
4.0 ENVIRONMENTAL CONSEQUENCES

This section presents an analysis of the impacts that the Preferred Alternative would have on the natural, social and economic environment of the Study Area. The impacts of the No-Build Alternative are compared with the Preferred Alternative (PA-5). New roadway construction would potentially impact existing residences, businesses, farmland and natural features. Details of the impacts of the other Practical Alternatives are contained in the *Draft Environmental Impact Statement* published in November 2004. Many of the impacts discussed in this section are summarized in **Table 2.1, in Section 2.0, Alternatives Considered.**

There are varying degrees of both favorable and unfavorable impacts posed by the Preferred Alternative. These impacts are associated with several elements including land-use, relocation of homes, economics, air quality, noise, community facilities, natural environment, construction and transportation. While some adverse impacts are unavoidable, the Michigan Department of Transportation (MDOT) will take all the necessary measures, to the greatest extent possible, to mitigate impacts while improving transportation. Proposed mitigation measures for adverse impacts are discussed in **Section 4.25, Mitigation Summary.**

4.1 Land Use Impacts

This section discusses the impact of the Preferred Alternative and the No-Build Alternative on existing land uses within the Study Area and their compatibility with local zoning ordinances and land use plans. **Figure 4.1** presents a composite future land use map for the Study Area based on current land use plans for the affected communities. **Table 4.1** shows the potential acreage of different categories of land use directly impacted by the potential new right-of-way for the Preferred Alternative.

Impacts of a No-Build Alternative: There are no direct land use impacts with the No-Build Alternative. Development can be expected to increase in proportion to the forecasted growth in the Study Area. Commercial and light industrial uses along US-131 would likely remain from US-12 south to the I-80/90 Indiana Toll Road as businesses try to capitalize on the access provided by these three highways. The current mix of older housing and commercial uses in the Village of Constantine would likely remain, although traffic growth on US-131 could make the downtown less conducive for non-motorized uses. Current commercial land uses would likely remain along US-131 in the City of Three Rivers. New residential subdivisions to the west of US-131 in Three Rivers are also likely to be developed, as the city, Fabius Township and Lockport Township grow. Current agricultural uses along US-131 should remain essentially unchanged with a No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative primarily impacts agricultural and scattered residential land uses, as well as existing roadways. Practical Alternative 5 does not have a substantial impact on land use in the Study Area as it follows much of the existing US-131 alignment. Future land use patterns will be similar to the No-Build Alternative. The total acreage impacted will be a minimal percentage of the land use within the corridor. The off-alignment bypass of Constantine will reduce the available land in

the Study Area for other uses and will impact development patterns where new intersections are constructed. The bypass would be generally compatible with areas zoned for agricultural land uses because land can be farmed right up to the bypass ROW. The greatest land use impact of the Preferred Alternative is on agricultural land. These impacts are discussed in the **Section 4.2, Farmland Impacts**.

Table 4.1 Existing Land Use Within the Potential Right-of-Way Required for Construction

Land Use – New Right-of-Way Required for Construction	No-Build Alternative		PA-5 Alternative	
	acres	%	acres	%
Agriculture	0	0	132.3	77.5%
Forest	0	0	0.6	0.4%
Non-forest/ Undeveloped	0	0	0.0	0.0%
Wetlands	0	0	1.5	0.9%
Residential	0	0	36.2	21.2%
Commercial	0	0	0.0	0.0%
Industrial	0	0	0.0	0.0%
Institutional	0	0	0.0	0.0%
Recreational	0	0	0.0	0.0%
Total	0	0%	170.6	100%

ac=acres (totals are rounded). %=Percentage of potential right-of-way for the alternative.
Source: Natural Resource Conservation Service (NRCS) GIS Data Base (2000).

There will not be development along the section of PA-5 bypassing the Village of Constantine due to the bypass being limited access. The Preferred Alternative will not have a substantial impact on zoning and land use in the Study Area. Most of Practical Alternative 5 remains a two-lane facility on the existing US-131 alignment with access only allowed at the intersecting crossroads, not on US-131 itself. As a result, PA-5 will be consistent with most zoning and land uses within the Study Area.

South of Dickinson Road improvements to the corridor will be minimal, with only geometric improvements at Anderson and Eagley Roads. Between Dickinson and Garber Road, PA-5 follows a westerly bypass of the Village of Constantine. This two-lane undivided roadway requires less ROW than a freeway and no service drives are needed to maintain local access. Localized widening for truck climbing lanes between Garber and Gleason Roads will require up to 120 feet of new ROW. PA-5 directly impacts a residential area at Riverside Drive and a rural residential area at Millers Mill Road.

4.1.1 Compatibility with Zoning/Official Plans

PA-5 will have minor disruptions to adjoining land uses and zoning as it maximizes the usage of the existing roadways without expanding the facility. PA-5 is generally compatible with existing zoning and land use plans in the Study Area. MDOT will administer potential relocations in consultation with local communities to ensure that zoning and setback requirements will be followed. The No-Build Alternative also would be compatible with current zoning and official plans of local communities.

Placeholder for figure 4.1 Composite Future Land Use and Public Act 116 Parcels

4.2 Farmland Impacts

This section discusses the impacts of the Preferred Alternative and the No-Build Alternative on farmland, and impacts to farm operations. Farmland can be classified as “prime farmland”, “unique farmland” or “farmland that is of statewide or local importance”, pursuant to the Farmland Protection Policy Act (PL 97-98) of 1981 modified in 1987.

Table 4.2 provides the acreage of direct impact and AD-1006 score for the Preferred Alternative. This score was obtained from the completion of the Farmland Conversion Impact Rating form that can be found in **Appendix D**. Direct impacts refer to farmland that would potentially be acquired as ROW for construction of road and drainage improvements. Indirect farmland impacts include properties that are uneconomic remainders as a result of a direct impact to the farming operation. As defined by the *FHWA Real Estate Appraisal Guide*, an uneconomic remainder is a parcel of real property in which the owner is left with an interest after the partial acquisition of the owner's property and which the acquiring agency has determined has little or no value or utility to the owner. These parcels are sometimes sold or leased to adjoining property owners for continued agricultural production.

Table 4.2 Acreages of Active Farmland Impacted and LESA Scores

Practical Alternative	Number of Actively Farmed Parcels	Number of Parcel Splits	Total Acres of Active Farmland Impacted	Total Acres of Indirect Farmland Impacts *	Total Acres of all Land Uses Impacted	Percentage Active Farmland of all Impacted Land	AD-1006 Score (Scale from 100 to 260)
No-Build	0	0	0	0	0	N/A	N/A
PA-5	18	6	132.3	25.8	170.6	78%	164

* Indirectly impacted farmland is land that is not required for construction and could remain in agricultural use.

Impacts of the No-Build Alternative: The No-Build Alternative will have no impacts on farmland within the Study Area. Current farm production is expected to continue as the St. Joseph County 2007 Master Plan Update promotes farmland protection and preservation policies on agricultural lands having current and future commercial agricultural production value due to location, soil type, and presence of irrigation.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will directly affect less than 0.25% of the total farmland in St. Joseph County and will not have a substantial regional impact on farmland, farm employment or farm production. The Preferred Alternative will not require the displacement of any farmland operation. PA-5 will require six parcel splits and impact a total of 132.3 acres of active farmland. MDOT will purchase property in accordance with FHWA regulations.

The Preferred Alternative may require additional land acquisition outside of the required ROW as a result of various parcels becoming unusable or landlocked. This will be negotiated with the landowners during the property acquisition process.

The Preferred Alternative has an AD-1006 score of 164 on a scale from 100 to 260 with 100 being the base no effect condition. The 164 score was the second lowest of all the alternatives.

The alignment of the Preferred Alternative has been refined to minimize effects on center-pivot irrigation equipment and farmland. No center-pivot equipment or wells will be required to be removed in their entirety. Center-pivot irrigation equipment is adjustable, therefore it can be reconfigured to operate up to the Preferred Alternative’s right-of-way line. Impacts to center-pivot equipment will be mitigated as necessary by MDOT to maintain the existing irrigation quality on impacted farms.

4.2.1 Farmland with Special Designations and the Farmland Open Space Preservation Program

Table 4.3 describes the agricultural impacts of the Preferred Alternative and the No-Build Alternative on farmland with special designations, specifically for land regulated under the Farmland and Open Space Preservation Program (PA 451, Part 361, formerly referred to as P.A. 116), designated “Prime Farmland” and designated “Unique Farmland” as defined in **Section 3.2, Farmland**.

Any Federal action that results in conversion of farmland to a non-agricultural use requires coordination with the Natural Resources and Conservation Service (NRCS). Coordination has been accomplished through a Land Evaluation Site Assessment (LESA), which measures the relative value of farmland affected, and assigns a score according to set criteria. The evaluation includes direct and indirect conversion. The Form AD 1006, which evaluates the impacts of farmland conversion, is provided in **Appendix D**. The LESA provides a numerical score for assessing farmland conversion impacts, ranging from a low score of 100 to a high score of 260.

Part 361 of the Natural Resources and Environmental Act, as amended, is intended to support the preservation of farmland and open spaces through restrictive covenants. Part 361 provides tax incentives for participation in the program. The Act also allows for lands acquired for highway improvements in the public interest to be released from this preservation program. MDOT would coordinate with the Michigan Department of Agriculture and impacted property owners to identify affected properties or portions of properties, which would require a public interest release.

Table 4.3 Impacts on Farmland with Special Designations

Practical Alternative	Number of P.A. 233 (P.A.116) Parcels (Impacted Acres)	Impacted Unique Farmland (acres)	Impacted Active Prime Farmland (acres)
No-Build	0 (0)	0	0
PA-5	4 (18.3)	0	132.3

Impacts of the No-Build Alternative: The No-Build Alternative would not impact any prime or unique farmland.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will not impact any unique farmland but will have impacts to 132.3 acres of prime farmland. The Preferred Alternative would impact four P.A. 233 designated farmland preservation parcels.

4.2.2 Farmland Operations Impacts and Displacements

Minimizing farmland operational impacts and displacements was a goal during the development of all Build Alternatives. Wherever possible, the Build Alternatives follow existing property lines and minimize dividing or splitting large tracts of farmland. They cross fields at perpendicular angles to reduce the creation of uneconomic remainders where possible. However, some farming operations would be disrupted by all Build Alternatives.

Potential impacts to farming operations are described below. Some indirect development may occur on existing farmland adjacent to proposed interchanges or intersections.

Impacts of the No-Build Alternative: There are no farm displacements or impacts to farmland operations associated with the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative would not require the displacement of any farming operation. The potential impacts on farm operations from the Preferred Alternative are due to the splitting of some farm parcels.

4.3 Social Impacts

This section assesses the potential impacts to community facilities, travel patterns and school bus routes. There are minimal community impacts associated with Preferred Alternative (PA-5) with the exception of travel pattern impacts associated with the change in the local transportation system. There are no major community resources that will be directly affected. As a result, there will be no substantial impacts on any community resources associated with the Preferred Alternative.

4.3.1 Community Impacts

Impacts of a No-Build Alternative: Downtown Constantine will continue to have heavy commercial traffic. Congestion, noise levels and vibrations will continue and increase as well. This may increase emergency service response times as well as general travel times.

Impacts of the Preferred Alternative (PA-5): The bypass of Constantine will affect travel patterns as commercial vehicles and through traffic will no longer have to travel through the Village of Constantine. School bus routes and emergency service to the community would be affected where Millers Mill Road would be terminated by cul-de-sacs on each side of the bypass. The residences on the east and west legs of the intersection (on Millers Mill) both have a 0.55 mile travel increase from their existing locations. All other roadways maintain access and school bus and emergency service routes are not adversely affected. MDOT will meet with Constantine High School officials to discuss traffic and bus routes as they pertain to the bypass and US-131BR during the design phase of the project.

The Preferred Alternative will encourage heavy commercial traffic that currently passes through Constantine to use the provided two-lane bypass. This relocation of through

commercial traffic will have a positive impact on the downtown area by reducing congestion and the associated noise and vibration of large trucks from downtown Constantine.

No churches will experience any direct impacts from ROW acquisitions. North of Constantine, residential relocations will be required in the neighborhood adjoining Youngs Prairie and Millers Mill Roads as discussed in **Section 4.5, Relocation Impacts**.

4.4 Environmental Justice Impacts

Executive Order 12898, issued in 1994, requires every agency undertaking a transportation project that is fully or partially funded by the federal government to consider the impact of such a project on minority populations and/or low-income groups. At the core of environmental justice are the following three fundamental principles:

- Avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- Prevent the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations.

No potential disproportionately high and adverse impacts to minority or low-income populations were identified for the Preferred Alternative and there will not be substantial impacts on Environmental Justice communities associated with the proposed project. This section discusses the analysis and coordination performed as a part of the Environmental Justice evaluation.

4.4.1 Analysis of Environmental Justice Impacts

In order to determine if a minority population group or low income population group is present in the Study Area, MDOT reviewed census tracts from the 2000 Census. MDOT also reached out to community leaders and groups, tribal governments, and local officials by conducting public information meetings and workshops (**Section 6 of the FEIS**), which helped identify population groups in the Study Area.

4.4.2 Study Area

In the Environmental Justice and Title VI analyses, minority persons are defined as Black, Hispanic, Asian American, American Indian, or Alaskan Native. Low income populations are those, regardless of ethnicity, who are in households with annual incomes at or below the U.S. Department of Health and Human Services poverty level of \$18,850 for a family of four, according to the U.S. Census data. Whether or not they fit the definition of groups protected by the EJ regulations, all groups and individuals have the right to access and participate in the decision making process as provided by title VI of the Civil Rights Act.

Analysis of census data revealed that the US-131 Study Area can be characterized as having an evenly distributed population of low-income residents with an average poverty rate (11.4%) comparable to the averages of St. Joseph County (11.3%), Elkhart County (7.8%), the State of Michigan (10.5%) and the State of Indiana (9.5%). **Table 3.1 in Section**

3.3, Socio-Demographics compares the population composition of the communities within the Study Area with those of St. Joseph and Elkhart Counties and the states of Michigan and Indiana. These comparisons help put into context the size of the low-income population within the Study Area. According to the census data, Constantine Township has a poverty rate of 8% while the Village of Constantine was higher at 15.3%.

The percentage of minorities estimated to be living within the Study Area (7.2%) is lower than the Elkhart County, Indiana (22.5%), St. Joseph County, Michigan (8.7%), State of Indiana (16.0%) and State of Michigan (21.4%) averages. Approximately 93% of the populations within the Study Area are part of the ethnic group of white/caucasian. Members of identified minority groups comprise 5% of the Constantine Township population and 6% of the Village of Constantine population.

4.4.3 Analysis Approach

The EJ methodology that was used to conduct an Environmental Justice analysis of the Study Area followed MDOT and FHWA guidelines (U.S. DOT Order 6640.23). That methodology has several steps that need to be followed along with a series of questions that need to be asked and answered in order to determine if there will be disproportionately high and adverse effects on minority population groups or low income population groups in the Study Area.

Step One: Determine if a minority population group or low income population group is present in the Study Area.

Step Two: Determine whether project impacts associated with the identified low-income and minority populations are disproportionately high and adverse.

Step Three: Propose measures that will avoid, minimize, and/or mitigate disproportionately high and adverse impacts and provide offsetting benefits and opportunities to enhance communities, neighborhoods and individuals affected by the proposed project.

Step Four: If after further mitigation, enhancements, and off-setting benefits to the affected populations, there remains a high disproportionate adverse impact to minority populations or low income populations then the following questions must be considered:

- Are there further mitigation measures that could be implemented to avoid or reduce the adverse effect? If further mitigation measures exist, then those measures must be implemented unless they are “not practicable”.
- Are there other additional alternatives to the proposed action that would avoid or reduce the impact to low income or minority populations? If such as alternative(s) exists, and it is “practicable”, then that alternative must be selected. If further mitigation or alternatives that avoid the impact are judged to be not practicable that conclusion must be documented, supported by evidence, and included in the NEPA document.
- Considering the overall public interest is there a substantial need for the project?
- Will alternatives that would still satisfy the need for the project and have less impact on the protected populations have other impacts that are more severe

than the proposed action, or have increased costs of extraordinary magnitude.

Step five: Include all findings, determinations, or demonstrations in the environmental document prepared for the project.

Consistent with the methodology, three major activities were undertaken. The first involved consultation with the community in public meetings, workshops and small groups. The second activity in the process was to verify the anecdotal information gathered in the first step through a field verification of key physical features/organizations (parks, churches, schools, historic properties, etc.) that make up the community fabric. The third activity was to conduct analyses of key issues and their impact on the community. These included potential relocations, traffic, air quality, noise, cultural resources as well as others discussed in this document. The complete database was then studied to determine if there were adverse effects on minorities or low income peoples.

Impacts of a No-Build Alternative: No impacts to Environmental Justice communities are expected for the No-Build Alternative.

Impacts of a Preferred Alternative: Although the Preferred Alternative will include minor improvements along US-131 throughout the Study Area, the new alignment bypass is located in Constantine Township and will bypass the Village of Constantine. The small minority population in the Study Area is dispersed and no concentration of minority groups would be disproportionately impacted by the Preferred Alternative. Although there are no disproportionate impacts to minority or low-income groups within the Study Area, these groups are impacted by the Preferred Alternative as part of the overall population.

4.4.4 Public Involvement Efforts

To ensure full and fair participation by all potentially affected communities, including minority and low-income groups, a series of five public meetings, one real estate meeting and one community involvement workshop were held. Prior to each public meeting, announcements were printed in local newspapers. All residents within the Study Area were invited to participate in the decision-making process. **Section 6.0, Public and Agency Coordination** provides the dates, locations and summaries of US-131 public information meetings and community involvement workshop. In addition to public meetings, the communities of White Pigeon, Constantine, Three Rivers and local township officials were contacted to discuss planning and socio-economic issues. Project maps and contact information were sent to local churches to be presented to the congregations to increase local awareness and public involvement. Other public involvement efforts have included an internet web page, a toll free number for contacting MDOT Study Team members, project newsletters and public meeting brochures. MDOT held a formal Public Hearing on the Draft Environmental Impact Statement March 29, 2005.

A review of the U.S. Census data (2000) indicated that the number of people who are limited in English proficiency (LEP) is less than 5 percent in St. Joseph County. During the project development phase of this project, MDOT has not received any requests for an interpreter to be present at meetings, or to have any of the documents translated into another language other than English.

Although there are no disproportionate impacts on minority and low-income populations, a continuing effort will be made to identify disproportionately high and adverse impacts to minority and low-income populations during subsequent phases of this project. If such impacts are identified, every effort will be made to involve impacted groups in the project development process to avoid or mitigate these impacts.

4.5 Relocation Impacts

This section describes the residential, farm, and community facility impacts associated with both the Preferred Alternative and the No-Build Alternative. Relocations will only be necessary where the alternative directly impacts a home. All relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Resources would be made available without discrimination to all residents who are relocated. Under the requirements of this Act, relocations cannot occur until it is shown that comparable housing is available in the area for relocation purposes. Replacement housing must be similar both in type and price range. A Conceptual Stage Relocation Plan has been developed by MDOT. The Conceptual Stage Relocation Plan can be found in **Appendix E**.

The zoning setback requirements for the local communities were used in identifying the potential relocations for the Preferred Alternative. While zoning variances are sometimes an option to minimize relocations, none were assumed in estimating the relocations required for the Preferred Alternative.

Relocation estimates for all properties are based upon a worse case scenario of acquiring all structures that would not comply with zoning setbacks due to ROW acquisition. Estimates also assume acquiring the full property if the principal residence or business requires relocation. The residential relocations consist of single-family homes and farmsteads and are representative of the overall housing stock within the Study Area. No disproportionate impacts were identified as a part of the Environmental Justice review discussed in **Section 4.4, Environmental Justice Impacts**.

Impacts of a No-Build Alternative: The No-Build Alternative would not require any relocations.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will require 12 single family residential relocations. No minority or low-income households have been identified as relocations.

Mitigation: Details on MDOT's general mitigation measures for relocations are found in **Section 4.25.1, Measures to Mitigate Right-Of-Way Acquisition and Relocation Impacts**.

4.6 Economic Impacts

This section discusses the economic impacts for the Preferred Alternative and the No-Build Alternative. The Preferred Alternative avoids many of the substantial adverse economic impacts discussed for other alternatives in the Draft Environmental Impact Statement and does not relocate any businesses. The construction of roadway improvements would also temporarily inject new money into the local and state economies during construction.

However, similar, greater or lesser economic benefits could be generated by investing in roadway projects in other locations in the state depending on the type of project and the amount of traffic using it.

A number of methods were used to assess the potential economic impact of US-131 improvements. A review of post-construction studies that examined the economic impacts of highway bypasses was conducted to identify the long-term economic impacts encountered by similar communities that have been bypassed. A survey of both business operators and patrons along existing US-131 was also conducted to gain insight into the perceived economic impacts of existing US-131. The potential benefits of improvements in the form of travel time savings and crash reductions were analyzed and estimates of the potential tax base loss due to ROW acquisition were also calculated.

The results of these assessments are summarized below to provide an overall analysis of the potential economic impacts of the Preferred Alternative.

Impact of a No-Build Alternative: The greatest influence on future economic conditions within the Study Area will be the overall health of area businesses and the condition of the state and national economies. The effects of US-131 improvements would be secondary under both the Build and No-Build scenarios. Modest growth in population is forecast for the Study Area communities (**Table 3.2, in Section 3.3, Socio-Demographics**), which should contribute to modest economic growth over the next twenty years. These trends should continue under a No-Build Alternative.

Although many business operators were concerned with certain existing conditions associated with US-131, the majority of business operators do not feel the existing state of US-131 adversely impacts their business. The overall outlook for the Study Area businesses appears good. The overall perception is that the economic impact of the No-Build Alternative would not be substantial.

Impacts of the Preferred Alternative (PA-5): A literature review was conducted in the DEIS phase to present findings from an extensive examination of highway bypasses on communities. The Preferred Alternative would allow traffic to bypass the existing commercial area in downtown Constantine. The review entailed the post-construction effects of highway bypasses previously constructed around small and mid-sized communities of comparable size to the Village of Constantine and supports the following conclusions.

- There is generally a larger short-term impact to highway-oriented establishments such as service stations, motels and restaurants because of their higher dependence on through traffic. However, these same businesses are among those who can benefit most from short-term construction revenues being spent and re-spent within the community.
- There is no evidence that businesses targeting non-motorists or specialty markets are affected. In fact, when traffic whose origins and destinations lie outside of the community is routed away from the business area, congestion and conflict are reduced. This can create a more inviting shopping atmosphere for local repeat customers, upon whom most businesses depend.
- The long-term growth potential of a bypass has generally been found to outweigh the short-term economic impacts.

- Sales from through travelers account for a much smaller portion of total receipts than are commonly expected by local businesses.
- Any decline in business is typically much smaller than business owners expected. Generally, business owners from all types of retail sales have tended to support bypasses following their completion.

Table 4.4 Business Survey Perceptions on Existing Conditions

Impact of No-Build Alternative on Business	Have No Effect	Increase Business	Decrease Business	No Answer
White Pigeon Area	100%	0%	0%	0%
Constantine Area	70.8%	4.2%	20.8%	4.2%
Three Rivers Area	73.8%	7.7%	7.7%	10.8%
Total Study Area*	72.7%	5.5%	10.9%	10.9%
Major Concerns with Existing US-131**				
	Difficult to Cross	Traffic Congestion	“Too Many Trucks”	“Too Much Noise”
White Pigeon Area	11.1%	33.3%	33.3%	0%
Constantine Area	70.8%	58.3%	50.0%	29.2%
Three Rivers Area	49.2%	27.7%	16.9%	3.1%
Total Study Area*	47.3%	36.4%	26.4%	10.9%
Outlook for Business in the Next Ten Years				
	Good – Will Consider Expansion	Fair – Will Continue As Is	Poor – May Reduce Staff	Other/ No Answer
White Pigeon Area	33.3%	55.6%	0.0%	11.1%
Constantine Area	54.2%	41.7%	0.0%	4.2%
Three Rivers Area	84.6%	12.3%	0.0%	3.0%
Total Study Area*	70.9%	25.5%	0.0%	3.6%
* Study Area total includes listed areas and scattered businesses between communities.				
**Major issues cited only, will not add to 100% as multiple responses and other responses were allowed.				

The survey of business owners and patrons conducted for this study confirmed that many of these general findings were applicable for US-131. A key finding was that 55.5% of businesses surveyed felt that 10% or less of their business came from unplanned stops by customers, while only 4.5% felt that more than half of their customers were drive-by patrons. **Table 4.5** provides greater detail of the responses from the business and patron surveys.

Table 4.5 Survey Results Concerning Impact of Bypassing Study Area Communities

Percentage of:	White Pigeon Area	Constantine Area	Three Rivers Area	Study Area Totals*
Trips by Patrons of US-131 Businesses from Through Traffic.**	14.3%	25.7%	15.1%	16.8%
Patrons at US-131 Businesses Who Were Aware of the Business and Planned to Stop.	81.0%	87.1%	93.5%	91.1%
Business Operators Who Felt a Bypass Would Hurt Their Business.***	33.3%	50.0%	38.5%	38.2%
Business Operators Who Felt a Bypass Would Help Their Business.***	22.2%	20.8%	10.8%	13.6%
Business Operators Who Felt a Bypass Would Have No Effect on Their Business.***	22.2%	20.8%	38.5%	31.8%
<p>* Study Area total includes listed areas and scattered businesses between communities. ** Through trips are defined as those that neither originated from nor were destined for a community within the Study Area. ***Totals in columns do not add to 100% because of non-responses.</p>				

The survey of business patrons showed that gasoline/service stations were more dependent on through traffic (24.7%) and on unplanned stops at their business (84.2% planned) than other businesses. These businesses may require some adaptation of service to avoid or minimize potential adverse effects of the bypass portion of the Preferred Alternative.

The literature review and surveys both indicate that there would likely be some adverse impacts of the Constantine bypass on existing businesses on US-131 in downtown Constantine, especially for highway-oriented businesses. Adverse impacts of the Preferred Alternative include the loss of property tax revenues due to ROW acquisition and bypassing the Village of Constantine, which will affect existing business patterns due to the reduction in drive by traffic. Business owners have concerns about the impact of the bypass, although only a small percentage of the surveyed business patrons had not planned to stop at the business where they were surveyed. Constantine area businesses were found to be more dependent on unplanned stops and through traffic than those in Three Rivers. However, as noted above, there are many positive economic aspects of a bypass.

Improvements along US-131 would provide both direct and indirect economic benefits. Direct economic benefits would be those that result from improvements to the flow of traffic and reduced crashes on US-131. Improvements would have an economic value in terms of travel time saved, savings due to fewer vehicular crashes and changes in vehicle operating costs. The level of direct economic benefit would depend on several factors including the following:

- Number of vehicles using the bypass. Generally, economic benefits are higher for improvements to roadways with higher traffic volumes as more motorists experience the potential travel efficiency savings from improvements.

- The average speed on the bypass compared to the average speed on the existing roadway. A bypass which results in substantially higher average speeds will generally have greater economic benefits in terms of travel time savings. The Preferred Alternative is expected to have a posted speed of 55 miles per hour compared to 30 miles per hour on the current US-131 through Constantine. The Preferred Alternative also includes truck climbing lanes at key locations, decreasing travel times for some motorists.
- The length of a new roadway compared to the existing roadway. The existing US-131 corridor is 17.2 miles while the Preferred Alternative would be 17.4 miles. There would be minimal benefits in terms of changes in vehicle operating costs from the Preferred Alternative as it would result in a slight increase in vehicle miles traveled, although the travel time would be reduced due to the higher speeds on the bypass of downtown Constantine.
- The potential for crash reductions. **Section 1.0, Purpose of and Need for a Proposed Action** identified five segments of existing US-131 with higher than average crash rates. This includes the segment through the Village of Constantine that would be bypassed by the Preferred Alternative. The bypass along with intersection improvements at key locations along the Preferred Alternative should result in lower crash rates in the corridor. This will result in an economic benefit in terms of reduced damages, injury costs and police time spent on crashes.

Indirect economic benefits would result from the creation of new jobs and the investment of funds resulting from construction, ROW acquisition, the savings received as a part of the direct benefits of improvements and an increase in through traffic. Companies and individuals receiving benefits in terms of reduced travel time and accident costs could also invest portions of these savings in the local and state economies.

The Preferred Alternative is forecast to have both direct and indirect economic benefits for St. Joseph County and the State of Michigan. However, this analysis does not necessarily mean that the benefits of the Preferred Alternative are greater or less than those that would occur if MDOT invested its funds elsewhere. The benefits to the State of Michigan as a whole are less relevant than the benefits to St. Joseph County because using the funds for a project in another part of the state could result in similar, higher or lower statewide benefits. Benefits to St. Joseph County are more relevant from a local economic development perspective than a statewide perspective. Given that US-131 carries less traffic than many other roadways in the state and that similar or greater economic benefits could be achieved by making similar investments elsewhere, US-131 improvements would not have major economic benefits from a statewide perspective.

The relocations discussed in **Section 4.5, Relocation Impacts**, along with the acquisition of ROW, would have potential short and long-term effects on property tax revenues for the communities involved. The short-term effect would be a loss of property taxes from parcels acquired by MDOT for ROW and from relocations that take time to complete. Over time, this lost property tax value should be replaced as many of the relocated residents would likely move to new locations within the Study Area communities and new development would take place, raising the property tax values of currently vacant or underutilized property. **Table 4.6** presents estimates of potential short term tax base reductions due to ROW acquisition for the Preferred Alternative. Analysis of potential tax base impacts of other alternatives considered is contained in the *Draft Environmental Impact Statement*.

The Preferred Alternative would not reduce the local tax base in any of the Study Area communities by more than 1%. Between 2003 and 2006, the total taxable value for St. Joseph County rose by 15.5% according to the St. Joseph County Equalization Office. This represents an average county-wide gain of 4.9% per year. The highest property tax impact would be to Constantine Township at 0.11%. Between 2003 and 2006, the total taxable value of Constantine Township rose by 3.7% per year. At this rate of gain, tax base losses due to the acquisition of ROW for the Preferred Alternative would be less than the annual gain in new taxable value for the communities affected.

Table 4.6 Loss of Taxable Value for Study Area Communities due to ROW Acquisition

Community	Loss of Taxable Value due to ROW (2004)*				Total Taxable Value (2004) \$000
	All dollars are in thousands				
	No-Build		PA-5		
	\$000	%	\$000	%	
Mottville Township	\$0	0.0%	\$2	0.01%	\$39,694
White Pigeon Township	\$0	0.0%	\$0	0.0%	\$126,482
Village of White Pigeon	\$0	0.0%	\$0	0.0%	\$24,717
Constantine Township	\$0	0.0%	\$104	0.11%	\$92,077
Village of Constantine	\$0	0.0%	\$35	0.08%	\$46,532
Fabius Township	\$0	0.0%	<\$1	0.0%	\$110,043
City of Three Rivers	\$0	0.0%	\$141	0.09%	\$148,478
Lockport Township	\$0	0.0%	\$0	0.0%	\$71,762

* Loss of Taxable Value was based on the following assumptions.

- For parcels involving residential, farm and business relocations the entire taxable value was counted unless other viable residences or businesses remained on the parcel.
- For parcels not involving relocations, buildings were assumed to count for 75% of the taxable value, which was not counted. Uncovered/unbuilt acreage was assessed and counted at an average taxable value of \$2,250 per acre. Taxable value is typically less than half of the market value of a property.
- Taxable values originally calculated in year 2000 dollars were calculated for 2004 values based upon an average annual 3.0% inflation factor.

Discussions were held with the St. Joseph County Land Resource Center staff and the local assessor for the majority of the communities involved to verify that the assumptions used in making these estimates were appropriate.

4.7 Non-Motorized Facility Impacts

The existing US-131 Study Area alignment does not have sidewalks with the exception of the segment within the Village of Constantine. The current US-131 facility is used minimally by bicyclists, as it does not feature non-motorized lanes. Relatively large percentages of heavy truck and wide-load (mobile home) delivery trucks on this segment of US-131 also limit its attractiveness as a bicycle route. A series of "Bicycle Tours"/routes exist on local roads that cross US-131; these routes are unmarked but are published by the St. Joseph County Parks and Recreation Commission.

Impacts of the No-Build Alternative: Non-motorized facilities will not be affected by the No-Build Alternative; however pedestrian mobility in downtown Constantine would remain the same or become more difficult as traffic increases.

Impacts of the Preferred Alternative (PA-5): The lack of density in land use within most of the areas impacted by PA-5 suggests there would be little usage of non-motorized facilities built along the ROW in conjunction with the Preferred Alternative. Relatively large percentages of heavy truck traffic would also make the PA-5 alignment a less-attractive route for non-motorized users. Some adverse impacts on cyclists and pedestrians would be experienced in the vicinity of the Village of Constantine. The Preferred Alternative impacts one of the bike tour routes at Millers Mill Road as shown on **Figure 3.3** in **Section 3.8, Non-Motorized Facilities**. This route could be re-routed to minimize or eliminate impacts. The Preferred Alternative would require the termination of part of Eagley Road (to the south of Constantine) and cul-del-sacing Stears Road (west of the bypass) and Millers Mill (east and west of the bypass). These terminations would hinder non-motorized travel along these local roads.

Where the Preferred Alternative remains on the existing alignment, existing access and roadway configurations that permit non-motorized use will be maintained. Minor improvements to the roadway, such as new shoulders and updated roadway geometrics should improve safety and comfort for those pedestrians and bicycles that choose to use the road. However, non-motorized users would be exposed to higher traffic volumes on some segments than under a No-Build condition. The Preferred Alternative would offer beneficial effects to non-motorized users in downtown Constantine as this area is bypassed and traffic is greatly reduced on existing US-131 at this location (**Figure 3.3**). The streetscape environment for pedestrians in downtown Constantine should be calmer and Washington Street (existing US-131) should be easier to cross. Minor pedestrian traffic, including joggers, use some of the local roads that cross existing US-131. Where minor roads are closed, either permanently or during construction, pedestrian access will be less direct.

Where PA-5 leaves the existing alignment for the bypass around the Village of Constantine US-131 will become a two-lane limited access roadway.

Currently there is little existing use of the existing corridor by non-motorized traffic and in many cases, the pedestrian and bicycling environment will be improved by removal of vehicular traffic including large trucks from local roads, particularly in downtown Constantine. Since the Preferred Alternative does not pass through downtown Constantine, pedestrian access to this area should improve as compared to the No-Build Alternative.

4.8 Air Quality Impacts

4.8.1 Conformity

The U.S. Environmental Protection Agency (EPA) has designated St. Joseph County to be in attainment for all National Ambient Air Quality Standards (NAAQS) pollutants. This means the county, which includes the Study Area, is below the designated standards and is not a threat to public health for air quality. A conformity determination is not required under 40 CFR Part 93 (“Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Funded or Approved under Title 23 U.S. Code of the Federal Transit Act”).

4.8.2 Carbon Monoxide Microscale Analysis

The CO concentrations were calculated for the maximum traffic volumes at representative worst case and maximum receptors for the years 2000 (existing), 2010 (estimated first year of potential operations) and 2030 (design year) for the No-Build and Preferred Alternative. The modeling was completed for the location with the highest likelihood for intersection delay at the Study Area’s lowest-performing intersection. The “worst case” location is the property with the highest volume of traffic closest to a residential-type receptor where occupants could be expected to remain for eight consecutive hours. The worst case location evaluated for this study is the Super 8 Motel located in the northeast quadrant of the intersection of US-131 and Broadway Road. “Maximum” receptors were identified as those locations where the highest CO concentrations would be expected to occur, regardless of whether the location could be expected to have human inhabitants. The location for maximum CO concentration is at the ROW line in the southeast quadrant of the intersection of US-131 and Broadway. The “maximum” and “worst case” locations are shown in **Figure 4.5 (Sheet 4)**.

A default background CO concentration of 3.0 parts per million (ppm) was used to represent the contribution of other sources to the ambient CO in the area. **Table 4.7** provides the modeled values.

Table 4.7 Eight-Hour Carbon Monoxide Concentrations (ppm) for the Maximum and Worst-Case Receptor Location at US-131 and Broadway Road

Year	No-Build Alternative		Preferred Alternative	
	Maximum	Worst-Case	Maximum	Worst-Case
2000 – Existing	3.6	3.1	--	--
2010 – Potential First Year of Operation	3.6	3.1	4.6	3.5
2025 – Design Year	3.8	3.2	4.5	3.7

The maximum existing (2000) CO concentration (3.6 ppm) was calculated at the ROW line in the southeast quadrant of the intersection of US-131 and Broadway Road. For the worst case receptor, the value is 3.1 ppm. For the Preferred Alternative, the highest future year modeled CO levels would be 4.6 ppm at the maximum location in 2010 and 3.7 ppm at the worst-case location in 2025. None of these concentrations of CO exceed the NAAQS eight-hour standard of 9.0 ppm. Because these levels are well below the eight-hour NAAQS standard, it can be concluded that the higher one-hour standard of 35.0 ppm would not be exceeded as well. For future conditions, no violation of the NAAQS is anticipated.

Impacts of the No-Build Alternative: The Study Area air quality is not projected to exceed the NAAQS.

Impacts of the Preferred Alternative (PA-5): Despite changes in traffic volumes, the Study Area air quality is not projected to exceed the NAAQS. As the project is in an attainment area and the Preferred Alternative will not exceed federal standards for air quality, no significant air quality impacts will result from the project. Therefore, air quality mitigation measures are not required for the proposed highway improvements.

4.8.3 Mitigation of Temporary Construction Air Impacts

During construction, the contractors must comply with all federal, state and local laws and regulations pertaining to the control of air pollution. Adequate airborne dust control measures will be incorporated into the project and maintained, so as not to cause damage to properties or cause detriment to the safety, health, welfare or comfort of any person.

Dust Control: During the construction of any project, the contractor would be responsible for adequate dust-control measures so as not to cause detriment to the safety, health, welfare or comfort of any person or cause damage to any property, residence or business.

Bituminous and Concrete Plants: All bituminous and portland cement concrete proportioning plants and crushers must meet the requirements of the rules of Part 55 of Act 451, Natural Resource and Environmental Protection. Any portable bituminous or concrete plant and crusher must meet the minimum 250-foot setback requirement from any residential, commercial or public assembly property and the contractor may be required to apply for a permit-to-install or a general permit from the MDEQ. The permit process including any public comment period, if required, may take up to six months.

Dust collectors would be provided on all bituminous and concrete proportioning plants. Dry, fine aggregate material removed from the dryer exhaust by the dust collector would be returned to the dryer discharge unless otherwise directed by the engineer.

4.9 Noise Impacts

The purpose of this section is to determine the existing noise levels, evaluate future noise levels and identify noise impacts associated with the Preferred Alternative. The noise analysis process involves predicting noise levels at various representative locations using the FHWA Traffic Noise Model (TNM) program (Version 2.5, February 2004). The TNM program performs the noise level predictions by constructing a three-dimensional terrain model encompassing the location of the noise sources and the receptors. Other input variables include traffic data, as well as any existing noise barrier data.

Please see the Noise Analysis Technical Report for details on background, assumptions, procedures and findings. **Section 3.10, Noise** contains information on the Federal Highway Administration's Noise Abatement Criteria (NAC) standards. Noise receivers are impacted by traffic when noise levels approach or exceed the standards or if there is a "substantial" increase in traffic noise levels from existing conditions.

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area. For the areas where impacts are identified, methods of noise abatement are evaluated to determine the feasibility and reasonableness of their implementation. The evaluation is based on many factors, some of which include; constructability, cost, height of wall, amount of land use and whether changes in existing land use are expected.

4.9.1 Noise Level Analysis

Noise level projections at 13 representative receptor locations across the Study Area were made using the TNM. Out of these, all 13 receptors represent Category B land uses **Figure 4.2** shows these receptor locations.

Table 4.8 presents each representative receptor along with a description and its existing 2030 No-Build and 2030 Preferred Alternative noise levels. For the design year 2030 traffic noise levels will approach or exceed the FHWA noise abatement criteria of 66 dBA at one receiver. Traffic noise levels will not approach or exceed the FHWA NAC of 72 dBA at any receiver locations. Receiver 10 is impacted by the future predicted noise level due to the proximity of the receiver to the proposed bypass.

Noise abatement measures are considered when noise levels approach or exceed the NAC level for the appropriate land use category or when the future noise levels indicate a substantial increase over existing levels. In addition, several of the receptors in the Study Area, specifically Receivers 1, 7 and 9 are expected to experience a substantial increase in traffic noise under future build conditions. Receiver 10 exceeds the NAC for residential properties. However, this receiver is anticipated to be acquired for the project, so no noise mitigation would be required.

Figure 4.2 Ambient Noise Measurement Locations

Table 4.8 Projected Noise Levels

No.	Receiver	2006 Existing LAeq1h dBA	2030 No Build LAeq1h dBA	2030 Build LAeq1h dBA	Critical NAC dBA	Change in Noise Level from 2006 Existing to 2030 Build, dBA
1	Apartment Complex (Riverside Drive)	43.0	43.8	61.2	66	+18.2
2	Church/Cemetery (US-131)	65.2	65.3	65.3	66	+0.1
3	Residence (Youngs Prairie)	58.7	58.2	62.9	66	+4.2
4	Residence (Youngs Prairie)	58.0	57.5	63.1	66	+5.1
5	Residence (US-131)	65.2	65.3	65.3	66	+0.1
6	Residence (Stears Road)	52.7	53.7	56.5	66	+3.8
7	Residence (Stears Road)	44.0	45.0	58.2	66	+14.2
8	Residence (Stears Road)	46.3	47.4	52.9	66	+6.6
9	Apartment Complex (Riverside Drive)	42.9	43.7	55.6	66	+12.7
10	Residence (Youngs Prairie)	60.4	59.9	66.8	66	+6.4
11	Residence (Millers Mill)	57.0	56.6	59.8	66	+2.8
12	Residence (Millers Mill)	55.6	55.2	60.9	66	+5.3
13	Historic Property (US-131)	65.0	65.1	65.1	66	+0.1

4.9.2 Mitigation of Traffic Noise

Receivers 1, 7, 9 and 10 would experience impacts under the Preferred Alternative, either a noise level that exceeds the NAC for that property (Receiver 10) or a substantial increase in noise levels from existing noise levels (Receivers 1, 7 and 9). Noise abatement measures were evaluated at these locations. MDOT will only consider providing noise abatement at locations where the abatement is feasible and reasonable. The *Noise Analysis Technical Report* contains additional information on the analysis that is summarized below.

In the vicinity of Receiver 7 only a maximum of three properties would be benefited and the cost of a noise wall to serve this area would definitely exceed the current MDOT criterion of \$38,060 per benefited dwelling unit in year 2007 dollars. Therefore, no further consideration was given to providing noise abatement in this area.

At the apartment complex on Riverside Drive (Receivers 1 and 9), the analysis determined that no wall could be constructed in this location that would mitigate noise impacts (5 dBA or greater decrease) at a cost of \$38,060 or less per benefited dwelling unit. Therefore, no noise abatement is proposed in this area.

4.9.3 Construction Noise

The major construction activities of this project are expected to be earth removal, hauling, grading and paving. Generally construction noise impacts, such as temporary speech interference for passersby and individuals living or working near the project, can be expected. In some areas, construction noise impacts can be expected to be greater due to the close proximity of existing housing. However, considering the relatively short term nature of construction noise, these impacts are not expected to be substantial. The contractor can limit times for which certain types of construction operations may be undertaken.

4.10 Groundwater

4.10.1 Impacts on Groundwater

The Preferred Alternative will have minimal effect on groundwater resources. MDOT specifications imposed on contractors will use Best Management Practices (BMPs) to avoid effects on wells, sewer lines and recharge areas, as well as to protect surface water sources from potential pollutant runoff (covered in subsequent sections of this chapter). As a result of these BMPs the project will not have a substantial effect on groundwater.

Impact of a No-Build Alternative: Groundwater will not be affected by the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will have minimal impact on groundwater resources. Direct impacts that permanently impair the function of groundwater discharge and recharge areas occur from roadway projects primarily due to impervious road surfaces that cover these areas. Groundwater resources are also vulnerable to temporary, direct impacts such as contamination at water wells, septic fields and sewer lines during construction.

There would also be no major impacts to wetland or groundwater recharge areas, major disturbances to groundwater flow or drainage patterns or other impacts that would foster greater opportunity for contamination or disturbance of groundwater resources. No detention/retention ponds are currently anticipated; however these would also not be expected to impact groundwater resources.

4.10.2 Impacts on Wells

Impact of a No-Build Alternative: No wells will be impacted by the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will have minimal impact on well resources and no identified municipal water wells will be impacted by the proposed ROW.

4.10.3 Mitigation of Groundwater Impacts

Sealing water wells and sewer lines for the protection of groundwater quality is ensured by MDOT specifications imposed on construction contractors. Impacts on groundwater resources would be minimized where infringement on wetlands, seeps and discharge areas are likely to occur. Further detail on mitigation for impacts to groundwater resources is located in **Section 4.25.3 Groundwater Quality Mitigation**.

4.11 Wetland Impacts

4.11.1 Impacts on Wetlands

Impact of a No-Build Alternative: No wetlands will be impacted by the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative alignment has been formulated to avoid and minimize impacting wetland areas to the greatest degree possible, particularly high-value wetlands that may harbor threatened or endangered species. Two wetland complexes will be affected by the project, as was described in greater detail in **Section 3.12, Wetlands** and in the Environmental Assessment Technical Memorandum.

Wetland Complex 1, part of the larger delineated wetland #16, is located in the proposed southbound truck passing lane and is approximately 4 acres in size. The area of potential impact to this wetland is approximately 0.3 acre or 7.5% of the total wetland acreage. Wetland scientists determined that this wetland is of low quality based on its relatively small size, severely limited plant community structure, and its proximity to the existing highway limiting the number of functions/values that Wetland Complex 1 can provide. Groundwater recharge/discharge, sediment/toxic retention and nutrient removal were determined to be the principal functions/values of this wetland. However, impacts on Wetland Complex 1 are expected to be minimal and are not expected to significantly impact these primary or other listed functions and values identified within this wetland complex.

Wetland Complex 2, part of the larger delineated wetland #8, is located on the south bank of the St. Joseph River and provides an approximate 300-foot buffer between the river and the upland to the south. The total wetland size is 15 acres and the area of potential impact is 1.2 acres. The principal functions/values that were identified for this wetland complex are floodway alteration, nutrient removal, production export, wildlife habitat and endangered species habitat. Wildlife habitat and endangered species habitat will be permanently impacted in portions of the Study Area. Impacts on the floodway, nutrient removal and production export are expected to be minimal. These conclusions are based on the assumption that the use of support pilings in the wetland will be minimized to the greatest possible extent and will not fragment the wetland or the functions it serves. Placement of support pilings to bridge over the floodplain/wetland area will reduce potential impacts to endangered species habitat and will maintain the corridor for wildlife under the bridge (See **Figure 4.5 Bridge Cross section**).

4.11.2 Mitigation of Wetland Impacts

In accordance with the administrative rules for Act 451, Part 303, Wetlands Protection, the preservation of existing wetlands may be used as mitigation if the wetland to be preserved performs exceptional physical or biological function, is under a demonstrable threat of loss or substantial degradation due to human activities and will be protected in perpetuity (deed

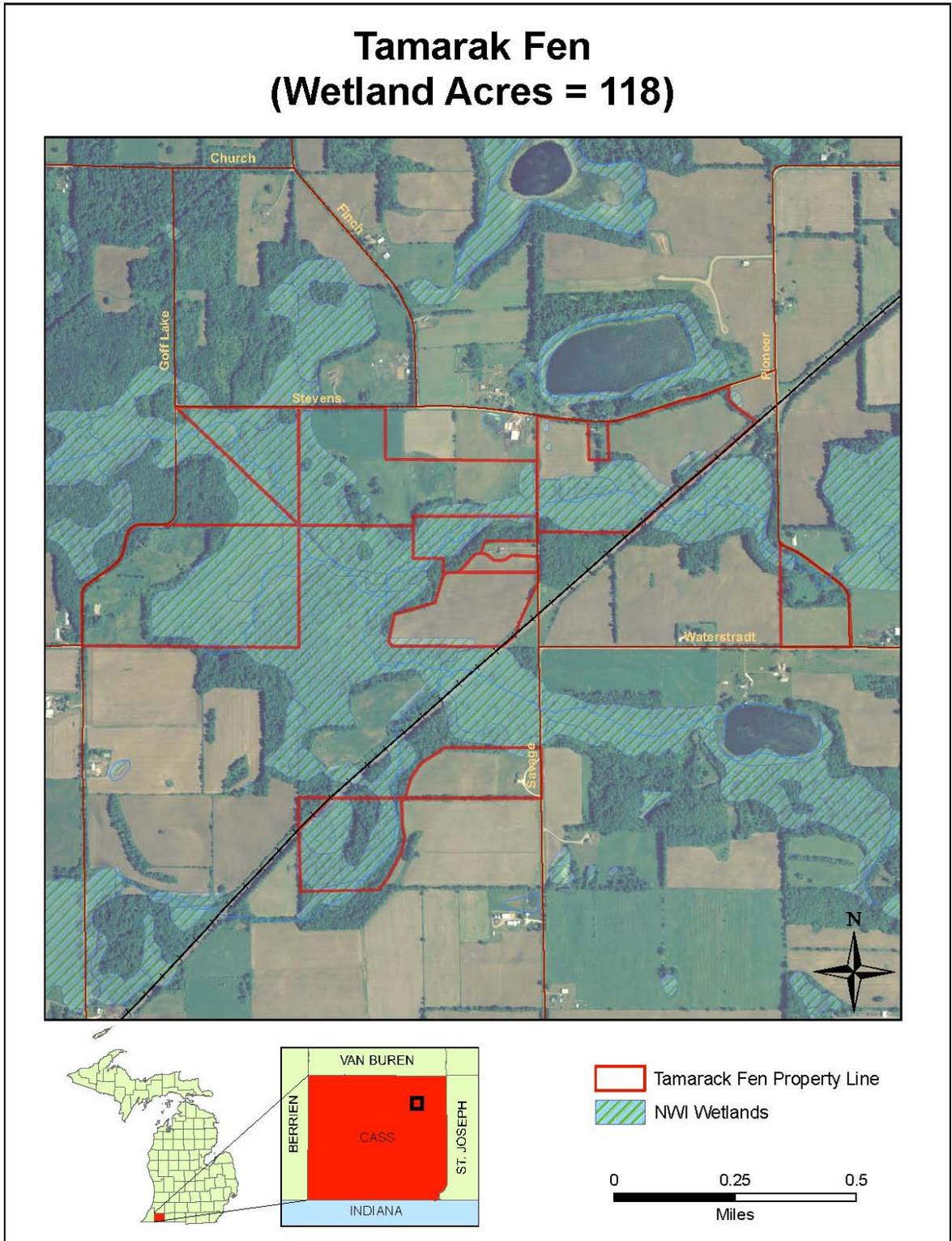
restrictions or conservation easements). For wetland preservation, a 10: 1 ratio applies whereby ten acres of wetland is preserved for one acre of impacted wetland.

Impacts associated with the US-131 project will be mitigated by the use of a wetland preservation bank site known as the Tamarack Fen which is located in the St. Joseph River watershed in Cass County. (See **Figure 4.3 Wetland Mitigation Site**)

MDOT provided funding to The Nature Conservancy (TNC) to purchase 292 acres of property within this fen system as a "mitigation service" for MDOT. The fen was originally purchased to satisfy potential wetland and endangered species mitigation requirements of a prior MDOT projects. However, project changes eliminated the need for this site therefore all wetland acreage within the fen is available to provide compensatory acreage for the wetland impacts associated with this and other projects. Of the 292 acres of property that were purchased, 118 acres have been identified as wetland (11.8 acres of preservation credit at a 10:1 ratio). All wetland acres are classified as high quality and both TNC and the U.S. Fish and Wildlife Service (USFWS) have identified this property as potential habitat for the endangered Mitchell's satyr butterfly.

At a 10: 1 replacement ratio, 15 acres of the high quality wetlands will be credited for preservation against an estimated impact of 1.5 acres of wetland from this project. These wetlands are located within the same St. Joseph River Watershed as the impacted wetlands. After signing of the banking agreement for this site, MDOT will place a conservation easement prohibiting development over the entire 118 acres of wetland along with 100 feet of associated perimeter buffer zone to assure permanent protection of this area.

Figure 4.3 Wetland Mitigation Site



4.12 Aquatic Impacts

Efforts have been made in the conceptual design of surface water crossings to minimize any effects on aquatic resources. Mitigation of impacts will use MDOT Best Management Practices. These combined efforts will ensure that there are no significant impacts on aquatic resources under the Preferred Alternative.

Impacts to the St. Joseph River may result from the new roadway crossing/bridge. Potential impacts include additional stormwater runoff as a result of new or expanded roadway pavement. Roadway surfaces can contribute sediment and other pollutants to rivers during significant wet weather events. Construction activities within the river channel may result in temporary impacts to surface water quality and aquatic habitat. Temporary impacts may include loss of channel bottom where new river piers are located, sedimentation from riverbank disturbance and/or removal of riparian vegetation during construction.

4.12.1 Direct Impacts to Surface Water Quality

Impact of a No-Build Alternative: Surface water quality will not be affected by the No-Build Alternative.

Impact of the Preferred Alternative (PA-5): Increased pollutant loading associated with roadway traffic is expected under the Preferred Alternative. Stormwater runoff from roadways can contribute heavy metal contaminants, oils and deicing chemicals. Runoff impacts related to deicing chemicals, such as chlorides, can often be gauged in relation to the assimilative capacity of the receiving water body. Assimilative capacity is proportional to water volume and flow velocity. Any impacts will be temporary and would depend upon the length of the storm event and the number of storms during the winter season.

Under PA-5 a new bridge will only be required over the St. Joseph River. There will not be any work at the White Pigeon or Rocky Rivers. The new bridge over the St. Joseph River will be approximately 870 feet long, 51 feet wide and have six spans. It is anticipated that the bridge will contain two piers in the St. Joseph River. Runoff from the bridge will be routed overland to vegetated swales or detention ponds prior to it being discharged to the river to minimize direct pollutant impacts to waterways.

Direct impacts include temporary and minor increases in turbidity and short-term increases in sediment load due to construction activities. The construction activities that will be of concern include re-grading or new grading of roadways and replacement of existing structures. Appropriate soil erosion and sedimentation control will be required as discussed in **Section 4.25.7, Soil Erosion and Sedimentation Control Mitigation**. If properly mitigated, these impacts would be temporary in nature.

4.12.2 Impacts to Fisheries and Aquatic Habitat

Information related to aquatic habitat and species was obtained from the Michigan Department of Natural Resources (MDNR). A site reconnaissance survey was also conducted April 22, 2002 to assess habitat quality at the specific river crossings. Detailed information related to these resources is discussed in **Section 3.13.2, Fisheries and Aquatic Habitat**. Related information is contained in **Sections 4.11, Wetland Impacts;**

4.13, Hydrological Impacts; 4.14, Wildlife and Vegetation Impacts; and 4.15, Threatened and Endangered Species Impacts.

Impact of the No-Build Alternative: Fisheries and aquatic habitats will not be affected by the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will only require one new two-lane structure at the St. Joseph River. The primary impacts from river crossings on aquatic habitat will come from potential siltation, erosion, increased turbidity from riverbed disturbance during construction and highway runoff. These water quality issues have the potential to impact fish and aquatic species. Macroinvertebrates would be impacted by increases in sedimentation during construction which could also impact feeding and respiration. Once construction is complete, these populations should return to pre-construction levels. It is anticipated that any fish species will relocate to outside of the area during construction. Once construction is complete, these species are likely to return.

After construction, contaminants within roadway runoff may result in the loss of individual macroinvertebrates of more sensitive species. Fish species are not expected to be impacted.

4.12.3 Mitigation of Aquatic Impacts

Adequate soil erosion and sedimentation control measures based on MDOT's approved soil erosion program will be implemented for the Preferred Alternative. Where possible, vegetation buffer strips approximately ten feet in width will be left in place along both sides of all stream crossings on new alignment. Highway runoff will be diverted through grassed waterways or other vegetative controls into containment areas prior to outletting into the streams, where possible. This will promote infiltration, thereby reducing the potential impact on the streams from added runoff and associated pollutants, including deicing salts, heavy metals and herbicides. Refer to **Section 4.25.7, Soil Erosion and Sedimentation Control Mitigation** for further discussion.

4.13 Hydrological Impacts

To ensure there are no obstructions to flood flow that would result in upstream impacts, a hydraulic study to address structure sizes and waterway openings was performed for the Preferred Alternative. The hydrological analysis considered existing and proposed conditions and the results determined the necessary and proper bridge types, openings and locations of abutments and piers to minimize impacts. Efforts have been made in the conceptual design of surface water crossings to minimize their effects on floodplains. Impacts will be mitigated through compensatory mitigation. Other surface waters not discussed in **Section 4.12, Aquatic Impacts** have no impacts. There are no significant hydrological effects under the Preferred Alternative. The regulatory agency responsible for any construction activities in the floodplain is the Michigan Department of Environmental Quality (MDEQ) in cooperation with the Army Corps of Engineers through an interagency agreement.

4.13.1 Hydraulic Analysis

As part of the US-131 Improvement Study, (US-131 bypass of Constantine), a new structure over the St. Joseph River for the proposed US-131 alignment is required. See **Figure 4.4, Location Map**.

The hydraulic analysis documents existing and proposed flood profiles and elevations for the St. Joseph River crossing for the bypass west of Constantine approximately 4,400' downstream of the existing US-131 crossing.

The proposed structure is expected to have no impacts to 100-year event water surface elevations.

4.13.2 Peak Flows

The peak discharges in **Table 4.9** were supplied by the Michigan Department of Environmental Quality (MDEQ) Land and Water Management Division February 5, 2007.

Table 4.9 Peak Discharge

Chance Peak Flows	50%	20%	10%	4%	2%	1%	0.5%	0.2%
Yearly Event	2	5	10	25	50	100	200	500
Flow (Q) (cfs)	4600	6200	7300	8300	9600	11000	12000	13000

Only the 10, 50, 100 and 500-year event flows were used in the existing and proposed hydraulic analysis models.

4.13.3 Method of Analysis

The hydraulic analysis provided a comparison between the existing and proposed condition flood stages and flood profiles along the St. Joseph River based on the proposed improvement to add another river crossing for the US-131 Bypass. The comparison was accomplished by developing one-dimensional, steady-flow hydraulic models for existing and post-construction conditions using the HEC-RAS v.4.0 Beta computer program developed by the United States Army Corps of Engineers (USACE). The hydraulic analysis models were developed based on the following criteria:

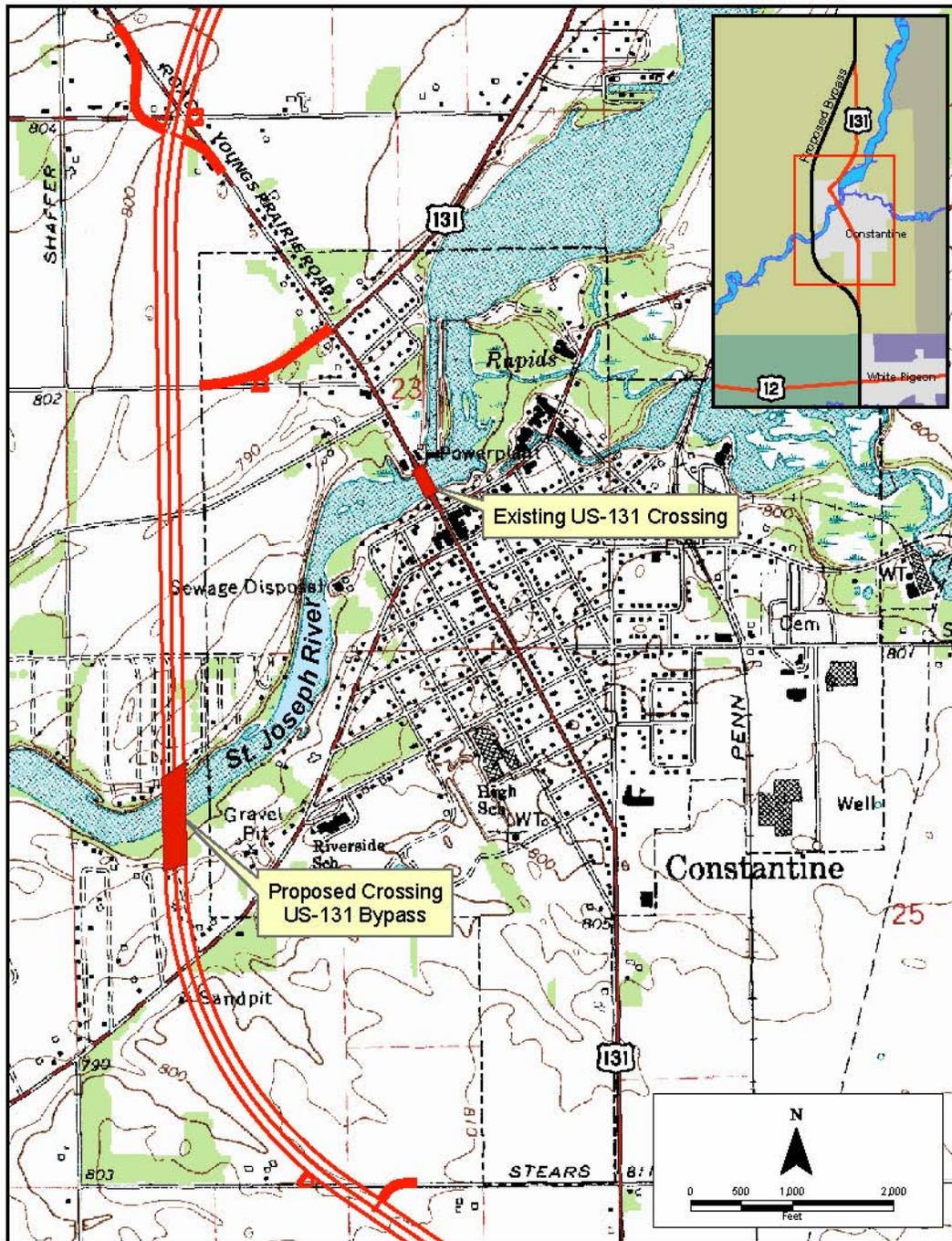
FEMA Flood Hazard Data: A detailed flood study was not provided for this stretch of the St. Joseph River as evidenced with the Flood Rate Insurance Map (FIRM), Community Number 260512, Map 01, effective date 1986. On this panel, the St. Joseph River is designated Zone A which provides approximate areas of flooding as shaded but does not provide 100-year base flood elevations (BFEs). Consequently, there are no known starting water surface elevations (WSELs) to use as boundary conditions for the synthetic flood profiles.

Geometry Data: Field survey data of the St. Joseph River channel and overbank areas were obtained February of 2007 and used North American Vertical Datum 1988 vertical datum. A limited topographic survey was completed; therefore, full valley data was not obtained for all cross-sections. These sections are extended vertically within the model.

Hydrology: Peak discharges for the St. Joseph River were obtained from the MDEQ.

Boundary Conditions: Starting WSELs were computed using the normal depth method.

Figure 4.4 Location Map



Bridge Modeling: The waterway crossings' data were used to populate the bridge data files in the HEC-RAS models. The bridge modeling approach used the Energy Method for Low Flow and High Flow computations. Computational tolerances used to balance the energy equation were the original HEC-RAS defaults.

The procedures and methodologies used to complete the hydraulic study are in accordance with Michigan Department of Transportations (MDOT), Federal Highway Administration (FHWA), and FEMA criteria, as well as guidelines found in the USACE HEC-RAS User's Manual and United States Geological Survey (USGS) Water Supply Paper 1849 entitled "Roughness Characteristics in Natural Channel."

4.13.4 Description of Hydraulic Analysis Study

As part of the Constantine bypass study, the proposed US-131 alignment will cross the St. Joseph River approximately 4,400' downstream from the existing US-131 Bridge located in Constantine.

The HEC-RAS hydraulic analysis begins approximately 6,612' downstream from the existing US-131 Bridge. The analysis ends approximately 383' upstream from the existing US-131 Bridge. Overall, 17 hydraulic cross-sections were surveyed, 16 of which were used in the analysis. Two cross-sections were taken at the proposed US-131 alignment crossing of the St. Joseph River; one was taken perpendicular to flow and another along the proposed US-131 centerline, which results in an approximate 30° skew for the proposed bridge. The skewed cross-section was in both the existing and proposed models. The perpendicular cross-section was not used in either model. Cross-sections with skew angles up to 20 degrees do not adversely affect low flow water surface elevations as noted in the publication "Hydraulics of Bridge Waterways" (Bradley, 1978). Although the proposed structure is skewed more than 20 degrees, the proposed bridge spans over 90% of the Base Floodplain Elevation (BFE), the effect of the greater cross-section skew is considered negligible (See **Figure 4.5 Bridge Cross Section**).

4.13.5 Floodplain Impacts

Impacts of the No-Build Alternative: The No-Build Alternative will not have any impacts on floodplains.

Impacts of the Preferred Alternative (PA-5): PA-5 requires one new crossing over the St. Joseph River at a location approximately 4,400' downstream from the existing structure. The new two-lane bridge will have a greater flow area for flood conveyance than the existing structure located upstream (See **Figure 4.5 Bridge Cross Section**).

The hydraulic analysis was performed to evaluate the Preferred Alternative at the proposed crossing and, if necessary, increase the waterway opening so that there would not be an increase in the elevation of the 100-year flood stage. The MDEQ requires that the proposed bridge not cause a harmful interference for any properties within its hydraulic influence. Initially, the minimum proposed bridge section considered consisted of an opening that spans the existing river normal flow basin, plus six-foot minimum on either side of the channel to provide a wildlife corridor on the river banks. The minimum bridge length of 405' was investigated but was found to create backwater situations that would be potentially harmful to surrounding properties. The 405' minimum crossing length would not only impact the flood stages of the river, it would impact wetlands within the floodplains and would require fill within the 100-year floodplain.

As a result, a longer bridge was analyzed that would maximize protection to surrounding property and environmental resources while remaining cost-effective to build. The analysis

of the cross section of the river and associated floodplain and wetlands indicated that the proposed 870' structure would meet the following goals:

- No increase in the elevation of the 100-year flood stage
- No harmful interference for any properties within its hydraulic influence
- Lowered impacts to wetland communities and vegetation
- Lowered impacts to wildlife by providing a crossing corridor on both sides of the river

The Preferred Alternative is 870' in length and will span the St. Joseph River, associated wetlands, and most of the floodplain. Two piers placed in the water and three piers placed in the floodplain. The piers in the floodplain will have minor wetland impacts that will be properly mitigated. The 870' structure length eliminated any harmful backwater conditions. Therefore, for the Preferred Alternative, there are greatly reduced environmental impacts associated with the river crossing. It is anticipated that during final design, further refinement of embankment side slopes will result in further minimizing fill in the floodplain.

Table 4.10 includes preliminary cost estimates of spanning only the channel (2.5 million), spanning the channel and most of the floodplain PA-5 (5.4 million), and spanning the entire floodplain (6.5 million). The costs for spanning the river channel and wildlife corridors include costs for mitigation of wetland impacts and for provision of compensatory storage.

Table 4.10 Spanning Floodplain – versus - Spanning Channel

Alternative	Bridge Length	100 Yr. Flood Elevation	Cost (millions)
Spanning Channel	405'	778'	\$2.5*
Spanning Most of Floodplain	870'	778'	\$5.4*
Spanning Entire Floodplain	1015'	778'	\$6.5*

* Costs include wetland mitigation and compensatory floodplain storage.
Costs are in 2007 dollars.

The crossing of the proposed Preferred Alternative is located within the boundaries for the Mottville Hydroelectric Project. The Mottville Hydroelectric Project is a hydroelectric dam and plant project. The Federal Regulatory Commission (FERC) boundaries follow the limits of the reservoir for the project, which extends up river from the project dam spillway (at Mottville in Mottville Township) approximately 10 miles up to the western edge of the Village of Constantine. FERC issued a license to the Indiana Michigan Power Company (I&M) for the operation of the Mottville Hydroelectric Project in April 2003.

The Preferred Alternative will not affect the Mottville Hydroelectric Project. In preparing the schedule for the bridge placement across the St. Joseph River, I&M will be allotted at least 90 days to process the documentation necessary for any work to take place within the boundaries for the Mottville Hydroelectric Project as well as providing additional time for the FERC to review and reply to any filings.

It is anticipated that mitigation for fill in the floodplain will not be necessary with the 870' structure proposed in Preferred Alternative as it will only require 260 cubic yards of fill. Compensatory floodplain storage will not be necessary as there will not be any fill within the 100-year floodplain exceeding 300 cubic yards. All floodplain encroachments are transverse (perpendicular to the stream). Longitudinal encroachments (parallel to the stream) have been avoided. The details of the proposed crossing and floodplain widths for the Preferred Alternative are presented in **Table 4.11**.

Table 4.11 Estimated Dimensions of Structure

River Crossing	Preferred Alternative (PA-5)
St. Joseph River	
100-year Floodplain Width	990'
Channel Width	377'
Existing Structure (Located Upstream)	250' Total Length 4,400' Upstream
Proposed Structure Length / Spans	870' / 6
Proposed Total Bridge Width (ft.)	51.25'

4.13.6 Mitigation of Floodplain and Stream Crossing Impacts

It is anticipated compensatory floodplain storage will not be necessary as there will not be any fill within the 100-year floodplain exceeding 300 cubic yards. All construction activities for the two waterway bridge piers, the bridge abutment on the north river bank, and the bridge spans over the channel will be done from barges in the channel to ensure that wetlands will not be disrupted. This will be possible due to the channel's eight foot water depth. Scour protection is proposed for the two piers in the water, the bridge abutment on the north river bank and the pier by river's south edge. The sheeting will be left around the two piers in the river and riprap will be placed around the river's north bank bridge abutment and south edge pier to prevent the piers from deteriorating. A scour analysis will be completed as part of the structure preliminary plan stage. A summary of MDOT's standard procedures for mitigation is located in **Section 4.25.6, Floodplain, Stream and Drain Crossing Mitigation**.

4.14 Wildlife and Vegetation Impacts

This section discusses impacts on the project to non-protected species and other wetland habitats not classified as Threatened and Endangered. A complete description of the plants and animals found in the Study Area can be found in **Section 3.19, Wildlife and Vegetation**. **Section 4.15, Threatened and Endangered Species Impacts** discusses impacts specific to protected species. **Section 4.11, Wetland Impacts** discusses impacts specific to wetland habitat. Most of the upland areas within the Study Area have been converted to agriculture. The remaining natural areas are primarily woodlands with scattered marshes and bogs. Small woodlands are found throughout the Study Area, often as small lots set aside from farming. The largest forests are found adjacent to the White Pigeon, St. Joseph and Rocky Rivers.

Commercial, residential and agricultural uses support vertebrate wild life species. Potential impacts on those areas that support wildlife will be minimized, with mitigation proposed for sensitive wetlands. Mature stands of trees will be avoided to the greatest degree possible and landscaping of the ROW will attempt to replace the functions of existing affected

vegetation. The Preferred Alternative will have a minimal long-term effect on wildlife habitat and vegetation.

4.14.1 Impacts to Habitat and Vegetation

Impact of the No-Build Alternative: Habitat and vegetation will not be affected by the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): Wildlife may be displaced due to impacted habitat described in **Table 4.12**, although there is similar habitat available within the Study Area for displaced wildlife. Bisecting woodlands results in additional impacts to vegetative structure and wildlife habitat due to the resulting edge effects. The acreage of woodland habitat impacts shown in **Table 4.12** do not match the acres of upland forest listed for the Preferred Alternative in **Table 4.1** in **Section 4.1, Land Use Impacts** since some of the woodland impacts occur on properties that are also classified as wetlands, agricultural or residential. It is not anticipated that any invasive species will be eliminated from the Study Area and replaced with native species, due to the Preferred Alternative.

To evaluate opportunities for minimizing impacts to the White Pigeon River and its ecosystem, the western limit of the Study Area was expanded to provide access to narrower portions of the floodplain. However, due to the presence of the Stag Lake Bog, design criteria to avoid the bog, and the Rivercrest subdivision on the north side of the river, it was determined that this was not a practical location for crossing the river. The Preferred Alternative does not require a new crossing of the White Pigeon River.

Table 4.12 Acres of Woodland/Upland Prairie Habitat Impacted by the Preferred Alternative

Acres of Habitat Impact	Preferred Alternative
Low Quality*	2.29
Moderate Quality**	1.30
Total Habitat	3.59
Bisected Woodlands***	3.59
Fabius State Game Area Impacts	0
* Successional prairie	
** Successional forest	
***Included in above total habitat figure	

4.14.2 Impacts to Designated Natural Areas

As noted in **Section 3.19.2, Natural Areas**, the one-mile wide study corridor abuts the Fabius State Game Area. Two other game areas are located several miles from the corridor. No state parks, privately owned nature preserves or federally-owned forests are located within the Study Area.

The Fabius State Game Area is a 119-acre brushland and forested area managed by the MDNR, located on the east side of US-131 approximately one-quarter mile north of Drummond Road, in Fabius Township. The facility is used primarily for hunting.

Impact of the No-Build Alternative: The Fabius State Game Area and other game areas will not be affected by the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): The Preferred Alternative will not encroach farther than the current US-131 alignment upon the Fabius State Game Area. The northbound lanes of the Preferred Alternative will be located on approximately the same alignment as existing US-131, resulting in no impact. The Fabius State Game Area has been fully avoided by the project.

4.14.3 Mitigation of Wildlife and Vegetation Impacts

Although some tree removal will be necessary, the existing natural and ornamental vegetative cover will be retained wherever possible within the proposed ROW. Impacts to terrestrial habitats would be minimized during final design through refinements that reduce cross-section widths, maintain existing hydrological conditions and usage of construction techniques that minimize mature tree removal. The proposed bridge section consists of an opening that spans the existing river piers plus six-feet minimum on either side of the channel to provide a wildlife corridor on the river banks. The proposed 870 foot long structure will allow wildlife passage under the structure in the floodplain/wetland area.

To mitigate all wildlife corridors, the new bridge over the St. Joseph River will span the floodplain and wetland complex with six spans and five piers. Two piers will be placed in the St. Joseph River and three piers will be placed in the floodplain and wetland complex. Spanning these areas will maintain the existing wildlife corridors on both sides of the river channel, six feet on the north bank and more than 400 feet on the south bank, **Figure 4.5 Bridge Cross Section.**

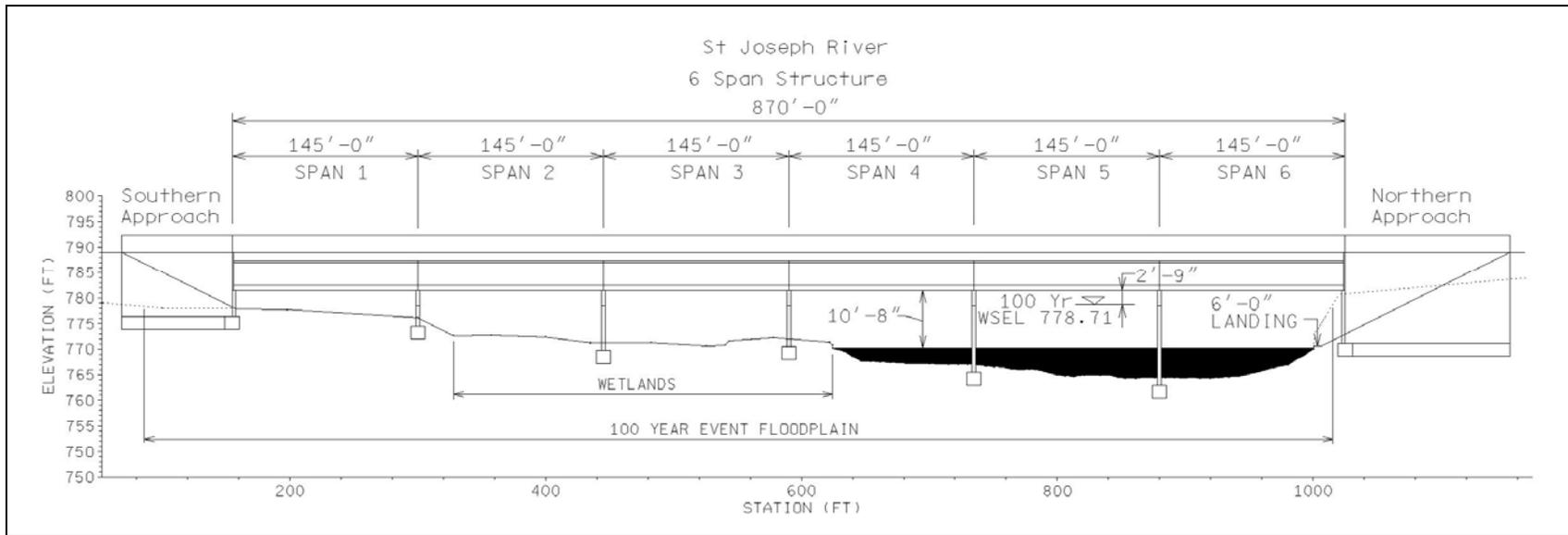


Figure 4.5 Bridge Cross Section

4.15 Threatened and Endangered Species Impacts

This section discusses threatened and endangered species within the Study Area. As was noted in **Section 3.20, Threatened and Endangered Species** background research and field investigations were performed in 2006 and 2007. **Table 3.6** listed the nine rare plants and nine animal species (and their state/federal status) that were considered during the field surveys for this project.

4.15.1 Impacts to Threatened and Endangered Species

Impact of the No-Build Alternative: The No-Build Alternative will not require any construction and therefore will not have any impact on threatened or endangered species.

Impacts of the Preferred Alternative (PA-5): Overall the Preferred Alternative will not impact threatened and endangered species. Based on the studies performed for this project, (see *Technical Memorandum, Ecological Assessment for US-131 Village of Constantine Bypass, available from MDOT*), it does not appear that the upland and wetland communities identified within the Study Area contain sufficient acreage or the specific attributes necessary for habitat to support either the copperbelly water snake or massasauga rattlesnake. The habitat suitability assessment included a literature search, discussions with a snake expert, and an on-site assessment. Therefore, the Preferred Alternative will not have an impact on the copperbelly or massasauga.

A mist netting and acoustical survey for the Indiana bat was conducted in May 2007 (see *A Netting Survey for Indiana Bats for the Proposed US-131 Bypass Improvement Study, St. Joseph County, Michigan*, available from MDOT). While foraging and roosting habitat for the Indiana bat is present in the two areas investigated during the field reviews, the Indiana bat was not documented in the Study Area during mist netting or acoustical surveys. Therefore, construction of the Preferred Alternative will not adversely impact the species.

The purple wartyback was documented in the Study Area in the form of two dead shells. The Preferred Alternative has the potential to alter the aquatic environment through placement of piers in the river. This action could improve habitat for the purple wartyback by constricting the river channel and, thereby, increasing velocity and exposing coarse sediment. This condition would also be favorable to the snuffbox.

The Study Area also contains suitable habitat for the river redhorse and spotted gar. Based on results of the literature review, historical records and field investigations, it is doubtful that the river redhorse currently inhabits the Study Area. Spotted gar habitat could be slightly diminished by waterway piers due to the increase in the current velocity and exposing coarse sediment.

Suitable nesting habitat was found for the prothonotary warbler along the south shore of the St. Joseph River; however no individuals of this species were observed and no historical records for this species exist at this location. No nesting habitat was found for the yellow-throated warbler.

Wild rice was documented in the St. Joseph River during previous studies; however the species, suitable plant communities or preferred sunlight condition was not found within the Study Area. Because historical records indicate the presence of this species, dispersal of

seeds is possible. The removal of the overstory could increase the amount of emergent wetland and, therefore, have a positive impact on this species.

Floristic assessments were conducted in August and September of 2006 to identify the presence of prairie birdfoot violet, hairy ruellia, prairie coreopsis, leadplant, white or prairie fringed indigo or false boneset. The timing of these studies was not ideal for identifying these plant species. None of these species were observed. Despite the timing of the study, results of floristic quality assessments indicate that suitable plant communities or site conditions do not exist for these species in the Study Area. Therefore, no impacts from the Preferred Alternative are expected.

Though not specifically targeted during the field assessments, water-willow (state-threatened) and red mulberry (state-special concern) were found within the Preferred Alternative's proposed ROW. The project would require placement of fill for the northbound truck climbing lane, thereby having a direct impact on the red mulberry. Impacts to the water-willow may be minimized by avoiding the south shore of the river during project design and construction.

4.15.2 Mitigation of Threatened and Endangered Species Impacts

To mitigate the effects of US-131 improvements on threatened, endangered and special concern species, the alternatives underwent an iterative process of refinement to a) avoid resources altogether, then b) minimize impacts where resources could not be fully avoided. During development, the alternatives first avoided the larger and higher-valued bog and fen habitats. The higher quality wetland resources were avoided to the extent possible. Unavoidable impacts were then minimized.

Based on the previous literature reviews and field surveys, the following were the conclusions regarding surveys of threatened and endangered species:

- No additional surveys for the Indiana bat are recommended.
- Based upon the presence of suitable nesting habitat, a survey for the prothonotary warbler was considered. The prothonotary warbler is a species of concern, not a threatened and endangered species; therefore a survey was not completed. If a survey is completed in the future, it must be completed during the breeding season, which spans from the first week of May to the end of July.
- No additional surveys for either the copperbelly water snake or the eastern massasauga rattlesnake should be conducted due to the small area of suitable habitat, lack of basking sites and proximity to human disturbance.
- No additional surveys should be conducted for the river redhorse or the spotted gar. While it appears that suitable habitat does exist near the proposed river crossing for the river redhorse, this species has proven to be extremely difficult to collect in large rivers. Further, the Preferred Alternative will not negatively impact this species. The impact of a bridge crossing on spotted gar habitat would be minor due to the limited size of a piling footprint, leaving the sheeting around the two piers in the river for scour protection and placing riprap around the river's north bank bridge abutment and south bank pier.
- No additional surveys should be conducted for wild rice due to the absence of habitat and sunlight conditions.

In addition to measures taken to avoid or minimize impacts, the following standard MDOT mitigation measures are proposed:

- All construction operations will be confined to the highway ROW limits or acquired easements.
- Areas disturbed by construction activities will be stabilized and vegetated as soon as possible during the construction period in order to control erosion. Emphasis would be placed on the use of native plant species to the maximum extent possible.
- An erosion control plan will be formulated and adhered to during work near the St. Joseph River to ensure that potential habitat would not be adversely impacted.
- Required permits will be obtained from the MDNR and the MDEQ.
- Existing natural and ornamental vegetative cover will be retained wherever and whenever possible within the ROW limits. Where existing ground cover must be removed, replacement vegetation will be established in a timely manner, using seed and mulch or sod.
- Groundwater and surface water quality will be protected.

Specific mitigation actions beyond standard mitigation will be considered to protect particular listed wildlife and plant species within locations that are likely to be impacted by the Preferred Alternative. These include:

- Construction activities will be avoided to the extent possible at the St. Joseph River crossing during the river redhorse spawning migration periods (generally late March to early June).
- Construction of a longer bridge over the St. Joseph River and adjacent floodplain/wetlands will result in the least impact to rare species and their habitats.
- A protective construction fence will be placed around the colony of water-willow to prevent inadvertent impacts to this species during construction.
- Red mulberry will be relocated as needed to a protected upland location.

4.16 Cultural Resource Impacts

4.16.1 Above-Ground Resources

There are no above ground historic properties impacted by the Preferred Alternative. There is one site listed on the National Register of Historic Places (NRHP) and six sites eligible for inclusion on the NRHP that were determined to be potentially impacted by the proposed project. The Preferred Alternative would not impact any of these sites. These sites include:

- Site A - Michigan State Police Post, White Pigeon
- Site B - Wahbememe Memorial Park, White Pigeon (listed on NRHP)
- Site C - 63280 US-131, Constantine
- Site D - 63000 US-131, Constantine
- Site E - 62249 US-131, Constantine
- Site F – 15303 W. Broadway, Three Rivers
- Site G – 59019 US-131, Three Rivers

Impacts of the No-Build: There are no cultural resource impacts with the No-Build Alternative.

Impacts of the Preferred Alternative (PA-5): There are no cultural resource impacts with The Preferred Alternative. Potential noise and ROW impacts were evaluated for the Preferred Alternative at Site C-63280 US-131, Constantine. This farmhouse is located on the west side of US-131 south of Garber Road and is eligible for listing on the NRHP. There are outbuildings associated with the farm; however they are not recommended for listing. The Preferred Alternative will avoid having an adverse effect on this property as the alignment will avoid any impact. Noise levels at this location would be below NAC criteria and no structures would be removed.

4.16.2 Archaeological Resources

The archaeological survey of the Preferred Alternative Archaeological Area of Potential Effect (APE) resulted in the discovery of 13 previously undocumented archaeological sites; however none of these sites are deemed as eligible for listing to the National Register. Phase I and Phase II archaeological reconnaissance surveys have been conducted for the Preferred Alternative. (See the draft Phase I Archaeological Survey of Practical Alternative (PA-5) of US 131 in St. Joseph County, Michigan available from MDOT). The Phase I archaeological survey, including walkover reconnaissance, shovel testing and archaeological deep testing was carried out for the Preferred Alternative. Phase II archaeological site evaluations, including archaeological test units and/or site stripping have been conducted as necessary on those sites determined to be potentially significant.

As archaeological sites are more easily mitigated and archaeological surveys are highly invasive (especially deep testing) and are a disturbance to those property owners affected, a Phase I and II archaeological surveys were only conducted for property owners who agreed to the survey. Deep testing for buried archaeological sites was conducted at the proposed crossings of the White Pigeon, St. Joseph and Rocky Rivers. Deep testing in the vicinity of the St. Joseph River on the north bank revealed deeply buried soil horizons; however no artifacts or cultural material was discovered in this horizon. Further archeological evaluation will occur on sites that the Study Team was unable to evaluate after a Record of Decision is issued.

4.16.3 Section 106 – Traditional Cultural and Religious Properties

Project early coordination letters were sent to the federally recognized Tribes of Michigan seeking comments regarding any issues and/or special concerns relating to this undertaking. There are no known traditional cultural and/or religious properties claimed or reported by any other cultural group within the APE. Subsequent to these tribal notifications, no requests for consultation or identification of any traditional, cultural and/or religious properties were received from any of the twelve federally recognized tribes. Therefore, since there are no reported impacts to traditional cultural and/or religious properties and no requests for consultation caused by this undertaking regarding any such properties, *no historic properties are affected* and the Section 106 process pertaining to traditional cultural and/or religious properties has been completed.

4.17 Parks and Recreation Impacts

Neither the No-Build Alternative nor the Preferred Alternative will impact any designated parks or recreation facilities.

4.18 Potential Contaminated Sites Impacts

A Phase I site assessment was completed. Database review and field investigations were conducted in both Michigan and Indiana to determine the potential for contaminated soils or groundwater which may impact or be impacted by the proposed project. Sites with potential contamination impacts were narrowed to those within the recommended search distances established by the American Society for Testing and Materials (ASTM). The probable risk posed by all potential contaminated sites within the ASTM search distances were evaluated using a ranking of high, moderate and low risk values. This risk evaluation was based on the proximity of the site to the Preferred Alternative, the inherent risk of the site as documented, the presumed direction of groundwater flow and professional judgment.

Impacts of the No-Build Alternative: The No-Build Alternative will not have any impacts to contaminated sites.

Impacts of the Preferred Alternative (PA-5): Although the Preferred Alternative has 42 possible waste sites located within the ASTM recommended search distance, only those located on portions of the corridor where ground disturbance will occur are being considered as impacted, as much of the Preferred Alternative uses the existing US-131 ROW. There are two sites located within or immediately adjacent to the proposed ROW of the bypass portion of the alignment. These sites include one above-ground storage tank site and one petroleum pipeline.

Both sites have been determined to be of low risk and have minimal probability to have impacted the soil or groundwater within the ROW. Risks to human health or the environment are not expected from these sites.

4.19 Aesthetic and Visual Impacts

The FHWA Technical Advisory T6640.8A (October, 1987) was used for guidance in assessing aesthetic and visual impacts. Impacts to the aesthetic and visual character of the Study Area as a result of the Preferred Alternative include short-term impacts related to construction, long-term direct impacts and potential long-term indirect impacts due to land use changes. Several parts of the Study Area, especially those south of M-60 off of US-131, have a distinct rural character. The combination of farmland and rolling hills immediately south of M-60 provides a countryside view for many residents that would be affected to some degree by the Preferred Alternative. Any potential impacts would also be mitigated through landscaping and aesthetic treatments. This section discusses aesthetic and visual impacts for the Preferred Alternative from both the “view from the road” and “view of the road” perspective.

Impacts of the No-Build Alternative: The No-Build Alternative will not have any aesthetic and visual impacts to the Study Area although the current heavy traffic and congestion passing through downtown Constantine will remain.

Impacts of the Preferred Alternative (PA-5): Much of the view from the roadway will continue to consist of open agricultural land. The overall view from the Constantine bypass will be more rural in nature than the current alignment and will require a new crossing of the St. Joseph River. Canoeists using the river and residents living along or near the river west of Constantine will have a new bridge that will interrupt views of a currently unobstructed stretch of river.

West of US-131, Garber Road rises substantially providing residents a distant view of the fields to the southeast. The Preferred Alternative will run through this field and alter this view. The Preferred Alternative will have the effect of introducing traffic and a roadway along the new alignment affecting residents, by altering their view shed; however it will also decrease traffic, including truck traffic in downtown Constantine and create a more visually appealing atmosphere.

Mitigation measures will be implemented to reduce the visual presence of the Constantine bypass for residents. Landscaping opportunities will be evaluated during the design process to enhance the visual character for both drivers and those viewing the facility from a distance.

4.20 Construction Impacts

There are no construction impacts for the No-Build Alternative. The Preferred Alternative will have associated temporary and short-term impacts. The transient time and location of construction impacts, along with mitigation that MDOT requires to minimize the disturbance, would avoid substantial construction impacts. Temporary changes to existing travel patterns due to road closures will impact traffic on roadway segments being connected to reconstructed US-131. While these impacts are considered unavoidable, lessening the temporary impacts to motorists, pedestrians and residents would be a fundamental component of the construction staging and plans for maintenance of traffic during construction. No detour routes are anticipated for the Preferred Alternative.

4.20.1 Traffic Flow Impacts

Temporary interruptions to existing traffic on US-131 and other local roadways would occur with the Preferred Alternative. The Preferred Alternative will impact traffic flow during construction where the existing four-lane divided section in Three Rivers is proposed to be converted to a five-lane section. However, there is ample ROW to maintain traffic.

Traffic interruptions would occur at locations where the new or reconstructed roadway connects with existing roadways and may result in increased traffic congestion on local roadways, delays, longer trips and access changes to some private properties. Changes in access to businesses could potentially affect retail businesses if appropriate mitigation measures are not taken to maintain access to all affected properties.

Mitigation: Temporary disruption of normal traffic patterns will occur at various locations and during different phases of the construction process. Minimizing delays, congestion and access restrictions would be a priority during the construction process. MDOT will coordinate with local communities and study the residential and commercial traffic in the area to determine desirable access for the community, while also maintaining through traffic.

The *MDOT Road Design Manual* will be consulted for preliminary determination of best practices for maintaining traffic, road detours and closures and staged construction. The current edition of the *MDOT Standard Specifications for Construction* presents guidelines for traffic control and maintaining traffic.

MDOT will maintain public awareness throughout the project by providing general information, addressing public concerns and providing specific information such as duration and location of detours, lane closures, alternative routes, upcoming activities and anticipated construction deadlines.

4.20.2 Construction Impacts to Businesses and Neighborhoods

The Preferred Alternative will temporarily disrupt access to some local businesses and neighborhoods and will also impact existing neighborhoods due to increased traffic, noise and congestion.

Mitigation: The contractor will be required to maintain access to businesses at all times to the extent possible. Contractors will coordinate with business owners continuously throughout the project. In neighborhoods being impacted by construction, MDOT and the contractor will coordinate with residents regularly.

4.20.3 Construction Impacts to Emergency Services

The Preferred Alternative will likely impact emergency-vehicle routes due to road closures, detours and temporary traffic congestion/delays.

Mitigation: MDOT will coordinate with emergency service providers prior to the beginning of construction or implementation of new phases of construction. Coordination will be maintained throughout construction. Adjustments to emergency response plans would be developed based on project activity.

4.20.4 Construction Impacts to Surface Streets

The Preferred Alternative will impact surface streets due to heavy equipment usage, as well as the high volume of commercial truck traffic that may be diverted to non-commercial streets. Deterioration of surface streets could occur during construction in nearby areas as well as along detour routes.

Mitigation: The current edition of the *MDOT Standard Specifications for Construction* provides guidelines and requirements for contractors to maintain existing surface streets that are used during construction. The contractor will be required to maintain temporary repair of all surface streets that are damaged as a result of being used as a detour or for equipment access. Pre-construction preparation of surface streets may need to be performed in anticipation of heavier volumes of traffic, as well as commercial truck traffic. Upon completion of construction activities, roadway inspections will take place and permanent repairs will be made as necessary.

4.20.5 Construction Noise and Vibration Impacts

Noise generated by construction operations and equipment will vary greatly, depending on the equipment type and model, mode and duration of operation and specific type of work in progress. Impacts resulting from construction noise are anticipated to be localized, temporary and transitory. Construction could create vibrations that would pose a temporary disturbance to people and animals and could affect nearby structures.

The bypass does not follow the existing road and affects mostly farmland. As a result the Preferred Alternative will pose few noise and vibration impacts to surrounding sensitive properties.

Mitigation: Construction noise will be minimized by requiring that construction equipment have mufflers, that portable compressors meet federal noise-level standards and that all

portable equipment be placed away from or shielded from sensitive noise receptors, if at all possible.

Care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is anticipated, basement surveys will be conducted before construction begins to document any damage caused by highway construction.

4.20.6 Construction Water Quality and Resources Impacts

The Preferred Alternative will have surface water quality impacts as discussed in **Section 4.13, Hydrological Impacts**. However, proper erosion and sedimentation control as well as work in the river channel being done from barges, will minimize these impacts. Groundwater is not expected to be impacted because appropriate erosion and sedimentation control measures would be implemented.

Construction-related erosion, siltation and riverbed disturbance will represent short-term effects of the proposed project. Increases in sedimentation and turbidity levels of surface waters could occur during construction relative to the proximity of the excavated areas to surface water and the frequency of storms. However, these would be temporary in nature.

Mitigation: Impacts will be minimized in each respective state by proper application and strict enforcement of erosion control measures specified in *MDOT's Soil Erosion and Sedimentation Control Manual 2006*.

MDOT's soil erosion and sedimentation control plan is on file with the MDEQ. Notification of construction and a provision of a certified stormwater operator for inspections are required by MDEQ.

The Preferred Alternative will result in the disturbance of five or more acres of total land area. Accordingly, a National Pollution Discharge Elimination System (NPDES) permit for storm water discharges from the construction site will be required.

Further details on mitigation efforts to control soil erosion and sedimentation are located in **Section 4.25.7, Soil Erosion and Sedimentation Control Mitigation**.

4.20.7 Construction Air Quality Impacts

The Preferred Alternative will have a temporary air quality impact due to construction equipment pollutants, traffic emissions and dust from areas where soil is exposed or traveled on by construction equipment.

Mitigation: Measures to reduce impacts to air quality would be taken in accordance with local, state and federal regulations. MDOT will require contractors to ensure that equipment meets current air emissions standards and is properly maintained to reduce construction equipment impacts. Procedures for reducing dust and particulates will include requiring all trucks hauling dirt and loose materials to be covered, spraying stockpiles and unpaved traveled areas with water and removing dirt on paved roads as necessary. Further discussion on air quality impact mitigation procedures is located in **Section 4.25.19, Control of Air Pollution During Construction**.

4.20.8 Disruption of Utility Services

The Preferred Alternative will likely affect utilities that are adjacent to or crossed by the project. Even if utilities do not require permanent relocation or adjustment, service to the Study Area may be temporarily interrupted during the construction period. For the most part, the effects of this work would go unnoticed.

American Electric Power (AEP) owns and operates a hydroelectric dam on the St. Joseph River in Mottville Township. The impoundment for this dam stretches upriver from Mottville Township and includes the section of the river where the Preferred Alternative will cross. These impoundment areas are owned in fee simple by AEP and therefore will require a property conveyance for the proposed crossing. If these lands are subject to a Federal Energy Regulatory Commission (FERC) license, a review would be needed for conveyance.

Mitigation: MDOT and its contractors will coordinate with the utilities and affected communities prior to beginning construction or implementation of new phases. The coordination would be maintained throughout the project.

4.20.9 Visual Impacts from Construction Activities

For residences and businesses located near the Study Area, there will be temporary visual impacts associated with construction work, particularly from earthwork operations, storage of materials/equipment and removal of structures.

Mitigation: MDOT's contractors will be required to maintain and restore all haul roads, work areas and storage yards to minimize visual impacts. Staging of construction activities will assist in minimizing the duration of impacts to individual neighborhoods.

4.21 Indirect and Cumulative Impacts

Indirect impacts are caused by an action and are realized later in time or further removed in distance but are still reasonably foreseeable. Cumulative impacts are "impacts which result from the incremental consequences of an action when added to other past and reasonably foreseeable actions. Indirect and cumulative impacts resulting from the construction and subsequent improvements of US-131 would add to any impacts resulting from present and future infrastructure improvements within the Study Area. The original construction of US-131 and its successive improvements have over time attracted developments within sections of the corridor. These developments resulted primarily in the conversion of farmland to commercial and residential uses which have increased the tax and economic base of the communities.

The following section discusses the indirect and cumulative impacts likely to result from the Preferred Alternative within four major categories: land use and development, agriculture, wetlands and natural areas, and transportation patterns. Indirect impacts are most likely to occur due to the development of some highway-oriented businesses at key locations. Cumulative impacts are less likely to result from the Preferred Alternative as there are no other major public developments currently planned for the Study Area and known future private developments are relatively minor. It should be recognized that both indirect and cumulative impacts can come from the effects of improving US-131 in conjunction with other development actions performed by a range of factors: MDOT (other state highways), other

highway agencies (Indiana DOT, county/local highway departments), institutional developers, private developers, etc.

Land Use and Development: Ultimately, communities have control over their future development patterns through land use plans, zoning ordinances and agreements with neighboring jurisdictions. The Study Area communities may adopt new planning initiatives to control potential development encouraged by the proposed project. Unplanned and uncoordinated development can create excess demand on community resources and infrastructure.

Development is likely to occur within most of the Study Area communities regardless of the location or type of facility chosen for US-131. Most of the Study Area communities are forecast to have slow to moderate population growth over the next 20 years. Between January 1992 and January 2002, the labor force in St. Joseph County increased by 19.9% (Michigan Department of Labor).

Under a No-Build Alternative, the slow and steady growth forecasted for the Study Area should result in minor new residential, commercial and industrial development as suitably zoned and serviced (water, sewer etc.) vacant land exists to handle such growth. Growth in the Study Area is currently mixed, as illustrated by the presence of both vacant and newly opened businesses.

The Preferred Alternative is not expected to have much influence on new highway-induced development because most of the corridor would remain on existing US-131 ROW (See **Figure 2.1 (sheets 1 and 2)**). The at-grade intersections of the bypass will likely encourage some new development. A housing development is under construction near North River Road, south of the proposed interchange/intersection at Quarterline Road and is expected to continue irrespective of any roadway construction.

The bypass of Constantine in the Preferred Alternative will offer opportunities for commercial or residential development on property that is less readily accessible today. Intersections with Riverside Drive, North River Road and Quarterline Road and Youngs Prairie which would accommodate property access, will likely be the focus of any new development.

The limited access restrictions for the Constantine bypass portion of the Preferred Alternative will confine development. The relatively small population of the Study Area is likely to limit development on crossroads near at-grade intersections to service stations or other small franchise operations serving both local and through traffic consumers. Development will also be limited by the availability of appropriately zoned and serviced land at several of the intersection locations.

The Preferred Alternative reduces traffic in downtown Constantine and should result in a more attractive downtown due to reductions in through traffic. Reductions in through traffic may result in positive or negative results. There is the potential for a reduction in the economic viability of the downtown area as a result of the reduced traffic in the area. On the other hand this may provide an opportunity for the development of new locally-based businesses and potential residential development along Washington Street (existing US-131) in downtown Constantine. The business patron survey of 2001 demonstrated that 55.2% of the trips made by business patrons were entirely within the Study Area communities. The Village of Constantine has been planning for downtown revitalization, which could encourage redevelopment of the existing commercial areas. The existing

industrial base within Constantine is expanding and new industry is expected due to the attractive proximity to railroad access, I-80/90 to the south, and I-94 to the north. Potential residential development could occur due to the construction of a new high school and the refurbishment of two other schools in the district.

Continued cumulative impacts of past, present and future development and infrastructure improvements within the Study Area should not be significant. Following the development of an uncontrolled access bypass of US-131 in Three Rivers in 1954, there was a localized increase in development adjoining US-131 which resulted primarily in the conversion of farmland to commercial uses. However, the overall Study Area continues to maintain its rural character. An access management plan for St. Joseph County could have the effect of consolidating driveway access for the Preferred Alternative in this area, but would not likely offer any impetus for increasing development.

Agriculture: The new Constantine bypass will be constructed in a more rural and agricultural area and a somewhat greater amount of new development could take place on existing farmland. The bypass around Constantine will be limited access which will not allow development along the new roadway. Conversion of additional agricultural lands to commercial land uses may occur near the new bypass intersections.

Although the overall farmland impacts from the Preferred Alternative are not significant from a county-wide perspective (as discussed in **Section 4.2, Farmland Impacts**), these impacts add slightly to a cumulative pattern of conversion of farmland to other uses in St. Joseph County and across Michigan.

Wetlands and Natural Areas: Most potential indirect impacts to wetlands would likely occur in the vicinity of the new bypass around Constantine. The bypass intersection with Quarterline Road is located on farmland, but there is a wetland complex located southwest of this crossing that could be affected if development takes place on the west side of the Quarterline Road intersection. Future wetland impacts are likely near the M-60 intersection with both the No-Build Alternative and the Preferred Alternative as commercial growth in this area has encroached upon wetland areas in recent years. The wetlands in this area are of low to moderate quality based on an environmental scientist's evaluation. Overall indirect development impacts to wetlands and natural areas are not expected to be significant as most of the US-131 improvements occur on existing US-131 alignment.

The cumulative impacts from an increase in pavement affecting runoff into water bodies between forecast developments and improvements to US-131 will be minor. Permits are required for impacts to wetland areas; however these permits are commonly granted for smaller acreage amounts.

Transportation Patterns: Improvements to US-131 could have indirect impacts on other transportation facilities within the regional transportation network. Through provision of a better north/south link, a limited amount of traffic could reroute from other north/south routes located near the US-131 corridor. This impact is discussed in greater detail in the separate *US-131 Improvement Study Traffic Technical Memorandum*. The Preferred Alternative will not likely attract a large proportion of existing or forecast traffic off any one of the alternate routes as a freeway alternative is not being constructed.

Cass County Road 17, approximately 12 miles west of the Study Area, between the Indiana Toll Road and US-12, was constructed and opened in 2002. Cass County Road 17 was

built to serve local residents in Cass County, especially workers living in Michigan and working in Indiana. Cass County Road 17 may serve some similar traffic as US-131, but it does not provide the same connection between the Indiana Toll Road and I-94, I-96 and other freeways as does US-131. Thus, improvements to US-131 would complement the construction of Cass County Road 17 in improving the regional transportation network rather than competing with it.

Mitigation: Local communities would have the option of controlling any highway-induced development caused by improvements to US-131 through local planning initiatives and decisions on extending municipal sewer and water services. Indirect impacts to wetlands and other natural areas would be limited by the extent that any development is allowed to take place by local officials and by applicable regulations and permit requirements. The cumulative impacts to agricultural land would be minimized to the extent possible in the development of final ROW plans for the Preferred Alternative.

4.22 Permits and Permits by Rule

Michigan rules governing permit requirements and issuance are regulated pursuant to the P.A. 451, Natural Resources and Environmental Protection Act, 1994, as amended. The Michigan Department of Environmental Quality (MDEQ), Land and Water Management Division, Transportation and Flood Hazard Management Unit, regulates activities within a floodplain/floodway, wetland or below the ordinary high water mark of an inland lake or stream, under the following Parts of the Act:

- Part 31, Floodplain Regulatory Authority and Water Quality
- Part 91 of the Soil Erosion and Sedimentation Control
- Part 301, Inland Lakes and Streams
- Part 303, Wetlands Protection

Impacts of the No-Build Alternative: The No-Build Alternative will not require any permits.

Impacts of the Preferred Alternative: Permits will be required for the Preferred Alternative. The U.S. Army Corps of Engineers (USACE) has the authority to regulate activities within waters of the United States under Section 404 of the Clean Water Act (33 U.S.C. 1344). In 1984, Michigan received authorization from the federal government to administer Section 404 of the Federal Clean Water Act in most areas of the state (Part 303, Wetlands Protection). All wetland impacts would occur within the State of Michigan.

In recognition of the duplication of state and federal regulations, a “Joint Permit Application” is used by MDEQ to enhance the understanding of the permit requirements of the state and federal laws for construction activities where the land meets the water, including wetlands. Wetland impacts for the Preferred Alternative is a total of 1.5 acres. Wetland impacts are further discussed in **Section 4.11, Wetland Impacts**. Wetland impacts would be mitigated at approved wetland mitigation sites as discussed in **Section 4.25.4, Wetland Mitigation**.

Floodplains and Streams: The Preferred Alternative crosses the White Pigeon River, the St. Joseph River and the Rocky River. The Preferred Alternative will utilize the existing structures over the White Pigeon River and the Rocky River. The new crossing of the St. Joseph River would be evaluated and approved as part of a “Joint Permit Application” with MDEQ (Part 31, Floodplain Regulatory Authority and Part 301, Inland Lakes and Streams).

Stormwater: Construction activities that disturb one or more acres of land and have a point source discharge of stormwater to waters of the state will require permit coverage (Rule 2190 of Part 31 of Act 451) from the MDEQ, Water Bureau. A Notice of Coverage of Part 31 would be submitted for the construction activities under the NPDES Permit (Part 31 of PA 451).

Soil Erosion: A Soil Erosion and Sedimentation Control Plan will be developed for the Preferred Alternative. Temporary measures such as geotextile silt fences, check dams and sediment traps and basins will be specified for controlling erosion and sediment transport during construction. MDEQ may audit the MDOT sedimentation and control plan to ensure compliance with Part 91 of PA 451 of 1994 for Soil Erosion and Sedimentation Control. MDOT is not required to obtain individual soil erosion and sedimentation control permits for this project, as it is an Authorized Public Agency. The approved Soil Erosion Control Program and Standard Plan on file with the MDEQ will be followed.

Other Permits: Sites regulated by the Federal Resource Recovery Act of 1976, the Michigan Hazardous Waste Management Act (PA 1979, Number 64, as amended) or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 will require permits. Soil testing will be conducted prior to any construction work at sites of environmental contamination to determine the extent, significance of impacts and permit requirements. To control local air pollution impacts, a permit will be required from the MDEQ Air Quality Division for portable bituminous and concrete plants used during project construction.

4.23 Irreversible or Irretrievable Commitments of Resources

Implementation of the Preferred Alternative involves the commitment of a range of natural, physical, human and fiscal resources. Land used for construction of the proposed improvements is considered an irreversible commitment during the time period that the land is used for a highway facility. For ROW, land resources would be committed from natural, agricultural and residential areas. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever occur.

Construction of the Preferred Alternative would use considerable amounts of fossil fuels, labor and construction materials such as cement, aggregate and bituminous materials. Such a resource use would be generally irreversible although it would be possible to retrieve and reuse these resources to a limited extent. Any construction would also require a substantial one-time expenditure of both state and federal funds which are irretrievable.

The commitment of these resources is based on the concept that residents in the local communities, the states of Michigan and Indiana and the Midwest would benefit from the improved quality of the transportation system.

4.24 The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The Preferred Alternative involves both short-term and long-term tradeoffs. The fiscal goal of any roadway improvement is that the ultimate benefit should justify the initial expenditure. In the context of this discussion, "short-term" refers to the immediate direct consequences of the project while "long-term" refers to its direct or indirect effects on future generations.

Short-term consequences to the environment as a result of the Preferred Alternative have been discussed throughout **Section 4.0, Environmental Consequences** and will include:

- Temporary air, noise, water pollution and visual effects caused by construction
- Increased cost to motorists in time and fuel efficiency because of construction
- Disturbances to businesses, homes and institutions because of construction
- Conversion of open space, agricultural land, woodlands, and residential lands to transportation usage
- Relocation of homes, including expenses that would be incurred as these residents are compensated
- Reduction in property tax revenues resulting from relocation of homes
- Use of public funds to build the highway

Most of the long-term benefits which may be realized from improvements to US-131 are addressed in **Section 1.0, Purpose of and Need for a Proposed Action**. These long-term benefits will include:

- Improved access to the region and greater connectivity with the rest of the major highway system serving southwestern Michigan and northern Indiana
- Improvements in motorist convenience, safety, travel time and energy use
- Reduction of the adverse impacts of US-131 within the Village of Constantine due to through traffic and the vibration associated with the high volume of commercial vehicles
- Increased economic development opportunities
- Reduction of air pollution and noise due to improved traffic flow

The implementation of phased improvements to US-131 that result in the ultimate build-out of the Preferred Alternative within the Study Area is consistent with the long-range transportation plans of MDOT.

4.25 Mitigation Summary

The goal of mitigative measures is to preserve, to the greatest extent possible, existing neighborhoods, land use and resources, while improving transportation. Although some adverse impacts are unavoidable, the Michigan Department of Transportation (MDOT), through the route location, design, environmental and construction processes, takes precautions to protect as many social and environmental systems as possible. Construction activities that include the mitigation measures described below are contained in the 2003 Michigan Standard Specifications for Construction.

The following paragraphs discuss the mitigation concepts that are being considered for the Preferred Alternative. Without the benefit of detailed design plans and data, conceptual mitigation ideas are proposed as a means to avoid or reduce adverse impacts on identified resources for design and construction. Further agency coordination will continue through the design stage. Design plans will be reviewed by MDOT and INDOT personnel prior to contract letting in order to incorporate any additional social, economic or environmental protection items. Construction sites will be reviewed to ensure that the mitigation measures proposed are carried out and to determine if additional protection is required.

Specific project mitigation measures can be found in the **Project Mitigation Summary “Green Sheet”** located at the end of this section. More mitigation measures may be developed if additional impacts are identified. Specific mitigation measures will be included on the design plans and permit applications.

4.25.1 Measures to Mitigate Right-Of-Way Acquisition and Relocation Impacts

Compliance with State and Federal Laws: Acquisition and relocation assistance and advisory services will be provided by MDOT in accordance and compliance with Act 31, Michigan P.A.1970; Act 227, Michigan P.A. 1972; the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended; Act 87, Michigan P.A. 1980, as amended; and Acts 367 and 439, Michigan P.A. 2006 as amended. MDOT will inform individuals, businesses and non-profit organizations of the impact, if any, of the project on their property. Every effort will be made, through relocation assistance, to lessen the impact when it occurs.

Residential: MDOT is required by statute to determine the availability of comparable, decent, safe and sanitary housing for eligible displaced individuals. MDOT has specific programs that will implement the statutory and constitutional requirements of property acquisition and relocation of eligible displaces. Appropriate measures will be taken to ensure that all eligible displaced individuals are advised of the rights and benefits available and course of action open to them.

Businesses, Farms or Non-Profit Organization: MDOT is required by statute to offer relocation assistance to displaced businesses, farms and non-profit organizations. MDOT has specific programs that will implement the statutory and constitutional requirements of property acquisition and relocation of eligible displaces. Appropriate measures will be taken to ensure that all eligible displaced businesses, farms or non-profit organizations are advised of the rights and benefits available and courses of action open to them. Displaced businesses and organizations will be encouraged to relocate within the same community.

Purchasing Property: MDOT will pay fair and just compensation for fee purchase or easement use of property required for transportation purposes. “Just compensation” as defined by the courts is the payment of “fair market value” for the property rights acquired plus allowable damages to any remaining property. “Fair market value” is defined as the highest price estimated, in terms of money, the property will bring if offered for sale on the open market, by a willing seller, with a reasonable time allowed to find a buyer, buying with the knowledge of all the uses to which it is adapted and for which it is capable of being used.

Relocation Information: A booklet entitled Your Rights and Benefits detailing the relocation assistance program can be obtained from MDOT, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

Property Acquisition Information: A booklet entitled Public Roads & Private Property detailing the purchase of private property can be obtained from MDOT, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

Conceptual Stage Relocation Plan: The Conceptual Stage Relocation Plan for this project is attached in **Appendix E of the FEIS**.

4.25.2 Traffic Noise Mitigation

MDOT has defined a five-decibel reduction in the design-hour L_{eq} noise level as the minimum desired standard for the implementation of noise mitigation to be considered feasible. MDOT considers \$38,060 (2007) or less per residence as the reasonable requirement for the implementation of mitigation measures.

As discussed in **Section 4.9.2, Mitigation of Traffic Noise**, noise barriers were evaluated for multiple locations where the noise abatement criteria were exceeded or substantial increase in noise levels would occur with the Preferred Alternative. The barrier analysis concluded that there were no locations where barriers would be both feasible and reasonable based on engineering, cost and noise reduction criteria. As a result, no noise barriers are proposed along the Preferred Alternative.

4.25.3 Groundwater Quality Mitigation

Sealing water wells and sewer lines for the protection of groundwater quality is ensured by MDOT specifications imposed on the contractor. Impacts on groundwater resources will be minimized where infringements on wetlands, seeps and discharge areas is likely to occur. For houses or other structures in urban situations that are relocated or must be razed, sewer lines must be filled with concrete grout at the basement level and water must be turned off at the street. In rural areas, the sewer line to the septic tank must be filled at the basement level. Abandoned water wells must be filled with cement grout applied from the bottom upwards through a conduit extended to the bottom of the well (in one continuous operation) until the well is filled. The contractor must also meet all local and Michigan Department of Community Health (MDCH) requirements.

Contractors are generally allowed 60 to 90 days following issuance of the demolition contract for the site to be completely cleared. However, only 48 hours is permitted following removal of any structure to fill the foundation to ground level. If the foundation is not filled within this time, MDOT may take independent action to fill the foundation, charging the costs incurred to the contractor. The MDEQ notification procedures for demolitions will be followed.

The above specifications have been approved by the MDCH. The contractor is also referred to the local health department for assistance when special conditions such as flowing wells or wells with a high artesian head are encountered. If high water tables are encountered in cut sections, special methods will be used to reduce any negative effects on the area groundwater. One such method is to raise the road grade.

Drains will be built as necessary along the pavement to drain the roadway subbase. Edge drains are used to intercept horizontal seepage. Stone baskets are used to maintain and reroute the flow of springs when found below the roadway. Intercepted water will be discharged into an available roadside ditch or watercourse. Siltation of watercourses from intercepted water is rare.

4.25.4 Wetland Mitigation

Wetland impacts were significantly reduced by increasing the length of the proposed St. Joseph River Structure to span most of the St. Joseph River floodplain/wetland complex. Impacts associated with the US-131 project will be mitigated by preserving a portion of the 118-acre Tamarack Fen located in the St. Joseph River watershed in Cass County. MDOT provided funding to The Nature Conservancy (TNC) for the purchase of the Tamarack Fen complex through an agreement that TNC would provide wetland and habitat protection in for the Mitchell Satyr Butterfly.

At a 10:1 replacement ratio, 15 acres of the high quality wetlands will be credited for preservation against an estimated impact of 1.5 acres of wetland from this project. These wetlands are located within the same St. Joseph River Watershed as the impacted wetlands.

4.25.5 Water Quality Mitigation

Adequate soil erosion and sedimentation control measures based on MDOT's approved soil erosion program will be implemented for the Preferred Alternative. Vegetation buffer strips will be left in place along both sides of all stream crossings that are bridged on new alignment, if possible. Highway runoff will be diverted through vegetative controls (grassed waterways) into containment areas prior to outletting into the streams, wherever possible. This will promote infiltration, thereby reducing the potential impact on the streams from added runoff and associated pollutants, including deicing salts, heavy metals and herbicides.

4.25.6 Floodplain, Stream and Drain Crossing Mitigation

Bridge and culvert work at river, stream and drain locations will require construction staging and additional protection items to minimize impacts on the watercourse. The following items are general mitigation items designed to reduce impacts at water crossings. The design plans will show all specific controls for each watercourse.

1. Floodplain fills were reduced by selecting a longer bridge to span most of the St. Joseph River Floodplain. Measures to further reduce floodplain fills will be reviewed during project design. Floodplain fills greater than 300 cubic yards will require compensating cuts in the floodplain.
2. All work below the ordinary high water mark of the St. Joseph River will require permits from the Michigan Department of Environmental Quality. All permit conditions will be adhered to during construction. Permit conditions may include fish spawning protection dates where no work can occur in the water unless it is isolated behind a cofferdam installed prior to the start of the protection date. A total of four fish species were observed during the site visit for the May 2007 Ecological Assessment Technical Memorandum and spawning dates are expected to be March 20 through June 30 for those species.
3. All construction operations adjacent to watercourses will include appropriate temporary and permanent erosion and sedimentation controls (see **Section 4.25.7 Soil Erosion and Sedimentation Control Mitigation**).

4. The contractor will be required to maintain a navigable channel on the St. Joseph River during all phases of the project. During part-width construction operations, the contractor will place signs both upstream and downstream of the construction area that clearly indicates the location of the navigable channel. Navigation access on smaller streams may also be required to accommodate small boat and/or canoe usage. The contractor may be required to provide lighting of barges or other navigation obstructions at night.
5. No construction access pads in the St. Joseph River are anticipated. All work on the piers and bridge decks will be done from cranes placed on barges in the river.
6. All construction activities will be isolated from flowing watercourse where possible. This can be done by installing a cofferdam (steel sheeting or sand bags) around the construction area.
7. Any channel excavation or riprap placement will be done using part-width construction methods. Work will be done on part of the channel while the water flow is temporarily diverted away from the work area. MDOT has a standard detail showing the temporary water flow diversion that will be included on the design plans for all projects that require in-stream work.

4.25.7 Soil Erosion and Sedimentation Control Mitigation

Accelerated sedimentation caused by highway construction will be controlled before it enters a water body or leaves the highway ROW by the placement of temporary or permanent erosion and sedimentation control measures. MDOT has developed a series of standard erosion control items to be included in design plans to prevent erosion and sedimentation. The design plans will describe the erosion controls and their locations. Payment is made to the contractor for construction and maintenance of items used from this list or items specifically developed for the project.

MDOT has on file with MDEQ an approved operating erosion and sedimentation control program which ensures compliance with Act 451, Part 91 Soil Erosion and Sedimentation Control. MDOT has been designated an "Authorized Public Agency" by MDEQ and is self-regulated in its efforts to comply with Part 91. However, MDEQ may inspect and enforce soil erosion and sedimentation control practices during construction to ensure that MDOT and the contractor are in compliance with Part 91 and the acceptable erosion and sedimentation control program.

The following is a partial listing of general soil erosion and sedimentation control measures to be carried out in accordance with permit requirements.

1. Work will be avoided in the St. Joseph River channel during periods of seasonally high water as much as possible.
2. All road and bridge construction operations will be confined to the existing or proposed ROW limits or acquired easements.
3. Road fill side slopes, ditches and other raw areas draining directly into the White Pigeon River, St. Joseph River or Rocky River will be protected with riprap (up to three feet

above the ordinary high water mark), sod, seed and mulch or other measures, as necessary to prevent erosion.

4. The surface area of erodible earth material exposed at any one location at one time will be limited to 5000 feet of dual roadway or 10000 feet of single roadway. Once the contractor has final graded and stabilized a section of roadway, additional clearing and grading will be allowed.
5. Areas disturbed by construction activities will be stabilized and vegetated within five days after final grading has been completed. Where it is not possible to permanently stabilize a disturbed area, appropriate temporary erosion and sedimentation controls will be implemented. All temporary controls will be maintained until permanent soil erosion and sedimentation controls are in place and functional.
6. The contractor shall have the capability of performing seeding and mulching at locations within 150 feet of any wetlands, lakes, streams and drains within 24 hours of being directed to perform such work by the Project Engineer.
7. Special attention will be given to protecting the natural vegetative growth outside the project's slope stake line from removal or siltation. Natural vegetation, in conjunction with other sedimentation controls, provides filtration of runoff not carried in established ditches.
8. The integrity of any agricultural drainage or field tile system encountered will be maintained.
9. The contractor will be responsible for preventing the tracking of material onto local roads and streets. If material is tracked onto roads or streets, it shall be removed.

4.25.8 Existing Vegetation Mitigation

Although some tree removal will be necessary, the existing natural and ornamental vegetative cover will be retained wherever possible within the ROW. Where the existing groundcover must be removed, replacement vegetation will be established in a timely manner using seed and mulch or sod.

Roadside trees adjacent to residences will be saved wherever possible. Where trees are to be removed from in front of residences, property owners will be given appropriate notice and will be offered replacement trees to help offset the functional or aesthetic loss of the trees.

Replacement tree species, size and numbers will be determined by MDOT's Region Resource Specialist or the Roadside Development Section following coordination with adjacent property owners. For those owners who request replacement trees, the trees will be placed (with the property owner's approval) on adjacent private property as close to the ROW line as possible. Property owners will then assume the responsibility for maintaining these trees.

4.25.9 Wildlife and Migratory Birds Mitigation

Impacts to terrestrial habitats will be minimized during final design through refinements that reduce cross-section widths, maintain existing hydrological conditions and require construction techniques that minimize the removal of mature trees.

On projects that involve work on structures over watercourses, MDOT reviews potential impacts to migratory birds that may make (or have made) nests underneath the bridges. Coordination between MDOT (Environmental Section and Region Resource Specialist) MDNR, MDEQ and U.S. Fish and Wildlife Service (USFWS) will occur on projects where migratory birds, as listed in 50 CFR 10.13, have been identified at specific bridge locations. A “Special Provision” that describes procedures for dealing with migratory birds will be included on these projects. MDEQ permits to work on bridges over watercourses may include specific dates when work on bridges will be prohibited.

To mitigate all wildlife corridors, the new bridge over the St. Joseph River will span the entire floodplain and wetland complex with six spans and five piers. Two piers will be placed in the St. Joseph River and three piers will be placed in the floodplain and wetland complex. Spanning these areas will maintain the existing wildlife corridors on both sides of the river channel.

4.25.10 Threatened and Endangered Species Mitigation

To mitigate the effects of US-131 improvements on threatened, endangered and special concern species, the Preferred Alternative underwent a comprehensive process of refinement to avoid resources altogether, then minimize impacts where resources could not be fully avoided.

In addition to measures taken to avoid or minimize impacts, the following standard MDOT mitigation measures are proposed:

- All construction operations will be confined to the highway ROW limits or acquired easements.
- Areas disturbed by construction activities will be stabilized and vegetated as soon as possible during the construction period in order to control erosion. Emphasis would be placed on the use of native plant species to the maximum extent possible.
- An erosion control plan will be formulated and adhered to during work near the St. Joseph River to ensure that potential habitat would not be adversely impacted.
- Required permits will be obtained from the MDNR and the MDEQ.
- Existing natural and ornamental vegetative cover will be retained wherever and whenever possible within the ROW limits. Where existing ground cover must be removed, replacement vegetation will be established in a timely manner, using seed and mulch or sod.
- Groundwater and surface water quality will be protected.

Specific mitigation actions beyond standard mitigation will be considered to protect particular listed wildlife and plant species within locations that are likely to be impacted by the Preferred Alternative. These include:

- Construction activities will be avoided to the extent possible at the St. Joseph River crossing during the river redhorse spawning migration periods (generally late March to early June).
- Construction of a longer bridge over the St. Joseph River spanning the wetland and floodplain will result in the least impact to rare species and their habitats.
- A protective construction fence will be placed around the colony of water-willow to prevent inadvertent impacts to this species during construction.
- Red mulberry will be relocated as needed to a protected upland location.

4.25.11 Cultural Resources Mitigation

There are no known cultural resource impacts from the Preferred Alternative. Since some property owners denied permission to access their property during the Phase I archaeological survey, this survey will have to be done in the design phase of the project. If impacts are found in the design phase, measures to minimize impacts will include avoidance, preservation in place and recordation of the property prior to highway construction. Appropriate mitigation measures will be developed through consultation between MDOT, SHPO and the property owners. A Memorandum of Agreement (MOA) between FHWA, MDOT and SHPO will be prepared prior to start of construction.

4.25.12 Hazardous/Contaminated Material Mitigation

The Preferred Alternative will not require ROW from any site included in the most recent Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) list. The two identified locations designated CERCLIS-NFRAP are “No Further Remedial Action Planned” (NFRAP) sites. They have been removed from the CERCLIS. **Appendix A.9 of the DEIS** provides a summary of the technical memorandum for the Preferred Alternative.

A Project Area Contamination Survey (PACS) will be conducted in the design phase of the project. The PACS will determine if the known or existing potential sites of environmental contamination will influence the project’s physical design, cost or design and construction schedule. The PACS will cover existing roadway ROW and proposed fee ROW, proposed grading permits and proposed easements for the Preferred Alternative. The PACS process involves an office review of information from the *Draft Contaminated Sites and Sites of Environmental Interest Technical Memorandum*, prepared for the US-131 Improvement Study, a field site investigation and a written report of the findings. The written report will delineate the area and depth of contamination expected to be involved, discuss historical land use in the Study Area, include the opinion of cost for remediation and/or mitigation and the health measures and safety issues applicable. If required, a Worker Health and Safety Plan will be prepared prior to construction to reduce dermal exposure and to address direct contact issues.

MDOT will also coordinate with the MDEQ Water Bureau and Waste and Hazardous Materials Division when excavation or disturbance of bottom sediments is required in areas of known river, stream or lake bottom sediment contamination. Coordination could include testing of bottom sediments within the Study Area, reviewing results with the Water Bureau to determine if any contamination exists and reviewing results with the Waste and Hazardous Materials Division to determine if any special disposal methods will be required.

If mitigation is required, MDOT's standard mitigation for contaminated sites will be instituted. This includes appropriately abandoning all groundwater monitoring wells; evaluation of new utility cuts through contaminated areas (using appropriate backfill where shallow contaminated groundwater is intercepted); and appropriate disposal of contaminated media generated during construction (soil and groundwater). Standard mitigation also includes development of a risk management plan which includes a worker health and safety component.

4.25.13 Disposal of Surplus or Unsuitable Material

Surplus or unsuitable material generated by removal of structures, trees, peat, etc., must be disposed of in accordance with the following provisions designed to control the possible detrimental impacts of such actions.

1. When surplus or unsuitable material is to be disposed of outside of the ROW, the contractor shall obtain and file with MDOT written permission from the owner of the property on which the material is to be placed. In addition, no surplus or unsuitable material is to be disposed of in any public or private wetland area, watercourse, or floodplain without prior approval (and permit) by the appropriate resource agencies and the Federal Highway Administration.
2. Inert debris may be used as a basement fill to a depth not less than two feet below the ground level if the basement is not within the roadway cross-section. Debris used as fill must be covered with at least two feet of clean soil to fill voids. Basement walls are to be removed to ground level.
3. All regulations of the MDEQ governing disposal of solid wastes must be complied with.

4.25.14 Aesthetic and Visual Mitigation

Mitigation of aesthetic and visual impacts could come in many forms. Attractive landscaping along the highway where feasible will enhance its visual character for both drivers and those viewing the facility from a distance. Local communities could also adopt uniform standards along the highway for landscaping and signage in order to improve the aesthetic value of the corridor. All billboards will be required to comply with state and local regulations.

4.25.15 Maintaining Traffic During Construction

Disruption of traffic in the construction area will be minimized to the extent possible. Although control of all construction-related inconveniences is not possible, motorist and pedestrian safety will be ensured by signing all construction areas. Access will be maintained to properties adjacent to US-131 to the extent possible. Local communities will be consulted in determining detour routes and access for local and through traffic. MDOT will also coordinate with local business owners, local residents and emergency service providers as appropriate to ensure access is maintained.

Informing the public of current and upcoming construction/traffic related concerns will be an integral part of the construction process. Public awareness will be maintained throughout the project by providing general information such as addressing public concerns and

providing specific information such as duration and location of detours, lane closures, alternative routes, upcoming activities and anticipated construction deadlines.

4.25.16 Surface Street Mitigation

The contractor will be required to maintain temporary repair of all surface streets that are damaged as a result of being used as a detour or for equipment access. Upon completion of construction activities, roadway inspections will take place and permanent repairs will be made as necessary.

4.25.17 Continuance of Public Utility Service

Water, sanitary sewer, gas, telephone and electrical transmission lines adjacent to or crossed by the project may require relocation or adjustment. If this should be the case, coordination between MDOT and the affected utility company will take place during design and relocation phases, prior to construction of the road if possible. The contractor will coordinate his construction activities with the affected utility company.

Service to the Study Area may be temporarily interrupted during the adjustment period. For the most part, the effects of this work will go unnoticed.

4.25.18 Construction Noise Levels and Vibration Impacts Mitigation

Construction noise will be minimized by measures such as requiring that construction equipment have mufflers, that portable compressors meet federal noise-level standards for that equipment and that all portable equipment be placed away from or shielded from sensitive noise receptors if at all possible. All local noise ordinances will be adhered to.

Where pavement must be fractured, structures must be removed or foundation piles must be driven, care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is anticipated, basement surveys will be conducted before construction begins to document any damage caused by highway construction. Identification of properties to be offered basement surveys will be determined during the design phase.

4.25.19 Control of Air Pollution During Construction

The contractor must comply with all federal, state and local laws and regulations governing the control of air pollution.

Dust Control: During the construction of any project, the contractor will be responsible for adequate dust-control measures so as not to cause detriment to the safety, health, welfare or comfort of any person or cause damage to any property, residence or business.

Bituminous and Concrete Plants: All bituminous and portland cement concrete proportioning plants and crushers must meet the requirements of the rules of Part 55 of Act 451, Natural Resource and Environmental Protection. Any portable bituminous or concrete plant and crusher must meet the minimum 250-foot setback requirement from any residential, commercial or public assembly property and the contractor may be required to

apply for a permit-to-install or a general permit from MDEQ. The permit process including any public comment period, if required, may take up to six months.

Dust collectors will be provided on all bituminous and concrete proportioning plants. Dry, fine aggregate material removed from the dryer exhaust by the dust collector will be returned to the dryer discharge unless otherwise directed by the engineer.

4.25.20 Additional Mitigation or Modifications

The final mitigation package will be reviewed by division representatives on MDOT's project Study Team, in cooperation with concerned federal, state and local agencies.

Some changes in the early mitigation concepts discussed in this document may be required when design begins or when in-depth soil borings are taken and analyzed. These mitigation concepts will be implemented to the extent possible. Where changes are necessary, they will be designed and field reviewed before permits are applied for and construction begins. Changes may also be necessary during the construction phase, but they will reflect the early mitigation intent. The preceding mitigation concepts are based on the best information available through January 2008.

US-131 Improvement Study

St. Joseph County, Michigan
Elkhart County, Indiana

Final Environmental Impact Statement

Project Mitigation Summary “Green Sheet”

This Project Mitigation Summary “Green Sheet” contains the project specific mitigation measures being considered at this time. A Final “Green Sheet” will be prepared and included in the Record of Decision (ROD) for this project. These mitigation items and commitments may be modified during the final design, right-of-way acquisition or construction phases of this project.

I. Social and Economic Environment

- a. Relocations: Adequate replacement housing is available to mitigate the loss of 12 residential relocations required for the Preferred Alternative. **See Appendix E for the Conceptual Stage Relocation Plan.**
- b. Aesthetic and Visual: To mitigate aesthetic and visual impacts, landscaping opportunities will be investigated during the design phase to enhance the visual characteristics of the proposed project.
- c. Emergency Services: To provide an adequate amount of time to adjust emergency response plans and school district routes, MDOT will coordinate with emergency service providers and local school districts prior to the beginning of or implementation of any new phase of construction. Coordination will be maintained throughout construction.
- d. Noise: The Preferred Alternative will cause one residence to receive noise impacts that exceed NAC levels but no noise mitigation will be done because the cost would exceed the per residence cost limit of \$38,060 (2007 dollars), which is contained in MDOT’s 2003 noise policy.
- e. Community Input: Additional opportunities for community involvement workshops will be offered.

II. Natural Environment

- a. Wetlands: Wetland impacts were significantly reduced by lengthening the proposed St. Joseph River structure to span most of the adjacent

floodplain/wetland area. The Preferred Alternative will impact 1.5 wetland acres. The impacts will be in two wetland complexes. In Wetland Complex 1, 0.3 acres of classified lower quality shrub scrub wetlands will be impacted. In Wetland Complex 2, 1.2 acres of classified higher quality forested wetland with an emergent wetland understory will be impacted. Where wetland impacts cannot be avoided, MDOT will preserve existing wetlands in accordance with Part 303, Wetland Protection, of Act 451, of the Natural Resources and Environmental Protection Act of 1994.

Wetland mitigation would occur within the 118-acre Tamarack Fen located in the St. Joseph River watershed in Cass County. For wetland preservation, a 10:1 ratio applies whereby one acre of wetland may be impacted for ten acres of preserved wetland. Fifteen acres of the Tamarack Fen will be preserved through a conservation easement to mitigate the 1.5 acres impacted by the Preferred Alternative.

A wetland mitigation and monitoring plan will be prepared and included in the Michigan Department of Environmental Quality permit application.

- b. Threatened and Endangered Species: In addition to following standard MDOT mitigation measures, the St. Joseph River bridge will be constructed to span the river, floodplain, and wetlands. Two piers will be placed in the St. Joseph River. Construction activities will be avoided around the St. Joseph River piers during the river redhorse spawning migration periods (March 20 to June 30). Protective construction fence will be placed around water-willow during construction and the red mulberry will be relocated to a protected upland location.
- c. Hazardous/Contaminated Materials: A Project Area Contamination Survey (PACS) will be conducted in the design phase of the project. If mitigation is required, MDOT's standard mitigation for contaminated sites will be instituted. This includes appropriately abandoning all groundwater monitoring wells; evaluation of new utility cuts through contaminated areas and appropriate disposal of contaminated media generated during construction. Standard mitigation also includes development of a risk management plan which includes a worker health and safety component.
- d. Floodplains: Floodplain fills were greatly reduced by lengthening the proposed St. Joseph River structure to span most of the adjacent floodplain/wetland area. Compensatory floodplain storage will not be necessary as there will not be any fill within the 100-year floodplain exceeding 300 cubic yards.
- e. Wildlife Corridors: To mitigate all wildlife corridors, the new bridge over the St. Joseph River will span most of the floodplain and wetland complex with six spans and five piers. Two piers will be placed in the St. Joseph River and three piers will be placed in the floodplain and wetland complex. Spanning these areas will maintain the existing wildlife corridors on both sides of the river channel.

III. Cultural Environment

- a. Archaeological: Phase I and Phase II archaeological surveys were carried out for the Recommended Alternative. For those properties whose owners denied access during the original surveys, Phase I and Phase II archaeological surveys will be conducted as necessary on those sites determined to be potentially significant.
- b. Coordination: If impacts are found in the design phase, measures to minimize impacts will include avoidance, preservation in place and recordation of the property and structures prior to highway construction. Appropriate mitigation measures will be developed through consultation between MDOT, SHPO, FHWA, and the property owners. A Memorandum of Agreement (MOA) will be prepared prior to start of construction.

IV. Construction

- a. Traffic Flow: MDOT will coordinate with local communities to determine desirable detour routes and access points for local communities to minimize delays, congestion and access restrictions while also maintaining through traffic.

Coordination with the Norfolk and Southern Railroad will be required with any alternative that may interfere with or influence rail traffic.

MDOT will maintain public awareness throughout the project by providing general information, addressing public concerns and providing specific information such as duration and location of detours, lane closures, alternative routes, upcoming activities and anticipated construction deadlines.

- b. Construction Permits - Permits under Act 451, Parts 31, 301, and 303, are required from the MDEQ for this project. Coverage under the National Pollutant Discharge Elimination System (NPDES), which is administered by the MDEQ, is also required. Permit conditions will include fish spawning protection dates of March 20 through June 30. No work can occur in the water unless it is isolated behind an enclosed cofferdam installed prior to the start of the protection date.
- c. Navigable Waterways: The contractor will be required to maintain a navigable channel during all phases of the project. Maintaining a navigable channel may include the placement of signs both upstream and downstream of the construction area that clearly indicates the location of the navigable channel. Lighting of barges and other areas may also be required.

Placeholder for Figure 4.6 Environmental Constraints (1 of 4)

Placeholder for Figure 4.6 (2 of 4)

Placeholder for Figure 4.6 (3 of 4)

Placeholder for Figure 4.6 (4 of 4)

5.0 FINAL SECTION 4(f) EVALUATION

The purpose of this section is to analyze the potentially adverse impacts of the Preferred Alternative on sites that are potentially regulated by Section 4(f) of the Department of Transportation Act of 1966. Section 4(f) sites include public parks, recreation lands, wildlife and waterfowl refuges and historic sites. The six sites evaluated in the DEIS all fall under the classification of potential 4(f) sites.

Section 4(f) states that no highway project should be approved which requires the “use” of any publicly-owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless there is no feasible or prudent alternative to the use of such land. In addition, adverse impacts to these 4(f) sites must include all possible planning to minimize harm resulting from such use. A Section 4(f) evaluation provides facts about each site to determine whether there are prudent and feasible alternatives to the use of each site and to identify measures to minimize harm. In the context of Section 4(f), “use” can be either a direct impact (taking of property), or a “constructive use”, which may not actually require acquisition of land, but otherwise impairs the function of the resource through changes in access or surroundings.

This evaluation determined that PA-5, the Preferred Alternative, will not use any land from any potential 4(f) sites as discussed in the Draft Environmental Impact Statement released in November, 2004. This includes parks/recreational areas, the Fabius State Game area and historic sites/properties. The Preferred Alternative will avoid any indirect or direct impacts to any 4(f) properties and will not have any adverse impacts to any of the 4(f) properties.

6.0 PUBLIC AND AGENCY COORDINATION

This section provides a summary of the public involvement activities and coordination with government agencies efforts from the publication of the 2004 Draft Environmental Impact Statement (DEIS). A summary of prior early coordination with governmental agencies, agency letters and comments, early public involvement efforts, public meetings and comments received can be found in **Section 6.0 Public Involvement and Agency Coordination** of the DEIS. The DEIS is available for review through the Michigan Department of Transportation (MDOT).

6.1 NEPA/404 Process for the Statement of Purpose and Need

This process provides for National Environmental Policy Act (NEPA) environmental clearance and Section 404 wetland permitting coordination requirements to be completed concurrently and serves as a consensus building tool for the agencies involved. As a part of this process, concurrence on the statement of purpose of and need for the proposed action was requested from the Michigan Department of Environmental Quality (MDEQ), United States Army Corps of Engineers (USACE), United States Environmental Protection Agency (USEPA), , the United States Fish and Wildlife Service (USFWS), the State Historic Preservation Office (SHPO), Federal Emergency Management Agency (FEMA), and the Indiana Department of Transportation (INDOT through letters and documentation sent in June 2001.

6.2 Early Coordination with Government Agencies

As a part of early project scoping, letters and project information were sent to all jurisdictional government agencies in April 2000, regarding the part of the project south of M-60. An additional set of coordination letters and updated scoping information was sent to these same agencies in June 2001, following the extension of the Study Area north of M-60. **Appendix D.2 of the DEIS** contains a list of agencies that received scoping information and were invited to scoping meetings. The first scoping meeting was held on May 10, 2000, at the Constantine Township Hall and a project site visit was conducted. The Michigan Department of Transportation (MDOT) met with approximately 34 individuals including representatives from the Michigan Department of Natural Resources (MDNR), the Federal Highway Administration (FHWA), the Indiana Department of Transportation (INDOT), the I-80/90 Toll Authority, the Family Independence Agency (FIA), the St. Joseph County Road Commission and representatives from local municipal governments. A second scoping meeting was held for the extended portion of the Study Area (north of M-60) August 7, 2001, at the MDOT Southwest Region Office in Kalamazoo. Representatives from many of the above agencies attended, along with those from the USEPA. An additional meeting and site tour was held May 23, 2002, to discuss wetland impacts and mitigation. Representatives from MDOT, MDEQ, USFWS, USACE and USEPA attended.

On August 22, 2002, the Study Team and SHPO representatives visited 15 potentially historic properties, one monument listed on the National Register of Historic Places (NRHP), and one historic district on the NRHP that could be affected by the proposed project, which were listed in the Reconnaissance Survey.

6.2.1 Notice of Intent

To advise the public that preparation of a DEIS was to begin for the proposed project, FHWA issued a *Notice of Intent* on June 13, 2000 and published the notice in the June 22, 2000 issue of the Federal Register (Vol. 65, No. 121, Pgs. 38876-38877). Following the extension of the Study Area north of M-60, FHWA issued and published a second *Notice of Intent* in the February 26, 2001 issue of the Federal Register (Vol. 66, No. 38, Pg. 11630). Copies of these notices are presented in **Appendix D.3** of the DEIS.

6.2.2 Early Comments from Agency Letters

The following text provides a brief summary of the comments received in early coordination letters with agencies (**Appendix D.1** of the DEIS). As a part of early project scoping, letters and project information were sent to all jurisdictional government agencies in April 2000. An additional set of coordination letters and updated scoping information was sent to these same agencies in June 2001.

Federal Agencies

United States Department of Agriculture - May 15, 2000; July 24, 2001.

- Identified wooded wetlands and prime farmland areas of concern for the study corridor
- Stated that prime farmland loss is a major concern for which mitigation is not possible

United States Fish and Wildlife Service - July 26, 2001.

- Stated that the endangered Indiana bat may occur in the study area, and that full impacts to potential bat habitat must be considered, and a report of survey findings presented before construction or site alteration takes place
- Stated that candidate species eastern massassauga rattlesnake may occur in the study area
- Provided habitat information on the Indiana bat and eastern massassauga rattlesnake
- Stated that if habitat for federally listed species may be affected, then a section seven consultation should be initiated with their office. If there is no effect on the habitat for the Indiana bat, then pertinent documentation should be forwarded for their records
- Stated that MDOT should avoid impacts to fen or bog habitats

Federal Emergency Management Agency - August 13, 2001.

- Stated that the agency does not have staff to do the reviews requested and that floodplain maps should be used to help meet regulations

State of Michigan Agencies

Michigan Department of Natural Resources, Wildlife Division - May 17, 2000.

- Provided a list of identified state threatened species and species of special concern
- Provided habitat information for potentially affected species
- Stated that an endangered species permit would be required from the Wildlife Division if any threatened or endangered species has the potential to be taken or harmed

- Stated that clearance from the Wildlife Division would be needed in the form of a No Effect Statement, before work on the project can occur, and provided information on the steps required to obtain this clearance

Michigan Department of Environmental Quality, Land and Water Management Division - May 25, 2000; June 24, 2001.

- Stated that any alternative impacting a lake, stream, or wetland would require permits from MDEQ per relevant legislation
- Provided required mitigation ratios for impacted wetlands
- Stated that a mitigation site and monitoring plan must be submitted with an application for permits
- Identified that permits would be required for new structures over the St. Joseph and White Pigeon rivers
- Stated that spanning of the river wildlife corridor on piers would be preferred
- Encouraged the project to stay on existing alignment where possible

Michigan Department of Agriculture - July 16, 2001.

- Stated that their concerns would be with the direct loss of productive agricultural land, especially prime and unique farmland and lands enrolled under the Farmland and Open Space Preservation Program
- Expressed concern about reconstruction and/or relocation of established county and inter-county drains

Michigan United Conservation Clubs - August 8, 2001.

- Provided a copy of a memo requesting input of the local chapter on any critical resources that may be impacted

Michigan State Historic Preservation Office (SHPO) - June 17, 2002.

- Provided a letter confirming review of the report entitled *Reconnaissance Level Survey of Above-Ground Resources* and concurring with most of the report's conclusions
- Outlined disagreements with the report's conclusions and listed properties for which SHPO requested further research

State of Indiana Agencies

Indiana Department of Natural Resources, Division of Fish and Wildlife - July 10, 2000.

- Stated that the proposal would not need approval from the agency for construction in a floodway
- Stated that no state or federal threatened or endangered species have been reported to occur in the project vicinities

Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology - July 11, 2000.

- Stated that no identified historic buildings, structures, districts or objects listed on or eligible for inclusion in the National Register were within the probable area of potential effect in Indiana

Indiana Department of Transportation - July 17, 2001.

- Provided information on the development of the 2000-2025 Long Range Transportation Plan for the State of Indiana

- Stated that US-131 has been identified as a portion of a statewide mobility corridor
- Stated that current analysis suggested additional travel lanes be added to the section of US-131 between the Indiana Toll Road and the Michigan/Indiana State Line in 2010-2015
- Requested further information on the project when recommendations are developed

Indiana Department of Transportation - July 11, 2002.

- Indicated concurrence on the selection of the four Practical Alternatives, logical termini, and roadway cross-sections included in the DEIS to be carried forward

Indiana Department of Transportation, Division of Environment, Planning and Engineering - July 16, 2002.

- Stated that in the Indiana long-range plan, the corridor south of US-131 would be developed as a statewide (Indiana) mobility corridor, extending eastward on US-20 and swinging north on State Road 13 to connect to US-131
- Stated that they do not wish to take any actions which would preclude this US-131/State Road 13 connection from developing as a freeway route in the long-term
- Stated that the proposed first phase connection of the Michigan and Indiana segments of US-131, with a five-lane arterial cross-section, appears reasonable at this time, but recommended future consideration of extending a freeway cross-section to connect with State Road 13 in Indiana

Local Agencies

St. Joseph County Family Independence Agency - June 2000; August 11, 2000; October 10, 2001.

- Provided the number of families in the Study Area receiving various types of assistance administered by the agency
- Stated that checks by the agency did not reveal the presence of any special or unusual groupings by address

6.2.3 Concurrent NEPA/404 Process for Transportation Projects

This process provides for NEPA and Section 404 requirements to be completed concurrently, and serves as a consensus building tool for the agencies involved. As a part of this process, concurrence on the Statement of Purpose of and Need for the Proposed Action has been requested from the USFWS, USEPA, USACE and MDEQ through letters and documentation.

As a part of the NEPA/404 process, MDOT also updated the above agencies on the status of the project during a regularly scheduled project coordination meeting conducted on October 30 and 31, 2001.

6.3 Agency Review of the Draft Environmental Impact Statement

Copies of the DEIS were sent to all relevant government agencies in November 2004 for their review and comment. Letters received in response to their review of the DEIS are found in **Appendix A** of this document.

6.3.1 NEPA/404 Process for the DEIS Practical Alternatives

As part of the National Environmental Policy Act (NEPA) environmental clearance and Section 404 wetland permitting process, concurrence was requested from the MDEQ, USACE, USEPA, and USFWS through letters and documentation that all appropriate practical alternatives were being carried forward within the DEIS. Each of these agencies has sent letters concurring with the Practical Alternatives to be carried forward; these letters are included in **Appendix A**. Representatives from FHWA have participated in regular Study Team meetings and also have also fully concurred with the Practical Alternatives to be carried forward for the proposed action.

6.3.2 Agency Comments on the DEIS and Practical Alternatives to be Carried Forward

The following provides a brief summary of comments received by federal, state, and local agencies.

Federal Agencies

United States Department of Agriculture – March 2, 2005.

- Stated that their concern with any of the Practical Alternatives is the amount of prime agricultural land negatively impacted

United States Department of Commerce National Oceanic and Atmospheric Administration – April 11, 2005.

- Stated that if there are any planned activities which will disturb or destroy geodetic control monuments, NOS will require not less than 90 days' notification in advance in order to plan for their relocations

Department of the Army-Detroit District Corps of Engineers – April 18, 2005.

- Provided concurrence with the Purpose and Need of the project
- Provided concurrence with the Practical Alternatives carried forward
- Stated that they did not have any permit authority on any portion of the study corridor and that there is no requirement that MDOT file a permit application with the Corps for this project

United States Environmental Protection Agency – May 13, 2005.

- Concurred with the Purpose and Need and the range of Practical Alternatives Carried Forward for detailed analysis points
- Objected to PA-3 and PA-4 because of their direct and indirect impacts to high quality wetlands
- PA-5 and PA-5 MOD would cause the least environmental impacts of all the Practical Alternatives
- Concerned with the level of wetland information provided
- Concerned with project impacts to trout habitat in the St. Joseph River, wildlife corridor impacts for the White Pigeon, St. Joseph and Rocky Rivers and migratory bird impacts
- Recommended further coordination with the U.S. Fish and Wildlife Service and the Michigan Department of Natural Resources to ensure that the potential of each alternative to impact Federal and State listed species is sufficiently documented

- Requested future wetland related documentation for this project include a plant list (specifically the dominate species), Floristic Quality Index (FQI) values, and detailed wildlife functions

United States Department of the Interior – August 15, 2005.

- Recommended the Final Environmental Impact Statement (FEIS) provide a better description of the potential impacts to wildlife, fisheries, and threatened and endangered species
- Stated the FEIS should provide more discussion of mitigation measures to avoid, minimize, and offset the impacts of each of the build alternatives to fish and wildlife resources
- Stated that DEIS did not mention that the St. Joseph River from Barrien Springs to Jonesville has been designated as a component of the National Rivers Inventory and no discussion of any recreational value was addressed
- Recommended the FEIS address potential impacts to fisheries and stream temperature impacts in relation to the loss of vegetation/forested areas
- Recommended the FEIS address habitat loss and the suggestion for replacement of habitat in the right-of way
- Temporal loss of habitat and impacts to migratory birds and other wildlife should be addressed
- Additional mitigation measures such as construction timing and sequencing, as well as habitat replacement should be addressed in the FEIS

United States Fish and Wildlife Service – October 17, 2006.

- Stated that their records indicate that the Indiana bat (*Myotis sodalist*), copperbelly water snake (*Nerodia erythrogaster neglecta*) and the eastern massasauga rattlesnake (*Sistrurus catentus catenatus*) may occur in the proposed action area
- Stated that the Indiana bat is federally listed as endangered, the copperbelly snake is listed as threatened and the eastern massasauga rattlesnake is a federal candidate species

State of Michigan Agencies

Michigan Department of Natural Resources, Wildlife Division – March 4, 2005.

- Provided a list of identified state threatened species and species of special concern
- Provided habitat information for potentially affected species
- Stated that an endangered species permit would be required from the Wildlife Division if any threatened or endangered species has the potential to be taken or harmed
- Stated that clearance from the Wildlife Division would be needed in the form of a No Effect Statement, before work on the project can occur, and provided information on the steps required to obtain this clearance

Michigan Department of Agriculture – March 25, 2005.

- Stated that they consider any loss of especially prime farmland to be significant
- Stated that PA-5 and PA-5 Modified have the least overall direct and indirect impacts on prime farmland, on lands enrolled in the Farmland and Open Space Preservation Act and on operations of farming business

Michigan Department of Environmental Quality, Land and Water Management Division – March 30, 2005.

- Provided concurrence on the Purpose and Need
- Provided concurrence on the selection of the Practical Alternatives Carried Forward
- Requested early coordination with the MDEQ, US Fish and Wildlife Service and the Michigan Department of Natural Resources Wildlife Division regarding any bridge designs and pier placements well before any design and funds are committed to the project
- Requested better documentation of wildlife use within the floodplain corridor

State of Indiana Agencies

Indiana Department of Natural Resources, Division of Water – February 25, 2005.

- Stated that the project may require the formal approval of the agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway stream or other flowing water body which has a drainage area greater than one square mile
- Stated there are measures that should be implemented in order to address fish, wildlife, and botanical resource losses
- Requests all bare and disturbed areas are revegetated with a mixture of grasses (excluding varieties of tall fescue) and legumes as soon as possible upon completion

Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology – March 22, 2005.

- Stated that they will coordinate with the archeological contractor (CCRG) to coordinate project review

Indiana Department of Transportation – April 8, 2005.

- Stated that INDOT would like to ensure that the document covers any EPA regulations, requirements, and comments relative to the St. Joseph Aquifer within the Indiana Portion of the study
- Concerned that DEIS does not adequately address the values or potential impact to the St. Joseph Aquifer, a sole source aquifer
- Stated that Rule 5 Indiana has changed the “five acre” requirement to “one acre”

6.4 Public Involvement

Public involvement has been an important part of the process for refining alternatives and developing the DEIS, the selection of a Preferred Alternative and the preparation of the FEIS. Public participation played a key role in the decision making process. The following sections discuss the meetings held, the avenues of communication provided, and the comments received during the public involvement process for this project.

6.4.1 US-131 Stakeholders Committee

During the early project development process, a Stakeholders Advisory Committee was formed to provide input for the Study Team and help disseminate information to the community. Members of this committee were selected in consultation with staff from the local agricultural extension office of Michigan State University who helped to identify

interested parties. The Stakeholders Advisory Committee consisted primarily of local officials and representatives of community interests, although state and federal officials were also invited to the meetings. Twelve meetings have been held with this group, three in conjunction with the early development of alternatives for the project, one when the Study Area was extended north of M-60, one to discuss the freeway Build Alternatives, two to discuss the non-freeway Build Alternatives, two to update the status of the project, one to present the Preferred Alternative and discuss corridor preservation and two to update stakeholders and discuss the Preferred Alternative (PA-5). New members were added to the Stakeholder Advisory Committee, based on recommendations from committee members or requests from members of the general public to be included. **Table 6.1** provides the details of each of the Stakeholder Advisory Committee meetings held.

Table 6.1 Stakeholder Advisory Committee Meetings Held

Meeting	Date	Location	General Purpose
Stakeholder Meeting # 1	June 07, 2000	Constantine Village Hall	Meet the planning team to discuss the project and answer questions regarding initial alternative development.
Stakeholder Meeting # 2	July 19, 2000	Constantine Village Hall	Discuss the results from the previous meeting and refine goals for inclusion in the US-131 Improvement Study.
Stakeholder Meeting # 3	January 30, 2001	Three Rivers Community Center	Present revised alternatives.
Stakeholder Meeting # 4	July 30, 2001	Three Rivers Community Center	Present alternative development.
Stakeholder Meeting # 5	October 25, 2005	Three Rivers Community Center	Discuss the No-Build Alternative as the Preferred Alternative.
Stakeholder Meeting # 6	October 26, 2006	Constantine Village Hall	Discuss changes to Practical Alternative 5 footprint.
Stakeholder Meeting # 7	January 27, 2007	Constantine Village Hall	Provide project update.

6.4.2 Public Information Meetings

Four public information meetings have been held to provide the public with information on the project and to receive comments on the alternatives developed. Each of these meetings was held in an open forum format where members of the public could visit stations covering different aspects of the project (the process, traffic, engineering, environmental constraints, etc.) spread around a large hall. Members of the public had the opportunity to discuss issues on a one-on-one basis with members of the Study Team. All attendees were encouraged to fill out comment forms. Public meetings were promoted via local newspapers, individual mailings, and through advance notice to public officials and stakeholders. **Table 6.2** provides the details of each of the public information meetings held.

6.4.3 Meetings with Specific Groups

As part of the public involvement process, members of the Study Team organized and/or attended several meetings with groups that had specific concerns or interests in the project. These meetings allowed for a focus on issues of special concern, without the context of a large overall public meeting.

Table 6.2 Public Meetings Held

Meeting	Date	Location	Number of People who Signed In	General Purpose
Public Meeting # 1	June 15, 2000	Constantine High School Cafeteria	121	Present Illustrative Alternatives for South of M-60.
Public Meeting # 2	March 15, 2001	Constantine High School Cafeteria	135	Present Practical Alternatives for South of M-60.
Public Meeting # 3	August 1, 2001	Three Rivers Community Center	141	Present Illustrative Alternatives for North of M-60.
Public Meeting # 4	May 26, 2004	Three Rivers Community Center	61	Present All Practical Alternatives.

6.4.4 Community Involvement Workshop

A Community Involvement Workshop was held May 27, 2007 at the Constantine High School. Seventy-seven people registered their attendance. The purpose of this workshop was to engage stakeholders and the public to develop a transportation system built on and supported by local community values. This workshop provided attendees the opportunity to assist in developing a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources while maintaining safety and mobility. The workshop also provided an opportunity for interested parties to ask questions to increase their understanding of potential design and construction constraints.

Stakeholders and the public were given the opportunity to collaborate in group settings with Study Team members regarding their preferences and ideas that reflect the themes, design, aesthetic features and community values they would like to see represented within the Study Area. Six active, topic-focused stations were formed to accommodate specific areas of interest. They included:

The effects of the project on downtown Constantine

Allowed participants to think about how the US-131 project is going to benefit Constantine and the positive impacts the project could have on Constantine and the surrounding area.

- Participants identified reduction in truck traffic, being able to view the buildings and public art displays easily as well as being able to stand outside and talk as major benefits of the project on Downtown Constantine.

The benefits of a controlled access bypass

This station allowed participants to examine both existing and future travel patterns.

- Benefits participants addressed included keeping the truck traffic out of Downtown Constantine, improving local traffic and keeping downtown Constantine quiet.
- Concerns listed by participants included economic concerns and improving local roadway access by reducing the number of cul-de-sacs.

Overall theme

Participants were asked to identify colors, shapes and themes they felt best incorporated community values, personalities and interests of community members that could be visibly consistent throughout Constantine.

- Some of the top themes identified included promotion of local art and festivals in Constantine, promotion of the boat races, corn, and Constantine as a unique historical area as well as others.

Pedestrian/non-motorized access

This station focused on how important walk ability is to the community and where as well as how it could be improved.

- Participants identified walk ability as very important to the community and would like to see more bike paths as well as the expansion of the existing boardwalk.

Bridges

Participants conceptually identified visual features of bridges they felt would reflect the Study Area's personality and values.

- Participants suggested bridge designs should visually represent things associated with Constantine such as ears of corn and falcons as well as have a historical element. It was suggested that these themes be placed on both the downtown bridge and the bypass bridge.
- Specific features participants identified that they would like to see on the bridge included a wider pedestrian and bike friendly path.

View of/from the road

This station allowed participants to construct a perspective environment for someone traveling along the corridor as well as someone looking at the road.

- Participants described desirable views as well landscaped with modern and distinct bridges with vegetation natural to Michigan.

The Community Involvement Workshop produced ideas, concepts, and themes from residents and stakeholders concerning how to improve the project within the Study Area. The intent was to engage the community to be a catalyst in bringing these concepts and

ideas to life by working with local government planning groups. Various theme ideas were generated that could allow Constantine to develop, enhance, and maintain a distinct and unique character that reflects historical and cultural aspects of the community as well as provide enhancements to downtown Constantine and the riverfront area that would draw people to these areas. MDOT agreed to assist the community in identifying federal, state, and private grant and funding opportunities that would enable them to realize their future community vision. Participants vocalized concerns over the number of local streets being cul-de-saced. As a result, MDOT modified PA-5 to reduce the number of cul-de-sacs from seven to two. MDOT also agreed to retain US-131 through Constantine as a Business Route after the public expressed concern about the cost of maintaining the roadway as a local road.

This Community Involvement Workshop provided varying aspects of how this project can benefit the community of Constantine and the Study Area. Future steps will include members of the community collaborating with community groups to find ways of implementing these ideas into the final project. MDOT will continue to coordinate with the community to implement their ideas during the design phase of the US-131 Improvement Study.

6.4.5 Real Estate Meeting

An informational meeting regarding the US-131 Improvement Study relocations was held on Wednesday May 30, 2007 at the Village of Constantine Village Hall. The purpose of this meeting was to provide information to property owners who will be directly affected by the proposed Preferred Alternative. Forty one concerned property owners attended the Real Estate Meeting where they had the opportunity to speak with MDOT real estate staff. MDOT addressed questions and concerns regarding the real estate process, the steps involved in acquisition, local road access, and the rights of the property owners.

6.4.6 Other Public Information Resources Provided

Several other means were used to provide the public with information on the project and to receive public comments. Additionally, three newsletters providing details of the project and information about upcoming meetings were distributed to a mailing list consisting of all previously identified interested parties or meeting attendees who had signed up to be on the mailing list. The mailing list consisted of approximately 500 names in March 2005. A toll-free project phone number was set up and promoted through local media and press releases, at public meetings, and through project newsletters.

A project web site available through www.michigan.gov/mdot.studies also was created and updated throughout the course of the project. The web site contained information on the project, the alternatives developed, the process, and upcoming meetings. The web site provides a link for e-mail feedback from the public. The project web site and phone number will remain active throughout the development of a Preferred Alternative and the Record of Decision process for this project.

The Study Team conducted a business operator/patron survey in which 136 businesses along or near existing US-131 were visited and presented maps showing the alternatives. More than 400 patrons were surveyed, the majority of which were local residents. This allowed additional opportunity to provide information and receive comments from members of the public who would be potentially affected by the project.

6.4.7 Public Hearing

In accordance with federal and state public involvement and public hearing procedures, a public hearing was held on Wednesday, March 29, 2005, at the Three Rivers Community Center, Three Rivers, Michigan. This meeting was open to the public and held from 3:30 pm to 7:30 pm. Approximately 120 people attended the public hearing. The Study Team received 12 spoken comments and 77 written comments as well as three phoned in comments regarding the proposed project.

The public hearing provided an open forum in which members of the public could visit different stations at their leisure to discuss different aspects of the project. Audio visual presentations, maps of all alternatives and exhibits were provided. Exhibits described both the impacts and costs associated with each alternative. Members of the public had the opportunity to discuss issues on a one-on-one basis with members of the Study Team. MDOT representatives experienced in environmental planning, engineering and design, Section 106 procedures, and real estate acquisition were available to answer questions. Attendees were encouraged to fill out comment forms.

A court reporter and comment boxes were present at the public hearing to record/collect verbal and written comments made by attendees. Comments received at the hearing, or within 30 days of the hearing were included in a public hearing transcript.

This meeting was officially advertised through legal notices placed in local newspapers. Approximately 500 project brochures promoting the public hearing date and topic were mailed to past meeting attendees and other interested parties.

7.0 COMMENTS AND RESPONSES

7.1 Summary of all Comments

The comment period for the Draft Environmental Impact Statement (DEIS) was open from February 11, 2005 to May 13, 2005. Various methods were available for those who wished to submit comments throughout the comment period. These methods included U.S. Mail, e-mail, telephone, or providing comments to a court reporter during the March 29, 2005 public hearing.

The Study Team received 77 written comments, three verbal comments through phone conversations and 12 oral comments provided to the court reporter at the public hearing. Following the public hearing the Study Team sent out one package containing exhibits of the alternatives, project information and a comment sheet to members of the public requesting further information. There were 53 comments received that expressed a preference for either a Build or No-Build Alternative. Of these 53 comments, approximately 87% expressed a preference towards a Build Alternative. Of the comments supporting a Build Alternative, approximately 76% were in favor of a limited access freeway alternative, while the remaining comments support a two-lane non-freeway (PA-5 or PA-5 MOD). There was not a distinct preference for any of the limited access freeway alternatives.

Four comments indicated concerns regarding the potential impact to agricultural farmlands in the area. These were comments that were not in favor of a limited access freeway and supported a two lane non-freeway (PA-5 or PA-5 MOD) due to the minimal impacts on agricultural acreage.

Seven comments indicated people are not confident that a two lane non-freeway would solve the traffic problems in the area and MDOT would just be delaying the inevitable if one of these alternatives were selected. The commenter's indicated that eventually a limited access freeway would be needed and they would like to see it selected the first time.

One of the most common and repeated concerns was the time and money it has taken to get the project to where it is today. Seven public comments indicated that the people would just like to have something built to feel like their taxes and time have gone to support something.

The Environmental Protection Agency stated their concern over the potential impacts to high quality wetlands associated with two freeway alternatives (PA-3 and PA-4). Because of these high quality wetland areas, EPA stated that these alternatives would not be allowed under the Clean Water Act because they are not the least environmentally damaging alternatives.

7.2 Common Comments

The foldout map located in **Appendix C** illustrates the Study Area and the Practical Alternatives Evaluated.

Common comments with PA-1:

- Saves agricultural land
- Alleviates traffic congestion and provides quick access to the Village of Constantine
- Preference of freeway versus a two-lane bypass
- Requires the use of access roads along the St. Joseph River

Common comments with PA-2:

- Appears to be the best long-term alternative for the economic welfare of the entire southwest Michigan area

Common comments with PA-3:

- Do not support the cloverleaf interchange concept
- Interferes with fewer homes than the other alternatives
- Has no community facility relocations
- Provides the greatest public safety in the area

Common comments with PA-4:

- Good location being west of Constantine
- This alternative has the best design
- Not supportive of the use of a cloverleaf interchange

Common comments with PA-5:

- PA-5 saves prime agricultural land
- Opposed to this alternative because it is considered a waste of money that will not solve traffic problems
- This alternative has a reasonable cost and affects the least number of residents

Common comments with PA-5 Modified:

- This alternative is the least expensive and has the fewest environmental and citizen impacts
- This alternative should be considered, as it would have positive impact on the Village of Constantine
- This alternative is a waste of money and will not solve traffic problems

7.3 General Public Comments

Comment: There is a sewer line running along King Road down along Gleason Road.

Response: Comment acknowledged.

Comment: The city limits are incorrect. The names of the rivers need to be checked.

Response: Comment acknowledged.

Comment: Finish the study so the property owners can plan for their future as well as the cities and villages.

Response: When the environmental study is completed and a Record of Decision has been issued by the Federal Highway Administration, MDOT can then proceed with design and purchasing of Right-of-Way. The environmental study is anticipated to be complete in mid 2008.

Comment: 1. Create a toll authority. 2. Bond proposal for entire project. 3. Move project along faster. Free up less state or federal money-only the amount necessary to get the ball rolling would be necessary payment from start to finish.

Response: Comment acknowledged.

Comment: Common sense would indicate that the communities should be bypassed and the process should proceed as quickly as possible. Safety is a major concern as well as the economic benefit. A major state road with limited access is critical for our western side of the state. Thanks for your consideration.

Response: Safety was a major concern regarding the US-131 Improvement Study. PA-5 will provide a bypass of Constantine that minimizes the number of driveways that access US-131.

Comment: Informative group as usual. Always helpful. Now finish the study and let it lie. I am disappointed in the amount of money spent overall. And the whole study is only good for three to four years. Please don't continue to waste money.

Response: Comment acknowledged.

Comment: I like the looks of PA-1, PA-3 and PA-4. PA-2 would take out my business, which I would like to maintain.

Response: PA-5 has been identified as the Preferred Alternative.

Comment: After attending more than 30 MDOT meetings since 1997, I have this to say, MDOT has a responsibility to all Michigan residents and not just a select few. The placement of this project should be in a place other than the 131 corridor. There is nothing of significance at I-80/90 and 131. 131 from Portage should take a route through Cass County to hook up with the new four lane highway #217. #217 hooks up with the St. Joe Parkway that runs east/west just south of South Bend, Elkhart, Mishawaka, Goshen and a few more towns. It feeds (into or from) I-89/90 to I-65 to I-94, RT 12, RT 20, RT 2 on the west end; vehicles from Chicago, Illinois, Wisconsin, Iowa, Minnesota and other western states. So please, look at a map of Michigan and draw the routes out.

Response: Existing US-131 has operational deficiencies that need to be addressed. PA-5 has been identified as the Preferred Alternative that best meets the purpose and need for the project while minimizing social, economic and environmental impacts.

Comment: A building in downtown Constantine lost it's sophit to vibration this year.

Response: PA-5 will provide a bypass around the Village of Constantine which will likely reduce the number of large trucks traveling through the downtown area.

Comment: Meet with the city to update things on the existing roadway.

Response: MDOT will continue to have meetings with the city throughout the design and construction of the Preferred Alternative.

Comment: Suggestion at northern terminus: Continue north until 216 area to avoid a “snakelike” road segment.

Response: The northern terminus of the bypass will remain south of Garber Road in order to minimize environmental impacts and potential relocations.

Comment: We feel that the best alternative would be a four lane limited access freeway that connects to the four lane freeway south of Kalamazoo. It would be best if the freeway ran all the way down to Indiana from Kalamazoo. We don’t like that we have to drive through Schoolcraft. We are very concerned about how long it has taken to get to this point, in the study.

Response: PA-5 has been selected as the Preferred Alternative to best meet current and future projected study conditions. All freeway alternatives have been dismissed; a two-lane roadway with a bypass of Constantine is proposed to be built.

Comment: We are taking this opportunity to express our need, as residents of St. Joseph County, for MDOT to upgrade US-131 to a four-lane limited access highway. We would like to express our concern regarding the significant number of traffic fatalities that occur on the stretch of US-131 just north of Schoolcraft to the state line annually. Additionally, there are compelling business reasons for upgrading US-131 that would clearly benefit not only the residents of this county, but the entire state. If we are to assist the Governor, in her efforts to attract business to Michigan, it is imperative that we have a highway that will aid business in their endeavors in this part of the State.

Response: MDOT has invested over \$20 million for improvements along US-131 between 1994 and 2004. These investments have included improvements to enhance safety at key intersections. PA-5 has been selected by MDOT as the Preferred Alternative. This alternative will provide a bypass of Constantine and provide additional improvements along existing US-131 to bring the existing facility up to current MDOT standards.

Comment: Here we go again. Self serving divisions of government pushing their own programs. According to news reports Michigan has won the #2 spot in the nation for unemployment. The State is financially in terrible shape but we want to waste time talking about spending millions of dollars (where is the money coming from) on an 8 mile stretch of highway. This is not going to fix anything as far as the Michigan economy! Why not shift these imaginary funds to maintaining existing highways and shift anything left to reeducating and training the unemployed? That lets you transportation people spend money and become heroes at the same time! Also, if you have ever been to Constantine you would know that widening 131 and using the existing bridge would be far less expensive. As far as ruining businesses that depend on the highway there

aren't any! But if you do this you may upset some other politicians! This whole deal of widening US-131 is an exercise in wasting time.

Response: \$31 million has been dedicated to this project in order to improve the identified operational deficiencies located within the Study Area.

Comment: Why wouldn't it be better to the cost and already access ways to come straight across from the Northern Constantine Border down Shaffer Rd – Nerrman Road (just a little on east side of it) across the river there, then hook into the Blue School Road? The properties along that part of the river (north side) are a lot less expensive then where you've got most of the roadway going now. The river looks to be about the same width in that area. Also, if we aren't taken out would you consider extending the street past the Falcon Cove subdivision south and connecting with the east end of the Timmon Rd.? We and our neighbor next to us have talked of giving enough land to make a cul-de-sac there if needed. My husband and I are very anxious to find out if this road is going to go thru our home – it's only ten years old!

Response: PA-5 has been selected as the Preferred Alternative. Relocations were not based on property value but on the alternative selected for US-131 improvements.

Comment: Could be looking at US-131 from North of Schoolcraft to the state line. It would be nice that Indiana extend 131 to 20 – 31 west of C.R. 30. We could stop US-131 at US-12 then make US-12 a five lane from Mottville to old US-131 in White Pigeon. Make S line on New US-131 from US-12 to C.R. 2 in Indiana. Make C.R. 2 a five lane to old US-131. Old US 131 could be called East 131 Business Route. One over pass on same road that McDonald's is located on in Schoolcraft. One on-off ramp – 216 (marcell vs. Highway). One on-off ramp, five lane overpass at M-60. Four other overpasses on the new US-131 from Schoolcraft and Three Rivers.

Response: Comment Acknowledged. PA-5 has been identified as the Preferred Alternative.

No Build Comments

Comment: The recent US-131 public hearing in St. Joseph County was poorly attended by ordinary citizens like myself. I did not attend because I am weary of going to the hearings and finding that no one is interested in listening to my input. Instead representatives of MDOT come into our community with a definite agenda to build. In the past I have voiced my concern that bypassing Constantine will transform it into a ghost town. I was told by an MDOT employee, who admittedly never visited Constantine that people would flock to Constantine once there is no traffic congestion. What rubbish!

As someone who has lived in urban areas and has seen real traffic congestion, I find it quite strange that the State of Michigan would consider spending millions of dollars to bypass Constantine when traffic is rarely congested. Indeed, the two stop lights in Constantine switch to flashing yellow in the evening. When I asked one of your representatives why this bypass is necessary I was told it would prevent all the traffic accidents in Constantine. What accidents?

Politicians in Constantine have voted for a bypass but they do not represent me. Two current and one former member of the Constantine Village Council own residential

property on US-131 and could expect an increase in their property values if a bypass were built. With this conflict of interest they should ethically refrain from voting on US-131 resolutions. Yet they continue to use their positions to promote the bypass.

Is it possible that MDOT would actually consider a no change alternative and stop wasting the taxpayer's money? Given the vigor with which the MDOT representative argued with anyone who makes this suggestion, I think not. Nevertheless, I'm writing to tell you that I want a no change alternative.

Response: As part of the NEPA process, all practical alternatives including the No-Build were given serious consideration prior to the selection of the Preferred Alternative. Practical Alternative 5 has been selected as the Preferred Alternative which will provide a bypass of the Village of Constantine. Research demonstrates that local vehicular trips mixed with an average volume of through commercial trips restrict traffic flow. The daily truck volumes for the overall study corridor are forecasted to be approximately 13% of the 2040 average daily vehicles forecast for the year 2025. In the Village of Constantine truck volumes are forecasted to be approximately 15% of the total daily vehicles which is considerably higher than the statewide average of 9.5% for commercial truck traffic for rural two-lane truck lines. Additionally, for five of the eight US-131 roadway segments crash rates exceed the statewide averages. These higher-than-average crash rates exist principally in and around the Village of Constantine and the City of Three Rivers.

Practical Alternative 1 Comments

Comment: PA-1 seems like a good way to go and will save a lot of farm land.

Response: PA-1 was eliminated because future traffic counts do not support building a new freeway. The Preferred Alternative is less environmentally intrusive than all freeway alternatives. PA-5 will directly impact 132 acres of agricultural land, which is less than 0.25% of the farmland in the county. Only PA-5 Modified had a lower agricultural impact when compared to all other alternatives. PA-5 does not require the displacement of any farmland operations and potential impacts on farm operations relate to the split of some farm parcels. PA-5 will require fewer parcel splits than the other Practical Alternatives and these impacts may be reduced through land sales, exchanges, or access agreements between property owners.

Comment: As per our conversation with your representative, we are relieved to know that it won't go through our farm. PA-1 would be our choice. We think that you are trying to do a better job than in previous meetings.

Response: MDOT appreciates the comment and tries to ensure the public involvement process is meaningful. PA-1 was eliminated because future traffic counts do not support building a new freeway. PA-1 also had notably more environmental impacts than the Preferred Alternative.

Comment: I prefer PA-1. Blue School Road is developed totally on the east and west sides from Miller Road to Riverside Drive. Stears Road is developed on the north side from Blue School Road east to the end of the race track. PA-4 runs through new homes ranging from \$220,000 to \$500,000 each. PA-4 also runs through mature woods (cherry, oak, hickory and walnut) which we harvest each five to ten years. PA-3 cuts through two harness horse training tracks, horse barns and hay fields for horse farms.

PA-1 should be selected because it follows 131 past the DeKalb Plant and cuts across open fields to the river without destroying our wonderful neighborhood and our horse training operation. Note: Stears Road could be a cul-de-sac east from Blue School to PA-3.

Response: PA-1 was eliminated because future traffic projections do not support building a new freeway. PA-4 was eliminated as it requires access to the Village of Constantine through a residential street on Youngs Prairie Road. In addition, PA-4 had significant impacts on relocations as well as agriculture. PA-3 was eliminated as it affects the largest amount of agricultural land. The Preferred Alternative, PA-5 utilizes the existing US-131 more than any other freeway alternative except for PA-2. PA-5 is also less environmentally intrusive than all other freeway alternatives.

Comment: The access road connecting Drummond Road to Withers Road could be eliminated by bridging PA-1 over Drummond instead of having the bridges run east/west over the highway and building the new access road that ties into Withers Road. By using existing 131 it wouldn't use any farmland, as where they currently show an access road. First choice-No Build.

Response: PA-1 was eliminated as future traffic projections do not warrant building a freeway within the Study Area. The footprint of the Preferred Alternative PA-5 remains the same as the existing US-131 alignment between Withers Road and Drummond Road, therefore a new access road will not be built.

Comment: Since PA-4 comes close to my home, I would prefer PA-1. This would help alleviate the traffic congestion by also allowing quick access to the village.

Response: PA-1 was eliminated as future traffic projections do not warrant a freeway within the Study Area. The Preferred Alternative, PA-5 will reduce truck traffic in downtown Constantine by providing a bypass of the Village of Constantine.

Practical Alternative 2 Comments

Comment: We need a freeway, not a two-lane bypass. My preferences are PA-2, PA-1, PA-3, PA-4, in that order.

Response: Future traffic projections do not warrant a freeway alternative. PA-5 has been identified as the Preferred Alternative.

Comment: PA-2 would appear to be the best long term alternative for the economic welfare of the entire southwest Michigan area. PA-2/PA-3/PA-4 would be the three best choices.

Response: The US-131 Improvement Study was conducted to identify potential alternatives that support the safe and efficient movement of goods and people, that costs effectively support the economic growth of the region and the state, by improving traffic operations within the study corridor. It has been determined that the best long-term alternative at this time is Practical Alternative 5. The benefit gained with a two-lane non-freeway that provides a bypass of Constantine, outweighs the benefit of providing a new roadway. The benefit is defined to be the travel costs saved by the current and

projected users when traveling on the new roadway, when compared to their travel costs using the existing roadway now and in the future.

Practical Alternative 3 Comments

Comment: I prefer PA-3. Reason being is it seems most logical to me. I think access is needed at all towns that are along this road.

Response: Practical Alternative 5 has been identified as the Preferred Alternative.

Comment: Use PA-3 except at the M-60 interchange, use PA-4 here.

Response: PA-3 and PA-4 have been eliminated as Practical Alternatives as a freeway alternative is not warranted in the Study Area due to current and future projected traffic counts. PA-5 has been selected as the Preferred Alternative. The US-131/M-60 interchange will become a T-intersection.

Comment: I happen to be chairman of the Fabius Township Planning Commission, so I have above average familiarity and concerns about a US-131 bypass. However, these views are only my own. I am in no way representing the Commission. I favor PA-3 for the most part except that PA-4 should be used between Millard Road and the intersection of 131 and King Road. PA-3 is only \$20 million more than PA-1 and substantially less than PA-2 or PA-4. No-Build and PA-5 do not provide the bypass that is needed. PA-3 has no community facility relocations and fewer residential and commercial relocations than PA-2 or PA-4. It is important to have an alignment location soon, because Wal-Mart has already affected a rezoning of 35 acres north of Millard Road and west of US-131, a corner of which is impacted by PA-1, 3 and 4. Menards is also looking for property in the vicinity and initially was interested in about 50 acres just south of Millard Road and west of US-131.

Response: MDOT has selected PA-5 as the Preferred Alternative.

Comment: Move PA-3 at Lovers Lane. Move the realignment area to 216 area for safety.

Response: Comment acknowledged.

Comment: PA-3 is the best for public safety and travel through the area. The only drawback is the last part your realignment to existing US-131 roadway. The alignment would be better for travel and safety to go over Null Road toward Heimbach Road. Realignment to existing US-131 in the Heimbach Road area is a safe way to end the project.

Response: Practical Alternative 5 has been selected by MDOT as the Preferred Alternative.

Practical Alternative 4 Comments

Comment: PA-4 is the one I would vote for. Whatever is used I would hope that the extension down onto Withers Road wouldn't be built causing urban sprawl.

Response: PA-4 was eliminated as future traffic projections do not warrant building a freeway. PA-5 has been selected as the Preferred Alternative. As a result, an extension onto Withers Road would not be built.

Comment: If this road is to improve the flow of traffic going north to south, PA-5 and PA-5 MOD is absolutely a waste of money as far as improving transportation. PA-4 would be our choice. Leave the present 131 as a service road for our safety, fire and medical. Don't waste your money. The semi-traffic keeps getting worse every year. Let's help industry move their products.

Response: PA-4 does not meet the purpose and need for the study, because the traffic projections do not warrant a freeway. PA-4 also had significant impacts to relocations and agricultural parcels. PA-5 has been selected as the Preferred Alternative. PA-5 will provide a bypass of Constantine and will allow through traffic a more efficient travel route.

Comment: PA-4 is the best because it is a freeway and is far west of Constantine. If you went far enough for a tangent southwest connection to Route 20 for a new access road to Indiana, approximately 9 or 10 miles of additional roadway.

Response: Traffic data indicates that building a freeway in the Study Area would not be cost effective. Practical Alternative 5 will provide a bypass of Constantine and accommodate traffic up to 2025.

Comment: Build a new rail line down the middle of PA-4.

Response: Transit, including rail, was evaluated and did not meet the project purpose and need.

Comment: I attended your meeting in Three Rivers and feel that it was well exhibited and those involved with the project did a good effort in explaining the elements of the project. My preference for the routing of US-131 is PA-4. I feel that the least number of bridges, interchanges and the taking of businesses is the best design. One concern of mine is that enough ROW will be reserved to allow perhaps additional lanes in the future as this area develops. I would like to see this project move ahead quicker than presently planned for. I realize that the funding for this project is in the future, but the need is present.

Response: MDOT has selected PA-5 as the Preferred Alternative. PA-5 will provide a 200-foot right-of-way at the bypass of Constantine that will provide room for future expansion as traffic volumes increase.

Practical Alternative 5 Comments

Comment: I'm in favor of a four lane road no matter where it goes. I think the existing 131 is best if it goes around 131 on the blue line (PA-5). It interferes with less housing and farmland. I also think the black line (PA-3) is a good alternative. It interferes less with homes. I'm also concerned about the length of time it has taken for MDOT to make up their minds on where it should go. It's eating a lot of money that could have been used on putting the new road in.

Response: MDOT appreciates these comments and realizes the process may seem lengthy. However the NEPA study process requires MDOT to consider engineering and environmental constraints when considering potential improvements. Moreover, these public comments help to ensure MDOT considered public opinion when moving forward with a Preferred Alternative. PA-3 was eliminated as an alternative as it is not warranted within the Study Area. PA-3 requires seven local roads to be terminated with a cul-de-sac and it is significantly more expensive than PA-1, PA-5 and PA-5 Modified. MDOT has selected PA-5 as the Preferred Alternative as it best meets the purpose and need of the project. PA-5 utilizes more of the existing alignment than any freeway alternative except PA-2 and is less environmentally intrusive than all freeway alternatives. This alternative will reduce commercial traffic in downtown Constantine as it provides a bypass opportunity for through traffic.

Comment: 1. I would like bike trails. 2. I favor PA-5 along the current route to save corn fields. This is a prime area for seed corn which yields 100 bushels per acre at \$100 per bushel. My occupation is field inspector for the corn season.

Response: Non-motorized issues were evaluated as part of the study. PA-5 has been identified as the Preferred Alternative.

Comment: Three separate comments indicated that the preference for PA-5.

Response: PA-5 has been selected by MDOT as the Preferred Alternative.

Comment: At this point, PA-5 and PA-5 MOD should be considered.

Response: All Practical Alternatives were considered in the decision-making process. PA-5 has been selected as the Preferred Alternative.

Comment: I have no preference on the routes except to say PA-5 and PA-5 MOD will not solve the traffic problems. A four lane road is the only way to go. Do not waste the taxpayer's money building a two lane that only solves the problem of getting traffic away from downtown Constantine. In a few years requests and studies would start to upgrade the new two lane to a four lane that was needed in the first place. If you're going to do it (whenever due to funding) do it right the first time!

Response: As part of the US-131 Improvement Study, it was demonstrated that a four lane roadway is not warranted at this time. Practical Alternative 5 was selected as the Preferred Alternative because it best met the purpose and need of the project. PA-5 will provide the necessary infrastructure for current and future traffic projections and will improve traffic conditions in Constantine as well as the surrounding communities.

Comment: PA-5 or PA-5 MOD seem to be the best choices. They have a reasonable cost, affect the least number of residents and solve the traffic congestion issues. PA-5 has the advantage of a lower cost, possibly moving the project ahead sooner than the higher cost alternatives. This would relieve the traffic hazards and congestion sooner.

Response: Comment acknowledged. PA-5 has been selected as the Preferred Alternative.

Comment: Despite present funding obstacles, we should be planning for the long term future and a limited access freeway. PA-5 and PA-5 MOD continue the present open roadway that gets more dangerous and less efficient each year as development continues. We should be able to continue development of a limited access US-131 on the south end as has been done on the north end with lower traffic counts and dangers. The brochure was excellent.

Response: PA-5 was selected as the Preferred Alternative. PA-5 will accommodate current traffic as well as future traffic growth. This will allow traffic to operate safely, efficiently and at a desirable level of service during the majority of the day.

Practical Alternative 5-Modified Comments

Comment: How much more are you going to spend on meeting/hearings instead of putting it in the road fund? Three Rivers is OK. I can live with 131 here, but Constantine really needs to be improved. The PA-5 MOD Alternative would sure help Constantine. If there is any chance to get started, do this one (PA-5 MOD).

Response: In order to complete the NEPA process a final public information meeting for the US-131 Improvement Study will take place. This meeting will allow the public to review the Preferred Alternative and provide MDOT with comments. PA-5 Modified was eliminated as it requires access to the Village of Constantine from the bypass via a new roadway and of all the Build Alternatives, it requires the most travel time to reach motorist destinations because of delays due to traffic flow interruptions. PA-5 Modified has the lowest posted speeds and the most traffic interruptions of all the Build Alternatives.

Comment: I want to see an improved roadway to encourage regional traffic in our part of the state. I prefer PA-5 MOD. It is the least expensive and has the fewest environmental and citizen impacts.

Response: Comment acknowledged. PA-5 has been selected as the Preferred Alternative.

Comment: I am concerned about the amount of money that could be spent on a road that is not necessary. The traffic counts do not warrant a four lane limited access road. I would recommend a No-Build or PA-5 MOD. That would get the traffic out of Constantine and that is what started this whole issue. Also, what about preserving farmland? This area has a lot of prime farmland, specialty crops and home to two seed corn companies. So shouldn't we try to keep as much farmland as possible? Why waste our land and money when a cheaper and smaller version can be built. In the original study goals they wanted to use the existing right away and preserve farmland.

Response: All freeway alternatives have been dismissed. PA-5 has been selected by MDOT as the Preferred Alternative. PA-5 is a two-lane non-freeway with a bypass of Constantine which will not require the displacement of any farmland operations although it may require agricultural parcel splits. Compensatory mitigation for the parcel splits will be provided to farmers impacted in this fashion. These impacts may be reduced through land sales, exchanges, or access agreements between property owners.

Traffic Comments

Comment: We are glad they are finally making progress and we hope a decision will be made soon. Please look to the future and consider the future traffic that will be going through and around the Constantine bypass.

Response: Future needs of the Study Area were considered during the decision making process. PA-5 has been selected as the Preferred Alternative. This alternative will build a bypass around Constantine. PA-5 will improve traffic as the bypass will keep commercial traffic out of downtown Constantine and the bypass will have a 200 foot right-of-way for future expansion if necessary to a four-lane freeway.

Relocation Comments

Comment: Concern #1) Approximately what year would the project be started? Concern #2) When would homeowners be notified and how much time would people have to make new plans? Concern #3) We would prefer that they do not consider PA-3 or PA-4. Concern #4) If PA-3 or PA-4 would be chosen, we would not want a cloverleaf interchange.

Response: This project is anticipated to begin construction in 2012. Homeowners would be notified in a timely manner in accordance with FHWA and MDOT policies and will provide ample time for displaced residents to make plans. PA-5 has been identified as the Preferred Alternative.

Comment: We live in the area of US-131 and Drummond Road where we would be directly affected by your plans. We do not want wildlife, wetlands, woods, wildflowers in our peaceful neighborhood disrupted. This is the home we built to live out the rest of our lives in. Please consider how devastating this would be to all of the families who feel as we do. Our futures depend on your choices, not our own, when it comes to the destruction of our beautiful area. This is not good progress. The only option we could feel at peace with would be No Build.

Response: Unfortunately, the No-Build Alternative does not address the purpose and need for the project. With the selection of the No-Build Alternative congestion problems would continue to occur and worsen within the Study Area. PA-5 has been selected as the Preferred Alternative. At Drummond Road PA-5 runs follows the existing US-131 alignment. The existing at-grade intersection will be maintained at Drummond Road. A northbound truck climbing lane is proposed in this area which will require new ROW for localized widening. No relocations will be needed in this area of the project.

Comment: We live off of Drummond Road; a quiet residential street with woodlands, wildlife, wetlands and soils so rich it has all sorts of wildflowers growing all season as well as morel mushrooms. This plan to build through Drummond Road will absolutely destroy the integrity of our neighborhood and the quiet woods that are so hard to find in most of the state. We hope you will consider the citizens of this state and our wishes. We want the No-Build Alternative.

Response: PA-5 has been selected as the Preferred Alternative. PA-5 will follow the existing US-131 alignment at Drummond Road. The at-grade intersection at Drummond Road will be maintained.

Comment: 1. I would like 131 to stay close to the existing highway, but make it four lanes. 2. I would not like to have my property and family property made a highway.

Response: Practical Alternative 5 has been selected by MDOT as the Preferred Alternative. PA-5 utilizes more of the existing US-131 alignment than any other freeway alternative except for PA-2. Relocations were studied as part of the EIS process. PA-5 requires substantially less relocations than the freeway alternatives. Practical Alternative 5 will relocate 12 residential homes. MDOT will ensure that all relocation assistance will be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies of 1970, as amended.

Access Comments

Comment: Will an access road be built on the east side of the route plan between North River Road and Tinin Road and be maintained? There was none shown on the existing plan. This would be east of Newman Road obviously.

Response: PA-5 has been selected as the Preferred Alternative. This alternative is a two lane non-freeway and utilizes the existing US-131 alignment except for the bypass of the Village of Constantine.

Comment: Need to look at access to dirt road for house access along St. Joe River with PA-1 and PA-5.

Response: MDOT will ensure that all homes have access to local roadways.

Freeway Comments:

Comment: The Village of Constantine supports the continued goal of constructing a limited access highway from the City of Portage to the Indiana state boundary. Please find attached a copy of the resolution as adopted by the Village Council.

With the Village having a strong commitment to being a participant in the economic development of Southwest Michigan, the existing US-131 route is requested to be designated a business route, be it either a spur or loop. A business route will: 1) Guarantee proper road maintenance to meet the impact of 'over the road' truck traffic whose destination is Constantine. The manufacturing segment of our community, whose economic influences are felt throughout the entire region, has voiced the necessity for continued reliable access for their raw material and product delivery transportation needs. 2) Help promote the historically designated downtown to destination and local traffic by having an identified route number. 3) Assist in guaranteeing proper financial support and infrastructure care for the bridge over the St. Joseph River, by maintaining classification within the federal and state road programs. Even after a freeway is built, the structure will remain a vital link in the region's surface transportation system.

The Village encourages MDOT to select the freeway alternative that best provides access to a business route through Constantine.

Response: Practical Alternative 5 has been selected by MDOT as the Preferred Alternative. This alternative is expected to reduce congestion in Constantine. Based on

input received from the May 27, 2007 Community Involvement Workshop, existing US-131 route will be designated as a Business Route and will be maintained by MDOT. PA-5 like all Build Alternatives is forecast to have both direct and indirect economic benefits for St. Joseph County and the State of Michigan.

7.4 Public Comment E-mails

General Comments

Comment: It is hard to believe that our State is really serious about doing anything with the present US-131 to accommodate the growth that Schoolcraft, Three Rivers and Constantine have experienced. When we travel north on US-131, we see areas north of Cadillac where nobody lives, where a beautiful highway, bypassing the towns has been built. At the same time, we have daily traffic accidents because of the congestion and challenges of 2500 or more vehicles a day and the State wants us to believe that they are doing something by talking about a US-131 bypass. Folks that have lived here say that this is the status quo for a state response to the US-131 problems. Will anything really happen different in the next 20 years, Mr. Parsons???

Even our local officials do not believe the Michigan Department of Transportation, Lansing or Governor Granholm care enough to build a much needed highway in our area. Read our local paper if you don't think this statement is accurate.

Please show us something that can restore our confidence in Michigan government!

Response: The US-131 Improvement Study was conducted to identify alternatives that support the safe and efficient movement of goods and people and that cost effectively support the economic growth of the region and the state by improving traffic operations within the study corridor. PA-5 has been selected as the Preferred Alternative as it effectively and efficiently meets the current and future needs of the Study Area.

Comment: After attending more than 35 meetings on the US-131 bypass in the last 5-6 years I have formed some views on MDOT's plans for this project...

The 1st being; MDOT has the responsibility with this project to be looked at as serving the greatest amount of people (all MI people plus) instead of a select few. All of the plans so far, put the roadway bypassing Schoolcraft, Three Rivers, Constantine, White Pigeon and end up at I-80/90 exit #107. The only towns that are south of #107 are 4 Indiana towns that are approx. 1 block long. In essence, there is not much there to go to or come from.

The 2nd thing is; I-69 is 32 miles from exit #107, meaning that anyone within 10-15 miles west of I-69 sure would jump on I-69 instead of driving through 131 to go north, which includes Fort Wayne, Indiana.

The 3rd thing is; if the present 131 divided hi-way that ends north of Schoolcraft was extended on a S/W direction to RT.12, just west of Union, it could tie into Rt.217 (a kinda new 4 Ln.Rd.) that runs into the St. Joe Parkway (a divided 4 lane hi-way) that runs south of Elkhart, Mishawaka and South Bend IN., plus lots of other good size towns west of there, which include all the Illinois traffic that wants to go Michigan.... The advantage

to this scenario are the two bridges that are not needed over the St. Joseph River @ Constantine and the White Pigeon River just south of Rt.12. (MDOT claims the cost to be approx. \$20,000,000 each) plus there's an exit at Elkhart at I-80/90 for anyone coming from the west including 5,000,000 people from the Chicago area and all states west of there.

The 4th thing is; with the major roadway located 10 miles west of the present plans, the present 131 would stay in place and lose somewhere around 80% of it's traffic, which is 13,500 vehicles a day, bringing that amount down to 4000 vehicles ...or to put it another way, a 400% decrease, which is what these small towns want, plus almost all of the truck traffic would stay on the major roadway.

The 5th thing is; Intersections could be placed at M-60 and M-215 and one at the hook up with the present 4 lane divided roadway north of Schoolcraft. And the bridge for the railroad at Schoolcraft would be out in the country, away from Schoolcraft (possibly with an intersection also).

The 6th thing is; I know I have been told about the \$\$\$\$\$\$ already spent on these studies. Well, that's true, but to lay down a 28 mile hi-way in the wrong location would be the real tragedy... So, the studies \$\$\$\$\$\$ could be looked at as \$\$\$\$\$\$ NOT sent to Israel or anywhere else.

And there's more, but not for here.

P.S. It is a fact that everyone in Michigan is not guaranteed an expressway 5 minutes from their front door.

Response: Comment acknowledged.

Comment: As a resident of Constantine and a teacher and coach in the school system, I'm writing in hopes that this will help in some small way to get the bypass constructed in the near future.

The economy of the towns of Constantine and White Pigeon would benefit greatly with this new road. The future of our school systems would face a much brighter future with new industry locating in the area because of the easier access.

As I understand it from what I've read in the papers, this would benefit not only southwestern Michigan, but all of Michigan, considering the tourism industry that would benefit from it also.

Hopefully, people will make good decisions that will have lasting effects in this area for years to come.

Response: Modest population growth is forecasted for the communities within the study corridor. Modest economic growth is also expected over the next 20 years within the Study Area. PA-5 has been selected as a Preferred Alternative and these socio-economic expectations should continue under this alternative.

Comment: I have traveled this part of US-131 often and it seems to me that the cheapest way to make this into an expressway is to build a bypass for Schoolcraft and

then swing it to the existing roadway at UV Avenue. From here to the north side of Three Rivers, build access roads on one side of the road or the other and for one short stretch, on both sides and use the existing highway for the expressway.

At the American Electric Power Company, the access may have to be built between A.E.P. and the Norfolk Southern Tracks, with "S" curves to bring the access road back near the expressway. I calculate that about eight miles of two lane road will have to be built, but that would cost less than eight miles of Four Lane Expressway.

Response: Comment Acknowledged.

Freeway Comments

Comment: I reside in Portage, MI and own and operate a small business here in Portage. I want to express my strong support for conversion of US-131 from Portage to the Indiana Toll Road, I-80, into a four lane, limited access highway.

I strongly believe that the restructuring of this road is vital to continued economic growth in the Kalamazoo/Portage area. Without good access, those who could bring substantial employment opportunities to this area will simply go elsewhere. I also believe that a limited access US-131 from I-80 northward all the way to Cadillac, MI will further enhance growth in the Grand Rapids/Holland areas.

Again I believe that US-131 MUST be brought into the 21 Century by making it a limited access, four lane highway from I-80 northward, around Constantine, Three Rivers and Schoolcraft to connect with the existing US-131 limited access section just south of Portage. It is VITAL that this be accomplished within the next twenty (20) years.

Response: All freeway alternatives have been dismissed. PA-5 has been selected by MDOT as the Preferred Alternative and will provide a two lane roadway on the existing US-131 alignment from the Indiana Toll Road north to Dickinson Road and from Garber Road north to M-60. PA-5 includes a new two-lane bypass of the Village of Constantine. Where PA-5 utilizes existing US-131 alignment minor improvements will be implemented to bring the existing alignment up to current MDOT standards.

Comment: I would like to express my feelings that the subject bypass should be a full fledged, limited access freeway for the entire distance from its connection with the existing 131 in Kalamazoo County to the Michigan/Indiana State Line. I do not feel that one of the options detailed in the April 28 Kalamazoo Gazette, of allowing parts of the highway south of Constantine to remain as 2 lane with access enhancements, is a good idea.

Certainly, leaving a part of the highway as 2 lanes, regardless of improving access, would be very short sighted. It would certainly create a bottleneck and would not create a good first impression for motorists visiting our state from the south.

I would also like to express my feelings that the bypass around the Village of Schoolcraft should be placed to the west of the Village. To my mind, the admitted tragedy of losing the farmland is more than offset by the engineering and aesthetic advantages of not requiring the additional railroad overpasses with their terribly intrusive upgrade and downgrade ramps (berms, etc.) that an eastern bypass would require.

Response: All freeway alternatives have been dismissed. PA-5 has been selected as the Preferred Alternative for US-131. PA-5 will remain mostly on the existing US-131 alignment, however, north of Dickinson Road PA-5 will consist of a 2-lane roadway section curving to the northwest in order to bypass the Village of Constantine. Where PA-5 utilizes the existing US-131 alignment minor improvements would be implemented to bring the existing alignment up to current MDOT standards. PA-5 will not require the displacement of any farmland operations. The potential impacts to farm operations relate to the split of some parcels.

Aesthetic and visual impacts were evaluated and the character of the rural landscape will not be substantially altered. PA-5 will generally keep the alignment within the existing roadway corridor, with the same views as travelers have today except for around the Village of Constantine.

Comment: I've lived in Kalamazoo for 50 years and have driven the route through Constantine all those years over hills and around the curves. It can be very slow and dangerous. I am so disgusted with how this much needed four-lane highway is stalled year after year after year.

I am just a resident but the lack of action has caused me many years of extra mileage and many extra wasted gallons of gasoline. I believe this 131 project is more important than making I-94 through Portage 6 lanes. MDOT should be seriously thinking about putting a 4 lane highway around the east and north side of Kalamazoo from I-94 on the east side of Kalamazoo connecting with the 131 bypass on Kalamazoo's north side. That would relieve a lot of the traffic on I-94 through Portage and it would also be a big help to businesses on the north and east side of Kalamazoo. If these two above projects were done, the I-94 6-lane planned project may not be necessary. Thank you for any help you can give to expedite the 131 project.

Response: Kalamazoo was not a part of the US-131 Improvement Study. Current and future traffic counts within the Study Area demonstrate that a freeway alternative is not warranted at this time, however, PA-5 a non-freeway alternative has been selected by MDOT as the Preferred Alternative. This alternative will meet both the current and future traffic demands and provide the Village of Constantine with a bypass that will eliminate commercial traffic from traveling through the Constantine.

Comment: I am e-mailing in response to the article in the Kalamazoo Gazette about the US-131 freeway. I live in Portage and work in White Pigeon, so I can tell you first hand that the present roadway is not efficient. It takes me about 50-45 minutes to travel 35 miles. We are always at the mercy of the slow traveler also, after Three Rivers there is nowhere to pass the slow traffic. I would love to see a freeway connect Portage to Indiana. I could cut my commute time by at least 10-15 minutes. With gas prices the way they are, fuel economy would be much better if there wasn't so much stopping and going. Thank you for your time. I hope we can make the dream of a freeway from Portage to Indiana reality.

Response: Throughout the course of the study, several alternatives were considered and evaluated to improve north-south travel along US-131. When current and future traffic counts within the Study Area demonstrated that a freeway alternative was not warranted, a smaller project area was evaluated for improvements. PA-5, a non-freeway alternative was selected by MDOT as the Preferred Alternative. This alternative will

meet current and future traffic demands and provide a safe efficient bypass of Constantine for through traffic.

Comment: It's urgent that US-131 between Portage, Michigan and the Indiana State Line be made a 4 lane highway as soon as possible. For at least 20 maybe 30 years people traveling to Indianapolis or further south who are coming from Grand Rapids and south of there to Portage are routed by AAA on I-94 to I-69, to Fort Wayne to Indianapolis. This is a terrible waste of time and gas. There would be a lot less traffic on I-94 between 131 and I-69 if 131 were four-lane all the way to the Indiana State Line.

Response: The US-131 Study Area did not include Portage, Michigan. Current and future traffic counts do not warrant a four-lane highway within the Study Area. PA-5 will provide a bypass of the Village of Constantine that will provide efficient travel time.

Comment: I am writing as a citizen and municipal employee to express support for a four lane, limited access roadway from the City of Portage to the State Border. The improvement of this roadway section will support economic activity in west Michigan and provide travelers better access to vacation and hunting in northern Lower Michigan.

Given that the State has lost thousands of manufacturing jobs it is essential that we provide for other industries to take their place such as the additional tourist dollars generated by having better access to west Michigan destination areas. A limited access highway will help support incoming and additional travel dollars now and in the future by providing better access and greater convenience for travelers and interstate commerce. Given that this is a connecting area to Indiana in an increasingly borderless economy makes this improvement area of the highway a top priority to help support new economic activity in Michigan and especially western Michigan.

If there are any additional comments that are needed for your consideration please do not hesitate to contact me. Thank you for your consideration of this much needed project.

Response: Present traffic counts and future traffic projections do not warrant a four-lane limited access roadway throughout the Study Area. MDOT selected PA-5 as the Preferred Alternative as it has minimal social, economic and environmental impacts. Additionally, PA-5 provides a bypass of Constantine that will allow for the safe movement of people and goods throughout and beyond the Study Area.

Comment: Please make US-131 a freeway to Indiana!

Response: Comment acknowledged, however MDOT has selected Practical Alternative 5 as the Preferred Alternative. This alternative provides a bypass of the Village of Constantine and where PA-5 utilizes the existing US-131 Alignment minor improvements will be implemented.

Comment: I am writing to tell you as a life long resident of Kalamazoo who frequently uses US-131 to drive to Indiana; we (the State of Michigan) need the freeway. I can tell you that a good friend of mine, died in a car accident in 2000 that would have been avoided had there been a freeway. He was hit head on when another driver crossed the median late at night. In addition, I can count more than 20 times that I have been stopped by trains in Schoolcraft and I can imagine truck drivers lose time and money

with their delays there as well. US-131 benefits all of southwestern Michigan including people who live further north (Kalamazoo, Grand Rapids, etc. and I'm sure many would be willing to speak up and pay extra to see a four-lane access highway down to the Indiana toll road.

I honestly believe the time is right with the cities (towns?) of Constantine, White Pigeon, Three Rivers and Schoolcraft finally agreeing to let the freeway be finished. The long term benefits of finishing the freeway are many: improved tourism, less traffic fatalities and more commerce.

The success of M-6 (Kent County) should provide inspiration for the completion of 131.

Response: MDOT has selected PA-5 as the Preferred Alternative as the projects benefits do not warrant the associated costs and impacts of a freeway alternative. PA-5 will provide a two lane non-freeway with a bypass of Constantine.

Comment: I would like to see US-131 an interstate highway from Portage, MI to the Indiana Toll Road. I would like to see US-131 finished to I-94. I would like to see Indiana get US-31 finished from South Bend to Indianapolis.

Response: Comment Acknowledged. PA-5 has been identified as the Preferred Alternative.

Comment: I would like to see a four-lane limited access continued from north of Schoolcraft. This would be paid for by the federal government partially and would aid in times of war for troop movements. Since we are paying roughly \$30,000 per head per year, to keep anti-social prisoners incarcerated, we should use any expertise or labor they might provide in order to hold our expenses down and do away any offerings in prison we provide them except education, religion and library privileges. We should not use any out of State resources for we have high unemployment and short on education funds. The above ideas to think about that may solve other problems we are now and will continue to face in the future that State residents must pay for.

Response: Comment acknowledged.

Environmental Comments

Comment: I have just recently accepted the CED position with MSUE and have a few thoughts regarding the US-131 bypass proposals. I am not as versed on this subject as I would like but would like to add a couple of comments regarding the impact this project would have to agriculture.

Recently I reviewed the US-131 Environmental Study and would like to take a minute to discuss the number of agricultural acres that would be taken out of production and the impact this would have on the agriculture community. In particular one of the proposals points out that less than ½ percent of the 164,000 tillable acres would be impacted. Irrigation pivots provide not only a large economical value to the agricultural community but also allow our ag producers alternatives in which to choose for agricultural production. The 650 acres taken out of production is only a small percentage of the impact especially when looking at the number of pivots that would no longer be used or even near their capacity. St. Joseph County is unique because of its soil types and the

ability of those soils to recharge our aquifer. Paving our soils would and could impact that opportunity. That immediate impact is not clear but clearly long term could play a major concern.

Finally let me say that agriculture continues to look for ways to be team players, but I caution MDOT in minimizing how this land is being impacted.

Response: PA-5 has been selected as the Preferred Alternative. There are 18 actively farmed parcels within the PA-5 footprint. PA-5 will create six parcel splits and impact 132 acres of active farmland and 25 acres of indirect farmland. PA-5 will not have a substantial regional impact on farmland, farm employment, or farm production. This alternative will not require the displacement of any farmland operations.

Comment: I reviewed the DEIS for US-131 and had a few comments. Can you pass them along to the State? 1. A portion of the project is within the MACOG planning area. The document should state this and verify that the project is in the MPO's conforming TP and TIP. 2. In terms of wetlands, are there any impacts on the Indiana side? Has the USFWS regional office in Indiana and IDEM been coordinated with?

Response: While the MACOG planning area does encompass some of the Study Area, the US-131 Improvement Study is not in the MPO's conforming Transportation Plan and Transportation Improvement Plan. Proposed MACOG improvements to US-131 are outside the US-131 Study Area from I-80/90 in Indiana to the Michigan State line. The US-131 Improvement Study ends at the Indiana/Michigan State Line. Federal and state (Indiana and Michigan) resource agencies were coordinated with as part of this project.

7.5 Court Reporter Comments

General Comments

Comment: On the Executive Summary, Page 2; Need for Proposed Action. In the first paragraph it refers to a five mile segment located south of M-60 and the study corridor is the only two lane section of US-131 south of Cadillac, Michigan. This is not true. That 5 miles is more like 15 miles. This should be corrected. In the next paragraph it refers to a 9 mile segment from the village limit of White Pigeon to the southern limits of Three Rivers so that's 9 plus from White Pigeon to the State Line is another 4 or 5 miles. I am concerned. I represent Constantine Township. I'm on the Constantine Township board and I represent Constantine Township on the US-131 study committee.

I am concerned that if Alternative 5 is selected I would like to have the township be involved in what roads are going to be cul-de saced and what roads are not going to be cul-de-saced. We have issues with farmers who are going to have their farms cut in two and maybe have to drive two and half, three miles to get to the field on the other side of the road. So that's a concern to the township as far as which roads are going to be cul-de-saced and which roads aren't. Section 3, Page 5 on the Community Facilities in the Study Area. Under Churches, number 2 and 3 should be reversed. Trinity Missionary Church is out along US-131 north of Miller's Mill Road and First Congressional United Church of Christ is in downtown Constantine. So that should be straightened out.

There's another place in this study, I can't find it right now, where they don't even list Trinity Missionary Church as a church in the study group. I can't find that page right now. Another concern I had is with the census. They are showing Constantine Township with like 4158 people and the village with -- it would be Section 3, Page 10. The township census shows the village population, too. I just wanted to point out that the total township includes the village so actually the people that live in the township itself is a little over 2,000 people and there's 2,095 in the village. I'm not sure just how they're using these census figures, but I want to point that out. I guess that's all I got.

Response: The FEIS has been corrected and now states that there is approximately 10 miles of two lane roadway within the Study Area. Figure 3.3 Community Facilities has been corrected to reflect the correct location of both Trinity Missionary Church and First Congressional United Church of Christ. PA-5 will split some farm parcels, however owners will be able to easily access their land to continue farming. Meetings have been held with city officials to openly discuss which roads will be cul-de-saced with the implementation of PA-5. Currently under PA-5 there are three cul-de-sacs planned. They are the western leg of Stears Road, the eastern leg of Miller's Mill Road and just east of local Schaffer Road on Miller's Mill Road to provide access to Young's Prairie Road for residents. All census figures used were reported from the U.S. Census Bureau. The population for Constantine Township does include the Village of Constantine. These figures demonstrate the number of people living within Constantine Township and the number of people that live within the Village of Constantine.

Comment: I think the first option, which is shown in green which is on existing right of way, is impractical. For one thing it's proposed to be a sunken freeway. There is approximately 120 feet of right of way there now so it's inadequate to put in a sunken freeway. And the service roads are going to take out the current city businesses so you're going to cut the I hate to say business right out of the city, but much of our viable business will be taken out. Also at the southerly end, the interchange for M-60 on that proposal is going right through the city industrial park and it will wipe out five industries. I would favor the proposals which are shown in magenta or brown. They are going outside the city's corridor and outside the current city boundaries, but I think ultimately they would provide a good stopping point for the city.

The city is currently by PA-4, PA-2, PA-5 adding additional lands to the west and I think it should have a growth limit there and I think the freeway at that location would provide a more than adequate growth limit. It is the expressed interest of 86% of Fabius Township residents they do not want further business development or sprawl within their township so the area to the east of the freeway installed there as a PA 425 would be part of the township and also part of the city at the same time. It's public transfer of land or jurisdiction land. But I think either one of those two options would be good. I am concerned that the information on the maps is very out of date.

A lot of the names on the roads and city boundaries are wrong. I've made MDOT Jason Latham aware of that and have marked up your map a lot. As far as Option Number 1 goes again, MDOT needs to be aware that we have ground water levels within five to nine feet of the surface. Putting in a sunken freeway is going to be very difficult. Areas just to the west of that proposed freeway route are served by well so dewatering the area to put in the freeway is going to dewater a lot of the wells of the township residents. Both the magenta and brown options currently are shown going directly through a 100 acre parcel owned by the Wolgamood brothers and that has been option by Meyer C.

Weiner of Kalamazoo and a Wal-Mart and a Menards are going right in underneath where you're proposing to put both of those options.

Two weeks ago 39 acres was rezoned by the township for those developments. So I think you need to add, within your Study Area you need to go a little bit farther to the west and go around that 100 acre parcel because I think by the time you get ready to do it, it's not going to be there. I can't see MDOT having enough money to buy out a Wal-Mart and a Menards and put in a freeway.

Response: A below grade freeway will not be built in the US-131 Study Area. PA-5 has been selected by MDOT as the Preferred Alternative. This alternative provides a two-lane non-freeway and a bypass of Constantine. PA-5 does not require a service drive, however access will be provided to farmers whose parcels will be split due to the bypass. The footprint for PA-5 will not have any affect on the industrial park within the Study Area. PA-5 utilizes a large percentage of the existing US-131 footprint which will limit social and environmental impacts. Figures within the document have been corrected to reflect the proper names on roads and city boundaries.

Comment: I'm the District 1 county commissioner for St. Joseph County. District 1 is Flowerfield, Park Townships, as well as two other townships; part of Lockport. 131 runs through the north part of my district and I am here to express my favor of the 131 development happening. Several things about the county commission. The beginning of this year the county commissioner sat down with Michigan State University extension employees Sally Carpenter and Anne Neuwenhuis out of Kalamazoo County and we started developing a long-term strategic plan for St. Joseph County to do over the next 20 years that would improve the county.

After we made those 15 or 20 suggestions we put them on a board and we ranked them in order of importance. And to a person all seven county commissioners ranked the 131 corridor improvements as either Number 1 or Number 2 in importance. As a newly elected county commissioner in 2002, I'm now in my second term, I was appointed along with Robin Baker, another newly elected county commissioner that also has -- he's got the southern part of the 131 corridor in his district. We were both assigned to the 131 development committee. And the first thing that we did is we joined forces with Kalamazoo County and passed a resolution. It was developed by the committee and then signed by all of the governmental entities indicating favor of the development of the 131 corridor.

We have gotten all of the St. Joseph County governmental entities to sign that resolution. The latest one being Constantine. So we're very happy to have that done. So we've joined forces with Kalamazoo County and all of these governmental entities all the way from 80, Interstate 80, all the way up to 94 are now part of that resolution. I guess those are my comments. I'm strongly in favor of this from an economic development standpoint for St. Joseph County. I think it's very important and I urge construction sooner than later. Thank you very much.

Response: Comment Acknowledged. MDOT recognizes that all St. Joseph County government entities signed a resolution indicating favor of the development of the 131 Corridor. PA-5 has been selected by MDOT as the Preferred Alternative. This alternative will provide improvements to US-131 where PA-5 runs along the existing alignment and will provide a bypass of Constantine.

PA-4 Comments

Comment: First of all, I would like to say that I think this is a very worthwhile project. I think it needs to be done, the sooner the better and whatever implementation they choose, I think there would be some preferable implementations. In getting to that, I think that Number 2, the Practical Alternative 2 should be discounted immensely. It's too expensive. It causes too much disruption. The only thing I can see is it would make the mayor of Three Rivers happy. Similarly Practical Alternative 1 should be eliminated because we have a problem that needs to be addressed. Of the three remaining, I probably would favor Number 4, Practical Alternative 4. My reason for saying this is because it takes the widest swing to the west around the Village of Constantine.

And if you take a map that includes the parts of Michigan that are immediately to the west of Constantine and down towards the Indiana State line, you will see that if the roadway was built as it's suggested for Alternative Number 4, all it's going to do is connect us into Indiana and at best it's going to connect us with the Indiana toll way. That's good and that should be done, but by having the roadway swing around to the west of Constantine, if you're able to envision and I've talked to one of your planners about this and I think he grasped my concept quite well and if you take and extend another roadway which is not part of this proposal but could be built in the future, to the south and west, you could connect up directly, ultimately with US-20 which now circles the Mishawaka area in Indiana.

And it would be my guess that if both these roadways were constructed, 20 years into the future my proposal would be taking heavier traffic loads than the one that you have now just as Proposal 4. And again, this is not to say that anything should be changed with Practical Alternative 4. It's just that it would be a reason for selecting it over the others because it would offer this flexibility of easier, more direct and less expensive connection to the Mishawaka area at sometime in the future. So that's one consideration. The second consideration which is kind of way out but, again, I discussed this with your planner, is if you will look, the railroad, Norfolk and Southern I believe it is, is very close to the beginning of this proposed highway extension on the northern extremity and is very close in proximity to the southern extremity.

If talks were to be entertained with Norfolk and Southern railroad and again I'm not saying that the physical implementation should occur at this time, but the legalities of it and the planning for it could be such that at sometime in the future, that railroad could relocate the right-of-way to the right-of-way that would be in the middle of these north and south lanes of the new proposed superhighway that's going to be built. All the bridges would be there. Everything would be there except for the railroad infrastructure. And this would eliminate a ton of railroad crossings that are presently in existence and then the older, let's call it to-be-abandoned railroad could be used as simply a siding or for serving local communities or such, but the through traffic of the railroad could actually pass up right through the middle of the new 131 corridor that's being proposed.

So I guess that's about it. The only other thing I would like to comment on and I really hadn't intended to say too much about this, but I'm a political activist. I'm with the LaRouche organization. I've been with them about ten years now. And I would suspect that most people who are involved in this project and are aware of what our current economic situation is in the state would think this project's implementation would be way off in the future sometime and this is just a prolonged hearing process but the actual

groundbreaking is not too close. Let me tell you it's my opinion and it's the opinion of the LaRouche organization that unless major changes take place in this country in terms of the way things are financed and we're talking specifically about the federal government creating huge credits in the amounts of trillions of dollars to put into infrastructure works, that our future as a nation is in jeopardy.

And I truly, personally, honestly believe that these things will occur over a very short period of time, a short period of time meaning even as close as a year or two and a project such as this will be implemented and starting construction and finishing construction at a much faster rate than anybody ever dreamed of. I know that's a pie in the sky, but I really believe that these things are necessary to the future of our country and I'm really very glad that the Michigan Department of Transportation has been involved in this. I think they've done an excellent job so far. I wish them every good success in getting it to its completion.

Response: PA-5 has been selected by MDOT as the Preferred Alternative. Construction for PA-5 is scheduled to commence in 2012. PA-5, like PA-4 will avoid the Village of Constantine. Future traffic projects do not warrant more than a two-lane roadway as proposed. PA-5 will provide a 200-foot ROW around the bypass. This 200-foot ROW will allow for future expansion of the bypass from two lanes to four lanes when traffic warrants.

PA-5 Modified Comments

Comment: I'm not in favor of any of the PA-1 through PA-5. The thing I'm interested in is the PA-5 Modified mostly or a No-Build. There's too much farm land being used in the PA-1 through PA-5. The PA-5 Modified is 39 acres. Some of our natural resources that we have here in the State of Michigan is agriculture and we're going to have our officials basically use this up for a road. 131 they're projecting to be a four lane limited access highway. I don't feel that people really know what that means, whereas the PA-5 Modified would keep it to a two lane highway. The cost in the State of Michigan being with what's going on would be the least with the PA-5. And when we come to the -- the PA-5 Modified I should say.

When I come to these meetings it's very nice, important and I get to talk to these people. They do very good. I'm a little disappointed that when this 131 issue was brought up that I was not involved in the decision for the corridor. I think possibly this is, it won't say much, but this possibly isn't the right place for 131 on this County Road 17 in Indiana. That's it. I can't remember. Also, in these meetings I've also said they've had projected traffic counts up to I think the year 2025. I'm not for sure on the date. We are under the congested numbers up to that time I believe. We have to be responsible for the well being of the State of Michigan. If the traffic numbers aren't there, why are we looking at the four lane limited access highway.

Response: PA-5 has been selected by MDOT as the Preferred Alternative. PA-5 will not require the displacement of any farmland operations, although it will create six farmland parcel splits. PA-5 like PA-5 Modified will provide a two-lane non-freeway. PA-5 is less costly than all freeway route alternatives and is much less environmentally intrusive than all freeway alternatives.

Traffic Comments

Comment: I think this plan they got is not complete. The study is inaccurate. Number one, they didn't take into account what happens during wintertime, especially on the west side of Constantine, Michigan. Right now, the present roads become icy, snowbound. They get closed up, snowed down and there's been a multitude of accidents because the wind blows off the cornfields and creates a sheet of ice over the highways. I mean there has been cars turned upside down off this. Number two is I can't understand why they want to put an expressway or even a truck route through the backyard of the people who live there. You know, the manufactures are on the east side of town and they want to run the expressway and truck route where the people live on the west side of town.

And I think that's inaccurate, plus they're going through some wildlife areas to where the cranes and the swans and the Mottville Reservoir are just - - and I think it's a big mistake for them to be doing that, hurting the environment. Number three is I can't understand why they want to take the expressway or a truck route back up the hill of the present road of 131. There's an alternative route I believe is more suitable just for a truck route is by going through - - they want to go from Dickerson Road south of Constantine and I believe that's adequate, but they should go to the east to Constantine Road and come up there as a truck route and go back up towards Three Rivers, Michigan, just south of town.

They go around the hill that's there, which is the cause of the semi's slowing down in the first place having to climb that big incline. They should use Constantine Road as the alternative truck route only around Constantine and come into 131 again just south of Three Rivers where the present intersection is of M-60 and 131. And I also believe they should correct the intersection of M-60 and 131 where a lot of accidents occur from people trying to cross from M-60 to get into 131; multiple accidents. And that's it. I've looked at all this and I said they're not looking at this right because they're going back up the same hill, they didn't take into consideration of the winter blowing over the road and they're going to hear a lot from us people about the noise barrier coming off that expressway. That's a lot of noise on the expressway. We already got to listen to the trains.

Response: The US-131 Improvement Study crash analysis examined accident data throughout all times of the year. It is anticipated that as passenger and commercial traffic volumes continue to grow crash exposure will continue to increase. PA-5 will promote safe and efficient movement of goods and people and will improve traffic operations within the study corridor. PA-5 will provide a bypass of Constantine that will limit the flow of commercial traffic in downtown Constantine. PA-5 will also provide a single 12-foot-wide truck climbing lane in each direction north of Garber Road. Just south of M-60 the US-131 roadway will transition from a two-lane to a five-lane section through M-60. A new "T" intersection is proposed at the location of the existing US-131/M-60 intersection. Practical Alternative 5 will provide minor roadway improvements and where the existing US-131 roadway is utilized to bring the existing alignment up to current MDOT standards.

PA-5 is less environmentally intrusive than all freeway alternatives and there will be minimal impacts to wetlands. Approximately 1.5 acres of wetlands will be affected by the Preferred Alternative.

The predicted PA-5 design year 2025 traffic noise levels will approach or exceed the FHWA noise abatement criteria of 67 dBA for approximately 14 residential locations. The traffic noise levels did not approach or exceed the FHWA noise abatement criteria of 72 dBA at any developed land locations. However, installation of a noise barrier at the six residential locations is not a feasible or reasonable improvement. Since the residential locations are widely spaced apart, any noise barrier would provide shielding at only one location per barrier. As a result, mitigation measures are not warranted for any of the approached or exceeded noise receptors that were identified for this alternative.

Comment: It's about getting the highway moved because the traffic is destroying the houses. I did a survey about four or five years ago of all the people that live on Washington and everybody had damage in their house, either foundation or walls or windows, you know, some sort of damage. And you can't hear yourself talk. You talk to someone two feet away in the summertime, you can't talk. The houses rattle. The houses shake. The noise is just -- the traffic, it's just incredible. The businesses downtown, people can't cross the street. By the way, I'm in Constantine if that makes a difference. You can't cross the streets to go to a business. Something has to be done. These are historical houses, I guess; long story short. That's basically a lot of it is just the damage. My house is 150 years old and we have to tuck and point it every couple of years. We wallpapered it because we got tired of drywalling all the time. That's just -- the vibrations are absolutely phenomenal. My neighbor has got stuff that falls off her shelves every day. To preserve our history, I guess; long story short.

Response: PA-5 will provide a bypass of the Village of Constantine. Existing US-131 will be designated as a business route and PA-5 will improve traffic conditions in the Village of Constantine as commercial traffic will likely use the bypass as a more efficient route to their destination.

There are properties where noise levels are approaching FHWA noise abatement criteria (NAC 67). These noise levels will drop dramatically under PA-5. Currently, traffic noise impacts a large number of properties along existing US-131 in the Village of Constantine. The new roadway alignment (PA-5) would reduce that traffic noise by relocating traffic to areas of lower development density. Along the new alignment residences would generally be located further from the roadway than they are along the existing alignment.

Freeway Comments

Comment: I live in Constantine Township. I myself have been to over 30 MDOT meetings on the project, 131 meetings and the one thing that I have to say is that MDOT should be responsible to all the people of Michigan for the use of this highway, not to a select few. The name of the whole deal with this project that started probably 35 years ago, MDOT and the people of these villages are stuck in a rut and what I mean by that is a thing called the Constantine Bypass. It's been the Constantine Bypass, the Constantine Bypass and everybody seems to be stuck in this rut. If one was to look at a map, a road map of the State of Michigan, they would find that the proper placement for this highway would be not where the current plans are but, in fact, probably ten miles to the west.

The highway placement that would work out the best would be from a new highway that's west of Union, Michigan. It's a four lane divided highway that hooks up to the St. Joe Parkway that runs south of South Bend, Mishawaka, Elkhart, it hooks up to Goshen and on the far west side is Gary, Indiana; Hammond, Indiana; 80/90, I-65 and eight and a half million people from Chicago. Trucks from Minnesota, Wisconsin, all the traffic that has to come around the southern tip of the lake would be involved coming toward the highway. It would run north of Union, Michigan, to Portage through Cass County. It would be more of a direct route. It would be hooked up to the toll road at Elkhart East, which the interchange is there already.

There would be two bridges that by MDOT's figures are \$20 million apiece. One bridge would be over the St. Joe River, which is already on County Road 17 down there. And the other bridge that they would not have to put up is over the White Pigeon River. So all things being equal, this \$5 million study ends up putting the highway in the wrong place I think. But it's true. All one has to do is get out a road map and look at it and like everybody knows, the shortest distance between two points is a straight line. And if you were going to go to Kalamazoo, Michigan and you were going to come from where most of the traffic is generated, it would be the towns that I mentioned; South Bend, Elkhart, Chicago, Hammond, Gary and states Iowa, Minnesota, Wisconsin, everything west of the lake.

The other thing is that if you go to Exit 107 and I-80/90, you will find that 32 miles to the east is I-69. Well, anybody that lives near I-69 and I-80/90 and going to go north sure wouldn't come to 131 and go north. That's crazy. So where is all this traffic going to go to or come from? That's it. The other thing is that the State of Michigan isn't really going to come up with any kind of money toward this project compared to the total. The Federal Highway Administration will be in here to check on what they're doing and the Federal Highway Commission or Association, whatever it is, they say if they're going to give money to a federal highway project, the highway must be in the best possible place or the very next thing to it and this project misses it by ten miles.

Response: Practical Alternative 5 has been selected by MDOT as the Preferred Alternative. Funding has been identified for the US-131 Improvement Study that will allow this alternative to be constructed. PA-5 will provide a bypass of the Village of Constantine as well as roadway and intersection improvements to the existing US-131 alignment where PA-5 continues on the alignment that will bring the roadways up to current MDOT standards.

Comment: I'm the planning director for Kalamazoo County. As facilitator for the Schoolcraft area US-131 planning committee I continue to support the efforts of the US-131 Improvement Study. I strongly urge the planning effort to be expanded to include the gap between Three Rivers and Portage which includes Schoolcraft where the lack of a bypass and resolution of an at-grade railroad crossing will continue to impede any improvements to this portion of US-131. Any alternative less than a limited access freeway fails to meet the needs of St. Joseph County, Kalamazoo County and the entire southwest Michigan region. It appears that PA-1 best presents the most advantageous option with the least adverse impact and still remains fiscally achievable.

Response: PA-5 has been selected by MDOT as the Preferred Alternative. The research conducted through the EIS process demonstrates that PA-5 will meet the needs of St. Joseph County by providing improved roadways and a bypass of the Village

of Constantine. PA-5 satisfies the purpose and need of this project by providing sufficient capacity for future traffic growth, improving roadway inefficiencies, and improving US-131 highway operations. PA-5 is less environmentally intrusive than all freeway alternatives and uses much less new ROW than the freeway alternatives. The bypass will provide 200 feet of ROW which will allow the roadway to be expanded in the future to four-lane if warranted.

Comment: I was telling the gentlemen out there about how to preserve land for future highway expansion, buy up possible areas and plots so they can put future expressways and freeways in and widen roads. I figured that's the easiest way to save money by building longer bridges over extended highways so you can expand them to ten lane highways in the future. I was living at 94 and I use to drive down it and I seen traffic backed all the way to Augusta and I wonder why they don't expand that to a ten lane highway instead of a six lane highway. You have to figure for population growth in the next 150 years, whatever we can do to keep urban sprawl from putting houses in the direct way of future highways and stuff.

That's why I believe they should, you know, hold property zones for future expansion. I guess that's it. I'm a little nervous. Why don't you interconnect 131 from Portage all the way down to the Indiana toll road and put it on the east side of the city and have an entrance and exit off the north side of Schoolcraft. They can enter down in Three Rivers on 60. Then the rest of the roads would be overpasses and main highway would just be open freeway, only two entrances between Schoolcraft and Three Rivers. And if the population grows, you can add your entrance. There's one more bridge. I think it's Exit W or something. They can put an overpass out there to get out to go to Schoolcraft from the south. That's it.

Response: Future traffic projects do not warrant more than a two-lane roadway, however, PA-5 will provide a 200-foot buffer around the bypass. This 200-foot right of way will allow for future expansion of the bypass from two lanes to four lanes when traffic warrants.

Environmental Comments

Comment: I made a comment to him that when they built the DeKalb Seed Corn plant they sacrificed 80 acres of prime farm ground and there was a lot of question at that time when they did that why did they, you know, waste that prime farm ground. Well, no one was looking at the issue of public safety and what I mean was the plant generates right now over 1,600,000 bushels at that location and there's another plant there that does the same so that's over 3,000,000 bushels. Well, what is better, to process that corn right where it's at or run heavy trucks over 100 miles overloaded and taking the risk of public with the trucks doing it. Well, it was a lot better to do it here. So now if they build this thing, what type of an impact will that have on that industry? And there's over almost three and a half million bushels processed right at those two plants that they'll have to haul over the road somewhere else. So it's just my opinion.

Response: Minimizing farmland operational impacts and displacements was a goal during the development of all Practical Alternatives. No unique farmland will be impacted by PA-5. PA-5 does not require the displacement of any farmland operation. The potential impact to farm operations under PA-5 relate to the split of farm parcels. There will be six agricultural parcel splits under Practical Alternative 5.

Economics Comments

Comment: The comments I have or I guess the alternatives that I like the best are on the east side of Three Rivers, PA 1, but on the west side of Three Rivers I like PA 4. At issue right now is development; let's see, along Millard Road north of 131. It's being looked at now by Wal-Mart and Menards so that may be of issue for you folks later on. The other comment I have that I talked with other people about is I have a concern with West Michigan Avenue, the businesses vacating there to move out to 131. And if there was an interchange at the end of West Michigan Avenue, I would think it would be an easy on and off for cars, although it really doesn't work into having three interchanges around Three Rivers, but my concern is businesses moving off of West Michigan out to 131 and leaving us more vacant buildings. And that's all I have.

Response: In general, the adverse economic effects of the project will be small: tax base loss, effects on businesses from relocations and changes in traffic patterns. Improvements to US-131 will decrease travel times and may reduce accident costs providing economic benefits to both local and through traffic. The construction of roadway improvements would also inject money into the local state economies during construction. The long term growth potential of a bypass has generally been found to outweigh short term economic impacts.

Each of the Build Alternatives would directly impact existing agricultural and residential land uses. PA-5 requires much less ROW than the freeway alternatives so it would have less impacts on land use. PA-5 will not require the relocation of any agricultural land although it will create six farmland parcel splits. Existing land uses along the corridor will likely remain. Population growth throughout the Study Area over the next 20 years will most likely result in small scale new residential, commercial and industrial development along US-131.

7.6 Response to Federal Agency Comments

7.6.1 United States Department of Agriculture

Comment: Our concerns with any of the Practical Alternatives presented in the study rest with the amount of prime agricultural land negatively impacted.

Response: MDOT has selected Practical Alternative 5 as the Preferred Alternative. The Preferred Alternative will affect 132 acres of prime farmland which is the second lowest impact among the build alternatives. The Preferred Alternative also has the second lowest AD-1006 score measuring the agricultural impact of the build alternatives. The Preferred Alternative will not require the displacement of any farmland operations. The bypass of Constantine will be limited access.

7.6.2 Department of Health and Human Services, Public Health Service

Comment: We have reviewed this document for potential health and safety impacts and believe that these impacts were adequately addressed. This project should have very positive effects on the community and there should be minimal threats to health and safety from project construction.

Response: Comment acknowledged.

7.6.3 United States Department of Commerce, National Oceanic and Atmospheric Administration

Comment: There are horizontal and vertical geodetic control monuments in the Project Area. If any planned activities will disturb or destroy these monuments, NOAA needs 90 days of notification in advance of such activities in order to plan for their relocation.

Response: There are four monuments within the Study Area that will be affected by the proposed construction of PA-5. MDOT will provide 90 days notice to NOAA as necessary.

7.6.4 Department of the Army, Detroit District Corps of Engineers

Comment: In summary, we concur with purpose and need, the first concurrence point. In summary, we concur with the alternatives carried forward, the second concurrence point and look forward to perhaps assisting in devising means to lessen some of the resource impacts associated with some of these selected alternatives.

Response: MDOT has selected Practical Alternative 5 as the Preferred Alternative. PA-5 is less environmentally intrusive than all freeway alternatives.

7.6.5 United States Environmental Protection Agency

Comment: Alternatives PA-3 and PA-4 have direct and indirect impacts to high quality wetlands. PA-4 would have direct impacts on an extensive area (approximately 54 acres) of high quality floodplain forest and forested wetlands.

Response: All Practical Alternative alignments were formulated to avoid and minimize impacting wetland areas to the greatest degree possible, particularly high value wetlands that may harbor threatened or endangered species. MDOT has selected Practical Alternative 5. PA-5 will impact approximately 1.5 acres of wetland associated with two wetland complexes. One wetland would be partially impacted while the other wetland complex would be bisected by this alternative.

Comment: High quality wetlands in the Study Area provide observed or potential habitat for certain threatened and endangered species.

Response: The Preferred Alternative alignment has been formulated to avoid and minimize impacting wetland areas to the greatest degree possible, particularly high-value wetlands that may harbor threatened or endangered species.

Two wetland complexes will be affected by the project, Wetland Complex 1, part of the larger delineated wetland #16, which is located in the proposed southbound truck passing lane, is approximately 4 acres in size. The area of potential impact to this wetland is approximately 0.3 acre or 7.5% of the total wetland acreage. The Study Team determined that this wetland is of low quality based on its relatively small size, severely limited plant community structure, and its proximity to the existing highway limiting the number of functions/values that Wetland Complex 1 can provide. Impacts on

Wetland Complex 1 are expected to be minimal and are not expected to significantly impact these primary or other listed functions and values identified within this wetland complex.

Wetland Complex 2, part of the larger delineated wetland #8, is located on the south bank of the St. Joseph River and provides an approximate 300-foot buffer between the river and the upland to the south. The area of potential impact is 1.2 acres. The principal functions/values that were identified for this wetland complex are Floodway Alteration, Nutrient Removal, Production Export, Wildlife Habitat and Endangered Species Habitat. Wildlife Habitat and Endangered Species Habitat will be permanently eliminated in portions of the Study Area and altered to a variable extent in adjacent areas. Impacts on individual species will also be variable; potentially significant to animals and to a lesser extent, on plants. Impacts on the Floodway, Nutrient Removal and Production Export are expected to be minimal. These conclusions are based on the assumption that the use of support pilings in the wetland will be minimized to the greatest possible extent. Placement of support pilings landward of the river will reduce potential impacts to potential high quality habitat.

Impacts associated with the US-131 project will be mitigated by preserving a portion of the 118-acre Tamarack Fen located in the St. Joseph River watershed in Cass County. At a 10:1 replacement ratio, 15 acres of the high quality wetlands will be credited for preservation against an estimated impact of 1.5 acres of wetland from this project. These wetlands are located within the same St. Joseph River Watershed as the impacted wetlands.

PA-5 requires one new river crossing, a two-lane 870' bridge over the St. Joseph River, which will have a greater flow area for flood conveyance than the existing structure. For the Preferred Alternative, there are no anticipated impacts due to increased flood stage elevations to any properties. It is anticipated that during final design, further refinement of embankment side slopes will result in minimizing fill in the floodplain.

Comment: PA-3 and PA-4 could impact the hydrology of the Stag Lake Bog.

Response: PA-3 and PA-4 were dismissed from consideration. The Preferred Alternative does not impact the Stag Lake Bog.

Comment: Alternatives PA-3 and PA-4 may not be consistent with the Clean Water Act (CWA) Section 404(b)(1) Guidelines.

Response: PA-5 has been selected as the Preferred Alternative.

Comment: Wetlands within the Study Area are high quality and would be difficult to replace through mitigation.

Response: In accordance with the administrative rules for Act 451, Part 303, Wetlands Protection, the preservation of existing wetland may be used as mitigation if the wetland to be preserved performs exceptional physical or biological function, is under a demonstrable threat of loss or substantial degradation due to human activities and will be protected in perpetuity (deed restrictions or conservation easements). For wetland preservation, a 10:1 ratio applies whereby one acre of wetland may be mitigated for ten acres of preserved wetland. In the development of alternatives, wetland impacts were

analyzed and alternatives were refined to avoid or minimize wetland impacts where possible. At a 10:1 replacement ratio, 15 acres of the high quality wetlands will be credited for preservation against an estimated impact of 1.5 acres of wetland from this project. These wetlands are located in the Tamarack Fen, within the same St. Joseph River Watershed as the impacted wetlands.

Comment: We are concerned about the insufficient level of wetland information provided, project impacts to trout habitat in the St. Joseph River and wildlife corridor impacts for the White Pigeon, St. Joseph, and Rocky Rivers and migratory bird impacts.

Response: Five field investigations were initially conducted within the Study Area for the purpose of identifying and delineating wetlands in the fall 2000, spring 2001, fall 2001 and spring 2002. In these earlier phases of the project, the entire project corridor was traversed within both the Indiana and Michigan portions of the Study Area. As the project was scaled back in scope and the area of impact was limited to the bypass of the Village of Constantine along with selected intersection improvements and truck climbing lanes, subsequent field investigations were performed in fall 2006 and spring 2007. The descriptions of wetlands in **Section 3.12.1, Identification Methodology** are limited to those areas that are affected by the Preferred Alternative; other areas previously studied but are no longer affected have been removed from the discussion.

The St. Joseph River has been classified as a warm water stream by the Michigan Department of Natural Resources and DNR is no longer placing trout in this system. Wildlife corridor and migratory bird impacts are expected to be minimal as there are minimal wetland impacts and MDOT will span the river and floodplain minimizing impacts.

Comment: Recommend further coordination with the U.S. Fish and Wildlife Service and the Michigan Department of Natural Resources to ensure that the potential of each alternative to impact Federal and State listed species is sufficiently documented.

Response: The Study Team has coordinated with the U.S. Fish and Wildlife Service and the Michigan Department of Natural Resources to ensure that the potential impact of PA-5 to Federal and State listed species are quantified and documented.

Comment: Requested future wetland related documentation for this project include a plant list (specifically the dominate species), Floristic Quality Index (FQI values, and detailed wildlife functions.

Response: The FEIS has been updated with detailed wetland information that includes descriptions of Wetlands located within the Study Area as well as their classification and overall quality rating.

7.6.6 United States Department of the Interior

Comment: Section 3.13, Aquatic Issues and section 3.15, Wild and Scenic Rivers, fails to mention that a section of the St. Joseph River is designated as a component of the Nationwide Rivers Inventory (NRI).

Response: Designation has been noted and the impacts to recreation on the recreational use of the river have been identified in the FEIS.

Comment: Section 3.19.3, Vertebrates, The draft EIS identifies the prothonotary warbler and yellow-throated warbler as state species of special concern. The State of Michigan lists the yellow-throated warbler as a threatened species, not a species of special concern. Section 3.19.3 should be corrected in the final EIS.

Response: Correction has been made.

Comment: We recommend the final EIS provide a better description of the potential impacts to wildlife, fisheries, and threatened and endangered species of each of the Build Alternatives. The final EIS should provide more discussion of mitigation measures to avoid, minimize, and offset the impacts of each of the build alternatives to fish and wildlife resources. The contradictory statements with respect to threatened and endangered species should be corrected. We believe that PA-5 and PA-5 MOD are the environmentally preferable alternatives and recommend that either PA-5 or PA-5 MOD be selected as the Preferred Build Alternative.

Response: PA-5 has been selected as the Preferred Alternative. A full description of the potential impacts has been provided and mitigation measures are discussed in more depth. The contradictory statements involving threatened and endangered species have been corrected as the affected species have been identified and a biological assessment has been conducted of the Study Area. These actions took place in consultation with FHWA and the USFWS.

Comment: Additional mitigation measures such as construction timing and sequencing, as well as habitat replacement should be addressed in the FEIS.

Response: Construction timing and sequencing, habitat replacement and other mitigation measures are addressed in Section 4.25 of the FEIS which presents a Mitigation Summary. Mitigation measures are also listed in the Green Sheet, located in **Section 4.0, Environmental Consequences**.

7.7 Response to State of Michigan Agency Comments

7.7.1 Michigan Department of Natural Resources

Comment: The following list includes unique features that are known to occur on or near the site(s) and may be impacted by the project. (See list in **Appendix A, Agency Comment Letters**)

Response: The Preferred Alternative will not affect any of the species listed.

7.7.2 Michigan Department of Agriculture

Comment: Primary concerns with this project are direct and indirect losses of productive agricultural lands; impacts to lands enrolled under the Farmland and Open Space Preservation Section of P.A. 451 of 1994. While you have noted that none of the alternatives would impact more than 0.25% of the total farmland in St. Joseph County, we consider any loss of especially prime farmland to be significant.

Response: MDOT has selected Practical Alternative 5 as the Preferred Alternative. The Preferred Alternative will affect 132 acres of prime farmland which is the second lowest impact among the alternatives. The Preferred Alternative also has the second lowest AD-1006 score measuring the agricultural impact of the alternatives. The Preferred Alternative will not require the displacement of any farmland operations. Potential impacts on farm operations for PA-5 relate to the split of some farm parcels. The bypass of Constantine will be limited access.

7.7.3 Michigan Department of Environmental Quality

Comment: Floodplain areas along the three main channels within the Study Area appear to be of a high quality and any new or expanded bridge crossings need to take these floodplains into consideration.

Response: MDOT will span the river and floodplain minimizing these potential impacts. MDOT also concluded a hydraulic analysis which indicated there will not be a rise in flood elevations based on the Preferred Alternative. PA-5 crosses the St. Joseph River at a new location approximately 4500 feet west (downstream) of the existing US-131 crossing which will remain. The proposed 870 foot structure is outside of the area of hydraulic influence of the existing US-131 structure.

PA-5 will result in more than 300-cubic yards of fill in the St. Joseph River floodplain and therefore compensatory storage would be required. Compensatory floodplain storage is proposed for any fill within the 100-year floodplain.

Comment: The alternative that has the smallest environmental impact should be strongly considered.

Response: All Practical Alternatives were equally evaluated. PA-5 is less environmentally intrusive than all freeway alternatives.

Comment: Better documentation of wildlife use within the floodplain corridor is needed.

Response: Additional field investigations were conducted for the Indiana bat, the Copperbelly water snake and Massasauga rattlesnake within the Study Area of the Preferred Alternative. Wildlife observations were included in the threatened and endangered species technical memorandums.

Comment: Early coordination with the MDEQ, U.S. Fish and Wildlife Service and the Michigan Department of Natural Resources Wildlife Division regarding any bridge designs and pier placements should occur well before any design and funds are committed to the project.

Response: Earlier coordination with these resource agencies has occurred and will continue to occur throughout the design process. \$31 million has been committed for the completion of this project.

7.7.4 Michigan Department of Community Health

Comment: There are a number of licensed health facilities that may be impacted by construction due to increased noise level and increased airborne dirt and debris. US-131 is the primary route that ambulances and the public take to get to Three Rivers Hospital. Where the proposed plan calls for an upgrade to the current roadway, construction delays may impede passage of an emergency vehicle. For the public and ambulances attempting to reach the Three Rivers Hospital from the west side of US-131, they will have a higher degree of difficulty reaching the hospital if there are closures.

Response: Construction of PA-5 will likely temporarily impact emergency vehicle routes due to road closures, detours and temporary traffic congestion delays. MDOT will coordinate with emergency service providers prior to the beginning of construction or implementation of new phases of construction. Coordination will be maintained throughout construction and adjustments to emergency response plans would be developed based on project activity.

7.8 Response to State of Indiana Agency Comments

7.8.1 Indiana Department of Natural Resources, Division of Water

Comment: This project may require the formal approval of our agency pursuant to the Flood Control Act (IC-14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing water body which has a drainage area greater than one square mile. Please submit more detailed plans to the Division of Water's Technical Services Section if you are unsure whether or not a permit will be required.

Response: MDOT has selected PA-5 as the Preferred Alternative; therefore there will be no impacts to floodways, streams or water bodies that will require a permit from Indiana Department of Natural Resources, Division of Water.

Comment: The Natural Heritage Program's database has been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Response: Comment acknowledged.

Comment: Fish, wildlife and botanical resource losses as a result of this project can be minimized through implementation of the following measure: Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion.

Response: MDOT will avoid and minimize impacts to the extent practicable, will employ appropriate and sufficient protective measures, and mitigate where required.

7.8.2 Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology

Comment: Based upon the information provided, it is our understanding that you have hired an archaeological contractor to coordinate that aspect of the project review with

our office. Therefore, we will comment further on that aspect of the review when we have been contacted by the archaeological contractor.

Response: No work is proposed in Indiana.

7.8.3 Indiana Department of Transportation

Comment: In the DEIS it is stated that the St. Joseph Aquifer is located south of the Indiana Toll Road. INDOT Environmental Assessment section reference map for this aquifer shows the northern aquifer extending to the state line. INDOT wants to ensure this document covers any EPA regulations, requirements and comments relative to the St. Joseph Aquifer within the Indiana portion of the study.

Response: No work will be performed in Indiana or at the State Line as part of the Preferred Alternative.

Comment: Indiana has changed the five-acre requirement to one acre.

Response: Comment acknowledged.

7.9 Response to Other Agency Comments

7.9.1 Indiana University, Indiana Geological Survey

Comment: Material was reviewed concerning the site of the project in Elkhart County, Indiana. This area of the project should not effect nor be affected by the geology of the site.

Response: Comment acknowledged.

7.9.2 Indiana Michigan Power (AEP)

Comment: It appears that several of the alternate river crossings over the St. Joseph River will take place within the project boundaries for the Mottville Hydroelectric Project and will likely result in encroachments onto property owned in fee simple absolute by Indiana Michigan Power, thus requiring a property conveyance of some sort from Indiana Michigan Power. For a bridge placement, which encroaches within the project boundary, Federal Energy Regulatory Commission approval will likely be required in order for the property conveyance to take place. Indiana Michigan Power would also need to be consulted if there is a need to lower the Mottville Reservoir for any construction activities.

Response: PA-5 has been selected as the Preferred Alternative. These impoundment areas will require a property conveyance for any proposed crossing. If this land is subject to a Federal Energy Regulatory Commission (FERC) license, a review would be needed for conveyance. MDOT and its contractors will coordinate with the utilities and affected communities prior to beginning construction or implementation of new phases. The coordination would be maintained throughout the project.

7.9.3 Michigan State University Extension

Comment: How will the new route affect farm fields and irrigation systems?

Response: MDOT has selected Practical Alternative 5 as the Preferred Alternative. No unique farmland is impacted by PA-5. In addition, PA-5 does not require the displacement of any farmland operation. Potential impacts on farm operations for PA-5 relate to the split of some farm parcels. It is expected that PA-5 will have minimal impacts on irrigation systems.

Comment: With the farmland in question commanding some of the highest property values in the state the potential implication to producers will be significant. If the proposed limited access freeway is constructed, the distance that will have to be traveled to reach fields that are currently adjacent will be greatly increased. It is a major concern that much of the farm equipment traffic will be forced to cross the freeway in the Village of Constantine.

Response: MDOT will not be building a limited access freeway. PA-5 will provide a two-lane bypass of Constantine. PA-5 requires six parcel splits; however these impacts may be reduced through land sales, exchanges or access agreements between property owners. MDOT is proposing that farm access roads be built across the alternative's 200-foot ROW for access to split farming parcels. Farm access roads would generally be short, gated, at-grade, one lane roads constructed perpendicular to the PA-5 alignment. They would extend to the ROW line allowing farm equipment to directly access fields on the other side of the alternatives alignment.

Comment: Increasing the number of overpass, underpass routes over the freeway can help to reduce the amount of farm equipment that is forced to use the roads with the interchanges.

Response: The Preferred Alternative does not include any overpasses or underpasses.

Comment: It would be important to look at the impacts of the various alternatives on the flow of traffic into and out of the corn production plants.

Response: Traffic flow impacts of each alternative were examined during the study. The Preferred Alternative will improve traffic flow within and surrounding the Village of Constantine by taking commercial traffic out of and around the Village allowing local traffic to travel with ease.

7.10 Response to Local Jurisdictions

Several local jurisdictions submitted comments in the form of resolutions regarding the DEIS, including the Village of Constantine, Florence Township, Flowerfield Township, Lockport Township, Mottville Township, Park Township, City of Three Rivers, Village of White Pigeon, White Pigeon Township and the Village of Schoolcraft.

Comment: The creation of a limited-access freeway will have significant benefits to the economy, quality of life and safety of residents and travelers throughout the region.

Response: A limited-access freeway will not be built in the US-131 Study Area. PA-5 has been selected as the Preferred Alternative. PA-5 begins as a two-lane facility from the Indiana Toll Road and follows existing US-131. North of Dickinson Road PA-5 consists of a two lane roadway section and leaves the existing US-131 alignment curving to the northwest in order to bypass the Village of Constantine. US-131 improvements will introduce higher levels of through traffic to the Study Area, providing further stimulus to economic growth. Improvements will reduce travel time and may decrease accident costs, providing economic benefit to both local and through traffic. The construction of roadway improvements will also inject new money into the local and state economies during construction.

Comment: There should be further community input regarding the future of US-131 in Southern Kalamazoo County and the promotion of the needed bypass of the Village of Schoolcraft.

Response: This study focused on the 17 miles of US-131 located in Elkhart County, Indiana and St. Joseph County, Michigan, however all members of the public were welcome to comment on the study.

Comment: The promotion of the usage of the current US-131 footprint as much as possible and the construction of frequent interchanges and overpasses to avoid the unnecessary division of the impacted communities is a goal of the US-131 Master Plan Committee.

Response: PA-5 has been selected by MDOT as the Preferred Alternative. PA-5 utilizes more of the existing alignment than any freeway alternative except PA-2. Where PA-5 leaves the existing alignment and creates a bypass of the Village of Constantine it continues to promote the goal of the US-131 Master plan as it does not create unnecessary division of the impacted communities.

Comment: The Village of Constantine supports the continued goal of constructing a limited access highway from the City of Portage to the Indiana state boundary. The existing US-131 route is requested to be designated a business route, be it either a spur or loop.

Response: A limited access highway will not be constructed in the US-131 Study Area as current and future traffic counts do not warrant a freeway. However, a bypass of Constantine will be built. The existing US-131 route will become a business route once the bypass is built.

7.10.1 Three Rivers Area Chamber of Commerce

Comment: The Board of Directors of the Three Rivers Area Chamber of Commerce has gone on record in support of any freeway alternative in the US-131 Improvement Study in St. Joseph County with a preference for Practical Alternative 1. The preference for PA-1 reflects the fact that it involves less cost and less relocation than three other freeway alternatives identified in the study.

Response MDOT considered several alternatives including limited access freeways; however current and future traffic counts do not support building a freeway in the US-

131 Study Area. PA-5 a two-lane non-freeway has been selected as the Preferred Alternative by MDOT. PA-5 has less relocations than all freeway alternatives.

7.10.2 Cadillac Area Chamber of Commerce

Comment: We strongly believe a limited access freeway from the Indiana/Michigan State Line with connection to the existing US-131 freeway benefits all of west and northwest Michigan as a major transportation route for commerce and business.

Response: MDOT considered several alternatives including limited access freeways; however current and future traffic counts do not support building a freeway in the US-131 Study Area. MDOT believes that PA-5 will continue to effectively support commerce and business with a bypass of Constantine.

7.10.3 St. Joseph County Board of Commissioners

Comment: We support the goal of the reconstruction of US-131 as a limited access freeway from the terminus of the current freeway at the southern limits of the City of Portage to the Indiana state boundary.

Response: MDOT considered several alternatives including limited access freeways however current and future traffic counts do not support building a freeway in the US-131 Study Area. PA-5 has been selected as the Preferred Alternative and this alternative will provide a bypass of the Village of Constantine.

8.0 LIST OF PREPARERS AND REVIEWERS

The following individuals prepared technical portions of the Final Environmental Impact Statement for the US-131 Improvement Study.

Name	Education and Experience	Primary Responsibilities
<i>Wilbur Smith Associates, Inc.</i>		
Paul Hershkowitz	B.A. Sociology 32 years traffic and transportation planning experience	Project Manager, Alternatives Considered
Todd Davis, AICP	B.S. Environmental Science 15 years transportation planning experience	QA/QC
Chris Nazar, AICP	B.A. Economics and Urban Studies M.S. Urban Planning 5 years economics and transportation planning experience	QA/QC of Alternatives Considered, Environmental Consequences, 4(f),
Adrian Stroupe, AICP	B.A. Geography 16 years transportation planning experience	QA/QC
Nicole McCleary	B.A. Psychology M.A. Urban Planning 4 years planning experience	Lead FEIS Production, Environ. Consequences, Comments and Responses, Corrections to the DEIS
Bob Orr	B.S. Education B.S. Geology M.S. Geology 20 years experience in environmental planning	QA/QC
Saurabh Shukla	B.S. Architecture M.S. Urban and Regional Planning 1 year of transportation planning experience	Purpose and Need, Traffic, FEIS production
Brian Smith	B.S. Civil Engineering 4 years engineering experience	Figure Production FEIS Production
Rajit Ramkumar	B.S. Civil Engineering M.S. Civil Engineering 4 years of transportation designer experience	Noise Analysis
Doug Zang	B.A. Biology 17 years Environmental Impact experience	Wetlands, Threatened and Endangered Species, Air Quality and Noise Analysis

Lindsay Lee	B.S. Geography 3 years GIS Experience	Affected Environ., Environ. Consequences, Figure Production, FEIS Production
Rhonda Vance	B.S. Communications 9 years experience in Public Affairs	FEIS Production
Theresa Micheaux	B.S. Education 3 years administrative assistant experience	FEIS Production

Michigan Department of Transportation		
Jason Latham	B.S. Biology 10 years experience with MDOT	Project Manager, Regional Planner, FEIS Guidance and Review
Mike O'Malley	B.S. Environmental Science and Biological Education 18 years experience with MDOT	Environmental Lead MDOT Guidance and Review
Andy Irwin	B.A. Geography and Psychology M.A. Regional Planning 17 years experience with MDOT	MDOT Guidance and Review
Dave Schuen	B.S. Biology M.A. Plant Systematics and Plant Ecology 15 years experience with MDOT	Assistant Environmental Lead MDOT Guidance and Review
Thomas Raymond	B.S. Community Development 17 Years experience with MDOT	MDOT Guidance and Review
Tom Doyle	B.S. Geography M.S. Urban & Regional Planning 16 Years experience with MDOT	Traffic Analyst, Traffic Review

9.0 DISTRIBUTION OF FINAL ENVIRONMENTAL IMPACT STATEMENT

The Final Environmental Impact Statement is being distributed to the following federal, state, regional and local agencies and interested parties for their review and comment.

Federal Agencies

Advisory Council on Historic Preservation
U.S. Army Corps of Engineers, Detroit District
U.S. Coast Guard, Ninth District
U.S. Department of Agriculture, Natural Resource Conservation Service, Michigan State Conservationist
U.S. Department of Agriculture, Natural Resource Conservation Service, Indiana State Conservationist
U.S. Department of Commerce, NEPA Coordinator, Washington, D.C.
U.S. Department of Energy, Office of NEPA Project Assistance, Washington, D.C.
U.S. Department of Health and Human Services, Center for Disease Control
U.S. Department of Housing and Urban Development, Area Director
U.S. Department of Interior, Bureau of Indian Affairs, Area Director, Ft. Snelling, MN
U.S. Department of Interior, Bureau of Indian Affairs, Michigan Agency, Sault Ste. Marie, MI
U.S. Department of Interior, Fish and Wildlife Service, East Lansing Field Office
U.S. Department of Interior, Fish and Wildlife Service, Warsaw Field Office
U.S. Department of Interior, Fish and Wildlife Service, Field Supervisor, Bloomington, IN
U.S. Department of Interior, National Park Service Midwest Region
U.S. Department of Transportation, Federal Aviation Administration, Michigan Section
U.S. Department of Transportation, Federal Highway Administration, Division Office, Lansing, MI
U.S. Department of Transportation, Federal Highway Administration, Division Office, Indianapolis, IN
U.S. Department of Transportation, Federal Highway Administration, Mid-western Resource Center, Olympia Fields, IL
U.S. Environmental Protection Agency, Filing Section, Washington, D.C.
U.S. Environmental Protection Agency, Region 5
U.S. Federal Emergency Management Agency, Washington, D.C.

U.S. Senators and Representatives

Senator Debbie Stabenow, MI
Senator Carl Levin, MI
Representative Fred Upton, MI
Senator Richard Lugar, IN
Senator Evan Bayh, IN
Representative Mark Souder, 3rd District, IN

State Senators and Representatives

Senator Harry Gast, District 20, MI
Representative Cameron Brown, District 59, MI
Senator Marvin Riegsecker, District 12, IN
Representative John D. Ulmer, District 49, IN

State Agencies, Michigan

Michigan Department of Agriculture
Michigan Economic Development Corporation
Michigan Department of Environmental Quality
Michigan Department of Community Health
Michigan Department of History, Arts, and Library, State Historic Preservation Office
Michigan Department of Natural Resources
Michigan Department of Transportation
Michigan Environmental Science Board
Michigan Family Independence Agency

State Agencies, Indiana

Indiana Department of Natural Resources, Division of Fish and Wildlife
Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology
Indiana Department of Environmental Management
Indiana Department of Transportation
Indiana Geological Survey, Environmental Geology Section

Local Jurisdictions and Agencies

St. Joseph County, MI

Village of Constantine
Constantine Township
Fabius Township
Lockport Township
Mottville Township
St. Joseph County Board of Commissioners
St. Joseph County Conservation District
St. Joseph County Drain Commission
St. Joseph County Planning Commission
St. Joseph County Road Commission
City of Three Rivers
Village of White Pigeon
White Pigeon Township

Elkhart County, IN

York Township
Elkhart County Road Commission
Elkhart County Board of Commissioners
Elkhart County Drainage Board

Other Agencies and Special Interest Groups

City of Three Rivers School District
Clean Water Action
Constantine Public Schools
Consumers Energy
Friends of the St. Joe River Association
Indiana-Michigan Power Company
Kalamazoo County
Kalamazoo County Transportation Study
Michigan Gas Utilities
Michigan Municipal League
Michigan United Conservation Clubs
Michigan Farm Bureau
Michigan Environmental Council
Michigan Townships Association
MSU Agricultural Extension Office
National Wildlife Federation, Great Lakes Chapter
Schoolcraft (Village of)
Sierra Club, Mackinac Chapter
St. Joseph County Economic Development Department
Three Rivers Chamber of Commerce
Tribal Council, Pokagon Band of Potawatomi Indians
Tribal Council, Nottawaseppi Huron Potawatomi Band
West Michigan Environmental Action Council
White Pigeon Schools
York Township School District

Public Viewing Sites

Constantine Township
Village of Constantine, Village Hall, Clerk's Office
MDOT – Transportation Service Center, Kalamazoo
St. Joseph County Planning Commission
St. Joseph County Road Commission
Three Rivers Public Library
White Pigeon Township

10.0 GLOSSARY OF TERMS

Above Ground Storage Tank Sites (ASTs): These are sites either containing above ground storage tanks (ASTs) or found to show evidence of an existing or removed tank during site reconnaissance. Depending on the type, age, and condition of the AST and associated piping, sites of this type may present a risk for soil and/or groundwater contamination.

Acceptable Community Fish Rating: Rating used in Great Lakes Environmental Assessment Section, procedure 51.

Air Quality Index (AQI): The AQI is a guide for reporting daily air quality. It tells you how clean or polluted your air is and what associated health concerns you should be aware of. The AQI focuses on health effects that can happen within a few hours or days after breathing polluted air. USEPA uses the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide. For each of these pollutants, USEPA has established national air quality standards to protect against harmful health effects.

Alternative: A combination of potential road segments or transportation improvements which link US-131 from the southern Michigan State border to just north of the northern city limits of the City of Three Rivers. Alternatives for the US-131 Improvement Study have included No-Build (Do nothing), Transportation System Management, transit and multi-modal alternative, and a series of potential freeway Build Alternatives.

American Association of State Highway and Transportation Officials (AASHTO): A nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia and Puerto Rico whose primary goal is to foster the development, operation, and maintenance of an integrated national transportation system.

American Electric Power (AEP): A multinational energy company with energy assets including electricity, natural gas, and coal.

American Society for Testing and Materials (ASTM): Founded in 1898, ASTM is a not-for-profit organization providing standards that are accepted and used in research and development, product testing, quality systems, and commercial transactions around the globe. In over 130 varied industry areas, ASTM standards serve as the basis for manufacturing, procurement, and regulatory activities.

Annual Average Daily Traffic (AADT): The average number of vehicles passing a fixed point in a 24-hour time frame. Used as a measure of traffic volume on a roadway.

Archaeological Site: The location of past cultural activity which could be used to describe and explain the nature and evolution of cultural systems; a defined space with mainly continuous archaeological evidence.

Architectural Resource: A building or other structure with potential historic significance based on its age, type, or its association with a person(s) or event(s).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Created in 1980, it is also known as Superfund. This is the legislation that created the Agency for Toxic Substances and Disease Registry (ATSDR).

Clean Air Act Amendments (CAAA): The CAAA is legislation designed to curb three major threats to the nation's environment and to the health of Americans: acid rain, urban air pollution, and toxic air emissions. It called for establishing a national permits program to make the law more workable and an improved enforcement program to help ensure better compliance with the Act.

Combined Sewer Overflows (CSOs): Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe.

Congestion: The level at which transportation system performance is no longer acceptable due to traffic interference. The level of acceptable performance may vary by type of transportation facility, geographic area, and/or time of day.

Controlled Access: This is the regulated limitation of access and is achieved by regulation of public access rights into (ingress) and out of (egress) properties abutting a roadway.

Cross-Section: Depicts the characteristics of a roadway facility including lane, shoulder, and typical right-of-way widths.

Cultural Resources: A location, building, structure, or place with potential historic or archaeological significance.

Cumulative Impacts: The impact on the environment which results from the incremental impact of action(s) when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such action(s).

Deflection Limit: The amount of bending allowed for a bridge deck when it is supporting a load.

Design Loading: The amount of weight a bridge is designed to hold.

Design Hour: An hour with traffic volumes that represent a reasonable value for designing the geometric and control element of a facility.

Design Speed: A speed used to design the horizontal and vertical alignments of a highway.

Diverge: A movement in which a single lane of traffic separates into two lanes without the aid of traffic control devices such as when vehicles exit a freeway.

Draft Environmental Impact Statement (DEIS): An environmental document that is prepared when it is initially determined that the action/project may cause significant impacts to the environment, when environmental studies and early coordination indicate significant

impacts, or when review of a previously prepared environmental assessment indicates that the impacts anticipated to result from the project may be significant. The DEIS compares all reasonable alternatives to the proposed project and summarizes the studies, reviews, consultations, and coordination required by legislation and Executive Orders to the extent appropriate at the draft stage in the environmental process.

Endangered Species: Any species of fish, plant life, or wildlife that is in danger of extinction throughout all or a significant part of its range, other than a species of insects determined by the Department, or the Secretary, of the United States Department of the Interior to constitute a pest whose protection under this part would present an overwhelming and overriding risk to humans.

Facility: Any type of transportation infrastructure such as highways, local roads, transit centers, High Occupancy Vehicle (HOV) lanes, etc. that is used to move people and goods.

Family Independence Agency (FIA): The FIA is Michigan's public assistance, child and family welfare agency directing the operations of public assistance and service programs through a network of over 100 county family independence agencies in every county in Michigan

Farmland Protection Policy Act (FPPA): The purpose of FPPA is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. FPPA ensures, to the maximum extent practicable, that Federal programs are administered in a manner that is compatible with State, unit of local government, and private programs to protect farmland.

Farmland and Open Space Preservation Program: This program enables a farm owner to enter into a development rights agreement with the State, ensuring that the land remains in an agricultural use for a minimum of 10 years and that the land is not developed in a non-agricultural use.

Farmlands of Local Importance: The Natural Resources Conservation Service defines these farmlands as "those lands that are nearly prime and that economically produce high yields when treated and managed according to modern farming methods. Some may produce as high a yield as prime farmlands, if conditions are favorable" (USDA, 1983).

Federal Highway Administration (FHWA): Division of the U.S. Department of Transportation which funds highway planning and construction programs.

Final Environmental Impact Statement (FEIS): A document prepared in accordance with the National Environmental Policy Act (NEPA) identifying and addressing the social, economic, and environmental impacts of a Preferred Alternative and addressing public comments received during the formal public commenting period as well as the public comments received throughout the entire NEPA process.

Fen: A rare type of wetland that is low in nutrient systems and receives carbonate-rich ground water from seeps and springs.

Freeway: A divided arterial highway for through traffic with limited access, the intersections of which are usually separated from other roadways by differing grades (i.e. bridges).

Gables: The triangularly shaped area enclosed by the two sloped surfaces of a gable roof, which is a simple roof composed of two flat surfaces meeting to form a straight ridge, and the wall below. [With alterations, from: A Concise History of American Architecture by Leland M. Roth. New York: Harper & Row, Publishers, 1979.]

Gore Area: The area located immediately between the left edge of a ramp pavement and the right edge of the roadway pavement at a merge or diverge area.

Gothic Revival: A style of architecture popular in the United States between 1840 and 1880 characterized by the use of medieval or Gothic details, which commonly included pointed-arch (Gothic) windows, steeply pitched roofs, and elaborate decorated vergeboards at each gable.

Greek Revival: A style of architecture popular in the United States between 1825 and 1860 characterized by the use of classical details patterned after ancient Greek and Roman architecture. Greek Revival-style buildings commonly include prominent columns, wide bands of trim below the eaves or gables, and elaborate door surrounds.

Hydric Soils: A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.

Hydrophytic Vegetation: Plants which grow in wetlands and exhibit certain physical characteristics such as shallow root systems, swollen trunks, or roots found growing from the plant stem or trunk above the soil surface.

Illustrative Alternatives: Preliminary concepts developed at the onset of a transportation planning project. Illustrative Alternatives are typically very conceptual by nature and are intended to examine all potentially reasonable alternatives to address the transportation needs of the study area, prior to detailed study to identify their feasibility.

Impacts: Effects which occur as a result of implementing a transportation improvement; most commonly occurs when proposed right-of-way actually crosses a resource in question such as a residence, business, wetland, or other resources.

Infrastructure: Term used to describe the physical assets of a society or community including roads, bridges, transit facilities, bikeways, sidewalks, parks, sewer/water systems, communications networks, and other capital facilities.

Italianate Style: Configuration of artistic elements that together constitute a manner of expression peculiar to a certain epoch, people, or individual. A mid-19th-century North American residential architecture style, often featuring a low-pitched hipped roof topped by a belvedere.

Land Evaluation Site Assessment (LESA): LESA is a point-based approach for rating the relative importance of agricultural land resources based upon specific measurable features.

Karst Formation: This is a geological process, occurring over many thousands of years, resulting in unusual surface and subsurface features ranging from sinkholes, vertical shafts, disappearing streams, and springs, to complex underground drainage systems and caves.

K-value: The length of a vertical curve divided by the algebraic difference between intersecting tangent grades used for the vertical design of a roadway.

Land Use: The way specific portions of land or the structures on them are used and are typically based on local zoning guidelines. Example land uses include commercial, residential, industrial, retail, agricultural, vacant, etc.

Level-of-Service (LOS): A term that reflects the ability of a roadway to accommodate traffic. LOS ranges from A (representing free-flowing traffic at high speeds), B (speed somewhat restricted and short delays), C (speed is determined by traffic and moderate delays), D (tolerable but fluctuating speeds), E (roadway near capacity with limited speed and long delays) to F which has high congestion and generally restricted operating speeds.

Limited Access Facility: A freeway facility that does not have driveway access or roadway intersections. Access is limited to freeway interchanges.

Material Licensing Tracking System (MLTS): A database maintained by the Nuclear Regulatory Commission (NRC) that contains sites which possess or use radioactive materials and are subject to NRC licensing requirements.

Median: A barrier, often found on multi-lane roadways or freeways, which provides separation distance between conflicting traffic movements. A median can consist of either a grass or natural setting typical of a rural cross-section, or a concrete wall or guardrail barrier which is typical of an urban setting.

Merge: A movement in which two separate lanes of traffic combine to form a single lane without the aid of traffic signals or other right-of-way controls such as traffic merging or entering onto a freeway from an on-ramp.

Michigan Department of Environmental Quality (MDEQ): The State agency responsible for review of any wetland, floodplain, potentially contaminated sites, air quality, and/or water quality impacts.

Michigan Department of Natural Resources (MDNR): The State agency responsible for review of State threatened and endangered species, parkland, and fisheries impacts.

Michigan Department of Transportation (MDOT): The State agency responsible for planning, construction, and maintenance of all interstate, US, and State highways, bridges, and other modes of transportation within the state of Michigan.

Mitigation: Actions provided to avoid, minimize, or compensate the effect of impacts occurring as a result of an activity.

National Ambient Air Quality Standards (NAAQS): Air quality standards set by the USEPA for pollutants considered harmful to public health and the environment.

National Environmental Policy Act (NEPA): Federal act passed in 1969 which requires the assessment of the social, economic, and environmental impacts a federally funded or federally permitted project might cause, including identification of the purpose of and need for the project, and evaluation of alternatives to minimize resulting impacts.

National Pollution Discharge Elimination System (NPDES): As authorized by the Clean Water Act, the National Pollution Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point Sources are discrete conveyances such as pipes or man made ditches. Industrial, municipal, commercial, and other facilities must obtain permits if their discharges go directly to surface waters. The permits section of the Water Bureau within the Michigan Department of Environmental Quality is responsible for administering the permit program for the state.

National Register of Historic Places (NRHP): The National Register of Historic Places is the nation's official list of cultural resources worthy of preservation. This list was established under the National Historic Preservation Act of 1966 and is administered by the Department of the Interior

Natural Resources Conservation Service (NRCS): The Federal agency responsible for providing leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

Network: A transportation system with its many roadways and routes often shown either graphically or mathematically.

Non-Attainment Area: A designation by the United States Environmental Protection Agency of any place in the United States failing to meet national ambient air quality standards (NAAQS).

Non-Motorized Transportation: Bicycles, roller blades, running, walking, wheelchairs, scooters, sled dogs, etc.

Peak Hour: The 60-minute period in the AM or PM in which the largest volume of travel is generally experienced (e.g. rush hour).

Pollutant Standards Index (PSI): PSI was developed by the EPA to provide consistency and uniformity in reporting air pollution levels to the public on a daily basis.

Practical Alternative: Practical Alternatives are developed from refinements made to the initial Illustrative Alternatives. These alternatives are subject to increased levels of traffic, engineering, social, economic, and environmental analysis as well as public and agency comment to determine if they are capable of meeting the purpose and defined goals of the project.

Preferred Alternative: The Preferred Alternative is selected from the Practical Alternatives after extensive engineering, social, economic, and environmental analysis. It could include components of several Practical Alternatives in any combination found to be the most beneficial.

Prime Farmland: The Natural Resources Conservation Service has designated prime farmland as "land that has the best combination of physical and chemical characteristics for producing food, forage, fiber, and oilseed crops. The land could be crop, pasture, range, forest, or other uses, but does not include urban built-up land or water bodies since these two are considered irreversible uses. It has the soil quality, growing season, and moisture

supply needed to economically produce and sustain high yields when treated and managed according to modern farming methods, including water management" (USDA, 1983).

Public Hearing: A hearing formally advertised and convened to afford any person who deems their interest in property to be affected by a proposal an opportunity to be heard.

Recommended Alternative: An alternative recommended in the Final Environmental Impact Statement for Federal Highway Administration approval as required for design and construction utilizing federal funding.

Resource Conservation and Recovery Act (RCRA): Passed by Congress in 1976 to provide a cradle to grave management of hazardous waste. Regulation is enforced by the United States Environmental Protection Agency (USEPA) and Department of Environmental Protection (DEP).

Right-of-Way (ROW): Public land reserved for locating infrastructure such as a roadway or a utility line. A road right-of-way includes area for any required shoulders, drainage ditches, curb, median, barriers, and fences in addition to the roadway.

Rural Cross-Section: A roadway facility characterized by the presence of open drainage into ditches and no median barrier walls separating opposing lanes of traffic.

(Secondary) Impact: Effects "caused by an action later in time or farther removed in distance (from the right-of-way), but which is still reasonably foreseeable" (40 CFR 1508.8).

Section 4(f): This is Section 4(f) of the Department of Transportation Act of 1966. Section 4(f) states that no highway project should be approved which requires the "use" of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless there is no feasible or prudent alternative to the use of such land. In addition, adverse impacts to these 4(f) sites must include all possible planning to minimize harm resulting from such use. In the context of Section 4(f), "use" can be either a direct impact (taking of property), or a "constructive use", which may not actually require acquisition of land, but otherwise impairs the function of the resource through changes in access or surroundings.

Section 106: Section 106 of *The National Historic Preservation Act of 1966* is the main protection that archaeological, historical, and cultural resource sites have against the encroachment of federally-funded programs in the United States. Section 106 requires that the State Historic Preservation Office (SHPO) review all federal actions for any potentially adverse effect on cultural resources.

Small Quantity Generator Site: The Resource Conservation and Recovery Act database is maintained by the U.S. EPA and includes information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. A site is defined as a small quantity generator, large quantity generator, or storage/treatment facility depending on the quantity of waste generated and the length of time it is kept on site.

Special Concern Species: While not afforded legal protection under the Act, many of these species are of concern because of declining or relict populations in the state. Should these species continue to decline, they would be recommended for Threatened or Endangered status. Protection of Special Concern species now, before they reach dangerously low

population levels, would prevent the need to list them in the future by maintaining adequate numbers of self-sustaining populations within Michigan. Some other potentially rare species are listed as of Special Concern pending more precise information on their status in the state; when such information becomes available, they could be moved to Threatened or Endangered status or deleted from the list.

State Historic Preservation Office (SHPO): In 1966, in response to growing public interest in historic preservation, Congress passed *The National Historic Preservation Act*. The act required that each state establish a SHPO and that the governor of each state appoint an officer to oversee the preservation activities. Michigan's SHPO was established in the late 1960s. Its main function is to provide technical assistance to local communities in their efforts to identify, evaluate, designate, and protect Michigan's historic resources. The SHPO works closely with the Office of the State Archaeologist to accomplish its goals.

Stopping Sight Distance: Stopping sight distance is the sum of two distances: (1) the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied; and (2) the distance needed to stop the vehicle from the instant brake application begins. These are referred to as brake reaction distance and braking distance, respectively.

Superelevation: The slope to which a roadway lane is angled.

Superstructure: Costly bridge, framework, building, or other object that has been put together from many different parts.

Technical Memorandum: Reports detailing the processes and descriptions of various analyses such as Traffic, Air and Noise, Wetland Delineation, and others which were used to prepare an Environmental Assessment or Draft and/or Final Environmental Impact Statement.

Temporary Impact: Refers to impacts occurring during construction that cease to exist after construction associated with the project is completed (e.g. dust associated with construction activities).

Threatened Species: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Toxic Chemical Release Inventory System Site (TCRIS): A database that identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA title III, Section 313. This database is maintained by the U.S. EPA.

Traffic Count: Mechanical, digital, or photographic means of quantifying the number and type of vehicles at a given location. Counts may be determined from raw base data (axle counts divided by two to give an estimation of passenger vehicles), or by more sophisticated means to quantify vehicle type (passenger, light truck, heavy truck, bus, etc.). Counts typically are performed for an identified peak period (AM - early/"rush hour" morning, PM - late/"rush hour" afternoon, other industry-determined period) or for a 24-hour period. 24-hour counts may be adjusted for weather, seasonal, and other factors to arrive at a representative annual average daily traffic count (AADT).

Transit: Transportation mode involving buses, trains, and other vehicles that individually move larger numbers of people than do individual automobiles. Also known as mass transit, public transit, public transportation, or urban transit.

Transportation System Management (TSM): Reasonable small-scale roadway improvements such as traffic signal improvements, turn restrictions, turn lanes, and short distance local road improvements.

Travel Demand: The counted or projected volume of traffic that is or will be utilizing a roadway in a specified time period (i.e., 24-hours, peak periods, etc.).

Travel Forecasting: The process by which demographic (population and employment) and land use projections are used to determine potential future vehicle trips on a given transportation network.

Trout Stream: A stream designated as potential trout habitat based on the average temperature of the water, approximately 55°F or colder.

Under Clearance: The vertical distance from the surface of a roadway to the bottom of a bridge deck crossing over that roadway.

Underground Storage Tank Site (UST): Sites containing one or more underground storage tanks (USTs) or those found to show evidence of an existing or removed tank during site reconnaissance. Depending on the type, age, and condition of the UST and associated underground piping, sites of this type may present a risk for soil and/or groundwater contamination.

Unique Farmlands: The Natural Resources Conservation Service has defined unique farmlands as "land other than prime farmland that is used for the production of specific high value food and fiber crops. These lands have a special combination of factors needed to economically produce sustained high quality yields of a specific crop when treated and managed according to modern farm methods. The special factors that make the land unique include soil quality, growing season, temperature, humidity, elevation, moisture supply, or other conditions such as nearness to market that favor growth of a specific crop. Moisture supply is in the form of stored moisture, precipitation, or a developed irrigation system."

United States Bureau of Economic Analysis (BEA): An agency of the Department of Commerce and part of the Department's Economics and Statistics Administration. It seeks to strengthen the understanding of the U.S. economy and its competitive position by providing the most accurate and relevant Gross Domestic Product (GDP) and economic accounts data in a timely and cost-effective manner.

United States Environmental Protection Agency (USEPA): A federal agency that is charged with protecting the natural resources of the country.

United States Army Corps of Engineers (USACE): The federal agency responsible for review of all water crossings of navigable streams. The current US-131 study area does not include any navigable waterways. The USACE also serves in an advisory role on wetland impacts of Michigan highway projects.

United States Department of Agriculture (USDA): The federal agency responsible for review of any prime and unique farmland impacts.

United States Fish and Wildlife Service (USFWS): The federal agency responsible for review of the impacts on any federally listed threatened and endangered species. The USFWS also serves as an advisory agency for many other environmental issues including wetland and habitat impacts.

Urban Cross-Section: A roadway facility characterized by enclosed drainage. Urban divided freeway cross-sections have a median barrier wall separating opposing lanes of traffic.

Weaving: The crossing of two or more traffic streams traveling in the same direction along a significant length of a highway, without the aid of traffic control devices except for guide signs.

Wetland Complex: Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetland Mitigation: Avoidance, minimization, and compensation for the loss of functional values associated with wetlands impacted by an activity. The most common types of compensation include wetland restoration reestablishing some or all of the values associated with wetland where wetland formerly occurred, and wetland creation (establishing new wetland in an upland or drained area).

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12.0 CORRECTIONS TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The following corrections were noted in the Draft Environmental Impact Statement:

- Page xiii, third paragraph, second sentence – revise to read: “Mitigation will be necessary to minimize potential impacts.....”
- Page xiii, fourth paragraph, first sentence – revise to read: “Potential impacts to threatened and endangered plant and animal species could occur at the sites.....”
- Page xiii, fifth paragraph, third and fourth sentence – revise to read: “An archaeological reconnaissance survey will be conducted for a Preferred Alternative that involves a Build Alternative. Survey results will be incorporated into the Final Environmental Impact Statement.”
- Page xvi, first paragraph – revise to read: “Section 4.30, Mitigation Summary provides.....”
- The last sentence of Section 6.1 states “...Table 3.10 in Section 3.21, Cultural Resources.” It should read, “...Table 3.10 in Section 3.20, Cultural Resources.”
- Page 6-1, third paragraph, last sentence – replace the words “Table 3.10” with “Table 3.11.”
- In Appendix A, Figure A.1, Sheet 3 of 4, the St. Joseph River is incorrectly labeled as the Portage River.
- In Appendix A, Figure A.1, Sheet 3 of 4, Portage Avenue is incorrectly labeled as Buckhorn Road.
- In Appendix A, Figure A.1, Sheet 3 of 4, Kerr Creek is incorrectly labeled as Rocky River.
- Third paragraph, last sentence in Appendix A.6 reads “Table 3.7 in Section 3.13”, Aquatic Issues summarizes the wetlands delineated during the field surveys. It should read “Table 3.8 in Section 3.13...”