Illinois Environmental Protection Agency
Bureau of Water, Permit Section
(IEPA)

1021 North Grand Avenue East, Post Office Box 19276, Springfield, Illinois 62794-9276, 217/782-3362

The IEPA has issued a Public Notice of a request for a Clean Water Act Section 401 water quality certification that would allow the issuance of a federal permit for the discharge of pollutants to waters of the State.

Public Notice Beginning Date:	**Public Notice Ending Date:**
Monday, May 5, 2025	Monday, May 12, 2025

Agency Log No.: C-0158-25

Federal Permit Information: Federal permit/license no. Bay Island PL84-99 CWA is under the jurisdiction of Rock Island District, Regulatory Branch U.S. Army Corps of Engineers

Name and Address of Discharger: USACE, Rock Island District, Roger Perk - Bay Island Drainage and Levee District Levee, upstream and downstream of Lock and Dam 17, P.O. Box 2004, New Boston, IL 61272

Discharge Location: In Section 9 of Township 14-North and Range 6-West of the West 4th Principal Meridian in Mercer County. Additional project location information includes the following: Bay Island Drainage and Levee District Levee, upstream and downstream of Lock and Dam 17, New Boston, IL 61272

Name of Receiving Water: Mississippi River, Pools 17, 18

Project Name/Description: Bay Island Drainage and Levee District 2023 Event PL84-99 Emergency Scour Hole Work - proposed repairs to the Bay Island Drainage and Levee District including the placement of stone protection in scour holes and the shaping and grading of sand levee to restore authorized levee slopes and grades

Construction Schedule: Beginning Oct 2024 and ending Oct 2025

The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters must provide their name and address along with comments on the certification request. The IEPA Log number must appear on each comment page. Commenters may include a request for public hearing. Only hearing requests and comments that pertain to Clean Water Act Section 401 authority will be considered. This authority provides consideration of whether the permit or license would be consistent with Sections 301, 302, 303, 306, or 307 of the CWA, as well as "any other appropriate requirement of State [or tribal] law". Requests for additional comment period must provide a demonstration of need. The final day of comment acceptance will be on the Public Notice Ending date shown above, unless the IEPA grants an extended notice period. The attached Fact Sheet provides a detailed description of the project and the findings of the IEPA's antidegradation assessment.

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 see the contact information below.

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Post Document. No. C-0158-25-05052025-PublicNoticeAndFactSheet.pdf

401 Water Quality Certification Fact Sheet for Bay Island Drainage and Levee District Flood Repairs

IEPA Log No. C-0158-25

Contact: Angie Sutton 217-782-9864

This memo replaces memo log number C-0122-24 dated April 16, 2025, in order to provide greater detail into the project description as well as to include specific sections of the antidegradation assessment.

U.S. Army Corps of Engineers ("Applicant") is seeking a modification for a 401 Water Quality Certification for impacts associated with repairs of new damages to the Bay Island Drainage and Levee District (levee sustained during flooding in 2023 and 2024). The project site is located in Mercer County on the left descending bank of the Mississippi River and the north bank of Sturgeon Bay and Boston Bay between river miles (RM) 434 and 451. The project area lies within Mississippi River Pools 17 and 18 with Lock and Dam 17 in the middle of the project area in Township 14 North, Range 6 West, Section 26, near New Boston, Illinois. The levee system sustained damage from both the 2023 and 2024 flood events in which the levee sustained erosion damage along approximately 21,270 feet of its length as well as a large scour hole near RM 436.5.

This project is associated with the larger Bay Island Drainage and Levee District Flood Repair project (C-0122-24). This project is a separate emergency project.

The proposed project consists of repairs to sixteen sections of the levee by placement of pervious fill, bedding stone, or riprap as needed.

Repair Area 1- consists of three distinct repair areas totaling approximately 1325 LF: approximately 400 linear feet (LF) of scour damages along the toe of the levee where the foreshore has washed away will receive bedding stone and riprap**;** approximately 400 LF of scour damages along the toe of the levee where the foreshore has washed away will receive pervious fill; and approximately 525 LF of scour damages along the toe of the levee where the foreshore has washed away will receive pervious fill

Repair Area 2a **-** has approximately 1025 LF of wave wash damage along the toe of the levee where pervious fill will be placed to restore the degraded slope back to the original design grade.

Repair Area 2b **-** has approximately 2670 LF of damage along the toe of the levee where pervious fill will be placed to restore the degraded slope back to the original design grade.

Repair Area 3 - consists of two distinct repair areas totaling approximately 1600 LF**:** approximately 900 LF of scour damage will receive bedding stone and riprap and approximately 700 LF of wave wash damage along the toe of the levee receive pervious fill to restore the degraded slope back to the original design grade.

Repair Area 4 - has approximately 4600 LF of wave wash damage where pervious fill, bedding stone and riprap will be placed.

Repair Area 5a - has approximately 2660 LF of wave wash damages where pervious fill will be placed to restore the degraded slope back to the original design grade.

Repair Area 5b **-** has approximately 2030 LF of wave wash damages where pervious fill will be placed to restore the degraded slope back to the original design grade.

Repair Area 5c - has approximately 550 LF of wave wash damages where pervious fill will be placed to restore the degraded slope back to the original design grade.

Repair Area 5d **-** has approximately 2100 LF of wave wash damages where pervious fill will be placed to restore the degraded slope back to the original design grade.

Repair Area 6a - has approximately 830 LF of damages will receive bedding stone and riprap.

Repair Area 6b - has approximately 1050 LF of damages will receive bedding stone and riprap.

Repair Area 7 - has approximately 830 LF of scour damage will receive bedding stone, riprap, and pervious fill.

A large scour hole has developed within the levee prism at RM 436.5, immediately adjacent to Repair Area 4. The scour is approximately 25 feet deep, 75 feet wide, and 2,225 feet in length. The scour will be repaired by placement of approximately 35,000 cubic yards of riprap.

The repairs will require approximately 66,760 cubic yards (CY) of rip rap and 4600 CY of sand fill to 7.2 acres of the Mississippi River LDB and 3.5 Ac of Sturgeon and Boston Bays. The project addresses the erosion of the levee slope due to wave wash and scour during a flood (high water) event and will protect the levee against future damages. The erosion protection stone (riprap) will be placed along the riverside slope of the levee as indicated in the plans to restore the original design section. The repair work is to be done from the land or floating plant based on access at each repair area. The degree and level of protection provided will not increase as a result of placement of fill material.

Information used in this review was obtained from the application documents dated June 13, 2024, June 18, 2024, June 20, 2024, and March 21, 2025,

Identification and Characterization of the Affected Water Body.

The Mississippi River has 15,310 cfs of flow during critical 7Q10 low-flow conditions and is classified as General Use Water. The Mississippi River 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.

- The Mississippi River, Waterbody Segment IL_M-02, is listed on the 2020/2022 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption with potential causes given as aldrin, dieldrin, endrin, heptachlor, mercury, mirex, polychlorinated biphenyls (PCBs), and toxaphene. Aesthetic quality, aquatic life, primary contact, and public and food processing water supply uses are fully supported. This segment of the Mississippi River is not subject to enhanced dissolved oxygen standards.

- The Mississippi River, Waterbody Segment IL_K-22, is listed on the 2020/2022 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption with potential causes given as aldrin, dieldrin, endrin, heptachlor, mercury, mirex, polychlorinated biphenyls (PCBs), and toxaphene and public and food processing water supply use with a potential cause given as iron. Aesthetic quality, aquatic life, and primary contact uses are fully supported. This segment of the Mississippi River is not subject to enhanced dissolved oxygen standards.

The scope of this project does not include dredging or associated water quality impacts therefore no field sampling or laboratory analysis was deemed necessary by the applicant.

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 are a normal and unavoidable result of fill placement activities and are expected to be minor and temporary during riprap placement and return to ambient conditions once construction is completed.

Riprap stone to be used for repairs is physically stable and clean, reducing the chances for impacting the Mississippi River. All riprap stone would be clean and reasonably free from soil, quarry fines, and refuse.

Though final determinations for the source of material have not been made, materials would be obtained from approved pits/quarries in the project vicinity and would be free of chemical contaminants. Pervious earthen fill will be taken from the Keithsburg DMMP site, with the Bass Island DMMP site being available as a backup.

The use of clean quarry-run riprap and the methods of placement will not introduce contaminants into the aquatic system. Approximately 66,760 CY of rip rap and 4600 CY of sand fill is expected to be discharged as a result the levee repair project. Neither the materials used, nor the placement method cause relocation or increases of contaminants in the aquatic system.

Fate and Effect of Parameters Proposed for Increased Loading.

Increases in suspended solids will be local and temporary for deposits of fill materials. Benthic organisms would be temporarily displaced due to construction activity but are expected to recolonize over time. All constructions access would take place from the crown of the levee, and the toe of the levee (if necessary). The construction footprint was kept as small as possible in order to minimize impacts. Land or floating plant access dredging will be utilized and excavated material will be used to fill damaged areas or along the landside toe of the levee.

Riprap stone to be used for repairs is physically stable and clean, reducing the chances for impacting Mississippi River, Sturgeon Bay, and Boston Bay.

Pervious borrow material is to be placed via heavy equipment on the riverside slope of the existing levee after the topsoil layer has been stripped of existing vegetation. Layer thickness and compaction is per the plans and specifications. Pervious fill in excess of the amount available for reshaping at each site will be taken from benching the levee to install the clay cap.

No long-term adverse impact to the overall water quality, water circulation, fluctuations and salinity determination are anticipated; therefore, no mitigation measures are proposed by the applicant.

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

The applicant has provided the following alternatives:

No Action: This option would not allow for federal assistance to be provided for emergency repairs under PL84-99 authority or funding sources. It would then be assumed that the sponsor would initiate repairs as local funding allows, however these repairs may not be to USACE standards or completed in a timely manner. This alternative is not acceptable as the LD&D could sustain further damages beginning at a 2.5% flood event. Damages sustained could include flooding and prevent land use, therefore resulting in severe economic hardship to land/property owners.

Non-Structural Alternatives: This alternative consists of non-structural approaches which involve changes in land use offered by other Federal and state programs. These strategies would include:

- acquisition, relocation, elevation, and flood proofing existing structures
- rural land easements and acquisitions

- wetland restoration

Non-structural Alternatives are not reasonable alternatives as the design flood risk management to the urban and agricultural areas protected by the levee is desired.

Structural Alternatives: This alternative consists of structural plans to protect the Levee System from further damage which typically consists of repairs to the levee system. The structural alternatives studied include:

- Repair Levee to Original Condition. This alternative would repair the levee slope erosion with in-kind sand fill and/or reshaping the existing levee to the original slopes and grades of the levee embankment.
- Construction of a Setback levee. This alternative consists of degrading the existing levee and constructing a replacement setback further from the Mississippi River. Because it is likely that river currents and waves could remain high and ultimately damage a setback sand levee, this alternative was discarded as the preferred alternative.
- Place Clay Cap in Damaged Area. This alternative would utilize placement of a 2-foot-thick clay cap on the levee slope to repair the slope erosion on the levee, maintaining the original levee grade.
- Place Riprap in Damaged Area. This alternative consists of placing riprap revetment materials and bedding to repair the levee slope erosion.

The no action and non-structural alternatives were not selected as they would not meet the purpose and need of the project.

Preferred Alternative. The preferred alternative is to repair the levee with a combination of repairing the levee to its original condition and placing riprap in damaged areas. Repair specifics are outlined in the first section of this assessment.

The Project addresses the erosion of the levee slope due to wave wash and scour during a flood (high water) event and will protect the levee against future damages. The erosion protection stone (riprap) will be placed along the riverside slope of the levee as indicated in the plans to restore the original design section. The repair work is to be done from the land or floating plant based on access at each repair area. The placement of material will not increase the Project degree or level of protection.

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

Federally listed threatened, endangered, or candidate species that may occur in the project area include Indiana bat *(Myotis sodalis)*, Northern long-eared bat; [NLEB] *(Myotis septentrionalis)*, Tri-colored bat *(Perimyotis subflavus)*, Whooping crane; [experimental population] *(Grus americana)*, Higgins-eye pearlymussel (*Lampsilis higginsii*), sheepnose mussel (*Plethobasus cyphyus*), spectaclecase mussel (*Cumberlandia monodonta*), Monarch butterfly *(Danaus plexippus)*, and Eastern Prairie Fringed Orchid *(Platanthera leucophaea).* Listed bat species utilize large trees with loose or peeling bark, or among leaves of live or recently dead trees (as in the case of the tricolor bat) as roost sites during summer months and spend winter hibernating in caves and mines. The mussel species are often in shallow areas of large rivers with moderate to swift currents that flow over coarse sand or gravel. The eastern prairie fringed orchid occurs in a variety of habitats, from dry prairie to wetlands and bogs. The proposed repairs are not expected to disturb these types of habitats. Tree removal will be kept to a minimum and the trees proposed for removal are small stands of trees located near or at the levee and not in interior forested habitat. Mussel habitat is not expected to be adversely affected, as these repair areas are within the main channel and continual erosion due to navigation traffic and mooring as well as the recent flood damages create unstable habitat which is unsuitable for listed mussel species. The scour hole at RM 436.5 is actively eroding and causing unstable conditions preventing establishment of T&E mussel species. Placement of riprap will stabilize the bank, reduce erosion, and create improved habitat for listed mussel species. For these reasons, the District has determined the Project will have no effect listed species.

On June 13, 2024, an IDNR EcoCAT consultation (Project # 2416608) was initiated for the proposed project site. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. On July 11, 2024, the Department evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is 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 would 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 would benefit the Bay Island Drainage and Levee District by providing an increased level of flood risk management to the area. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.