

Fact Sheet for Antidegradation Assessment  
For Illinois Department of Transportation, District 6  
IEPA Log No. C-0191-11  
COE Log No. MVS-2013-631  
Contact: Diane Shasteen (217) 558-2012  
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Illinois Department of Transportation (IDOT) District 6 (“Applicant”) has applied for Section 401 water quality certification for impacts of approximately 650 linear feet of the Illinois River (Mile 71.4) including 14,938 CY of in-stream excavations, and 3,832 CY of in-stream backfill. The proposed project will construct a new 9 pier bridge approximately 256 feet north of the existing Illinois Route 104 bridge located on the west edge of Meredosia, Section 6, Township 3 South, Range 1 West. The proposed work also includes a pump station outlet and a south access ramp at the west levee. Upon completion of the new structure, the removal of the existing IL Route 104 Bridge will be completed in accordance with an approved removal plan from the United State Coast Guard. The purpose of this project is to provide a reliable transportation facility that meets current design standards. The proposed bridge will maintain IL Route 104 connectivity from Morgan to Pike County, accommodate bicycle traffic, meet the needs of river traffic, and meet local and regional economic needs. The proposed project will also impact approximately 1.58 wetland acres permanently and approximately 2.08 wetland acres temporarily. These impacts will be mitigated with the purchase of 5.49 acres wetland credit from the LaGrange Wetland Bank in Brown County owned by IDOT. Impacts will occur in the Meredosia National Wildlife Refuge. A land exchange between IDOT and the USFWS involving biologically equivalent lands located contiguous to the Emiquon National Wildlife Refuge will mitigate these impacts.

Information used in this review was obtained from the applicant in a document entitled, Joint Application Form dated September 2013.

### **Identification and Characterization of the Affected Water Body.**

The Illinois River (IL\_D-32), a direct tributary to the Mississippi River, is a General Use Water with an estimated 3702 cfs 7Q10 flow at this location. According to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List, the Illinois River has been assessed by Illinois EPA and is listed as fully supporting Aquatic Life and Aesthetic Quality uses and not supporting Fish Consumption and Primary Contact Recreational uses. Causes for Fish Consumption impairment are Mercury and Polychlorinated biphenyls. The cause of impairment listed for Primary Contact Recreational use is Fecal Coliform. Secondary Contact use has not been assessed. The Illinois 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 Illinois River is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

Willow Creek (IL\_DZE), a direct tributary to the Illinois River, is a General Use Water with an estimated zero cfs 7Q10 flow. According to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List, Willow Creek has not been assessed by Illinois EPA. Willow Creek 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. Willow Creek is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

The Illinois Natural History Survey (INHS) investigated 17 sites (Sites 1-17) in the project area; all sites met the criteria of wetlands. Sites 4, 5, 6, 7, and 15, combined, cover approximately 26.6 acres. Portions of these five wetlands will be impacted by the project. Permanent impacts will be associated with 1.58 acres and temporary impacts will occur on 2.08 acres. Site 4 is the southern tip of Meredosia National Wildlife Refuge. Impacts to this wetland include 0.45 acres of permanent and 0.99 acres of temporary impacts. This wetland is considered a floodplain forest of poor natural quality (FQI 5.3) that provides floodwater storage for the area. IDOT will acquire the entire refuge area (approximately 5.9 acres) located in the project area. In exchange for the refuge take, IDOT will provide biologically equivalent lands that are contiguous with the boundary of Emiquon National Wildlife Refuge near Havana, IL. All of Site 5, a 0.70 acre poor quality marsh (FQI 6.0), will be permanently impacted. Sites 6 and 7, poor quality flood plain forests (FQI 8.8 and 7.3, respectively) will be permanently and temporarily impacted during this project. Impacts include 0.14 acres (Site 6) and 0.26 acres (Site 7) of permanent impacts and 0.56 acres (Site 6) and 0.62 acres (Site 7) of temporary impacts. Site 15 (7.8 acres) is a pond and surrounding wet meadow located west of the junction of IL 104 and IL 99. The permanent impacts to this poor quality flood storage area (FQI 6.7) will be approximately 0.70 acres. Impacts to these wetlands are unavoidable and will be mitigated at a rate of 1.5:1 with the purchase of 5.49 acres of wetland credit from the LaGrange Wetland Bank in Brown County.

### **Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.**

The pollutant load increases that would occur during this project include possible increases in suspended solids. A Temporary Erosion and Sediment Control (TESC) plan, Spill Prevention Control and Countermeasures (SPCC) plan, and Sedimentation and Erosion Control (SEC) plan based on the IDOT Drainage Manual will be developed prior to construction and implemented to reduce the effect to water resources during construction. Staging areas located away from drainage and surface waters will be designated for equipment wash down, repair, and maintenance. Riprap will be placed in the areas of the proposed pump station outlet and proposed south access ramp at the west levee to provide erosion control and scour protection.

Increases in zinc, copper and lead in stormwater runoff may also occur due to an increase in impervious surfaces resulting from the proposed improvement. When the total land area disturbed by the construction is one acre or more, an IEPA General Permit for stormwater discharges from construction site activities (NPDES Permit No. ILR10) is required. The wetlands below the new construction are flood plain forests dominated by two salt tolerant tree species, silver maple and black willow. No adverse effects are expected to the river or wetland community due to stormwater runoff.

Aquatic life uses in the portion of the river that will be disturbed during construction may be negatively impacted, but in time, they will recover and support approximately the same community structure as is now found in the existing channel. Due to the size of the river, impacts to aquatic communities should be negligible.

### **Fate and Effect of Parameters Proposed for Increased Loading.**

The increase in suspended solids, along with any increases in heavy metals, will be local and temporary. Erosion control measures will be utilized to minimize any increase in these disturbances and prevent further impacts to the river and the wetlands near the newly constructed bridge.

The Applicant will purchase 5.49 acres of wetland credit from the LaGrange Wetland Bank in Brown County, the result of a 1.5 to 1 mitigation ratio applied to 3.66 acres of permanent and temporary impacts to sites 4, 5, 6, 7, and 15.

### **Purpose and Social & Economic Benefits of the Proposed Activity.**

The proposed bridge project will replace the structurally deficient and functionally obsolete IL-104 Bridge over the Illinois River in Meredosia. Upon completion of the project, IL-104 Bridge (069-7900) will be reliable and meet current design standards. The bridge will maintain connectivity between Morgan and Pike Counties, provide access for bicycle traffic, and meet the need of current and future river navigation and the economic needs of the region.

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

The applicant has completed an alternative analysis process based on seven criteria including: Bridge/Roadway Deficiencies, Safety, Regional Mobility, Local Access/Mobility, Economic Impacts, Cultural/Historical Resources, and Natural Resources. Eighteen alternatives were developed and analyzed including a No-Build Alternative, Rehabilitation Alternative, two Reconstruction Alternatives, and fourteen Build Alternatives. Two Build Alternatives (Alternative # 3 and # 9) were presented at a public hearing in Meredosia to obtain public opinion on the proposed project.

#### **Alternative # 3: Preferred Alternative**

- Two lane minor arterial
- Provide in-town route close to existing alignment
- Have minimal impacts to town's businesses and economy
- Preferred by local officials, residents and business owners
- Crosses the Meredosia National Wildlife Refuge
- Allows for expansion of Boyd Park in Meredosia
- Preferred by Illinois River Carriers' Association (representatives of commercial river traffic)

#### **Alternative # 9:**

- Two lane minor arterial
- Free-flow route on southern fringe of Meredosia

- Bypasses business district

Potential Negative aspects to Alternative # 9

- Economic loss for businesses and potential loss of tax revenues for Meredosia
- Impacts to wetland acreage greater than Alternative # 3
- Impacts to farm land acreage greater than Alternative # 3
- Additional right-of-way acreage required over Alternative # 3
- Require re-channelization of McGee Creek Drainage Channel
- Increased costs to build and maintain as compared to Alternative # 3
- Additional travel distance to state route
- Not supported by public, local businesses or town representatives

Alternative 3 provides least amount of impacts to the natural or human environments, is the least costly alternative, and has the support of the local community and its leaders. Therefore, it is the preferred alternative. Only the no build alternative would result in no environmental impacts or discharges to the river. This option is not viable due to the structural condition and the lack of functionality of the existing bridge.

Conclusion:

The construction of the proposed project will follow conditions set forth by the Agency and USACE. The completion of the bridge project is the most cost effective, viable means for replacing the existing obsolete IL-104 Bridge. TESC, SPCC, and SEC plans will be implemented prior to construction activities, staging areas for equipment wash down, repair, and maintenance will be designated, and structural BMPs for stormwater runoff will be implemented. Wetland mitigation of 5.49 acres of wetland credit from the LaGrange Wetland Bank in Brown County has been proposed for the permanent loss of 1.58 acres and temporary loss of 2.08 acres of low quality wetlands. IDOT will acquire 5.9 acres of the southern tip of Meredosia National Wildlife Refuge property. The finished bridge project will impact 1.1 acres of the parcel and the remaining 4.8 acres will continue to function as wildlife habitat. As mitigation for the refuge take, IDOT will provide biologically equivalent lands contiguous with the boundary of the Emiquon National Wildlife Refuge near Havana to the USFWS.

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

The Biological Resource Review Memorandum (dated April 28, 2014) coordinated survey results with IDNR. Upon review, IDNR concurred with the results and findings of no impacts to endangered and threatened species outlined in the memorandum. Consultation with IDNR was closed on April 29, 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 community at large by replacing the structurally deficient and functionally obsolete IL-104 Bridge. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.