



SCI ENGINEERING, INC.

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November 27, 2007

CONSULTANTS IN DEVELOPMENT,
DESIGN, AND CONSTRUCTION
GEOTECHNICAL
ENVIRONMENTAL
CULTURAL RESOURCES
NATURAL RESOURCES
CONSTRUCTION SERVICES

Mr. Steve Hamer
Illinois Department of Natural Resources
Division of Ecosystems and Environment
One Natural Resources Way
Springfield, Illinois 62704

RE: FAS 856 (Kaskaskia Road)
LL Road South
04-00069-01-FP
Monroe County, Illinois
Seq. No.: 11882
SCI No. 2006-3063.30

Received

NOV 30 2007

Wildlife Division

Dear Mr. Hamer:

On behalf of the Monroe County Highway Department (MCHD), SCI Engineering, Inc. (SCI) has prepared the draft Conservation Plan (enclosed) for the Illinois cave amphipod, as required for the subject project. As recommended by the Illinois Department of Natural Resources during the July 24, 2007 meeting at MCHD's office, the Ozark Underground Laboratory was contacted. MCHD met with Mr. Philip L. Moss, P.G., of the Ozark Underground Laboratory to discuss the project area and potential impacts of the proposed project on water quality and the Illinois cave amphipod. After reviewing plans and additional project information, Mr. Moss prepared a letter (enclosed) that discusses the project's potential effects on water quality and the Illinois cave amphipod, as well as water quality monitoring to determine the project's impacts. Also enclosed is crash information for the project area, supplied by MCHD.

MCHD proposes to acquire property just south of MM Road for mitigation purposes. The land is currently used for agriculture. However, the goal is to remove the land from agricultural production and plant trees and native vegetation to compensate for tree removal, as well as to protect water quality and reduce erosion by providing a vegetative filter.

ST. CHARLES, MISSOURI
O'FALLON, ILLINOIS
ST. LOUIS, MISSOURI
UNION, MISSOURI
SPRINGFIELD, MISSOURI

Mr. Steve Hamer
Illinois Department of Natural Resources

2

November 27, 2007
2006-3063.30

Please review the enclosed information and advise the MCHD regarding the next measure to be taken in order to advance the project. If you have any questions or comments, please contact me at (618) 206-3011 or jfarrington@sciengineering.com.

Respectfully,

SCI ENGINEERING, INC.



Jane A. Farrington
Project Scientist

for

JAF/dmh

Enclosures

C: Mr. Joe Kath, Illinois Department of Natural Resources

Conservation Plan for the Illinois Cave Amphipod (*Gammarus acherondytes*)

- Description of the impact likely to result from the proposed taking of the species that would be covered by the authorization including:

1. **Legal description or detailed description of area:** The proposed project consists of the widening, resurfacing, and relocation of a portion of Kaskaskia Road in Monroe County, Illinois. The total project length is 1.9 miles, and begins at LL Road and continues just past MM Road. The project area contains residential, agricultural, and undeveloped land. Several sinkholes and wetlands are located within the project limits. The project area lies within the Salem Plateau karst region. Legal locality information for the project site, taken from the Renault, Illinois (7.5' series, 1980 edition, Photo Revised 1993) USGS topographic quadrangle map is as follows: T 4 S, R 10 W, Sections 1 and 12.

2. **Biological data on the Illinois cave amphipod:** Very little is known of the biology or life history of *Gammarus acherondytes*. The Illinois cave amphipod resembles a small, tailless shrimp with laterally flattened bodies. This species occurs only in underground streams, primarily in the dark zone of caves in parts of the Salem Plateau of Illinois. It was first collected in 1938, and has only been found in nine cave systems in St. Clair and Monroe Counties. Fogelpole Cave is one of the cave systems in which the amphipod has been observed. The project lies entirely within the recharge area for Fogelpole Cave. This karst area is characterized by numerous surface sinkholes, of which several are located within the proposed project area. Threats to the species are believed to be due to contamination of the cave streams. Surface openings provide direct and immediate contamination by agricultural chemicals, livestock byproducts, septic discharges, and other contaminants. A Recovery Plan (Plan) was prepared by the Illinois Cave Amphipod Recovery Team and approved by the U.S. Fish & Wildlife Service on September 20, 2002.

3. **Description of the activities that may result in taking:** The proposed action requires the widening and resurfacing of 3,600 feet of Kaskaskia Road. Approximately 1.9 miles of Kaskaskia Road will be constructed on new alignment, in order to improve vehicular safety. The construction activities have the potential to temporarily contribute to groundwater degradation. The Plan states that the potential for rapid transport of surface and subsurface contaminants into the karst systems presents a major threat to the amphipod. The Plan also states that "habitat loss and degradation of groundwater quality resulting from urbanization, agricultural activities, and an influx of human and animal waste are the principle threats" to the amphipod.

The proposed project location is within the Fogelpole Cave recharge area and groundwater system, which provides habitat for the Illinois cave amphipod. The runoff of stormwater, either during or after construction, has the potential to enter the cave systems, largely due to the presence of sinkholes in the area. The proposed project has the potential to affect the groundwater, thereby potentially impacting the Illinois cave amphipod. However, the proposed project is not anticipated to affect the amphipod to a greater extent than impacts that result from the existing roadway. The proposed project will not increase the length of roadway, nor will it encourage development in the subject area. The purpose of the proposed project is to

improve safety. A safer roadway will result in fewer accidents, thereby reducing acute water quality impacts that may result from vehicular accidents.

4. Explanation of anticipated adverse effects on the species/quantification of take: It is impossible to predict the number of individuals that may be "taken" by this project. The project itself will not directly impact the species. However, the species is believed to be sensitive to changes in water quality. Habitat modification or degradation may lead to the death or injury to the listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.

The roadway project is not expected to negatively impact water quality during construction or post-construction. Additionally, the removal of the adjacent land from agricultural production may benefit the groundwater and therefore the amphipod. Agricultural products have been shown to pose the greatest threat to water quality. By preserving the adjacent land, the quality of water that would enter the sinkholes could be expected to improve. Moreover, if the land were preserved, residential development would not be expected to occur. Residential development negatively affects water quality, due to the implementation of septic sanitary systems and discharge. Best management practices (BMPs) will be implemented which will control surface runoff. It is anticipated that no habitat would be destroyed for this species due to the project. Cumulative impacts, such as future development within the project area, are not expected to increase due to the project, as the roadway currently exists.

- Measures to be taken to minimize and mitigate the impact on the species, and the funding that will be available to undertake these measures
- **Plans to minimize the area affected by the proposed action, the estimated number of endangered individuals to be taken, and the amount of habitat to be affected:** The number of individuals that may be taken cannot be estimated. Construction limits for the proposed project have been reduced to the smallest area possible, in an effort to minimize impacts to the sinkholes. Three sinkholes will be partially impacted in order to construct the relocated roadway and the side slopes. Rip rap will be placed on the side slopes. Approximately 0.20-acre will be filled on Site 8, approximately 0.18-acre will be filled on Site 9, and approximately 0.23-acre will be filled on Site 10. Vegetated buffer strips and grassed waterways will be created around the openings of adjacent sinkholes, and water will be filtered through vegetated swales and gravel filter strips before discharging into them.

Construction in and adjacent to water bodies and wetlands has the potential to create both long-term and short-term effects on water quality. However, effective site planning and design, incorporating several BMPs, will result in minimal impacts to water quality, natural hydrologic characteristics, and sensitive landscape features.

As mentioned in Item 4, above, adjacent land historically used for agriculture will be acquired and preserved. Additionally, the land will be planted in trees to further enhance the area and protect the existing sinkholes and water quality of the underground streams.

1. **Plans for management of the area affected by the proposed action that will enable continued use of the area by the species:** If measures are taken to reduce stormwater runoff that may contain contaminants, current impacts to the amphipods will be reduced. *The removal of adjacent land from agricultural production and the planting of trees and natural vegetation will greatly reduce impacts to the amphipod.*
 2. **Description of all measures to be implemented to minimize and mitigate the effects of the proposed action on the species:** The BMPs listed above will be implemented to minimize and mitigate effects of the proposed action on the species. Since the proposed action is expected to reduce impacts to the Illinois cave amphipod, the action may be considered a BMP.
 3. **Plans for monitoring the effects of measures implemented to mitigate and minimize the effects of the proposed action on the species:** The amphipod exists in underground streams and is extremely difficult to monitor. Since the recharge area includes approximately 7.14 square miles with variable and changing land use, direct monitoring is extremely unlikely to reveal changes in water quality attributable to the road project. The Monroe County Highway Department (MCHD) proposes to use the straightforward measure of potential impact using the number of vehicular accidents within the project area as a surrogate for water quality.
 4. **Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on the species:** Due to the nature of the project, the MCHD does not anticipate any changed or unforeseen circumstances. The roadway widening, resurfacing, and partial realignment will be completed and no additional work will be necessary afterwards.
 5. **Assurance of funding to support and implement all mitigation activities described in the conservation plan:** The MCHD will assure all funding necessary for the implementation of the mitigation activities.
- **Description of alternative actions considered that would not result in a take of the species, and the reasons that the alternatives were not selected. A 'No Action' alternative is also described:**
1. The No Action alternative is defined as no resurfacing, widening, or realigning the roadway. This alternative would not improve safety concerns or driving conditions. Therefore, this alternative was abandoned.
 2. Another alternative consists of resurfacing the roadway without widening and realignment. However, this alternative would also fail to improve safety concerns and was therefore abandoned.

3. The alternative to widen and resurface the roadway was considered as well. This alternative would slightly improve safety, due to providing a wider driving area; however, it would not address the existing horizontal alignment, which contains sharp curves. *In addition to this alternative's inability to improve safety, the potential to impact adjacent sinkholes, which lead to the underground streams and the amphipod, would also occur with this alternative. Due to the inability of this alternative to improve safety while still having the potential to harm the amphipod indirectly, this alternative was abandoned.*

4. The alternative to resurface, widen, and realign portions of the roadway was evaluated. This option will begin at LL Road and consist of widening and resurfacing the road for 2,000 feet to the south, and then realigning the following 2,500 feet to straighten the roadway. Widening and resurfacing would then be completed for an additional 1,600 feet, until just north of MM Road, where approximately 3,400 feet of realignment will occur. The total project length is approximately 1.8 miles. Nine wetlands were identified by the Illinois Natural History Survey as being located within the project corridor. These wetlands all exist within sinkholes. Three wetlands/sinkholes will be partially impacted by the proposed project. Approximate total wetland impacts are 0.61-acre. This alternative was selected because it improves the safety of the road, and the resulting decrease in vehicular accidents should reduce impacts from spills without any degradation of water quality from normal use.

- **Information to indicate that the proposed taking will not reduce the likelihood of the survival of the species.** If the proposed project is constructed using BMPs, it is expected that the project will improve the likelihood of the survival of the amphipod.

- **The implemented agreement, which includes:**

1. **Names and signatures of all participants in the execution of the conservation plan**

Mr. Ronald A. Polka
Monroe County Highway Engineer
Monroe County Highway Department

Thomas C. Brooks
Biological Resource Unit Manager
Illinois Department of Transportation

Rhutasel & Associates

SCI Engineering, Inc.

Ozark Underground Laboratory

2. **The obligations and responsibilities of the participants with schedules and deadlines for completion of activities included in the plan**

The Illinois Department of Natural Resources is responsible for the review of this Conservation Plan and for subsequent issuance of the Incidental Take Authorization, if so required. The MCHD and the Illinois Department of Transportation (IDOT) are responsible for all biological clearance coordination and recommendations related to the project.

At this time, this project is not currently included in the IDOT program. A currently programmed Surface Transportation-Rural funded project may be removed from the project and replaced with the subject project. Regardless of the funding proposed for this project, at this time there is no schedule or deadline for completion of activities included in this plan. However, the purchase of the adjacent property to be preserved and enhanced will occur prior to any construction activity. Tree planting will either occur before construction begins or concurrently.

Rhutasel & Associates is responsible for the creation of the engineering plans.

3. Certification that each participant in the execution of the conservation plan has the legal authority to carry out respective obligations

This project will be authorized by IDOT, which receives funding from the Illinois General Assembly and the Federal government in carrying out its programs.

4. Assurance of compliance with federal, State and local regulations pertinent to the proposed action and to the execution of the plan

The MCHD, as directed by the IDOT, exclusively abide by the National Environmental Policy Act and all associated state and federal environmental laws in carrying out the mission of performing the most environmentally sensitive methods of planning and engineering.

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

No authorizations have yet been issued.

6. For projects that will result in the taking of endangered or threatened species of plants, copies of expressed written permission of the landowner.

Not applicable since the Illinois cave amphipod (*Gammarus acherondytes*) is considered an animal under the Endangered Species Act



August 21, 2007

Mr. Ron Polka, P.E.
Monroe County Engineer
100 S. Main St., Rm. 116
Waterloo, IL 62298-1322

Dear Mr. Polka:

I have reviewed the information that you provided to me regarding realignment of a stretch of Kaskaskia Road that is located within the Fogelpole Cave Recharge Area. The main concerns expressed by the Illinois Department of Natural Resources that are within my area of expertise are:

- 1) potential impacts to water quality, and
- 2) consequent potential impacts to the Federally listed Illinois cave amphipod (ICA).

It is my opinion that the most valid consideration of potential impacts is one that contrasts the potential impacts of the new alignment (both construction and use) with that of the current roadway. The purpose and need of the proposed road upgrade is, as I understand it, primarily to improve safety in response to a disproportionate number of automotive accidents on this section of road.

There are several ways to try to assess the impacts from road construction and use. One method that has been suggested is water quality monitoring. However, for the method to be scientifically valid, we must be able to attribute any changes over time to the correct cause. This is rather problematic in a landscape with changing land use and episodic inputs of contaminants and sediment from numerous, nonpoint sources.

A concern that was raised is Class III groundwater. While the Fogelpole Cave Nature Preserve Recharge Area has been designated as Class III groundwater, site-specific regulations have not yet been adopted. Therefore the area is still under the Class I (human consumption) standard. Class I standards do not include prohibitions against changes in land use. They are a standard that when known to be violated and the cause determined, can then be enforced against the entity responsible for the violation. When Class III groundwater regulations are adopted for the Fogelpole Nature Preserve, the standards will almost have differences from Class I, but the enforcement procedures would be the same.

The water quality parameters with which I would be most concerned for road use and construction are:

- TPH (total petroleum hydrocarbons)
- ethylene glycol (antifreeze)
- salt
- sediment

The sediment yield can be contained by a number of accepted best management practices including dispersed runoff, silt fences, and same-season revegetation. If we assume that the road alignment will be 1.9 miles long with a 50-foot width of soil disturbance, then the area disturbed amounts to approximately 11.5 acres. The only publicly accessible location to sample the cave stream is in the Fogelpole Cave Nature Preserve. Approximately 5.13 square miles of land (3,283 acres) drain through the Fogelpole Cave Nature Preserve. The area proposed for disturbance is approximately 0.35% of the land recharging the Nature Preserve. Considering that the recharge area is overlain with highly erodable soils that are predominantly in row crops, it is highly unlikely that road construction using appropriate sediment control strategies would yield a measurable increase in sediment.

From a chronic water quality perspective, there should be no appreciable change in the quantity of TPH, ethylene glycol, or salt since this project is not adding more miles of road and is not a long enough upgrade to appreciably change commuting times. Similarly, the "no action" alternative would not reduce any current impacts to water quality.

Of greatest concern to the health of the ICA I believe, are the potential acute impacts to water quality. Automotive accidents can cause the release of gallons of gasoline and antifreeze onto the roadway and adjacent lands. Emergency responders typically hose this material off the road which accelerates their movement into the groundwater system and the habitat of the ICA. It is my opinion that the best measure of a change in contaminant load for an upgrade of the kind proposed is the rate at which automotive accidents occur. If there is a decrease in the accidents per year as intended, then there is almost certainly going to be less automotive fluids migrating into the cave system. If the accident rate were to increase, then one would expect the impacts to the cave water quality to increase.

I do recommend the use of crushed limestone as shoulder material with special emphasis on areas of concentrated runoff from the paved surfaces. The crushed rock will accomplish two things that are protective of water quality.

- 1) Disperse runoff and reduce the velocity of the runoff. This can dramatically decrease the erosive power of water.
- 2) Reduce the contaminant load of runoff water significantly. Crushed limestone is nearly as effective as peat-sand filters for treating "first flush" waters from paved surfaces.

It is my opinion that the project is unlikely to adversely impact the ICA or the Fogelpole Cave's water quality. I believe that water quality monitoring in the Fogelpole Cave Nature Preserve would not credibly demonstrate impacts to water quality derived from the upgraded roadway since the contaminants would be diluted by approximately two orders of magnitude and mixed with like contaminants from the rest of the roads and uncontrolled dumping in sinkholes. I do recommend that the accident rate be monitored and if it were to increase appreciably above the preconstruction rate, that strategies be evaluated to mitigate the likely impacts to groundwater quality.

Sincerely,



Philip L. Moss, P.G.
Senior Geologist



February 4, 2008

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JAK

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Mr. Joe Kath
Illinois Department of Natural Resources
Division of Ecosystems and Environment
One Natural Resources Way
Springfield, Illinois 62704

CONSULTANTS IN DEVELOPMENT,
DESIGN, AND CONSTRUCTION
GEOTECHNICAL
ENVIRONMENTAL
CULTURAL RESOURCES
NATURAL RESOURCES
CONSTRUCTION SERVICES

RE: FAS 856 (Kaskaskia Road)
LL Road South
04-00069-01-FP
Monroe County, Illinois
Seq. No.: 11882
SCI No. 2006-3063.31

Dear Mr. Kath:

On behalf of the Monroe County Highway Department (MCHD), SCI Engineering, Inc. has prepared the draft Conservation Plan (enclosed) for the eastern narrowmouth toad, a state threatened species, as required for the subject project. MCHD has also prepared and submitted a conservation plan for the Illinois cave amphipod, a federally endangered species, to the U.S. Fish & Wildlife Service.

Please review the enclosed information and advise MCHD regarding the next measure to be taken in order to advance the project. If you have any questions or comments, please contact me at (618) 206-3011 or jfarrington@sciengineering.com.

Respectfully,

SCI ENGINEERING, INC.


Jane A. Farrington
Project Scientist

JAF/dmh

Enclosures

C: Mr. Steve Hamer, Illinois Department of Natural Resources

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ST. CHARLES, MISSOURI
O'FALLON, ILLINOIS
ST. LOUIS, MISSOURI
UNION, MISSOURI
SPRINGFIELD, MISSOURI

Conservation Plan for the Eastern Narrowmouth Toad (*Gastrophryne carolinensis*)

- Description of the impact likely to result from the proposed taking of the species that would be covered by the authorization including:

1. **Biological data on the Eastern Narrowmouth toad:** The eastern narrowmouth toad is small and oval shaped with a pointed head and a fold of skin behind its eyes. It can range in color from reddish brown to olive to almost black. It is found mostly in damp areas, burrowing in leaf litter or under rocks and logs where the soil is moist. During the breeding season, in the spring and summer, the toads utilize permanent as well as ephemeral wetlands after rainfall. Their diet is predominantly ants and other small insects. According to the Illinois Natural Heritage Database as of January 2008, *G. carolinensis* is listed as threatened in Monroe County. It was recorded as being observed in Monroe County on July 25, 2007. The project area is a karst region characterized by numerous surface sinkholes, of which several are located within the proposed project area. Sinkholes provide habitat for the eastern narrowmouth toad, which may use these small areas year round either above or below ground. Threats to the species are believed to be due to loss of habitat through development.
2. **Description of the activities that may result in taking:** The proposed action requires the widening and resurfacing of 3,600 feet of Kaskaskia Road. Approximately 1.9 miles of Kaskaskia Road will be constructed on new alignment, in order to improve vehicular safety. The construction activities have the potential to impact *G. carolinensis* by partially or fully filling sinkholes. The sinkholes could be a critical habitat for the toad.

The proposed project is not anticipated to significantly affect the *G. carolinensis* population. The proposed project is not likely to encourage development in the subject area, as the road currently exists and adjacent land use is mainly agricultural, with residential properties located along the road. The purpose of the proposed project is to improve safety. A safer roadway will result in fewer accidents, thereby reducing acute water quality impacts that may result from vehicular accident and which may affect many species, as well as the eastern narrowmouth toad.

3. **Explanation of anticipated adverse effects on the species/quantification of take:** It is impossible to predict the number of individuals that may be "taken" by this project. The project may impact the species by removing suitable habitat. Habitat modification or degradation may lead to the death of or injury to the listed species by impairing behavioral patterns such as breeding, feeding, or sheltering. While the project is expected to disturb some of the wetland habitat for the toad, numerous wetland areas exist in the project area and provide suitable habitat for the toad. Additionally, mitigation should provide some new habitat for the species.

The removal of the adjacent land from agricultural production may benefit the environment and therefore *G. carolinensis*. By preserving the adjacent land and creating additional wetland habitat, the toad would be provided with suitable habitat. Moreover, if the land were preserved, residential development would not be expected to occur and additional nearby habitat would not be lost. Best management practices (BMPs) will be implemented which will control surface runoff. Cumulative impacts, such as future development within the project area, are not expected to increase due to the project, as the roadway currently exists.

- Measures to be taken to minimize and mitigate the impact on the species, and the funding that will be available to undertake these measures
- ***Plans to minimize the area affected by the proposed action, the estimated number of threatened individuals to be taken, and the amount of habitat to be affected:*** The number of individuals that may be taken cannot be estimated. Construction limits for the proposed project have been reduced to the smallest area possible, in an effort to minimize impacts to the sinkholes. According to current preliminary roadway plans, three sinkholes will be partially impacted in order to construct the relocated roadway and the side slopes. Rip rap will be placed on the side slopes. Approximately 0.20-acre will be filled on Site 8, approximately 0.18-acre will be filled on Site 9, and approximately 0.23-acre will be filled on Site 10. Vegetated buffer strips and grassed waterways will be created around the openings of adjacent sinkholes, and water will be filtered through vegetated swales before discharging into them.

Construction in and adjacent to water bodies and wetlands has the potential to create both long-term and short-term effects on water quality. However, effective site planning and design, incorporating several BMPs, will result in minimal impacts to water quality, natural hydrologic characteristics, and sensitive landscape features.

As mentioned in Item 4, above, adjacent land historically used for agriculture will be acquired and preserved. Additionally, the land will be planted in trees to further enhance the area and protect the existing sinkholes.

1. **Plans for management of the area affected by the proposed action that will enable continued use of the area by the species:** The removal of adjacent land from agricultural production, the planting of trees and natural vegetation, and wetland mitigation will provide additional habitat for the toad.
2. **Description of all measures to be implemented to minimize and mitigate the effects of the proposed action on the species:** The BMPs listed above will be implemented to minimize and mitigate effects of the proposed action on the species. Also, as stated above, the preservation of adjacent land, along with the proposed wetland mitigation, will provide additional habitat for the toad.
3. **Plans for monitoring the effects of measures implemented to mitigate and minimize the effects of the proposed action on the species:** Since the toad is listed as threatened, the Illinois Department of Natural Resources (IDNR) keeps a database with any occurrences of the toad in Monroe County. Keeping track of the number of occurrences or performing a survey for the toad periodically can aid in the monitoring process. The Monroe County Highway Department (MCHD) will not conduct any monitoring of their own, as this is done by state agencies, such as IDNR or the Illinois Natural History Survey (INHS).
4. **Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on the species:** Due to the nature of the project, MCHD does not anticipate any changed or unforeseen circumstances. The roadway widening, resurfacing, and partial realignment will be completed and no additional work will be necessary afterwards. However, annual monitoring of the adjacent wetland mitigation site will be conducted for a minimum of five years. It will be noted if any narrowmouth toads are observed during monitoring, and suitable habitat for the toad, if observed, will be recorded in the monitoring reports.

5. **Assurance of funding to support and implement all mitigation activities described in the conservation plan:** The MCHD will assure all funding necessary for the implementation of the mitigation activities.
- **Description of alternative actions considered that would not result in a take of the species, and the reasons that the alternatives were not selected. A 'No Action' alternative is also described:**
 1. The No Action alternative is defined as no resurfacing, widening, or realigning the roadway. This alternative would not improve safety concerns or driving conditions. Therefore, this alternative was abandoned.
 2. Another alternative consists of resurfacing the roadway without widening and realignment. However, this alternative would also fail to improve safety concerns and was therefore abandoned.
 3. The alternative to widen and resurface the roadway was considered as well. This alternative would improve safety, due to providing a wider driving area; however, it would not address the existing horizontal alignment, which contains sharp curves. In addition to this alternative's inability to improve safety, the potential to impact the *G. carolinensis* would also occur with this alternative. Due to the inability of this alternative to improve safety, while still having the potential to harm the *G. carolinensis* indirectly, this alternative was abandoned.
 4. The alternative to resurface, widen, and realign portions of the roadway was evaluated. This option will begin at LL Road and consist of widening and resurfacing the road for 2,000 feet to the south, and then realigning the following 2,500 feet to straighten the roadway. Widening and resurfacing would then be completed for an additional 1,600 feet, until just north of MM Road, where approximately 3,400 of realignment will occur. The total project length is approximately 1.9 miles. Nine wetlands were identified by INHS as being located within the project corridor. These wetlands all exist within sinkholes. Three wetlands/sinkholes will be partially impacted by the proposed project. Approximate total wetland impacts are 0.61-acre. This alternative was selected because it improves safety of the road more than any other alternative.
 - **Information to indicate that the proposed taking will not reduce the likelihood of the survival of the species.** If the proposed project is constructed, it is unlikely the project will reduce the likelihood of the survival of *G. carolinensis*. There is other suitable habitat for the species in the immediate area; therefore, impacting 0.61-acre of potential *G. carolinensis* habitat is not likely to reduce the likelihood of the survival of the species.
 - **The implemented agreement, which includes:**
 1. Names and signatures of all participants in the execution of the conservation plan

Mr. Ronald Polka
Monroe County Highway Engineer
Monroe County Highway Department

District Eight Engineer
Illinois Department of Transportation

Rhutasel & Associates

SCI Engineering, Inc.

2. The obligations and responsibilities of the participants with schedules and deadlines for completion of activities included in the plan

IDNR is responsible for the review of this Conservation Plan and for subsequent issuance of the Incidental Take Authorization, if so required. The MCHD is responsible for all biological clearance coordination and recommendations related to the project.

At this time, this project is not currently included in the IDOT program. A currently programmed Surface Transportation-Rural funded project may be removed from the project and replaced with the subject project. Regardless of the funding proposed for this project, at this time there is no schedule or deadline for completion of activities included in this plan. However, the purchase of the adjacent property to be preserved and enhanced will occur prior to any construction activity. Tree planting will either occur before construction begins or concurrently. *Rhutasel & Associates is responsible for the creation of the engineering plans.*

3. Certification that each participant in the execution of the conservation plan has the legal authority to carry out respective obligations

This project will be authorized by IDOT, which receives funding from the Illinois General Assembly and the Federal government in carrying out its programs.

4. Assurance of compliance with federal, State and local regulations pertinent to the proposed action and to the execution of the plan

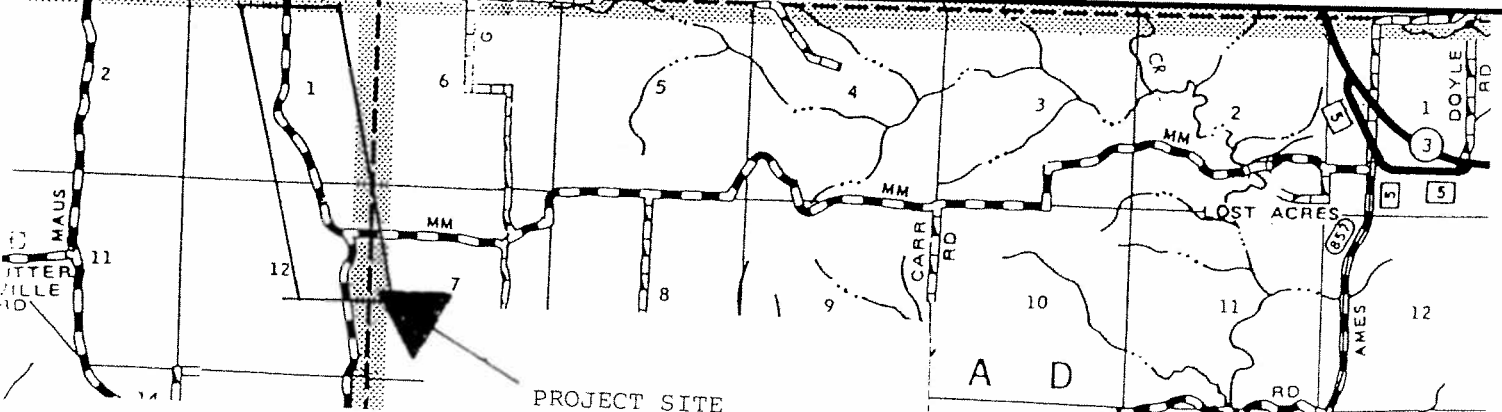
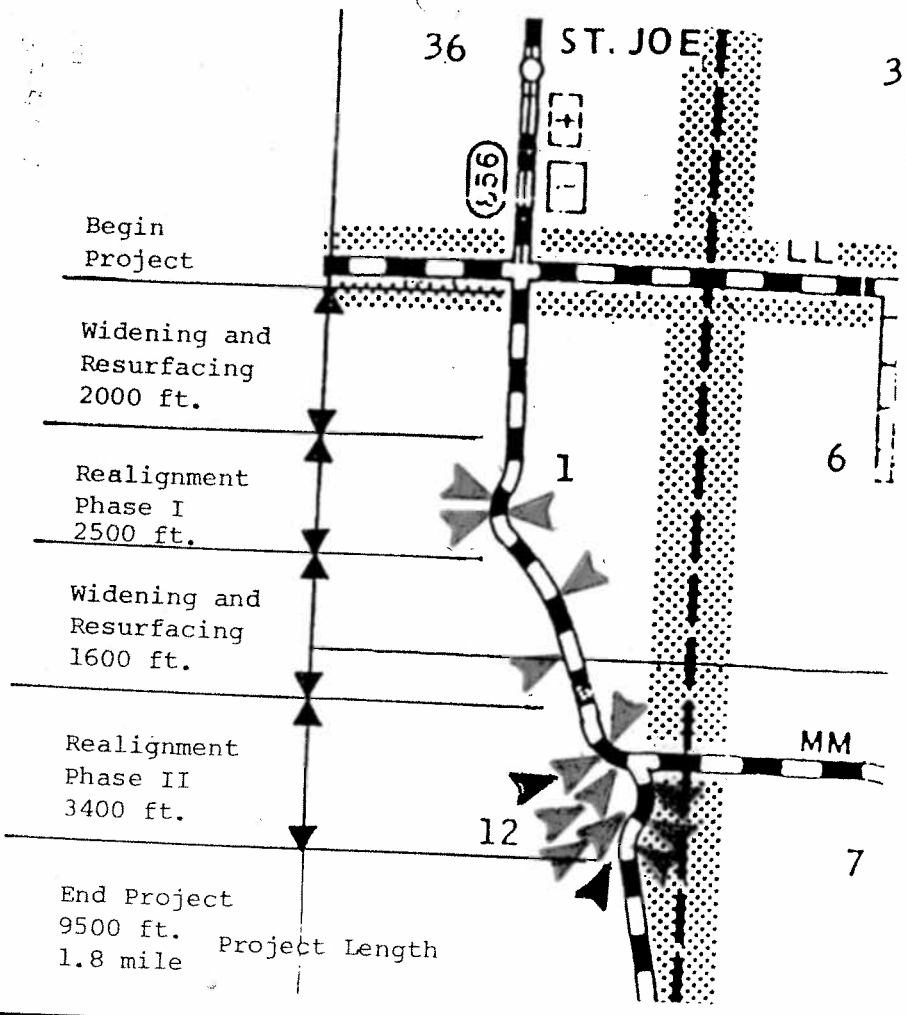
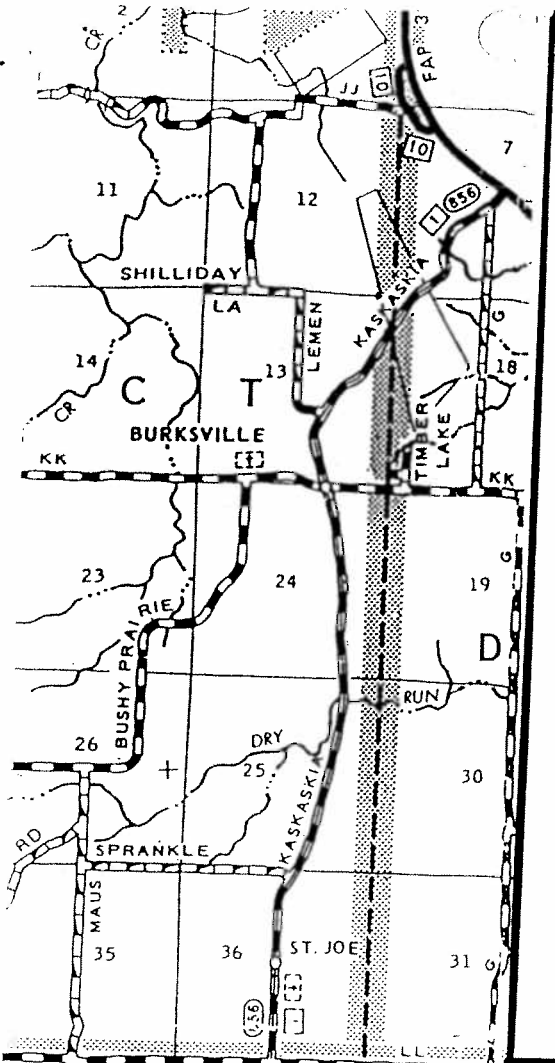
The MCHD, as directed by IDOT, exclusively abide by the National Environmental Policy Act and all associated state and federal environmental laws in carrying out the mission of performing the most environmentally sensitive methods of planning and engineering.

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

No authorizations have yet been issued.

6. For projects that will result in the taking of endangered or threatened species of plants, copies of expressed written permission of the landowner.

Eastern narrowmouth toad (*Gastrophryne carolinensis*)



ACCIDENT TYPE

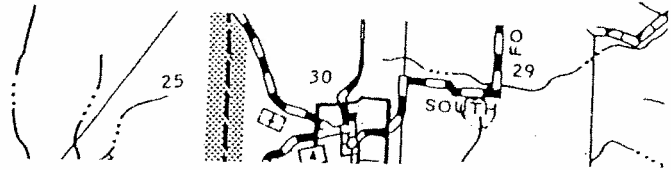
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2	9	2
5		

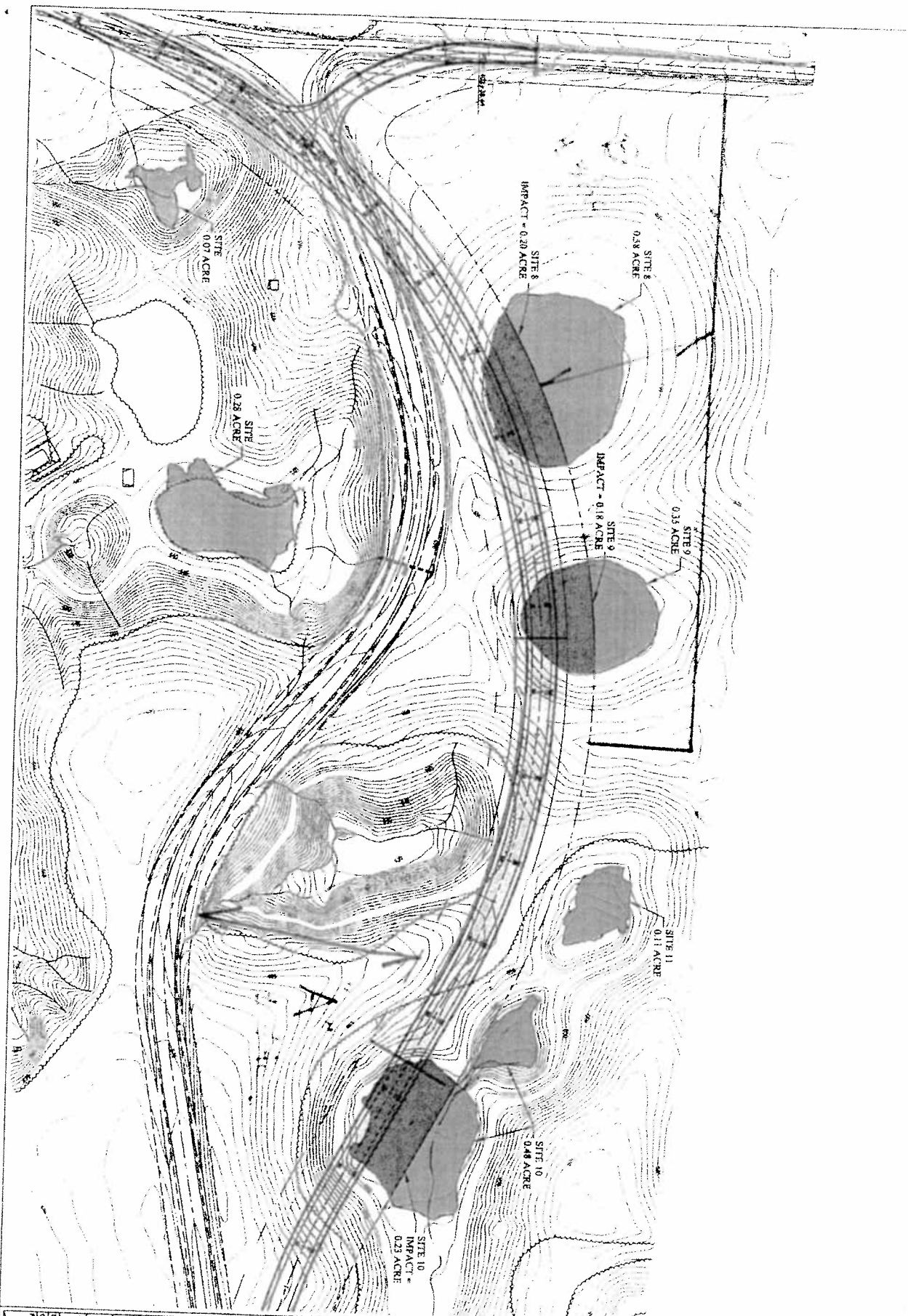
TOTAL 16 ACCIDENTS

Monroe County Highway Department
Location Map

Kaskaskia Road Improvement
Section 04-00069-01-FP
LL Road to MM Road

▲ Accident Locations
July 1, 1997 - June 30, 2007





PROJECT NAME KASKASKIA ROAD - LL ROAD SOUTH COUNTY, ILLINOIS	General Notes/Legend
WETLAND DELINEATION AND PRELIMINARY SITE PLAN	BASED ON UNDATED PLAN PROVIDED ELECTRONICALLY ON 03/27/2017 FROM KHUJASEL AND ASSOCIATES, INC. DIMENSIONS AND LOCATIONS ARE APPROXIMATE. ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

SCALE 1" = 100'	
PDR NUMBER 2106-1043.10	DATE 07/20/17
DRAWN BY: LJP	CHECKED BY: JAE
SHEET 3	TOTAL SHEETS 6

