

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5), the Illinois Department of Transportation's (IDOT)/McHenry County Division of Transportation's (MCDOT) authorization for the incidental take of the State threatened black sandshell mussel (*Ligumia recta*) in McHenry County, Illinois (as described/shown in the conservation plan received by the Department on 4 October 2010) is hereby granted, subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources has determined that this authorized take is incidental to the construction improvements/replacement of the Blivin Street bridge replacement over Nippersink Creek, in the village of Spring Grove, McHenry County, Illinois.

Procedural History

IDOT and MCDOT prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and IDOT/MCDOT request for authorization for incidental take of black sandshell mussels were received by the Illinois Department of Natural Resources (Department) on 4 October 2010. Public notice of IDOT/MCDOT request for authorization of incidental take of black sandshell mussels was published in the Arlington Northwest Herald (Official State newspaper and local paper) on November 10, November 17, and November 24, 2010. Public comments on IDOT/MCDOT conservation plan were accepted by the Department until December 10, 2010. No comments were received by the public during the period of November 10, 2010 through December 10, 2010.

Compliance with the Endangered Species Protection Act

The Illinois Endangered Species Protection Act includes six (6) criteria which must be met for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each criterion are listed below.

- 1. The taking will not be the purpose of, but will only be incidental to, the carrying out of an otherwise lawful activity:

The proposed Blivin Street Bridge Replacement Project is located in the Village of Spring Grove, in McHenry County, Illinois, approximately 0.3 miles north of US-12. Geographically, the project is located in the Northwest Quarter of Section 30, Township 46 North, Range 9 East of the Third Principal Meridian.

The coordinates of the bridge are: latitude 42D 26M 25.46N, longitude 88D 14M 12.37S W.

The proposed improvements involve the removal and replacement of a structurally deficient bridge with a sufficiency rating of 22.6. The existing three-span bridge will be replaced with a three-span bridge on individually encased piers and open abutments at the same location, which will require the removal of the two existing piers and the placement of two proposed piers. The bridge and roadway are under the jurisdiction of McHenry County.

The proposed work within the stream channel includes removal of the existing structure, driving of piles for the piers, and placement of articulated concrete revetment mat at the abutments and channel. The embankments will be armored with revetment mat to eliminate scouring and erosion. After completion of the in-stream activities, any temporary work will be removed and the area will be seeded with native vegetation and restored to its original configuration.

The IDNR finds this taking incidental to the activity of bridge replacement based on the above provided information.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.

The McHenry County Division of Transportation (MCDOT) is responsible for securing this final authorization for incidental take of state-listed species; securing all permits including NPDES, Section 404 and Office of Water Resources; as well as inspection of the work and contractor compliance with the contract documents. The MCDOT, as directed by the Illinois Department of Transportation, exclusively abides by the National Environmental Policy Act and all associated state and federal environmental laws in carrying out its mission of performing the most environmentally sensitive methods of transportation planning and engineering.

The formal Conservation Plan prepared by IDOT/MCDOT, and received by the Department of Natural Resources on 4 October 2010, includes freshwater mussel surveys, and subsequent relocations of black sandshells "to suitable habitat in the adjacent stream channel". MCDOT officials will coordinate with McHenry County Conservation District in the "temporary relocation" of the mussels.

The IDNR finds the Conservation Plan to effectively minimize and mitigate to the extent practical the impacts caused by the taking with the following additions:

- 1) All mussels within the constructions limits will be relocated.
- 2) Mussels will be permanently relocated to suitable habitat in the adjacent stream channel, preferably upstream.

This mitigation action is modified as follows:

In order to locate black sandshell mussels within the construction limits, a general mussel survey will be required within said limits and will result in the finding and handling of all freshwater mussels in this zone. Further, the reference to a "temporary relocation" suggests that the applicant plans to move relocated mussels to a new site at some later date, presumably back under the bridge.

All mussels encountered (listed and non-listed species) within the construction limits are to be relocated in order to minimize impacts. Mussel surveys will be conducted using standard survey techniques including searching by feel to methodically cover the area to be disturbed by the project (viewing boxes, wading in shallow water, SCUBA in deeper water-if applicable,). Surveys shall be conducted prior to initiation of bridge construction/repair while water temperatures are at or above 50 degrees Fahrenheit.



All mussels found will be identified to species. Mussels will be marked in a non-destructive manner (e.g, etched symbol in periostracum, 'super-glue' colored tag) to facilitate future monitoring and relocated into areas of suitable habitat, in the same stream/river, preferably upstream of the construction site where they will remain barring unforeseen changes or degradation to the relocation site (any such changes to be determined in conjunction with IDNR). Specifically, the transplant site will be close to the collection area and have similar to better water quality and substrate.

The ecological staff/freshwater mussel consultant conducting this mussel relocation effort shall have extensive experience with Midwestern mussels. The mussel consultant will provide the Department with a report detailing the results of all mussel surveys and relocation efforts within 60 days of completing all surveys/relocations. Mussel surveys and related relocations will occur only after Department authorization and prior to any construction activities.

Erosion and siltation has the greatest potential to harm mussels downstream from the work site. The Resident Engineer, acting as the McHenry County's agent, will be responsible for monitoring all activities of the Contractor, including compliance with the special provisions regarding mitigation and the use of best management practices (BMPs) to minimize erosion and siltation. National Pollutant Discharge Elimination System (NPDES) documentation will be included regardless whether or not this project requires an NPDES permit. This will include a storm water pollution prevention plan (SWPPP), contractor certification statement, weekly inspections of BMPs and the reporting of incidents of non-compliance.

The Illinois Department of Transportation's Bureau of Design and Environment (BDE) Special Provisions entitled "National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction" and "Temporary Erosion Control" will be included in the contract documents. Regular inspections to ensure proper working order and maintenance of BMPs will be made weekly by the Resident Engineer. Additional inspections will be made right after heavy rain events as indicated in the SWPPP. Additional soil conserving practices, including those not in the SWPPP, will be implemented if eroded soil is noted to be leaving the jobsite outside of construction limits.

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided:

The project is authorized by the McHenry County Division of Transportation, in conjunction with the Illinois Department of Transportation, both of which are responsible for funding and overseeing the project. In an official correspondence to the IDNR (Department) dated 4 October 2010, IDOT verified that adequate funding exists to support and implement all (mitigation) activities described in the official Conservation Plan.

The project estimated budget includes funding for design and implementation of erosion control and sedimentation measures. Additional soil conserving practices and measures, not included in the initial construction contract, will be implemented by change order or force account. By law, the erosion and sediment control plan must be in place for the life of the project.

The IDNR finds that adequate funding for the Conservation Plan will be provided as long as funding and/or resources are made available for the relocation and monitoring of freshwater mussels for 5 years after completion of the project (see *ITA Implementation Agreement* below).

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of the survival or recovery of the endangered species or threatened species in the wild in Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois:

The area of the work zone has been minimized to reduce the impact to the mussel habitat. The total project area is approximately 800,000 square feet (approximately 1.83 acres). Due to high velocities and scour, streambank stabilization and regrading will occur approximately 500' to the east and west of the bridge. Streambank stabilization will take place from the design HWL elevation to toe of the embankment due to the existing erosion problems with revetment mat placed along the channel under the bridge. The existing Right-of-Way is 40' on either side of the road centerline and the bridge will be reconstructed entirely within the existing ROW; casements will be required for non-structural work such as regrading and stabilization. The amount of habitat affected is equal to the area required to complete the in-stream portion of the work.

The existing bridge is scour-critical with velocities along the oxbow shape approaching 14 ft/s. A revetment mat will be utilized to prevent scour and erosion as well as provide protection to the bridge abutments. A fen is located approximately 1200' downstream from the project site; the streambank stabilization conducted with this project will improve water quality and reduce siltation to all organisms whose habitat lies downstream of the project.

Similar habitat is located both upstream and downstream of the work area. The streambed and habitats will be controlled by natural processes, namely flooding, after the work activities are completed. Mussels should move back into the area over time since measures will be taken to minimize substrate disturbances in the area around the bridge and streambanks will be stabilized with a revetment mat as indicated above.

The IDNR finds that construction improvements/replacement of the Blivin Street bridge, over Nippersink Creek, in McHenry County, Illinois will not reduce the likelihood of the survival of state-listed threatened or endangered mussels in Illinois if the Conservation Plan is executed as described with modifications noted.

Relocation is one of several methods that can be used to protect freshwater mussels. Relocation can be used to recolonize areas where previous populations were extirpated, to remove mussels from proposed construction sites, to boost numbers of endangered species, or to protect against high densities of the zebra mussel (*Dreissena polymorpha*). The survival of relocated mussels is closely linked to habitat quality.

Relocation sites should have the same conditions of substratum type and stability, and water velocity as the original habitat. Research from the federally endangered Higgins Eye mussel (*Lampsilis higginsii*) recovery team, under the guidance of the United States Fish and Wildlife Service, has determined that minimal mortality (<12%) and high recovery rate (>88%) were shown when aerial exposure of mussels was less than four (4) hours and when relocations were conducted in spring or autumn when air (12-18 C) and water temperature (15-23 C) were moderate.

As per standard IDOT construction guidelines, construction personnel associated with the Blivin Street bridge project will implement sediment control and construction management measures to minimize the extent and duration of project related disturbance(s) to the Nippersink Creek watershed and any potential for direct/indirect impacts on mussels and/or mussel habitat. These measures may include, but are not limited to, the use of coffer dams, silt fencing, or other sediment control measures to limit downstream sedimentation during construction.

The McHenry County Division of Transportation will ensure that the contractor performing the work will implement erosion and sediment control best management practices (BMPs) in order to minimize siltation. Best management practices are described in detail in the Illinois Department of Transportation's Bureau of Design and Environment Manual Chapter 59 and IDOT's Standard Specifications for Road and Bridge Construction Section 280 and can be accessed through the IDOT website. In addition, a Stormwater Pollution Prevention Plan will be included with the project plans regardless of whether or not this project requires NPDES documentation. IDOT's BDE Special Provision for "National Pollutant Discharge Elimination System/Erosion Control Deficiency Deduction" will be included in the contract documents.

5. Any measures required under Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)] will be performed:

Additional measures are listed below under "Authorization". This authorization is, by definition, subject to those terms and conditions and official IDOT/MCDOT signature(s) on this authorization indicates their commitment to performing those measures.

The IDNR finds these measures and those listed below meet the requirements in the Act and Administrative Code noted in 5 above.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application:

IDOT and the McHenry County Division of Transportation (MCDOT) prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and IDOT/MCDOT request for authorization for incidental take of black sandshell mussels were received by the Illinois Department of Natural Resources (Department) on 4 October 2010. Public notice of IDOT/MCDOT request for authorization of incidental take of black sandshell mussels was published in Arlington Northwest Herald (Official State newspaper and local paper) on November 10, November 17, and November 24, 2010. Public comments on IDOT/MCDOT conservation plan were accepted by the Department until December 10, 2010. No comments were received by the public during the period of November 10, 2010 through December 10, 2010.

The IDNR finds that adequate public notice and opportunity for public comments has been provided.

Authorization

It is the determination of the Department of Natural Resources that the measures described in this Authorization and Implementing Agreement to be implemented by IDOT and the MCDOT, will most likely adequately minimize and mitigate for the anticipated taking (relocation) of a small number of black sandshell mussels due to the construction and repair/replacement of the Blivin Street bridge, over Nippersink Creek, in McHenry County, Illinois. Further, it is our opinion that the take (relocation) authorized herein would not diminish the likelihood of the survival of the black sandshell mussel in the wild within the State of Illinois, the biotic community of which the species is a part or the habitat essential to the species' existence in Illinois.

The Illinois Department of Natural Resources has determined that this authorized take is incidental to the construction improvements/replacement.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], this authorization is issued subject to the following additional terms and conditions:

1. This authorization is effective upon signature of the Department and shall remain in effect for a period of six (6) years after the official "project completion date". "Completion" shall be defined as the date the bridge is officially open for public use. This authorization is effective unless terminated pursuant to Section 5.5. of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80].

2. Prior to demolition/repair of the existing bridge and construction of the new Blivin Street bridge, over Nippersink Creek, in McHenry County, Illinois, IDOT/MCDOT shall conduct/facilitate, or cause to be conducted, a thorough survey of the reach of the affected Nippersink Creek that will be directly affected by construction activities and shall relocate any and

all (listed and non-listed species) freshwater mussels found within the area that will be directly affected by the bridge replacement to suitable habitat preferably upstream of the project site. Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the state and/or federal authorizations for this work [on file at the main IDNR facility in Springfield, Illinois, attn: Joseph Kath; e-mail: Joe.Kath@illinois.gov]. Relocated mussels shall be identified to species, enumerated and marked in a non-destructive manner. A report on the species and numbers of mussels relocated as well as the habitat conditions at the impact site and the location(s) at which mussels were relocated shall be provided to the Department within 60 days of completion of the relocation. At a minimum, these reports shall provide information in the attached *IDNR Freshwater Mussel Survey – Field Data Sheet*, which may be used to meet this requirement.

3. IDOT/MCDOT shall conduct/facilitate, or cause to be conducted, a thorough survey of both the construction area (within existing right-of-way) and the mussel relocation site(s) for freshwater mussels in the second (2nd) and fifth (5th) year following completion of bridge construction. "Completion" shall be defined as the date the bridge is officially open for public use. For example, if the Blivin Street bridge is completed in 2011, these surveys shall be conducted in 2013 and 2016. Freshwater mussels located within the construction right-of-way and relocation site(s) shall be identified to species and enumerated and the length of each mussel shall be measured to the nearest millimeter. Mussels and dead shell recorded in the relocation site(s) will be identified as 'relocated' or existing based on the presence of the non-destructive marks applied at relocation. Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the state and/or federal authorizations for this work [on file at the main IDNR facility in Springfield, Illinois, attn: Joseph Kath; e-mail: Joe.Kath@illinois.gov]. A report on the species, numbers, and sizes of mussels found, number and percentage of the original relocated mussels found live and dead shall be provided to the Department within 60 days of the completion of each survey. Each report shall also include a qualitative evaluation of the habitat for freshwater mussels being provided by the construction right-of-way area and the relocation site(s) and the manner in which that habitat has changed since the previous survey based on the *IDNR Freshwater Mussel Survey - Field Data Sheet* (attached).

4. All mussels encountered within the State of Illinois during this project shall be subject to the general U.S. Fish and Wildlife Service handling protocol for determining presence/absence of species as found on the USFWS website – www.fws.gov.

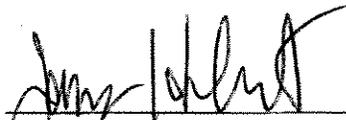
5. Specified erosion and sediment control practices in the Stormwater Pollution Prevention Plan for this project (Blivin Street bridge, over Nippersink Creek, in McHenry County, Illinois) shall be implemented. Inspections to ensure proper working order and maintenance of practices shall be made daily by the engineering staff with the McHenry County Division of Transportation (MCDOT). Additional inspections will be made immediately prior to and following events of heavy rain (greater than 0.5") for the area as indicated in the project specific Stormwater Pollution Prevention Plan. If through daily monitoring, eroded soil is observed leaving the jobsite or limits of construction, additional soil conserving practices, including those not included in the Stormwater Pollution Prevention Plan, shall be installed in order to minimize soil erosion.

6. The effective period of this authorization may be altered by mutual agreement between IDOT/MCDOT and the Department.

7. This authorization may be revoked pursuant to Section 5.5 of the Act if the Department finds that IDOT/MCDOT has failed to comply with any of these terms and conditions or has been responsible for the take of any black sandshell mussels (or any other State listed species) beyond that which is incidental to the construction and repair/replacement of the Blivin Street bridge, over the Nippersink Creek, in McHenry County, Illinois.

8. The IDOT/MCDOT official identified below is authorized to execute this agreement. Execution by IDOT/MCDOT indicates acceptance of all terms and conditions described in this document.

For the IL Department of Natural Resources



Dr. James Herkert, Office Director
IDNR-Office of Resource Conservation

5-15-11
Date Signed

For the IL Department of Transportation and/or
the McHenry County Division of Transportation



Signature

Walter R. Dittrich - Design Manager
Please print name and official title

4-28-11
Date Signed

Freshwater Mussel Survey - Field Data Sheet

Illinois Department of Natural Resources

Field Notebook Number: _____
(last name - year - conseq. number; eg. Jones - 2011-001)

Stream: _____ Basin: _____

Common Location: _____

Latitude (DD): _____ Longitude (DD): _____

County: _____ State: _____ T: _____ R: _____ S: _____ S/4: _____ PM: _____

Date: _____ Duration: _____ # Staff: _____ Effort: _____ mn-hrs

Method: handgrab wade handgrab dive brail

Collector(s): _____

Habitat / Remarks: _____

Mean	Max	Substrate (%) (Total = 100%):		
Width: _____ ft	_____ ft	_____ Bedrock	_____ Boulder	_____ Cobble
Depth: _____ ft	_____ ft	_____ Gravel	_____ Sand	_____ Silt
Length: _____ ft		_____ Clay		

Flow (circle):
 none low mod high

Water clarity (circle):
 low mod high

Sampling effectiveness (circle):
 fair good high

Live Corbicula (circle):
 (none) 0 1 2 3 4 (abundant)

Live Dreissena (circle):
 (none) 0 1 2 3 4 (abundant)

Photos: none 35mm digital

(map sketch) North

