

**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:

Tuesday, September 10, 2024

Public Notice Ending Date:

Monday, September 30, 2024

Agency Log No.: C-0111-24

Federal Permit Information: Federal permit/license no. LRL-2023-258 is under the jurisdiction of Louisville District, Regulatory Branch U.S. Army Corps of Engineers

Name and Address of Discharger: Illinois Department of Transportation, Ehren Kirby; Christa Mahnken - 2801 West Murphysboro Road, Carbondale, IL 62901

Discharge Location: In Section 33 of Township 3-South and Range 14-West of the East 3rd Principal Meridian in White County. Additional project location information includes the following: I-64 Bridge over Wabash River, Grayville, IL 62844

Name of Receiving Water: Wabash River

Project Name/Description: I-64 Bridge over Wabash River - proposed removal and replacement of the I-64 bridges (SN 097-0003 and SN 097-0004) over the Wabash River due to their age and poor condition

Construction Schedule: Beginning Jul 2024 and ending Nov 2029

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-0111-24-09102024-PublicNoticeAndFactSheet.pdf

The Illinois Department of Transportation (IDOT) has applied for a 401 Water Quality Certification for impacts associated with the removal and replacement of structures eastbound (EB) SN 097-0003 and westbound (WB) SN 097-0004 carrying I-64 over the Wabash River at the Illinois/Indiana border. The proposed project will be constructed in Township 3 South, Range 14 West, Section 33, White County, near Grayville, Illinois. The existing bridges are being replaced due to their age and poor condition. The applicant currently has seven separate and complete NWP 14 authorizations, to remove and construct the project. Since contract letting, the proposed project has increased impacts over the threshold of the NWP 14 and is therefore being reevaluated as an Individual Permit.

The proposed structures (SN 097-0080 and SN 097-0081) will consist of eight main river spans and nine approach spans over the floodplain on the Indiana side. The substructure will consist of concrete piers on drilled shaft foundations for the river piers, and steel pile supported spread footings on the approach piers. The superstructure will consist of 8" cast in place concrete deck on six welded steel plate girders, thus eliminating the fracture critical deficiency of the existing main river spans. The proposed bridge travel way width will be 42'-0", which will consist of 2-12' lanes and shoulders of 12' (outside) and 6' (inside). The alignment for the new EB bridge would be shifted north and is proposed to be constructed between the existing EB and WB bridges. The proposed WB bridge would be constructed on the same alignment and in the same location as the existing WB bridge. The applicant proposes to remove the existing EB bridge after the proposed EB structure is complete and open to traffic use.

The river will have temporary and permanent impacts due to the removal of the existing bridge piers (including the removal at the existing sheet piling and riprap at Piers 3 and 4, and riprap at pier 5), the construction of the new bridge piers and the two-level dock. The temporary dock will be used for personnel, materials, and equipment transport and require 3595 cubic yards (CY) of fill. Cofferdams will be used to construct the nine approach spans on the Indiana side. Excavated material will be stored on site and follow IDOT Specifications to properly contain material with the use of erosion control countermeasures such as silt fence. Material will be stored above the OHW of main channel and after construction suitable material will be used on site or the remaining unused and/or unsuitable material will be hauled off to an IDOT approved waste site.

Within the Wabash River, impacts are expected in 407 LF (0.641 Ac) with the total impacts on the Illinois side expected to be 224 LF (0.398 Ac). Impacts on the Illinois side will occur as a result of removal of existing piers, new pier placement, sheet pile placement and rip rap removal.

The existing structure will be demolished by sawing spans 1-8 of the bridge deck into smaller sections which will then be removed one by one and hauled away. Barges with mats will be positioned under the deck to capture any potential limited falling debris. Once the deck is removed, the girders will be removed span by span using barge mounted cranes or excavators and taken to shore via barges. Next, the piers will be removed using barge mounted excavators with hydraulic breaking equipment. Once the rip rap that surrounded the piers is removed, the existing sheet piling will be removed. The applicant proposes to remove the existing EB bridge after the proposed EB structure is complete and open to traffic use.

Wetlands 9, 10, and 12A will be impacted by the project. The proposed project will result in 0.387 Ac of permanent wetland impacts in all three wetlands and 0.01 Ac of temporary wetland impacts will occur in Wetland 12A. Because the removing existing piers and riprap acreage is greater than the permanent construction impacts, the actual permanent impacts proposed to the river on the Illinois side total 0.111

Ac. The Illinois wetland impacts will be mitigated at a 2:1 ratio for a required total of 0.774 Ac. Wetland mitigation will occur at the Raccoon Creek Wetland and Stream Mitigation Bank.

Information used in this review was obtained from the application documents dated March 10, 2023, November 15, 2023, May 21, 2024, and June 18, 2024.

Identification and Characterization of the Affected Water Body.

The Wabash River has 2592 cfs of flow during critical 7Q10 low-flow conditions. The Wabash River is classified as General Use Water. The Wabash 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 Wabash River, Waterbody Segment IL_B-03, is listed on the 2020/2022 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as aldrin, dieldrin, endrin, heptachlor, mercury, mirex, polychlorinated biphenyls, and toxaphene. Aquatic life use is fully supported. This segment of the Wabash River is not subject to enhanced dissolved oxygen standards.

The Wabash River flows under I-64 approximately 4850 feet east of Illinois Route 1 and is identified in the wetland survey as Site OSW 3. The river is a perennial waterway identified with a National Wetlands Inventory Code of R2UBH (permanently flooded, unconsolidated bottom, lower perennial, riverine wetland). The Wabash river is a Traditional Navigable Water (TNW) with 300 LF occurring in the project area.

Within the Wabash River, impacts are expected in 407 LF (0.641 Ac). The total impacts on the Illinois side are expected to be 224 LF (0.398 Ac) and on the Indiana side impacts are expected to total 183 LF (0.243 Ac). On the Illinois side, impacts will occur as a result of removal of existing piers, new pier placement, sheet pile placement around piers 3 and 4, and rip rap removal around pier 5.

A wetland survey was conducted August 1-3, 2023 for the project area and determined the presence of wetlands in the project area. Eight of the wetland sites are in Indiana while the remaining 12 are in Illinois.

Wetland #	Community Type	Mean C / FQI	Acreage in Project Area	Permanent Impact Acreage*	Temporary Impact Acreage**
9	Wet Meadow	2.8 / 12.9	0.042	0.042	0.000
10	Wet Meadow	2.4 / 7.8	0.065	0.065	0.000
12A	Wet Forbland	1.9 / 9.2	0.548	0.280	0.010
Total:			0.655	0.387	0.01

*new bridge piers, fill/grading along sides of approach roadways

**removal of existing piers, construction access

Site 9 consists of three polygons connected by an ephemeral drainage feature. The site is a wet meadow located approximately 5, 7, and 8 feet southwest of I-64. The total area of the site that is within the project area is 0.042 Ac and includes depressional Wetland 9. Site 9 has an FQI of 12.9 and a Mean C of 2.8 with dominant species consisting of red top (*Agrostis gigantea*), brown fox sedge (*Cares vulpinoidea*), and spiny barnyard grass (*Echinochloa muricata*).

Site 10 is a wet meadow located approximately 22 feet northeast of I-64 eastbound. The total area of the site that is within the project area is 0.065 Ac and contains depressional Wetland 10. Site 10 has an FQI

of 7.8 and a Mean C of 2.4 with dominant species consisting of red top, brown fox sedge, and spiny barnyard grass.

Site 12 is a wet forbland area located under and on both sides of I-64, on the east and west sides of the Wabash River. The associated wetlands are Wetlands 12A and Wetland 12B; however, only Wetland 12A is on the Illinois side of the river. The site consists of polygons connected hydrologically within the Wabash River floodplain. The total area of the site that is within the project area is 1.236 Ac with Wetland 12A totaling 0.548 Ac and Wetland 12B (Indiana side) totaling 0.688 Ac. Site 12 has an FQI of 9.2 and a Mean C of 1.9 with dominant species consisting of water knotweed (*Persicaria amphibia*), currtop lady's thumb (*Persicaria lapathifolia*), non-native creeping yellow cress (*Rorippa sylvestris*), and panicked aster (*Symphyotrichum lanceolata*).

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 suspended solids. These increases may occur as a result of removal of the existing piers and riprap as well as the installation of the proposed piers. Permanent impacts to the Wabash River are expected as a result of placement of piers and temporary impacts are expected from construction of the dock wall. The dock wall will be constructed of steel sheet pile and uncontaminated stone fill with fill amounts for the dock wall as follows: 205 CY of 3/8" stone 3690 CY of 3012" stone. A total of 0.387 Ac of wetlands will be impacted from the new piers, and fill/grading along the sides of the roadway approach and temporary impacts will result from building construction access.

Fate and Effect of Parameters Proposed for Increased Loading.

To minimize the surface water impacts during construction appropriate erosion and sediment control Best Management Practices (BMPs) will be implemented. Erosion control blankets will be implemented as well as the use of temporary erosion control seeding. Short-term construction-related water quality impacts will be avoided or minimized with proper implementation of the BMPs and compliance with the NPDES construction permit. A uniform perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area must be established on all unpaved areas and areas not covered by permanent structure per the NPDES permit.

Winter Operations BMPs include the following:

- Annual snowplow operator training to improve deicing application efficiency and to reduce deicing chemical loss.
- Utilization of calibrated spreaders equipped with ground sensors that can accurately control the spreading rate.
- Utilization of the practice of prewetting solid deicing chemicals and mixtures for better adhesion to the pavement surface and for ice and snow melting
- Adjusting application rates of deicing chemicals according to pavement temperature and weather conditions.

The applicant proposes the use of cofferdams to facilitate the construction. Excavated material would be stored on site and follow IDOT Specifications to properly contain material with the use of erosion control countermeasures such as silt fence. Material will be stored above the OHW of main channel and after construction suitable material will be used on site or the remaining unused and/or unsuitable material will be hauled off to an IDOT approved waste site.

Other BMPs proposed include use of a filter bag when pumping from cofferdam areas and reinforcement of the conveyance channel from the dewatering device with plastic sheeting or geotextile fabric, creation of concrete washout areas, proper delivery, storage, and use of materials, and spill prevention and control measures.

Wetland mitigation for the Illinois impacts will occur at the Raccoon Creek Mitigation Bank. This mitigation bank is located in the Little Wabash River Watershed in Wayne County, IL and consists of 116.41 acres. IDOT District 9 has 13.2 acres purchased in this bank and will use those purchased credits for mitigation.

Site	Type of Wetland	Floristic Quality Index (FQI)	Impact Type	Impact Size (Ac)	Mitigation Ratio*	Mitigation Required (Ac)
9	Wet Meadow	12.9	Permanent	0.042	2:1	0.084
10	Wet Meadow	7.8	Permanent	0.065	2:1	0.13
12A	Wet Forbland	9.2	Permanent	0.280	2:1	0.560
Total				0.387		0.774

*The mitigation rate is an estimate based on USACE and the Interagency Wetlands Policy Act.

Purpose and Social & Economic Benefits of the Proposed Activity.

The purpose of this project is to remove and replace the existing I-64 bridges which span the Wabash River and provide interstate travel between Illinois and Indiana for local and regional benefit. The existing bridges are not constructed to current seismic codes and past undermining of the spread footings supporting the river piers, as well as the "fracture critical" state of the main spans demonstrate the bridges vulnerability to failure during a seismic event. All rehabilitation and seismic retrofit options have been shown to be cost prohibitive over the life of the structures when compared to total removal and replacement.

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

There were three rehabilitative alternatives studied, as well as the complete removal and replacement of the bridge and the no action alternative.

Below are the alternatives and cost analysis per alternative.

Alternative 1: Remove and replace 8 main spans, two-girder units and 12" deck slab with new 6-span continuous multi-girder superstructure with 8" deck slab. Reconstruct existing 20-span approach with new wide flange steel beams, remove and replace bearings, retrofit existing cover plates and construct new 7.5" deck slab to a substandard 36' deck width. The existing substructure for the approach units will be widened and retrofitted, and seismic retrofit of all critical elements would occur. The Total Life Cycle Cost as of 9/12/2017 Analysis was estimated to be \$139,449,374.00.

Alternative 2: Remove and replace 8 main spans, two-girder units and 12" deck slab with new 6-span continuous multi-girder superstructure with 8" deck slab. Remove 20-span approach W-beams superstructure and replace with all new 20-span superstructure using new W-beams and 8" deck slab at 41'-2" width. The existing substructure will be widened, and seismic retrofit of all critical elements would occur. The Total Life Cycle Cost as of 9/12/2017 Analysis was estimated to be \$148,970,374.00.

Alternative 3: Remove and replace concrete deck slab only over length of the existing 36'-0" width of both bridges. The existing substructure will be widened and retrofitted, and seismic retrofit of all river and approach substructure units' critical elements would occur. The Total Life Cycle Cost as of 9/12/2017 Analysis was estimated to be \$133,000,374.00.

Chosen Alternative: Remove and replace 8 main spans, two-girder units and 12" deck slab with new 6-span continuous multi-girder superstructure with 8" deck slab. Remove and replace 20-span approach units with all new 12-span superstructure using steel plate girders and 8" deck slab. Construct all new substructure elements. The Total Life Cycle Cost as of 9/12/2017 Analysis was estimated to be \$68,860,123.00.

The decision to select the chosen alternative of complete removal came down to life-cycle cost. This alternative saves a considerable amount of money as compared to rehabilitative efforts. This, along with the past undermining of the spread footings supporting the river piers and the "fracture critical" state of the main spans, made the complete removal and replacement the preferred alternative.

A No Action alternative was not considered because of the condition of the steel girders. In the last inspection done 4/11/2022, the superstructure of the westbound bridge was rated 3: *Serious Condition-Significant Section Loss* in the steel girders.

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

An EcoCAT endangered species consultation (Project Number 2303079) submitted on November 17, 2023 to the Illinois Department of Natural Resources resulted in records of the following state threatened or endangered species:

- Ebonyshell mussel (*Reginaia ebenus*) - Endangered
- Fat Pocketbook mussel (*Potamilus capax*) - Endangered
- Monkeyface mussel (*Quadrula metanevra*) - Threatened
- Harlequin Darter (*Etheostoma histrio*) - Endangered
- Smooth Softshell (*Apalone mutica*) - Endangered
- Least Tern (*Sternula antillarum*) – Endangered

Least Tern & Smooth Softshell Turtle

The Department recognizes the updated footprint of the proposed project which excludes a sandbar in the vicinity of the project area that has been identified as suitable habitat for Least Tern and Smooth Softshell Turtles. The Department concurs with the applicant's commitment in the Draft NRR dated 18 April 2023 that the sandbar in question, which occurs on the Indiana side of the Wabash River, will not be utilized for any demolition or construction activities, and will not be used for staging, access, or any other work associated with the project. However, due to the proximity of this suitable habitat, the Department recommends:

- Any disturbance to sandbars in the vicinity of the proposed project area should be avoided.
- Onsite personnel should be educated about the potential presence of Least Tern and Smooth Softshell Turtles in the area and on the sandbar.
 - Educational material for both species should be distributed to personnel with life history information and photos of juvenile and adult individuals of both species.
 - Personnel should be instructed to cease work immediately and contact the Department if either of these species is encountered (Brad Semel, Natural Heritage Division, 815-675-2386 ext. 216).

The project was also reviewed for cultural resource impacts and was determined to be in compliance with the Illinois State Agency Historic Resources Preservation Act.

Given the above commitments are followed, the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely.

Recommendations for mussels and the harlequin darter listed above, are listed further below in the document.

A USFWS Section 7 review dated October 10, 2023, determined the following threatened or endangered species may be in the project area but that there is no critical habitat in the project area at this time:

- Fanshell mussel (*Cyprogenia stegaria*) - Endangered
- Fat Pocketbook mussel (*Potamilus capax*) - Endangered
- Rabbitsfoot mussel (*Quadrula cylindrica cylindrica*) - Endangered
- Indiana bat, *Myotis sodalis*
- Northern long-eared bat, *Myotis septentrionalis* – Threatened/Proposed Endangered
- Tricolored bat (*Perimyotis subflavus*) – Proposed Endangered

The Biological Assessment (BA) was completed and sent to the Federal Highway Administration (FHWA) to be given to USFWS and IDNR on April 20, 2023. The BA summarized all affected T&E species and addressed the recommended conservation measures, including fish and mussel surveys conducted by the Illinois Natural History Survey (INHS). All required elements will be included as effect to both federal and state-listed species will be similar.

Through extensive Mussel surveys (2010-2021), mist-netting and bat surveys (2019), fish surveys (2014), and avian surveys (2014), it was determined that the following recommendations should be considered:

- Rabbitsfoot and Fanshell mussels do not have any occurrence records or critical habitat in the project area.
- Fat Pocketbook Mussel – “There is no designated critical habitat listed for the Fat Pocketbook Mussel, however, the Illinois Natural Heritage Database contains records of the mussel in the Lower Wabash River which includes the project action area. During mussel surveys in 2010, 2014, 2018 and 2021, the Fat Pocketbook was found in the action area. The USFWS has determined that the Fat Pocketbook would likely be affected the project.” Prior to construction, a relocation effort will be made. “Conservation measures are as follows:
 - Prior to demolition and construction activities, mussels will be relocated from the action area to relocation sites (see BA).” Mussels will be relocated from the removal areas prior to the start of westbound bridge demolition.
 - “The contractor will be responsible for implementing measures to prevent debris from falling in the river. Debris will not be allowed to collect at the bottom of the river. The contractor will remove any debris from the water or riverbed as soon as practicable during the same workday in order to prevent the accumulation of potentially polluted materials. Construction inspectors will be present during construction and demolition activities to ensure compliance with IDOT project commitments.
 - Barges and watercraft used for construction activities shall be inspected for the presence of zebra mussels (*Dreissena polymorpha*) prior to placing the barges into the Mississippi

River and shall be completely out of water for 10 days to ensure property drying and reduce potential infestation by zebra mussels.

- Erosion and sediment control measures will be implemented to avoid sediment and pollutant runoff into receiving water bodies. Erosion control measures will be outlined in the Soil and Water Pollution Protection Plan (SWPPP) and adhere to those presented in IDOT's Bureau of Construction and Design and Environment Policy and Procedure Memorandum, dated 2020. The resident engineer will provide day-to-day enforcement of mitigation measures during construction.
- The normal flow of the river would be maintained at all times. Floodplain morphology changes will be minimized to the extent practical by using culverts within the causeways. The staging area will be away from the river and above the high flow elevation.
- Silt fence perimeter erosion barrier shall be installed around the construction limits in accordance with Section 280 and Article 1080.02 of IDOT's Standard Specification for Road and Bridge Construction.
- Where appropriate, all impacted riparian areas will be reseeded with IDOT Class 4 and 5 native grass and forb mixes as outlined in Section 250 of IDOT' Standard Specifications for Road and Bridge Construction
- Notification to all on-site personnel shall be provided on the sensitive biological resources in the area. Education materials will be provided to the contractor at the preconstruction meeting identifying the listed species which occur in the project vicinity, where they are most likely to be encountered and the proper course of action if they are encountered during construction.
- IDOT is considering the implementation of the following commitment but has not yet determined its reasonability or feasibility relevant to the project. If reasonable and feasible it will be added to the contract plans:
 - The use of explosives for demolition and construction activities shall be prohibited.
- IDOT District 9 considered implementing a Special Provision which would include the use of Silt Curtains at 5 of the piers located in the waterway. The cost of each silt curtain was estimated to be \$10,000 per pier, totaling \$50,000. While not cost prohibitive, it was determined that the silt curtains are not feasible to implement as the velocities of the Wabash River being greater than the recommended industry standard of 3 feet-per second (fps). The 10-year velocity was calculated to be nearly 6 fps.”

Concerning impacts of the proposed project on the endangered Indiana bat (*Myotis sodalis*), endangered northern long-eared bat (*Myotis septentrionalis*), endangered Fanshell mussel (*Cyprogenia stegaria*), endangered fat pocketbook mussel, threatened rabbitsfoot mussel (*Quadrula cylindrica cylindrica*), and proposed as endangered tricolored bat (*Perimyotis subflavus*), The BA evaluated the information and determined that there is no designated critical habitat in the project area at this time.

The Biological Opinion letter provided by USFWS on October 10, 2023, states the following:

“Information in the BA indicates that the Fanshell and Rabbitsfoot mussels are not known from the project area, thus you have determined the proposed project will have no effect on these species. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended, for the Fanshell and Rabbitsfoot mussels.”

“Information in the BA indicates that the proposed project has been designed to minimize impacts to potential habitat for the Indiana and northern long eared bat and that tree clearing will occur outside the active season. Based on this information, the Service concurs that the proposed project is not likely to

adversely affect the Indiana bat and northern long-eared bat. The proposed measures should also avoid and minimize impacts to the tricolored bat; thus, the Service concurs that the proposed project is not likely to adversely affect the tricolored bat. If the proposed project extends beyond the final listing for the species, reinitiation of consultation may be necessary to confirm that this concurrence is still appropriate. The development of significant new information or significant changes to the federal action that would alter the basis for our concurrence could warrant further coordination to ensure that appropriate steps are taken to conclude consultation.”

“The FHWA has determined that the proposed project is likely to adversely affect the fat pocketbook mussel. Therefore, this BO addresses one species, the fat pocketbook mussel. This biological opinion (BO) is based on information provided in the BA; information provided in the Recovery Plan (Service 1989), and the most recent 5-Year Review (USFWS 2019).”

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 area by providing a new river crossing that will address issues associated with the age and condition of the structure. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.