includes construction of a steel groin, quarrystone breakwater, and quarrystone spur; reconstruction of the existing quarrystone revetment; and removal of an old timber crib structure. The existing conditions at this project site include a deflated quarrystone revetment at the toe of the bluff and an old timber crib structure. The crib is located along the north property line approximately 90 feet east of the bluff toe and extends approximately 90 feet further east. During record low lake levels there was a minimal sandy beach present at this site; however, during most lake levels there is no exposed beach.

The existing revetment would be reconstructed with the new toe established west of the furthest eastern extent of the revetment. The proposed steel groin would extend 50 feet east of the bluff toe beginning at the south property line then angles to the northeast quarrystone breakwater for an additional 45 feet. Quarrystone will be placed on the lake facing side of the east leg of the steel and will continue around the steel groin ends. The total length of the steel groin and quarrystone breakwater structures would not extend beyond 125 feet from the bluff toe. The quarrystone slope will be 1.5h:1v with an armor layer of 2-5 feet of armorstone. The lakeward face will be 2-layer random placement and the landward face will be special placement. The crest elevation of the south breakwater will taper from 585.5 feet (IGLD 1985) at the landward end along the steel to 584 feet at the lakeward end. The placement of 950 tons of sand will contribute to the reduction in lakebed downcutting. Total fill for the new quarrystone breakwater, new quarrystone spur and revetment reconstruction total 0.09 acres. Stairs would be integrated into the reconstructed revetment to provide access from the beach up the bluff, as well as over the steel groin and breakwater spur.

The purpose of the shoreline 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 cover letter and attached *Design of Shoreline Erosion Protection* report received by the Agency on March 10, 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 occurs within an area identified by the report "Shoreline Segments in Suburban Cook County, Illinois" May 15, 2013 as a Beach Protection Area subject to that TMDL.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses

The pollutant load increases that would occur from this project include possible increases in total suspended solids. These increases, a normal and unavoidable result of the placement of the steel and quarrystone breakwater, steel groin structure and quarrystone 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 quarried stone for construction of the groins and clean sand will be used to restore beach area with beach nourishment sand. No mitigation is proposed for this project as total impact to waters of the U.S. totals 0.09 acres (area of breakwater, groin structure and revetment) and this is less than the threshold of 0.1 acres requiring mitigation.

Supplemental information provided by the applicant regarding strategies to reduce E. Coli loading due to beach modification indicate that the project will comply with the TMDL's water quality concentration limit load allocation of 126 cfu/100ml. To prevent the pocket beach from becoming a sink for upland contaminants, surface runoff to the beach will be minimized with improvements to a vegetated buffer strip on the adjacent tableland and bluff. Project improvements may contribute to an overall reduction of E. Coli loading from the segment of Lake Michigan shoreline impacted by this project.

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 breakwater habitat and beach sand nourishment.

No mitigation is proposed for this project as total impact to waters of the U.S. totals 0.09 acres (area of breakwater, groin structure and revetment) and this is less than the threshold of 0.1 acres requiring mitigation. 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.

Purpose and Social & Economic Benefits of the Proposed Activity

The proposed quarrystone breakwater 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 this project using desktop coastal engineering, bathymetric surveys, and more than 2 decades of observations of the shoreline conditions at this site.

Option 1:

Do nothing:

- Leaves currently eroding beach in existing state
- Lakefront remains vulnerable to storm waves causing downcutting and possible failure of the existing revetment
- Increases risk of bluff toe erosion during high lake levels

Option 2:

Enhance existing revetment:

- Uses USACE design standard to properly size stone and revetment height
- Protects bluff and tableland
- Leaves lakebed vulnerable to erosion and negligible to no shoreline sand

Option 3:

Island Breakwater

- Construction of offshore quarrystone breakwater island
- May result in continued scouring of lakebed and an unprotected bluff/lakebed

Option 4:

Original Permit Request: Quarrystone breakwater beach system

- Construction of a steel and quarrystone shore-connected breakwater and breakwater spur to create a pocket beach
- System would be filled with 1,785 tons of clean sand
- Protects glacial clay lakebed, beach and bluff with safe access to Lake Michigan
- Stabilizes sand on adjacent beaches by reducing wave energy

Option 5:

Revised Permit Request: Quarrystone breakwater beach system

- Construction of a steel and quarrystone shore-connected breakwater and breakwater spur to create a pocket beach
- System would be filled with 950 tons of clean sand
- Protects glacial clay lakebed, beach and bluff with safe access to Lake Michigan
- Stabilizes sand on adjacent beaches by reducing wave energy

Conclusion:

After discussion with the southern neighbor, the Applicant has selected Option 5 (Revised Permit Request) 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 November 14, 2016, IDNR's Division of Ecosystems and Environment issued notification under Project #1703524 that an EcoCAT endangered species consultation determined that adverse effects from the proposed activities are unlikely and consultation has been terminated.

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.