

MISSISSIPPI DRIVE (IOWA 92)
FROM MAIN STREET TO THE NORBERT F. BECKEY BRIDGE
IN
MUSCATINE, MUSCATINE COUNTY, IOWA
STP-U-5330(614)--27-70

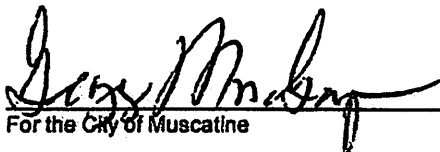
ENVIRONMENTAL ASSESSMENT
and
SECTION 4(f) STATEMENT

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

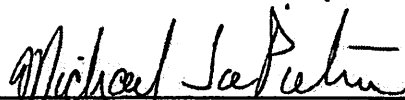
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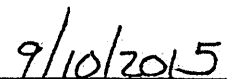
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
CITY OF MUSCATINE, IOWA

These 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 request to fund the preferred alternative.


For the City of Muscatine


For the Office of Location & Environment
Iowa Department of Transportation


For the Iowa Division Administrator
Federal Highway Administration


Date of Approval for Public Availability

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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.

Table 1: Resources Considered

SOCIOECONOMIC	NATURAL ENVIRONMENT
☒ ☒ Land Use ☒ ☐ Community Cohesion ☐ ☐ Churches and Schools ☒ ☐ Environmental Justice ☒ ☒ Economic ☐ ☐ Joint Development ☒ ☒ Parklands and Recreational Areas ☒ ☒ Bicycle and Pedestrian Facilities ☒ ☒ Right-of-Way ☐ ☐ Relocation Potential ☒ ☒ Construction and Emergency Routes ☒ ☐ Transportation	☐ ☐ Wetlands ☒ ☒ Surface Waters and Water Quality ☐ ☐ Wild and Scenic Rivers ☒ ☒ Floodplains ☐ ☐ Wildlife and Habitat ☒ ☐ Threatened and Endangered Species ☐ ☐ Woodlands ☐ ☐ Farmlands
CULTURAL	PHYSICAL
☒ ☒ Historical Sites or Districts ☒ ☒ Archaeological Sites ☐ ☐ Cemeteries	☒ ☐ Noise ☐ ☐ Air Quality ☒ ☐ Mobile Source Air Toxics (MSATs) ☐ ☐ Energy ☒ ☒ Contaminated and Regulated Materials Sites ☒ ☒ Visual ☒ ☒ Utilities
☐ CONTROVERSY POTENTIAL Click here to enter text.	
☒ Section 4(f): Historic Sites Puritan Ice House Recreational Trail – Running River Trail - Hershey Avenue Access Trail	

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1. DESCRIPTION OF THE PROPOSED ACTION

This Environmental Assessment (EA) has been prepared in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA). This EA informs the public and interested agencies of the proposed action and alternatives to the proposed action in order to gather feedback on the improvements under consideration.

1.1 Proposed Action

The proposed action consists of upgrading Mississippi Drive (Iowa Highway 92) through downtown Muscatine, Iowa. The Mississippi Drive Corridor Project begins south of the Main Street/Grandview Avenue intersection, continuing to the East 2nd Street/Norbert F. Beckey Bridge intersection, which marks the end of the project. It passes through a mix of commercial, residential, Central Business District and industrial land uses. The total length of the project is approximately 1.6 miles, including 19 intersections (6 with traffic signals). Refer to the vicinity map on Figure 1.

The current roadway is a 3- to 4-lane, urban facility with both divided and undivided medians. The roadway, ranging from 40 to 64 feet wide, is considered difficult to cross for pedestrians, especially for small children or elderly. The width of this roadway is being considered to be narrowed to improve the accessibility to the downtown from the Mississippi River riverfront area by pedestrians. This project also includes accommodations for bicycles and pedestrians and measures to reduce flooding on the roadway.

1.2 Study Area

The primary area of investigation for the Project is generally bounded by the Mississippi River on the east and the downtown business district on the west. The Study Area boundaries were established to allow the development of a wide range of alternatives that could address the purpose of and need for the project. The Study Area is larger than the area proposed for construction activities for the Project. However, some impacts may extend beyond the Study Area; where this occurs will be noted and addressed in the Environmental Analysis Section (Section 5). See Figure 2 for the study area of the proposed action.

2. PROJECT HISTORY

The city of Muscatine has been working toward revitalizing the downtown riverfront for several years to transform the city's riverfront into a recreational attraction for local residents and regional visitors. As part of this effort, the Mississippi Drive Corridor, which is adjacent to the Mississippi River, has been targeted for improvements.

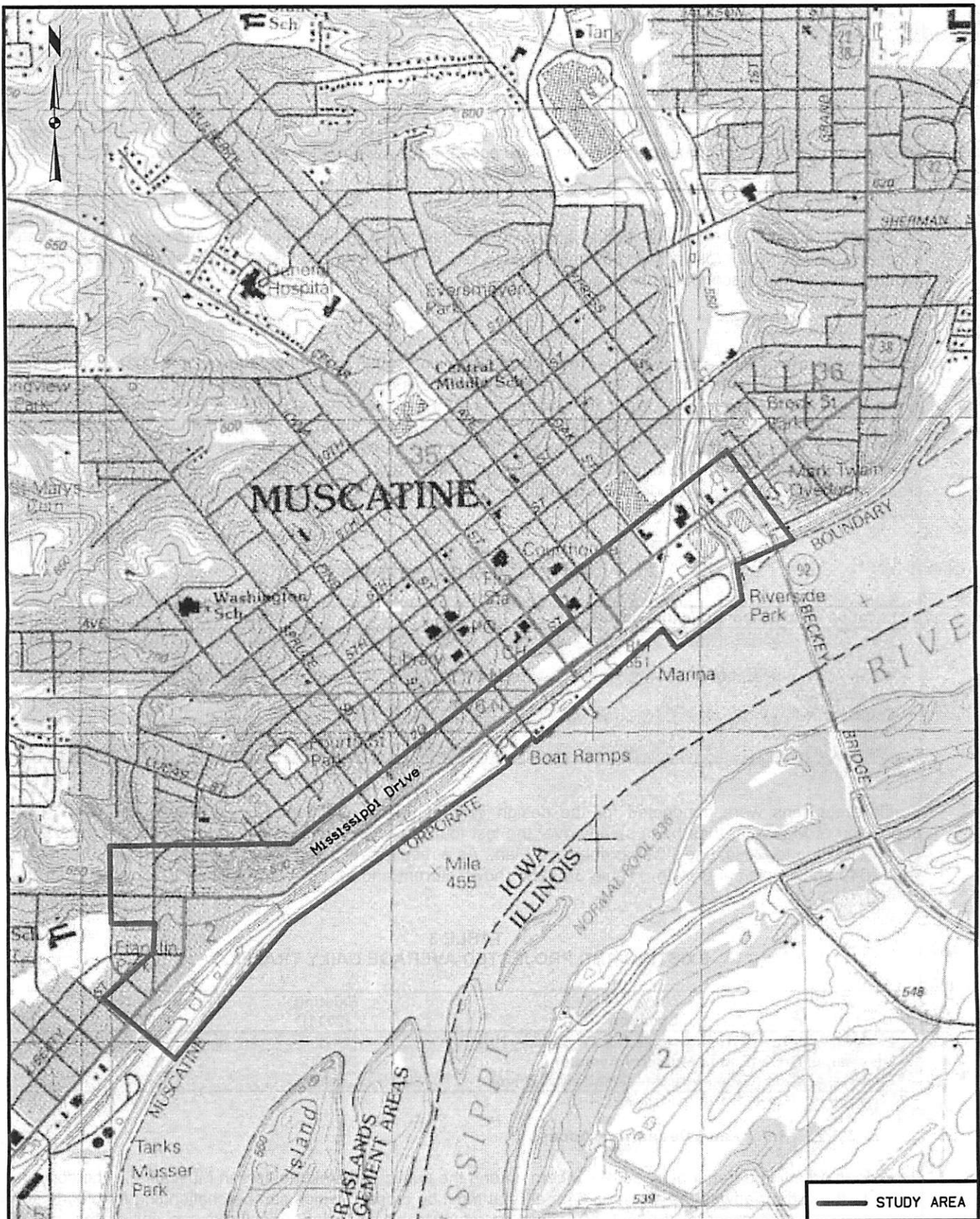
In 2007, the city prepared a planning study that examined several issues associated with Mississippi Drive, including pedestrian safety, flooding issues, traffic calming and aesthetics. Several stakeholder and public meetings were held to gain input about the corridor. The results of this study are contained in the report entitled "Mississippi Drive Corridor Study."

3. PURPOSE AND NEED FOR ACTION

This section describes the purpose of and need for the proposed action based on the transportation system problems that currently exist in the Study Area. This section details the substandard nature of the existing highway, and explains the importance of the highway as a principal arterial in Muscatine, Iowa.

3.1 Purpose

The purpose of the proposed Mississippi Drive improvements is to safely accommodate future vehicular and pedestrian traffic, including bicyclists along the corridor as well as between the riverfront and downtown, to



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FIGURE 2
STUDY AREA BOUNDARY

Environmental Assessment
Mississippi Drive Corridor
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correct roadway deficiencies, to limit future flooding of Mississippi Drive, and to provide the transportation infrastructure needed to support planned and future economic development.

3.2 Need

This project is needed to provide better access to vehicles traveling through the downtown, to provide safe access to pedestrians crossing Mississippi Drive, to reduce instances of closure of Mississippi Drive due to flooding, and to foster economic development.

3.2.1 Traffic

Traffic on Mississippi Drive has been declining on average since 1998 according to Iowa DOT traffic counts (see historic traffic trends below in Table 2). The major factor in this decline was the opening of the U.S. 61 bypass which eliminated the need for much of the traffic to travel through the Central Business District of Muscatine. In February and March 2011, traffic data was collected at 11 intersections along the corridor. Based on these traffic counts, Average Daily Traffic (ADT) ranges from 8,500 to 10,000 vehicles per day (vpd). The existing traffic counts, along with the width of the corridor which is mostly 4 lanes wide (approximately 40 to 64 feet), creates excess capacity, a tendency for traffic to exceed the speed limit, and a challenge for pedestrians crossing the roadway safely.

**TABLE 2
HISTORIC TRAFFIC COUNTS**

Location (Mississippi Drive Intersects)	Year			
	1998	2002	2006	2010
Main Street	10100	9900	9700	7272
Hershey Avenue and Green Street	12000	11800	12000	8767
Iowa Avenue	11000	10100	9900	7662
Cedar Street	9700	9800	9000	7296
Mulberry Avenue	12300	12800	9100	9494
Oak Street	12600	12300	12600	9903

Source: Iowa DOT

Traffic projections were conducted for the design year of 2040 based on a 0.5% growth per year. The population of Muscatine has been steady over the last four decades and is projected to increase by 1.64% by 2020 according to Muscatine's Comprehensive Plan. As a result, forecasted traffic volumes through the design year 2040 show minimal growth. Table 3 below shows current and future Average Daily Traffic (ADT) for the corridor.

**TABLE 3
EXISTING AND PROJECTED AVERAGE DAILY TRAFFIC**

Location	Existing (2011)	Projected Traffic (2040)
2 nd Street (Mulberry Avenue to Norbert F. Beckey Bridge)	10,000	11,600
Mississippi Drive (Elm to Mulberry Avenue)	8,500	10,000
Hershey Avenue (Green Street to Mississippi Drive)	9,000	10,500

Source: Iowa DOT and Stanley Consultants

3.2.2 Safety and Pedestrian Access

Pedestrian safety is a frequent issue of concern among the public and stakeholders in Muscatine. The concern is due to the wide roadway (as much as 64 feet) that must be crossed which can be challenging for elderly and persons with young children, the lack of pedestrian refuges and protected crosswalks, as well as the lack of convenient access for bicyclists reaching the recreational trail along the river from downtown. Extensive free parking exists along the riverfront, as well as many outdoor recreational opportunities, which creates a need to

access the riverfront. An active railroad parallels Mississippi Drive through the Central Business District separating the roadway and the riverfront. The track is fenced from the corridor for safety purposes but has openings at Cedar Street and Iowa Avenue for both vehicles and pedestrians, and additional openings at Sycamore and Chestnut Streets for pedestrians only. On weekdays, the riverfront is used extensively for parking by persons who work or shop in the downtown. Special events on the riverfront attract many visitors to downtown several times each year. During these times, parking lots are used for event setup and are not available for parking. This creates large numbers of people crossing Mississippi Drive to reach the venue and the potential for pedestrian crashes.

A crash analysis was conducted for the Mississippi Drive Corridor as part of this project. Data was examined from the Iowa DOT Office of Traffic and Safety for the 5-year period from 2008-2012. A total of 56 crashes were reported in that timeframe, with 42 crashes occurring at intersections and 20 crashes occurring on road segments between intersections. Table 4 below shows the most common types of accidents and the number of each along the Mississippi Drive Corridor comparing 2005-2009 and 2008-2012.

TABLE 4
MOST COMMON TYPES OF ACCIDENTS ON MISSISSIPPI DRIVE CORRIDOR

Type of Accident	2005-2009 Number	2008-2012 Number
Failure to Yield at Intersections/Driveways	15	Unknown
Losing Control/Running Off Road	12	7
Rear End Crashes	10	Unknown
Speeding/Driving Too Fast for Conditions	7	7

Source: Iowa DOT Office of Traffic and Safety for Years 2005-2009 and Years 2008-2012.

3.2.3 Flooding

Mississippi Drive runs parallel to the Mississippi River, with less than 300 feet between them. Frequent flooding between Mulberry Avenue and Iowa Avenue causes Mississippi Drive to be closed, detouring traffic onto local streets in the downtown area and limiting access to businesses located on Mississippi Drive. The most recent occurrence was spring 2010; Mississippi Drive was closed for approximately two weeks in April.

The first intersection to flood is at Walnut. Floodwaters begin flooding this intersection through a storm inlet located at a low point in the south curb. This inlet has a direct discharge pipe to the river, and water begins flooding the street when the river elevation reaches 549.7, or during a 7-year flood event. The second intersection to flood is at Sycamore Street. The south gutter line at this intersection is at Elevation 552.3, an 18-year flood event. The intersections at Mulberry Avenue, Cedar Street and Iowa Avenue begin flooding when they experience a flood greater than 25-year frequency (552.47). Intersections west of Iowa Avenue are considerably higher and flood much less frequently.

Note: All elevations discussed above are NAVD 1988 datum.

3.2.4 Planned Development and Land-Use Plans

The city of Muscatine Comprehensive Plan (September 2013) lists several goals under economic development. Some of these goals include: retention and expansion of existing businesses, recruitment and establishment of new businesses, strong retail sector, and development and revitalization of specifically targeted areas. One of the targeted areas is the downtown area which includes Mississippi Drive. Actions under this goal include infrastructure improvements, aesthetic enhancements, and promoting economic development. Future land-use goals were presented in the Comprehensive Plan that relate to critical corridors, which include Mississippi Drive and the downtown area. Mississippi Drive should serve as a welcoming corridor and have a mix of residential and non-residential land uses that enhance the Muscatine community. Likewise, the downtown area is envisioned to have enhanced livability, strong retail and a historic flavor to help improve the quality of life in Muscatine.

In keeping with goals of the Comprehensive Plan and future land use, the city has already purchased and has been actively beautifying the land along the riverfront between the river and road/active railroad track corridor. Beautification projects already completed include a paved recreational trail, visual and recreational focus points, green areas, statuary reflecting the history of the city and resting areas for pedestrians.

The Bi-State Regional Commission determined that the proposed project is consistent with long-range transportation goals for the area (see letter dated 12/9/2010 in Appendix B). In addition, the project is anticipated to further the *Comprehensive Economic Development Strategy* for the Bi-State Regional General Economic Development Goal G – Continue to Make the Best Use of Existing Infrastructure. The Mississippi Drive Corridor Project to reconstruct the business route in Muscatine is consistent with long-term plans and is an important element of revitalization within the Bi-State region.

4. ALTERNATIVES

This section discusses the alternatives investigated to address the purpose and need for the proposed action. A range of alternatives were developed, and then a screening process was used to narrow the range of alternatives. The No Build Alternative, the alternatives considered but dismissed, the alternative variations at Carver Corner, and the Proposed Alternative for the mainline portion of the project are discussed below. Carver Corner is located at the south end of the project area and is where Hershey Avenue, Green Street and Mississippi Drive intersect (Figure 1).

4.1 No Build Alternative

Under the No Build Alternative, no improvements would be made to the existing roadway. Only maintenance and repairs would be done. The roadway's geometric features and access control would remain unchanged. The No Build Alternative would not have any direct or indirect impacts to adjacent properties. No additional right-of-way would be acquired and no modifications would be done to the Carver Corner intersection area. Therefore, there would not be any impact to Section 4(f) resources and no disruption to local businesses.

However, the No Build Alternative would not meet the purpose and need for the project. It would not improve the safety for pedestrians and bicyclists, nor would it address the flooding issues currently experienced on Mississippi Drive. It would not enhance the downtown character or provide any gateway opportunities. With future traffic volumes showing slight increases, the roadway is oversized for the current and projected need. For these reasons, the No Build Alternative was eliminated from further consideration.

4.2 Alternatives Considered But Dismissed

In addition to the No Build Alternative, two mainline alternatives and five Carver Corner alternatives were considered. One mainline alternative and one Carver Corner Sub-Alternative remain. Each dismissed alternative is described below and shown on Figures 3 and 4A-C.

4.2.1 5-Lane Alternative

This alternative follows the existing alignment along the entire route, except at Carver Corner (discussed in sections below and shown on Figure 3). In the downtown area between Linn Street and Walnut Street, the corridor would be a 4-lane boulevard, including two through driving lanes in each direction with a curbed median. Left-turn lanes in the boulevard section would be accommodated with channelized left-turn lanes.

The 5-Lane Alternative was dismissed because it would have severe impacts to adjacent properties in the bluff area, Carver Corner area and on 2nd Street. This alternative also provides more capacity than is necessary, based on the traffic analysis. Constructing a 5-lane roadway would limit the potential for streetscape and other visual improvements to the corridor. Finally, it would not meet the project's purpose and need in improving safety for pedestrians and bicyclists since the roadway would be as wide or wider than it is currently. A narrower width is more pedestrian friendly.



Related to the 5-Lane Alternative, some recreational trails were considered but dismissed. These options are described below.

4.2.1.1 Recreational Trail and Parking Alternatives. An option was also considered to provide a recreational path on the river side of the corridor between the road and the railroad right-of-way. However, the city staff and members of the public were very resistant to the idea of a recreational path at this location. The reasons given were limited available space and the fact that this path would be redundant to the existing recreational facilities along the riverfront. So, this option was dismissed from further consideration as well.

One element in considering pedestrian and bike facilities was to consider what to do in regard to on-street parking. Therefore, an option that included on-street parking along the downtown portion of the corridor was considered. However, during discussion with the city, it was noted that there is sufficient, even excess, existing parking along the riverfront. There were also other priorities that were considered more important, such as providing sufficient space for pedestrians and storm water management facilities, and limiting the crossing distance for pedestrians at intersections. Therefore, on-street parking was dismissed from further consideration along the corridor.

In addition to the recreational path discussed above, on-street bicycle lanes were also considered to accommodate bicycle traffic. However, again due to the lack of space, as well as insufficient connectivity with other facilities and a desire by the city to encourage other routes for bicyclists, striped bicycle lanes were eliminated from further consideration. An accommodation for bicyclists is provided though by use of 12-foot wide outside driving lanes and 2-foot gutter pans, which provide space for bicyclists to share the roadway with motorized vehicles.

4.2.2 Carver Corner Sub-Alternatives

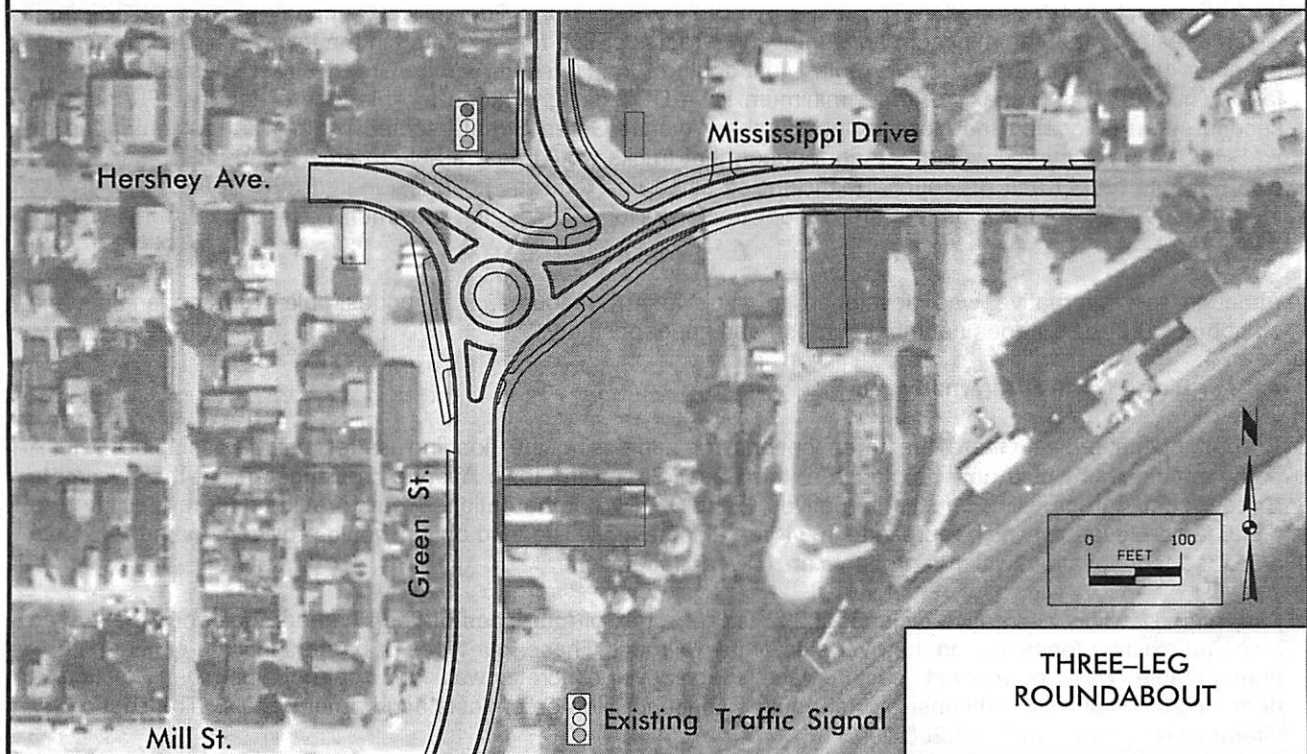
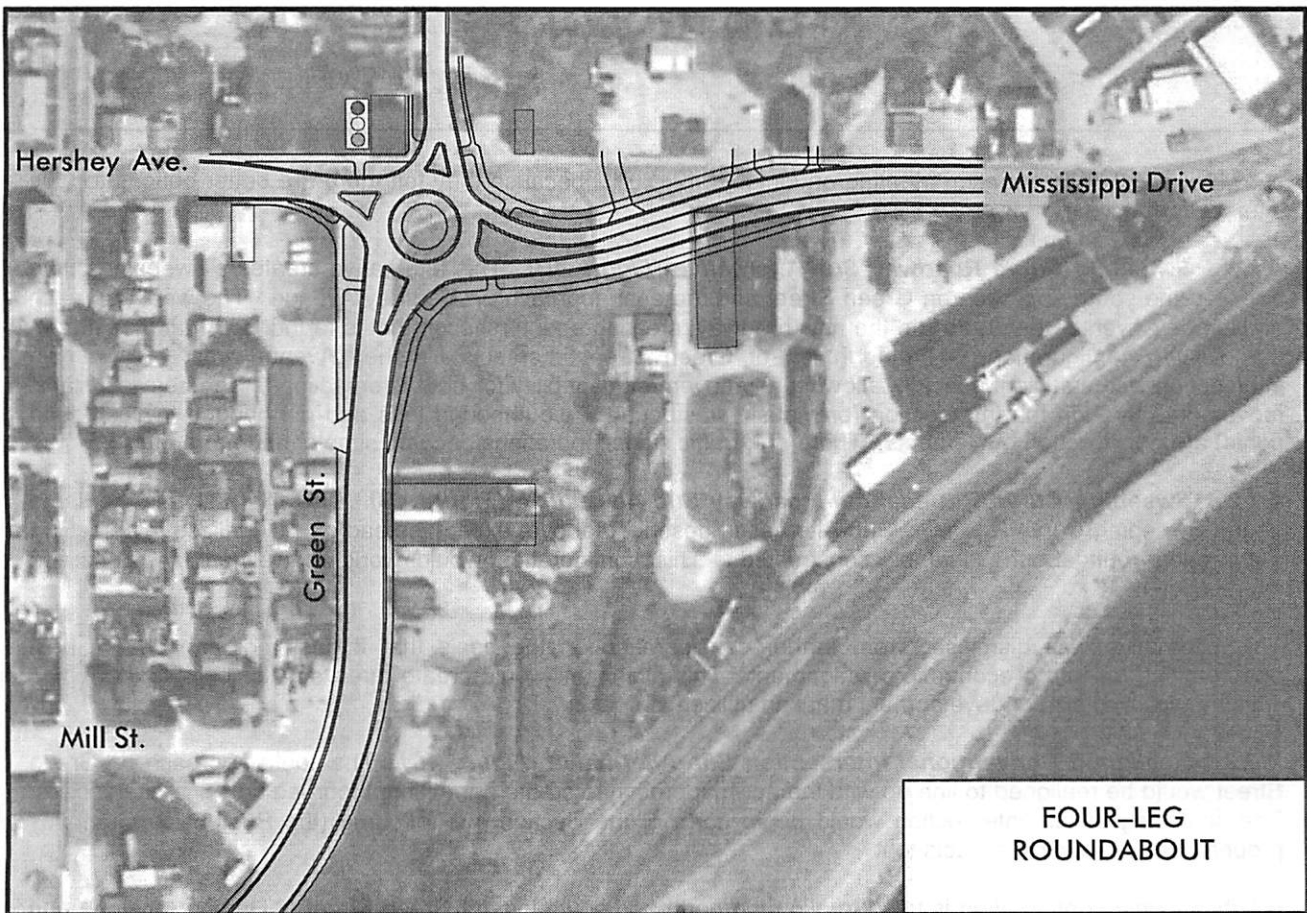
The Carver Corner intersection currently operates as a signalized crossing intersection. The east-west roadway is Hershey Avenue, and the north-south roadway is Green Street. The two approaches for Green Street are offset by approximately 50 feet at the intersection, creating an intersection with deficiencies in both geometry and safety. In addition, there are Section 4(f) resources in this intersection area which necessitate developing multiple alternatives that avoid or minimize impacts to these resources. These alternatives are also discussed in the Section 4(f) Statement attached to this document. To address these deficiencies, several alternative intersection options were evaluated and are shown on Figures 4A-C.

4.2.2.1 Four-Leg Roundabout Sub-Alternative (Figure 4A). The east and west approaches of Hershey Avenue and the north and south approaches of Green Street are realigned to form the four approaches of the roundabout. The center of the roundabout would be located to the south and east of the existing intersection.

This alternative would be difficult to construct due to the steep slope of the north leg of Green Street. A building at the northwest corner of this intersection would be impacted in order to make the slope flatter in the transition to the south. This alternative also impacts the Section 4(f) resource to the south; so for these associated property impacts, this alternative was dismissed from further consideration.

4.2.2.2 Three-Leg Roundabout Sub-Alternative (Figure 4A). The east and west approaches on Hershey Avenue and the south approach on Green Street form the three legs of the roundabout, whose center is located south of the existing intersection. The north leg of Green Street is realigned to intersect Hershey Avenue east of the roundabout. The north approach on Green Street would have turning movements limited to westbound right turns from Hershey Avenue and southbound right turns from Green Street. Since Green Street is offset from the roundabout, this creates two closely spaced intersections which are not desirable from a geometric and safety standpoint.

This alternative was dismissed from further consideration because of engineering issues including geometric and safety concerns mentioned above. Also, turning movements to and from Green Street are limited. This alternative, while meeting the purpose and need for the project, was not favored by the public when it was



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FIGURE 4A
CARVER CORNER
SUB-ALTERNATIVES DISMISSED
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shown at a Public Information Meeting on October 12, 2011, because they felt there are better options for this intersection.

4.2.2.3 Sweeping Curve Roadway Sub-Alternative (Figure 4B). This alternative creates a sweeping curve between the south approach on Green Street and the east approach on Hershey Avenue. The west approach on Hershey Avenue then tees into the new roadway, creating an intersection that is farther south and east from the existing configuration. The north leg of Green Street intersects Hershey Avenue west of the main intersection with sufficient spacing, allowing full movement capability for both intersections. The heaviest traffic movements through the intersection (previously westbound to southbound lefts and northbound to eastbound rights) are now through movements. Therefore, traffic signal operations become simpler and more efficient.

4.2.2.4 Sweeping Curve Roundabout Roadway Sub-Alternative (Figure 4B). This alternative is the same as the Sweeping Curve Roadway Sub-Alternative described above, except instead of a signalized intersection, a three-leg roundabout would be constructed. This configuration would work as well as the signalized intersection.

This alternative was dismissed from further consideration on the basis that it does not provide the best opportunities for future economic development. This alignment would create three smaller parcels that could limit the type and size of development that can utilize the space.

4.2.2.5 Realigned Conventional Intersection Sub-Alternative (Figure 4C). The south approach on Green Street would be realigned to line up with the north approach to create a traditional four-leg crossing intersection. The south leg of this intersection would begin north of the Section 4(f) resource (the Puritan Ice Company property), thus avoiding impacts to it.

A tight S-curve configuration is used to align the north and south legs of Green Street at Hershey Avenue and avoid the Section 4(f) property. The first curve radius north of the Puritan Ice Company property is 200 feet, which does not meet the minimum horizontal curve radius of 250 feet as stated in the Iowa DOT Design Manual (Chapter 1C-1). The second curve radius, just south of the Hershey Avenue/Green Street intersection, is 181 feet. This curve also does not meet minimum Iowa DOT design criteria for this type of facility. Further, the second curve is located too close to the Hershey Avenue/Green Street intersection than is recommended by AASHTO. These curves would be tight enough that trucks would not be able to stay within their lanes, which would create safety and operational deficiencies since this roadway is a designated truck route. The trucks used for the design of this project are 67-foot tractor-trailer vehicles, the maximum legal trucks in the state of Iowa.

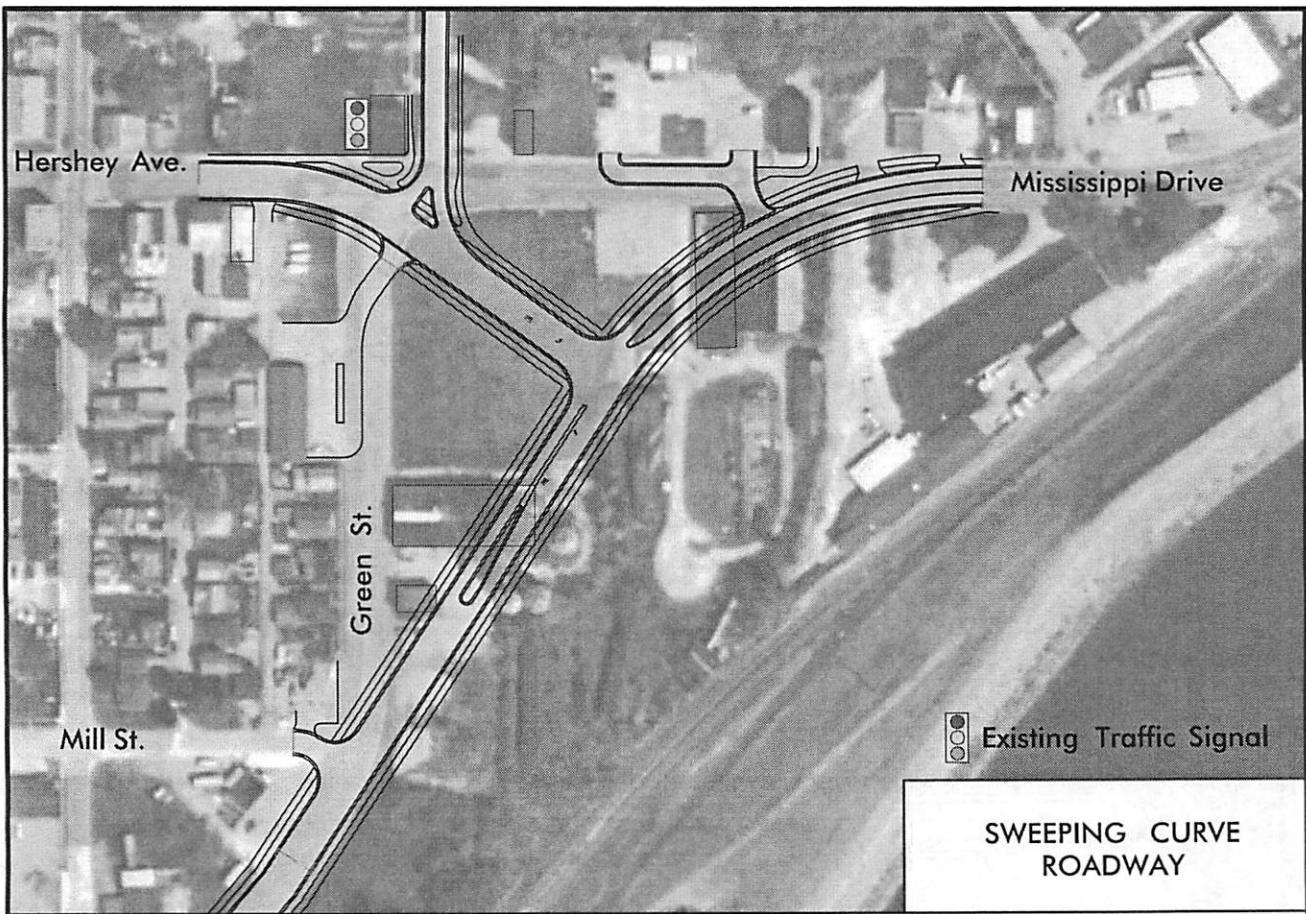
Although this alternative was developed to avoid a 4(f) resource, it is undesirable from an engineering standpoint. Further, it does not meet purpose and need for safety.

4.2.3 Flood Control Alternatives

As part of the project, there are three options for addressing the flooding issues on Mississippi Drive. A demountable wall would only be placed at the Cedar Street and Iowa Avenue crossings and at the Sycamore Street pedestrian crossing under Alternatives 1 and 2. Two of the options would provide flood protection to a 554.0 flood elevation, which represents a 34-year flood event. The third option would provide flood protection to a 552.3 flood elevation, which represents an 18-year flood event.

Alternative 1: This alternative includes 2,332 feet of a mix of four types of flood barriers that would be placed along an existing fence line on the river side of the railroad. These four types of barriers include concrete curb, demountable wall, permanent cast-in-place, decorative concrete wall and earthen berm. Erecting a demountable wall is labor-intensive and requires space for storage of posts and barrier panels. The cost of this alternative is approximately \$1,200,000.

Alternative 2: This alternative would be very similar to Alternative 1 but with a different mix of barrier types; more permanent decorative wall would be used in place of the demountable wall. This would not require as



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FIGURE 4B
CARVER CORNER
SUB-ALTERNATIVES DISMISSED
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**FIGURE 4C
CARVER CORNER
SUB-ALTERNATIVES DISMISSED
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much labor to erect when a flood is imminent, and less storage space would be needed for posts and barrier panels. The cost of this alternative is approximately \$1,200,000.

With Alternatives 1 and 2, it would also be necessary to construct a closure structure on the riverfront to prevent river water from “backing” into the storm sewer. The outfall storm sewers at Walnut and Mulberry would both be diverted to the proposed new closure structure. It would be necessary to provide temporary pumping at this structure to remove water collected by the inlets during rainfall events. Temporary plugs would have to be installed in the six inlets along Harbor Drive. A temporary plug would also have to be installed in one inlet in the Iowa Avenue intersection. Four manhole castings would have to be replaced with bolted and sealed covers.

4.3 Proposed Alternative

4.3.1 Mainline Alternative

The Proposed Alternative for the mainline portion of Mississippi Drive is the Three-Lane Alternative (Figure 5). The alignment follows the existing alignment for the entire route, except at Carver Corner (those alternatives are discussed below). The cross section includes one driving lane in each direction, with several left-turn variations throughout the corridor. They are described as follows:

- Two-Way Left-Turn Lane (16 Feet Wide) – Between Main Street and Hershey Avenue and Between Walnut Street and Norbert F. Beckey Bridge
- Mountable Center Median (0-14 Feet Wide) – Between Green Street and Linn Street. The 0 foot wide mountable medians are proposed as painted centerline at the westbound left-turn lane of the Hershey Avenue/Green Street intersection and through the segment between Broadway Street and Spruce Street. The mountable median widens/tapers from 0 to 14 feet where a wider separation and channelizing of the through traffic is proposed.
- Channelized Left-Turn Lanes With Non-Mountable Median Islands (16 Feet Wide) – Between Linn Street and Walnut Street. Non-mountable medians taper to 4 feet wide where left-turn lanes are proposed.

Right-turn lanes were also added at the Iowa Avenue and Cedar Street intersections in the downtown area to allow right-turn queues to get out of the through traffic stream when trains traveling through Muscatine are present in the crossing.

There is an area along the corridor between Broadway Street and Linn Street referred to as the Bluff area. A natural bluff occurs on the north side, and the railroad line is located on the south side of Mississippi Drive, which limits the corridor width on both sides. Therefore, through this area the mainline is proposed to be two lanes with no median. A 7-foot wide walkway will be provided on the bluff side of the roadway.

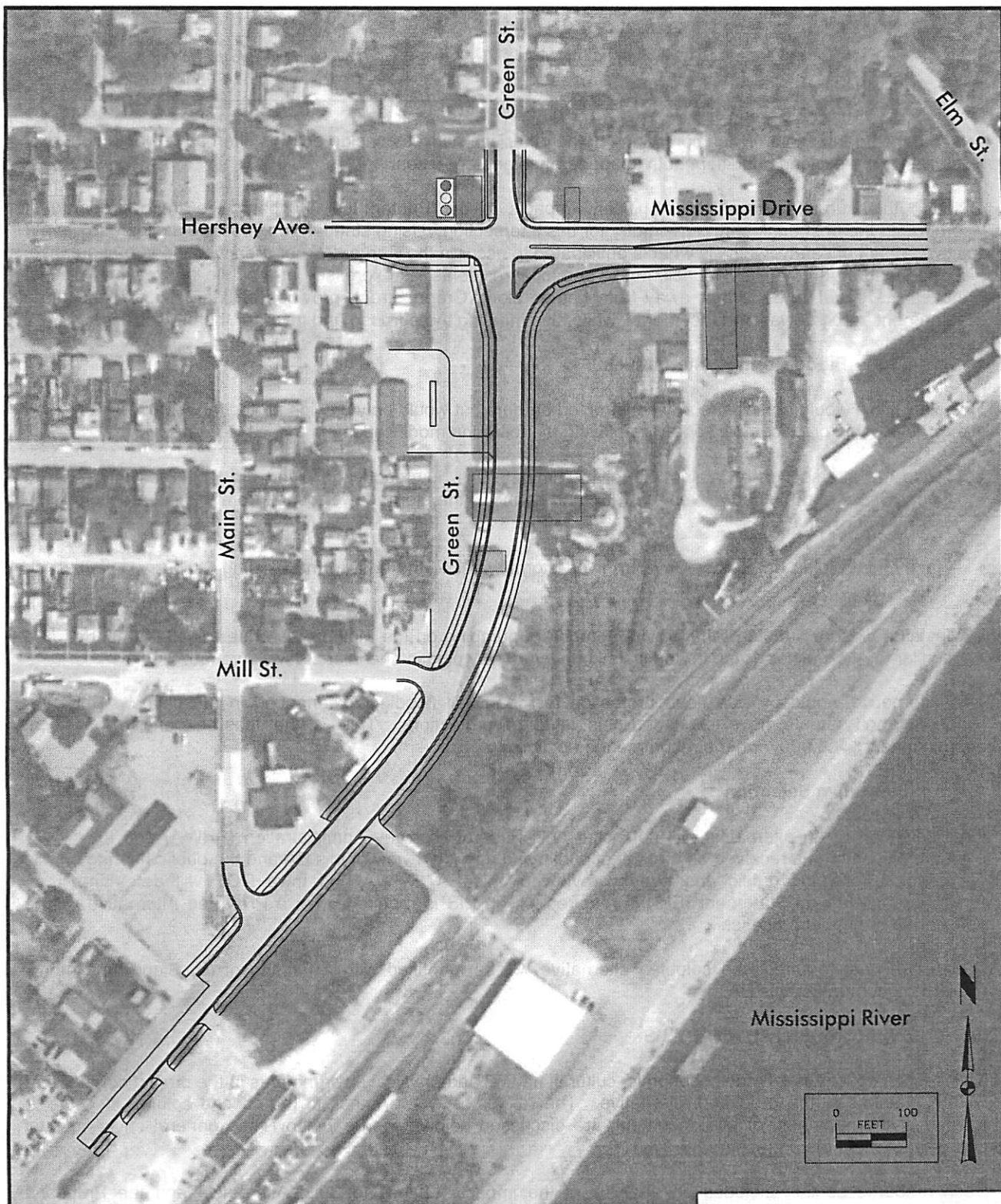
Designated loading zones are planned to be provided at key locations for trucks providing goods and services to businesses along Mississippi Drive. This will provide a safe area for loading and unloading trucks while not disrupting traffic. Also, this project would eliminate uncontrolled access areas along the roadway; however, all intersections would remain open.

4.3.2 Carver Corner Sub-Alternative (Conventional Intersection)

Several alternatives were under consideration at this location, including roundabout options. However, the Proposed Alternative for Carver Corner is the Conventional Intersection, shown in Figure 6.

4.3.2.1 Conventional Intersection Sub-Alternative. Under the Conventional Intersection, the south approach on Green Street would be aligned with the north leg, making intersection operations simpler and traffic signal operation more efficient. The alignment of the north and the south leg of the intersection across from each other provides for standard driver expectations and logical turning movements which will improve traffic flow and





COVENTIONAL
INTERSECTION

AECOM

FIGURE 6
PROPOSED ALTERNATIVE
CARVER CORNER AREA

Environmental Assessment
Mississippi Drive Corridor
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safety at the intersection. When comparing to the other alternatives considered, this alternative would generally be similar to the existing condition, both in appearance and operation.

Although this sub-alternative has significant impacts to the Puritan Ice Company (TeStrake property), it incorporates the best engineering geometry for this intersection. Using standard engineering design can have a positive impact of safety, which is what is anticipated to occur in the Carver Corner area with the sub-alternative. Also, it is favored by the City Council, public and local residents, as expressed at a public information meeting. It moves the travel lanes farther away from homes along Green Street, provides one large parcel for future development and gateway enhancements, while also meeting the purpose and need for the project.

4.3.3 Flood Control Alternatives

This alternative would not require any constructed barriers but would only provide protection for an 18-year flood event. This could be accomplished by employing the following modifications:

- Raise the intersection at Walnut Street to eliminate this “low spot” and divert drainage west and east to Cedar Street and Mulberry Avenue. Plug and abandon the storm sewer outfall from this intersection to the Mississippi River.
- Modify inlet piping on Harbor Drive to divert storm water to the east to the existing Mulberry outfall which enters the river.
- Install a closure structure and provide temporary pumping on the Mulberry Avenue outfall, as needed and similar to Alternatives 1 and 2, and install one temporary plug in one inlet at Iowa Avenue.

This alternative would provide flood protection for nearly all flooding experienced in Muscatine. Only four historical flood events have exceeded this level of protection. This is the least expensive option at approximately \$450,000, and the recommended option.

4.4 Alternative Selection

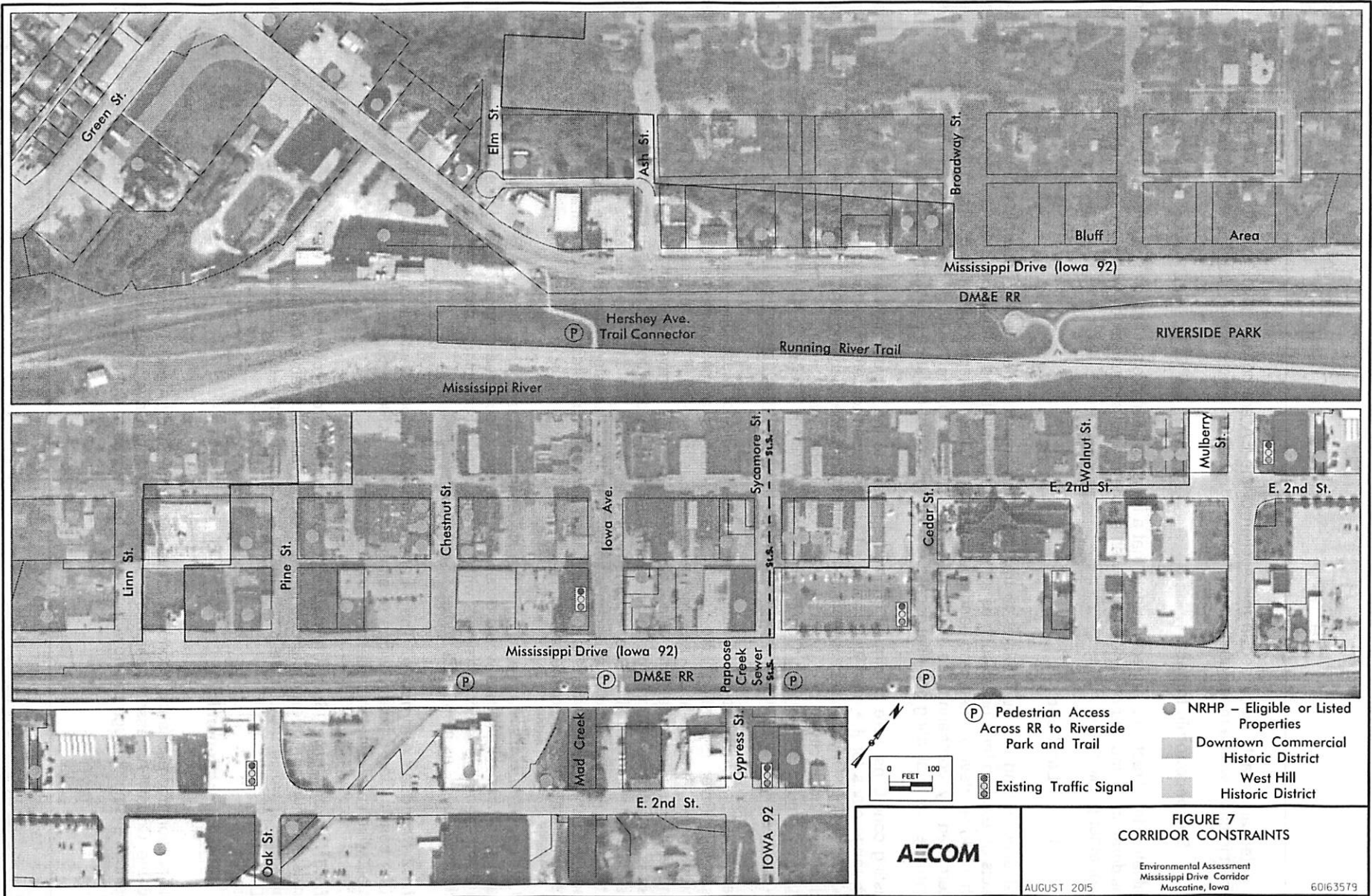
Final selection of an alternative will not occur until Federal Highway Administration (FHWA) and Iowa DOT evaluate all comments received as a result of public and agency review of this EA and the public hearing on this document. Following public and agency review of this EA, FHWA and Iowa DOT will determine if an Environmental Impact Statement (EIS) is required. If an EIS is required, then a Preferred Alternative will be selected through that process.

If an EIS is not required, the selected alternative will be identified with a Finding of No Significant Impact (FONSI) document for this EA.

5. ENVIRONMENTAL ANALYSIS

This section describes the socioeconomic, cultural, natural and physical environments in the project corridor that will be affected by the proposed alternative. The resources with a check in the second column in Table 1, located at the beginning of this document, are discussed below. Figure 7 shows the general environmental constraints within the project area.

Each resource section includes an analysis of the impacts of the No Build Alternative and the Proposed Alternative. Because it is early in the design process, a preliminary NEPA impact area was used for estimating direct and indirect impacts on the evaluated environmental resources. The preliminary NEPA impact area includes roadway right-of-way needs and the area where construction could occur. The area actually impacted by the Project will likely be less than what is portrayed within the preliminary NEPA impact area, and some impacts to resources are expected to be minimized or avoided as the Project design is refined. Consequently,



the potential impacts discussed in this section of the EA are conservative, as efforts to minimize direct and indirect impacts will be made during final design.

5.1 Socioeconomic Impacts

Evaluating the direct and indirect impacts that a transportation project has on socioeconomic resources requires consideration of impacts on land use as well as the project's consistency with development and planning by a city or other public entity.

5.1.1 Land Use

Evaluation of land use as it relates to transportation projects refers to the determination of direct and indirect effects on existing land uses, such as agricultural, residential and commercial/industrial, as well as consistency with regional development and land-use planning. Direct effects on existing and future land uses were determined by comparing the preliminary impact area to the existing land uses. Indirect effects were determined by evaluating potential access restrictions, out-of-distance travel and induced development.

Existing conditions were confirmed during field visits to the project area in spring 2011. In addition, various long-range plans for the area were collected and reviewed to determine future planned land uses in the area. The Mississippi Drive project is consistent with long-range planning and transportation plans for the area, including the city of Muscatine's Comprehensive Plan, adopted in September 2013, (<http://www.muscatineiowa.gov/DocumentCenter/View/9900>) and Bi-State Regional Commission's Comprehensive Economic Development Strategy (<http://bistatesonline.org/2012-11-14-00-17-31/ceds>).

The Mississippi Drive project is within the corporate limits of Muscatine, Iowa, which is a city defined by the Mississippi River. Existing land use in the corridor is a mix of residential, commercial, industrial and recreational. Starting at Main Street, land use is residential with single-family homes; it transitions to commercial and industrial land use near Carver Corner. Traveling north, land use on the west side of Mississippi Drive is again single-family residential until the downtown Central Business District (CBD) begins. The CBD extends from Linn Street to Mulberry Avenue. On the east side of Mississippi Drive, from Ash Street to Mulberry Avenue, land use is recreational, with the Mississippi River and Riverview Park paralleling the roadway. Land use transitions to industrial, then a mix of commercial and residential as the project moves north to 2nd Street and the end of the project.

5.1.1.1 No Build Alternative. Under the No Build Alternative, land use would remain as it is currently. No changes to Mississippi Drive would occur and thus any associated changes to land use would not occur. The No Build Alternative is not consistent with city and regional planning, as improvements to Mississippi Drive are included in plans, as mentioned above.

5.1.1.2 Proposed Alternative. The 3-Lane Alternative is consistent with current and future land-use plans as it will be constructed primarily within existing right-of-way. Flood control measures are planned as part of this project which are also consistent with land use plans.

5.1.1.3 Carver Corner Sub-Alternative (Conventional Intersection). The Conventional Intersection is also consistent with current and future land-use plans. This alternative provides opportunity for redevelopment in that area. It would provide the most space and appeal for redevelopment of all the alternatives considered (RDG, 2012).

5.1.2 Economic

This section addresses the economic character of the Study Area. The sources for information are a site visit and the County Assessor's database. The Mississippi Drive project corridor is dominated by the Central Business District through the downtown area, businesses at Carver Corner and businesses at the north end of

the project. There is a wide range, including commercial, retail, restaurants and industrial businesses. None of the active businesses will be acquired as part of the project.

5.1.2.1 No Build Alternative. The No Build Alternative will not affect current economic activity within the Mississippi Drive project corridor.

5.1.2.2 Proposed Alternative and Carver Corner Sub-Alternative (Conventional Intersection). The businesses within the project area are concerned with access as several have direct access onto Mississippi Drive. Ensuring that their establishments can be reached by customers, both walk-up and vehicular, as well as the ability to ship and receive delivery vehicles is very important. During construction, continuous access will be available to businesses, but the access may be from an alternate route at times, depending on construction staging. Signage to direct drivers will be provided.

Two businesses (one total and one partial acquisition) in the Carver Corner area are anticipated to be acquired. One property (the partial acquisition) is being used primarily for storage. The total acquisition property has 1 to 4 employees and an annual tax bill of \$5,430. The loss of this business would have some impact to the tax base of the city of Muscatine. However, this should be offset in time because the city is planning to redevelop the southeast portion of the Carver Corner area following construction of the roadway.

Following construction, traffic will be slowed and pedestrian access will be improved. Therefore, it is anticipated that businesses along the Mississippi Drive Corridor and CBD will have improved visibility compared to current conditions.

5.1.3 Parks and Recreational Areas

To assess the potential impacts associated with the Build Alternative, sources were reviewed and a site visit was performed to identify parkland and recreational areas within and near the Study Area. Parks and recreation areas were evaluated to determine the eligibility of properties or sites for protection under Section 4(f) of the U.S. Department of Transportation Act and to evaluate them relative to the alternatives being considered.

There is one park in the Mississippi Drive project area named Riverside Park. This city-owned park is located along the Mississippi River riverfront, from Ash Street north to Oak Street between the river and the railroad tracks. It is approximately 14 acres in size and contains a picnic shelter, playground equipment, basketball court/skating rink, interactive fountain/splash pad, open space, a play field and restrooms; the Running River Trail (a 10-foot recreational trail) passes through Riverside Park.

5.1.3.1 No Build Alternative. No impact to Riverside Park would occur under the No Build Alternative.

5.1.3.2 Proposed Alternative. No right-of-way impacts to Riverside Park would occur under the 3-Lane Alternative. During construction, there could be some temporary closure of one or more accesses to the park, depending on how the construction is staged.

5.1.3.3 Carver Corner Sub-Alternative (Conventional Intersection). No parks or recreational facilities are located in the Carver Corner area so none will be affected.

5.1.4 Bicycle and Pedestrian Facilities

Currently there are several bicycle trails along the project corridor. A 10-foot wide recreational trail travels through the project, running parallel to the Mississippi River within Riverside Park. Near the bluff area of the project, but still in Riverside Park, the trail splits with one leg paralleling the railroad tracks. The trails rejoin near the north end of the park, then the trail continues north passing under the Norbert F. Beckey Bridge and extending out of the project corridor. Near the McKee Button Factory (Elm Street), the trail splits off and crosses the railroad to travel adjacent to Mississippi Drive, while the main trail continues along the river. This connector trail is the Hershey Avenue Access Trail (250 feet).

A sidewalk is provided on the west side of Mississippi Drive, from the beginning of the project at Main Street to Broadway Street. No sidewalks are provided in the bluff area, but sidewalks begin again within the CBD and extend to the north end of the project at the Norbert F. Beckey Bridge.

Pedestrian signalized crossings are available at three intersections with Mississippi Drive: Mulberry Avenue, Cedar Street and Iowa Avenue. Fencing along the railroad in Riverside Park is provided for safety, but there are access points in the fence for pedestrian-only crossings at Chestnut and Sycamore Streets and the Hershey Avenue Access Trail. Vehicle-pedestrian access is provided at Iowa Avenue and Cedar Street.

5.1.4.1 No Build Alternative. No impacts to any trails would occur and no changes would be expected under the No Build Alternative. It would not improve safety conditions for pedestrians, as crossings would still be wide and challenging for families with small children, bicyclists and others.

5.1.4.2 Proposed Alternative. The 3-Lane Alternative would be a narrower cross section with a center refuge for pedestrians to use while crossing, if needed, thereby improving the safety of the corridor. Protected crosswalks would be at the following signalized intersections: Beckey Bridge, Oak Street and Mulberry Avenue. Three additional signalized intersections would provide pedestrians with a center refuge (non-mountable median), including: Cedar Street, Iowa Avenue and Hershey Avenue. A 7-foot sidewalk would be added on the west side of Mississippi Drive through the bluff area to provide a safe and accessible access for pedestrians. During construction, there would be no disruption in use of most of the recreational trails along the Mississippi River; however, near McKee Button Factory, some disruption would occur as the project is tied into the existing trail. In addition, there would be some disruption of use of sidewalks throughout the project construction. These impacts would be temporary, only for the duration of construction. Overall, safety and access to pedestrians/bicyclists would be improved.

5.1.4.3 Carver Corner Sub-Alternative (Conventional Intersection). The Conventional Intersection would provide sidewalks on both sides of the roadway and crossings at the intersection. The proposed sidewalks would tie into existing sidewalks/trails so there would be continuity in access. To construct this alternative, there would be disruption of the existing sidewalks. As the sidewalk/trail is completed near the McKee Button Factory, some temporary disruption to the Running River Trail connection would occur. This is discussed further in the attached Draft Section 4(f) Statement.

5.1.5 Right-of-Way

To assess the potential impacts associated with the alternatives, right-of-way acquisition and property relocations were evaluated based on existing right-of-way, private and public property boundaries, and future ROW needs.

Existing right-of-way widths in the project corridor vary, depending on the street. The approximate existing right-of-way widths are shown below on Table 5. Potential right-of-way impacts are discussed below.

TABLE 5
EXISTING RIGHT-OF-WAY

Roadway	Segment	Approximate Range of Width
Grandview Avenue	Main Street – Hershey Avenue	60-61 Feet
Hershey Avenue	Grandview Avenue – Mississippi Drive	61 Feet
Mississippi Drive	Hershey Avenue – Iowa Avenue	88-101 Feet
	Iowa Avenue – Cedar Street	82-88 Feet
	Cedar Street – Mulberry Avenue	49-82 Feet
Mulberry Avenue	Mississippi Drive – 2 nd Street	60-62 Feet
2 nd Street	Mulberry Avenue – Norbert F. Beckey Bridge	59-60 Feet

5.1.5.1 No Build Alternative. The No Build Alternative would not require acquisition of any right-of-way.

5.1.5.2 Proposed Alternative. The 3-Lane Alternative would not require the acquisition of any right-of-way as it is wide enough to allow for the proposed improvements. It currently accommodates a 4-lane roadway, with parking along the side in many locations; and the proposed new roadway would have one less lane and no available parking. Therefore, no additional right-of-way is needed.

5.1.5.3 Carver Corner Sub-Alternative (Conventional Intersection). The Conventional Intersection would require approximately 1.4 acres of new right-of-way from 13 parcels. Three of the parcels are owned by the city of Muscatine and account for 0.7 acre, which is half of the land needed to construct this alternative. Also, two businesses would be acquired (one total and one partial acquisition) in order to construct this alternative.

All properties to be acquired would fall under the State of Iowa's Acquisition and Relocation Program. This program will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), as amended, by the Surface Transportation and Uniform Relocation Assistance Act of 1987. The program provides relocation resources to all residential and business relocatees without discrimination. This includes just compensation for such acquired properties (42 USC 4601 et seq., as amended, 1989).

In addition, it is FHWA's policy that persons displaced from their property receive uniform and equitable treatment and do not disproportionately bear the impacts of a project that is intended to provide benefits to a larger group of people (U.S. Department of Transportation – Federal Highway Administration and Iowa Department of Transportation, 1999). FHWA has programs and policies that enforce the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, such as an early acquisition program to assist individuals who meet certain hardship criteria and policies to ensure comparable (that is, equal or better) property for business relocations.

It is the policy of the state of Iowa that displaced individuals and businesses receive fair and equitable treatment and do not suffer disproportionately from highway projects planned for the public as a whole. Persons required to relocate their business as a result of this or any highway project are eligible for relocation assistance and may be eligible for moving assistance and expenses incurred in searching for a replacement location. A relocation assistance agent will work with each relocatee to smooth the transition.

5.1.6 Construction and Emergency Routes

This section addresses potential impacts from construction routes and impacts on emergency routes. Emergency vehicles (ambulances, fire trucks and police cruisers) respond to events using routes that are designated to reduce response times and account for access limitations.

Maintaining traffic during construction is critical to ensure access to businesses and residences along the route while also allowing for emergency vehicles, if needed. Construction and emergency routes are discussed in the following paragraphs.

5.1.6.1 No Build Alternative. The No Build Alternative would not require any construction or emergency routes.

5.1.6.2 Proposed Alternative and Carver Corner Sub-Alternative (Conventional Intersection). Because the proposed project is part of the State and Federal Highway System, detour routes must be established which follow Iowa DOT guidelines. Detour routes will be reviewed and approved during the final design phase of the project. Local city detours may also be established to maintain traffic through the area. Coordination with city officials, as well as Iowa DOT, will be done as the project develops.

In order to best accommodate the needs of daily traffic through the city of Muscatine, the project is proposed to be constructed in stages. Stage 1 would be from Main Street to Sycamore Street, which includes Carver Corner; Stage 2 would be from Sycamore Street to the Norbert F. Beckey Bridge intersection. Since there is parking along the riverfront, it will be necessary to keep one of the accesses to the riverfront area open at all times, either Iowa Avenue or Cedar Street, to allow for public parking. Signage on adjacent routes to direct drivers to the open access may be necessary during construction.

Close coordination with HON Industries and other local downtown businesses during construction will be necessary to minimize any impacts to the operations of those businesses.

5.2 Cultural Impacts

According to Title 36 CFR, Part 800.8, federal agencies are encouraged to coordinate compliance of Section 106 and any steps taken to meet the requirements of NEPA. Coordination of both reviews should occur early in the process to fulfill the respective requirements.

Title 36 CFR 800.8 also details the general principles of coordinating NEPA and Section 106, relevant NEPA actions, and the use of the NEPA process for satisfying portions of the Section 106 requirements, including standards for developing NEPA environmental documents for Section 106 purposes.

As part of the Mississippi Drive project, a Phase 1A Cultural Resources Assessment of architectural and archaeological resources was conducted in May 2011. The report, dated May 24, 2011, stated that the corridor evaluated ranged from 60 to 155 feet. SHPO concurred with the findings of this report in July 2011 (see letter in Appendix B).

In January 2012, a Phase I Archaeological Investigation for the Proposed Mississippi Drive Corridor was completed. The surveyed area covered 15.5 acres and made recommendations for further testing of several areas. SHPO concurred with the findings of this report on February 7, 2012 (see letter in Appendix B).

In November 2013, a Supplemental Phase I Survey was completed to further investigate two of the sites identified in previous surveys. Also in November 2013, a Phase II Archaeological Investigation was done on Site 13MC242. In January 2014, an archaeological letter report was prepared to discuss four sites within the project APE.

In May 2012, an Intensive Historic Architecture Survey was conducted for five buildings in the Green Street (Carver Corner) area of the project. In January 2014, an evaluation of the National Register status of Papoose Creek Sewer was completed. SHPO concurred with the findings of these reports in April 2014 (see letter in Appendix B). The results of these reports are discussed in the following sections.

5.2.1 Historical Sites or Districts

The Phase 1A architectural review found 128 previously surveyed properties and 22 previously unsurveyed resources within the project corridor. The Downtown Commercial Historic District is adjacent to the project, and 47 of the 128 previously surveyed properties are in this district. Also, the West Hill Historic District is adjacent to

the corridor, of which 23 of the 128 of the previously recorded properties are located. Seven properties were identified as individually listed on the National Register of Historic Places (NRHP).

An intensive level survey was conducted on five buildings along Green Street in May 2012. According to the report, all of the properties are considered not eligible for listing on the NRHP. SHPO concurred with this finding on May 14, 2012 (see letter in Appendix B).

In January 2014, an evaluation of the Papoose Creek Sewer and other sewer connections was conducted. It was determined that the Papoose Creek Sewer is eligible for listing on the National Register of Historic Places; however, it will not be impacted by project construction activities. The other sewer connections were not NR eligible. SHPO concurred with this finding on April 9, 2014 (see letter in Appendix B).

5.2.1.1 No Build Alternative. The No Build Alternative would not impact any historical sites or districts.

5.2.1.2 Proposed Alternative. The 3-Lane Alternative would not directly impact any structures within the project corridor. There are numerous properties considered to be eligible for listing on the NRHP that are less than 100 feet from the proposed construction. These properties may require vibration monitoring or special construction methods that would limit the potential for producing vibrations, such as saw cutting pavement to be removed.

5.2.1.3 Carver Corner Sub-Alternative (Conventional Intersection). Based on prior surveys, there are four NRHP-eligible properties in the Carver Corner area. A supplemental survey was conducted to evaluate another five properties in this area along Green Street. None were determined to be eligible for listing on the National Register. The State Historic Preservation Office (SHPO) concurred with this finding on May 14, 2012 (see letter in Appendix B). Of the four NR-eligible properties in the Carver Corner area, one will be impacted by the project. This property is known as the Puritan Ice Company, a commercial property located at 205-207 Green Street. In accordance with FHWA guidelines and requirements, a Section 4(f) Statement has been prepared to address the impacts to this property. The Draft Section 4(f) Statement appears at the back of this document. A Memorandum of Agreement for the mitigation of this structure appears in Appendix B of the Draft Section 4(f) Statement.

5.2.2 Archaeological Sites

Archaeological resources along the Mississippi Drive Corridor must be determined as part of the project. For this project, a Phase 1A archaeological assessment was conducted in May 2011 which used information from previous surveys and other databases to locate known sites and the potential for other significant sites in the project corridor.

The Phase 1A archaeological survey found that six previous archaeological surveys had been conducted within or adjacent to the project corridor. Those surveys covered approximately one-third of the project corridor. Several potential historic archaeological resources were identified that would require additional survey to determine their significance. These additional surveys are described below.

5.2.2.1 No Build Alternative. The No Build Alternative would not impact any archaeological sites.

5.2.2.2 Proposed Alternative and Carver Corner Sub-Alternative (Conventional Intersection). Following the results of the Phase 1A archaeological assessment, a Phase I Archaeological investigation was completed in January 2012. It examined seven potential archaeological sites in and/or adjacent to Mississippi Drive. Of the seven sites, three were not able to be evaluated. Historical records for two of them are located under the Mississippi Drive pavement, and the third is on a private property for which access was denied. The Iowa SHPO concurred with this investigation on February 7, 2012 (see letter in Appendix B).

A Supplemental Phase I investigation was conducted in November 2013 to examine two sites (13MC325 and 13MC326) along Mississippi Drive. As a result, neither site is recommended eligible for the NRHP. SHPO concurred with this recommendation on April 17, 2014 (see letter in Appendix B).

Also in November 2013, a Phase II Archaeological survey was conducted on Site 13MC242 within the project area where access had been previously denied. This site was determined not eligible for the NRHP. SHPO concurred with this recommendation on April 17, 2014 (see letter in Appendix B).

In a letter report dated January 14, 2014, four sites (13MC297, 13MC323, 13MC324 and the Russell Farnham Cabin), whose archaeological significance has not been established because the majority of the sites are located under Mississippi Drive, were discussed. It was recommended that monitoring for these sites occur during construction. Iowa DOT, FHWA, SHPO and the city of Muscatine agreed to the conditions of monitoring in a Memorandum of Agreement (see Appendix B of the attached Section 4(f) Statement).

5.3 Natural Environment Impacts

This section characterizes the natural resources in the Study Area and addresses potential impacts of the No Build Alternative and the Proposed Alternative. The resources discussed are surface waters and water quality and floodplains.

5.3.1 Surface Waters and Water Quality

Water resources include rivers, lakes, ponds and other surface water bodies. For the purpose of this analysis, the topic of water quality is also assumed to apply to groundwater. Important criteria in evaluating surface water and groundwater are adequate quantity and quality of these waters. Surface water features in the Study Area were determined through the use of aerial photography and topographic mapping. The Mississippi Drive Corridor is dominated by the Mississippi River which runs parallel to and adjacent with the project. Although the river is less than 300 feet from Mississippi Drive in the downtown area, it will not be crossed or encroached upon. The downtown portion of Mississippi Drive occurs within the 100-year floodplain, which results in flooding and subsequent closure of the roadway. This project includes proposed changes to address this flooding. This issue is discussed in more detail below in the Flood Plain section.

Historically, Papoose Creek flowed through the CBD and discharged into the Mississippi River at the foot of Sycamore Street. The creek was enclosed in a very large, buried, brick-arch sewer in the 1890s and has functioned ever since as a combined sewer carrying both storm and sanitary sewage to the Papoose Creek Pump Station on the riverfront. During dry weather and small rainfall events, all combined sewage is pumped to the Wastewater Treatment Plant in the southern part of Muscatine. During heavy rains, the pumps cannot keep up, and combined sewage overflows into the river. A sewer project is currently underway that will ultimately separate storm and sanitary sewers that are tributary to Papoose Creek Sewer, subsequently eliminating this CSO (Combined Sewer Overflow). This project is scheduled for completion by the year 2028.

Another stream, Mad Creek, lies within the project corridor. It crosses 2nd Street just south of the Norbert F. Beckey Bridge (Iowa 92) intersection before flowing into the Mississippi River. The city of Muscatine has no plans to replace or upgrade this bridge as part of this project. Therefore, impacts to this stream are not anticipated or would be minor and temporary during the construction of the adjacent roadway.

5.3.1.1 No Build Alternative. No impacts to surface waters or water quality would occur with the No Build Alternative. There would be no construction to impact Mad Creek, Papoose Creek Sewer or the Mississippi River from the No Build Alternative.

5.3.1.2 Proposed Alternative and Carver Corner Sub-Alternative (Conventional Intersection). Construction of the 3-Lane Alternative and the Conventional Intersection would not be expected to impact the Mississippi River, Papoose Creek Sewer or Mad Creek.

As part of the proposed roadway improvements, sustainable storm water management strategies will be implemented. Sustainable storm water management practices have many benefits, including reduced runoff volumes, reduced peak flow rates, increased filtration and contaminated spill containment. Some of the strategies suggested for the Mississippi Drive project include dry swales, bio-retention cells, storm water

planters and permeable pavement. Any of these strategies would help improve the water quality of Mad Creek and the Mississippi River.

The contractor would be required to implement Iowa DOT's Construction Manual to minimize temporary impacts on water quality during construction. The Iowa DNR administers the Federal National Pollutant Discharge Elimination System (NPDES) program and issues general permits for storm water discharges from construction activities. The purpose of the program is to improve water quality by reducing or eliminating contaminants in storm water. The NPDES program requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) for construction sites of more than 1 acre.

The specific sediment, erosion control and spill prevention measures would be developed during the detailed design phase and would be included in the plans and specifications. The SWPPP would address requirements specified by Iowa DOT in its Construction Manual, which are often implemented to meet measures anticipated by Iowa DNR. Although it is not possible to speculate on specific details of the SWPPP at this stage in the design process, the SWPPP is likely to include installation of silt fences, buffer strips or other features to be used in various combinations, as well as the stipulation that drums of petroleum products be placed in secondary containment to prevent leakage onto ground surfaces. A standard construction best management practice (BMP) is re-vegetation and stabilization of roadside ditches to provide opportunities for the runoff from the impermeable area to infiltrate, to reduce runoff velocities and to minimize increases in sedimentation. Iowa DOT would require the contractor to comply with measures specified in the SWPPP.

5.3.2 Flood Plains

Executive Order 11988, Flood Plain Management (42 CFR 26951), requires that federal agencies identify potential flood plain encroachment of projects they fund and assess the impacts of this encroachment on the human health, safety and welfare, and on the natural and beneficial values of the flood plain. The Mississippi River parallels the project corridor, with a portion of Mississippi Drive located within the 100-year floodplain.

Mississippi Drive has flooded numerous times over the years, requiring road closure and traffic detouring. Most historical flooding has been confined to the 4-block roadway segment between Iowa Avenue and Mulberry Avenue. The two lowest intersections are at Sycamore and Walnut Streets. The intersections at Iowa, Cedar and Mulberry lie somewhat higher and flood less frequently.

Roadway flooding is exacerbated and, at times, caused by the existing sewer system. Inlets in the intersections at Walnut and Mulberry are collected by storm sewers that discharge directly into the Mississippi River. When river water elevations rise, the water "backs out" of these inlets into the roadway. The intersection at Walnut begins flooding at a river elevation of 549.7 (a 7-year flood event) and at Mulberry at 551.62 (a 15-year flood event). The Sycamore intersection, although nearly as low as the Walnut intersection, does not flood until the river exceeds elevation 552.0 (a 17-year flood event). As rising water in the Walnut intersection exceeds 552.0, it spills over the Cedar Street intersection and runs downhill into the Sycamore intersection. Two inlets in the Sycamore intersection are directly connected to an existing storm sewer (the Papoose Creek sewer) and would begin flooding the intersection at elevation 550.2 as the river rises inside Papoose Creek Sewer; however, existing slide gates are closed to prevent this from happening. Table 6 below lists the flood event frequencies and elevations.

TABLE 6
FLOOD EVENT FREQUENCIES (BASED ON 1988 DATUM)

Event	Elevation
2-Year	545.32
Flood Stage	546.51
5-Year	548.97
10-Year	550.62
18-Year	552.30 (Flood of 2011)
25-Year	553.07
50-Year	554.87
99-Year	556.12 (Record Flood of July, 1993)
100-Year	556.42
500-Year	557.57

The eastbound lanes at the Walnut Street intersection are completely covered with water at elevation 550.50 (a 10-year flood event), and Mississippi Drive would likely close at this elevation if the river is expected to continue rising.

5.3.2.1 No Build Alternative. Under this alternative, no changes to the roadway, storm sewer or flood protection would occur, and Mississippi Drive would continue to flood every 10 years. The city has a well-developed response plan for closing the roadway and diverting traffic. Traffic is disrupted and a few businesses are inconvenienced, but damage from a 10-year flood, or even a 25-year flood, is generally minimal.

There are costs associated with this alternative, including placing/retrieving detour signage, but post-flooding clean-up on the riverfront would be required whether a new protection plan is implemented or not.

5.3.2.2 Proposed Alternative. As part of the 3-Lane Alternative, there are three options for addressing the flooding issues on Mississippi Drive. The proposed option would provide flood protection to a 552.3 flood elevation, which represents an 18-year flood event. The other two options are described in Section 4.2.3.

5.3.2.3 Carver Corner Sub-Alternative (Conventional Intersection). No special flood protection is needed or required in this portion of the corridor as flooding is not an issue in the Carver Corner area.

5.4 Physical Impacts

This section characterizes physical resources in the Study Area and addresses potential impacts of the No Build Alternative and the Proposed Alternative. The resources discussed are contaminated and regulated materials sites, visual and utilities.

5.4.1 Contaminated and Regulated Materials Sites

Properties in the Study Area where hazardous materials have been stored may present a future risk if spills or leaks have occurred. Contaminated or potentially contaminated properties are of concern for transportation projects because of the associated liability of acquiring the property through right-of-way purchase, the potential cleanup costs, and safety concerns related to exposure to contaminated soil, surface water or groundwater.

In November 2010, a review and database search of potentially contaminated sites was done within the project area. Sites were found to be located within the proximity of the project. These are discussed below in the following sections.

5.4.1.1 No Build Alternative. No Recognized Environmental Conditions (REC) listed would be impacted under the No Build Alternative. No ground disturbance would occur, and thus no additional studies or remedial action would be necessary.

5.4.1.2 Proposed Alternative. The 3-Lane Alternative is in the proximity of four sites, summarized in Table 7 below.

**TABLE 7
SITES OF RECOGNIZED ENVIRONMENTAL CONDITIONS
ALONG MISSISSIPPI DRIVE**

Site Address	Environmental Category*	Potential Impact
1000 Hershey Avenue	CERC-NFRAP; RCRA-SQG; TRIS	No impact; no right-of-way from the property. New storm sewer and roadway construction adjacent to this building; no right-of-way from the property and therefore no impact.
109 Pine Street	RCRA-Conditionally Exempt SQG	New storm sewer and roadway construction adjacent to this building; no right-of-way from the property and therefore no impact.
101 Walnut Street	LUST With No Further Action Required According to Iowa DNR	No impact likely; no excavation through this site nor new storm sewer.
Orange and 2 nd Streets	CORRACTS Database; RCRA-TSDF; TRIS	

*CERC-NFRAP: Comprehensive Environmental Response, Compensation and Liability Information System-No Further Remedial Action Planned

RCRA-SQG: Resource Conservation and Recovery Act-Small Quantity Generator (Generates 100kg to 1000kg of Hazardous Waste per Month)

TRIS: Toxic Chemical Release Inventory System (Identifies Facilities That Release Toxic Chemicals Into the Air, Water and Land in Reportable Quantities)

RCRA-Conditionally Exempt: SQG (Generates Less Than 100 kg of Hazardous Waste or Less Than 1 kg of Acutely Hazardous Waste per Month)

LUST: Leaking Underground Storage Tank

CORRACTS: List of Handlers with RCRA Corrective Action Activity

RCRA-TSDF: Resource Conservation and Recovery Act-Treat, Store or Dispose Facility of Hazardous Waste

A Phase 1 Environmental Site Assessment (ESA) was conducted at 1000 Hershey Avenue in December 2009. It concluded that no further action was required. A Phase 1 ESA was conducted at 109 Pine Street in April 2011, and it concluded that further testing of site soils and groundwater be performed if right-of-way were to be acquired from this property. During the final design and construction stages of this project, these areas in question will be evaluated to ensure there is no impact or that further testing is required. The other two sites (109 Pine Street and Orange and 2nd Streets) are not anticipated to be impacted by the project.

5.4.1.3 Carver Corner Sub-Alternative (Conventional Intersection). The November 2010 review found a contaminated site in the Carver Corner area at 1030 Hershey Avenue. This is the site of a former LUST site. A Phase I ESA was conducted in August 2010 at this site and found that it consisted primarily of petroleum products. A contamination plume was discovered to extend between 1030 Hershey Avenue and 1056 Hershey Avenue. The Conventional Intersection is not anticipated to impact the site.

Further testing to evaluate the site prior to construction activities will be done. Also, proper precautions will need to be taken during construction to ensure the safety of workers in the area.

5.4.2 Visual

Visual impacts can be described in two ways: views from a vehicle traveling on the roadway and views of the roadway from pedestrians, residents and others adjacent to the facility. The viewshed of the Mississippi Drive Corridor is dominated by the Mississippi River which has a significant influence on the character and feeling of the corridor, downtown and city as a whole. The city of Muscatine has worked to improve the viewshed of the river through the downtown area over the past several years. Many improvements have been added along the riverfront to enhance the city, such as bike trails, green space and sculptural artwork. The improvement of Mississippi Drive is one element of the overall visual improvement planned by the city of Muscatine.

5.4.2.1 No Build Alternative. No visual impacts would occur under the No Build Alternative.

5.4.2.2 Proposed Alternative. Drivers traveling along Mississippi Drive would not have a significantly different view. However there would be distinct crosswalks for pedestrians and potentially new wayfinding and interpretive elements within the corridor. Other enhancements may be added near the Norbert F. Beckey Bridge to act as a sort of gateway to Iowa and the city of Muscatine. These will be added as funding becomes available. Overall, the view for a driver would be improved.

For pedestrians/bicyclists, the view would also be similar; however, they would have a narrower, safer crossing on distinct crosswalks. Potential enhancements would be added in the form of wayfinding, interpretive elements and plantings. The view for pedestrians would be improved.

5.4.2.3 Carver Corner Sub-Alternative (Conventional Intersection). The Carver Corner area also has opportunities for some gateway-type enhancements if funding is available. These could include plantings, interpretive elements or other features. With the Conventional Intersection, the visual focus could be located on the west edge of the newly aligned roadway. The view for a driver or pedestrian would be improved since the area would be opened up and available for redevelopment.

5.4.3 Utilities

The potential for the project to affect utilities in the Study Area was considered by identifying utility locations and orientation in relation to the highway. Potential effects were evaluated with respect to major utilities crossed by or located within the right-of-way for the Proposed Alternative.

This project is located in an urban setting so there are a full range of utilities within the corridor, including water mains, gravity sewers, force mains, gas pipelines, fiber optic cables, telephone and communication lines, storm sewer and electrical transmission lines.

5.4.3.1 No Build Alternative. The No Build Alternative would not impact any of the utilities along the corridor.

5.4.3.2 Proposed Alternative. Water mains occur along the entire project corridor. Muscatine Power & Water, the city's public utility provider, will be encouraged to improve or replace any aging mains, services and valves. This improvement will be the decision of Muscatine Power & Water; but at a minimum, valve box elevations will require adjustment to provide installations flush with the new pavement.

Gas, telephone and fiber optic/communications lines are not expected to be impacted by the proposed roadway improvements.

Some storm sewer modifications are proposed as part of the roadway improvement in the 4-block vicinity of Iowa to Mulberry where flooding is prevalent. This would not be part of the city's sewer separation project. The existing storm sewer from Sycamore Street to Cedar Street was replaced in the mid-1970s and is in good condition. The age and condition of storm sewer from Iowa Avenue to Sycamore Street and Walnut to Mulberry is unknown, but the sanitary sewer was replaced from Iowa to Sycamore in the mid-1990s. The age of the remainder of the sanitary sewer from Spruce Street to 2nd Avenue is unknown but assumed to be 100+ years old

and is considered in poor condition. Papoose Creek sewer is located on Sycamore Street and, although built in the 1890s, is considered to be in fair condition.

Even though some of the existing storm sewer system is in good condition, it has inlets at Walnut and Mulberry that discharge directly into the Mississippi River, which causes flooding of Mississippi Drive in heavy rainfall events. When the river elevations rise, the water can back up into the roadway. There are options for correcting this situation, as described above in Section 4.3.3. This alternative would not require any constructed floodwall barriers and would only provide protection for an 18-year flood event but is the least costly of the three alternatives. This alternative would provide flood protection by raising the intersection at Walnut Street, modifying inlet piping on Harbor Drive to divert storm water and install a closure structure, and provide temporary pumping on the Mulberry Avenue outfall, as needed.

Currently, electrical transmission lines are above ground. It is recommended these be buried during construction of the proposed roadway. If, however, this is not fiscally feasible, installing necessary conduits and manholes at the time of roadway construction would be prudent. This improvement will be the decision of Muscatine Power and Water, in conjunction with the city of Muscatine. The exact location of the potential improvements will be finalized during the final design phase of the project.

5.4.3.3 Carver Corner Sub-Alternative (Conventional Intersection). Water mains occur along the entire project corridor. Muscatine Power & Water will be encouraged to improve or replace any aging mains, services and valves. This improvement will be the decision of Muscatine Power & Water; but at a minimum, valve box elevations will require adjustment to provide installations flush with the new pavement.

Gas, telephone and fiber optic/communications lines are not expected to be impacted by the proposed roadway improvements.

Some storm sewer improvements are proposed in the Carver Corner area to increase its carrying capacity, replace existing inlets, and to accommodate the realigned roadway and intersection improvements. Storm sewer along Grandview/Green Street was built in the 1950s, with some additions and modifications completed as recently as 2009. It is considered to be in good condition. Along Hershey/Mississippi Drive, sewer separation has occurred in 2010 and is in good condition.

Overhead electrical transmission lines go behind the McKee Button Factory and continue southwest and do not rejoin the corridor. Therefore, no changes in the Carver Corner area are planned.

5.5 Cumulative

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). Cumulative impacts include the direct and indirect impacts of a project, together with impacts from reasonably foreseeable future actions of others. For a project to be reasonably foreseeable, it must have advanced far enough in the planning process that its implementation is likely. The impacts of reasonably foreseeable future actions not associated with a new interchange include the impacts of other Federal, state, and private actions. Reasonably foreseeable actions are not speculative, are likely to occur based on reliable sources, and are typically characterized in planning documents.

5.5.1 Past Actions

Mississippi Drive (Iowa 92) through the Central Business District area was the primary travel route through Muscatine until 1985 when Iowa DOT constructed a U.S. 61 bypass on the western side of the city. This 4-lane roadway took much of the traffic from Mississippi Drive, which resulted in lower traffic volumes through downtown Muscatine.

In the mid-1980s, the city of Muscatine invested \$20 million to redevelop the Mississippi River waterfront. The city worked to remove industrial businesses from this area to create more aesthetic and recreational open space areas. The parks, trails and open space now allow an unobstructed view of the Mississippi River from the downtown area.

The city of Muscatine recently completed a trail extension from Weed Park to Solomon Avenue which ultimately connects to Wildcat Den State Park. This extension is approximately 1.5 miles in length. The trail adds a link so that now a bicyclist can ride on a paved surface, with the exception of 1 mile of granular trail from Wildcat Den State Park south into Muscatine at Musser Park, south of the Mississippi Drive project corridor. The cost of this trail link was \$450,000 and it was completed in late 2011.

The Mad Creek Levee Project is under construction by the U.S. Army Corps of Engineers in an agreement with the city of Muscatine. This project will extend the flood protection for the Mad Creek corridor and was completed by late fall 2012.

5.5.2 Present Actions

The city of Muscatine has a project underway to improve and enhance Cedar Street, from Parham Street to Houser Street. In 2012, this project phase is for the utility work. In 2014, Cedar Street was expected to be reconstructed and widened to allow for a bike lane. Iowa Highway 22 enters Muscatine from the west and becomes Cedar Street, which continues directly downtown. Traffic during construction will be disrupted with detours and potential delays.

Phase 2 of the West Hill Sewer Separation Project is currently under construction. This project will continue until the year 2028 and will ultimately separate all sewers tributary to Papoose Creek Sewer and eliminate the present combined sewer overflow described in Section 5.3.1.

5.5.3 Future Actions

The city of Muscatine has a recreational trail extension in the 2014 Capital Improvement Plan. The Mississippi River Trail travels along the Mississippi River and ends at Musser Park, south of the Mississippi Drive project corridor. The trail extension would be from Musser Park south to Wiggins Road.

Cedar Street reconstruction, from Houser Street to U.S. 61, is listed as a street improvement project in the Capital Improvement Plan for fiscal year 2015. This project would be a continuation of the ongoing Cedar Street project. The cost of this reconstruction is listed at \$3 million.

As part of the city of Muscatine's Comprehensive Plan, critical issues were identified. One of the issues listed is the need to create gateways or entrances into the city. These would be located at prominent existing or proposed entries into the city. These gateways would provide visual welcoming elements for the driver. Visual elements could include vegetative landscaping, rock landscaping, signage and lighting. As part of the Mississippi Drive Corridor project, improving aesthetics and adding welcoming features have been considered. These elements will be added and incorporated into the project as funding becomes available.

5.5.4 Summary of Cumulative Impacts

The overall cumulative impact of the Mississippi Drive project and the consequences of subsequent related actions to resources examined in this EA have been evaluated and are not considered to be collectively significant.

5.6 Streamlined Resource Summary

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

This section summarizes the impacts of the No Build Alternative, the Proposed Alternative and the Conventional Intersection at Carver Corner for the improvements to the Mississippi Drive Corridor. The impacts discussed within the body of the EA and general features of each alternative are summarized below in Table 8.

**TABLE 8
SUMMARY OF IMPACTS**

	No Build Alternative	Proposed Alternative	
		3-Lane Alternative	Conventional Intersection
Length (Mi.)	1.6	1.6	NA
Right-of-Way Acquired (Acres)	0	0	3.8
Businesses Displaced	0	0	2 (1 Total and 1 Partial)
Homes Displaced	0	0	0
Compatible with Land-Use Plans	No	Yes	Yes
Reduces Flooding of Mississippi Drive	No	Yes	NA
Archaeology Sites Impacted	0	0-4	0
Historic Properties Impacted	0	0	1
Visual	No Change	Beneficial Change	Beneficial Change
Utilities	No Change	Requires Some Storm Sewer Modification	Minor Impact
Bike Trail Impacts	No	Temporary During Construction	Temporary During Construction
Park Impacts	No	No	No

NA – Not Applicable

6. DISPOSITION

This Streamlined EA 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 will 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.

The proposed project is included in the city of Muscatine Capital Improvements Plan for 2014-2018, with \$7.2 million for road reconstruction.

This EA is being distributed to the agencies and organizations listed. Individuals receiving this EA are not listed for privacy reasons.

Federal Agencies:

Federal Emergency Management Agency
U.S. Army Corps of Engineers – Rock Island District (Regulatory)
U.S. Department of the Interior – Office of Environmental Policy and Compliance
U.S. Environmental Protection Agency – Region 7, National Environmental Policy Act Team
U.S. Fish & Wildlife Service – Rock Island Field Office

State Agencies:

Iowa Department of Natural Resources – State Office and Field Office # 6
State Historical Society of Iowa

Local/Regional Units of Government:

County Board of Supervisors
County Engineer
City of Muscatine, Public Works Department,
City of Muscatine, Parks and Recreation Director
City of Muscatine, City Clerk
City of Muscatine, Mayor, City Council, City Administrator
Bi-State Regional Commission

Locations Where this Document Is Available for Public Review:

Musser Public Library
304 Iowa Avenue
Muscatine, Iowa 52761

Federal Highway Administration
105 - 6th Street
Ames, Iowa 50010

Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Iowa Department of Transportation, District 5 Office
307 West Briggs
Fairfield, Iowa 52556

Potential Permits Required for the Project:

Water Quality Certification from Iowa DNR (Section 401 Water Quality Certification)
Iowa DNR National Pollutant Discharge Elimination System General Permit No. 2 for Storm Water Discharge
Associated with Construction Activities (NPDES Storm Water Permit)

Unless significant impacts are identified as a result of the public review or at the Public Hearing, a Finding of No Significant Impact (FONSI) will be prepared for the proposed action as a basis for federal-aid corridor location approval.

7. COMMENTS AND COORDINATION

7.1 Agency and Tribal Coordination

This section includes a summary of agency coordination, public involvement and tribal coordination that has occurred during the development of this EA. Future public involvement efforts that are planned for the Project are also discussed. Appendix B contains agency and tribal comment letters received in response to Iowa DOT's coordination request letters to initiate the NEPA process for the Project.

Early agency coordination was initiated in November 2010 through letters to local, state and federal agencies to solicit input on the proposed Mississippi Drive project. The letters announced the initiation of the NEPA process for the highway project, solicited feedback as it relates to the agencies' relevant areas of expertise, and solicited tribal interest in the Project. Table 9 lists the agencies that were contacted through early coordination and the response date, if applicable.

As part of the early coordination process, Iowa DOT also notified the Tribes of initiation of the proposed project and solicited their feedback. The Tribes contacted are listed in Table 10. The coordination information sent to the Tribes is included in Appendix B.

**TABLE 9
AGENCY COORDINATION**

Agency Type	Agency	Date of Response
Federal	Federal Emergency Management Agency	
Federal	Federal Railroad Administration	
Federal	U.S. Army Corps of Engineers	12/21/2010
Federal	U.S. Department of Interior - Office of Environmental Policy & Compliance	
Federal	U.S. Environmental Protection Agency, Region VII	
Federal	U.S. Fish and Wildlife Service	8/11/2011
State	Iowa Department of Cultural Affairs - State Historic Preservation Office	12/7/2010
State	Iowa Department of Natural Resources:	
	• Conservation and Recreation Division	12/16/2010
	• Environmental Services Division	12/16/2010
	• Budget and Finance Bureau	12/21/2010
State	Bi-State Regional Commission	12/9/2010
Local	Muscatine Chamber of Commerce	
Local	Muscatine County Engineer	
Local	Muscatine Historical Preservation Commission	
Local	Muscatine Public Works	
Local	Muscatine Parks and Recreation Department	
Local	Honorable Mayor Richard O'Brien and City Council	
Local	Melon City Bike Club	
Local	American Discovery Trail Society	
Local	Iowa Natural Heritage Foundation	
Local	IC&E Railroad	
Local	Canadian Pacific Railroad	
Local	Honorable Senator James Hahn	
Local	Honorable Representative Nathan Reichert	

**TABLE 10
TRIBAL COORDINATION**

Tribe	Date of Coordination	Date of Response
Iowa Tribe of Kansas and Nebraska	12/6/2010, 3/26/2014, 6/25/2014	12/22/2010
Iowa Tribe of Oklahoma	12/6/2010, 3/26/2014, 6/25/2014	
Otoe-Missouri Tribe	12/6/2010, 3/26/2014, 6/25/2014	7/8/2014
Sac & Fox National of the Mississippi in Iowa	12/6/2010, 3/26/2014, 6/25/2014	12/20/2010
Sac & Fox Nation of Missouri	12/6/2010	
Sac & Fox of Oklahoma	12/6/2010, 3/26/2014, 6/25/2014	
Winnebago Tribe of Nebraska	12/6/2010, 3/26/2014, 6/25/2014	4/21/2014
Peoria Tribe of Indians of Oklahoma	12/6/2010, 3/26/2014	4/7/2014
Ho-Chunk Nation	3/26/2014, 6/25/2014	
Miami Tribe of Oklahoma	3/26/2014, 6/25/2014	
Omaha Tribe of Nebraska	3/26/2014, 6/25/2014	
Yankton Sioux Tribe	3/26/2014, 6/25/2014	
Ponca Tribe of Nebraska	6/25/2014	
Prairie Band Potawatomi Nation	6/25/2014	

Comments received include:

- Bi-State Regional Commission commented that this project is consistent with long-term plans and is an important project in the Bi-State region.
- Iowa Department of Natural Resources, Conservation and Recreation Division, said the Slender Dayflower, a state-threatened species, is known to occur within the railroad right-of-way between Mississippi Drive and the Mississippi River. (A survey was conducted for the plant, but it was not found within the project corridor.)
- Iowa Department of Natural Resources, Budget and Finance Bureau, stated no Section 6(f) lands occur within the city of Muscatine.
- Iowa Department of Natural Resources, Environmental Services Division, commented that according to their records, five contaminated sites were found in the project area. A list of underground storage tanks was also attached.
- State Historical Society of Iowa mentioned previous studies completed and the need for continued coordination as this project moves through the Section 106 process.
- U.S. Army Corps of Engineers, Rock Island District, stated that no concerns surfaced at this time; however, if the project would disturb any wetlands or other waters of the U.S., further coordination would be required.
- Canadian Pacific Railroad asked about potential right-of-way impacts to the railroad corridor.

7.2 Public Involvement

A public information meeting was held on May 11, 2011, at the Stanley Consultants Auditorium in Muscatine, Iowa. Approximately 25 people attended the meeting. The intent of this meeting was to gain input from the

public about issues, concerns and suggestions along the corridor. The following major issues and comments were expressed at the meeting:

- Concern that it is dangerous to cross the road (Mississippi Drive) and railroad to go from riverfront/parking to businesses.
- Comments about using signage/wayfinding to direct people to parking, businesses, amenities, bike trails, etc.
- Suggestion that the project plan should integrate traffic calming.
- Comments were made in favor of a roundabout at Carver Corner and in opposition to a roundabout at this location.
- Suggestion at Carver Corner to smooth the curve.
- Statement that the 3-lane concept adds safety.
- Comment about improving the intersection at Norbert F. Beckey Bridge and 2nd Street so it is wider and more open.
- Comment that solving the flooding issue on Mississippi Drive is key.
- Comments regarding accommodating pedestrian traffic.
- Requests to use local artists for enhancements, have a cultural diversity focus on the HNI overpass, and prioritize beautifying downtown.
- Suggestion to use a removable flood barrier on the river side of the railroad tracks from the Mulberry and Mississippi Drive intersection to the levee.

A second public information meeting was held on October 12, 2011, at Riverview Center in Muscatine, Iowa, to present alternatives for the Mississippi Drive Corridor and gain input on these alternatives. This meeting was attended by approximately 54 persons. Comments and concerns are summarized below.

- A question was asked regarding the 3-lane option's ability to accommodate increased development. The response was that the 3-lane can accommodate most future development. If a large event center were added, some challenges to the level of service may occur.
- There were questions about the roundabout option at Carver Corner regarding safety and its ability to accommodate trucks. The response was that they are safer than traditional intersections and can accommodate truck traffic.
- There were a few comments that said multi-use trail is not necessary on both sides of the roadway.
- A few people expressed they were in favor of the 3-lane option.
- Comments regarding flooding were mentioned, such as addressing the issue of the storm sewer backing up along Mississippi Drive and flooding at the intersection of Iowa Avenue and Mississippi Drive.
- A suggestion was made to consider retention ponds and/or permeable pavement between the railroad tracks and the river.
- There were comments both for and against the "sweeping curve" option at Carver Corner.

- One person commented that there is not enough traffic to warrant the 5-lane option.
- There were several comments for and against the “roundabout” option at Carver Corner.
- The need to make this corridor pedestrian friendly and safe to cross was expressed by a few participants.
- Aesthetic issues were brought up in comments, including the need to remove some existing buildings near the Norbert F. Beckey Bridge and near Carver Corner.
- There was a concern that landscaping could be costly and any done should require “zero” maintenance.
- Having trees is important, but placing trees to hide degraded buildings will not solve the issues.
- There were some comments that the project should maintain historic structures and adapt them for future development, and especially preserve noted historic buildings such as the McKee Button Factory.

REFERENCES

- Bi-State Regional Commission, *Comprehensive Economic Development Strategy*. 2011.
(<http://bistatesonline.org/2012-11-14-00-17-31/ceds>)
- Bucher, Willis & Ratliff Corp., *City of Muscatine, Iowa – Comprehensive Plan*. 2002.
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- Stanley Consultants, Inc., *Flood Protection Memorandum*. June 2012.
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The Louis Berger Group, Inc., *Supplemental Phase I Archaeological Investigations for the Proposed Mississippi Drive Corridor in Muscatine, Muscatine County, Iowa*. November 2013.

The Louis Berger Group, Inc., *Phase II Archaeological Investigation at Site 13MC242 for the Proposed Mississippi Drive Corridor in Muscatine, Muscatine County, Iowa*. November 2013.

23 CFR Parts 771 and 774. Section 4(f).

APPENDIX A

STREAMLINED RESOURCE SUMMARY

SOCIOECONOMIC IMPACTS SECTION:

Land Use	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Consultant, 6/7/2011
Community Cohesion	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 6/7/2011
Churches and Schools	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 6/7/2011
Environmental Justice	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Report
Completed by and Date:	Consultant, 7/13/2011
Economic	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Report
Completed by and Date:	Consultant, 5/27/2011
Joint Development	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Other
Completed by and Date:	Consultant, 6/7/2011
Parklands and Recreational Areas	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 6/7/2011
Bicycle and Pedestrian Facilities	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 5/26/2011
Right-of-Way	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Other
Completed by and Date:	Consultant, 3/27/2012
Relocation Potential	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 5/26/2011

SOCIOECONOMIC IMPACTS SECTION Continued:

Construction and Emergency Routes	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Other
Completed by and Date:	Consultant, 3/27/2012
Transportation	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Other
Completed by and Date:	Consultant, 3/27/2012

CULTURAL IMPACTS SECTION:

Historic Sites or Districts	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Subconsultant, 3/27/2012
Archaeological Sites	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Subconsultant, 3/27/2012
Cemeteries	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 6/7/2011

NATURAL ENVIRONMENT IMPACTS SECTION:

Wetlands	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Other
Completed by and Date:	Consultant, 6/1/2011
Surface Waters and Water Quality	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Other
Completed by and Date:	Consultant, 3/27/2012
Wild and Scenic Rivers	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Resource Agency, 5/26/2011
Floodplains	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Consultant, 3/27/2012
Wildlife and Habitat	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 3/27/2012
Threatened and Endangered Species	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 6/29/2011
Woodlands	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 5/11/2011
Farmlands	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 5/26/2011

PHYSICAL IMPACTS SECTION:

Noise	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Report
Completed by and Date:	Consultant, 4/12/2012
Air Quality	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Report
Completed by and Date:	Consultant, 2/27/2012
MSATs	
Evaluation:	This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. As such, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently, this effort is exempt from analysis for MSATs. Moreover, EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. Even after accounting for a 64 percent increase in VMT, FHWA predicts MSATs will decline in the range of 57 percent to 87 percent, from 2000 to 2020, based on regulations now in effect. This will both reduce the background level of MSATs as well as the possibility of even minor MSAT emissions from this project.
Method of Evaluation:	FHWA Interim Guidance on Air Toxic Analysis in NEPA Documents, February 3, 2006
Completed by and Date:	Consultant, 2/27/2012
Energy	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Other
Completed by and Date:	Consultant, 3/27/2012
Contaminated and Regulated Materials Sites	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Consultant, 11/30/2010
Visual	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Consultant, 3/1/2012
Utilities	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Consultant, 6/16/2012

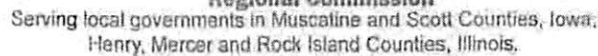
APPENDIX B

COORDINATION LETTERS

- Bi-State Regional Commission - 12/9/2010
- IDNR Conservation and Recreation Division - 12/16/2010
- IDNR Budget and Finance Bureau - 12/21/2010
- IDNR UST/LUST - 12/16/2010
- State Historical Society of Iowa - 12/7/2010
- Rock Island District Corps of Engineers - 12/21/2010
- U.S. Fish & Wildlife Service - 8/11/2011

-
- SHPO Concurrence Letter - 7/26/2011
 - SHPO Concurrence Letter - 2/7/2012
 - SHPO Concurrence Letter - 5/14/2012
 - SHPO Concurrence Letter - 4/9/2012 & 4/17/2014
 - SHPO Concurrence Letter - 7/2/2014 & 7/9/2014

-
- Tribal Notification Information - 12/6/2010



December 9, 2010

Ms. Brenda J. Durbahn, MA

AECOM

501 Sycamore Street

Suite 222

Waterloo, Iowa 50703

MUNICIPAL REPRESENTATIVES:

City of Davenport
Bill Gluba, Mayor
Jason Gordon, Alderman
Gene Meeker, Alderman
Hap Volz, Citizen

RE: U.S. 61/IA 92 (Mississippi Drive) Corridor Study and Environmental Assessment

Muscatine, Iowa

Project No. STP-U-5330(614)--27-70

City of Rock Island
Dennis Pauley, Mayor
Chuck Austin, Alderman

Dear Ms. Durbahn:

City of Molina
Don Welvaert, Mayor
Gary Brown, Alderman

Thank you for the opportunity to comment on the Mississippi Drive Corridor Study and Environmental Assessment. The project proposes improvements to U.S. 61/IA 92 (Mississippi Drive) from Main Street northeast to the Norbert Beckey Bridge in Muscatine, Iowa.

City of Bellendorf
Mike Freeman, Mayor

City of East Moline
John Thodos, Mayor

City of Muscatine
Dick O'Brien, Mayor

City of Kewanee
Bruce Tossell, Mayor

City of Silvis; Villages of
Andalusia, Canton City

Coal Valley, Cordova, Hampton, Hillsdale, Milan, Oak Grove, Port Byron, and Rapids City. Ken Williams, Mayor, Carbon Cliff.

Cities of Aledo, Colona, Galva
Geneseo, Villages of Alpha
Andover, Atkinson, Cambridge
New Boston, Orion, Sherrard
Viola, Windsor, and Woodhull
Danny McDaniel, Mayor, Colona

Cities of Blue Grass, Buffalo
Eldridge, LeClaire
Long Grove, McCausland
Princeton, Riverdale, Walcott
West Liberty, and Winton
Marty O'Boyle, Mayor, Eldridge

COUNTY REPRESENTATIVES

Henry County
Tom Nicholson, Chairman
Jo Anne Hillman, Member
Pat Ripberger, Member

Mercer County
Maxine Henry, Chair

Muscatine County
Esther Dean, Chair
Wayne Shoultz, Member

Rock Island County
Jim Bohnsack, Chairman
John Malvik, Member
Tom Rockwell, Member
Elizabeth Sherwin, Citizen

Scott County
Chris Gallin, Chair
Larry Minard, Member
Tom Sunderbruch, Member
Celia Rangel, Citizen

PROGRAM REPRESENTATIVES

Carl Becker
Cheryl Goodwin
Ralph H. Henington
Nathaniel Lawrence
Bill Stoermer
Jim Tanti
Rory Washburn

Executive Director
Denise Duda

In addition, the project is anticipated to further the *Comprehensive Economic Development Strategy* (CEDS) for the Bi-State Region General Economic Development Goal G – Continue to make best use of existing infrastructure. The CEDS is reviewed annually by the Economic Development Administration (EDA) and is developed by the CEDS Committee, comprised of chambers of commerce, development organizations, institutions of higher education, business and local government representatives. The Mississippi Drive Corridor Project to reconstruct the business route in Muscatine is consistent with long-term plans and is an important element of revitalization within the Bi-State Region.

I look forward to hearing a positive outcome on this project.

Sincerely,

Doug DeLille, Senior Planner

Trans Reg Ultra Mississippi Drive Corridor Study & EA Comment Log



Printed on
Recycled Paper

1504 Third Avenue, P.O. Box 3368, Rock Island, Illinois 61204-3368
Phone (309) 793-6300, Fax (309) 793-6305
E-mail: info@bistateonline.org • Website: www.bistateonline.org

A PART OF



CLARK COUNTY, WYOMING



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

STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES
PATRICIA L. BODDY, INTERIM DIRECTOR

December 16, 2010

AECOM
Attn: Brenda Durbahn
501 Sycamore Street
Suite 222
Waterloo, IA 50703

RE: Environmental Review for Natural Resources
U.S. 61/ IA 92 (Mississippi Drive) Corridor Study and Environmental Assessment
Muscatine County
Section 2, Township 96N, Range 2W

Dear Ms. Durbahn:

Thank you for inviting Department comment on the impact of this project. There are records of the Slender Dayflower (*Commelina erecta*), a state-threatened plant species, in the immediate vicinity of the proposed project area. It is known to occur within the railroad right-of-way between Mississippi Drive and the Mississippi River. Should construction limits of the highway improvement project extend into railroad right-of-way, the Department requests that the results of a botanical survey, conducted by a qualified botanist, are submitted in advance of construction. The results of this survey will inform Department recommendations to avoid, minimize, and mitigate impact to this species. Department records and data are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.

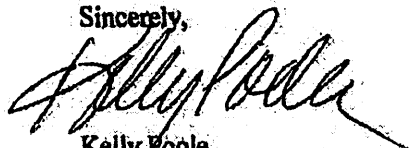
This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include any comment from the Environmental Services Division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

Any construction activity that bares the soil of an area greater than or equal to one 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 directed to Jim McGraw at (515) 242-5167.

If you have questions about this letter or require further information, please contact John Pearson at (515) 281-3891.

Sincerely,

A handwritten signature in black ink, appearing to read "Kelly Poole", written in a cursive style.

Kelly Poole
Environmental Specialist
Conservation and Recreation Division

FILE COPY: Kelly Poole
Tracking Number: 3337

CC: Chris Schwake, Iowa DNR (email)



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

STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES
PATRICIA L. BODDY, INTERIM DIRECTOR

December 21, 2010

Brenda Durbahn, MA
AECOM
501 Sycamore Street, Suite 222
Waterloo, IA 50703

Re: U.S. 61/IA 92 (Mississippi Drive) Corridor Study and Environmental Assessment
Muscatine, Iowa
Project No. STP-U-5330(614)—27-70

Dear Ms. Durbahn:

This letter is in response to your request for information on potential park impacts associated with an Environmental Assessment (AE) for improvements to U.S. 61/IA 92 (Mississippi Drive) from Main Street northeast to the Norbert Beckey Bridge.

The City of Muscatine does not have any parks within the vicinity map that has received either State or Federal funds; therefore, no potential park impacts exist for the EA.

The early coordination process is very helpful to our office and the National Park Service as we both are responsible for ensuring state and federal projects remain in outdoor recreation, and conversions are kept to a minimum.

If you have any questions, please contact me at 515-281-3013.

Sincerely,

A handwritten signature in cursive script that reads "Kathleen Moench".

Kathleen Moench
Budget & Finance Bureau



STATE OF IOWA

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

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

December 16, 2010

Brenda J. Durbahn
AECOM
501 Sycamore Street, Suite 222
Waterloo, IA 50703

Dear Ms. Durbahn:

This letter is in response to the November 29th request concerning the Muscatine project. 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.

Waters of the United States (includes wetlands) should not be disturbed if a less environmentally damaging alternative exists. Unavoidable adverse impacts should be minimized to the extent practicable. Any remaining adverse impacts should be compensated for through restoration, enhancement, creation and/or preservation activities.

We would ask that Best Management Practices be used to control erosion and protect water quality near the project. You are encouraged to conduct your construction activities during a period of low flow. You are required to seed all disturbed areas with native grasses and to implement appropriate erosion control measures to insure that sediments are not introduced into waters of the United States during construction of this project. Clearing of vegetation, including trees located in or immediately adjacent to waters of the state, should be limited to that which is absolutely necessary for construction of the project.

Contaminated Sites

Five contaminated sites were found in the project area for the US-61/IA-92 Mississippi Drive Corridor in Muscatine, Iowa. HON Industries and the Muscatine FMGP are active sites located on the HON Industries property at 301 Oak Street. For additional information about these sites, please contact the DNR project manager, Matt Culp, at 515-242-5087. The remaining three contaminated sites include McKee Button Company, Muscatine Riverfront Development, and Muscatine Pentachlorophenol. These sites were found in our archives located in the Records Center. The DNR Records Center may be reached at 515-242-5818.

Underground Storage Tanks

Attached are a map and spreadsheet showing the sites in this project area.

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,

A handwritten signature in black ink, appearing to read "Christine Spackman".

Christine Spackman

502 EAST 9th STREET / DES MOINES, IOWA 50319-0034
PHONE 515-281-5818 FAX 515-281-6794 www.iowadnr.gov

Facility ID	Facility Name	Address	Programs
310473019	Park & Recreation Dept City Hall	HARBOR DR Muscatine, IA 527610000	Underground Storage Tank-UST-198811653
310487746	Grosjean's Tire And Service	111 MULBERRY AVENUE Muscatine, IA 52761	Underground Storage Tank-Leaking UST-7LTP25
310494303	Krieger Motor Co	101 CHESTNUT ST Muscatine, IA 527610000	Underground Storage Tank-UST-198603775
310516522	Heart Of Muscatine Project	312 IOWA AVE Muscatine, IA 527610000	Underground Storage Tank-Leaking UST-8LTK81
310599916	Evans Service Center Inc	4TH & SYCAMORE Muscatine, IA 527610000	Underground Storage Tank-UST-199117223
310614841	Central State Bank	136 E 3rd St Muscatine, IA 527610000	Underground Storage Tank-Leaking UST-7LTM38
310615251	Muscatine Power And Water	2ND AND PINE ST Muscatine, IA 527610000	Underground Storage Tank-UST-197900059
310620598	Boathouse	Harbor Dr MISSISSIPPI BLVD & IOWA AVE Muscatine, IA 52761	Underground Storage Tank-UST-198600579
310515494	Mr Jim's Dry Cleaning	101 WALNUT STREET Muscatine, IA 52761	Underground Storage Tank-Leaking UST-8LTZ87
310539236	Casey's Gen Store	913 W MISSISSIPPI DR Muscatine, IA 527610000	Underground Storage Tank-UST-197910160
310572064	Former Muscatine Oil Co.	202 GRANDVIEW Muscatine, IA 52761	Underground Storage Tank-UST-198603722
310586284	Clarks Standard Service	103 GRANDVIEW Muscatine, IA 52761	Underground Storage Tank-Leaking UST-9LTJ52
310600956	Former Carver Pump	1056 HERSHEY AVENUE Muscatine, IA 527610000	Underground Storage Tank-UST-197910451
310623877	Kerr-mcgee #7531	201 GREEN Muscatine, IA 527610000	Underground Storage Tank-Leaking UST-8LTZ56
310438872	Former Catering Service	418 GRANDVIEW AVENUE Muscatine, IA 52761	Underground Storage Tank-Leaking UST-197910153
310488981	Pletts 66	515 GRANDVIEW AV Muscatine, IA 527610000	Underground Storage Tank-Leaking UST-7LTD06

Underground Storage Tank-UST-198606525
Underground Storage Tank-Leaking UST-8LTW26
Underground Storage Tank-UST-197910104
Underground Storage Tank-Leaking UST-8LTK37
Underground Storage Tank-UST-198610209
Underground Storage Tank-Leaking UST-7LTF51
Underground Storage Tank-UST-198912686
Underground Storage Tank-Leaking UST-7LTR34
Underground Storage Tank-UST-198602808
Underground Storage Tank-UST-200000060
Underground Storage Tank-Leaking UST-8LTP63
Underground Storage Tank-UST-198609378

310500179 S J Smith Welding Supply

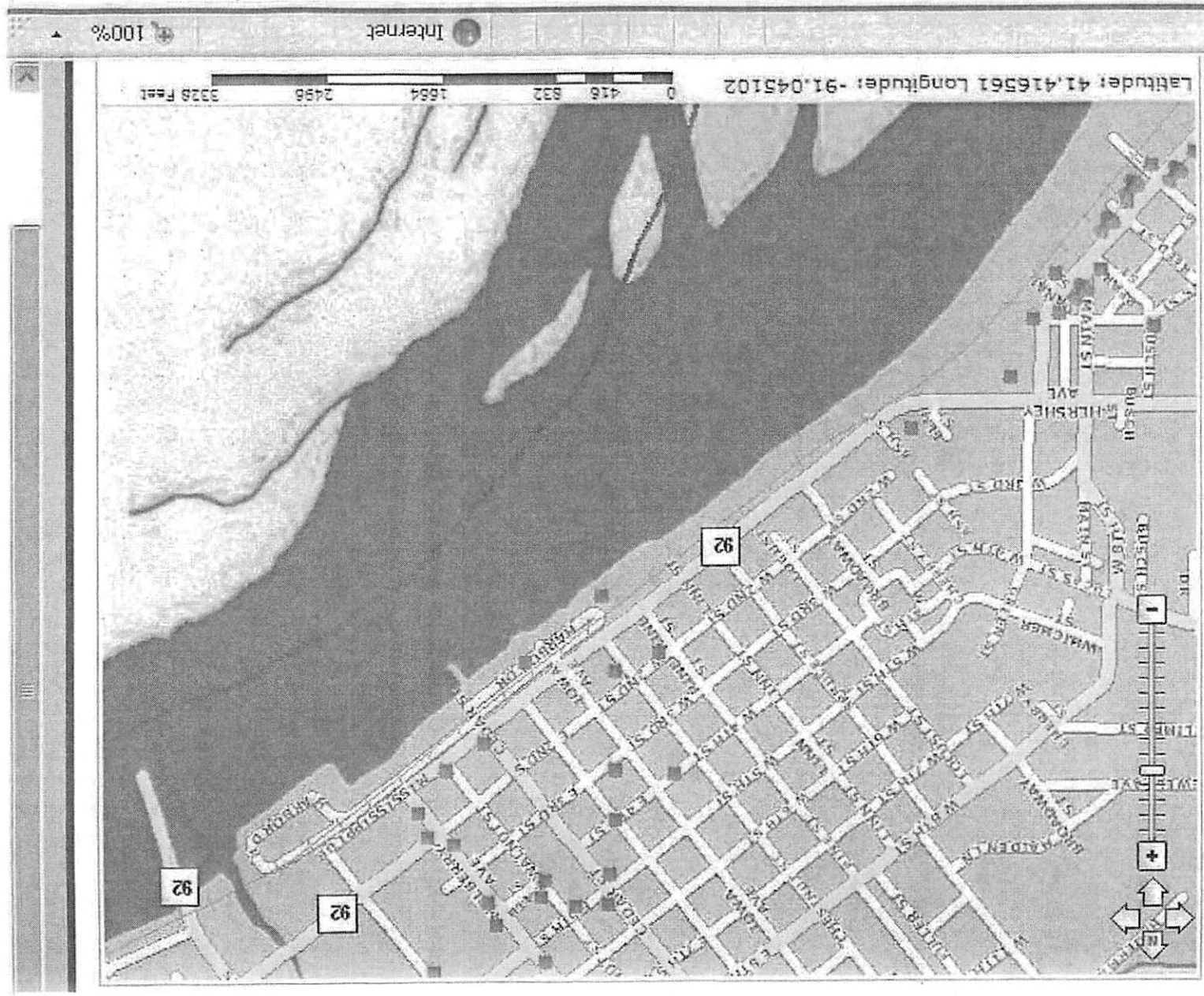
310605039 Kum & Go #437

310608649 Muscatine Mustang Market

310628023 Holiday Stationstore #10

205 GRANDVIEW
Muscatine, IA 527610000
709 GRANDVIEW
Muscatine, IA 52761
706 GRANDVIEW AVE
Muscatine, IA 52761
503 GRANDVIEW
Muscatine, IA 52761

Underground Storage Tank-UST-198609553
Underground Storage Tank-Leaking UST-8LTG22
Underground Storage Tank-UST-198609969
Underground Storage Tank-Leaking UST-7LTR36
Underground Storage Tank-UST-198601473
Underground Storage Tank-Leaking UST-8LTN06
Underground Storage Tank-UST-198604810





A Division of the Iowa Department of Cultural Affairs

December 7, 2010

In reply refer to:
R&C#: 080170073

Brenda J. Durbahn
AECOM
501 Sycamore Street
Suite 222
Waterloo, Iowa 50703

RE: FHWA - MUSCATINE COUNTY - STP-U-5330(614)—27-70 - CITY OF MUSCATINE -
PROPOSED US 61/ IA 92 (MISSISSIPPI DRIVE) CORRIDOR STUDY AND
PREPARATION OF ENVIRONMENTAL ASSESSMENT - **REVISED**

Dear Ms. Durbahn,

Thank you for notifying our office about the above referenced proposed project. We understand that this project will be a federal undertaking for the Federal Highway Administration (FHWA) and will need to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and its implementing regulations, 36 CFR Part 800 (revised, effective August 5, 2004) and with the National Environmental Policy Act (NEPA).

It is our understanding that cultural resource studies have been conducted for this undertaking and that we have consulted with the Iowa Department of Transportation about the results of the investigations. One archaeological site, 13MC242, was identified as part of the initial archaeological investigation conducted by Wapsi Valley Archaeology, Inc.. This site was evaluated by the consultant as potentially eligible for listing on the National Register under Criterion D for its potential to yield significant information about the Pearl Button Industry in Muscatine. At the time of consultation, it was unclear whether this site would be affected by the proposed undertaking. Two architectural properties were identified as part of the architectural reconnaissance survey conducted by Spark Consulting. The Beach Lumber and Supply Company (70-01178) was evaluated as not meeting any of the eligibility criteria for listing on the National Register. The Puritan Ice Company (70-01194) was evaluated as eligible for listing on the National Register under Criterion A as it appears to meet the Registration Requirements for the 20th Century Business and Industry properties in the 2006 *Historical and Architectural Resources of Muscatine, Iowa*. The Iowa Department of Transportation provided our office with an **Adverse Effect** determination for The Puritan Ice Company (70-01194) which we concurred with on March 6, 2008.

We request that all correspondence related to this undertaking for Section 106 consultation be provided to our office through the Office of Location and Environment at the Iowa Department of Transportation in accordance with our Programmatic Agreement.

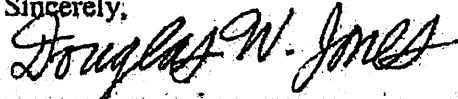
We look forward to further consulting with the Office of Location and Environment at the Iowa Department of Transportation, the City of Muscatine, and the Federal Highway Administration on the Area of Potential Effect for this proposed project, further discussing the effects of this undertaking on

historic properties, and on the resolution of any adverse effects to historic properties. If there will be Adverse Effects to historic properties, a Memorandum of Agreement will probably need to be consulted on and developed to conclude the Section 106 Consultation process for this undertaking.

Also, the responsible federal agency will need to identify and contact all potential consulting parties that may have an interest in historic properties within the project APB (36 CFR 36 Part 800.2 (c)).

Please reference the Review and Compliance Number provided above in all future submitted correspondence to our office for this project. We look forward to further consulting with the Office of Location and Environment at the Iowa Department of Transportation and the Federal Highway Administration on this project. Should you have any questions please contact me at the number below.

Sincerely,



Douglas W. Jones, Archaeologist and Review and Compliance Program Manager
State Historic Preservation Office
State Historical Society of Iowa
(515) 281-4358

cc: Mike La Pietra, FHWA
Libby Wielenga, OLE, IDOT, Ames
Matt Oetker, NEPA Compliance, OLE, IDOT, Ames
Ralph Christian, Historian, State Historical Society of Iowa
Steve Boka, City of Muscatine
Mike Helms, Stanley Consultants, Muscatine
Randy Faber, OLE, IDOT, Ames
Barbara Mitchell, Iowa Deputy SHPO
John Doershuk, State Archaeologist, OSA
Jim Rudisill, Staff Contact, City of Muscatine
Dan Clark, Chair, Muscatine Historic Preservation Commission



REPLY TO
ATTENTION OF

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

December 21, 2010

Planning, Programs, and
Project Management Division

Ms. Brenda Durbahn, MA
AECOM
501 Sycamore Street
Suite 222
Waterloo, Iowa 50703

Dear Ms. Durbahn:

I received your letter dated November 29, 2010, concerning U.S. 61/IA 92 (Mississippi Drive) Corridor Study and Environmental Assessment, Muscatine, Iowa (Project No. STP-U-5330(614)—27-70). Rock Island District Corps of Engineers staff reviewed the information you provided and have the following comments:

a. Your proposal does not involve Rock Island District administered land; therefore, no further Rock Island District real estate coordination is necessary. However, additional coordination is required with our Emergency Management Division to determine potential impacts to the Muscatine Local Flood Protection Project. You may contact Ms. Sarah Jones of the Emergency Management Division by writing to the address above or by telephone at (309) 794-5206.

b. Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. We require additional details of your project before we can make a final determination of permit requirements. When detailed plans are available, please complete and submit an application packet to the Rock Island District for processing.

c. The Responsible Federal Agency should coordinate with Ms. June Strand, Iowa Historic Preservation Agency, ATTN: Review and Compliance Program, State Historical Society of Iowa, 600 East Locust, State Historic Building, Des Moines, Iowa 50319 to determine impacts to historic properties.

d. The Rock Island Field Office of the U.S. Fish and Wildlife Service should be contacted to determine if any federally-listed endangered species are being impacted and, if so, how to avoid or minimize impacts. The Rock Island (County) Field Office address is: 1511 - 47th Avenue, Moline, Illinois 61265. Mr. Rick Nelson is the Field Supervisor. You can reach him by calling 309/757-5800.

e. The Iowa Emergency Management Division should be contacted to determine if the proposed project may impact areas designated as floodway. Mr. John Wagman is the Iowa State Hazard Mitigation Team Leader. His address is: 7105 NW 70th Avenue, Camp Dodge-Building W4, Johnston, Iowa 50131. You can reach him by calling 515/725-3231.

No other concerns surfaced during our review. Thank you for the opportunity to comment on your proposal. If you need more information, please call Mr. Randy Kraciun of our Environmental and Economics Branch, telephone 309/794-5174.

You may find additional information about the Corps' Rock Island District on our website at <http://www.mvr.usace.army.mil>. To find out about other Districts within the Corps, you may visit: <http://www.usace.army.mil/about/Pages/Locations.aspx>.

Sincerely,



Kenneth A. Barr
Chief, Environmental and
Economics Branch

From: Jody_Millar@fws.gov
To: [Durbahn, Brenda](#)
Subject: Re: Mississippi Drive (Iowa 92), Muscatine, Iowa
Date: Thursday, August 11, 2011 2:14:51 PM

We have no objection to the subject project.

Jody G. Millar
Assistant Field Supervisor
1511-47th Avenue
Moline, Illinois 61265
309-757-5800 x 202

"Durbahn, Brenda"
<BRENDA.DURBAHN@aecom.com>
To
<jody_millar@fws.gov>
08/09/2011 08:52 AM cc
"Veal, Barbara"
<VealBarbara@stanleygroup.com>
Subject
Mississippi Drive (Iowa 92),
Muscatine, Iowa

Jody,

Thank you for returning my call regarding early coordination on the Mississippi Drive project in Muscatine, Iowa. I have attached the letter, project description and map for your use. The letter is addressed as it was in our original submittal but with the current date. The original letter was dated November 29, 2010. We would be interested in any comments FWS has as it relates to this project and your agency's jurisdiction by law. If you have any questions or comments, please feel free to contact me.

Sincerely,

Brenda

Brenda Durbahn, M.A.
Transportation Planning

D 319.874.6592
brenda.durbahn@aecom.com

AECOM
501 Sycamore Street
Suite 222
Waterloo, Iowa 50703
T 319.232.6531 F 319.232.0271
www.aecom.com

[attachment "20110809084815.pdf" deleted by Jody G Millar/R3/FWS/DOI]
[attachment "EarlyCoord-ProjDescrp.docx" deleted by Jody G
Millar/R3/FWS/DOI] [attachment "Figure 1-MississippiDr.pdf" deleted by Jody
G Millar/R3/FWS/DOI]

JUL 20 2011



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1035 Fax 515-239-1726

July 18, 2011

Ralph Christian
Doug Jones
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319

Ref. No: STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project

R&C: 080170073

Dear Ralph and Doug:

RE: Cultural Resource Assessment; Mississippi Drive Corridor Reconstruction Project, City of Muscatine

Enclosed for your review and comment is a cultural resource assessment for the above referenced federally funded project. The City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from Main Street and Pearl Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge.

The enclosed assessment reviewed known resources that are listed, eligible, or potentially eligible for the National Register of Historic Places (NRHP), and identified any additional resources previously unreported within or adjacent to the study area to determine potential eligibility or recommend further reviews.

A total of 150 properties were reviewed during the architectural assessment of the study area. This assessment identified two historic buildings and two historic districts currently listed on the NRHP within or adjacent to the study area. These districts include the West Hill Historic District (70-01005) and the Downtown Commercial Historic District (70-01004). Within the Downtown Commercial Historic District at 411 E 2nd Street resides the Trinity Episcopal Church (70-00146), a building individually listed on the NRHP. The S. M. McKibben House (70-00616) at 102-104 Walnut Street is also individually listed on the NRHP. Of the 150 total properties reviewed, 17 have been determined not eligible, 77 have been determined eligible or listed individually or as part of a historic district, and 56 have not yet been evaluated for the NRHP. Any property not yet evaluated for the NRHP will either be avoided by the project or will be fully evaluated in the future to determine eligibility.

The archaeological assessment reviewed four previously identified archaeological sites within the study area. Site 13MC233, identified as a historic farm/residence site, was previously determined not eligible for the NRHP and no additional work is recommended. Site 13MC242, a historic industrial dump site, has not been fully

STP-U-5330(614)--70-70 [1]

evaluated for the NRHP and thus, is recommended for further testing or avoidance. Two historic farm/residence sites, identified as 13MC296 and 13MC297, are likely destroyed; however, as they have not been sufficiently defined, further research and testing or avoidance is recommended.

Background research during this archaeological assessment identified seven additional areas as having a potential to produce historic archaeological resources. These potential resources include, the Papoose Creek trunk sewer, the Chicago, Rock Island & Pacific Passenger depot, the Chicago, Rock Island & Pacific freight depot, the Great Western Cereal Company storage and shipping building, additional McKee Button Company middens, a trading post (the first building in Muscatine), and a high bridge pier. If the proposed project will affect any of these potential resource locations, subsurface testing and additional research for these seven locations is recommended to determine if archaeological deposits exist.

Previous correspondences have been submitted to your office regarding this project; however, due to project scoping changes, no determination will be provided at this time. A determination of effect will be established after project alignment information becomes available, an Area of Potential Effect has been established, and consultation regarding all historic properties has occurred. If you concur with the finding of this cultural resources assessment, please sign the concurrence line below, add your comments, and return this letter. If you have any questions, please contact me.

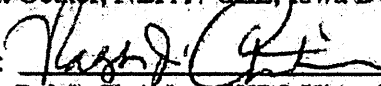
Sincerely,

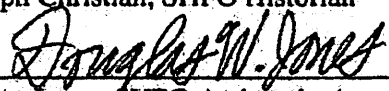


Libby Wielenga
Office of Location and Environment
libby.wielenga@dot.iowa.gov

LJCW

cc: Steve Boka, City of Muscatine
Jim Rudisill, City of Muscatine
Barbara Veal, Stanley Consultants
Mike Helms, Stanley Consultants
Brenda Durbahn, AECOM
Dan Clark, Chair, Muscatine Historic Preservation Commission
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:  Date: 7/26/11
Ralph Christian, SHPO Historian

Concur:  Date: 7/26/2011
Doug Jones, SHPO Archaeologist

Comments:

FEB 07 2012



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1035 Fax 515-239-1726

February 6, 2012

Doug Jones
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319

Ref. No: STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project

R&C: 080170073

Dear Doug:

**RE: Phase I Archaeological Investigation; Mississippi Drive Corridor
Reconstruction Project, City of Muscatine**

Enclosed for your review and comment is a phase I archaeological investigation for the above referenced federally funded project. The City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from Main Street and Pearl Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge.

The investigation of the project area consisted of an archival records search and field investigation, and surveyed a total of 15.5 acres (6.28 ha). The field investigation included a pedestrian survey and shovel testing, where possible, that focused on areas identified during the phase IA cultural resource assessment (Deiber and Schoen 2011) as having a potential for intact archaeological deposits.

The current investigation recorded four previously unidentified archaeological sites, including 13MC323, associated with the C.R.I.&P.R.R. freight depot; and 13MC324, 13MC325, and 13MC326, all three 1830s ground surface deposits. All four sites will either be avoided by this project or further investigations will be completed.

A number of potential areas identified during the previous assessment were unable to be surveyed during this investigation. In particular, access was denied at the previously identified archaeological site, 13MC242; the intersection of Iowa Avenue and Mississippi Drive; and the intersection of Ash Street and Mississippi Drive. The latter two locations necessitate testing to determine the existence of the 1833 Russell Farnham Cabin and the 1838 residence, respectively. Also, at locations along Linn and Cedar Streets, ground conditions restricted the use and sufficient depth of shovel tests. If project activities will occur within any of these areas, additional archaeological investigations will be conducted.

STP-U-5330(614)--70-70 [1]

Previous correspondences have been submitted to your office regarding this project; however, due to project scoping changes, no determination will be provided at this time. A determination of effect will be established after project alignment information becomes available, an Area of Potential Effect has been established, and consultation regarding all historic properties has occurred. If you concur with the finding of this phase I archaeological investigation, please sign the concurrence line below, add your comments, and return this letter. If you have any questions, please contact me.

Sincerely,



Libby Wielenga
Office of Location and Environment
libby.wielenga@dot.iowa.gov

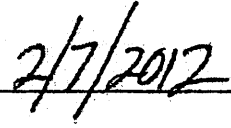
LJCW

cc: Steve Boka, City of Muscatine
Jeff Hillegonds, Stanley Consultants, Inc.
Brenda Durbahn, AECOM
Jane Reischauer, Chair, Muscatine Historic Preservation Commission
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:


Doug Jones, SHPO Archaeologist

Date:



Comments:

MAY 11 2012



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1035 Fax 515-239-1726

May 10, 2012

Ralph Christian
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319

Ref. No: STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project

R&C: 080170073

Dear Ralph:

**RE: Intensive Historic Architecture Survey; Mississippi Drive Corridor
Reconstruction Project, City of Muscatine**

Enclosed for your review and comment is an intensive historic architecture survey for the above referenced federally funded project. The City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from Main Street and Pearl Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge.

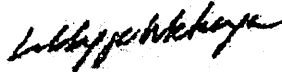
This survey evaluated five buildings within the extended project area along Green Street in Muscatine, including an A&W Root Beer Stand at 200 Green Street (70-01189), the Adolph Bomke House at 202 Green Street (70-01190), the George Niebert House at 204 Green Street (70-01191), the Harry Shiftlet House at 206 Green Street (70-01192), and the Robert Rankins House at 208 Green Street (70-01193). As outlined in the enclosed survey, all five buildings have diminished integrity of design, workmanship, materials, and feeling. None of these properties possess distinction as all are common examples of their type and period. As such, all five buildings have been recommended not eligible for the National Register of Historic Places (NRHP). Also, the Hershey Neighborhood Historic District (70-01180), including the four houses discussed above, was also evaluated for eligibility to the NRHP. Based on the diminished integrity and lack of evidence illustrating an association with important events or people, this district does not qualify for eligibility to the NRHP. The Iowa DOT agrees with these recommendations.

A determination of effect will be established for this project after alignment information becomes available, an Area of Potential Effect has been established, and consultation regarding all historic properties has occurred. If you concur with the finding of this intensive historic architectural survey, please sign the concurrence line below, add your comments, and return this letter.

STP-U-5330(614)--70-70 [1]

If you have any questions, please contact me.

Sincerely,

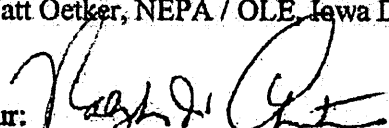


Libby Wielenga
Office of Location and Environment
libby.wielenga@dot.iowa.gov

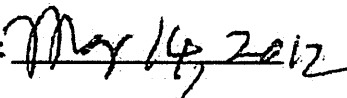
LJCW

cc: Steve Boka, City of Muscatine
Jeff Hillegonds, Stanley Consultants, Inc.
Brenda Durbahn, AECOM
Jane Reischauer, Chair, Muscatine Historic Preservation Commission
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:

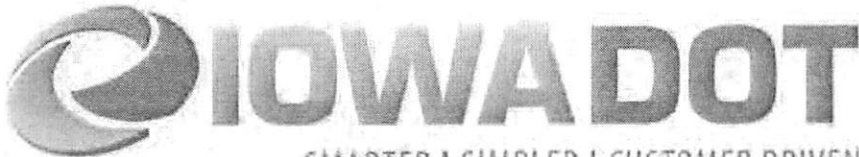

Ralph Christian, SHPO Historian

Date:



Comments:

RC# 080170073



www.iowadot.gov

Office of Location & Environment

800 Lincoln Way, Ames, IA 50010

Phone: 515-239-1035 | Email: libby.wielenga@dot.iowa.gov

RECEIVED

March 26, 2014

MAR 28 2014

by SHPO

Ref. STP-U-5330(614)--70-70

City of Muscatine

Muscatine County

Local Project

LBG-2002140-1 & LBG-2002129-1

R&C: 080170073

Mr. Ralph Christian
Mr. Doug Jones
State Historic Preservation Office
600 East Locust
Des Moines, IA 50319

Dear Ralph and Doug:

RE: Supplemental Phase I Archaeological Investigation, Phase II Archaeological Evaluation, Phase IA Archaeological Assessment, Archaeological Letter Report, and National Register Evaluation for the Mississippi Drive Corridor Reconstruction Project, City of Muscatine; possible *Adverse Effect* scenario

Enclosed for your review and comment are multiple cultural resources reports for the above referenced federally funded project. As part of this project, the City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from Main Street and Pearl Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge. The project also includes updates to municipal utilities throughout the corridor and raising the road grade from Sycamore Street to Mulberry Avenue. Our offices have frequently consulted on this project over the past few years.

The enclosed supplemental phase I investigated two archaeological sites within the project Area of Potential Effects (APE), and consisted of an archival records search and field investigation, including shovel testing. The two sites investigated, 13MC325 and 13MC326, both represent early nineteenth-century historic sites in Muscatine. Although some intact deposits were identified during this and the previous phase I investigation (Schoen 2012), due to the previous disturbance from known and unknown subsurface utility installation and trenching, it is recommended that neither site 13MC325 nor site 13MC326 have sufficient integrity to qualify for listing on the National Register of Historic Places. The Iowa DOT agrees with the recommendations outlined in this report.

The enclosed phase II evaluated site 13MC242, a previously recorded historic shell midden deposit, for eligibility to the National Register of Historic Places. This site was tested using machine trenching at locations where the potential for undisturbed deposits appeared highest. Based on the results of this evaluation, this site is recommended not eligible for the National Register of Historic Places and no additional archaeological testing is recommended for this site. The Iowa DOT agrees with the recommendations outlined in this report.

There are four additional archaeological sites and areas of interest within the APE. These are summarized in the enclosed archaeological letter report dated January 14, 2014. Sites 13MC297, 13MC323, 13MC324, and the 1833 Russell Farnham Cabin area were previously identified (Schoen 2012) and concurred by your office that avoidance or additional testing would occur. Due to access restrictions for subsurface testing, these sites have not been evaluated for National Register eligibility. It is likely these sites have been disturbed from previous and existing water mains, sewer lines, as well as electrical and communications lines and that no intact deposits remain; however, this has not been verified and so these sites are considered potentially eligible. The majority of this project will remain within the existing disturbed roadway dimensions. Compaction from construction is not expected to cause an adverse effect on any possible intact deposits below the existing roadway. As subsurface utility improvements will occur as part of this project, this activity does have the potential to affect any intact resources. To ensure this work will not have an adverse effect on any intact deposits that may be present, construction monitoring by a Secretary of the Interior qualified archaeologist during utility work near these sites is being proposed by the project sponsor. The details of this monitoring could be captured in a possible project Memorandum of Agreement (MOA).

Recently, the project APE has expanded to the south. This area has since been reviewed and is discussed in the enclosed phase IA archaeological assessment, dated March 15, 2014. This assessment consisted of an archival and site records search. No previously recorded archaeological sites were identified within this expanded area. Based on the results of this assessment, this area has a low potential for containing archaeological deposits and no additional investigation is recommended. The Iowa DOT agrees with the recommendations outlined in this report.

As part of the project utility work, the City proposes to improve the storm sewer and sanitary sewer lines by adjusting the elevation of existing manholes and insets to match the new road pavement and curb, relocating inlets, replacing or installing manholes, and replacing or constructing new storm sewer lines. This work will take place near Pearl Street and from southwest of Broadway Street to Orange Street and southeast along Orange Street to the Mississippi River. Because of the project's proposed storm sewer and sanitary sewer line improvements, the City completed a National Register Evaluation of the main sewer segment within the APE.

The enclosed evaluation included an archival and records search of the Papoose Creek Sewer, other storm sewers along Mississippi Drive, and an evaluation of applicable resources. Based on this evaluation, the Papoose Creek Sewer is recommended eligible for listing on the National Register of Historic Places under Criterion C. The project plans

indicate the Papoose Creek Sewer is within the APE, but will not be adversely affected by the proposed project. To ensure the proposed project will not have an adverse effect on the Papoose Creek Sewer and any other potentially eligible sections or elements of these lines, construction monitoring by a Secretary of the Interior qualified historian or architectural historian during utility work is being proposed by the project sponsor. A stipulation can be added to a possible project MOA stating if during construction a brick sewer structure or potentially eligible component of the sewer is encountered, the structure shall be evaluated and documented by a qualified Secretary of the Interior historian or architectural historian prior to removal or modification. All the details of the proposed monitoring, and any applicable documentation can be captured in a possible project MOA. The Iowa DOT agrees with the recommendations outlined in this report.

The unevaluated Hershey Lumber Building (107 Elm Street) currently has two access points from Mississippi Drive: one from Elm Street and the other from Ash Street. Due to safety restrictions, vehicular access from Mississippi Drive to Elm Street will be closed as part of this project. Pedestrian access will remain. All access to this property from Ash Street will remain and be improved to provide for safer access to the properties north of Mississippi Drive. The entry access and parking to the Hershey Lumber Building will remain the same. Removing access from Elm Street and maintaining access from Ash Street will not adversely affect any integrity and significance that would allow the Hershey Lumber Building to be determined eligible for listing on the National Register of Historic Places.

The project APE overlaps with two historic districts, including 25 contributing resources of the Downtown Historic District, and two contributing resources of the West Hill Historic District. In addition, a total of 40 individual properties (i.e. structures, objects, and buildings) and four archaeological sites/areas are within this project APE. The identified properties for this project range from properties listed on or eligible for listing on the National Register of Historic Places to properties that have not yet been fully evaluated for the National Register. Any property not fully evaluated for the National Register will be considered a historic property for compliance with federal regulations and the purposes of this project. Therefore, all historic properties within the project APE are identified in the enclosed spreadsheet (Table 1). See the enclosed map for geographic references (Figures 1-8).

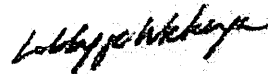
The City of Muscatine has worked diligently to consider the project's effects on all historic properties within the APE. Enclosed for your review is a set of proposed project plans. As you can see, the current alignment avoids the overwhelming majority of these historic properties, however, many remain within the APE. Based on the proposed project, some vibration is expected to occur during the demolition and reconstruction of Mississippi Drive. As such, consultation regarding vibration effects will continue as this project moves forward to determine whether monitoring, minimization of equipment, or a combination of these two methods will occur to avoid adverse effects to the historic properties within the APE.

Included with the resources identified in Table 1 is the Puritan Ice Company building (205-207 Green Street; 70-01194). As you can see on the enclosed plan sheet, this property would be taken and therefore adversely affected by the proposed project alignment. At this time, this alternative is the most feasible and prudent alternative available to achieve the project's

purpose and need while minimizing the environmental effects overall. During previous public meetings and consultation with interested parties, no negative comments regarding this alignment's effects on cultural resources were received. At this time, the project sponsor and Iowa DOT are preparing for a possible Adverse Effect scenario for this project and will continue consultation with your office and interested parties.

If you concur with the finding of these reports, please sign the concurrence line below, add your comments, and return this letter. If you have any questions, please contact me.

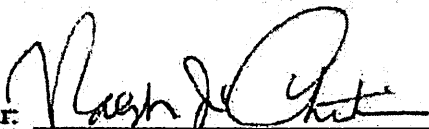
Sincerely,

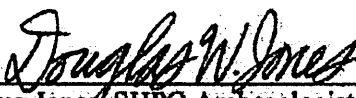


Libby Wielenga
Office of Location and Environment

LJCW:sm

cc: Mike LaPietra, FHWA
Steve Boka, City of Muscatine
Jeff Hillemonds, Stanley Consultants
Brenda Durbahn, AECOM
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:  Date: April 9, 2014
Ralph Christian, SHPO Historian

Concur:  Date: 4/17/2014
Doug Jones, SHPO Archaeologist

Comments:



SMARTER | SIMPLER | CUSTOMER DRIVEN

www.iowadot.gov

Office of Location & Environment

800 Lincoln Way, Ames, IA 50010

Phone: 515-239-1035 | Email: libby.wielenga@dot.iowa.gov

June 25, 2014

RECEIVED

JUN 30 2014

by SHPO

Ref. STP-U-5330(614)--70-70

City of Muscatine

Muscatine County

Local Project

R&C: 080170073

Mr. Ralph Christian
Mr. Doug Jones
State Historic Preservation Office
600 East Locust
Des Moines, IA 50319

Dear Ralph and Doug:

RE: Mississippi Drive Corridor Reconstruction Project, City of Muscatine; *Adverse Effect*

Enclosed for your review and comment is information regarding the above referenced federally funded project. As part of this project, the City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from south of Main Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge. The project also includes updates to municipal utilities throughout the corridor and raising the road grade from Sycamore Street to Mulberry Avenue. Our offices have frequently consulted on this project over the past few years.

The City of Muscatine has worked diligently to consider the project's effects on all historic properties within the Area of Potential Effects (APE). After additional review of the project's purpose and need, consideration of all resources, consultation with your office, interested parties, and the public, and a review of all possible alternatives, the City of Muscatine has decided to move forward with Option 1D for this project which includes realigning Grand Avenue with Green Street. Enclosed for your review is a set of the proposed project plans. As you can see, the current alignment avoids the overwhelming majority of these historic properties, however, many remain within the APE.

Based on the proposed project, some vibration is expected to occur during the demolition and reconstruction of Mississippi Drive. A total of 68 properties within the APE were reviewed for effects due to construction vibration. Based on that review, the City of Muscatine will provide plan notes within the construction documents identifying 47 properties within the APE as historic (see Table 1), as well as including the following language to avoid adversely affecting these properties.

- The construction plans will contain a plan note to the contractor informing them that all properties listed within Table 1 are listed or considered eligible for listing on the National Register of Historic Places.
- The construction plans shall contain a plan note to the contractor informing them that any demolition and construction methods and equipment used shall achieve low project vibration levels when working near these properties.
- If damage to these properties occurs during construction or demolition, all activities will cease until approval from the construction engineer occurs.
- Check plans will be provided to the Office of Location and Environment and SHPO for their review.
- Final plans will be provided to the Office of Location and Environment and SHPO for their information.

Due to the combination of age, condition, and materials used, a total of 21 properties were elevated to a higher level of risk to vibration (see Table 2), and as such will be monitored during construction for vibration effects. A Special Provision will be added to the construction documents and will include the steps below to avoid any adverse effects to these properties.

- A preconstruction survey of these properties will be completed to will document their present condition. The preconstruction survey will also establish a peak particle velocity (PPV) threshold for vibration.
- Sensors (crack and/or seismic) will be installed and tested daily. If 80 percent of the PPV threshold is reached sensors will alert the contractor and in turn the construction engineer.
- If the PPV is reached, a meeting with the contractor and the construction engineer will identify alternative demolition/construction methods and/or equipment to be used to minimize project vibration.
- A post construction survey will be performed.

Based on the proposed project, there are four archaeological sites within the APE that were previously identified and received concurrence from your office that avoidance or additional testing would occur. These sites include 13MC297, 13MC323, 13MC324, and the 1833 Russell Farnham Cabin area. Due to access restrictions for subsurface testing, these sites have not been evaluated for National Register eligibility. It is likely these sites have been disturbed from previous and existing water mains, sewer lines, as well as electrical and communications lines and that no intact deposits remain; however, this has not been verified and so these sites are considered potentially eligible. The majority of this project will remain within the existing disturbed roadway dimensions. Compaction from construction is not expected to cause an adverse effect on any possible intact deposits below the existing roadway. As subsurface utility improvements will occur as part of this project, this activity does have the potential to affect any intact resources. As such, construction monitoring by a Secretary of the Interior qualified archaeologist during utility work near these sites will occur. The details of this monitoring will be captured within the project Memorandum of Agreement (MOA).

The Papoose Creek Sewer, a property recommended eligible for the National Register of Historic Places, is also within the project APE; however, it will not be adversely affected by the proposed project. To ensure the proposed project will not have an adverse effect on any other potentially eligible sections or elements of the sewer lines, construction monitoring by a Secretary of the Interior qualified historian or architectural historian during utility work is being proposed by the City of Muscatine. A stipulation detailing this will be added to the project MOA.

As previously mentioned, this alternative will avoid adversely affecting 69 properties; however, it will adversely affect the Puritan Ice Company building (TeStrake building) (70-01194) located at 205-207 Green Street. This alternative was determined to be the only feasible and prudent alternative available to achieve the project's purpose and need while minimizing the environmental effects overall. During previous public meetings and consultation with tribes and other interested parties, no negative comments regarding this alignment's effects on historic properties were received.

Therefore, based on the enclosed project information, our office has given this project a determination of **Adverse Effect**. The City of Muscatine and Iowa DOT will continue the consultation process to resolve the adverse effect of this project.

If you concur, please sign the concurrence line below, add your comments, and return this letter. If you have any questions, please contact me at 515-239-1035 or libby.wielenga@dot.iowa.gov.

Sincerely,

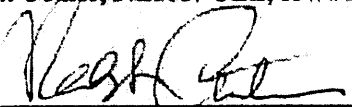


Libby Wielenga
Office of Location and Environment

LJCW:sm

cc: Mike LaPietra, FHWA
Steve Boka, City of Muscatine
Barbara Veal, Stanley Consultants
Brenda Durbahn, AECOM
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:



Ralph Christian, SHPO Historian

Date:

7/2/14

Concur:



Doug Jones, SHPO Archaeologist

Date:

7/9/2014

Comments:



Iowa Department of Transportation

800 Lincoln Way, Ames, IA 50010

515-239-1035

FAX: 515-239-1726

December 06, 2010

Mr. John Blackhawk
Winnebago Tribe of Nebraska
Box 687
Winnebago, NE 68071

Ref. No: STP-U-5330(614)--27-70
Muscatine
Local

**RE: U.S. 61/IA 92 (Mississippi Drive) Environmental Assessment
Muscatine, Iowa**

Dear Mr. Blackhawk:

The City of Muscatine, in coordination with the Federal Highway Administration (FHWA) and the Iowa Department of Transportation (IDOT), is proposing to improve U.S. 61/IA 92 (Mississippi Drive) from Main Street northeast to the Norbert Beckey Bridge.

As part of the early coordination effort, we request that you contact us if you have any concerns that the project could impact sites of religious or cultural importance to your tribe. We will provide any additional project information that may be of interest to you as it becomes available, including the results of archaeological surveys that will be made of any undisturbed right-of-way needed for the project.

Enclosed with the map is a postage-paid notification form that you may use, if you wish, to return comments about the project. Please feel free to call me at (515) 239-1035. If you wish to contact a representative of the U.S. Government, call Mr. Michael LaPietra, Federal Highway Administration, Iowa Division, at (515) 233-7302.

If you have any questions, please feel free to contact me.

Sincerely,

Libby J. C. Wielenga
Office of Location and Environment
Libby.Wielenga@dot.iowa.gov

cc: Mr. Mike LaPietra, FHWA

PROJECT DESCRIPTION

The Mississippi Drive (U.S. 61/IA 92) project is located in the downtown area of Muscatine, Iowa. The project limits are Main Street on the south and the Norbert Beckey Bridge on the north, a distance of 1.6 miles. The existing roadway is a 4-lane undivided urban facility that travels parallel to an active railroad and the Mississippi River for most of its length. Major concerns within the corridor are with pedestrian safety and frequent flooding. A project location map is attached.

A corridor study was completed for the Mississippi Drive (U.S. 61/IA 92) project in 2007 with the purpose of examining safety issues for pedestrians and vehicles, aesthetic issues and flood-prone areas. The 2007 study suggested several ideas that would improve this corridor and specifically address the issues of safety, aesthetics and flooding. The City of Muscatine has initiated planning and preliminary design studies for the improvement of Mississippi Drive (U.S. 61/IA 92) in Muscatine, Iowa (Muscatine County). The proposed project consists of replacing much of the current 4-lane roadway with a roadway that will better accommodate pedestrians and decrease flooding.

An Environmental Assessment (EA) will be prepared for the proposed project. An EA is a national Environmental Policy Act (NEPA) document that is required in the preliminary stages of the planning process. The EA is a written record of the analysis of potential impacts to the environment resulting from the proposed project and is prepared for projects for which the potential for significant impacts is unclear or not likely to occur. Impacts to both the natural and socioeconomic environment are evaluated.

ANTICIPATED IMPACTS

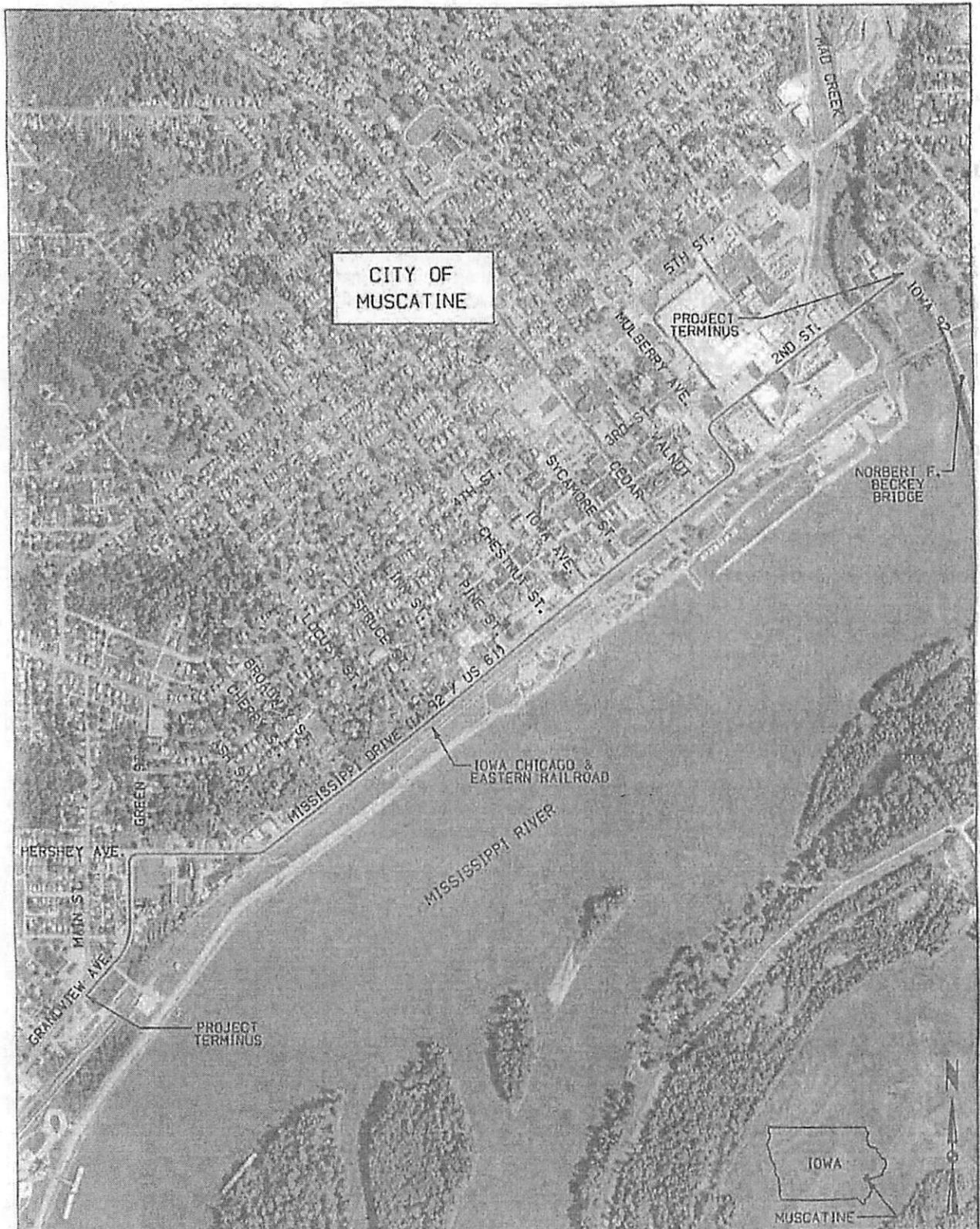
A wide spectrum of resources will be evaluated, including cultural resources; floodplains; impacts to homes, businesses and other adjacent properties; socioeconomic resources; noise and air quality. Impacts may vary depending on the elements of the final design.

As part of this project, existing right-of-way will be used whenever practical. It is anticipated that much of this project can be constructed within existing right-of-way limits. However, near the intersection of Hershey Avenue/Green Street/Grandview Avenue, right-of-way likely will be required in order to construct either a roundabout or other improved intersection type. Exact right-of-way impacts, as well as potential impacts to noise levels, cultural resources and natural resources, will be determined as planning and design activities continue.

DEVELOPMENT PROCEDURES

This project is being developed for federal funding participation. A determination by the Iowa DOT and the Federal Highway Administration has identified this project as requiring preparation of an EA.

Current regulations governing development of federally funded highway improvements require early coordination with units of government who may have interests in the project or its potential impacts. This is intended to provide early notification of the proposed project and to solicit comments regarding the potential impacts of such an action. Several federal, state and local agencies will also be contacted directly to request early input as part of the project impact identification process.



AECOM

FIGURE 1
MISSISSIPPI DRIVE CORRIDOR STUDY
MAIN ST. TO NORBERT F. BECKEY BRIDGE
EARLY COORDINATION



Iowa Department of Transportation TRIBAL NOTIFICATION

Form 536002
08-05

Date December 06, 2010 IA DOT contact Randy Faber
IADOT project # STP-U-5330(614)-27-70 Phone # IA DOT - 515-239-1215 FHWA - 515-233-7300
Location Muscatine E-mail Randall.Faber@dot.iowa.gov
Description U.S. 61/IA 92 (Mississippi Drive) Environmental Assessment
Muscatine, Iowa

Type of Project (see map)

VERY SMALL - Disturb less than 12-inch depth (plow zone)
SMALL - Grading on existing road, shouldering, ditching, etc.
SMALL - Bridge or culvert replacement

LARGE - Improve existing road from 2 lanes to 4 lanes
LARGE - New alignment
OTHER

Type of Coordination/Consultation Points

1 - Early project notification (project map and description)
2 - Notification of survey findings (Phase I)
2a - Notification of site evaluation (Phase II)

3 - Consultation regarding site treatment
4 - Data Recovery Report
5 - Other

Type of Findings

No American Indian site found
-Section 108 Consultation Process ends*

American Indian sites found but not eligible for National Register listing - Section 108 Consultation Process ends*

Avoided American Indian sites eligible for National Register listing (see map and list of sites)
-Section 108 Consultation Process may or may not end

Potentially significant American Indian sites found (see map and list of sites)

American Indian sites eligible for National Register listing cannot be avoided (see map)

Burial site found

* In the event of a late discovery, consultation will be reopened

_____ # of non-significant prehistoric sites

_____ # of potentially significant prehistoric sites

_____ # of National Register-eligible prehistoric sites

Affected National Register Properties

Investigating avoidance or minimizing harm options
Avoided

Protected
Data Recovery/MOA

Please Respond

Who should we contact for site/project-related discussions?

Name _____ Street Address _____ City, Zip Code _____
Phone _____ E-mail _____

Do you know of any sensitive areas within or near the project the FHWA/DOT should avoid (please describe)?

- | | |
|--|---|
| ☐ Thank you for the information; however, we do not need to consult on this particular project. | ☐ Thank you for the information. We are satisfied with the planned site treatment. |
| ☐ We do not have a comment at this time, but request continued notification on this project. | ☐ We have concerns and wish to consult. |
| ☐ Please send a copy of the archaeology report. | ☐ We wish to participate in the Memorandum of Agreement for this project. |

Comments _____

Name _____ Tribal name _____ Date _____

(Comments continued on back)

Additional Comments _____

Fold first

(TAPE-Do NOT Staple.)

(TAPE-Do NOT Staple.)

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CULTURAL RESOURCES SECTION
IOWA DEPARTMENT OF TRANSPORTATION
800 LINCOLN WAY
AMES IA 50010-9802



Fold last

Mike LaPietra
FHWA, Iowa Division
105 6th St
Ames, Iowa 50010

Mr. Jonathan Buffalo
THP Coordinator
Sac & Fox Nation of Mississippi in Iowa
349 Meskwaki Road
Tama, IA 52339-9629

Mr. John Blackhawk
Tribal Chairperson
Winnebago Tribe of Nebraska
Box 687
Winnebago, NE 68071

Tribal Chairperson
Iowa Tribe of Kansas and Nebraska
3345 Thrasher Rd. #B
White Cloud, KS 66097-4028

Ms. Sandra Massey
NAGPRA
Sac & Fox of Oklahoma
Route 2 - Box 246
Stroud, OK 74079

Mr. John Shalton
Otoe-Missouria Tribe
RR 1, Box 61
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Ms. Deanne Bahr
NAGPRA
Sac & Fox Nation of Missouri
305 N. Main St.
Reserve, KS 66434-9723

Cultural Preservation Office
Iowa Tribe of Oklahoma
RR1; Box 721
Perkins, OK 74059



Iowa Department of Transportation
TRIBAL NOTIFICATION

Form 536002
05-05

Date December 06, 2010 IA DOT contact Randy Faber
IADOT project # STP-U-5330(614)--27-70 Phone # IA DOT - 515-239-1215 FHWA - 515-233-7300
Location Muscatine E-mail Randall.Faber@dot.iowa.gov
Description U.S. 61/IA 92 (Mississippi Drive) Environmental Assessment
Muscatine, Iowa

Type of Project (see map)

VERY SMALL - Disturb less than 12-inch depth (plow zone)
SMALL - Grading on existing road, shouldering, ditching, etc.
SMALL - Bridge or culvert replacement

LARGE - Improve existing road from 2 lanes to 4 lanes
LARGE - New alignment
OTHER

Type of Coordination/Consultation Points

1 - Early project notification (project map and description)
2 - Notification of survey findings (Phase I)
2a - Notification of site evaluation (Phase II)

3 - Consultation regarding site treatment
4 - Data Recovery Report
5 - Other

Type of Findings

No American Indian site found
--Section 106 Consultation Process ends*
American Indian sites found but not eligible for National Register listing -- Section 106 Consultation Process ends*
Avoided American Indian sites eligible for National Register listing (see map and list of sites)
--Section 106 Consultation Process may or may not end

Potentially significant American Indian sites found (see map and list of sites)
American Indian sites eligible for National Register listing cannot be avoided (see map)
Burial site found

* In the event of a late discovery, consultation will be reopened

_____ # of non-significant prehistoric sites
_____ # of potentially significant prehistoric sites
_____ # of National Register-eligible prehistoric sites

Affected National Register Properties

Investigating avoidance or minimizing harm options
Avoided

Protected
Data Recovery/MOA

Please Respond

Who should we contact for site/project-related discussions?

Johnathan L. Buffalo 349 Meskwaki Rd Tama, IA 52339
Name Street Address City, Zip Code
(641) 484-3185 director.historic@meskwaki-nsn.gov
Phone E-mail

Do you know of any sensitive areas within or near the project the FHWA/DOT should avoid (please describe)?

- | | |
|--|---|
| ☐ Thank you for the information; however, we do not need to consult on this particular project. | ☐ Thank you for the information. We are satisfied with the planned site treatment. |
| ☒ We do not have a comment at this time, but request continued notification on this project. | ☐ We have concerns and wish to consult. |
| ☒ Please send a copy of the archaeology report. | ☐ We wish to participate in the Memorandum of Agreement for this project. |

Comments _____

Johnathan L. Buffalo
Name

Sac & Fox Tribe of the Miss. in Iowa
Tribal name

12/20/10
Date

(Comments continued on back)

Additional Comments _____

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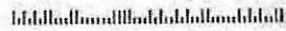
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CULTURAL RESOURCES SECTION
IOWA DEPARTMENT OF TRANSPORTATION
800 LINCOLN WAY
AMES IA 50010-9002



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**MISSISSIPPI DRIVE (IOWA 92)
FROM MAIN STREET TO THE NORBERT F. BECKEY BRIDGE
MUSCATINE, MUSCATINE COUNTY, IOWA**

STP-U-5330(614)--27-70

DRAFT SECTION 4(f) STATEMENT

Submitted Pursuant to 23 CFR 774
by the

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

and

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF LOCATION AND ENVIRONMENT

and

CITY OF MUSCATINE, IOWA

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1.0 INTRODUCTION

This document addresses the impacts from the associated improvements to Mississippi Drive on the TeStrake Building, a National Register-eligible property located at 205-207 Green Street in Muscatine, Iowa, that is eligible for review under Section 4(f) of the 1966 U.S. Department of Transportation Act. The Section 4(f) legislation, as established in 1966, provides for the protection of publicly owned parks, recreation areas, historic sites, wildlife and/or waterfowl refuges from conversion to transportation use. Section 4(f) states that the Secretary of the U.S. Department of Transportation Administration may not approve a project which requires the use of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site of national, state or local significance unless:

“(a) The Administration determines that: (1) There is no feasible and prudent avoidance alternative, as defined in § 774.17, to the use of land from the property; and (2) The action includes all possible planning, as defined in § 774.17, to minimize harm to the property resulting from such use; or (b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in § 774.17, on the property. (c) If the analysis in paragraph (a)(1) of this section concludes that there is no feasible and prudent avoidance alternative, then the Administration may approve only the alternative that causes the least overall harm in light of the statute’s preservation purpose.”

The purpose of this Draft Section 4(f) Statement is to provide information to public agencies and the general public, as required by the Secretary of Transportation. This information will be used in making decisions regarding the use of the property protected by Section 4(f) legislation. The Final Section 4(f) Statement will contain the determinations necessary to implement the project, including the identification of a Preferred Alternative and the required findings in compliance with Section 4(f) regulations and regulations relating to other environmental resource impacts.

This Draft Section 4(f) Statement is being prepared in conjunction with an Environmental Assessment for the Mississippi Drive corridor project.

2.0 DESCRIPTION OF AND PURPOSE AND NEED FOR THE PROPOSED ACTION

2.1 Proposed Action

The proposed action consists of upgrading Mississippi Drive (Iowa Highway 92) through downtown Muscatine, Iowa. The Mississippi Drive Corridor Project begins at the Main Street/Grandview Avenue intersection, continuing to the East 2nd Street/Norbert F. Beckey Bridge intersection which marks the end of the project. The total length of the project is approximately 1.6 miles (see Figure 1 in the EA).

The current roadway is a 3- to 4-lane urban facility ranging from 40-64 feet wide, with a combination of divided and undivided section. Mississippi Drive is generally not considered to be pedestrian friendly because the roadway is quite wide. The proposed project would narrow Mississippi Drive to better connect the downtown to the Mississippi River riverfront area. Also, this project consists of incorporating a bike trail and measures to reduce flooding on the roadway.

2.2 Project History

The City of Muscatine has been working toward revitalizing the downtown riverfront for several years to transform the City's riverfront into a recreational attraction for local residents and regional visitors. As part of this effort, the Mississippi Drive Corridor, which is adjacent to the Mississippi River, has been targeted for improvements.

In 2007, the City prepared a planning study that examined several issues in association with Mississippi Drive, such as pedestrian safety, flooding issues, traffic calming and aesthetics. Several stakeholder and public meetings were held to gain input about the corridor. The results of this study are contained in the report entitled "Mississippi Drive Corridor Study."

2.3 Purpose and Need for Action

The purpose and need for the project is stated in the attached Environmental Assessment (EA). It is summarized below for ease of reference.

2.3.1 Purpose

The purpose of the proposed Mississippi Drive (Iowa 92) improvements is to safely accommodate future traffic and pedestrians, including bicyclists along the corridor as well as between the riverfront and downtown; to correct roadway deficiencies to limit future flooding of Mississippi Drive; and to provide the transportation infrastructure needed to support planned and future economic development.

2.3.2 Need

This project is needed to provide better access to vehicles traveling through the downtown, to provide safe access to pedestrians crossing Mississippi Drive, to reduce instances of closure of Mississippi Drive due to flooding, and to foster economic development. It is supported by several factors, including decreasing traffic volumes throughout the corridor, future traffic volume projections, need for pedestrian access and safety, flooding issues and planned development (see pages 1-4 in the EA for more detail on the need for this project).

3.0 ALTERNATIVES

3.1 No Action Alternative

The No Action Alternative would be the continuation of the street system as it exists at the present time. No physical changes would be made in the pavement width, land configuration, intersection layouts or traffic patterns.

If no changes are made to Mississippi Drive at Carver Corner, it is expected that there will continue to be a lack of pedestrian access and safety. This will continue to be a facility that is over-sized for the amount of traffic that it is carrying. This width presents challenges in terms of pedestrian access to the area. Crossing Mississippi Drive between the riverfront and the downtown area will be unchanged and therefore remain a challenge to pedestrian safety as well.

In addition, the No Action Alternative would not address the planned development and land-use plans established for the Mississippi Drive corridor. The city has been actively beautifying the land along the riverfront for many years. The streetscape would remain unchanged under No Action, and therefore plans to improve the viewshed, amenities, visual and recreational focus points, and green areas would not be realized.

For these reasons, the No Action Alternative would not meet the purpose and need requirements of this project. Impacts associated with this alternative are presented below in the Least Harm Analysis section.

3.2 Conventional Intersection Alternative

An alternative under consideration is the Conventional Intersection. This alternative would be a 2-lane roadway with a center turn lane.

The south approach on Green Street would be aligned with the north leg, making intersection operations simpler, safer, and traffic signal operation more efficient. This alternative would be similar to the existing condition, both in appearance and operation.

Although this alternative would not avoid acquisition of the Puritan Ice Company property (now owned by TeStrake), it uses the best engineering geometry for this intersection. High standards in design can have a positive impact on safety, which is what is expected to occur here. It will be designed so that semi-trucks can maneuver easily through the intersection and all other traffic can get through it efficiently as well. Also, it is favored by the City Council, public and local residents, as expressed at a public information meeting. This alternative moves the travel lanes farther away from homes along Green Street, provides one large parcel for planned development and gateway enhancements, while also meeting the purpose and need for the project. Impacts associated with this alternative are presented below in the Least Harm Analysis section. No homes would be acquired, but strip narrow right-of-way would be acquired from 9 businesses.

4.0 SECTION 4(f) PROPERTIES

4.1 Methodology for Identifying Section 4(f) Properties

4.1.1 Parks and Trails

City land-use maps and comprehensive plans were consulted to determine park and trail locations. Park and trail locations were also identified through field observations. The roles and significance of the parks and trails were discussed with city leaders and staff. One park and trail are located within the project area.

4.1.2 Historic and Archaeological Properties

Multiple sources were consulted to identify known architectural and archaeological properties. The National Register of Historic Places list was reviewed. A review of current resource location and survey information was conducted on files at the Office of State Archaeologist, University of Iowa (OSA) and the Iowa State Historic Preservation Office (SHPO) which identify the location of known cultural resources. Also, reviews of historic and archival documents such as previous surveys, NRHP nomination forms, historic maps, etc., were done for the project area.

Field work for architectural and archaeological resources was conducted along the corridor. Reconnaissance and intensive level surveys were conducted beginning in 2011. Phase I and Phase II archaeological surveys were conducted, where possible, along the corridor.

Of the 128 properties previously surveyed and 27 properties not previously surveyed for historic architecture, only one NRHP eligible structure would be impacted by the project. Archaeological surveys found eight sites or potential sites. Of these sites, six remained undetermined as to their NRHP eligibility. Monitoring during construction is recommended.

4.2 Properties Not Evaluated in this Section 4(f) Statement

4.2.1 Riverside Park

Riverside Park is a 31-acre park that is located along the Mississippi riverfront between Broadway Street and Mad Creek. This park has playground equipment, recreational trails, shelters, fountain with splash pad, boat ramp, picnic tables and basketball courts. Being on the Mississippi River, it also has scenic views of the river. This park will be avoided by project activities as it parallels the river and is east of Mississippi Drive, separated by parking lots and the UP Railroad line.

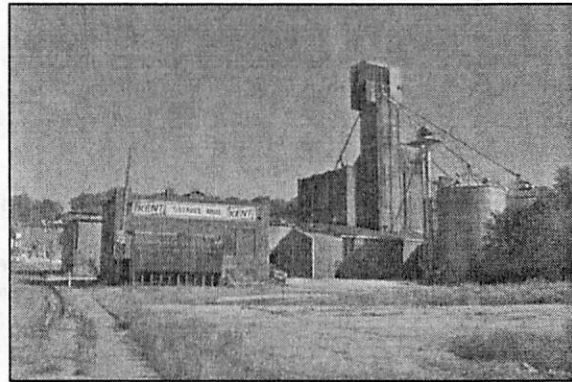
4.2.2 Running River Trail

The Running River Trail is over 5 miles in length and extends from Musser Park to Weed Park. It is part of the Great American Trail system and passes through Riverside Park. It will not be impacted by the project as it is avoided as described above.

4.3 Properties Evaluated in this Section 4(f) Statement

4.3.1 Puritan Ice Company (Eligible)

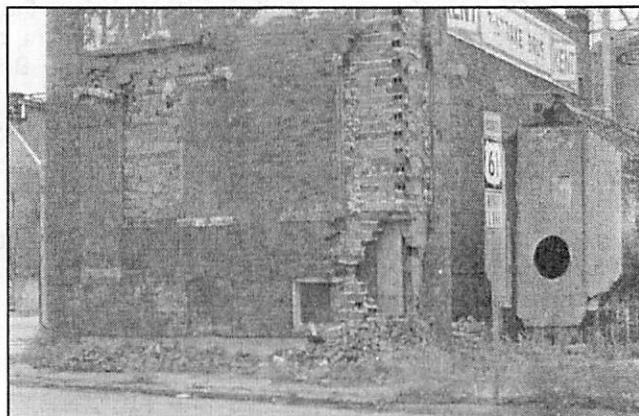
The Puritan Ice Company, now known as the TeStrake site, is a privately owned building site located at 205-207 Green Street, Muscatine, Iowa. This property was evaluated in 2007 as part of an architectural survey of properties at the Hershey Avenue and Green Street intersection. It was determined to be eligible for listing on the National Register of Historic Places under Criterion A for its association with significant events. The company played a significant and unique role in the business history of Muscatine. The Iowa State Historic Preservation Office (SHPO) concurred with this determination in 2008; and in 2012, SHPO determined the project would have an adverse effect on the resources (see Appendix A for a copy of the SHPO determination of effect letter).



*Puritan Ice Company Looking From the South
(Ice Building Has Kent Feeds Sign)*

The Puritan Ice Company began its operation in 1909 as manufacturers of pure distilled water ice. In 1920, the original brick building was expanded and the business was expanded to include coal, in addition to ice. It continued its operation into the 1940s. In 1943, the complex was adapted to serve as the new Muscatine Processing Corporation, a soybean processing and soy products company. In 1957, the TeStrake Brothers purchased the property for use as feed dealers and began to offer grinding services as well. The grinding business lasted into the 1990s; however, the trucking portion of the business continued into the 2000s. As of 2014, much of the building site serves primarily as storage; however, the business employs 1 to 4 persons as part of a wholesale feeds business. The current property boundaries are the recommended boundary for the historic site and include the main factory building, office building and a gable-roof building, possibly used for bulk oil storage during the time it operated as the Muscatine Processing Corporation.

In February 2014, a car struck the southwest corner of the Puritan Ice Building. There was damage to the building and several bricks fell off from the corner as a result. In the intervening months, more bricks continue to fall from the southwest corner of the building, expanding around the area of initial damage. Due to concern over the ongoing deterioration of Puritan Ice, the city had an architectural historian complete detailed exterior photos of it.

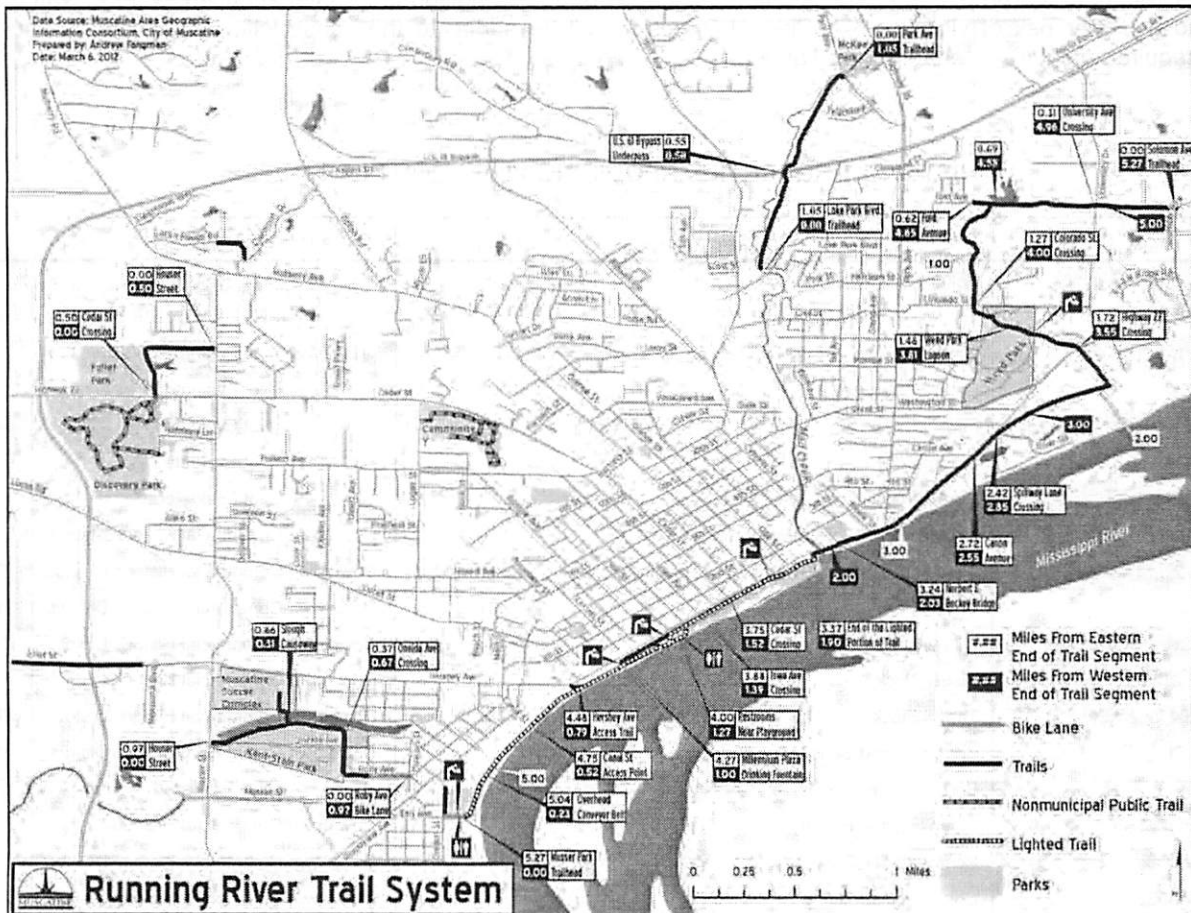


*Southwest Corner Showing Damage to
Puritan Ice Building*

The incident described above is one of several times Puritan Ice has been hit by vehicles over the years. Going back to 1996, there have been a total of six crashes in the immediate vicinity of Puritan Ice. It was struck three times, including 1996, 2010 and 2014 (as mentioned previously). All caused some amount of damage to the building, most notably the 2014 crash. Its proximity to the roadway and its location just north of a curve contribute to it being hit by wayward vehicles.

4.3.2 Running River Trail - Hershey Avenue Access Trail

The city of Muscatine owns and maintains several miles of recreational trails within the city. The trail within the Mississippi Drive project area is the Running River Trail System. It begins 0.80 mile south of the project area at Musser Park and travels north adjacent and parallel to the Mississippi River for over 2 miles before traversing away from the river. Total length of this 10-foot wide, paved trail is over 5 miles. The portion of trail from Musser Park to Mad Creek is lighted. Restrooms and drinking fountains are located in Riverside Park in which the trail passes through. The map below shows the trail system in Muscatine.



Access to the Running River Trail is offered at limited locations within the project area, including the Hershey Avenue Access Trail, Iowa Avenue crossing, and Cedar Street crossing. The Hershey Avenue Access Trail is a short section of trail (250 feet) that connects the main trail to the Carver Corner area. The trail provides easy access to the McKee Button Company Factory, a National Register-eligible structure.

4.3.3 Historic Districts and Individual Structures

There are two historic districts within the project area: Downtown Commercial Historic District and West Hill Historic District. Each contains numerous structures that contribute to the eligibility of their respective districts. In addition, there are several individual historic structures located within the project area. All of these properties will be avoided but were considered for potential vibration impacts, shown below in two separate tables. Table 1 lists the properties in which a note will be added to the plans regarding vibration. This is to ensure the contractor is aware of the historic buildings near the project. Following this table are five bullet points with specific instructions and requirements regarding these properties. Table 2 shows the properties in which vibration monitoring will be required. These structures are all in very close proximity to the project; and due to the combination of age, condition and materials used, were elevated to a higher risk of vibration. A Special Provision will be added to the construction documents. The requirements are listed following Table 2.

TABLE 1
HISTORIC PROPERTIES REQUIRING VIBRATION PLAN NOTES

Address	Historic Property Name	Eligibility, Year	ID No.
408 E 2 nd St	Baker Hospital No. 2	Not Evaluated	
411 E 2 nd St	Trinity Episcopal Church	NRHP Listed, 1976	70-00146
507-511 E 2 nd St	Garage	Not Evaluated	
700 E 2 nd St	Danny's Service	Not Evaluated	
725 E 2 nd St	Family Dollar	Not Evaluated	
1001 E 2 nd St	Commercial	Not Evaluated	
1005 E 2 nd St	Commercial	Not Evaluated	
124 E 2 nd St	Pioneer Drug Store/Silverhorns	Downtown Commercial Historic District	70-00119
200-202 E 2 nd St	German American Savings Bank Building	Downtown Commercial Historic District	70-00120
204 E 2 nd St	Building	Downtown Commercial Historic District	70-00123
206 E 2 nd St	Otto and Sons Grocery Block	Downtown Commercial Historic District	70-00125
413-415 E 2 nd St	Bisesi Block	Downtown Commercial Historic District	70-00147
200-202-204 W 2 nd St	Tappe Block	Downtown Commercial Historic District	70-00160
224 W 2 nd St	Bridgman and Sons Insurance	Downtown Commercial Historic District	70-00962
E 3 rd Street	Brick Garage and Levee	Not Evaluated	
115 Chestnut St	Schmidt Shoe Factory	Downtown Commercial Historic District	70-00375
116 Chestnut St	Schroeder, H. Building	Downtown Commercial Historic District	70-00376
118 Chestnut St	Commercial Building	Downtown Commercial Historic District	70-00378
119 Chestnut St	Commercial Building	Downtown Commercial Historic District	70-00972
103 Grandview Ave	Clarke's Standard Service Station	Not Evaluated	
300 Grandview Ave	Commercial Building/Universal Crushed Shell Co.	Not Evaluated	
301 Grandview Ave	House	Not Evaluated	
305 Grandview Ave	House	Not Evaluated	
309 Grandview Ave	House (Cedar Street Investments)	Not Evaluated	
311 Green St	House	Not Evaluated	
1033 Hershey Ave	Maid Rite Sandwich Shop No. 2	Yes, 2008	70-01179
1212 Hershey Ave	Building	Not Evaluated	
1216 Hershey Ave	Rosenmund Building	Not Evaluated	

TABLE 1
HISTORIC PROPERTIES REQUIRING VIBRATION PLAN NOTES
(Continued)

Address	Historic Property Name	Eligibility, Year	ID No.
309 Grandview Ave	House (Cedar Street Investments)	Not Evaluated	
311 Green St	House	Not Evaluated	
1033 Hershey Ave	Maid Rite Sandwich Shop No. 2	Yes, 2008	70-01179
1212 Hershey Ave	Building	Not Evaluated	
1216 Hershey Ave	Rosenmund Building	Not Evaluated	
1309 Hershey Ave	Modern Dairy	Not Evaluated	
107 Locust St	Fulliam, Jr., Edmond B. and Louise, House	West Hill Historic District	70-01123
403 W Mississippi River Dr	Escape Salon	Not Evaluated	
411 W Mississippi River Dr	Mississippi Marine Inc.	Not Evaluated	
701 W Mississippi River Dr	House	Not Evaluated	
705 W Mississippi River Dr	House	Not Evaluated	
715 W Mississippi River Dr	House	Not Evaluated	
805 W Mississippi River Dr	House	Not Evaluated	
505 E Mississippi River Dr	Garvin House	Yes, 2004	70-00532
101 E Mississippi River Dr	Commercial Building	Downtown Commercial Historic District	70-00979
117-119 E Mississippi River Dr	Henderson Chevrolet-Oldsmobile Building	Downtown Commercial Historic District	70-00980
305 W Mississippi Dr	Sieg Auto Parts Building	Downtown Commercial Historic District	70-00981
227 Mulberry Ave	Commercial Building	Not Evaluated	
200 Oak St	HON, Inc.	Not Evaluated	
126 Pine St	Muscatine Municipal Electric Plant Substation and Service Building	Downtown Commercial Historic District	70-00986
107 Spruce St	Bartlett-Kautz House	West Hill Historic District	70-01135
	Brick Sidewalk	Not Evaluated	
	West Hill Historic District	NRHP Listed, 2008	70-01005
	Downtown Commercial Historic District	NRHP Listed, 2006	70-01004

Plan Note Instructions and Requirements:

- The construction plans will contain a plan note to the contractor informing them that all properties listed within Table 1 are listed or considered eligible for listing on the National Register of Historic Places.
- The construction plans shall contain a plan note to the contractor informing them that any demolition and construction methods and equipment used shall achieve low project vibration levels when working near these properties.
- If damage to these properties occurs during construction or demolition, all activities will cease until approval from the construction engineer occurs.
- Check plans will be provided to the Office of Location and Environment and SHPO for their review.
- Final plans will be provided to the Office of Location and Environment and SHPO for their information.

TABLE 2
HISTORIC PROPERTIES REQUIRING VIBRATION MONITORING

Address	Historic Property Name	Eligibility, Year	ID No.
417 E 2 nd St	Commercial Building	Downtown Commercial Historic District	70-00148
515 E 2 nd St	Commercial Building	Not Evaluated	
419 E 2 nd St	Barry Manufacturing Office	Downtown Commercial Historic District	70-00149
228 W 2 nd St	Mull Wholesale Grocery/Mull, Charles & Sons	Downtown Commercial Historic District	70-00168
117 Chestnut St	Fisher-Foley Tin Shop	Downtown Commercial Historic District	70-00377
107 Elm St	Hershey Lumber Building	Not Evaluated	
1000 Hershey Ave	McKee & Bliven Button Co.	Yes, 2008	70-00428
1001 Hershey Ave	Hershey Lumber Co. Offices	Yes, 2008	70-00429
1029 Hershey Ave	Hershey Hose Company/Fire Station No. 3	Not Evaluated	
1045 Hershey Ave	Kern Meat Market/Busch Drugstore	Not Evaluated	
1203 Hershey Ave	Appel Grocery and Sample Rooms; White Way Hotel	Not Evaluated	
1303 Hershey Ave	Commercial Building	Not Evaluated	
107 Iowa Ave	Gaeta Fruit Store and Confectionary	Downtown Commercial Historic District	70-00976
109-113 Iowa Ave	Fitzgerald Block	Downtown Commercial Historic District	70-00458
501 E Mississippi River Dr	Musser, Peter, House	Yes, 2004	70-00530
101 W Mississippi River Dr	Hotel Muscatine	Downtown Commercial Historic District	70-00533
221-225 W Mississippi River Dr	Bennett Mill	Downtown Commercial Historic District	70-00535
301 W Mississippi River Dr	Isett Warehouse/Green & Stone Pork House	Downtown Commercial Historic District	70-00536
315-317 W Mississippi River Dr	Citizens Electric Light and Power Company	Downtown Commercial Historic District	70-00527
102-104 Walnut St	McKibben, S.M., House	NRHP Listed, 1974	70-00616
Sycamore St	Papoose Creek Sewer	Yes, 2014	70-01507

A Special Provision will be added to the construction documents and will include the steps below to avoid any adverse effects to these properties.

- A preconstruction survey of these properties will be completed to document their present condition. The preconstruction survey will also establish a peak particle velocity (PPV) threshold for vibration.
- Sensors (crack and/or seismic) will be installed and tested daily. If 80 percent of the PPV threshold is reached, sensors will alert the contractor and in turn the construction engineer.
- If the PPV is reached, a meeting with the contractor and the construction engineer will identify alternative demolition/construction methods and/or equipment to be used to minimize project vibration.
- A post construction survey will be performed.

5.0 IMPACTS TO SECTION 4(f) PROPERTIES

The following paragraphs discuss the impacts to the Puritan Ice Company building and the Running River Trail by the Proposed Alternative, Conventional Intersection Alternative.

5.1 Puritan Ice Company (Eligible)

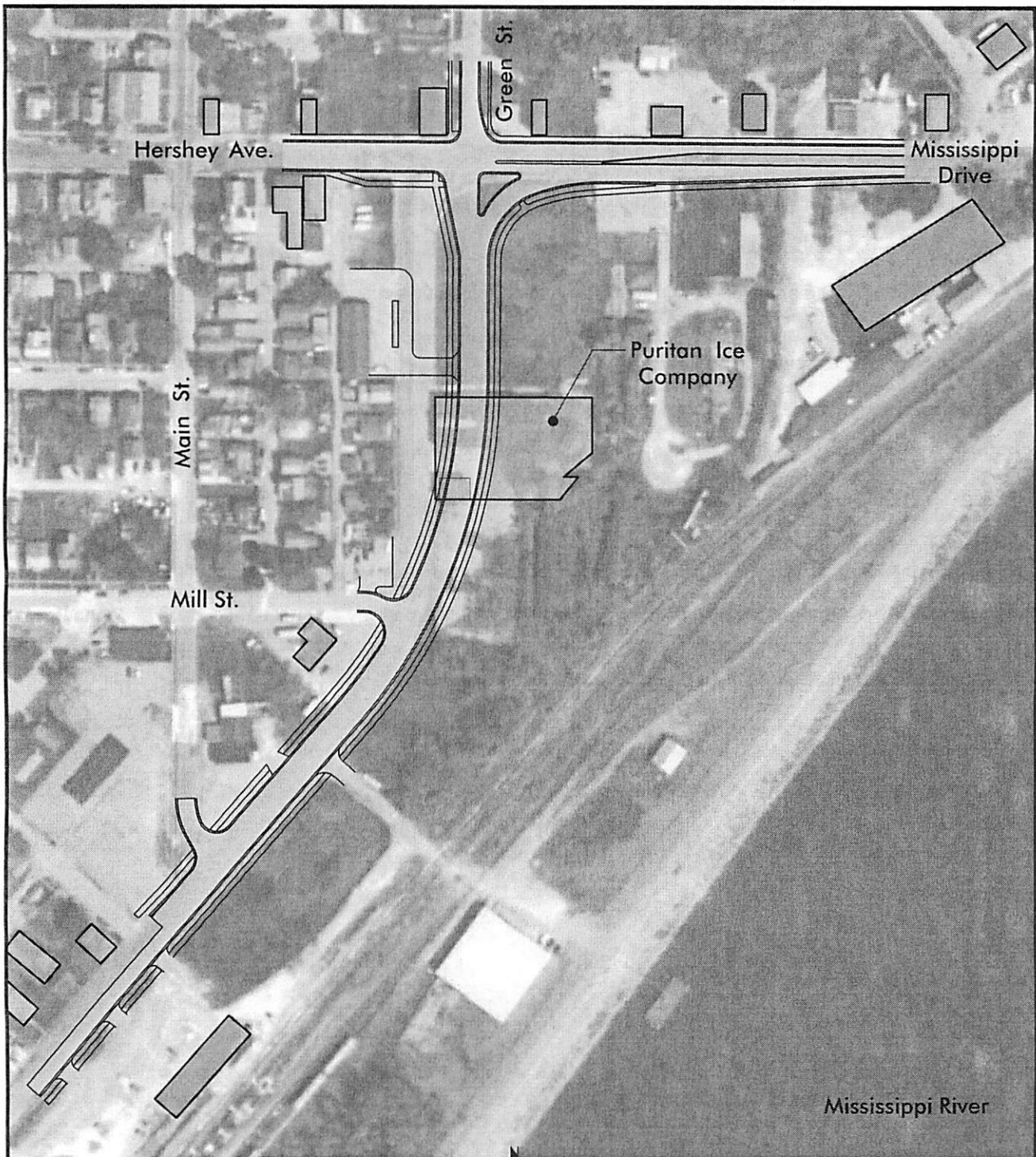
Currently, Green Street travels on the west side of the Puritan Ice House building. At the intersection with Hershey Avenue, Green Street has an offset intersection. To improve the safety and operation of this intersection, several alternatives were evaluated. They are discussed further in Section 6, Avoidance Alternatives. The Conventional Intersection Alternative would align Green Street at the intersection by curving Green Street eastward starting south of Puritan Ice Company. The entire Puritan Ice Company Ice House and related buildings would be impacted by the roadway.

Figure 1 shows the Conventional Intersection Alternative at the Puritan Ice Company property in detail.

5.2 Running River Trail - Hershey Avenue Access Trail

During construction of Mississippi Drive, there will be temporary closure of the Hershey Avenue Access Trail. This 250-foot trail will be closed no longer than is deemed necessary while the roadway is under construction. As part of the project, this trail will be connected to the Mississippi Drive project area. The remainder of the trail will not be impacted by construction of the roadway and will remain open throughout the duration of project construction activities.

Figure 2 shows the Proposed Alternative (3-Lane Alternative) near the Hershey Avenue Access Trail.



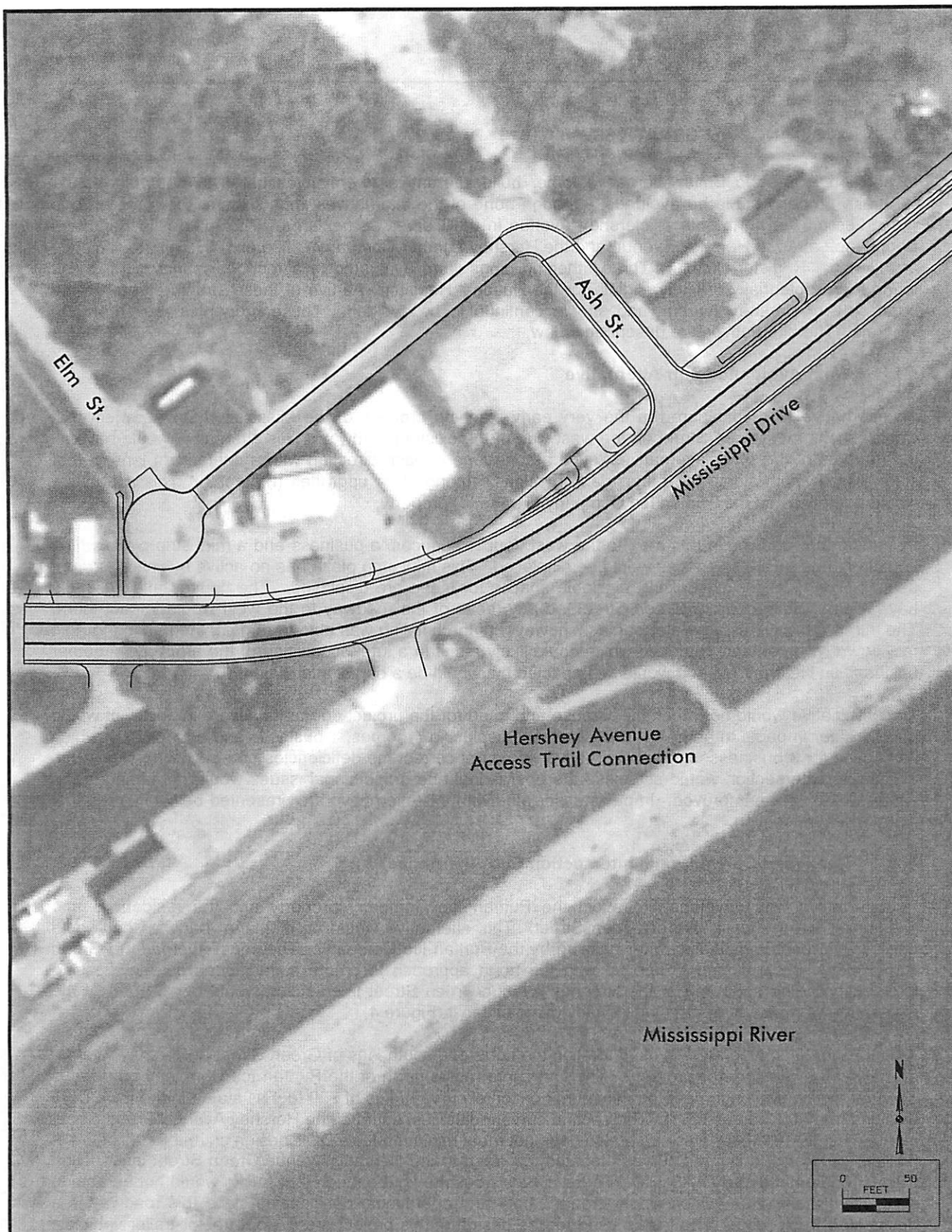
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**FIGURE 1
CARVER CORNER
CONVENTIONAL INTERSECTION
ALTERNATIVE**

Draft Section 4(f) Statement
Mississippi Drive Corridor
Muscatine, Iowa

AUGUST 2015

60163579



AECOM

**FIGURE 2
CARVER CORNER
HERSHEY AVENUE ACCESS
TRAIL CONNECTION**

Draft Section 4(f) Statement
Mississippi Drive Corridor
Muscatine, Iowa

AUGUST 2015

60163579

6.0 AVOIDANCE ALTERNATIVES

In addition to the No Build Alternative, other build alternatives were investigated to determine if the TeStrake property could be avoided. Although none of the alternatives impact them, there are historic properties on the north side of Hershey Avenue in the Carver Corner area. The Maid Rite Sandwich Shop No. 2 at 1033 Hershey Avenue and the Hershey Lumber Company Office at 1001 Hershey Avenue are National Register-eligible. Three other buildings were evaluated in a reconnaissance survey and found to be potentially or likely eligible for the National Register. All five of these structures are on the north side of Hershey Avenue and should continue to be avoided. These properties are shown on Figure 1. The alternatives are described below.

6.1 West Avoidance Sub-Alternative

An alternative was considered in the very early planning process of the Mississippi Drive project that would reconstruct Green Street on the west side of the existing roadway. This alternative would have all the features of the other alternatives, such as one lane in each direction with a center turn lane, 8-foot sidewalks on both sides and pedestrian crossings, among other upgrades (Figure 3). This alternative would entirely avoid the Puritan Ice Company (TeStrake) property.

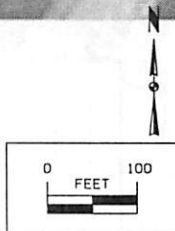
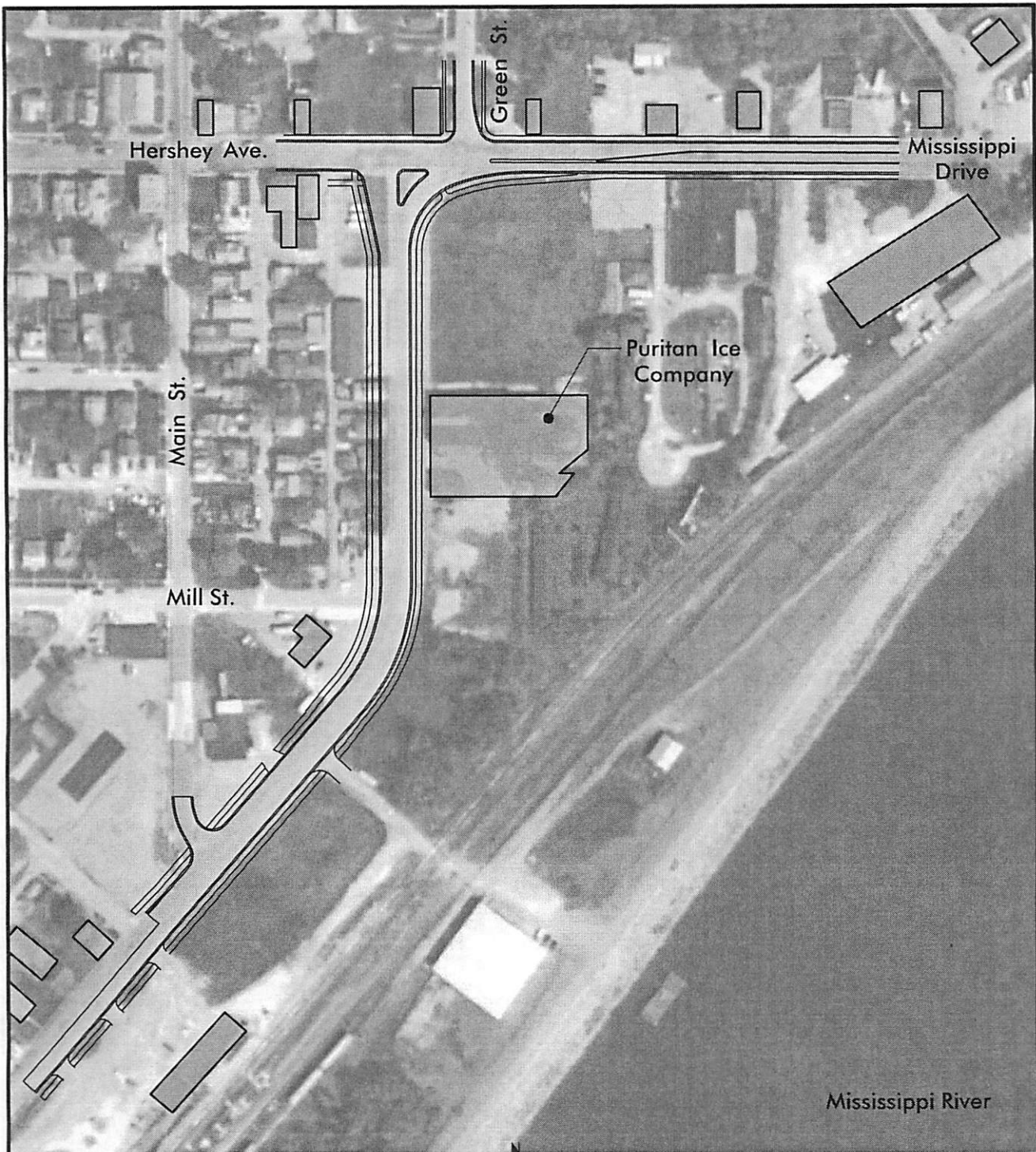
In shifting the roadway in this area to the west, four residences, a business and a mini strip plaza which contains three business spaces would be displaced. This mini strip plaza has no active businesses as of January 2014. Signs advertising available spaces for lease are displayed. The houses and business have a small setback from Green Street, so any move of the roadway to the west would impact them. The mini strip mall has a greater setback; however, if the building was able to remain, the parking for this facility would be entirely removed which could likely result in a total acquisition of the property. Another business on Hershey Avenue would be impacted but would be a partial acquisition.

This alternative would not meet the purpose and need for the project due to its severe impacts. It would have greater impacts to homes and businesses; displacing 4 homes, 1 business and a strip plaza which has space for 3 businesses. This alternative would not correct the deficiencies of the existing alignment. The off-set intersection would still exist, the operational and traffic signal issues would not change, and safety would not be improved. Impacts associated with this alternative are presented below in the Least Harm Analysis section.

6.2 Realigned Conventional Intersection Sub-Alternative

An alternative was developed to avoid the Puritan Ice Company property and the residences and businesses on the west side of Green Street. This alternative would be a 2-lane roadway that would curve to the east immediately after passing by the Puritan Ice Company. The south approach to Green Street would be realigned to line up with the north approach to create a traditional four-leg crossing intersection. The south leg of the Hershey Avenue/Green Street intersection would begin north of the Puritan Ice Company property, thus avoiding impacts to it (Figure 4).

A tight S-curve configuration is used to align the north and south legs of Green Street at Hershey Avenue and avoid the Section 4(f) property. The first curve radius north of the Puritan Ice Company property is 200 feet, which does not meet the minimum horizontal curve radius of 250 feet as stated in the Iowa DOT Design Manual (Chapter 1C-1). The second curve radius, just south of the Hershey Avenue/Green Street intersection, is 181 feet. This curve also does not meet minimum Iowa DOT design criteria for this type of facility. Further, the second curve is located too close to the Hershey Avenue/Green Street intersection than is recommended by AASHTO. These curves would be tight enough that trucks would not be able to stay within their lanes, which would create safety and operational deficiencies since this roadway is a designated truck route. The trucks used for the design of this project are 67-foot tractor-trailer vehicles, the maximum legal trucks in the state of Iowa.



National Register of Historic Places
Eligible or Listed Properties

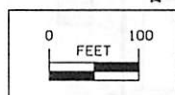
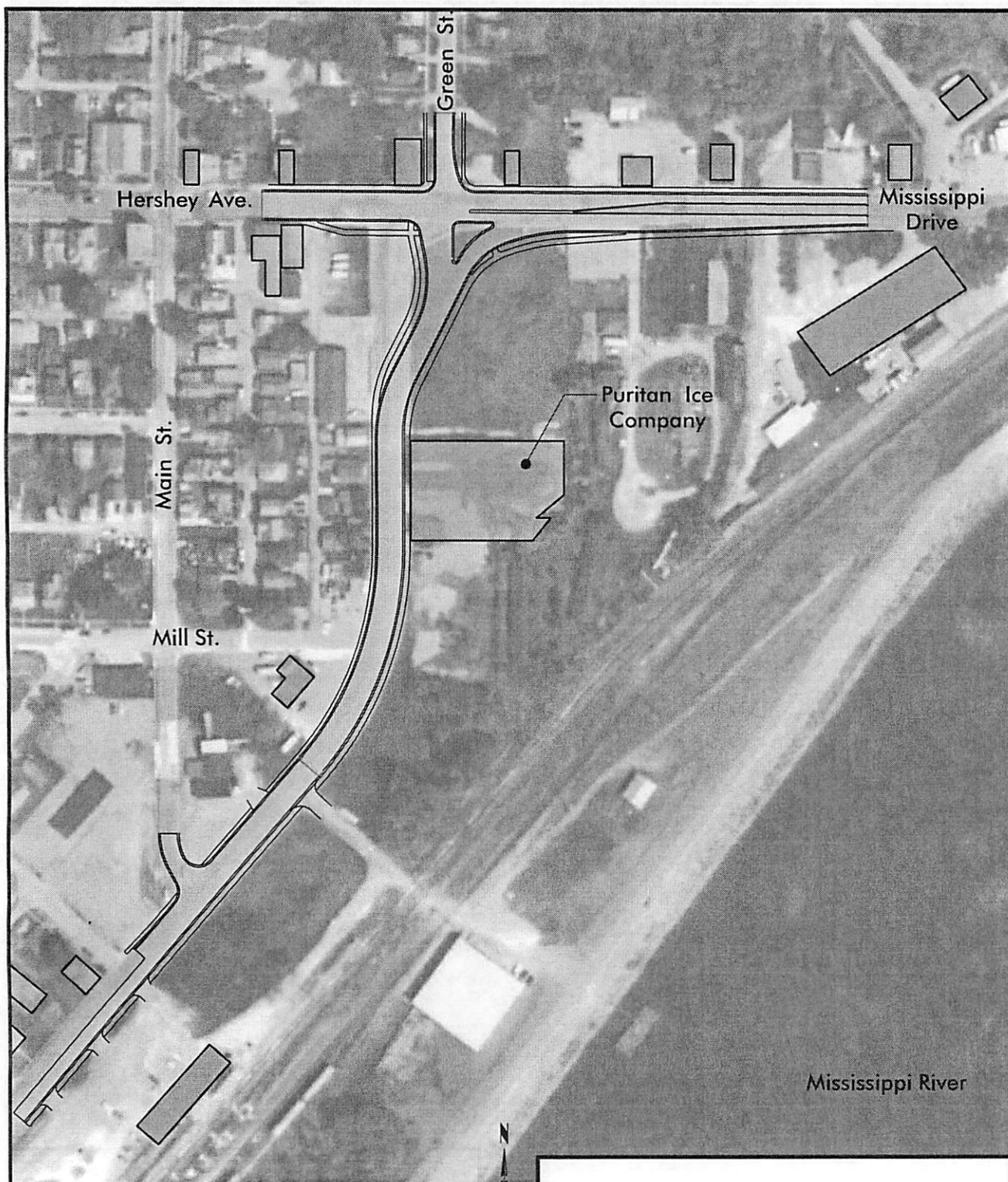
FIGURE 3
CARVER CORNER
WEST AVOIDANCE ALTERNATIVE

Draft Section 4(f) Statement
Mississippi Drive Corridor
Muscatine, Iowa

AECOM

AUGUST 2015

60163579



National Register of Historic Places
Eligible or Listed Properties

AECOM

**FIGURE 4
CARVER CORNER
REALIGNED CONVENTIONAL
AVOIDANCE ALTERNATIVE**

Draft Section 4(f) Statement
Mississippi Drive Corridor
Muscatine, Iowa

AUGUST 2015

60163579

The Realigned Conventional Intersection does not meet the project's purpose and need for safety, and the tight S-curve is not considered a sound engineering practice.

6.3 Running River Trail – Hershey Avenue Access Trail Avoidance

There is no avoidance alternative to the temporary closure of the Hershey Avenue Access Trail. The trail must be closed during construction for safety of pedestrians and bicyclists. In addition, the trail will be connected to the Mississippi Drive area as part of construction of the project. It will be necessary to close the trail in order to construct this connection.

7.0 LEAST HARM ANALYSIS

The No Action and Realigned Conventional Intersection Alternatives were eliminated from further discussion because they do not meet the project purpose and need. In order to determine which alternative(s) is the best of the Mississippi Drive Carver Corner area, a Least Harm Analysis was conducted for the West Avoidance and Conventional Intersection Alternatives. This analysis includes the following factors as described in 23 CFR 774.3(c):

- i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes or features that qualify each Section 4(f) property for protection;
- iii. The relative significance of each Section 4(f) property;
- iv. The views of the official(s) with jurisdiction over each Section 4(f) property;
- v. The degree to which each alternative meets the purpose and need for the project;
- vi. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- vii. Substantial differences in costs among the alternatives.

7.1 Conventional Intersection, Realigned Conventional and West Avoidance Alternatives Factor Analysis

The Conventional Intersection directly impacts the Puritan Ice Company property, while the West Avoidance Alternative would avoid impact to Puritan Ice Company. The seven factors listed above have been analyzed and evaluated for the three alternatives considered for the Mississippi Drive Carver Corner area. Table 3 provides a succinct comparison of these alternatives. Each factor is discussed below.

- i. As part of mitigation for the Conventional Intersection Alternative, the property will be documented, including a detailed history of events that contribute to the significance of the property. Once the documentation is approved by SHPO, the buildings can be razed. The mitigation for the Puritan Ice Company will be outlined in a Memorandum of Agreement and included in Appendix B.
- ii. Although the West Avoidance and Realigned Conventional Alternatives would avoid the Puritan Ice building, the likely outcome is that it will ultimately collapse or be razed due to its deteriorating condition. The building is deteriorating, especially since being hit by a car in February 2014, so when it is lost, scholars and the public will miss the opportunity to gain information from the property. No documentation would occur, no booklet would be produced, and thus any knowledge of this resource type would be gone.
- iii. The Puritan Ice Company was determined eligible for the National Register in 2008 under Criterion A for its association with significant events. The company played a significant and unique role in the business history of Muscatine. SHPO did not note any relative significance of this property within the project area or city.
- iv. The Iowa SHPO concurred with the intensive survey of the Puritan Ice Company conducted in 2008 that determined it is eligible for listing on the National Register of Historic Places. In further consultation with SHPO, they concurred there would be an Adverse Effect on Puritan Ice by the project (see letter in Appendix A). In considering the project's purpose, need and consideration of

safety, modern design practices and other resources, the Adverse Effect finding is justified. Other parties consulted include the city of Muscatine - Historic Preservation Commission, Preservation Iowa, and Advisory Council on Historic Preservation. None have commented to date. In public meetings, the traveling public agreed that the Carver Corner intersection area needs to be improved from a safety standpoint.

- v. The Conventional Intersection Alternative meets the purpose and need of the project by addressing all aspects, including safety and operations. The offset intersection that currently exists would be corrected to improve operations and safety for drivers and pedestrians. In addition, space would be created in the southeast quadrant of Green Street and Hershey Avenue, allowing for planned development and possible gateway enhancements. The West Avoidance Alternative does not meet the purpose and need of the project. The offset intersection at Green Street and Hershey Avenue/Mississippi Drive would not be corrected and would be made worse, thus the safety and operations would be similar to or worse than existing conditions. The Realigned Conventional Intersection does not meet the project's purpose and need. It would require a reverse curve or a tight S-curve, which is not considered a sound design practice. It would be difficult for semi-trucks to navigate through this area as they would not be able to stay within their lanes. It would not be the best design configuration for any drivers since it would have unusual, unexpected geometry.
- vi. The Conventional Intersection Alternative would impact nine other businesses by acquiring narrow strip right-of-way from them, which is not expected to have a significant negative impact on them. No impacts to homes are anticipated. The West Avoidance Alternative would impact six businesses by acquiring narrow strip right-of-way which would not have a significant impact on them. A total of four single-family houses would be acquired with an estimated 11 persons living in them. Also, three business properties would be total acquisitions. One business employs two persons, another is a strip mall with no current tenants; and the third is an open lot owned by a commercial entity. The Realigned Conventional Alternative would impact nine businesses with the acquisition of narrow strip right-of-way from each. This isn't expected to be a significant impact to them. In addition, four houses on Green Street would have strip right-of-way acquired from them. These houses are close to the existing right-of-way, so this acquisition would be a negative impact to them. Impacts are summarized in Table 3 below.
- vii. The Conventional Intersection, Realigned Conventional and West Avoidance Alternatives are very similar with regard to criteria, such as lane width, lane configuration, access, sidewalks, etc. With regard to construction cost, the alternatives differ. The Conventional Intersection Alternative is estimated to cost \$1.9 million, while the Realigned Conventional Alternative is estimated at \$1.7 million and the West Avoidance Alternative would be an estimated \$2.1 million.

**TABLE 3
LEAST HARM ANALYSIS COMPARISON OF ALTERNATIVES**

		Conventional Intersection	West Avoidance	Realigned Conventional
Meet Purpose/Need?		Yes	No	No
Use Section 4(f) Resource?		Yes Puritan Ice Company	No	No
Business Impacts	Partial	9	6	9
	Total	1 (Puritan Ice)	3	0
Residential Impacts	Partial	0	0	4
	Total	0	4	0
Improve Safety, Operations		Yes	No	No
Cost*		\$1.9 Million	\$2.1 Million	\$1.7 Million

*Includes construction cost and estimated right-of-way.

8.0 COORDINATION

Throughout the planning stages of this project, the Iowa SHPO was consulted regarding the evaluation of impacts to cultural resources on the Mississippi Drive Corridor. The comments of SHPO regarding the project's impacts from the proposed improvements on the Puritan Ice Company property have been incorporated into the Memorandum of Agreement. The Muscatine Historic Preservation Commission was contacted for input and coordination in March 2014 but did not provide comment. The Memorandum of Agreement was reached between FHWA, SHPO, Iowa DOT and the city of Muscatine and includes mitigative measures for the Puritan Ice Company. The MOA is attached in Appendix B.

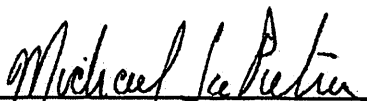
9. SUMMARY AND DISPOSITION OF THE DRAFT SECTION 4(f) STATEMENT

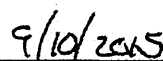
9.1 Summary

The Conventional Intersection Alternative directly impacts the Puritan Ice Company while meeting the project's purpose and need. The West Avoidance Alternative does not meet the project's purpose and need and also has severe impacts, including the acquisition of several houses and five businesses.

9.2 Disposition

This Draft Section 4(f) Statement will be circulated to appropriate resource and regulatory agencies in conjunction with the Mississippi Drive Environmental Assessment. Following review and comment of this Draft Section 4(f) Statement, a Final Section 4(f) Statement will be prepared that incorporates comments received in the Draft. It will be distributed to those agencies that comment on the current document with the Finding of No Significant Impact.


For the Division Administrator
Federal Highway Administration


Date

APPENDIX A

SHPO LETTERS

MAY 11 2012



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1035 Fax 515-239-1726

May 10, 2012

Ralph Christian
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319

Ref. No: STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project

R&C: 080170073

Dear Ralph:

**RE: Intensive Historic Architecture Survey; Mississippi Drive Corridor
Reconstruction Project, City of Muscatine**

Enclosed for your review and comment is an intensive historic architecture survey for the above referenced federally funded project. The City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from Main Street and Pearl Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge.

This survey evaluated five buildings within the extended project area along Green Street in Muscatine, including an A&W Root Beer Stand at 200 Green Street (70-01189), the Adolph Bomke House at 202 Green Street (70-01190), the George Niebert House at 204 Green Street (70-01191), the Harry Shiftlet House at 206 Green Street (70-01192), and the Robert Rankins House at 208 Green Street (70-01193). As outlined in the enclosed survey, all five buildings have diminished integrity of design, workmanship, materials, and feeling. None of these properties possess distinction as all are common examples of their type and period. As such, all five buildings have been recommended not eligible for the National Register of Historic Places (NRHP). Also, the Hershey Neighborhood Historic District (70-01180), including the four houses discussed above, was also evaluated for eligibility to the NRHP. Based on the diminished integrity and lack of evidence illustrating an association with important events or people, this district does not qualify for eligibility to the NRHP. The Iowa DOT agrees with these recommendations.

A determination of effect will be established for this project after alignment information becomes available, an Area of Potential Effect has been established, and consultation regarding all historic properties has occurred. If you concur with the finding of this intensive historic architectural survey, please sign the concurrence line below, add your comments, and return this letter.

STP-U-5330(614)--70-70 [1]

If you have any questions, please contact me.

Sincerely,

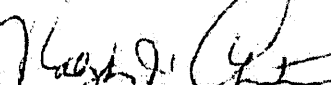


Libby Wielenga
Office of Location and Environment
libby.wielenga@dot.iowa.gov

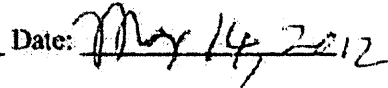
LJCW

cc: Steve Boka, City of Muscatine
Jeff Hillegonds, Stanley Consultants, Inc.
Brenda Durbahn, AECOM
June Reischauer, Chair, Muscatine Historic Preservation Commission
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:


Ralph Christian, SHPO Historian

Date:



Comments:

RC#080170073



www.iowadot.gov

Office of Location & Environment
800 Lincoln Way, Ames, IA 50010
Phone: 515-239-1035 | Email: libby.wielenga@dot.iowa.gov

RECEIVED

March 26, 2014

MAR 28 2014

by SHPO

Ref. STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project
LBG-2002140-1 & LBG-2002129-1
R&C: 080170073

Mr. Ralph Christian
Mr. Doug Jones
State Historic Preservation Office
600 East Locust
Des Moines, IA 50319

Dear Ralph and Doug:

RE: Supplemental Phase I Archaeological Investigation, Phase II Archaeological Evaluation, Phase IA Archaeological Assessment, Archaeological Letter Report, and National Register Evaluation for the Mississippi Drive Corridor Reconstruction Project, City of Muscatine; possible *Adverse Effect* scenario

Enclosed for your review and comment are multiple cultural resources reports for the above referenced federally funded project. As part of this project, the City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from Main Street and Pearl Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge. The project also includes updates to municipal utilities throughout the corridor and raising the road grade from Sycamore Street to Mulberry Avenue. Our offices have frequently consulted on this project over the past few years.

The enclosed supplemental phase I investigated two archaeological sites within the project Area of Potential Effects (APE), and consisted of an archival records search and field investigation, including shovel testing. The two sites investigated, 13MC325 and 13MC326, both represent early nineteenth-century historic sites in Muscatine. Although some intact deposits were identified during this and the previous phase I investigation (Schoen 2012), due to the previous disturbance from known and unknown subsurface utility installation and trenching, it is recommended that neither site 13MC325 nor site 13MC326 have sufficient integrity to qualify for listing on the National Register of Historic Places. The Iowa DOT agrees with the recommendations outlined in this report.

The enclosed phase II evaluated site 13MC242, a previously recorded historic shell midden deposit, for eligibility to the National Register of Historic Places. This site was tested using machine trenching at locations where the potential for undisturbed deposits appeared highest. Based on the results of this evaluation, this site is recommended not eligible for the National Register of Historic Places and no additional archaeological testing is recommended for this site. The Iowa DOT agrees with the recommendations outlined in this report.

There are four additional archaeological sites and areas of interest within the APE. These are summarized in the enclosed archaeological letter report dated January 14, 2014. Sites 13MC297, 13MC323, 13MC324, and the 1833 Russell Farnham Cabin area were previously identified (Schoen 2012) and concurred by your office that avoidance or additional testing would occur. Due to access restrictions for subsurface testing, these sites have not been evaluated for National Register eligibility. It is likely these sites have been disturbed from previous and existing water mains, sewer lines, as well as electrical and communications lines and that no intact deposits remain; however, this has not been verified and so these sites are considered potentially eligible. The majority of this project will remain within the existing disturbed roadway dimensions. Compaction from construction is not expected to cause an adverse effect on any possible intact deposits below the existing roadway. As subsurface utility improvements will occur as part of this project, this activity does have the potential to affect any intact resources. To ensure this work will not have an adverse effect on any intact deposits that may be present, construction monitoring by a Secretary of the Interior qualified archaeologist during utility work near these sites is being proposed by the project sponsor. The details of this monitoring could be captured in a possible project Memorandum of Agreement (MOA).

Recently, the project APE has expanded to the south. This area has since been reviewed and is discussed in the enclosed phase IA archaeological assessment, dated March 15, 2014. This assessment consisted of an archival and site records search. No previously recorded archaeological sites were identified within this expanded area. Based on the results of this assessment, this area has a low potential for containing archaeological deposits and no additional investigation is recommended. The Iowa DOT agrees with the recommendations outlined in this report.

As part of the project utility work, the City proposes to improve the storm sewer and sanitary sewer lines by adjusting the elevation of existing manholes and inlets to match the new road pavement and curb, relocating inlets, replacing or installing manholes, and replacing or constructing new storm sewer lines. This work will take place near Pearl Street and from southwest of Broadway Street to Orange Street and southeast along Orange Street to the Mississippi River. Because of the project's proposed storm-sewer and sanitary sewer line improvements, the City completed a National Register Evaluation of the main sewer segment within the APE.

The enclosed evaluation included an archival and records search of the Papoose Creek Sewer, other storm sewers along Mississippi Drive, and an evaluation of applicable resources. Based on this evaluation, the Papoose Creek Sewer is recommended eligible for listing on the National Register of Historic Places under Criterion C. The project plans

indicate the Papoose Creek Sewer is within the APE, but will not be adversely affected by the proposed project. To ensure the proposed project will not have an adverse effect on the Papoose Creek Sewer and any other potentially eligible sections or elements of these lines, construction monitoring by a Secretary of the Interior qualified historian or architectural historian during utility work is being proposed by the project sponsor. A stipulation can be added to a possible project MOA stating if during construction a brick sewer structure or potentially eligible component of the sewer is encountered, the structure shall be evaluated and documented by a qualified Secretary of the Interior historian or architectural historian prior to removal or modification. All the details of the proposed monitoring, and any applicable documentation can be captured in a possible project MOA. The Iowa DOT agrees with the recommendations outlined in this report.

The unevaluated Hershey Lumber Building (107 Elm Street) currently has two access points from Mississippi Drive: one from Elm Street and the other from Ash Street. Due to safety restrictions, vehicular access from Mississippi Drive to Elm Street will be closed as part of this project. Pedestrian access will remain. All access to this property from Ash Street will remain and be improved to provide for safer access to the properties north of Mississippi Drive. The entry access and parking to the Hershey Lumber Building will remain the same. Removing access from Elm Street and maintaining access from Ash Street will not adversely affect any integrity and significance that would allow the Hershey Lumber Building to be determined eligible for listing on the National Register of Historic Places.

The project APE overlaps with two historic districts, including 25 contributing resources of the Downtown Historic District, and two contributing resources of the West Hill Historic District. In addition, a total of 40 individual properties (i.e. structures, objects, and buildings) and four archaeological sites/areas are within this project APE. The identified properties for this project range from properties listed on or eligible for listing on the National Register of Historic Places to properties that have not yet been fully evaluated for the National Register. Any property not fully evaluated for the National Register will be considered a historic property for compliance with federal regulations and the purposes of this project. Therefore, all historic properties within the project APE are identified in the enclosed spreadsheet (Table 1). See the enclosed map for geographic references (Figures 1-8).

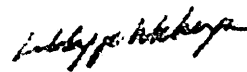
The City of Muscatine has worked diligently to consider the project's effects on all historic properties within the APE. Enclosed for your review is a set of proposed project plans. As you can see, the current alignment avoids the overwhelming majority of these historic properties, however, many remain within the APE. Based on the proposed project, some vibration is expected to occur during the demolition and reconstruction of Mississippi Drive. As such, consultation regarding vibration effects will continue as this project moves forward to determine whether monitoring, minimization of equipment, or a combination of these two methods will occur to avoid adverse effects to the historic properties within the APE.

Included with the resources identified in Table 1 is the Puritan Ice Company building (205-207 Green Street; 70-01194). As you can see on the enclosed plan sheet, this property would be taken and therefore adversely affected by the proposed project alignment. At this time, this alternative is the most feasible and prudent alternative available to achieve the project's

purpose and need while minimizing the environmental effects overall. During previous public meetings and consultation with interested parties, no negative comments regarding this alignment's effects on cultural resources were received. At this time, the project sponsor and Iowa DOT are preparing for a possible Adverse Effect scenario for this project and will continue consultation with your office and interested parties.

If you concur with the finding of these reports, please sign the concurrence line below, add your comments, and return this letter. If you have any questions, please contact me.

Sincerely,

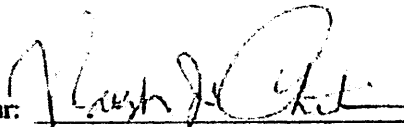


Libby Wielenga
Office of Location and Environment

LJCW:sm

cc: Mike LaPietra, FHWA
Steve Boka, City of Muscatine
Jeff Hillemonds, Stanley Consultants
Brenda Durbahn, AECOM
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:


Ralph Christian, SHPO Historian

Date:

April 9, 2014

Concur:


Doug Jones, SHPO Archaeologist

Date:

4/17/2014

Comments:



www.iowadot.gov

Office of Location & Environment
800 Lincoln Way, Ames, IA 50010
Phone: 515-239-1035 | Email: libby.wielenga@dot.iowa.gov

June 25, 2014

RECEIVED

JUN 30 2014

by SHPO

Ref: STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project

R&C: 080170073

Mr. Ralph Christian
Mr. Doug Jones
State Historic Preservation Office
600 East Locust
Des Moines, IA 50319

Dear Ralph and Doug:

RE: Mississippi Drive Corridor Reconstruction Project, City of Muscatine; *Adverse Effect*

Enclosed for your review and comment is information regarding the above referenced federally funded project. As part of this project, the City of Muscatine proposes to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. The proposed project extends along Mississippi Drive from south of Main Street to Mulberry Avenue, and along 2nd Street from Mulberry Avenue to the Norbert F. Beckey Bridge. The project also includes updates to municipal utilities throughout the corridor and raising the road grade from Sycamore Street to Mulberry Avenue. Our offices have frequently consulted on this project over the past few years.

The City of Muscatine has worked diligently to consider the project's effects on all historic properties within the Area of Potential Effects (APE). After additional review of the project's purpose and need, consideration of all resources, consultation with your office, interested parties, and the public, and a review of all possible alternatives, the City of Muscatine has decided to move forward with Option 1D for this project which includes realigning Grand Avenue with Green Street. Enclosed for your review is a set of the proposed project plans. As you can see, the current alignment avoids the overwhelming majority of these historic properties, however, many remain within the APE.

Based on the proposed project, some vibration is expected to occur during the demolition and reconstruction of Mississippi Drive. A total of 68 properties within the APE were reviewed for effects due to construction vibration. Based on that review, the City of Muscatine will provide plan notes within the construction documents identifying 47 properties within the APE as historic (see Table 1), as well as including the following language to avoid adversely affecting these properties.

- The construction plans will contain a plan note to the contractor informing them that all properties listed within Table 1 are listed or considered eligible for listing on the National Register of Historic Places.
- The construction plans shall contain a plan note to the contractor informing them that any demolition and construction methods and equipment used shall achieve low project vibration levels when working near these properties.
- If damage to these properties occurs during construction or demolition, all activities will cease until approval from the construction engineer occurs.
- Check plans will be provided to the Office of Location and Environment and SHPO for their review.
- Final plans will be provided to the Office of Location and Environment and SHPO for their information.

Due to the combination of age, condition, and materials used, a total of 21 properties were elevated to a higher level of risk to vibration (see Table 2), and as such will be monitored during construction for vibration effects. A Special Provision will be added to the construction documents and will include the steps below to avoid any adverse effects to these properties.

- A preconstruction survey of these properties will be completed to will document their present condition. The preconstruction survey will also establish a peak particle velocity (PPV) threshold for vibration.
- Sensors (crack and/or seismic) will be installed and tested daily. If 80 percent of the PPV threshold is reached sensors will alert the contractor and in turn the construction engineer.
- If the PPV is reached, a meeting with the contractor and the construction engineer will identify alternative demolition/construction methods and/or equipment to be used to minimize project vibration.
- A post construction survey will be performed.

Based on the proposed project, there are four archaeological sites within the APE that were previously identified and received concurrence from your office that avoidance or additional testing would occur. These sites include 13MC297, 13MC323, 13MC324, and the 1833 Russell Farnham Cabin area. Due to access restrictions for subsurface testing, these sites have not been evaluated for National Register eligibility. It is likely these sites have been disturbed from previous and existing water mains, sewer lines, as well as electrical and communications lines and that no intact deposits remain; however, this has not been verified and so these sites are considered potentially eligible. The majority of this project will remain within the existing disturbed roadway dimensions. Compaction from construction is not expected to cause an adverse effect on any possible intact deposits below the existing roadway. As subsurface utility improvements will occur as part of this project, this activity does have the potential to affect any intact resources. As such, construction monitoring by a Secretary of the Interior qualified archaeologist during utility work near these sites will occur. The details of this monitoring will be captured within the project Memorandum of Agreement (MOA).

The Papoose Creek Sewer, a property recommended eligible for the National Register of Historic Places, is also within the project APE; however, it will not be adversely affected by the proposed project. To ensure the proposed project will not have an adverse effect on any other potentially eligible sections or elements of the sewer lines, construction monitoring by a Secretary of the Interior qualified historian or architectural historian during utility work is being proposed by the City of Muscatine. A stipulation detailing this will be added to the project MOA.

As previously mentioned, this alternative will avoid adversely affecting 69 properties; however, it will adversely affect the Puritan Ice Company building (TeStrake building) (70-01194) located at 205-207 Green Street. This alternative was determined to be the only feasible and prudent alternative available to achieve the project's purpose and need while minimizing the environmental effects overall. During previous public meetings and consultation with tribes and other interested parties, no negative comments regarding this alignment's effects on historic properties were received.

Therefore, based on the enclosed project information, our office has given this project a determination of **Adverse Effect**. The City of Muscatine and Iowa DOT will continue the consultation process to resolve the adverse effect of this project.

If you concur, please sign the concurrence line below, add your comments, and return this letter. If you have any questions, please contact me at 515-239-1035 or libby.wielenga@dot.iowa.gov.

Sincerely,

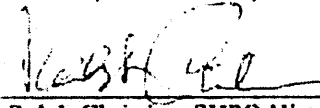


Libby Wielenga
Office of Location and Environment

LJCW:sm

cc: Mike LaPietra, FHWA
Steve Boka, City of Muscatine
Barbara Veal, Stanley Consultants
Brenda Durbahn, AECOM
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Concur:


Ralph Christian, SHPO Historian

Date:

7/2/14

Concur:


Doug Jones, SHPO Archaeologist

Date:

7/9/2014

Comments:

APPENDIX B

MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT
BETWEEN

THE FEDERAL HIGHWAY ADMINISTRATION
AND

THE IOWA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE

MISSISSIPPI DRIVE CORRIDOR RECONSTRUCTION PROJECT
CITY OF MUSCATINE, MUSCATINE COUNTY [STP-U-5330(614)–70-70];
IOWA SHPO REVIEW AND COMPLIANCE #20080170073

WHEREAS, the Federal Highway Administration (FHWA) plans to fund the City of Muscatine's (the City) Mississippi Drive Corridor Reconstruction Project (undertaking) pursuant to Section 106 of the National Historic Preservation Act, 54 U.S.C. § 306108 (the Act), and its implementing regulations (36 CFR§ 800); and

WHEREAS, this undertaking consists of the reconfiguration of the intersection of Green Street and Hershey Avenue, raising of the road grade from Sycamore Street to Mulberry Avenue, improvements to Hershey Avenue, Mississippi Drive, and associated utilities through the downtown area from south of Main Street to the Norbert F. Beckey Bridge; and

WHEREAS, the FHWA has defined the undertaking's area of potential effects (APE) as described in Attachment A; and

WHEREAS, the FHWA has determined that this undertaking may have an adverse effect on the Puritan Ice Company Building [70-01194], which is eligible for listing in the National Register of Historic Places, and has consulted with the Iowa State Historic Preservation Office (SHPO) pursuant to 36 CFR § 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the FHWA has determined that this undertaking should not have an adverse effect on the Papoose Creek Sewer, which is eligible for listing in the National Register of Historic Places, and has consulted with the Iowa State Historic Preservation Office (SHPO) pursuant to 36 CFR § 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the FHWA has determined that this undertaking should not have an adverse effect on sites 13MC297, 13MC323, 13MC324, and the 1833 Russell Farnham Cabin area, which are potentially eligible for listing in the National Register of Historic Places, and has consulted with the Iowa State Historic Preservation Office (SHPO) pursuant to 36 CFR § 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the FHWA has determined that this undertaking should not have an adverse effect on the sixty-eight structures identified in Appendix B, which are listed in, eligible or potentially eligible for listing in the National Register of Historic Places, and has consulted with the Iowa State Historic Preservation Office (SHPO) pursuant to 36 CFR § 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the FHWA has consulted with the Ho-Chunk Nation, Iowa Tribe of Kansas and Nebraska, Iowa Tribe of Oklahoma, Miami Nation of Oklahoma, Omaha Tribe of Nebraska, Otoe-Missouria Tribe, Peoria Tribe of Oklahoma, Ponca Tribe of Nebraska, Prairie Band Potawatomi Nation, Sac and Fox Tribe of the Mississippi in Iowa, Sac and Fox Tribe of Oklahoma, Sac and Fox Nation of Missouri, Winnebago Tribe of Nebraska, and Yankton Sioux Tribe, for which no specific historic properties within the APE have been expressed as having religious and cultural significance; and

WHEREAS, the FHWA has consulted with the City and the Iowa Department of Transportation (Iowa DOT) regarding the effects of the undertaking on historic properties and has invited them to sign this MOA as invited signatories; and

WHEREAS, the FHWA has consulted with the Muscatine Historic Preservation Commission and Preservation Iowa regarding the effects of the undertaking on historic properties and has invited them to sign this MOA as concurring parties; and

WHEREAS, this undertaking has continued to be developed with appropriate public involvement pursuant to 36 CFR 800.2(d) and 800.6(a), having been coordinated with the scoping, public review and comment, and public hearings conducted to also comply with National Environmental Policy Act and its implementing regulations; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP has chosen *not to* participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, the FHWA and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The FHWA shall ensure that the following measures are carried out:

All official correspondences from the City will be circulated through the Iowa DOT.

I. MITIGATION OF ADVERSE EFFECTS

- A. The City shall document the Puritan Ice Company Building in accordance with the recordation plan *Iowa Historic Property Study Booklet* as outlined in Appendix C.
- B. The City shall carry out this documentation plan, as approved by the SHPO, in a manner consistent with applicable criteria for meeting the Secretary of the Interior's four standards for architectural and engineering documentation (48 FR 4431) and by a person or firm whose education and professional experience meets or exceeds the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) for historians.

- C. The City may proceed with demolition of the Puritan Ice Company Building only after the SHPO has approved the photographic and other field documentation information gathered at the property, as outlined in Appendix C, Part VI.3 and Part VI.4(i).
- D. The City shall submit the draft version of the documentation, as outlined in Appendix C, to the SHPO for review within 12 months of the SHPO's approval of the photographs and field information. If the SHPO does not provide comments within 45 days of receipt, the author may proceed to finalize the document.
- E. The City shall provide twenty-five (25) copies of the final documentation in paper form and as a PDF on CD to all signatories of this MOA, as well as the Muscatine Historic Preservation Commission, and the Muscatine Public Library.
- F. The City shall ensure the development of the document as outlined in Appendix C may be hosted on and printed from the Iowa DOT website.

II. AVOIDANCE OF ADVERSE EFFECTS

A. CONSTRUCTION MONITORING: Papoose Creek Sewer

- i. All construction activities within fifty (50) feet of the Papoose Creek Sewer shall be monitored.
- ii. The City shall contract the services of a person whose education and professional experience meets or exceeds the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) for historians for this monitoring.
- iii. The City shall provide a report documenting the results of monitoring to the SHPO sixty (60) days after completion of monitoring.

B. CONSTRUCTION MONITORING: Archaeological Sites

- i. All construction ground disturbing activities within fifty (50) feet of sites 13MC297, 13MC323, 13MC324, and the 1833 Russell Farnham Cabin shall be monitored.
- ii. The City shall contract the services of a qualified archaeologist that meets or exceeds the Secretary of the Interior's Standards for archaeology for this monitoring.
- iii. The qualified monitor will help identify any site components that may not have been uncovered previously; and should anything be identified, will proceed with the process outlined in Stipulation IV of this MOA.
- iv. The City shall provide a report documenting the results of monitoring to the SHPO sixty (60) days after completion of monitoring.

C. VIBRATION: Monitoring

- i. The City shall ensure a pre-construction survey of the twenty-one (21) historic properties identified in Appendix B Part I is completed to document their present condition. The preconstruction survey will also establish a peak particle velocity (PPV) threshold for vibration.
- ii. The City shall ensure sensors (crack and/or seismic) are installed and tested daily. If eighty (80) percent of the PPV threshold is reached sensors will alert the contractor and in turn the construction engineer.
- iii. If the PPV is reached, a meeting with the contractor and the construction engineer will identify alternative demolition/ construction methods and/or equipment to be used to minimize project vibration.
- iv. If damage to these properties occurs during construction or demolition, all activities will cease until approval from the construction engineer occurs. The SHPO and Iowa DOT will be immediately notified if this occurs.
- v. The City shall ensure a post-construction survey is performed and distributed to the SHPO sixty (60) days after construction completion.
- vi. Items under Stipulation II.C will be captured in a Special Provision of the construction documents.

D. VIBRATION: Plans

- i. The City shall ensure the construction plans contain a plan note identifying the forty-seven (47) properties listed in Appendix B Part II are listed or considered eligible for listing in the National Register of Historic Places.
- ii. The City shall ensure the construction plans contain a plan note identifying that all demolition and construction methods and equipment used shall achieve low project vibration levels when working near these properties.
- iii. If damage to these properties occurs during construction or demolition, all activities will cease until approval from the construction engineer occurs. The SHPO and Iowa DOT will be immediately notified if this occurs.
- iv. The City shall provide check plans to the SHPO for their review and comment.
- v. The City shall provide final plans to the SHPO for their information.

III. DURATION

This MOA will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, the FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VII below.

IV. POST-REVIEW DISCOVERIES

If properties are discovered that may be historically significant or unanticipated effects on historic properties found, the FHWA shall implement the discovery plan of this stipulation.

A. DISCOVERY PLAN: Archaeology

If construction work should uncover previously undetected archaeological materials, the City will cease construction activities involving subsurface disturbances in the area of the resource and notify the SHPO of the discovery and proceed with the following stipulation. If the discovery includes human remains, Stipulation IV.B will be followed.

- i. The SHPO, or an archaeologist retained by the City that meets or exceeds the Secretary of the Interior's Standards for archeology, will immediately inspect the work site and determine the extent of the affected archaeological resource. Construction work may then continue in the area outside the archaeological resource as it is defined by the the City's retained archaeologist in consultation with the SHPO.
- ii. Within fourteen (14) days of the original notification of discovery, the City, in consultation with the SHPO, will determine the National Register eligibility of the resource. The City may extend this 14-day calendar period one time by an additional seven (7) days by providing written notice to the SHPO prior to the expiration date of said 14-day calendar period.
- iii. If the resource is determined eligible for the National Register, the City via the Iowa DOT shall submit a plan for its avoidance, protection, recovery of information, or destruction without data recovery to the SHPO for review and comment. The Iowa DOT will notify all consulting parties including interested tribes of the unanticipated discovery and provide the proposed treatment plan for their consideration. The SHPO and consulting parties will have seven (7) days to provide comments on the proposed treatment plan to the FHWA and Iowa DOT upon receipt of the information.
- iv. Work in the affected area shall resume upon either:
 1. the development and implementation of an appropriate data recovery plan or other recommended mitigation procedures; or
 2. agreement by the SHPO that the newly located archaeological materials are not eligible for inclusion on the National Register.

B. DISCOVERY PLAN: *Human Graves*

The Iowa Code protects all human burials in the state of Iowa. Ancient remains are protected under Chapter 263B, 523I.316(6), and 716.5 of the Iowa Code and the provisions of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 through 3005).

In the event that human remains or burials are encountered during additional archaeological investigations or construction activities, the City shall proceed with the following process:

- i. Cease work in the area and take appropriate steps to secure the site.
- ii. Notify the Iowa DOT Office of Location and Environment, the Office of the State Archaeologist (OSA) and the SHPO.
- iii. If the remains appear to be ancient (i.e., older than 150 years), the OSA shall have jurisdiction to ensure Iowa law, NAGPRA and implementing regulations (43CFR10) are observed. In keeping with the policy and procedures of the OSA, the disposition of the remains will be arranged in consultation with the culturally affiliated tribe(s) or the Indian Advisory Council, following the procedures in the OSA/tribal NAGPRA agreement for culturally unidentifiable human remains if the affiliation is not known.
- iv. If the remains appear to be less than 150 years old, the remains may be legally protected under Chapters 113.34, 144.34, 523I.316, and 716.5 of the Iowa Code and the Iowa Department of Health will be notified.

V. MONITORING AND REPORTING

Each year following the execution of the MOA until it expires or is terminated, the City shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the FHWA's efforts to carry out the terms of this MOA.

VI. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide the FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the FHWA shall prepare a written response that takes into account any timely advice

or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. The FHWA will then proceed according to its final decision.

- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. The FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

VIII. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VII above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories. Once the MOA is terminated, and prior to work continuing on the undertaking, the FHWA must either (a) execute a MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. The FHWA shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by the FHWA and the SHPO, and implementation of its terms is evidence that the FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

This agreement is binding upon the signatories hereto not as individuals, but solely in their capacity as officials of their respective organizations, and acknowledges proper action of each organization to enter into the same.

SIGNATORIES:

FEDERAL HIGHWAY ADMINISTRATION - IOWA DIVISION

Michael LaPietra Date 7/13/15
Michael LaPietra, Environment and Realty Manager

IOWA STATE HISTORIC PRESERVATION OFFICER

Steve King Date 10 July 2015
Steve King, Deputy State Historic Preservation Officer

INVITED SIGNATORIES:

IOWA DEPARTMENT OF TRANSPORTATION

James Rost Date 7-13-15
James Rost, Director Office of Location and Environment

THE CITY OF MUSCATINE

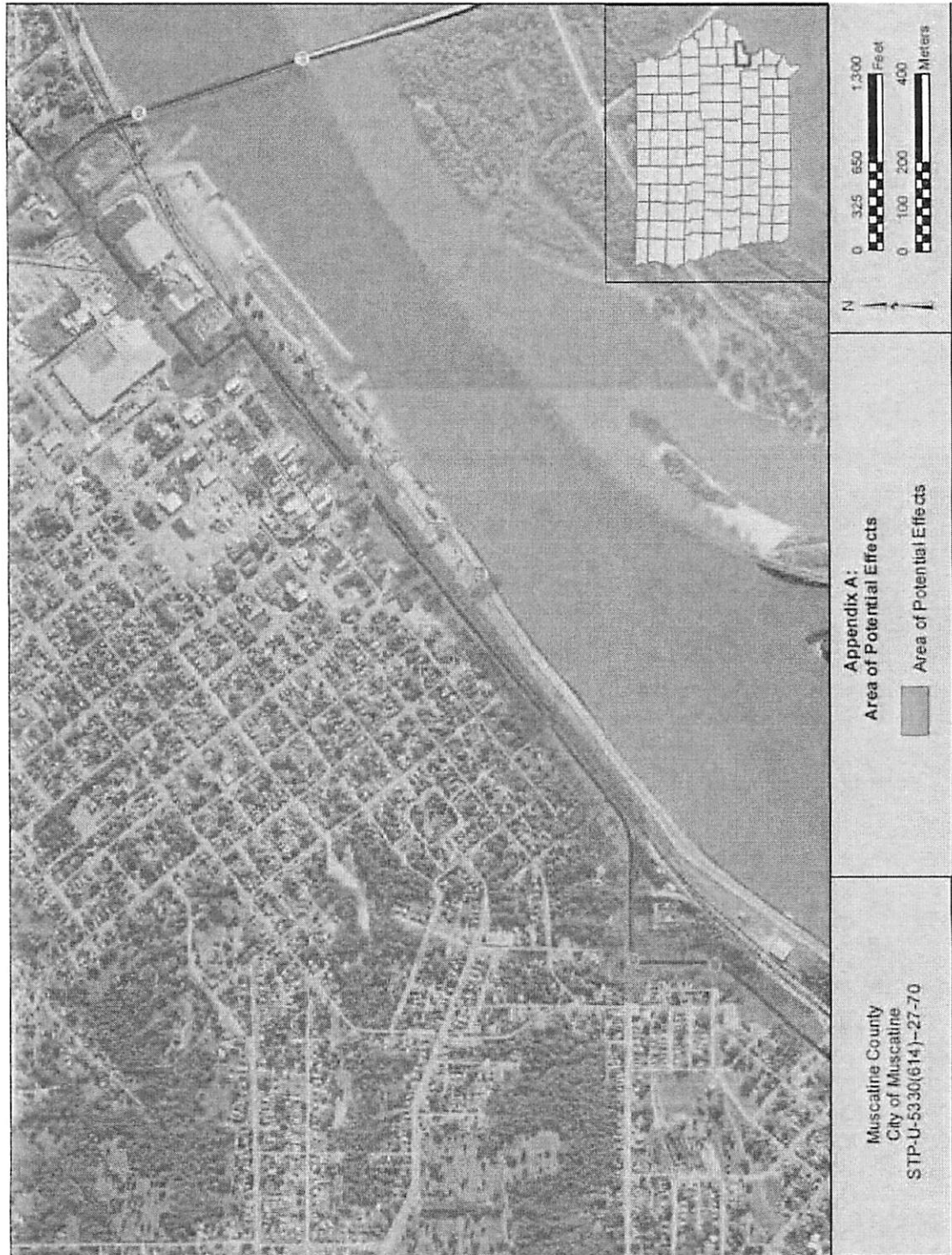
Gregg Mandsager Date 7-8-15
Gregg Mandsager, City Administrator Muscatine

CONCURRING PARTIES:

MUSCATINE HISTORIC PRESERVATION COMMISSION

Michael Maharry Date 7/8/15
Michael Maharry, Chair Muscatine Historic Preservation Commission

Appendix A Area of Potential Effects



Appendix B

Part I - Historic Properties with Vibration Monitoring		Site Inventory Number	Address			
1	Commercial Building	70-00148	417	E	2nd	St
2	Commercial Building		515	E	2nd	St
3	Barry Manufacturing Office	70-00149	419	E	2nd	St
4	Mull Wholesale Grocery / Mull, Charles & Sons	70-00168	228	W	2nd	St
5	Fisher-Foley Tin Shop	70-00377	117		Chestnut	St
6	Hershey Lumber Building		107		Elm	St
7	McKee & Bliven Button Co.	70-00428	1000		Hershey	Ave
8	Hershey Lumber Co. Offices	70-00429	1001		Hershey	Ave
9	Hershey Hose Company/Fire Station No. 3		1029		Hershey	Ave
10	Kern Meat Market / Busch Drugstore		1045		Hershey	Ave
11	Appel Grocery and Sample Rooms; White Way Hotel		1203		Hershey	Ave
12	Commercial Building		1303		Hershey	Ave
13	Gaeta Fruit Store and Confectionary	70-00976	107		Iowa	Ave
14	Fitzgerald Block	70-00458	109-111-113		Iowa	Ave
15	Musser, Peter, House	70-00530	501	E	Mississippi River	Dr
16	Hotel Muscatine	70-00533	101	W	Mississippi River	Dr
17	Bennett Mill	70-00535	221-225	W	Mississippi River	Dr
18	Isett Warehouse / Green & Stone Pork House	70-00536	301	W	Mississippi River	Dr
19	Citizens Electric Light and Power Company	70-00527	315-317	W	Mississippi River	Dr
20	McKibben, S. M., House	70-00616	102-104		Walnut	St
21	Papoose Creek Sewer	70-01507				

Part II - Historic Properties with Vibration Plan Note		Site Inventory Number	Address			
1	Baker Hospital No. 2		408	E	2nd	St
2	Trinity Episcopal Church	70-00146	411	E	2nd	St
3	Garage		507-511	E	2nd	St
4	Danny's Service		700	E	2nd	St
5	Family Dollar		725	E	2nd	St
6	Commercial		1001	E	2nd	St
7	Commercial		1005	E	2nd	St
8	Pioneer Drug Store / Silverhorns	70-00119	124	E	2nd	St
9	German American Savings Bank Building	70-00120	200-202	E	2nd	St
10	Building	70-00123	204	E	2nd	St
11	Otto and Sons Grocery Block	70-00125	206	E	2nd	St
12	Bisesi Block	70-00147	413-415	E	2nd	St
13	Tappe Block	70-00160	200-202-204	W	2nd	St
14	Bridgman and Sons Insurance	70-00962	224	W	2nd	St
15	Brick Garage and Levee			E	3rd	St
16	Schmidt Shoe Factory	70-00375	115		Chestnut	St
17	Schroeder, H. Building	70-00376	116		Chestnut	St
18	Commercial Building	70-00378	118		Chestnut	St
19	Commercial Building	70-00972	119		Chestnut	St
20	Clarke's Standard Service Station		103		Grandview	Ave
21	Commercial Building / Universal Crushed Shell Co.		300		Grandview	Ave
22	House		301		Grandview	Ave
23	House		305		Grandview	Ave
24	House (Cedar Street Investments)		309		Grandview	Ave
25	House		311		Green	St
26	Maid Rite Sandwich Shop No. 2	70-01179	1033		Hershey	Ave
27	Building		1212		Hershey	Ave

Part II - Historic Properties with Vibration Plan Note (continued)		Site Inventory Number	Address		
28	Rosenmund Building		1216	Hershey	Ave
29	Modern Dairy		1309	Hershey	Ave
30	Fulliam, Jr., Edmond B. and Louise, House	70-01123	107	Locust	St
31	Escape Salon		403	W Mississippi River	Dr
32	Mississippi Marine Inc.		411	W Mississippi River	Dr
33	House		701	W Mississippi River	Dr
34	House		705	W Mississippi River	Dr
35	House		715	W Mississippi River	Dr
36	House		805	W Mississippi River	Dr
37	Garvin House	70-00532	505	E Mississippi River	Dr
38	Commercial Building	70-00979	101	E Mississippi River	Dr
39	Henderson Chevrolet-Oldsmobile Building	70-00980	117-119	E Mississippi River	Dr
40	Sieg Auto Parts Building	70-00981	305	W Mississippi River	Dr
41	Commercial Building		227	Mulberry	Ave
42	HON, Inc		200	Oak	St
43	Muscatine Municipal Electric Plant Substation & Service Building	70-00986	126	Pine	St
44	Bartlett-Kautz House	70-01135	107	Spruce	St
45	Brick Sidewalk				
46	West Hill Historic District	70-01005			
47	Downtown Commercial Historic District	70-01004			

Appendix C

Iowa Historic Property Study Booklet

The documentation identified below is for the commercial Puritan Ice Company Building [70-01194] that has been found eligible for listing in the National Register of Historic Places due to its state and local significance. This documentation is to be written for a broad public audience-- kept simple, direct, and free of technical and academic jargon. The information is to be presented (i.e., edited, cataloged and packaged) in accordance with Historic Preservation Bureau guidelines. In its content, quality, materials, and presentation, the study will meet the Secretary of the Interior's four standards for architectural and engineering documentation (48 FR 44731).

The purpose of this documentation will be to place the commercial building in architectural and historical perspective, explaining how its story played out against the background of commercial use and design at related local, state, or national trends. The research emphasis will be placed on recovering information about the evolution of the building and its uses in relation to the context of the area's commercial history based on primary sources to the greatest extent possible.

The documentation shall be formatted as a for-public booklet. It shall be printed on archival bond paper, of approximately fifteen pages. Statements within the booklet shall use endnotes as to their sources, where appropriate. The required information and suggested format for presentation is stated below.

Cover Page

Includes report title, governmental entity or source of support for sponsoring the survey, author/authors, name of affiliated firm or research organization, date of report.

Acknowledgments (if applicable)

This might include acknowledgment of valuable oral informants, or recognition of those who provided useful research leads, tendered special library assistance or helped locate and access useful courthouse archives.

Table of Contents

Introduction

The introduction describes the purpose of project, time frame when research and field work occurred, and limitations of the project.

Part I

The Building Today takes the reader to the property, describing where it is situated, its general appearance and arrangement, and important physical characteristics of its setting, buildings, and landscape features that have influenced the way things developed.

Part II:

Historical Background steps back to explain how the building fits into the development of its surrounding neighborhood and section of the town. This would identify when and

why the building was erected with respect to the platted area's development, by whom, and its part in the shifting commercial/industrial patterns of the vicinity. Included here might be attention to if it was once in a commercial/industrial node of a now absorbed suburban area or in a main street commercial center, and its place in the evolution from joint residential and commercial use toward purely commercial/industrial operations.

Part III:

Construction history documents the specific physical evolution of this commercial property and its leading periods of construction activity, major changes in the property and associated structures, or when new elements were introduced. The discussion may also note specific features which the building or its associated facilities share with other known properties (e.g., similarities in plan, materials, construction techniques, and subsequent alterations).

Part IV:

Significance of the property explains ways that the commercial property has interpretive value to understanding local or state development, or of how the frequency, arrangement, construction dates, and type of building illustrates something important about the evolving commercial architecture of the area. Included here might be mention of past publicity given the property or of how its building(s) illustrate new, innovative, or typical design practices and uses of material. Photographs, illustrations, or site plan may be integrated into the narrative as needed to help convey the property's interpretive value.

In evaluating the life of the commercial property, attention might be paid to:

1. Changes in ownership, management, or internal organization;
2. The introduction of new retail or wholesale activities at the site and its effects;
 - a. on others (e.g., subsequent adoption by competitors)
 - b. on the internal operations of the firm, on productivity, on profitability
3. Site constraints and opportunities (e.g., obstacles that affected design or limited expansion, convenience to shoppers and markets);
4. Sequence of construction, alterations, additions, replacement, demolition, or losses due to fire at the site;
5. Individuals who designed, engineered, or built the commercial building;
6. Materials used in construction;
7. Form that the buildings took in relation to their functions and similarities in plan to others then in use;

8. The relative importance of individual buildings at the site to the commercial building's activities, with the least important meriting minimal study and documentation;

Part V: Reference Sources

A paragraph or two about the quality and quantity of information consulted, its location, noting any conflicts in source materials, their accuracy, biases or noteworthy historical perspectives. This would be followed by a bibliography of the reference source materials.

Part VI: Appendices

The information here--if not placed elsewhere in the report--would include, but not be limited to, the following:

1. The Iowa Site Inventory Number, Review and Compliance Number and the FHWA project number shall be referenced.
2. Map(s) showing location in county/town, changes in property size, etc.
3. Drawings: All drawing shall show elements in correct relation and proportion to one another, with label, north arrow, overall dimensions, and the date sketched. The drawings include:
 - i. A site plan drawing showing the commercial property's location and building footprint in relation to its immediate landscape configuration including but not limited to driveways and public roads.
 - ii. The building floor plan showing the organization and arrangement of spaces, including exterior dimensions.
4. Photographs: Any required photographic coverage may be in digital format.
 - i. Eight or more views showing the building, its setting, as well as shots that will adequately illustrate the building from all sides and various building details or elements, both interior and exterior.
 - ii. Available historic photographs or illustrations that reveal the building under construction, improvement, in later use or as shown in an advertisement or architectural plan will be selected and appropriately reproduced.

APPENDIX C

MUSCATINE HISTORIC PRESERVATION COMMISSION MEETING COORDINATION



www.iowadot.gov

Office of Location & Environment
800 Lincoln Way, Ames, IA 50010
Phone: 515-239-1035 | Email: libby.wielenga@dot.iowa.gov

March 26, 2014

Ref. STP-U-5330(614)--70-70
City of Muscatine
Muscatine County
Local Project

R&C: 080170073

Muscatine Historic Preservation Commission
Jane Reischauer
108 W 5th
Muscatine IA 52761

Dear Ms. Reischauer:

RE: Mississippi Drive Corridor Reconstruction Project, City of Muscatine

The City of Muscatine with the Iowa Department of Transportation (Iowa DOT) and the Federal Highway Administration (FHWA) are proposing to reconstruct and improve 1.6 miles along and adjacent to Mississippi Drive. As part of the continued consultation effort for this project, we request that you contact us if you have any concerns of the effects this road construction project may have on historic properties.

As you will note on the enclosed maps, the project Area of Potential Effect (APE) overlaps with two historic districts, including 25 contributing resources of the Downtown Historic District, and two contributing resources of the West Hill Historic District. In addition, a total of 40 individual properties (i.e. structures, objects, and buildings) are within this project APE. The identified properties for this project range from properties listed on or eligible for listing on the National Register of Historic Places to properties that have not yet been fully evaluated for the National Register. Any property not fully evaluated for the National Register will be considered a historic property for compliance with federal regulations and the purposes of this project. Therefore, all built historic properties within the project APE are identified in the enclosed spreadsheet (Table 1.1). See the enclosed maps for geographic references (Figures 1.1- 8.1).

Enclosed is the recently completed Site Inventory Form for the Papoose Creek Sewer (#70-01507). As identified on the enclosed form, the Papoose Creek Sewer is recommended eligible for the National Register of Historic Places under Criterion C. The project plans indicate the Papoose Creek Sewer is within the APE, but will not be adversely affected by the proposed project. To ensure this, construction monitoring by a Secretary of the Interior qualified historian or architectural historian during the utility work is being proposed by the

City of Muscatine. All the details of the proposed monitoring, and any applicable documentation can be captured in a possible project MOA.

The City of Muscatine has worked diligently to consider the project's effects on these historic properties. Identified on the enclosed maps with the historic properties and APE is the project impact area. The current alignment physically avoids the overwhelming majority of historic properties. You'll note, however, one property, the Puritan Ice Company building (TeStreke property - 70-01194) located at 205-207 Green Street, would be taken and therefore adversely affected by the proposed project. At this time, this alternative is the most feasible and prudent alternative available to achieve the project's purpose and need while minimizing the environmental effects overall.

It is expected some vibration will occur during the demolition and reconstruction of Mississippi Drive. As such, FHWA and the Iowa DOT will continue to consult with the City of Muscatine and interested parties to minimize the potential vibration effects to avoid any adverse effects to the other historic properties listed above.

At this time, the City of Muscatine and FHWA/Iowa DOT are preparing for a possible Adverse Effect scenario due to the effects the project is proposing to have on the Puritan Ice Company building (TeStreke property - 70-01194). Interested parties and the public are asked to provide comments on this project at this point, and will continue to be provided an opportunity to comment. If you have any questions, please contact me. The State Historic Preservation Office (SHPO) has also received this information for comment. We are inquiring to know if your organization wishes to comment on this project. We request that you respond within 30 days of receipt of this letter. If you have any questions, please contact me at 515-239-1035 or libby.wielenga@dot.iowa.gov.

Sincerely,



Libby Wielenga
Office of Location and Environment

LJCW:sm

cc: Mike LaPietra, FHWA
Steve Boka, City of Muscatine
Jeff Hillegonds, Stanley Consultants
Brenda Durbahn, AECOM
Christy VanBuskirk, District 5 Local Systems Engineer, Iowa DOT
Matt Oetker, NEPA / OLE, Iowa DOT

Comments: