CONSERVATION PLAN
FOR INCIDENTAL TAKING OF
ILLINOIS-ENDANGERED
SPRING CAVEFISH (*Forbesichthys agassizii*)
KENTUCKY CRAYFISH (*Faxonius kentuckiensis*)
BIGCLAW CRAYFISH (*Faxonius placidus)*

North Iron Furnace (TR 52)
over Unnamed Tributary to Big Creek
in Hardin County, Illinois
Section 19-01167-00-BR
Structure 035-3059

Prepared by:
Brown & Roberts, Inc
1 Westridge Road
Harrisburg, IL 62946
January 24, 2022

Conservation Plan for the Illinois-endangered Spring Cavefish (*Forbesichthys agassizii*), Kentucky Crayfish (*Faxonius kentuckiensis*) and Bigclaw (*Faxonius placidus)* at North Iron Furnace Road (TR 52) over Unnamed Tributary to Big Creek in Hardin County, Illinois

1. Description of the impact likely to result from the proposed taking

The proposed project resulting in the incidental take will consist of removal of existing concrete ford crossing and replacement with a single span bridge with closed abutments. The proposed bridge will be consist of precast prestressed concrete deck beams supported by pile bent abutments. Proposed work within the existing channel includes placing stone riprap on the streambed bottom and sideslopes for scour protection. The proposed structure will be a 24' wide with 40' long precast prestressed concrete deck beams supported on pile bent abutments.

A. Legal Description of the project area

Located in the Karbers Ridge, Quadrangle, Township 11 South, Range 8 East, Section 21, 3rd Principal Meridian approximately 2.0 miles East of Hicks, Hardin County, IL; Latitude 37.54482° North, Longitude 88.33695° West. The project is located within the existing Hardin County Right-of-Way of TR 52 in Hardin County. See Appendix 1, Location Map.

Photos of the project site are included as **Appendix 5**.

B. Biological Data on the Affected Species

The Illinois Natural History Survey (INHS) conducted an on-site survey for fishes and crayfishes species on June 16, 2021. Results of that survey were discussed and thoroughly detailed in the Aquatic Survey Report prepared by Christopher A. Taylor, dated 3 August 2021 (Appendix 2). The findings and summary comments below were extracted from that report.

As part of the above referenced INHS on-site survey, the stream reach was examined a reach of the stream from approximately 25 yards upstream (north) of the ford to approximately 25 yards downstream (south) of the ford. The predominant substrate observed at this tributary of Big Creek project site was a clean mixture of gravel/pebble with some cobble; undercut banks were not observed but woody debris and aquatic

vegetation were. The tributary of Big Creek ranged from 1-3 yards in width and 0.3 to 1.5 feet in depth. This stretch of Big Creek has low, but strongly sloped banks that were vegetated immediately up- (north) and downstream (southwest) of the ford but surrounded in all directions by woodland.

Four species of fishes, including 7 state-threatened Spring Cavefish were collected. Three species of crayfish were collected including seven state endangered Kentucky Crayfish and seven state endangered Bigclaw Crayfish. The survey also confirmed the presence of suitable habitat for each of the three, state listed aquatic species at the proposed project site.

Per the Illinois Natural History Survey Report (Appendix 2), "Spring Cavefish primarily occur in caves or springs but are often found in small spring fed streams when washed out of springs or caves (Smith 1979, Page and Burr 2011). When found in streams, the species will be found under rocks or in woody debris." This species is a subterranean species which emerges at dusk or possibly after rainfall events. There are 17 Element of Occurrence records for the Spring Cavefish in Illinois, four of which occur in Hardin County in the Big Creek watershed. Many of the records in Illinois are considered historical. Big Creek is a spring fed creek and habitat for the species at the Iron Furnace Road location is a streambed of gravel, pebbles and cobble with woody debris and aquatic vegetation present.

Also from the INHS Report; "Both the Kentucky Crayfish and Bigclaw Crayfish occur in medium gradient streams of all sizes with bottom substrates of gravel and rock (Taylor and Schuster 2004). Both species are more frequently encountered in riffle areas. Riffle habitat with gravel and rock was found across the Iron Furnace Road (TR 52) ford project area." There are 7 Element of Occurrence records for Bigclaw Crayfish in IL, two of which are in Hardin County, though most of the other records are considered historical. There are 7 records for the Kentucky Crayfish in Illinois, all of which occur in Hardin County and most of which occur in the Big Creek watershed.

During the surveys, the Spring Cavefish were found under woody debris downstream of the existing structure in Big Creek while both the Bigclaw and Kentucky Crayfish were found underneath rocks up and downstream of the existing structure. INHS biologists believe that these species occur at the site year-round with no major fluctuation in their population numbers at any given time. Therefore, it is anticipated that in stream work at any time during the year may impact these three species at any given lifecycle stage (adults and juveniles).

C. Description of Incidental Taking

The proposed improvement will consist of bridge removal and reconstruction. Any take would be associated with the bridge construction activities. Proposed work within the existing channel includes removal of existing concrete ford crossing and placing stone riprap on the streambed bottom and sideslopes for scour protection. Pile driving or setting piles for new abutments will occur outside of the existing streambed limits and will support the new concrete abutments. The streambanks will be transitioned from the new abutment wingwalls to the existing stream banks within the existing Hardin County right-of-way – see Appendix 3. All in-stream work will done from the adjacent banks with excavators. The replacement structure will be a single span bridge with closed abutments and no cofferdams or causeways will be necessary.

All of the channel bottom within the right of way will be graded and rirrap placed for scour protection.

D. Anticipated Adverse Effects on the Listed Species

Primary threats to the Kentucky Crayfish and Bigclaw Crayfish fall into two categories: habitat alteration and introduction of non-native species. Habitat alteration can consist of siltation, stream channelization, debris, debris removal or substrate removal.

Primary threats to the Spring Cavefish are disturbance of the woody debris habitat and disturbance of the streambed during construction.

For the purposes of this project, potential adverse affects consist mainly of excavation and placing of riprap on the bottom and sideslopes of the stream. Excavation could create minor, short-term siltation in the area immediately downstream of the structure and some crayfish and fishes could be covered or crushed during the excavation and placement of the riprap.

The Aquatic Report indicates that the stream width was measured at 1 to 3 yards (Max width 2.7m) wide and that the density estimate for Kentucky Crayfish was 1.75 individuals/m2 and for Bigclaw Crayfish was 1 individual/m2. All work will be confined to the ROW which is 75’ (22.9m) wide at the stream location. Based on the Aquatic Report, the maximum affected area is calculated to be 2.7mX22.9m = 61.8 m2. The estimated maximum Kentucky Crayfish to be present is calculated to be 108

individuals and the Bigclaw Crayfish is estimated to be a maximum of 62 individuals. Since the minimizing efforts include the taking outside of spawning normal spawning dates and removal of cobble size class rocks, the estimate individual to be taken are 27 Kentucky Crayfish and 15 Bigclaw Crayfish.

The estimated number of Spring Cavefish to be taken is between 5-10 individuals.

2. <u>Measures to Minimize and Mitigate Impacts</u>

A. Plans to minimize the affected area, the amount of individuals of the endangered species that will be taken and the habitat affected

The area of the work zone has been limited to the existing right-of-way. Total impacted area within the stream is 9’ wide X 75' long or approximately 0.015 Acres. The existing right-of-way line is 35’ east and 40’ west of the proposed roadway centerline . The scope of work and project footprint has been minimized as much as possible to reduce the amount of impact to the listed crayfish and fish species. All in-stream work will done from the adjacent banks with excavators. The replacement structure will be a single span bridge with closed abutments and no cofferdams or causeways will be necessary. Riprap will be placed in the area of disturbed habitat and around the bridge abutments for erosion and scour prevention. The rock used for riprap will be RR4 without bedding stone or fabric. Ditch checks will be placed in roadside ditched to reduce potential siltation. As a minimization of impact measure, all in-stream work will done from the adjacent banks with excavators. The excavators will not be allowed to enter or cross the steam. The contractor will be required to transport excavators from one side to the other via public roadways or have two excavators on the project. The replacement structure will be a single span bridge with closed abutments and no cofferdams or causeways will be necessary. The construction of the new bridge will be scheduled for late summer or early fall when the stream sometimes dries up to reduce the number of crayfish and fishes taken. In order to minimize impacts to the Kentucky Crayfish, Bigclaw Crayfish and Spring Cavefish, in stream work shall be prohibited from March 1 through June 30.

The Aquatic Report indicates that the stream width was measured at 1 to 3 yards (Max width 2.7m) wide and that the density estimate for Kentucky Crayfish was 1.75 individuals/m^2 and for Bigclaw Crayfish was 1 individual/m2. All work will be confined to the ROW which is 75’ (22.9m) wide at the stream location. Based on the Aquatic Report, the maximum

affected area is calculated to be 2.7mX22.9m = 61.8 m^2. The estimated maximum Kentucky Crayfish to be present is calculated to be 108 individuals and the Bigclaw Crayfish is estimated to be a maximum of 62 individuals. Since the minimizing efforts include the taking outside of spawning normal spawning dates and removal of cobble size class rocks, the estimate individual to be taken are 27 Kentucky Crayfish and 15 Bigclaw Crayfish.

The estimated number of Spring Cavefish to be taken is between 5-10 individuals.

B. Plans for management of the area affected by the proposed action that will allow continued use of the area by the species.

Similar habitat is located both upstream and downstream of the structure site. The streambed and habitats will be controlled by natural processes after construction activities are completed. Crayfish and Spring Cavefish should move back into the area immediately adjacent to the bridge over time. Introduction of riprap within the channel and streambed at the bridge site may actually enhance the habitat characteristics within the immediate vicinity of the structure, and the scour prevention afforded by the new bridge will protect habitat downstream of the site. The estimated cost of the proposed RR4 riprap is $6,900.

C. Description of measures to be implemented to minimize or mitigate the effects of the proposed action to the endangered species.

A Storm Water Pollution Prevention Plan (SWPPP) will be devised and implemented for the site. The SWPPP contains, but is not limited to the following industry standard best management practices:

Existing vegetation will be preserved where attainable and disturbed portions of the site will be stabilized.

Stabilization practices will include temporary seeding, permanent seeding with IDOT Class 4A seed mixture, mulching, protection of trees, preservation of mature vegetation and other appropriate measures as directed by the Engineer.

Areas outside the construction limits shall be protected from construction activities.

The SWPPP shall be coordinated with the Bureau of Design and Environment. The resident engineer will monitor the activities of the contractor for compliance with special provisions regarding mitigation and the use of best management practices (BMP's) to minimize erosion and siltation. Regular inspections will be made to ensure proper repair

and maintenance of BMP's by the resident engineer, including weekly and immediately following significant rainfall events.

In order to minimize impacts to the Kentucky Crayfish, Bigclaw Crayfish and Spring Cavefish, in stream work shall be prohibited from March 1 through June 30. In addition, all in-stream work will done from the adjacent banks with excavators. The excavators will not be allowed to enter or cross the steam. The contractor will be required to transport excavators from one side to the other via public roadways or have two excavators on the project. The replacement structure will be a single span bridge with closed abutments and no cofferdams or causeways will be necessary.

Four weeks prior to the start of instream work, the Hardin County Engineer will notify the Bureau of Design and Environment (BDE) of the date that instream work will begin. Within one week of receipt of notification, the BDE will task the Illinois Natural History Survey (INHS) to move by hand cobble size class rocks within the stream to a location just outside and upstream of the limits of construction. The moving of the rocks will be completed before the start of construction which is anticipated to be July 1, 2022. The construction is estimated to take 35 working days and should be completed mid-August, 2022.

There are several options for mitigation. Hardin County is proposing to pay monetary mitigation to the Illinois Wildlife Preservation Fund earmarked for the Bigclaw and Kentucky Crayfish and the Spring Cavefish. The Illinois Department of Natural Resources (IDNR) has a formula for calculating monetary mitigation and will provide the required amount to Local Agency for inclusion within this Conservation Plan and for inclusion within the Public Notice. Among other factors, the estimated cost of $6900 for the proposed RR4 riprap was considered in the calculated mitigation.

IDNR has calculated the cost of monetary mitigation to be $18,450 ($5,200 for Spring Cavefish, and $13,250 for the two crayfish species). The monetary mitigation shall be earmarked by IDNR as such.

D. Plans for monitoring the effects of the measures implemented.

The Hardin County Engineer will notify the BDE when the project reaches 100% completion. BDE will then task the INHS to perform monitoring surveys.

Post construction monitoring will be performed by INHS in years 2 and 4 following completion of the project and will be consistent with the methodology utilized during the preconstruction survey.

E. Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of the measures instituted.

The project sponsor will implement the Stormwater Pollution Prevention Plan. The IDOT will monitor the construction site for proper placement and function of the selected best management practices.

Despite the best intentions, there may be practices that are specified in the SWPPP that prove to be ineffective at controlling soil erosion and sedimentation. If this is the case, the IDOT Resident Engineer shall consult the IDOT Erosion and Sediment Control Field Guide for Construction Inspection 2010 or the Illinois Urban Manual for practices that might be more effective or better suited to the site environment than the specified ones. The IDOT district Landscape Architect may be of assistance to the Resident Engineer on matters concerning corrective measures for erosion and sediment control.

F. Verification that funding to support mitigation activities will be available for the life of the conservation plan.

The funding for the proposed bridge construction is from the Township Bridge Program and Motor Fuel Tax funds and is already programmed. The project estimated budget will include line items for implementation of BMP's included in the SWPPP, including seeding of all disturbed areas draining to the stream. Maintenance and repair of SWPPP items, and additional measures implemented during construction will be paid for by change order or force account. By law, the erosion and sediment control measures will remain in place for the life of the project. The Local Agency will be responsible for any monetary mitigation.

Funding for the monitoring activities will be provided through the Intergovernmental Agreement for the Illinois Transportation Biological Survey Program between IDOT and the University of Illinois. This program is administered by the Bureau of Design and Environment in

cooperation with the Illinois Natural History Survey at the University of Illinois. The Local Agency will be responsible for any monetary mitigation.

3. Analysis of Project Alternatives

There are four alternatives for this project and the reasoning why these alternatives are not being considered as a viable option.

A. No build

Currently, North Iron Furnace Road is a bus route linking the north area of Hardin County to the Hardin County School facilities. The only alternative that does not result in a taking of the listed species is leaving the ford as is. This would result in a geometric deficient roadway being left in place and one that would remain impassible during many rainfall events. This alternative is not a viable alternative since it would not address the safety hazard or public inconvenience the existing ford poses

B. Leave existing bridge in place and construct a new structure on an offset alignment.

This alternative is not considered feasible. It would eliminate taking of the species at the current bridge site, but would necessitate taking of the species at a location either immediately upstream or downstream of the structure at the site of new construction. This option would require the acquisition of additional right-of-way, and the disturbance of additional areas adjacent to the existing right-of-way.

C. Modification of the existing structure.

Modification of the existing structure would result if similar disturbance to the stream and would widen the ford resulting in a reduction of stream habitat. Therefore, this alternative is not considered feasible.

D. Construct a new structure on existing alignment.

This is the preferred alternative. Complete removal and replacement of the bridge will provide the maximum benefit to area residents. The proposed structure will be a 24’ wide with 40’ long precast prestressed concrete deck beams supported on pile bent abutments. No additional right-of-way will be required to construct the new structure on the present alignment. Roadway approach, excavation and embankment work will be

minimized. Work within the channel will also be minimized. This is the most practical and cost effective option for this project. Removal of the concrete ford and placement of rock in the channel bottom will actually increase the possible habitat area.

4. Data and information regarding survival of the species after the proposed take is complete.

As stated in the Aquatic Report the Kentucky Crayfish and Bigclaw Crayfish occur in medium gradient streams of all sizes with bottom substrates of gravel and rock. The report also states that when Spring Cavefish are washed out of springs and caves they and are found in streams, they are likely found under rocks or in woody debris. Given the collection of the species, the abundant presence of suitable habitat both up and downstream of the bridge, and the history of collection of the Kentucky crayfish in Hosick Creek, it is believed that a reproducing population in the immediate vicinity of the proposed North Iron Furnace Road bridge. Due to the small area affected by construction of the new bridge, it is expected that the species will continue to exist in this reach of this tributary to Big Creek and the State of Illinois.

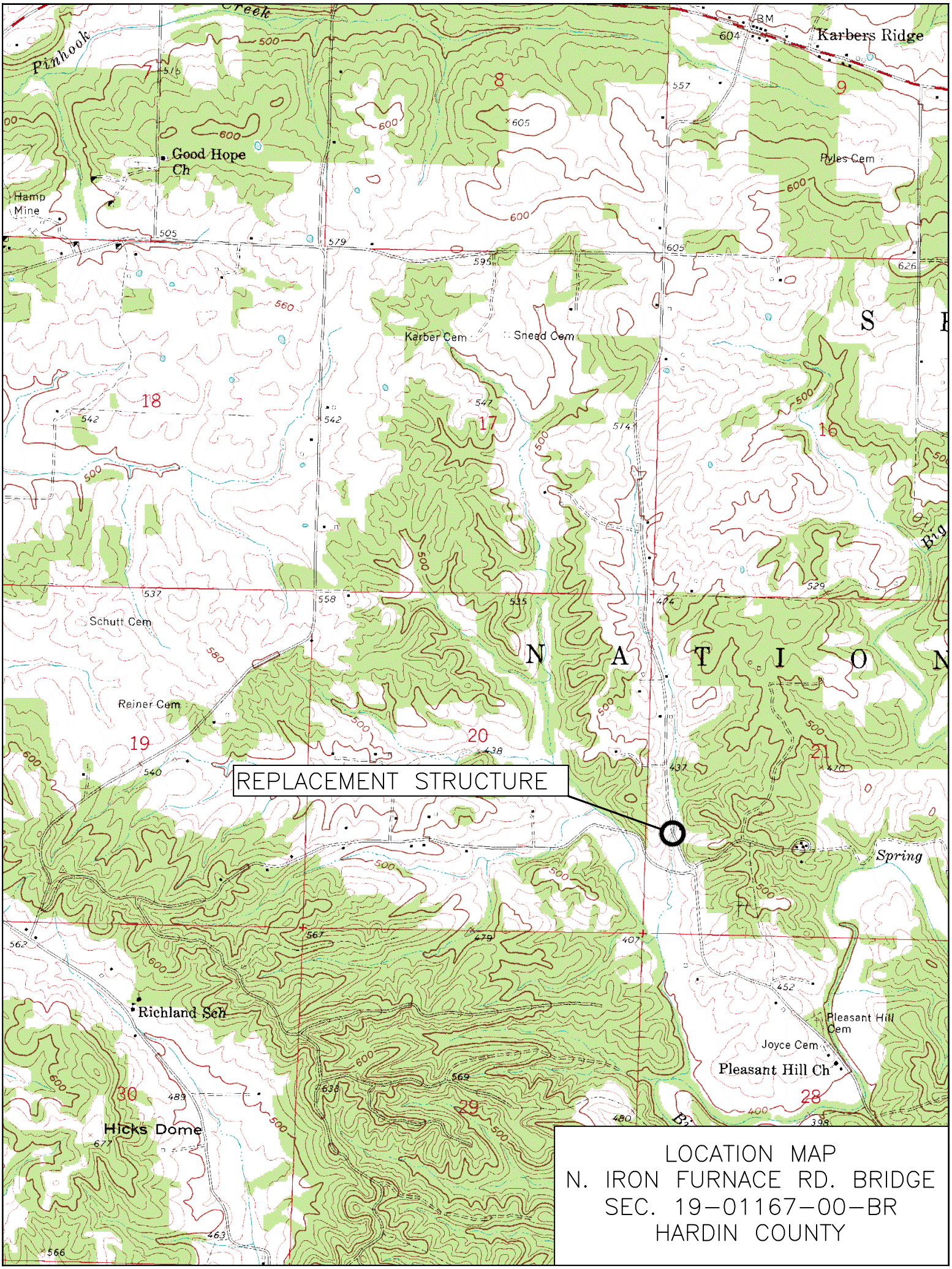
5. An implementing agreement:

Please see Appendix 9 for the Implementing Agreement.

6. Appendices

1. Location Map
2. All information regarding the Kentucky Crayfish, Bigclaw Crayfish and Spring Cavefish was taken from the Aquatic Survey Report for of the "Survey for Fishes and Crayfishes in un unnamed tributary of Big Creek at the Iron Furnace Road (TR 52) Ford, Hardin County, Illinois" dated 3 August 2021 and prepared by:

   Christopher A. Taylor
   Center for Biodiversity
   Illinois Natural History Survey
   Prairie Research Institute
   1816 South Oak Street
   Champaign, IL 61820
   ctaylor@mail.inhs.uiuc.edu
3. Plan and profile drawing with proposed construction limits
4. Storm Water Pollution Prevention Plan
5. Photos of Existing Bridge and Stream
6. U.S. Army Corps of Engineers Letter
7. Natural Resources Review Memo
8. Cultural No Historic Properties Affected Clearance
9. Implementing Agreement for Conservation Plan



LOCATION MAP
N. IRON FURNACE RD. BRIDGE
SEC. 19-01167-00-BR
HARDIN COUNTY

ILLINOIS
Illinois Natural History Survey
PRAIRIE RESEARCH INSTITUTE

Aquatic
Survey Report

Survey for Fishes and Crayfishes in an unnamed tributary of Big Creek at the Iron Furnace Road (TR 52) ford, Hardin County, Illinois

IDOT Sequence Number: 23414

Prepared by:
Christopher A. Taylor

INHS/IDOT Statewide Biological Survey & Assessment Program
2021:28
3 August 2021

PROJECT SUMMARY

This report is submitted in response to a request made by the Illinois Department of Transportation (IDOT) to the Illinois Natural History Survey (INHS) for a fish and crayfish survey in an unnamed tributary of Big Creek at the Iron Furnace Road (TR 52) ford located 2.0 mi E of Hicks, Hardin County, Illinois – specifically to document the presence of two state-listed species of fishes, the Spring Cavefish and Least Brook Lamprey, and two state-listed crayfishes, the Kentucky Crayfish and the Bigclaw Crayfish.

A survey for fishes and crayfishes was conducted in an unnamed tributary of Big Creek at the Iron Furnace Road (TR 52) ford by INHS personnel on 16 June 2021. Fishes were collected from approximately 25 yards upstream (east) of the ford to nearly 25 yards downstream (west) of the ford. Fishes were captured via pull-seining and kick-seining for 30 minutes. Four species of fishes, including the state-threatened Spring Cavefish, were collected during this survey. The Spring Cavefish were found in wood debris approximately 15 yards upstream of the Iron Furnace Road (TR 52) ford. No Least Brook Lampreys were collected. Aside from the Spring Cavefish, all other fish species encountered are common inhabitants of small southern Illinois streams, and none are listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois. Three species of crayfish, including the State Endangered Kentucky Crayfish and Bigclaw Crayfish, were collected during the survey. Both species were found immediately up and downstream of the Iron Furnace Road (TR 52) ford. We believe that our sampling efforts resulted in an accurate assessment of the fish and crayfish assemblage present within the Iron Furnace Road (TR 52) ford project area.

The Tributary of Big Creek is a small spring-fed water stream with moderate gradient and firm substrates at the sampling location. Suitable habitat for the Spring Cavefish, Kentucky Crayfish, and Bigclaw Crayfish is found at the project location. Given its small size, suitable habitat for the Least Brook Lamprey was not found at the project site.

Surveys Lead By: Christopher A. Taylor, Senior Research Scientist
Enrique Santoyo Brito, interim INHS NIZ Collections Manager
Dusty Swedberg, INHS Scientific Specialist
Molly Carlson, INHS Hourly Assistant

Edited by: Mark J. Wetzel, INHS Research Affiliate

GIS Layers: Janet L. Jarvis, INHS GIS and Remote Sensing Specialist

University of Illinois
Prairie Research Institute
Illinois Natural History Survey
Statewide Biological Survey and Assessment Program
1816 South Oak Street
Champaign, Illinois 61820

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Cover photo: Tributary of Big Creek at the Iron Furnace Road (TR 52) ford located 2.0 mi E of Hicks, Hardin County, Illinois, on 16 June 2021 (C. A. Taylor, photo). Picture facing downstream of the bridge in a southwesterly direction.

INTRODUCTION

This report is submitted in response made by Kimberly Burkwald of the Illinois Department of Transportation (IDOT) to Wendy Schelsky and Rachel Vinsel of the Illinois Natural History Survey (INHS) on 26 April 2021 for fish and crayfish surveys in a tributary of Big Creek at Iron Furnace Road (TR 52) ford 2.0 mi E of Hicks, Hardin County, Illinois (Latitude 37.54479°N, Longitude 88.33693°W) [IDOT Sequence No. 23414, Section 19-01167-00-BR; INHS Project No. FS-1531]. Specifically, IDOT inquired about the status of the state- threatened Spring Cavefish (*Forbesichthys agassizii*) and Least Brook Lamprey (*Lampetra aepyptera*), and the state endangered Kentucky Crayfish (*Faxonius kentuckiensis*), and state endangered Bigclaw Crayfish (*Faxonius placidus*) (Illinois Endangered Species Protection Board [IESPB] 2020).

The Division of Highways proposes the removal of an existing ford structure at the Iron Furnace Road (TR 52) intersection with Big Creek and its replacement with a PCC bridge, which may entail instream work. This report summarizes the results of the fish, crayfish and habitat surveys conducted in Big Creek at the Iron Furnace Road (TR 52) ford crossing by INHS personnel on 16 June 2021.

PROJECT LOCATION

Sampling for fishes and crayfishes was conducted in Big Creek from approximately 25 yards upstream to approximately 25 yards downstream of the Iron Furnace Road ford, located 2.0 mi east of the town of Hicks in Hardin County, Illinois (**Cover photo**; **Figure 1**). A point centered on the bridge is used for the following locality information as a reference point for the project: latitude 37.54479°N, longitude 88.33693°W. **Appendix 1** references the shapefiles with sampling point information for the tributary of Big Creek project site, as discussed in this report.

HABITAT CHARACTERIZATION

The unnamed tributary of Big Creek at the Iron Furnace Road (TR 52) ford (**cover photo; Figure 1**) was visited by INHS personnel on 16 June 2021. We examined a reach of the stream from approximately 25 yards upstream (north) of the ford to approximately 25 yards downstream (south) of the ford. The predominant substrate observed at this tributary of Big Creek project site was a clean mixture of gravel/pebble with some cobble; undercut banks were not observed but woody debris and aquatic vegetation were. The tributary of Big Creek ranged from 1-3 yards in width and 0.3 to 1.5 feet in depth. This stretch of Big Creek has low, but strongly sloped banks that were vegetated immediately up- (north) and downstream (southwest) of the ford but surrounded in all directions by woodland (**cover photo**).

BACKGROUND

Big Creek is a spring-fed third order stream draining the Shawnee Hills of Hardin County in southern Illinois (Page et al. 1992). It drains 43 square miles and flows 20 miles southward before depositing its water in the Ohio River near Elizabethtown. The Big Creek drainage is home to 58 species of fish. The state threatened Spring Cavefish and Least Brook Lamprey and state endangered Bigeye Shiner are known to occur in the drainage and all have been collected from it in the past 20 years (INHS Fish Collection). The Bigeye Shiner is only known to occur in Hogthief Creek, at tributary of Big Creek, while the Least Brook Lamprey and Spring Cavefish are found across a majority of the drainage (see Results and Discussion section of this report). The Big Creek drainage is home to seven native crayfish species, including the state endangered Kentucky and Bigclaw crayfishes (INHS Crustacean Collection). Both state endangered species are found across the majority of the Big Creek drainage, including the unnamed tributary sampled for this project, and been repeatedly been collected in it over the past 20 years.

METHODS

A survey for fishes and crayfishes was conducted in the unnamed tributary of Big Creek at the Iron Furnace Road (TR 52) ford by INHS personnel on 16 June 2021 at 1300 hrs by INHS personnel C. A. Taylor, E. Santoyo Brito, D. Swedberg, and M.C. Carlson. Fishes were collected in a 50-yard reach of the stream via pull-seining and kick-seining with a 10' minnow seine with 1/8" mesh seine for 30 minutes. Seven pull-through seine runs were made and 10 kick-seine efforts were made. Kick-seining involved disturbing the substrate by sweeping our feet back and forth immediately upstream of a stationary minnow seine and allowing the current to carry fish into the net. All fishes were identified and counted, and 2-3 specimens of each species collected were vouchered. All other fish were released.

Crayfishes were collected using both quantitative and qualitative methods. Four 1-m^2 areas immediately downstream of the ford were sampled by placing a 10' minnow seine immediately downstream of the area enclosed within a 1-m^2 PVC pipe quadrat. All substrate within the quadrat was vigorously disturbed to dislodge crayfish. All crayfish within the quadrat were identified and counted. After quadrat sampling was concluded, other suitable habitat was sampled by kick-seining with a 10' minnow seine with 1/8" mesh seine for 30 minutes. Two to three specimens of each crayfish species collected were vouchered. All other crayfish were released.

Nomenclature for fishes discussed in this report follows Page and Burr (2011) except that subspecies are not recognized. Nomenclature for crayfishes discussed in this report follows Crandall and DeGrave (2017). The current status of threatened and endangered species of fishes and crayfishes discussed in this report are taken from U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS) (1996, 1997) and Illinois Endangered Species Protection Board

(IESPB) (2020). All fishes were collected and processed according to Institute of Animal Care and Use Committee (IACUC) protocol # 16057.

RESULTS AND DISCUSSION

Four species of fishes, including the seven state-threatened Spring Cavefish, were collected from the tributary of Big Creek at the Iron Furnace Road (TR 52) ford by INHS personnel on 16 June 2021 (**Table 1**). The Spring Cavefish were found in woody debris, located approximately 15 yards downstream of the Iron Furnace Road (TR 52) ford. Aside from the Spring Cavefish, all other fish species encountered are common inhabitants of small southern Illinois streams (Smith 1979), and none are listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois (IESPB 2020). Three species of crayfishes, including seven state endangered Kentucky Crayfish and seven state endangered Bigclaw Crayfish, were collected at the Big Creek ford on the same day (**Table 2**). Both species were found under rocks immediately up and downstream of the ford. Our quadrat sampling produced a density estimate for the Kentucky Crayfish of 1.75 individuals per m^2 and 1.0 individuals per m^2 for Bigclaw Crayfish at the sampling location. We believe that our sampling efforts resulted in an accurate assessment of the fish and crayfish assemblages present within the tributary of Big Creek at the Iron Furnace Road (TR 52) ford project area.

Our sampling results confirm the presence of three state listed aquatic species and suitable habitat for each of the three species at the proposed project site. Spring Cavefish primarily occur in caves or springs but are often found in small spring fed streams when washed out of springs or caves (Smith 1979, Page and Burr 2011). When found in streams, the species will be found under rocks or in woody debris. As the upper reaches of the tributary of Big Creek is spring fed, this type of habitat was present at the Iron Furnace Road (TR 52) ford project site. Both the Kentucky Crayfish and Bigclaw Crayfish occur in medium gradient streams of all sizes with bottom substrates of gravel and rock (Taylor and Schuster 2004). Both species are more frequently encountered in riffle areas. Riffle habitat with gravel and rock was found across the Iron Furnace Road (TR 52) ford project area (**cover photo**). Given the abundance of historical records for all three species in the Big Creek drainage, we believe that they are year around residences with abundances that do not fluctuate greatly over the course of a year.

The tasking sent to INHS for surveys at the unnamed tributary of Big Creek at Iron Furnace Road (TR 52) ford project site identified the potential occurrence of the state threatened Least Brook Lamprey at the site. We did not find the species at the site. While the Least Brook Lamprey is known to historically occur approximately 2 mi downstream of the Iron Furnace Road (TR 52) ford project area in the main stem of Big Creek, we feel that suitable habitat is not present in the unnamed tributary of Big Creek at or in the immediate vicinity of this ford. Burr and Stewart (1999) conducted a thorough conservation assessment for the Least Brook Lamprey across southern Illinois and noted that it was more likely to occur in streams with a larger average width than that found at the Iron Furnace Road (TR 52) ford project area. We measured a stream width range of 1 to 3 yards at the TR 52 project site while Burr and Stewart

(1999) and Hardisty and Potter (1971) found the species to occur and spawn in streams ranging from 6.5 to 20.7 yards in width.

ACKNOWLEDGMENTS

J.L. Jarvis (INHS) prepared the map in **Figure 1** and the associated shapefiles referenced in **Appendix 1**; and M.J. Wetzel (INHS) edited the report.

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1996. 46 pp. [This document is a compilation and special reprint, current as of October 31, 1996, that was printed by the U.S. Government Printing Office in 1997].

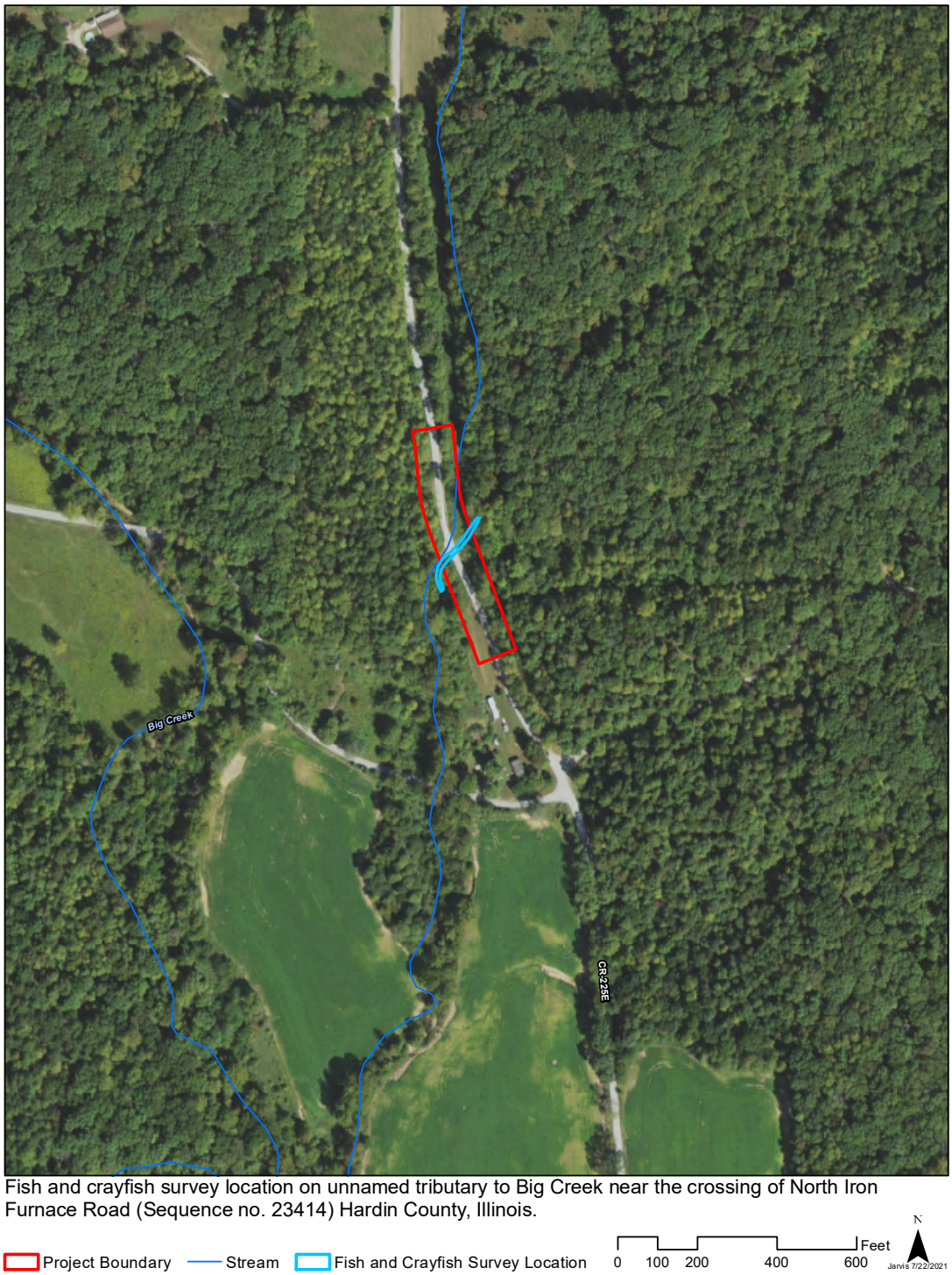
Table 1. List of fish species and number of individuals collected in a tributary of Big Creek at the Iron Furnace Road (TR 52) ford, 2.0 mi E of Hicks, Hardin County, Illinois (latitude 37.54479°N, longitude 88.33693°W) by INHS personnel on 16 June 2021. ***** = listed as state-threatened in Illinois (IESPB 2020). # = number of individuals collected

Family	Scientific name	Common name	#
Cyprinidae	*Luxilus chrysocephalus*	Striped Shiner	1
	Semotilus atromaculatus	Creek Chub	81
Amblyopsidae	*Forbesichthys agassizii**	Spring Cavefish	7
Percidae	*Etheostoma squamiceps*	Fantail Darter	14

Table 2. List of crayfish species and number of individuals collected in a tributary of Big Creek at the Iron Furnace Road (TR 52) ford, 2. mi E of Hicks, Hardin County, Illinois (latitude 37.54479°N, longitude 88.33693°W) by INHS personnel on 16 June 2021. ***** = listed as state-

endangered in Illinois (IESPB 2020). # = number of individuals collected

Family	Scientific name	Common name	#
Cambaridae	*Cambarus tenebrosus*	Cavespring Crayfish	9
	*Faxonius kentuckiensis**	Kentucky Crayfish	7
	*Faxonius placidus**	Bigclaw Crayfish	7



Fish and crayfish survey location on unnamed tributary to Big Creek near the crossing of North Iron Furnace Road (Sequence no. 23414) Hardin County, Illinois.

Figure 1. Map of the unnamed tributary of Big Creek at Iron Furnace Road ford project area, 2.0 mi E of Hicks, Hardin County, Illinois (latitude 37.54479°N, longitude 88.33693°W), where surveys for fishes and crayfishes were conducted by INHS personnel on 16 June 2021 (Map created by J.L. Jarvis, INHS GIS and Remote Sensing Specialist).

Appendix 1

This appendix cover page references < **23414_Crayfish_Survey_GIS.zip** > and <**23414_Fish_Survey_GIS.zip**> containing an ArcGIS shapefiles with sampling point information for the site discussed in this report. Specifically, these shapefiles includes site information for an unnamed tributary of Big Creek at Iron Furnace Road ford project, 2.0 mi E of Hicks, Hardin County, Illinois (latitude 37.54479°N, longitude 88.33693°W), where surveys for fishes and crayfishes were conducted by INHS personnel on 16 June 2021.

The ArcGIS shapefile and this report were both submitted to IDOT via the IDOT Site Assessment Tracking System extranet website (Frostycap) on 3 August 2021.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RD 52	19-01167-00-BR	HARDIN	1	1
N IRON FURNACE ROAD				

ESR LIMITS (50' LT)
EXISTING ROW 40' LT
EXISTING CONCRETE FORD
EXISTING ROW 30' LT
EXISTING ROW 20' LT
B-1
B-2
7+00
8+00
9+00
10+00
11+00
12+00
13+00
14+00
14+25.76
N IRON FURNACE RD
EXISTING ROW 20' RT
BEGIN PROJECT
STA 8+00.00
EXISTING ROW 35' RT
ESR LIMITS (50' RT)
BK. ABUT. STA 9+78.85
BK. ABUT. STA 10+21.16
25°
EXISTING ROW30' LT
EXISTING ROW 30' RT
ESR LIMITS (50' LT)
ESR LIMITS (50' RT)
END PROJECT
STA 12+13

HORIZONTAL 0 25 50
VERTICAL 0 5 10

PVC STA.8+25.00
PVC ELEV.422.11
-1.48%
150.00VC
1000.00SD
PVI STA.9+00.00
PVI ELEV.421.00
0.00%
PVT STA.9+75.00
PVT ELEV.421.00
PVC STA.11+30.00
PVC ELEV.421.00
0.00%
140.00VC
665.06SD
PVI STA.12+00.00
PVI ELEV.421.00
2.29%
PVT STA.12+70.00
PVT ELEV.422.60
-1.48%
PR ℄ PROF
0.00%
EX ℄ PROF
DHWE 418.2
STREAMBED ELEV. 434.3

435 430 425 420 415 410

7+00	+50	8+00	+50	9+00	+50	10+00	+50	11+00	+50	12+00	+50	13+00	+50	14+00
424.3 EXIST	423.3 EXIST **423.28 PROP**	422.5 EXIST **422.48 PROP**	421.6 EXIST **421.77 PROP**	420.8 EXIST **421.28 PROP**	419.2 EXIST **421.03 PROP**	416.9 EXIST **421.00 PROP**	419.0 EXIST **421.00 PROP**	419.9 EXIST **421.00 PROP**	420.4 EXIST **421.03 PROP**	421.3 EXIST **421.40 PROP**	422.2 EXIST **422.18 PROP**	423.3 EXIST **423.29 PROP**	424.5 EXIST **424.56 PROP**	426.0 EXIST

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BROWN & ROBERTS, INC

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 52	19-01167-00-BR	HARDIN	12	11
N IRON FURNACE RD				

STORM WATER POLLUTION PREVENTION PLAN

The following Plan is established and incorporated in the project to direct the Contractor in the placement of temporary erosion control systems and to provide a storm water pollution prevention plan for compliance under NPDES.

The purpose of this plan is to minimize erosion within the construction site and to limit sediments leaving the construction site by utilizing proper temporary erosion control systems and providing ground cover within a reasonable amount of time.

Certain erosion control facilities shall be installed by the Contractor at the beginning of construction. Other items shall be installed as directed by the Engineer on a case by case situation depending on the Contractor's sequence of activities, time of year and expected weather conditions.

The Contractor shall construct permanent erosion control systems and seeding within a time frame specified herein and as directed by the Engineer, therefore minimizing the amount of area susceptible to erosion and reducing the amount of temporary seeding. The engineer will determine if any temporary erosion control systems shown in the plans can be deleted and if any additional temporary erosion control systems, which are not included in the plans, shall be added. The contractor shall perform all work as directed by the Engineer and as shown in STANDARD 280001.

Section 280, Temporary Erosion Control, of the Standard Specifications additionally supplements this plan.

DESCRIPTION OF CONSTRUCTION ACTIVITIES

1. Temporary ditch checks shall be located at every 1.5 feet of fall/rise in ditch grade.

INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES

1. Brush removal. Trees to remain will be protected against damage.

2. Remove Existing Bridge.

3. Construct Abutments.

4. Place new Riprap.

5. Construct New Bridge Deck.

6. Construct roadway transitions and side slopes.

7. Seeding and permanent erosion control systems.

AREA OF CONSTRUCTION SITE

1. The total area of the construction site is estimated to be 0.78 Acres of which approximately 0.50 Acres will be disturbed.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE SWPPP AS REFERENCED DOCUMENTS.

1. Information of the terrain was obtained from topographic maps.

2. Project plan documents, specifications and special provisions and plan drawings indicating the drainage patterns and location of existing drainage features were utilized in the preparation of the proposed placement of temporary erosion control systems.

DRAINAGE TRIBUTARIES AND SENSITIVE AREAS RECEIVING RUNOFF

1. No new discharge points will be constructed.

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROLS

1. Existing vegetation will be preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices will include temporary seeding, permanent seeding, mulching, protection of trees, preservation of mature vegetation and other appropriate measures as directed by the Engineer. Stabilization measures shall be initiated as soon as practical in those areas of the site where construction activities have ceased, but in no case more than 7 days after the construction activity for an area has temporarily or permanently ceased.

2. Areas outside the construction limits shall be protected from construction activities.

3. Dead, diseased or unsuitable vegetation within the site shall be removed as directed by the Engineer.

4. As soon as is reasonable, the temporary erosion control system shall be installed as indicated in the plans or as directed by the engineer.

This plan has been prepared with the intent to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from construction site activities.

I certify under penalty of law that this plan was prepared at my direction in accordance with a system that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

JUSTIN HASTIE, COUNTY ENGINEER DATE:

BROWN & ROBERTS, INC.

14 Oct 2021 - 10:24am X:\2019\19057\AC\Plans\9-10 19-057 SWPPP.dwg

Appendix 4

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 52	19-01167-00-BR	HARDIN	12	12
N IRON FURNACE RD				

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION

1. During construction, areas outside the construction limits shall be protected.

2. Within the construction limits, areas which may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full scale construction is underway.

3. Earth stockpiles shall be temporary seeded if they are to remain unused for more than 14 days.

4. As soon as construction proceeds, the contractor shall institute the following as directed by the Engineer:

A) Place temporary erosion control facilities at locations shown in the plans.

B) Temporarily seed erodable bare earth on a weekly basis to minimize the amount of erodable surface area within the contract limits.

C) Construct roadside ditches and provide temporary erosion control systems.

5. Excavated areas shall be permanently seeded immediately after final grading. If not, they shall be temporarily seeded if no construction in the area is planned for 7 days.

6. All necessary measures shall be taken by the contractor to contain any fuel or pollutant in accordance with EPA water quality regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site.

7. The Resident Engineer shall inspect the project daily during construction activities. Inspection shall also be done weekly and after rains of 0.5 inches or greater or equivalent snowfall and during any winter shutdown period.

8. Sediment collected during the construction by the various temporary erosion control systems shall be disposed of on site on a regular basis as directed by the Resident Engineer. The cost of this maintenance shall be considered incidental to the erosion control system.

9. The temporary erosion control systems shall be removed as directed by the Engineer after use is no longer needed or no longer functioning. The cost of removal shall be included in the unit bid price for various temporary erosion control pay items.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING

1. Temporary seeding shall be left in place with proper maintenance until permanent erosion control and all proposed turf areas seeded and established.

2. Once permanent erosion control systems as proposed in the plans are functional and established, temporary items shall be removed, cleaned up and disturbed turf areas reseeded.

MAINTENANCE AFTER CONSTRUCTION

1. Construction is complete after FINAL acceptance by I.D.O.T. final inspection. Maintenance up to this date will be by the contractor.

MISCELLANEOUS

1. Temporary ditch checks shall be located at every 1.5 feet of fall/rise in ditch grade.

2. Temporary erosion control seeding shall be applied at the rate of 100 lbs/acre.

3. Straw bales, hay bales, perimeter erosion control barrier and silt fences will not be permitted for temporary or permanent ditch checks. Ditch checks shall be composed of aggregate, silt panels, rolled excelsior, urethane foam geotextile (silt wedges) and/or other material approved by the erosion and sediment control coordinator.

4. All erosion control products furnished shall be specifically recommended by the manufacturer for the use specified in the erosion control plan. Prior to the approval and use of the product, the contractor shall submit to the Engineer a notarized certification by the producer stating the intended use of the product and the physical properties required for this application are met or exceeded. The contractor shall provide manufacturer installation procedures to facilitate the Engineer in construction inspection.

5. All items shall be constructed as shown on STANDARD 280001 and as directed by the Engineer. Maintenance and cleaning of erosion control items shall be considered part of the respective erosion control pay item.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOUISVILLE DISTRICT
600 DR. MARTIN LUTHER KING JR PL
LOUISVILLE, KY 40202

September 22, 2021

Regulatory Division
South Branch
ID No. LRL-2021-761-jwr

Hardin County Highway Dept.
c/o: Mr. Justin Hastie, County Engineer
P.O. Box 216
Elizabethtown, Illinois 62931

Dear Mr. Hastie:

This is in response to your request for authorization to discharge fill material in "Waters of the United States" in association with the replacement of an existing low water crossing located on North Iron Furnace road in Elizabethtown, Hardin County, Illinois (37.54482°N and -88.33695°W). Proposed activities would result in the installation of a precast concrete bridge measuring 40-feet long by 24-feet wide supported on concrete abutments. Installation activities would result in the discharge of 136 cubic yards (0.068 acres) of fill material consisting of rip-rap to provide scour control and concrete associated with the proposed abutments. The information supplied by you was reviewed to determine whether a Department of the Army (DA) permit will be required under the provisions of Section 404 of the Clean Water Act.

Your project is considered a discharge of backfill or bedding material for a road crossing. The project is authorized under the provisions of 33 CFR 330 Nationwide Permit (NWP) No. 14, Linear Transportation Projects, as published in the Federal Register January 6, 2017. Under the provisions of this authorization, you must comply with the enclosed Terms and General Conditions for NWP No. 14.

The Illinois Environmental Protection Agency (ILEPA) has issued the required Water Quality Certification (WQC) subject to Section 401 of the CWA for this particular Nationwide Permit. Therefore, you need not apply for individual WQC, provided you comply with the enclosed WQC General Conditions.

This verification is valid until the NWP is modified, reissued, or revoked. NWP No. 14 will be modified, reissued, or revoked on March 18, 2022. It is incumbent upon The Hardin County Highway Department to remain informed of changes to the NWPs. If the Hardin County Highway Department commence or is under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP. The enclosed Compliance Certification must be submitted to the District Engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later. Please note that we also perform periodic inspections to ensure compliance with our permit conditions and applicable Federal laws.

If you have any questions, please contact us by writing to the District Regulatory Office at the above address, ATTN: CELRL-RDS, or contact me directly at 502-315-2643 or jason.w.rhoades@usace.army.mil. Any correspondence on this matter should refer to our ID Number LRL-2021-761-jwr.

Sincerely,

Jason Rhoades
Regulatory Biologist, South Branch
Regulatory Division

Illinois Department of Transportation

Memorandum

To:	Jeffrey L. Kiern	Attn: Carrie L. Nelsen
From:	Jack A. Elston	By: Thomas C. Brooks
Subject:	Natural Resources Review	
Date:	September 22, 2021	

TR 52 (Iron Furnace Road)
T 11S, R 8E, Sec 21
Hardin County
Sequence # 23414

This project will replace an existing ford crossing carrying N Iron Furnace Road over an unnamed tributary to Big Creek and includes removal of the existing ford crossing structure and construction of a new bridge. The total length of the project is 0.11 miles. The project will be constructed within existing right of way so there will be no land acquisition or temporary easements required. Additionally, there will be no tree removal required. There will be in stream work to an unnamed tributary to Big Creek.

Review for Illinois Endangered Species Protection and Illinois Natural Areas Preservation – Part 1075

The Illinois Natural Heritage Database contains no record for dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location. The tributary to Big Creek is listed as an Illinois Natural Area Inventory Site. Big Creek has been identified by the Illinois Natural History Survey as the most outstanding representative of the rivers and creeks of the Shawnee Hills and Ozark Plateau. The Illinois Natural Heritage Database has records for several state listed threatened or endangered species occurring at the project location. These include Bigclaw crayfish, Kentucky crayfish and Spring cavefish. An aquatic survey was conducted on June 16, 2021. During the survey all three aforementioned listed species were found in the project vicinity.

We consulted with the IDNR and they recommended the IDOT obtain authorization for the potential incidental taking for the Bigclaw crayfish, Kentucky crayfish and the Spring cavefish. We also contacted the project proponent and they concurred with our recommendation to secure incidental taking authorization. **By copy of this memorandum, we are notifying the IDNR of the Local Agency's commitment to obtain incidental taking authorization.**

Per IDOT policy, the incidental take authorization must be in place prior to awarding the contract for the work that will cause the incidental taking. This project is clear for design approval only. IDOT policy and procedures for obtaining an incidental take authorization are detailed in the Bureau of Design and

Environment Manual at 26.06(h). The first step in obtaining incidental taking authorization is to prepare a Conservation Plan. **IDOT BDE is available to provide information and technical assistance as needed in preparing the Conservation Plan which shall be submitted to this office. IDOT BDE will conduct all coordination with the Illinois Department of Natural Resources.**

Please note that the regulations for obtaining an incidental taking authorization require a minimum of 150 days for processing.

This review for compliance with 17 Ill. Adm. Code Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed improvement is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the proposed improvement has not been implemented within two years of the date of this memorandum, or any of the above listed conditions develop, a new review will be necessary.

Review for Illinois Interagency Wetland Policy Act – Part 1090

The National Wetlands Inventory, Ducks Unlimited Wetlands Inventory, ground level and aerial photos, plan sheets, USDA soil maps, and topographic quadrangle maps were examined. There are no inventoried wetlands in the project vicinity. Soils are mapped as non-hydric Alford-Baxter complex and Burnside silt loams. **Therefore, the wetland review under Part 1090 is terminated.**

Review for Endangered Species Act - Section 7

The proposed improvement was reviewed in fulfillment of our obligation under Section 7(a)2 of the Endangered Species Act. Our review included use of the US Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) web-based review tool. Through IPaC, an official species list was received and is saved to the project folder. The list contains the endangered, threatened, proposed and candidate species and proposed and designated critical habitat that may be present within or in the vicinity of the proposed improvement. The following species are listed: Gray bat, Indiana bat (Ibat) and the Northern long-eared bat (NLEB), and Fat pocketbook mussel. No proposed or designated critical habitat is listed in Alexander County. Under 50 CFR 402.12(e), **the accuracy of the species list is limited to 90 days.**

Within IPaC there is a Determination Key for the NLEB and Ibat. We used the key to determine applicability of the project with the USFWS revised programmatic biological opinion for transportation projects dated 12-15-2016 and to assess what effect the project would have on NLEB or Ibat. We completed an IPaC qualification interview and determined **that the project is within the scope of the programmatic biological opinion and will have no effect on either species of bat.**

Our determination is based on the scope of work which does not include tree removal and that the existing structure is a ford crossing and not suitable for bats.

We cross-referenced the preferred habitat of each of the remaining listed species with our knowledge of the project area and determined that the proposed improvement will have **no effect** on those species.

Should the proposed improvement be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination should be initiated.

KCB

Illinois Department of Transportation

Memorandum

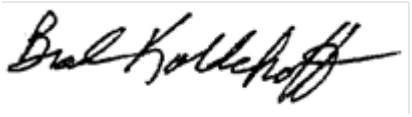
To:	Bureau of Local Roads	Attn: Doug DeLong
From:	Jack Elston	By: Brad Koldehoff
Subject:	Cultural Resources - No Historic Properties Affected Clearance	
Date:	September 14, 2020	

Hardin County
TR 52, N Iron Furnace Road
East of Hicks
Sec. 19-01167-00-BR
Seq. 23414

For the above referenced undertaking, IDOT's qualified Cultural Resources staff hereby make a **"No Historic Properties Affected"** finding pursuant to Section 106 of the National Historic Preservation Act.

This finding concludes the Section 106 process in accordance with the stipulations of the Programmatic Agreement Regarding Section 106 Implementation for Federal-Aid Transportation Projects in the State of Illinois, executed March 6, 2018 by FHWA, Illinois SHPO, IDOT and the Advisory Council on Historic Preservation.

No further cultural resources coordination is required for this undertaking, unless design modifications or new information indicate that historic properties may be affected. After coordination with Local Roads any potential site impacts have been avoided. However, if archaeological sites cannot be avoided, then, additional coordination with my office is required.



Brad H. Koldehoff
Cultural Resources Unit Chief
Bureau of Design & Environment

BK:km

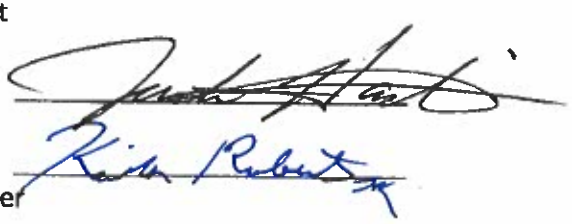
5. Implementing agreement for

Conservation Plan

for Incidental Taking of Illinois-Endangered
Spring Cavefish (*Forbesichthys agassizii*)
Kentucky Crayfish (*Faxonius kentuckiensis*)
Bigclaw Crayfish (*Faxonius placidus*)
in the vicinity of the proposed North Iron Furnace (TR 52) Bridge
over Unnamed Tributary to Big Creek
in Hardin County, Illinois

A. Names of all participants in the execution of the conservation plan, including public bodies, corporations, organizations, and private individuals.

Hardin County Highway Department
Justin Hastie
Hardin County Engineer



Keith Roberts
Acting Local Roads & Streets Engineer
Illinois Department of Transportation, District 9

B. The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities in the conservation plan and a schedule for preparation of progress report to be provided to the Department.

This agreement will be between the Local Agency, identified as the Hardin County Highway Department (HCHD) and the Illinois Department of Natural Resources (IDNR). IDNR is responsible for the review of this conservation plan and for the subsequent issuance of the Incidental Take Authorization. The Local Agency is responsible for securing authorization for the incidental take; securing all permits and biological clearance, including Section 404, Section 401, and Office of Water Resources; inspection of the work and contractor compliance with the contract documents.

The avoidance and minimization measures outlined in the conservation plan be implemented during construction and any post construction activities outlined in

the conservation plan will be implemented at the appropriate time following construction.

Construction is estimated to begin in July, 2022 and be completed in approximately 60 days. Progress reports will be provided to IDNR within 90 days of each monitoring event.

C. Assurances that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan.

IDOT is authorized by the Illinois Highway Code to carry out its duties of providing safe and efficient highways for Illinois citizens.

The Illinois Natural History Survey (INHS) has the E&T permits to perform this work.

D. Assurances of compliance with all other federal, state, and local regulations pertinent to the proposed action and to execution of the conservation plan.

The USACE has determined that this project is authorized under the provisions of 33 CFR 330 Nationwide Permit (NWP) No. 14, Linear Transportation Projects. The Authorization Letter is included as **Appendix 6**.

The total disturbance area of this project is less than 1 acre, therefore, a NPDES Construction General Permit for stormwater discharge will not be required. In order to minimize impacts to the aquatic species, a Storm Water Pollution Prevention Plan (SWPPP) has been developed (**Appendix 4**) and will be included in the final plans.

See **Appendix 7** of the Conservation Plan for the Natural Resource Review Memo which documents that the project's review and compliance with The Illinois Endangered Species Act, The Interagency Wetlands Policy Act, and the Federal Endangered Species Act.

No known local regulations are pertinent to this conservation plan.

E. Copies of any federal authorizations for taking already issued to the applicant.

The USACE has determined that this project is authorized under the provisions of 33 CFR 330 Nationwide Permit (NWP) No. 14, Linear Transportation Projects. The Authorization Letter is included as **Appendix 6**.

See **Appendix 7** of the Conservation Plan for the Natural Resource Review Memo which documents that the project's review and compliance with The

Illinois Endangered Species Act, The Interagency Wetlands Policy Act, and the Federal Endangered Species Act.

Cultural Clearance is included as **Appendix 8**.