INERSTATE 35 RECONSTRUCTION
FROM WARREN/POLK COUNTY LINE TO APPROXIMATELY 2 MILES
SOUTH OF IOWA HIGHWAY 92
WARREN COUNTY, IOWA
IMN-35-2(352)54- -0E-91

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332(2)(c)

By The

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
And
IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF LOCATION AND ENVIRONMENT

The signatures are considered acceptance of the general project location and concepts described in the environmental document unless otherwise specified by the approving officials. However, such approval does not commit to approve any future grant requests to fund the preferred alternative.

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2/3/09
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PREFACE

The Transportation Equity Act of the 21st Century (TEA-21) (23 CFR) mandated environmental streamlining in order to improve transportation project delivery without compromising environmental protection. In accordance with TEA-21, the environmental review process for this project has been documented as a Streamlined Environmental Assessment (EA). This document addresses only those resources or features that apply to the project. This allowed study and discussion of resources present in the study area, rather than expend effort on resources that were either not present or not impacted. Although not all resources are discussed in the EA, they were considered during the planning process and are documented in the Streamlined Resource Summary, shown in Appendix A.

The following table shows the resources considered during the environmental review for this project. The first column with a check means the resource is present in the project area. The second column with a check means the impact to the resource warrants more discussion in this document. The other listed resources have been reviewed and are included in the Streamlined Resource Summary.

		SOCIOECONOMIC			NATURAL ENVIRONMENT
☒	☒	Land Use	☒	☒	Wetlands
☒	☐	Community Cohesion	☒	☒	Surface Waters and Water Quality
☐	☐	Churches and Schools	☐	☐	Wild and Scenic Rivers
☐	☐	Environmental Justice	☒	☒	Floodplains
☐	☐	Economic	☒	☒	Wildlife and Habitat (Included in Threatened and Endangered Species Section)
☐	☐	Joint Development	☒	☒	Threatened and Endangered Species
☒	☐	Parklands and Recreational Areas	☒	☒	Woodlands (Included in Threatened and Endangered Species Section)
☐	☐	Bicycle and Pedestrian Facilities	☒	☒	Farmlands
☒	☒	Right-of-Way			
☒	☒	Relocation Potential (Included in Threatened and Endangered Species Section)			
☒	☒	Construction and Emergency Routes			
☒	☐	Transportation			
		CULTURAL			**PHYSICAL**
☒	☐	Historical Sites or Districts	☒	☒	Noise
☒	☒	Archaeological Sites	☐	☐	Air Quality
☐	☐	Cemeteries	☒	☒	Mobile Source Air Toxics (MSATs)
			☐	☐	Energy
			☒	☐	Contaminated and Regulated Materials Sites
			☒	☐	Visual
			☒	☒	Utilities
☐		**CONTROVERSY POTENTIAL**			
☒		**Section 4(f):** Parkland around Dale Maffit Reservoir exists in the far northwest portion of the study area. This potential Section 4(f) resource would be avoided.			

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B. Agency and Tribal Coordination

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1. Description of the Proposed Action

The Iowa Department of Transportation (Iowa DOT) and the Federal Highway Administration (FHWA) are proposing to improve approximately 12.5 miles of Interstate 35 (I-35) in Warren County, Iowa. Proposed improvements include the following:

- Expanding the interstate from four lanes to six or more lanes to accommodate forecasted growth in the region;
- Reconstructing bridge structures on I-35 and overpasses; and
- Upgrading geometric roadway features to current design standards.

1.1 Project Location

The project study area is located in a rural area in the far western portion of Warren County, south of the Des Moines, Iowa metropolitan area as shown in Figure 1. In general, the project study area extends from approximately 0.25 mile north of the Warren/Polk County line south to near Clanton Creek, which is located approximately two miles south of Iowa Highway 92 (IA 92).

The I-35 project study area shown in Figure 2 includes:

- Two cities - Cities of Cumming and Bevington, Iowa;
- Two interchanges - Cumming Road and Iowa Highway 92 (IA 92) Interchanges;
- Five overpasses – Adams Street, County Road G14/Cumming Road, Fillmore Street, Hoover Street, and IA 92; and
- Three sets of bridges over rivers and streams – Badger Creek, North River, and Middle River.

Figure 1. Project Location Map
8.5 x 11

Figure 2. Project Corridor Map
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8.5 x 11

Figure 2. Project Corridor Map
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Figure 2. Project Corridor Map
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Figure 2. Project Corridor Map
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Figure 2. Project Corridor Map
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8.5 x 11

2. Project History

In May, 2007, the Iowa DOT released the five-year Iowa Transportation Improvement Program (TIP) covering the 2008-2012 planning horizon. Within the TIP, several projects in the I-35 corridor in Warren County were programmed to occur in 2011 and 2012. Those projects include:

- Replacement of the County Road G14/Cumming Road (Cumming Road) overpass bridge and associated interchange roadway and ramp grading and paving;
- Replacement of the I-35 northbound and southbound bridges over the North River in 2011; and
- Replacement of the I-35 northbound and southbound bridges over the Middle River, also in 2011.

The I-35 bridges over the North and Middle Rivers have been identified for replacement because of their age and natural wear which is evident in the bridge sufficiency ratings. Bridge sufficiency ratings are a scale FHWA uses to indicate a bridge's sufficiency to remain in service. A rating of 90-100 is excellent, 80-89 is good, 65-79 is fair, 50-64 is tolerable, and 0-49 is poor. Bridge sufficiency ratings under 50 are considered poor and are eligible for federal replacement funding. The Cumming Road overpass bridge has a poor bridge sufficiency rating of 32. The I-35 North River north and southbound bridges have poor and tolerable ratings of 49 and 64, respectively. The I-35 Middle River north and southbound bridges have tolerable sufficiency ratings of 56 and 62, respectively.

The Cumming Road and IA 92 interchanges were identified by Iowa DOT as potentially needing capacity and geometric upgrades in order to accommodate increased future traffic volumes. Rapid growth of the communities located south and west of Des Moines including Cumming, Indianola, and Winterset is anticipated by 2032.

A connecting roadway from I-35 to downtown Des Moines is planned as a part of Des Moines Area Metropolitan Planning Organization's (DMAPO) 2030 Long Range Transportation Plan that was adopted in December of 2004. The connecting roadway is called the Southwest Connector and would connect with I-35 via an interchange between the existing Cumming Road and IA 5 Interchanges. According to the Long Range Plan, the proposed Southwest Connector Interchange and associated roadways would be constructed between 2010 and 2030 and would help to alleviate traffic on the Interstates in the Des Moines metropolitan area. At this time, the proposed Southwest Connector roadway has not been programmed for construction and the likelihood of being constructed remains undetermined.

This EA study evaluates the impacts the proposed project would have on the natural and human environment. Prior to beginning the EA process, a Project Concept Statement was developed that outlines the basis for the alternatives evaluated in the EA study. Through the EA process, a preferred alternative for the I-35 corridor in Warren County has been identified. The environmental impact analysis of the preferred alternative is documented in this EA.

3. Purpose and Need for Action

3.1 Purpose of the Proposed Action

The purpose of the proposed action is to:

- Accommodate future capacity needs in the I-35 project corridor;
- Upgrade the geometry of the roadway; and
- Maintain acceptable safety conditions in the project corridor.

3.2 Need for the Proposed Action

Future Capacity:

The transportation industry defines the quality of service offered by highway facilities under specific traffic demands by using a level of service (LOS) rating. Level of service is measured on a scale of A through F, representing the operating conditions of the roadway facility based on speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience measures. LOS A represents traffic that is free flowing on an uncongested roadway while LOS F represents traffic that is creeping or stopped due to a severely congested roadway. Table 1 displays the general definitions of each LOS according to the Highway Capacity Manual (HCM).

Table 1. **Level of Service Definitions**

Level of Service	Operating Conditions
A	Free flow
B	Reasonably free flow
C	Stable flow
D	Approaching unstable flow
E	Unstable flow
F	Forced or breakdown flow

Source: Transportation Research Board, Highway Capacity Manual, 2000.

The existing I-35 roadway in Warren County is considered by FHWA and Iowa DOT to be a rural Interstate facility. On highways and Interstate facilities in rural areas, FHWA and Iowa DOT consider LOS B to be the minimum acceptable LOS criteria. Existing and future roadway capacity conditions were analyzed with respect to desired LOS B criteria.

According to projected traffic volumes developed by the Iowa DOT Office of Systems Planning, I-35 would need to be widened from four lanes to six lanes to provide the required LOS B during the morning and afternoon peak travel times in the future planning year of 2032. Table 2 describes the projected average daily traffic on I-35 in the project study area.

Table 2. Traffic Volume Projections

Roadway Segment	2012 - Program Year (vpd)	2032 - Design Year (vpd)
IA 5 to Cumming Road	39,920	56,800
Cumming Road to IA 92	27,000	48,700
South of IA 92	32,480	43,800

Source: Howard R. Green Company, Traffic Analysis and Crash History Review, September 5, 2007.

The amount of traffic in the project study area is expected to increase between 35 and 80 percent, with the largest increase occurring between the Cumming Road and IA 92 Interchanges. Even with the construction of the proposed Southwest Connector, I-35 would still require six lanes in 2032 to accommodate the forecasted volume of traffic to achieve a LOS B. The proposed Southwest Connector is projected to alleviate approximately three to six percent of the traffic on I-35 in 2032.

Update Roadway Geometric Design Elements:

The I-35 roadway in Warren County was designed and constructed in the late 1950's using design criteria and specifications that are currently considered to be out-of-date because of increasing travel speeds, vehicle size and weight, and driver expectations. The corridor's median widths, ditch fore slopes, bridge widths, vertical clearances, and geometry do not meet current design standards. Numerous I-35 roadway characteristics throughout the corridor were found to be in need of updating to the current design standards. These include:

- Increasing the width of the grassy median to improve safety;
- Lengthening the nine curves to improve drivability in bad weather;
- Decreasing the steepness of the slope of the roadway in four locations;
- Lowering nine hills and lifting five valleys to improve sight distance and safety;
- Decreasing the steepness of fore slopes in 52 locations throughout the corridor to improve off-road vehicle recovery; and
- Widening the bridge approaches to three river or creek crossings to meet current design standards.

In addition to the I-35 characteristics mentioned above, the roads crossing I-35 have outdated design characteristics that are in need of updating. These include:

- Increasing the vertical clearance under the IA 92 dual overpass bridges;
- Increasing the width of the IA 92 dual overpass bridges;
- Increasing the vertical clearances under the Adams Street, Cumming Road, Fillmore Street, and Hoover Street, overpasses; and
- Increasing the width of the Fillmore and Hoover Streets overpass bridge approaches.

Maintain or Improve Safety Conditions:

As traffic continues to increase in the project study area as forecasted with or without capacity improvements, the volume and density of traffic on the roadway would increase. As the volume and density of traffic increases, it is expected that the number of crashes would increase as well. In 2032, average daily traffic in the I-35 project study area would

be expected to increase by approximately 80 percent over forecasted 2012 traffic levels. Without capacity improvements on I-35, vehicle density would increase resulting in greater potential for vehicle conflicts, crashes, and decreased overall safety on I-35. Thus, capacity improvements (e.g., additional lanes) are needed to maintain a safe roadway as use steadily increases beyond the existing design capacity.

4. Alternatives

4.1 No Build Alternative

No major improvements would be made in the project study area under the No Build Alternative. Smaller projects that help preserve the condition of the roadway's surface, like overlays and patching could occur under the No Build Alternative. Maintenance on bridge and overpass structures could also occur, but would likely not result in improvement of the structures' sufficiency ratings. As a result of the No Build Alternative, sub-standard geometric and design characteristics that exist in the project study area would not be updated to meet current design standards. Additionally, the capacity of the Interstate system in the project study area would remain unchanged.

4.2 Alternatives Considered but Dismissed

The no build alternative and two build corridors were considered for the I-35 Warren County Reconstruction project. The two build corridors are within the existing I-35 corridor and include a general shift to the east or a shift to the west. The proposed build alternatives would expand the existing four lane roadway to six lanes.

The proposed build alternatives include reconstruction of all lanes to correct sub-standard geometry, vertical clearances, and steep side slopes where necessary. The proposed build alternatives would achieve the necessary vertical clearances for all overpass bridges in the project corridor. In addition, the proposed build alternatives would allow for two lanes of traffic to remain open in both the north and southbound direction for the majority of the construction of this project. There may be times when head to head traffic on one side of the roadway or in a single lane with lane closures is needed.

The proposed build alternatives include shifting the travel lanes either to the east or to the west. The objective of the build alternatives is to utilize as much of the existing interstate corridor as possible. The proposed build alternatives would have the same proposed typical section, which is shown in Figure 3. The proposed typical section includes the following characteristics:

- Six travel lanes - three northbound lanes and three southbound lanes
- 12 foot wide travel lanes
- 12 foot wide paved inside and outside shoulders
- 64 - 116 foot wide grassy median

Eastern-Shift Alternative:
In general, the Eastern-Shift Alternative would construct some of the proposed improvements to the east of the existing alignment. The Eastern-Shift Alternative allows for construction of new northbound lanes without major impacts to the existing

northbound lanes. This provides a safer construction area, minimizes construction costs, and the ability to update the horizontal and vertical geometry.

Western-Shift Alternative:
The Western-Shift Alternative is similar to the Eastern-Shift Alternative except that some of the proposed improvements would occur to the west side of the existing alignment. The Western-Shift Alternative allows for construction of new southbound lanes without major impacts to the existing southbound lanes. This provides a safer construction area, minimizes construction costs, and the ability to update the horizontal and vertical geometry.

A preliminary inventory of resources located within the project study area for both the Eastern- and Western-Shift Alternatives was conducted. The results of the preliminary inventory indicated that the Eastern-Shift Alternative would impact more acreage of natural resources occurring within the project study area than the Western-Shift Alternative. Table 3 compares the resources located within the project study area and within the potential right-of-way footprint of the two build alternatives.

Table 3. Preliminary Inventory of Resources

Resource	Resource Located Within Project Study Area	Eastern-Shift Alternative	Western-Shift Alternative
Wetlands (acres)	103	45	44
Rivers and Streams (linear feet)	40,732	19,761	16,976
100 Year Floodplain (acres)	187	78	79
Indiana Bat Habitat (acres)	159	60	52
Historic Archeological Sites (number)	6	5	2
Proposed Right-of-Way (acres)	2,239	994	961

4.3 Proposed Alternative

After discussions with the U.S. Fish and Wildlife Service (USFWS) in September 2008 the Iowa DOT and FHWA decided to only carry the Western-Shift Alternative forward for additional impact analysis. The Western-Shift Alternative would have the least overall impact to environmental resources located in the corridor compared to the Eastern-Shift Alternative. Concurrence on this decision was given on October 29, 2008 by U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (EPA), USFWS, and the Iowa Department of Natural Resources (DNR).

Following the concurred-upon decision to carry forward the Western-Shift Alternative, this same alternative became the sole remaining “Build Alternative”. Thus, the Western-Shift Alternative became the preferred alternative. The Western-Shift Alternative provides the least overall environmental impacts to the corridor and can be modified in specific locations along the corridor to minimize impacts to or avoid specific resources. This alternative is shown in Figure 4. From this point on in this document the Western-Shift Alternative will be referred to as the Build Alternative.

Figure 3. Typical Section
8.5 x 11

Figure 4. Western-Shift Alternative
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11x17

Figure 4 Western-Shift Alternative
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11x17

Figure 4. Western-Shift Alternative
(Page 3 of 6)
11x17

Figure 4. Western-Shift Alternative
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11x17

Figure 4. Western-Shift Alternative
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11x17

Figure 4. Western-Shift Alternative
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5. Impacts

This section will describe the existing socioeconomic, cultural, natural and physical environments in the project corridor that will be affected by the Proposed Build Alternative. The resources with a check in the second column on Table 1, located at the beginning of the document, are discussed below.

5.1 Socioeconomic Impacts

5.1.1 Land Use

The project study area is dominated by agricultural uses including both row crops and pasture. Undeveloped land with commercial, farmsteads, and low density residential uses are sparsely scattered in the project study area. Recreational land use occurs near the northern end of the project study area. Maffitt Reservoir Park is located west of I-35 between IA 5 and Adams Street. Existing land use within the project study area is shown in Figure 5.

The Warren County, Iowa Master Plan for Future Land Use, Growth and Development (Master Plan) dated May 15, 2002 outlines the long range goals of Warren County. This document focuses on land use and development issues facing Warren County and its communities. Future land uses in the project study area shows the majority of the agricultural interior of the project study area would be maintained as shown in Figure 6. The undeveloped interior of the project study area in the vicinity of the Cumming Road Interchange includes medium-density residential, commercial, industrial, recreation, and conservation land uses with light industrial uses at the IA 92 Interchange.

Build Alternative Impacts: The northern section of the project study area is currently experiencing increasing growth pressure from the Des Moines Metropolitan area. Warren County has recognized the project study area as an area positioned for future medium-density residential, commercial, industrial, recreation, and conservation land uses. The proposed Build Alternatives would promote development in an orderly fashion consistent with the Master Plan with appropriate transportation access controls. In addition, the proposed improvements would not impact Maffitt Reservoir Park.

No Build Alternative Impacts: The project study area is likely to experience future development even in absence of improved transportation access. Without a unifying transportation backbone, the possibility exists for development to occur in an inefficient and potentially unsafe manner with numerous access points to the existing transportation network.

Figure 5. Existing Land Use Map
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11 x 17

Figure 5. Existing Land Use Map
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Figure 5. Existing Land Use Map
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Figure 5. Existing Land Use Map
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Figure 5. Existing Land Use Map
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Figure 5. Existing Land Use Map
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11 x 17

Figure 6. Future Land Use Map
11 x 17

5.1.2 Right-of-Way and Relocation Potential

Build Alternative Impact: Three rural farmsteads are expected to be displaced by construction of the Build Alternative because they are located within the Build Alternative footprint as shown on Figure 7. The Build Alternative would relocate approximately 0.5 miles of 15th Avenue that runs parallel to I-35 from the Cumming Road Interchange to an area north of Coolidge Street. In addition, reconstruction of the G14 Interchange would require the removal and/or relocation of a cellular tower adjacent to I-35 on the northwest side of the interchange.

The construction of the Build Alternative would require approximately 1,285 acres of additional right-of-way acquired from approximately 104 properties. Of the 1,285 acres of additional right-of-way needed, approximately 961 acres are a result of the Build Alternative's footprint and approximately 324 acres were evaluated for potential borrow areas. The exact location and number of acres of right-of-way needed from the potential borrow areas are unknown at this time. However, a worst-case acreage (i.e., 324 acres) for the potential borrow areas was evaluated in this EA.

Property owners would be compensated for property acquisitions as determined by FHWA guidelines and Iowa DOT's processes for right-of-way acquisitions. The acquisition and relocation program would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources are available to all residential and business relocates without discrimination.

No Build Alternative Impacts: This alternative would not require acquisition of right-of-way or structures.

5.1.3 Construction and Emergency Routes

Roadway construction can temporarily impact multiple aspects of a corridor, including but not limited to transportation and emergency routes, air, and noise pollution. Stormwater runoff and soil erosion are also potential temporary impacts associated with roadway construction projects.

Build Alternatives Impact: Normal construction activities associated with the Build Alternative would likely result in short-term elevated noise levels, airborne pollutants such as dust, and increased uncontrolled runoff and erosion. However, these impacts would be temporary and would only occur during the construction phase.

During construction, it is anticipated two lanes of traffic would remain open in both the north and southbound direction for the majority of the construction of this project. There may be times when head to head traffic on one side of the roadway or in a single lane with lane closures is needed. The exact details of how traffic would be staged and the need for temporary paved lanes to accommodate traffic would be determined during the final design stage of the project.

During construction it may be necessary to temporarily modify access points to various roadways resulting in short-term inconveniences for study area residents. Exact details for maintenance of access and traffic would be completed as the project advances to the final design stage. All residential areas in the corridor would, at a minimum, have temporary access for fire protection, law enforcement, and other emergency services.

Temporary construction impacts would be mitigated by adhering to construction permits and contract conditions. Those conditions would likely include:

- Prohibitions against burning construction debris;
- Control measures to limit airborne pollution;
- Specifications and procedures for the disposal of wastes;
- Potential hazardous materials within the right-of-way would be identified and handled according to applicable regulations; and
- Sediment and erosion control would be minimized by stormwater permit requirements including a stormwater pollution permit plan that outlines control measures such as:
    - Seeding disturbed areas as soon as possible after grading;
    - Minimizing disturbances to stream banks;
    - Avoiding work in stream channels;
    - Undertaking of all necessary precautions to prevent petroleum and other chemicals from entering streams; and
    - Utilizing sediment barriers such as silt fences.

No Build Alternative Impacts: The No Build Alternative would potentially have temporary construction-related activities associated with ongoing maintenance programs and/or bridge repairs.

5.2 Cultural Impacts

5.2.1 Archaeological Sites

A Phase IA site record review and background research for the proposed I-35 Warren County project study area was completed by Bear Creek Archeology (BCA) in September 2007. This review included the background research of previous studies completed in the area, historical maps and aerials, soil maps, and a windshield survey of the current project study area. The information found in the September 2007 Phase IA study lead to BCA conducting a Phase I Cultural Resource Survey in August 2008.

The 2008 Phase I Cultural Resource Survey identified six archeological sites that were recommended for further testing out of the 30 archeological sites found. In November 2008 BCA conducted Phase II Archeological Testing of Prehistoric Sites on three of the six sites that would be potentially impacted by the Build Alternative. Two of the three sites were determined to not be eligible and no further work was needed.

One site, located on the west side of I-35 in the southern portion of the project study area, was determined to be potentially eligible under Criterion D for listing on the National Register of Historic Places (NRHP). Criterion D includes a site that has the potential to yield or may be likely to yield information important to prehistory or history. This site is recommended for further Phase III investigation or to be avoided by the proposed Build Alternative.

Build Alternative Impacts: The Iowa DOT determined that the proposed improvements could be designed to avoid this area and consequently, not impact the one archeological site located on the west side of I-35 in the southernmost portion of the project study area. The Iowa DOT communicated this determination to State Historical Society of Iowa (SHPO) in a letter dated November 17, 2008. The Iowa SHPO concurred with this No Adverse Affect determination in a letter dated December 10, 2008. A copy of this letter is in Appendix B.

No Build Alternative Impacts: No impacts to archeological resources would occur under the No Build Alternative.

5.3 Natural Environment Impacts

5.3.1 Wetlands

A wetland delineation for the project study area was completed in the spring and summer of 2008. The delineation included a review of existing data including a 2007 Natural Resource Consultants, Inc. (NRC) biological resources report conducted for this project, county soil surveys, National Wetlands Inventory maps, USGS topographic maps, and current and historical aerial images. Field methods to record and describe wetland vegetation, hydrology, and soils using methods described in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual were applied throughout the corridor.

Approximately 145 wetlands were identified in the project study area as shown in Figure 7. These wetlands comprise approximately 100 acres of emergent, forested, farmed, and open water wetlands. The project study area is characterized by rolling hills. Wetlands associated with watercourses and soils high in clay content are present in the valleys of most of these hills. Wetlands were observed in remnant channels of larger watercourses, adjacent to the watercourses in the project area, and in impounded open waters throughout the project area. Of the 145 wetlands identified, approximately 134 are potentially under USACE jurisdiction.

Build Alternative Impacts: The Build Alternative would impact approximately 45.3 acres, which consists of 22.8 acres of emergent wetlands, 13.9 acres of forested wetlands, 0.3 acres of farmed wetlands, 7.2 acres of open water wetlands, and 1.1 acres of wetlands located in potential borrow areas. Of the 45.3 acres of wetlands, approximately 44.2 acres would be directly impacted by the footprint of the Build Alternative. The remaining 1.1 acres of wetlands are located in potential borrow areas.

Of the 45.3 total acres of delineated wetlands, approximately 35.2 acres are likely under USACE jurisdiction, a 10.1 acre difference between total and likely jurisdictional wetlands. The 10.1 acres of wetlands present within the footprint of the Build Alternative but not likely under USACE jurisdiction are roadside ditches and other structural drainage features that illustrate wetland features. Impacts to these drainage features are not typically permitted by USACE.

Federal wetland laws and implementing regulations exist that are intended to protect wetland resources. Section 404 of the Clean Water Act requires that a permit be obtained before filling can occur in portions of wetlands that are under the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE). Section 404 also requires that wetland impacts be avoided if possible and that impacts be minimized and mitigated. Presidential Executive Order (EO) 11990 on Protection of Wetlands requires that federal agencies avoid, to the extent practicable, long- and short-term adverse impacts to wetlands. The EO directs federal agencies to avoid construction in wetlands unless there is no reasonable alternative and that proposed actions must include all practicable measures to minimize harm to the wetlands.

Iowa Administrative Code (IAC) 314.23 states that wetlands removed by a state transportation project shall be replaced by the acquisition of wetlands in the same general vicinity, if possible, for public ownership and preservation, or by other mitigation deemed to be comparable to the wetland removed, including, but not limited to the improvement, development, or preservation of wetlands under public ownership.

No Build Alternative Impacts: No impacts to wetlands would occur as part of the No Build Alternative.

5.3.2 Surface Waters and Water Quality

The project study area includes a number surface water features. The dominant surface water features are Badger Creek, North River, and Middle River as shown on Figure 7. Bridges span these watercourses within the project area. The project study area is characterized by rolling hills, larger waterways, and a number of smaller streams. A number of these streams are dammed creating impounded farm ponds that are present on both sides of the existing I-35 right-of-way. Within the project study area, there are over 40,000 linear feet of rivers, streams, intermittent streams, and ditches that may be considered waters of the United States and 18 acres of impounded waters.

Waters of the United States determinations were completed during the summer 2008 wetland delineation. These determinations identified 24 separate waterways in the project study area with defined bed and banks, sediment sorting, and at least seasonal water conveyance.

Construction of a wider paved roadway facility would create additional impervious surface and increased potential for runoff to adjacent waterways during and after construction. The proposed roadway would utilize a drainage

system consisting of a series of roadside ditches, which is similar to the existing roadway.

Build Alternative Impacts: The greatest impact resulting from the Build Alternative would entail alteration of 18,034 linear feet of rivers and streams and 12.7 acres of open water features. About 16,976 linear feet of rivers and streams and 7.2 acres of open water features exist within the Build Alternative footprint. About 1,058 linear feet of rivers and streams and 5.5 acres of open water features exist in potential borrow areas.

The Build Alternative would require compensatory mitigation for impacts to waters of the United States including wetland and open water impacts. A State 401 Water Quality Certification is issued by the Iowa DNR pursuant to Section 401 of the Clean Water Act. State Certification is required by the Army Corps of Engineers before a Section 404 permit can be issued. Section 401 Certification represents the Iowa DNR's concurrence that the project certified is consistent with the Water Quality Standards of the state of Iowa as set forth in Chapter 61, Iowa Administrative Code 567.

Impacts to water quality are anticipated to be minor, provided that standard sediment and erosion control measures are followed. Obtaining the required permits and following standard water quality protection measures during construction would prevent or minimize impacts. The following mitigation measures would likely be followed to further minimize impacts to water resources during construction or operation of the proposed facility:

- Using construction controls to minimize erosion and sedimentation.
- Using pervious surfaces where practicable.
- Controlling runoff in order to avoid degradation of surface water quality.
- Minimize use of pesticides, herbicides, and fertilizer.
- Maintaining vegetative buffers to reduce sedimentation and delivery of chemical pollutants to adjacent water bodies.

No Build Alternative Impacts: No impacts to surface waters or water quality would occur as part of the No Build Alternative.

Figure 7. Build Alternative Impacts
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Figure 7. Build Alternative Impacts
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Figure 7. Build Alternative Impacts
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Figure 7. Build Alternative Impacts
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Figure 7. Build Alternative Impacts
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5.3.3 Floodplains

Floodplains are defined as those flood-prone areas identified as part of the National Flood Insurance Program (NFIP) managed by the Federal Emergency Management Agency (FEMA).

Figure 7 shows the 100-year floodplains mapped for Badger Creek, North River, Middle River, an unnamed tributary of Badger Creek, and an unnamed tributary of the Middle River. There are 187 acres of 100-year floodplain within the project area associated with these five watercourses. No floodways are mapped for the project area.

Build Alternative Impacts: The Build Alternative impact would impact a maximum of 81 acres of floodplain. There are 79 acres of 100-year floodplain within the Build Alternative footprint. There are two acres of 100-year floodplain in potential borrow areas.

The project would require floodplain development permits from USACE and Iowa Department of Natural Resources (DNR). These permits may require floodplain mitigation, which will be determined based on final design of the project. Iowa DOT will coordinate with USACE and Iowa DNR to obtain a Floodplain Construction Permit prior to construction of the project.

No Build Alternative Impacts: No impacts to floodplains would occur as part of the No Build Alternative.

5.3.4 Threatened and Endangered Species

The Iowa DNR lists one state endangered species, the Indiana bat (Myotis sodalis) as potentially occurring in the project area. The USFWS lists four threatened or endangered species whose range includes Warren County, including three plants and one mammal.

The three plant species are: western prairie fringed orchid (Platanthera praeclara) – Threatened; prairie bush clover (Lespedeza leptostachya) – Threatened; and Mead's milkweed (Asclepias meadii) – Threatened. The mammal species is Indiana bat (Myotis sodalis) – Endangered.

No suitable habitat for the three species of western prairie fringed orchid, prairie bush clover, or Mead's milkweed were found within the project corridor during a habitat evaluation conducted in a 2007 biological resources survey of the project area.

This habitat study identified 24 woodland tracts within the project study area that meet the requirements for suitable summer foraging habitat for Indiana bat (Figure 7). Indiana bats are found in areas of mature upland forest and along wooded corridors of streams and rivers.

Iowa Code Chapter 314.23 states that woodland removed shall be replaced by plantings as close as possible to the initial site, or by acquisition of an equal

amount of woodland in the general vicinity for public ownership and preservation, or by other mitigation deemed to be comparable to the woodland removed, including, but not limited to, the improvement, development, or preservation of woodland under public ownership.

In addition to the biological resource surveys conducted in 2007, mist netting surveys for Indiana bats occurred in June and July 2008. The mist net surveys netted eight species of bats at 11 mist net sites including 12 Indiana bats in the project study area. The surveys revealed high quality bat habitat in the southern two-thirds of the project area. The surveys also included fitting six Indiana bats with radio transmitters. Radio tracking of these bats found five maternity roost trees within or adjacent to the project study area.

The Iowa DNR indicated that a search for prairie remnants should be conducted within the project corridor (Appendix B). Windshield and walking surveys for prairie remnants and other significant natural communities were conducted in 2007. No prairie remnants or other significant natural communities were found within the project corridor.

Build Alternative Impacts: The Build Alternative would impact a maximum of 54 acres of Indiana bat habitat. There are 52 acres of Indiana bat habitat with the Build Alterative footprint. There are two acres of Indiana bat habitat within potential borrow areas.

A Biological Assessment for this project was submitted to USFWS on November 24, 2008 as required by Section 7 of the Endangered Species Act. The Biological Assessment defines potential mitigation for losses of Indiana bat habitat. Likely mitigation includes preserving nearby existing tracts of forested riparian habitat, minimizing impacts to forested areas during construction, felling trees during winter months when bats are not present, and planting new trees. A copy of the cover letter submittal to USFWS is included in Appendix B.

No Build Alternative Impacts: The No Build Alternative would not impact threatened or endangered species in the project study area.

5.3.5 Farmlands

Prime farmland is defined by the U.S. Department of Agriculture (USDA) as land best suited for food, feed, forage, fiber, and oilseed crops. It includes land used for cultivation, pasture, and woodland, but does not include urban or built-up land. The soil must be of sufficient quality, an adequate growing season, and sufficient moisture to produce a high-yield crop.

The interior of the I-35 Warren County project study area is generally used for crop production or fallow pasture, although large scale livestock operations are not present. Crops grown in the area include corn and soybeans, which are typical for Central Iowa.

Build Alternative Impacts: The construction of the Build Alternative would directly convert approximately 567 acres of farmland to right-of-way. Of the 567

acres, approximately 161 acres were determined to be prime and unique farmland. Of the 567 acres of farmland to be directly converted, approximately 287 acres are a result of the Build Alternative's footprint and approximately 280 acres are a result of the potential borrow areas. The exact location and number of acres to be directly converted by the potential borrow areas will not be known until final highway design is completed. However, the 280 acres represents a worst-case acreage of farmland impact for the potential borrow areas was reviewed in this EA.

To evaluate overall impact to prime farmland by the Build Alternative, a Farmland Conversion Impact Rating was established based on correspondence with the USDA's Natural Resource Conservation Service using the maximum potential impact of 567 acres that includes the Build Alternative and potential borrow sites. The conversion impact rating for the proposed Build Alternative was 153, which is below the 160 points needed to require avoidance and/or mitigation measures. A copy of the impact rating form for the Build Alternative is found in Appendix C.

No mitigation would be required for conversion of farmland required for construction of the Build Alternative.

No Build Alternative Impacts: This alternative would have no impacts to farmland in the project study area.

5.4 Physical Impacts

5.4.1 Noise

Noise is "unwelcome/unwanted" sound usually caused by human activity and added to the natural acoustic setting of a locale. Further defined, noise is sound that disrupts normal activities or diminishes the quality of the environment. Noise is usually undesirable because it interferes with speech communication and hearing or is otherwise annoying. Noise levels can vary due to differences in the surrounding environment.

Noise sensitive receivers are generally places where people live, work, play, and learn. Places like homes, schools, libraries, hospitals, and recreational areas are considered sensitive receivers. FHWA's Traffic Noise Model (TNM) was used for modeling both the 2012 (program year) and 2032 (design year) conditions at sixteen representative locations within the project study area. The sixteen locations fall into Activity Category B (67 decibels (bBA)), which is generally defined by FHWA policy as normal everyday activity uses not considered serene or commercial or industrial. The locations of the representative noise receivers modeled are shown on Figure 7.

According to 23 CFR 772 which are the federal traffic noise guidelines, traffic noise impacts occur when the predicted traffic noise levels approach or exceed the FHWA noise abatement criteria (NAC), or when predicted noise levels substantially exceed the existing noise levels. The Iowa DOT defines "approaching" as being within one decibel of the NAC and defines "substantial" as being 10 dBA over the existing noise levels. For 2012 and 2032 conditions,

traffic noise levels at the sixteen representative noise receivers do not approach or exceed the FHWA's Criterion B 67 dBA threshold.

Build Alternative Impacts: The construction of the Build Alternative would be expected to increase the noise in the project study area by an average of two dBA from the 2012 conditions, but the noise level would not approach or exceed the 67 dBA NAC level. Therefore, no appreciable noise impacts are anticipated with the construction of the proposed Build Alternative.

No Build Alternative Impacts: The No Build Alternative would not have any additional noise impacts.

5.4.2 Mobile Source Air Toxics (MSATs)

This EA includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable the prediction of project-specific health impacts of the emission changes associated with the alternatives in this EA. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information:

Information that is Unavailable or Incomplete:

Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

- **Emissions:** The Environmental Protection Agency (EPA) tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, EPA has identified

problems with MOBILE 6.2 as an obstacle to quantitative analysis. These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE 6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

- **Dispersion:** The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The NCHRP is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also would focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.
- **Exposure Levels and Health Effects:** Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs:

Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database *Weight of Evidence Characterization* summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust** (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- **Diesel exhaust** also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes -- particularly respiratory problems. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria (CO_2, O_3, NO_x, and PM_{10}) and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community:

Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts form MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives.

The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions among Transportation Project Alternatives*, found at:
www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm

For each alternative in this EA, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables

such as fleet mix are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the Build Alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOBILE 6 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases would offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models.

Because the estimated VMT under each of the Alternatives are nearly the same, varying by less than one percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the Build Alternative would have the effect of moving some traffic closer to developed areas; therefore, under each alternative there may be localized areas where ambient concentrations of MSATs could be higher under the Build Alternaitve than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be constructed under the Build Alternative. However, as discussed above, the magnitude and the duration of these potential increases compared to the No Build Alternative cannot be accurately quantified due to the inherent deficiencies of current models.

In sum, when a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

In this document, FHWA has provided a qualitative analysis of MSAT emissions relative to the various alternatives and has acknowledged that the Build Alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain,

and because of this uncertainty, the health effects from these emissions cannot be estimated.

5.4.3 Utilities

Numerous energy, water, and communication utilities are located within the project study area rights-of-way. Utilities are located both above and below ground and include an above ground power transmission line that crosses I-35 just south of the North River at mile marker 60. Power and Gas utilities crossings of I-35 occur at Adams Street, Cummings Road Interchange, Coolidge Street, Fillmore Street, and Hoover Street. Communication utilities crossings of I-35 occur at the Cumming Road Interchange and water main crossings occur at Coolidge, Fillmore, and Hoover Streets.

Build Alternative Impacts: Constructing the proposed Build Alternative would have impacts on utilities in the project corridor. Relocation of some utilities in the corridor would be necessary to accommodate the design of the Build Alternative. Impacted utilities would most likely be relocated in the same vicinity as they currently exist. Coordination with the public and private utility companies would need to be conducted to ensure that optimal utility service during utility relocation and construction of the proposed roadway improvements.

No Build Alternative Impacts: No construction or relocation of utility lines would be necessary under the No Build Alternative. As a result, no near-term impacts would occur to utilities located in the project corridor.

5.5 Cumulative

Cumulative Impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative impact assessment looks at the collective effects imposed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

The following paragraphs describe past, present, and future actions that have affected, are currently affecting, or are expected to affect the project study area. Cited actions were chosen from local and regional plans and projects that were determined to have an effect on the proposed I-35 roadway improvements.

Past Actions:

In the summer of 2008, a private property owner located in the southwest quadrant of the I-35 and IA 92 Interchange began constructing a recreational vehicle dealership. The development of this type of business in this quadrant of the IA 92 Interchange is consistent with the future land use of the Interchange.

No other recent actions are known that would cause a cumulative impact.

Present Actions:

The following projects are in the Iowa DOT's five year plan. Construction of these projects is anticipated by 2012.

- Replacement of the I-35 bridges over the Iowa Interstate (IAIS) Railroad (Project No. IM-035-2(301)69--13-77). A categorical exclusion was approved by FHWA on December 6, 2007.
- Reconstruction of the I-35 and Grand Avenue Interchange (Project No. IM-035-2(302)69--13-77). A categorical exclusion was approved by FHWA on December 6, 2007.
- Widening of Grand Avenue (Project No. STP-U-8260(617)69--70-77). A categorical exclusion was approved by FHWA on January 16, 2008.
- Widening of I-35 through Des Moines, Iowa from approximately University Avenue to approximately the Warren/Polk County line (Project No. IM-35-2(314)67--0E-970). A categorical exclusion was approved by FHWA on September 23, 2008.
- Replacements of the following bridges:
    - Iowa 92 East and Westbound Bridges over I-35
    - I-35 North and Southbound Bridges over Middle River
    - I-35 North and Southbound Bridges over North River

Future Actions:

The Cities of West Des Moines, Iowa and Des Moines, Iowa are studying the SW Connector. The SW Connector would connect the outer regions of West Des Moines and Des Moines to downtown Des Moines with the intention of relieving some traffic off of the interstate system.

Build Alternative: The proposed improvements to I-35 under the Build Alternative would be consistent with the improvements of the overall Interstate system through Des Moines that are described in the present actions above. The cumulative effect would be beneficial for the movement of goods and services and support the developing needs around the G14 and IA 92 Interchanges.

No Build Alternative: Under the No Build Alternative, the proposed widening to I-35 from the Warren County line to Clanton Creek would not be constructed, but the present actions listed above would be constructed. The widened six lanes would need to transition back into the existing four lanes somewhere near the Warren/Polk County line. As the land use in the area of G14 changes develops, traffic is expected to increase. The additional traffic in this area using only four lanes of traffic could cause an adverse impact.

5.6 Streamlined Resource Summary

Resources not discussed in the body of the EA are located in the Streamlined Resource Summary, Appendix A. The summary includes information about the resources, the method used to evaluate them, and when the evaluation was completed.

The implementation of the Build Alternative would have environmental impacts to land use, farmland, Indiana bat habitat, floodplains, and waters of the U.S. The No Build alternative would likely cause similar environmental impacts but the timing of those impacts could differ. The magnitude and extent of the impacts are small and isolated and not at a level that warrants additional analyses by way of an Environmental Impact Statement (EIS). Warren County and surrounding metropolitan communities are addressing the cumulative and indirect impacts of urban growth through the comprehensive planning process as well as through individual regulatory requirements (e.g. stormwater control regulations) designed to maintain or improve resource quality.

This determination of no additional analyses is based on assessment of impacts identified through the streamlining process and mitigation requirements outlined for wetlands and the appropriate implementation of applicable federal and state requirements for soil erosion, water quality, and development in floodplains.

The use of the streamlined environmental impact analysis process enabled the focusing of effort in areas where impacts would likely occur and scale back effort in areas where impacts where unlikely to occur. This focus on developing sufficient information about likely impacts facilitated the interagency coordination required as part of the wetlands permitting process under Section 404 of the Clean Water Act.

Table 4. Summary of Impacts

Resource	Resource Located Within Project Study Area	Build Alternative	No Build Alternative
Waters of the U.S.			
Wetland (acres)	103	45	0
Rivers and Streams (linear feet)	40,732	18,034	0
100-Year Flood Plain (acres)	187	81	0
Indiana Bat Habitat (acres)	159	54	0
Prime Farmland (acres)	442	161	0
Archeological Sites			
Sites Eligible for NRHP (number)	3	1	0
Right of Way (acres)	2,239	1,285	0
Impacted Properties (number)	188	104	0

6. Disposition

This Streamlined Environmental Assessment concludes that the proposed project is necessary for safe and efficient travel within the project corridor and that the proposed project meets the purpose and need. The project would have no significant adverse social, economic, or environmental impacts of a level that would warrant an environmental impact statement. Alternative selection will occur following completion of the public review period and public hearing.

7. Comments and Coordination

7.1 Agency and Tribal Coordination

Appropriate federal, state, regional, and local agencies were contacted by letter on July 16, 2007 and July 23, 2007 as part of the early coordination process. This process requested agency comments concerning this proposed project. Contact with several agencies had occurred in early planning stages for the proposed project. Comment letters and e-mails are included in Appendix B. The agencies contacted are listed in Table 5.

Table 5. Agencies Contact During Early Coordination Process

Agency Type	Agency	Date of Response
Federal	Federal Emergency Management Agency	No Response
Federal	Natural Resources Conservation Service	July 25, 2007
Federal	USACE Rock Island District	August 1, 2007
Federal	U.S. Department of Housing and Urban Development	July 18, 2007
Federal	USFWS	No Response
Federal	U.S. Department of Interior, National Parks Service	July 25, 2007
Federal	U.S. Department of Interior, Environmental Policy & Compliance	No Response
Federal	US EPA, Region VII	No Response
State	Iowa DNR – Budget & Finance	July 19, 2007
State	Iowa DNR – Conservation & Recreation	August 9, 2007
State	Iowa DNR – Environmental Services	August 9, 2007
State	State Historical Society of Iowa	No Response
Regional	Des Moines Area Metropolitan Planning Organization	No Response
County	Warren County Board of Supervisors	No Response
County	Warren County Conservation Board	No Response
County	Warren County Engineer & Secondary Roads	No Response
County	Warren County Zoning and Planning Department	No Response

Coordination with Tribes was conducted by Iowa DOT on July 16, 2007. This process requested Tribal comments concerning this proposed project. Comment letters and emails are found in Appendix B. The Tribes that were contacted are listed in Table 6.

Table 6. Tribal Coordination and Responses

Tribe	Date of Response	Response
Otoe-Missouri Tribe	No response	No Response
Sac & Fox Nation of the Mississippi in Iowa	No response	No Response
Sac & Fox Nation of Oklahoma	No response	No Response
Sac & Fox Nation of Missouri	9/12/2007	No objections, but request coordination with NAGPRA representative in case of uncovering of skeletal remains or objects falling under NAGPRA.
Iowa Tribe of Kansas & Nebraska	No response	No Response
Iowa Tribe of Oklahoma	No response	No Response

7.2 NEPA/404 Merge Coordination

Concurrence point meetings were held with key agencies at project milestones. The project milestones include the following:

- Purpose and need for the project
- Range of alternatives considered
- Alternatives to carry forward
- Preferred alternative

The following agencies were involved in the concurrence point meeting process:

- USACE
- US EPA
- USFWS
- Iowa DNR

The agencies concurred with the purpose and need for the project and the range of alternatives considered on January 30, 2008. The agencies concurred with the alternatives to carry forward and the preferred alternative on October 29, 2008.

An additional coordination meeting was held with the USFWS on September 8, 2008. The purpose was to discuss potential impacts to Indiana bat habitat. More information about this meeting and the impacts to the Indiana bat are discussed in Section 5.3.4.

7.3 Public Involvement

A public information meeting was held from 5 to 7 PM on February 26, 2008. The meeting was attended by 52 people. The purpose of the meeting was to gather information of known environmental issues within the project study area. The majority of the comments and information received from the meeting included:

- Locations of potential archeological, wetland, and well sites
- Safety issues concerning overpass bridges being hit by vehicles

APPENDIX A

STREAMLINED RESOURCE SUMMARY

The following tables are worksheets developed by the Iowa DOT and FHWA to streamline the NEPA process. These tables document that these resource areas were initially considered to be relevant for this project. They were subsequently determined to not have the potential for any impacts associated with the alternatives discussed in this NEPA document. Therefore, due to this lack of potential impact, there is no discussion of these resources in this NEPA document.

SOCIOECONOMIC IMPACTS SECTION:

Community Cohesion	
Evaluation and Date:	11/19/08
Method of Evaluation:	Evaluation of "Preferred Alternative"
Completed by:	Consultant
Churches and Schools	
Evaluation and Date:	2/15/08
Method of Evaluation:	Field Verification and EPA EnviroMapper
Completed by:	Consultant
Environmental Justice	
Evaluation and Date:	2/15/08
Method of Evaluation:	Environmental Justice Geographic Assessment Tool – EPA EnviroMapper
Completed by:	Consultant
Economic	
Evaluation and Date:	2/15/08
Method of Evaluation:	Environmental Justice Geographic Assessment Tool – EPA EnviroMapper
Completed by:	Consultant
Joint Development	
Evaluation and Date:	2/15/08
Method of Evaluation:	GIS and Field Verification
Completed by:	Consultant
Parklands and Recreational Areas	
Evaluation and Date:	6/04/08
Method of Evaluation:	GIS and Field Verification
Completed by:	Consultant
Bicycle and Pedestrian Facilities	
Evaluation and Date:	6/04/08
Method of Evaluation:	GIS and Field Verification
Completed by:	Consultant
Transportation	
Evaluation and Date:	11/19/08
Method of Evaluation:	Evaluation of "Preferred Alternative"
Completed by:	Consultant

CULTURAL IMPACTS SECTION:

Historic Sites or Districts	
Evaluation and Date:	9/07/08
Method of Evaluation:	Phase IA Site Record Review (Bear Creek Archeology)
Completed by:	Consultant
Cemeteries	
Evaluation and Date:	6/04/08
Method of Evaluation:	GIS and Field Verification
Completed by:	Consultant

NATURAL ENVIRONMENT IMPACTS SECTION:

Wild and Scenic Rivers	
Evaluation and Date:	1/25/08
Method of Evaluation:	National Wild and Scenic Rivers System Table (National Park Service)
Completed by:	Consultant

PHYSICAL IMPACTS SECTION:

Energy	
Evaluation and Date:	2/15/08
Method of Evaluation:	Field Verification
Completed by:	Consultant
Contaminated and Regulated Materials Sites	
Evaluation and Date:	2/13/08
Method of Evaluation:	EPA EnviroMapper and Iowa Department of Natural Resources Databases
Completed by:	Consultant
Visual	
Evaluation and Date:	6/4/08
Method of Evaluation:	Field Verification
Completed by:	Consultant
Air Quality	
Evaluation	01/28/09
Method of E Evaluation:	US EPA Website
Completed by and Date:	Consultant

APPENDIX B

AGENCY AND TRIBAL COORDINATION

SEP 2 8 2006

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010 515-239-1795
FAX 515-239-1726

September 26, 2006

Ref. No IM-035-2(336)-67—13-91
BRFIM – 035-2(276)65—05-91
PIN 00-91-035-030
Warren County
Primary

Ralph Christian
Review & Compliance
Community Program Bureau
State Historical Society of Iowa
600 East Locust St.
Des Moines, IA 50319

R&C# 060991115

Dear Ralph:

RE: Historic Architectural Survey – I-35 from ½ mi South of Co Rd G-14 to Ia5 & Interchange at I-35 and Co Rd G-14

Enclosed for your review and comment are the architectural report for the above-mentioned project. The project proposes to improve I-35 from half mile south of the Cumming interchange to just north of the Iowa 5 interchange. Also planned is the reconstruct of the interchange at Cumming, including a new bridge to carry County Road G-14 over Interstate 35. Co Rd G-14 will be realigned with the potential to impact properties on either side of the bridge.

The historic survey included background research, site inventory forms and photographs. The bridge did not qualify for the National Register during the Iowa Historic Bridge Inventory. Five modern architectural sites within the survey limits were evaluated and determined not to qualify for inclusion in the National Register of Historic Places.

Four older architectural sites were located and noted outside the expected project limits.

1207 Warren Ave is in the southwest corner of the intersection of G-14 and Warren Ave. at the west end of the corridor. The structure is reportedly a house built in 1945. It has low potential for qualifying for the National Register.

1217 Warren Ave, south of 1207, is a 19th /20th Century farmstead, site 61-01567. If final design should impact this small farmstead, an evaluation would need to be undertaken.

The **Friends Church** and **Callison House** are located in the northeast corner of the intersection of Co Rd G-14 and 20th Ave. at the east end of the corridor. The 1880's church, site 91-00167, has not been fully evaluated; however is likely eligible for the National Register. **Callison House**, site 91-00166, is a Queen Anne-style house. It has been moved yet retains its original massing and many original features. It is

unclear if it retains its National Register eligibility. If final design should impact this house, an evaluation would need to be undertaken.
1379-1383 Adams St is a modern pumping station and a farmsite consisting of a crib and shed. These properties do not appear to qualify for the National Register.

Based on the fact that the design process has not progressed, we are not making a determination of effect at this time. If you agree with the results of the attached architectural surveys, please sign the concurrence line below and return this letter. A letter of determination will be sent in the future. If you should require more information or if you have any questions, please do not hesitate to contact me.

Sincerely,

Judy McDonald

Judy McDonald
Office of Location & Environment
judy.mcdonald@dot.iowa.gov

JM
Enclosure
cc: Larry Jackson, District 5
Keith Cadwell, Road Design
Frank Davis, Right of Way

Concur:

Ralph J. Christian 10/24/06

SHPO Date

Comments:

JUL 0 6 2007

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010 515-239-1795
FAX 515-239-1726

July 2, 2007

Ref. No IM-035-2(336)-67—13-91
BRFIM – 035-2(276)65—05-91
PIN 00-91-035-030
Warren County
Primary

Doug Jones
Review & Compliance
Community Program Bureau
State Historical Society of Iowa
600 East Locust St.
Des Moines, IA 50319

R&C# 060991115

Dear Doug:

RE: Archaeological Survey – I-35 from ½ mi South of Co Rd G-14 to Ia5 & Interchange at I-35 and Co Rd G-14

Enclosed for your review and comment is the archaeological report for the above-mentioned project. This segment of I-35 improvement corridor south of Des Moines proposes to improve I-35 from half mile south of the Cumming interchange to the Iowa 5 interchange. Also planned is the reconstruction of the interchange at Cumming, including a new bridge to carry County Road G-14 over Interstate 35. Co Rd G-14 will be realigned with the potential to impact properties on either side of the bridge. Investigation of future associated segments south of the Cumming interchange will follow as a separate report.

The archaeological investigation included background research of site sheets and records, historical maps and aerials and soil maps. The bridge does not qualify for the National Register during the Iowa Historic Bridge Inventory. Seven previously recorded sites are within one mile with one site within the proposed corridor. One site was newly recorded as a result of the current survey. Neither sites were found to qualify for the National Register.

Based on the archaeological investigation and the previously submitted architectural evaluation [September 2006] and the concept, the segment from Cumming Interchange to Iowa 5 is determined to be **No Historic Properties Affected**. If you agree, please sign the concurrence line below and return this letter.

If you should require more information or if you have any questions, please do not hesitate to contact me.

Sincerely,

Judy McDonald

Judy McDonald
Office of Location & Environment
judy.mcdonald@dot.iowa.gov

JM
Enclosure
cc: Pete Tollenaere, District 5
Steve Larson, NEPA
Carl Merry, Highway Archaeology Program
Mike Fisher, Howard R Green

Concur:

Douglas W. Jones 7/11/2007

SHPO Date

Comments:

U.S. Department of Housing and Urban Development
Iowa State Office
Federal Building
210 Walnut Street, Room 239
Des Moines, Iowa 50309-2155

July 18, 2007

Stacy E. Woodson
Howard R. Green Company
8710 Earhart Lane SW
Cedar Rapids, IA 52404

Subject: Early Agency Coordination for I-35 Reconstruction in Warren County, Iowa
Project Number: IMN-35-2(352)54—0E-91 (Iowa DOT), 189750J01 (HRGreen)

Dear Stacy E. Woodson:

We have received your inquiry to the subject location for Environmental Assessment Documentation and have reviewed such.

We do not contemplate any detrimental effects on any of our projects in the area under review.

Sincerely,

James P. Ryan, Director
Des Moines Multifamily
Program Center

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

July 19, 2007

Stacey Woodson
Howard R. Green Company
8710 Earhart Lane SW
Cedar Rapids, IA 52404

Re: Early Agency Coordination Letter
Project #IMN-35-2(352)54--OE-91/189750J01

Dear Ms. Woodson,

This letter is in response to above mentioned project and your request for early coordination for potential impacts to Land & Water Conservation Fund (LWCF) projects.

After review of existing LWCF projects within Warren County, I find no projects within the boundary of this Interstate project.

Please contact me at 515-281-3013 if you have further questions on LWCF projects.

Sincerely,

Kathleen Moench

Kathleen Moench
Budget & Finance Bureau

WALLACE STATE OFFICE BUILDING / 502 EAST 9th STREET / DES MOINES, IOWA 50319-0034
515-281-5918 FAX 515-281-6794 www.iowadnr.gov

Environmental Coordinator
National Park Service
Midwest Regional Office
601 Riverfront Drive
Omaha, NE 68102

049J82036859
$00.41⁰
07/23/2007
Mailed From 68102
US POSTAGE

RECEIVED
JUL 25 2007
HOWARD R. GREEN COMPANY

Howard R. Green Company
8710 Earhart Lane SW
Cedar Rapids, Iowa 52404

Re: I-35 Reconstruction in Warren County, Iowa, IMN-35-2(352)54—0E-91

We have received your letter of July 16, 2007 concerning the above referenced project.

☑ We have no comment on your proposed actions.

☑ Please address any further correspondence about this project or any project to the following address:

Regional Environmental Coordinator
National Park Service
Midwest Regional Office
601 Riverfront Drive
Omaha, NE 68102

These comments have been provided as early technical assistance and do not necessarily indicate the NPS' or the Department of the Interior's response to future environmental documents prepared in association with the project.

Thank you,

Regional Environmental Coordinator

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
210 Walnut Street, Room 693
Des Moines, IA 50309-2180

July 25, 2007

Mr. Stacy E. Woodson
Project Manager
Howard R. Green Company
8710 Earhart Lane Southwest
Cedar Rapids, IA 52404

RE: Early Agency Coordination for I-35 Reconstruction in Warren County, Iowa

Dear Mr. Woodson:

The USDA Natural Resources Conservation Service has no comments at this time on the referenced project in Warren County, Iowa.

Also, please note that Mr. Brown has retired, and I am currently the State Conservationist in Iowa.

Sincerely,

Richard Van Klaveren
State Conservationist

cc: Jeff Zimprich, Assistant State Conservationist (FO), NRCS, Atlantic, IA
Ray Morrell, District Conservationist, NRCS, Indianola, IA

An Equal Opportunity Provider and Employer

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

http://www.mvr.usace.army.mil

August 1, 2007

Operations Division

Ms. Stacy E. Woodson, P.E.
Howard R. Green Company
8710 Earhart Lane SW
Cedar Rapids, Iowa 52404

Dear Ms. Woodson:

Our office reviewed your letter dated July 16, 2007, concerning your request for comments pertaining to the proposed reconstruction of I-35 in Warren County, Iowa.

Your project appears to have the potential to impact numerous areas of waters of the United States (including wetlands). The discharge of dredged or fill material into waters of the United States will require Department of the Army Section 404 authorization. Prior to conducting work on this project, you are required to conduct a wetland delineation using the Corps' 1987 Wetland Delineation Manual over the entire project corridor. When your wetland delineation is complete, and your plans are sufficiently developed, you should apply for Section 404 authorization for your project. I have enclosed a copy of the joint application packet entitled "Protecting Iowa Waters" for your use.

Should you have any questions, please contact our Regulatory Branch by letter, or telephone me at 309/794-5367.

Sincerely,

Michael D. Hayes

Michael D. Hayes
Project Manager
Enforcement Section

Enclosure

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

http://www.mvr.usace.army.mil

Operations Division

Enclosed for your use is a Joint Application Packet entitled, "Protecting Iowa Waters." This packet contains the necessary application forms, drawings sheets, instructions, and information for applying for Department of the Army and State of Iowa permits to perform work in waters within Iowa.

Detailed instructions for completing the application are located on pages 3 thru 6 in the Joint Application Packet. In addition, the application form and drawing sheets are on self- copying paper, so please press down firmly with a hard point pen when completing them, or please type them.

The copies of the application form and drawing sheets are identified at the bottom of each page as to which agency should receive which copy. The copy of the completed application form and drawing sheets marked "Corps of Engineers" and any other pertinent information should be mailed to:

U.S. Army Corps of Engineers, Rock Island
ATTN: Regulatory Branch
Clock Tower Building
Post Office Box 2004
Rock Island, Illinois 61204-2004

The copies of the completed application form and drawing sheets marked "Iowa Department of Natural Resources, Attention: Floodplain Permits Section, and Sovereign Lands" and any other pertinent information should be mailed to:

Iowa Department of Natural Resources
Wallace State Office Building
900 East Grand Avenue
Des Moines, Iowa 50319-0034

Please forward a copy of all approvals to this office as you receive them.

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

August 9, 2007

Stacy Woodson
Project Manager
Howard R. Green Company
8710 Earhart Lane SW
Cedar Rapids, IA 52404

Dear Ms. Woodson:

This letter is in response to your July 23rd letter concerning the I35 project in Warren County. After a cursory review by our program staff, we have the following comments. You are welcome to visit our offices and conduct a more thorough review of our records.

The registered underground storage tank/leaking underground storage tank projects in the vicinity of this project are identified on the attached map.

The proposed lane widening will not require a DNR Floodplain permit unless they will be altering the hydraulics (opening area) of bridges along with the widening work, but we have no plans to allow us to make a definitive determination. This only applies though for such an alteration or replacement of bridges on streams draining more than 100 sq. mi. in rural areas and 2 sq. mi. in urban areas. Reconstruction of the Cumming interchange will not require any Floodplain permits. Reconstruction of the Hwy. 92 interchange might require a DNR Floodplain permit if they expand the interchange to the south, but we have no plans to allow us to make a definitive determination. Reconstruction of the Hwy. 92 interchange would also require a DNR Floodplain permit if they reconstruct within the city limits of the City of Bevington.

The Middle River, Badger Creek, North River and Clanton Creek, within the proposed project corridor, are designated as Class A1 Primary contact recreational use. These are waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risk of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing. The Middle River, within the proposed project corridor, is also designated as Class B(WW-1) which are waters in which temperature, flow and other habitat characteristics are suitable to maintain warm water game fish populations along with a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The Middle River, within the proposed project corridor, is also designated as Class HH, human

health, which are waters in which fish are routinely harvested for human consumption or waters both designated as a drinking water supply and in which fish are routinely harvested for human consumption. Badger Creek, North River and Clanton Creek, within the proposed project corridor, are also designated as Class A2 Secondary contact recreational use. These are waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity. All surface waters in Iowa, including wetlands and those designated for Class "A", "B", and/or "C" are classified for the following general uses: livestock and wildlife watering, non-contact recreation, crop irrigation, and industrial, agricultural, domestic, and other incidental withdrawal uses. Every effort should be made to avoid impacting any water of the United States (streams and wetlands). Best management practices should be incorporated into the project design.

The Indiana bat (*Myotis sodalis*, state and federal endangered) may occur in the area of this project. Indiana bats are found in areas of mature upland forest and along wooded corridors of streams and rivers. Females form maternity colonies under the loose bark of trees. You may need to survey habitat in the construction zone to determine if the area is potential summer habitat for the Indiana bat. We suggest that you contact the U.S. Fish and Wildlife Service regarding this project. Their office at Rock Island may be reached at (309) 793-5800.

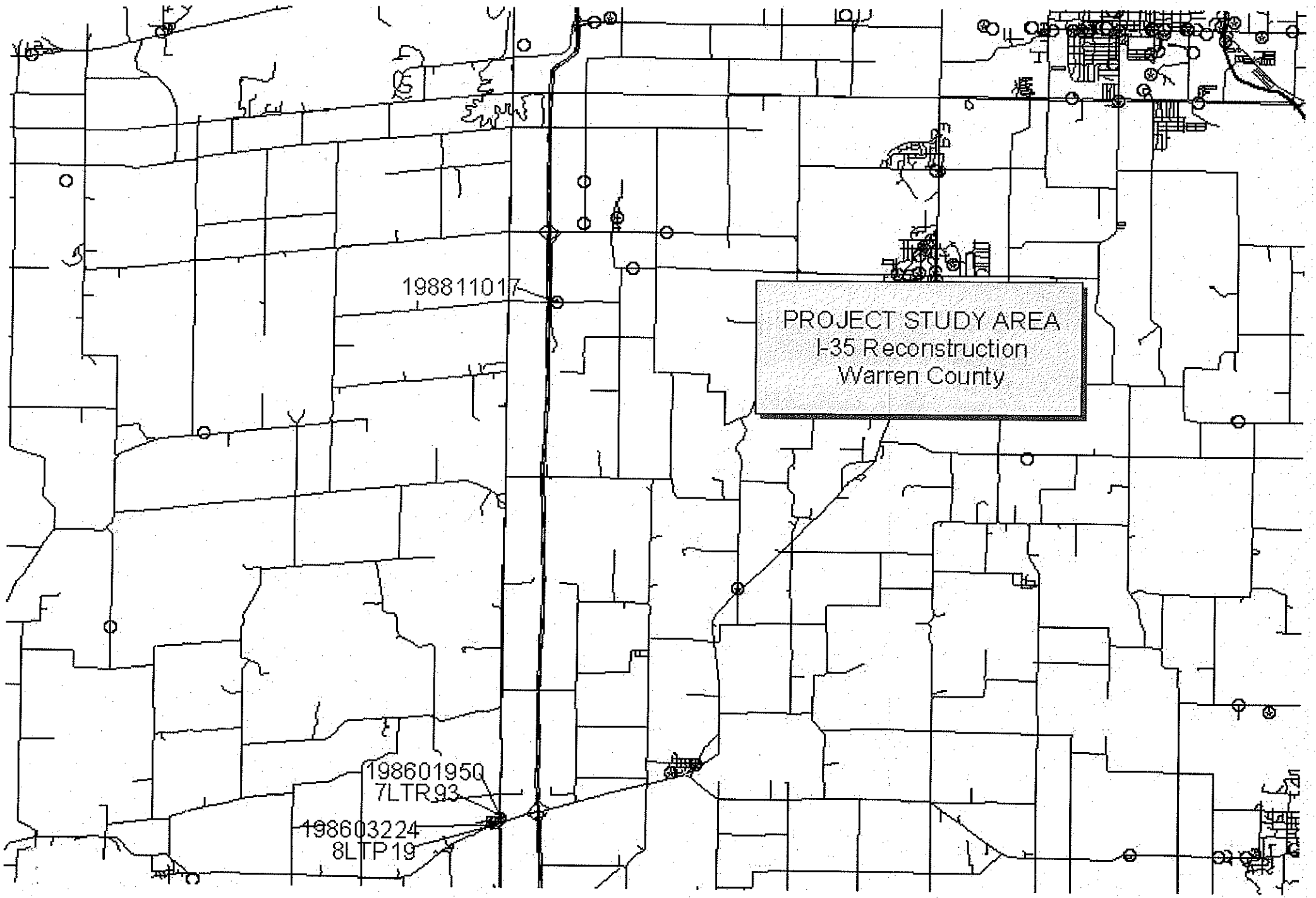
The project corridor will need to be surveyed for prairie remnants and for any state-listed species that may occur (e.g., butterflies and plants). Questions regarding these surveys can be directed to John Pearson (515-281-3891) and Daryl Howell (515-281-8524).

It is our policy that companies and their consultants conduct their own review for these sites. If you need advice for locating relevant information, please call me at (515)281-7276.

Sincerely,

Christine Spackman

Christine Spackman
Business Assistance Coordinator


PROJECT STUDY AREA
I-35 Reconstruction
Warren County
198811017
198601950
7LTR93
198603224
8LTP19

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

August 9, 2007

Howard R. Green Company
Attn: Stacy E. Woodson, P.E.
8710 Earhart Lane SW
Cedar Rapids, IA 52404

RE: Environmental Review for Natural Resources
Early Agency Coordination for I-35 Reconstruction
Project Number: IMN-35-2(352)54--0E-91 (Iowa DOT), 189750J01 (HRGreen)
Warren County, Iowa

Dear Ms. Woodson:

Thank you for inviting our comments on the impact of the above referenced project.

The Indiana bat (Myotis solalis, state and federal endangered) is known to inhabit this part of the state and may occur in the area of this project. Indiana bats are found in areas of mature upland forest and along wooded corridors of small streams. They forage for insects beneath the canopy. Females form maternity colonies under loose bark of trees. Trees 11 inches or greater in diameter as described in the attached guidelines are potential roost trees. If trees of this size are to be cleared between May 1 and August 31, please contact the DNR Division of Parks, Recreation and Preserves at (515) 281-8524. You may need to survey habitat in the construction zone to determine if the area is potential summer habitat for the Indiana bat. The enclosed guidelines provide information about the habitat requirements and survey methods for Indiana bat summer habitat.

If it appears that you will disturb potential Indiana bat summer habitat, we suggest that you contact the U.S. Fish and Wildlife Service regarding this project. Their office at Rock Island may by reached at (309) 793-5800.

A survey should be conducted for prairie remnants and listed butterfly and plant species that occur within the project area.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include any potential comment from the Environmental Services Division of this Department. This letter does not constitute a permit and before proceeding with this project, permits may be needed from this Department or from other state or federal agencies.

Effective March 10, 2003, any construction activity that bares the soil of an area greater than or equal to 1 acre including clearing, grading or excavation may require a storm water discharge permit from the Department. Construction activities may include the temporary or permanent

storage of dredge material. For more information regarding this matter, please contact Ruth Rosdail at 515/281-6782.

The Department administers regulations that pertain to fugitive dust IAW Iowa Administrative Code 567-23.3(2)"c". All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of property during construction, alteration, repairing or demolishing of buildings, bridges or other vertical structures or haul roads. All questions regarding fugitive dust regulations should be addressed to Jim McGraw at 515/242-5167.

If you have any questions about this letter or if you require further information, please contact Diane Ford-Shivvers at (515) 281-6341.

Sincerely,

Diane Ford-Shivvers, Supervisor
Policy and Coordination
Conservation and Recreation Division

Attachment: Indiana Bat Guidelines

CC: Christine Schwake, Water Quality Bureau, Iowa DNR (by email)

FILE COPY: Diane Ford-Shivvers
Tracking Number: 1486

Revised

February 2004

IOWA DEPARTMENT OF NATURAL RESOURCES

GUIDELINES FOR PROTECTION OF INDIANA BAT SUMMER HABITAT

These guidelines were prepared to provide information about the Indiana bat and its summer habitat requirements in Iowa and to prevent inadvertent harm to the species through various human activities. This update of the guidelines is in response to changes in the U.S Fish and Wildlife Service requirements for protecting this endangered species. The changes include:

- No cut dates changed to April 15 through September 15
- Drop the requirement for the number of roost trees/acre
- Use the U.S. Fish and Wildlife Service guidelines for mist net surveys

The Indiana bat is a federal (50 CFR Part 17) and state (Code of Iowa, Chapter 481B) listed endangered species that occurs in southern Iowa from May through August.

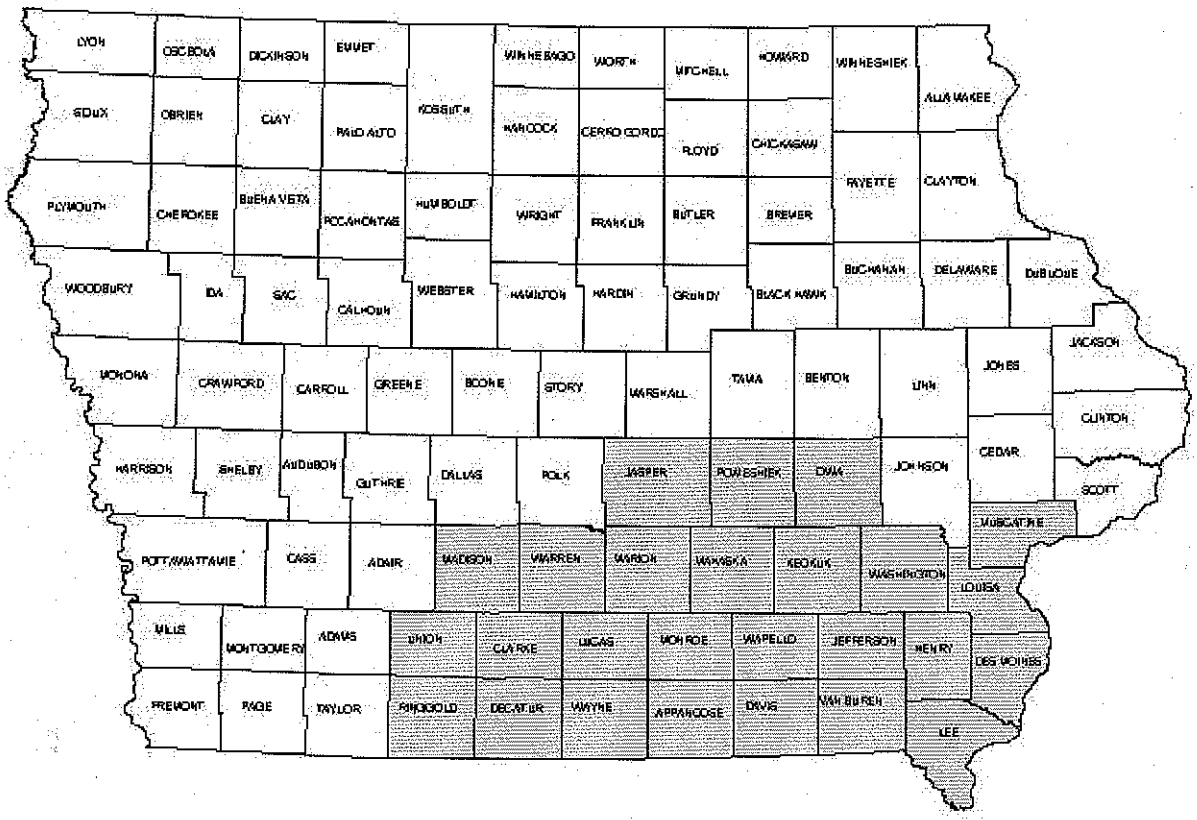
Female Indiana bats have their young beneath the loose or peeling bark of trees. Most nursery colonies have been found beneath the bark of standing dead trees on the trunk or large branches. Dead trees that retain sheets or plates of bark and which provide space beneath the bark such as red oak, post oak, and cottonwood are potential roost trees. Live trees such as shagbark and shellbark hickory are also used at times for roosting. The nursery colonies are located along streams and rivers or in upland forest areas. Riparian areas are also important feeding areas for this species. Indiana bats have been captured on the edge of urban areas. It is likely that the bats would be using only areas on the edge of the town or city and only if there is suitable habitat such as a greenbelt or a large park with a natural forest component that would have the below listed requirements. This would exclude city parks that are maintained as mowed areas.

Counties affected

Summer Range in Iowa:

Appanoose, Clarke, Davis, Decatur, Des Moines, Henry, Iowa, Jasper, Jefferson, Keokuk, Lee, Louisa, Lucas, Madison, Mahaska, Marion, Monroe, Muscatine, Poweshiek, Ringgold, Union, Van Buren, Wapello, Warren, Washington, and Wayne.

The U.S. Fish and Wildlife Service considers all counties south of Interstate 80, including those portions of Dallas, Polk, Jasper, Poweshiek, Iowa, Johnson, Muscatine, and Scott counties south of Interstate 80, as being within the potential range of the species in Iowa.



Summer Habitat Requirements for the Indiana bat

Essential summer habitat in Illinois was considered to be 30% or greater deciduous forest cover within a 6/10 mile radius, permanent water within a 6/10 mile radius, and suitable roost trees within a 3/10 mile radius. Areas of as low as 5% deciduous forest cover provided suitable habitat as long as water and roost trees were within the listed distances in Illinois. In Iowa, records for the Indiana bat have occurred in areas of 15% or greater forest cover and near permanent water. Tree species that have been identified as roost trees from studies in other states are shagbark and shellbark hickory that may be alive or dead and dead, bitternut hickory, American elm, slippery elm, eastern cottonwood, silver maple, white oak, red oak, post oak, and shingle oak with slabs or plates of loose bark.

Suitable summer habitat in Iowa is considered to have the following within a ½ mile radius of a location:

1) Forest cover of 15% or greater
2) Permanent water
3) One or more of the listed tree species 9 inches dbh or greater
4) The potential roost trees ranked as moderate or high for peeling or loose bark

Survey Methods for Indiana Bat Summer Habitat

Step 1

Determine if there is 15% or greater forest cover and permanent water in a 1/2 mile radius of the project site.

If not then there is no need to continue survey efforts.

If these requirements are met go to Step 2.

Step 2

Conduct a survey of the project area that will be cleared or cut to determine if suitable roost trees are present. This will include both upland and floodplain forests. Areas that are too large for complete counts may be sampled using techniques such as point-quarter, tenth-hectare quadrats or other acceptable forest sampling techniques. The information to be collected during sampling includes the following:

Standing trees 9 inches or greater (dbh) diameter at breast height per acre -- (alive or dead) shagbark and shellbark hickory (dead) all other species listed above that have 10% or greater loose or peeling bark on the trunks and main limbs. The amount of loose or peeling bark is based on visual estimation.

If clearing and grubbing activities will not begin until after April 15 the survey should extend 50 yards beyond the area to be cleared. This buffer will reduce the potential for harm to roosting bats near the edge of the area to be disturbed.

If a survey of the habitat within the project area finds that suitable summer habitat for the Indiana Bat, as defined above, is present then there are two options available.

Option 1:

Conduct a mist net survey of the project area for Indiana Bats

The U.S. Fish and Wildlife Service developed guidelines for conducting mist net surveys. A copy titled " Mist Netting Guidelines" may be obtained from the following office:

U. S. Fish and Wildlife Service
1511 47th Ave.
Moline, Illinois 61265-7022

Survey results should be submitted to:

Iowa Department of Natural Resources,
Wallace State Office Building
502 East Ninth
Des Moines, IA 50319
(Attention: Daryl Howell)

U.S. Fish & Wildlife Service
1511 47th Ave.
Moline, IL 61265-7022

If Indiana bats are found during the survey then no removal of the trees will be allowed between April 15 and September 15.

Option 2:

Conduct tree clearing and cutting between September 16 and April 14 or remove all potential roost trees identified during the habitat survey between these dates.

The IDNR can offer assistance in identifying qualified professionals to conduct habitat surveys and bat surveys. Contact Daryl Howell if you have questions about these guidelines at the above listed address or (515) 281-8524.

Please contact the U.S. Fish and Wildlife Service at the above listed address or (309) 793-5800, for information about the most current federal guidelines for the Indiana bat.

These guidelines may be revised based on the availability of new research or management information or to clarify particular points in the guidelines. You may wish to check with the DNR to determine if you have the most current set of guidelines.

Sac and Fox Nation of Missouri in Kansas and Nebraska

305 North Main Street • Reserve, Kansas 66434
Phone (785) 742-7471 • Fax (785) 742-3785

September 12, 2007

RECEIVED

SEP 1 4 2007

OFFICE OF LOCATION & ENVIRONMENT

Randy Faber
Office of Location and Environment
Cultural Resources Section
Iowa Department of Transportation
800 Lincoln Way
Ames IA 50010

Dear Mr. Faber:

Thank you for your letter, which is in compliance with Section 106 of the National Historic Preservation Act, and Section 110.

Project: IMN-35-2(352)54-OE-91

The Sac and Fox Nation of Missouri in Kansas and Nebraska NAGPRA department have determined the above project as:

No objections. However, if human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, please stop immediately and notify NAGPRA representative, Johnathan L. Buffalo, at the address below.

There are two other bands of Sac and Fox that also need to be contacted, the Sac and Fox Nation of Oklahoma and the Sac and Fox of the Mississippi in Iowa.

Johnathan Buffalo, NAGPRA Representative
Sac and Fox of the Mississippi in Iowa
349 Meskwaki Rd.
Tama, IA 52339-9629

Sandra Massey, NAGPRA Representative
Sac and Fox Nation of Oklahoma
Rt. 2, Box 246
Stroud, OK 74079

If you have any questions, please contact me at the number or address above.

Sincerely,

Deanne Bahr
Sac and Fox Nation of Missouri in Kansas and Nebraska
NAGPRA Contact Representative

AUG 1 2 2008

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010 515-239-1795

FAX 515-239-1726

August 8, 2008

Ref No IMN-035-2(352)54—OE-91
PIN 00-91-035-030
Warren County
Primary

Doug Jones
Review & Compliance
Community Program Bureau
State Historical Society of Iowa
600 East Locust St.
Des Moines, IA 50319

R&C# ***060991115***

Dear Doug:

RE: Cultural Resource Survey -
I-35 from IA 5 in Polk Co to Clanton Creek in Warren Co

Enclosed for your review and comment is the archaeological report for the above-mentioned project This project proposes to improve the I-35 corridor from IA 5 south of Des Moines to Clanton Creek about 2 miles south of IA 92 in Warren County. The corridor width is generally 1000 ft wide with ¾ of a mile to 1.13 mile width at the overpasses. The corridor survey covers a total of 2,237 acres of which 1654 acres were beyond the previously disturbed right of way.

The archaeological investigation included background research of site sheets and archival records, historical maps and aerials and soil maps. The corridor was surveyed via pedestrian investigation on 10-15 m intervals, 85 bucket augers and 522 shovel tests resulting in 30 newly recorded sites. Of the 30 sites, 17 are prehistoric, 10 historic and 3 are multicomponent. Six sites were recommended for avoidance or further testing.

The Iowa interstate bridges were not found to qualify for the National Register when the ACHP and FHWA developed the Federal Interstate System Exemption in March of 2005. Seven structures were previously recorded by Rich Carlson. Two of the seven, Friends Church (91-00167) and Callison House (91-00166) have been recommended for avoidance or further study. This survey listed 11 properties less 50 years old. Four properties over 50 years old have lost integrity due to the removal or heavy modification of the house or barn.

The archaeologist encountered issues with several landowners; access was either denied or the owner could not be contacted. Several of these issues have been resolved and survey of the land is being scheduled for the Fall of 2008.

Doug Jones
I-35/Cumming Interchange
August 8, 2008

Based on the archaeological investigation and the architectural evaluations, additional archaeological investigations are being scheduled. If you agree with the content of the submitted report, please sign the concurrence line below and return this letter. If you should require more information, or if you have any questions, please do not hesitate to contact me.

Sincerely,

Judy McDonald

Judy McDonald
Office of Location & Environment
judy.mcdonald@dot.iowa.gov

JM
Enclosure
cc: Pete Tollenaere, District 5
Steve Larson, NEPA
Dave Stanley, Bear Creek Archaeology
Stacey Woodson, Howard R Green

Concur:

Douglas W. Jones 9/11/2008

SHPO Date

Comments:

NOV 1 9 2008

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010 515-239-1795
FAX 515-239-1726

November 17, 2008

Ref No IMN-035-2(352)54—OE-91
PIN 00-91-035-030
Warren County
Primary

Doug Jones
Review & Compliance
Community Program Bureau
State Historical Society of Iowa
600 East Locust St.
Des Moines, IA 50319

R&C# 060991115

Dear Doug:

RE: Phase II Archaeological Testing – Sites 13WA221, 13WA237 and 13WA238
I-35 from IA 5 in Polk Co to Clanton Creek in Warren Co

Enclosed for your review and comment is the Phase II archaeological report for the above-mentioned project. This project proposes to improve the I-35 corridor from IA 5 south of Des Moines to Clanton Creek about 2 miles south of IA 92 in Warren County.

Site **13WA221** is south of Badger Creek and at the top of the backslope east of I-35 in NW$\frac{1}{4}$, NW $\frac{1}{4}$, Section 30, T77N-R25W. Phase II testing involved eight 1x1 m test units dug to 50 cm and spaced across the site along the summit and shoulder. Based on the testing and interpretation of the artifacts, the site does not appear to qualify for the National Register.

Site **13WA237** is on the summit of overlooking the Middle River valley in SE$\frac{1}{4}$, NW$\frac{1}{4}$ of Section 31, T76N-R25W. Phase II testing involved three 1x1 m test units dug to a depth of 40-60 cm. Based on the testing and interpretation of the artifacts, the site does not appear to qualify for the National Register.

Site **13WA238** is just east of 13WA237 overlooking the Middle River valley at the top of the backslope west of I-35. The site contained fire cracked rock, pottery, chipped stone tools and flaking debris. The diagnostic artifacts indicate an intact Late Woodland site. Based on the testing and interpretation of the artifacts, the site qualifies for nomination to the National Register.

Based on the phase II archaeological investigation, the engineers have proposed an alternate design to avoid site 13WA238. Based upon avoidance, the project is have **No Adverse Effect** on archaeological properties. If the design plans should change and

impact the site, Section 106 shall be reevaluated for affect. If you agree with the determination of affect, please sign the concurrence line below and return this letter. If you should require more information, or if you have any questions, please do not hesitate to contact me.

Sincerely,

Judy McDonald

Judy McDonald
Office of Location & Environment
judy.mcdonald@dot.iowa.gov

JM
Enclosure
cc: Pete Tollenaere, District 5
Dan Ohman, Design
Steve Larson, NEPA
Keith Cadwell, Design
Dave Stanley, Bear Creek Archaeology
Stacey Woodson, Howard R Green
Jim Audino, Howard R Green

Concur:

Douglas W. Jones 12/10/2008

SHPO Date

Comments:

Iowa Department of Transportation
800 Lincoln Way, Ames, Iowa 50010 515-239-1510
FAX# 515-239-1726

November 24, 2008

Ref: Warren County
IMN-035-2(352)54--0E-91
PIN: 00-91-035-030

Richard C. Nelson
U.S. Fish & Wildlife Services
Rock Island Field Office
4469 48th Avenue Court
Rock Island, IL 61201

Dear Mr. Nelson:

Please find enclosed a Biological Assessment of potential effects to threatened or endangered species as a result of the proposed reconstruction of Interstate 35 in Warren County, Iowa. The proposed project extends along Interstate 35 from approximately 0.25 mile north of the Clanton Creek north to the Warren/Polk county line. The proposed project is approximately 12.5 miles in length.

The proposed project will impact approximately 52 acres of potentially suitable Indiana bat (*Myotis sodalis*) habitat. We have proposed mitigation measures to offset these impacts, including tree clearing from September 16 through April 14, creation of a minimum 52 acres of future habitat, creation of a riparian buffer around a tributary to Badger Creek and woodland preservation. In addition, the proposed project will only impact 0.08 percent of potentially suitable Indiana bat habitat in Warren County.

Based on 1) a lack of hibernacula within the proposed project area, 2) tree removal during winter months, 3) very little reduction in the quantity/quality of habitat, and 4) proposed mitigation measures, the Iowa Department of Transportation has determined, under the delegation authority provided by the Federal Highway Administration, that the proposed project is not likely to adversely affect Indiana bats or other protected species or result in the destruction or adverse modification of federally designated critical habitat. We request that the Service concur with this determination.

We have enclosed supporting information to assist in your evaluation of this project, including the Biological Assessment and related Figures and Appendices.

This project is a federal-aid project. If you have questions or need additional information, please contact me at 515/239-1510 or Jill Rudloff at 515/239-1698.

Sincerely,

Scott C. Marler
Water Resources Manager
Office of Location and Environment

Enc.

cc: Daryl Howell, Iowa Department of Natural Resources

bcc: J. Rudloff, Location & Environment (file)
J.P. Rost, Location & Environment
B. Morrissey, District 5
P. Tollenaere, District 5
F. Bartos, District 5
M. LaPietra, Federal HighwayAdministration
S. Larson, OLE
K. Cadwell, Design

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APPENDIX C

FARMLAND PROTECTION FORM

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **11/3/08**	4. Sheet 1 of **1**
1. Name of Project **Interstate 35 Reconstruction Project**	5. Federal Agency Involved **Federal Highway Administration / Iowa DOT**	
2. Type of Project **Interstate Improvements/Reconstruction**	6. County and State **Warren County, Iowa**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **11/4/08**	2. Person Completing Form **Tom Champa**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated **0** / Average Farm Size **257**
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction Acres: **283,755** % **78**	7. Amount of Farmland As Defined in FPPA Acres: **141,470** % **39**
8. Name Of Land Evaluation System Used **Warren County**	9. Name of Local Site Assessment System **None-FPPA**	10. Date Land Evaluation Returned by NRCS **11/21/08**

PART III *(To be completed by Federal Agency)*		Alternative Corridor For Segment _____			
		Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		567			
B. Total Acres To Be Converted Indirectly, Or To Receive Services		0			
C. Total Acres In Corridor		567	0	0	0
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		161			
B. Total Acres Statewide And Local Important Farmland		324			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		74			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		56			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	16			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	10			
6. Creation Of Nonfarmable Farmland	25	2			
7. Availablility Of Farm Support Services	5	5			
8. On-Farm Investments	20	15			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	4			
TOTAL CORRIDOR ASSESSMENT POINTS	160	97	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	56			
Total Corridor Assessment (From Part VI above or a local site assessment)	160	97	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	153	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor