IEPA Log No.: **C-0342-14**
CoE appl. #: **LRC-2012-00454**

Public Notice Beginning Date: **August 27, 2014**
Public Notice Ending Date: **September 26, 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: Matthew Halbower – 123 Oxford Road, Kenilworth, IL 60043

Discharge Location: Near Kenilworth in NE 1/4 of Section 27 of Township 42N, Range 13E of the 3rd P.M. in Cook County.

Name of Receiving Water: Lake Michigan

Project Description: Proposed quarrystone breakwater island.

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 Darren Gove at 217/782-3362.

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Fact Sheet for Antidegradation Assessment
For Matthew Halbower
IEPA Log No. C-0342-14
COE Log No. LRC-2012-00454
Contact: Diane Shasteen (217) 558-2012
Public Notice Start Date: August 27, 2014

Matthew Halbower ("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 27, Township 42 North, Range 13 East, Cook County, Illinois. The project site is located at 40 Devonshire Lane, Kenilworth, along the Lake Michigan shoreline. The proposed breakwater-protected beach system will include the construction of a 50' quarrystone breakwater island extending south from and immediately adjacent to, but not touching, the existing steel groin (southern boundary of Kenilworth Beach) adjacent to the Applicant's northern property line. The breakwater lakeward toe will extend approximately 125' east of the existing seawall with additional toe protection extending 20' further (145' east of seawall; 4' height) to help reduce currents and wave energy at the groin and will have a lakeward crest elevation of 583' IGLD-85 (International Great Lakes Datum – 1985 adjusted). The breakwater addition along with 1,820 tons of clean sand fill will reduce rip currents, wave energy, lakebed downcutting, and stabilize the sand on the beach. The purpose of the breakwater island is to provide shoreline protection by replacing a low seawall and a deflated limestone revetment. A breakwater system will be created by completing this project in conjunction with a 75' quarrystone breakwater island proposed for the down drift property owned by Daniel M. Gill (C-0311-14). The project proposes dismantling the existing revetment and recycling the revetment stones as part of the new breakwater structure's bedding and core material. The breakwater will require an additional 340 cubic yards of clean, quarried quartzite and will cover approximately 0.043 acres. Approximately 1,820 tons of clean sand will be placed along the shoreline 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 11, 2014.

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. In accordance with IDNR requirements, all fill material will be clean and from inland quarries. The fill includes clean, quarried quartzite stone for construction of the breakwater and clean sand to be placed along the beach 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 by land-based machinery working from the beach to place the materials along the shoreline. Trucks will deliver sand and a barge will deliver equipment and stone to the site. This project along with the Gill property project creates a beach protection system that will protect the shoreline of both properties. 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 help create a sandy beach area, reduce the impacts of wave energy on the revetment and shoreline, protect benthic habitats by reducing lakebed downcutting, prevent the destabilization of the seawall and bluff face which could lead to the loss of land and infrastructure, and provide safe access to Lake Michigan for landowners.

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

Options for shoreline protection were determined using two decades of deteriorating shoreline observations, desktop coastal engineering, and a bathymetric survey of site conditions. Five design options were considered for the proposed project.

<u>Option 1:</u>
Do nothing:

- Leaves currently eroding beach in existing state, which has frequently been a non-existent sand beach
- Storm waves will continue to overtop revetment and seawall
- Will lead to increased erosion of the land west of the seawall even during low lake levels
- Lake bed erosion leads to destabilization of the already deflated revetment
- Limits safe access to lake

<u>Option 2:</u>
Enhance revetment only:

- Provides protection for the seawall and land to west

- Does not prevent erosion of the lakebed which will ultimately destabilization the revetment toe
- Does not maintain sand in the landward section of the lake

Option 3:
Shore-Connected Steel Groin and Breakwater Beach

- Dissipates wave energy
- Prevents lakebed erosion
- Stabilizes the revetment toe
- Provides groin toe protection
- Would not meet approval of adjacent landowners for beach access

Option 4:
Large Breakwater-Protected Beach

- Increased costs and resource degradation
- Would not hold a stable beach
- Not likely to be permitted by regulatory agencies

Option 5: Preferred Option
Small Island Breakwater-Protected Beach

- Dissipates wave energy
- Stabilizes sand on adjacent beaches
- Provides protection to lakebed, beach and bluff
- Two island breakwater system built in conjunction with south neighbor (Gill)
- Maintains landowners access across beach with no obstruction

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 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. Completion of the proposed project will allow for protection of the Lake Michigan shoreline and nearby infrastructure and provide residents safe access to the lake.

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

An EcoCAT endangered species consultation submitted on April 16, 2014 to the IDNR resulted in the identification of the Sea Rocket (*Cakile endentula*) as a protected resource; IDNR has evaluated the EcoCAT information, concluded that adverse effects are unlikely, and terminated consultation for IDNR Project #1410374 on April 16, 2014.

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 seawall and bluff face which could lead to the loss of land and infrastructure, retains the sandy beach area, and provides residential access 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.