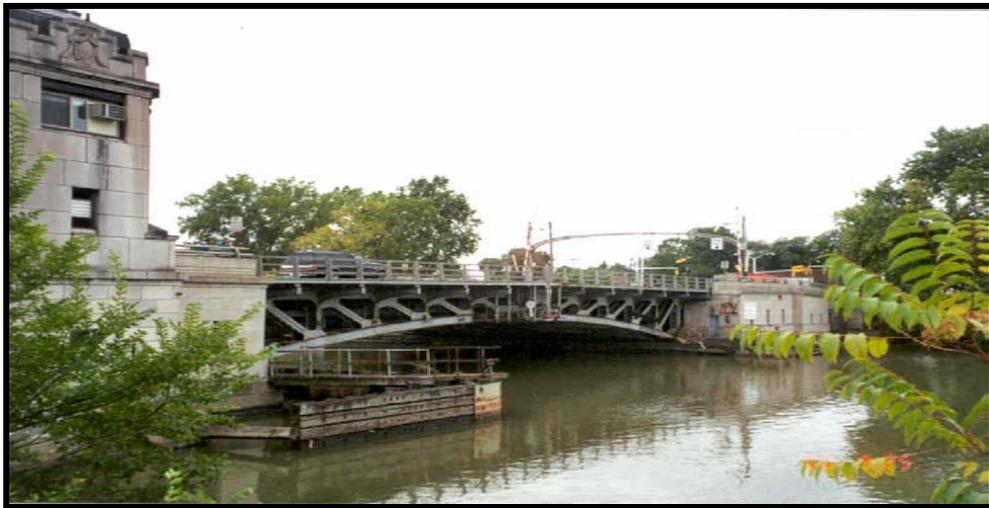


**SUPPLEMENT TO THE  
ENVIRONMENTAL ASSESSMENT  
PROGRAMMATIC SECTION 4(F) EVALUATION**

**For the Proposed  
Replacement of the Fort Street (M-85) Bascule Bridge  
Over the Rouge River in the City of Detroit  
Wayne County, Michigan**



Prepared by the:



In cooperation with the

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
U.S. ARMY CORPS OF ENGINEERS  
U.S. COAST GUARD**

This document has been published by authorization of the Director of the State of Michigan's Department of Transportation in keeping with the intent of the *National Environmental Policy Act of 1969* and subsequent implementing regulations and policies including *Title VI of the Civil Rights Act of 1964* that direct agencies to provide the public and other agencies an opportunity to review and comment on proposed projects and alternatives so that potential impacts on the project can be considered and taken into account during the decision-making process. The cost of publishing 60 copies of this document at \$2.75 per copy is \$165.00, and the document has been printed in accordance with *Michigan Executive Directive 1991-6*.

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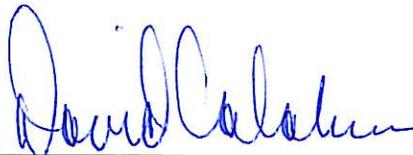
**and**

**COOPERATING AGENCIES:  
U.S. COAST GUARD and U.S. ARMY CORPS OF ENGINEERS**

**APPROVED:**

3/9/2010

Date



for the Federal Highway Administration

**For additional information concerning the proposed project, or this document, contact:**

**Mr. Phil Lynwood  
Area Engineer  
Federal Highway Administration  
315 West Allegan Street, Rm. 201  
Lansing, MI 48933**

**Phone: (517) 702-1859**

**Mr. David Wresinski, Administrator  
Project Planning Division  
Michigan Department of Transportation  
P.O. Box 30050  
Lansing, MI 48909**

**Phone: (517) 373-8258**



## PREFACE

The National Environmental Policy Act (NEPA) of 1969 requires the analysis of all social, economic, and natural environmental impacts of any proposed action of the federal government. This project includes the use of federal funds. There are three classes of action. Class I Actions are those that may significantly impact the environment. These projects require the preparation of an Environmental Impact Statement (EIS). Class II Actions (Categorical Exclusions) are those that do not have a significant impact on the environment. Class III Actions are those projects which the significance of impacts is not known. Class III Actions require the preparation of an Environmental Assessment (EA) to determine the significance of impacts and the appropriate environmental document to be prepared - either an EIS or a Finding of No Significant Impact (FONSI).

This document is a Supplement to the EA/Programmatic Section 4 (f) Evaluation for the proposed replacement of the Fort Street (M-85) Bridge over the Rouge River in the city of Detroit, Wayne County, Michigan. The original EA/Programmatic Section 4(f) was approved on November 10, 2004. A public hearing was held on January 12, 2005 with the FONSI being approved on May 12, 2005. This supplement describes and analyzes a previous alternative that was developed during the original EA, but was not selected as the build alternative because this alternative would only replace the existing bridge without improving the Fort Street/Oakwood Boulevard intersection, and would not provide an opportunity to retain the operator's house. This proposed alternative would replace the existing drawbridge on the existing alignment, rather than replace the bridge on a 13 degree skew, south of the existing bridge; and would also improve traffic operations at the intersection of Fort Street and Oakwood Boulevard.

The Supplement to the EA/Programmatic Section 4 (f) Evaluation will be used for decision-making and public information purposes for replacing the M-85 Bascule Bridge over the Rouge River as described above. The Supplement document will be distributed to the public and to various federal, state and local agencies for review and comment. A public hearing will be held on the project. If the review comments submitted by the public and interested agencies support the decision that there will be "no significant impact," a FONSI will be prepared. If it is determined that the new selected alternative will have significant impacts that cannot be mitigated, an EIS will be prepared.

This document also contains an Amended Programmatic Section 4(f) Evaluation. This evaluation is required when the proposed project has an adverse effect on a property eligible for or listed on the National Register of Historic Places. This evaluation must determine that there is no prudent and feasible alternative that avoids the 4(f) impact, and that all possible measures to minimize harm have been taken. A draft Memorandum of Agreement (MOA) to satisfy the requirements of Section 106 of the National Historic Preservation Act, is included **Appendix E**. This MOA will replace the 2005 MOA which was terminated by FHWA. The draft MOA and Project Mitigation Summary Green Sheet (found at the end of Section 2 of this document), describes project mitigation commitments.



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## **SECTION 1 - PROPOSED PROJECT**

### **1.1 Description of and Need for a Supplement to the Environmental Assessment/Programmatic Section 4(f) Evaluation**

This document is a Supplement to the Environmental Assessment (EA)/Programmatic Section 4 (f) Evaluation for the proposed replacement of the Fort Street (M-85) Bridge over the Rouge River in the city of Detroit, Wayne County, Michigan. The EA/Programmatic Section 4(f) was approved on November 10, 2004. A public hearing was held on January 12, 2005 with the FONSI being approved on May 12, 2005. Since that time, costs for obtaining the necessary right of way needed to construct the new bridge south of the existing structure have escalated, forcing MDOT to reconsider a previous alternative that was analyzed in the original EA. MDOT is now proposing to replace the drawbridge on the existing alignment which will reduce the right of way costs significantly. Intersection improvements at Fort Street and Oakwood Boulevard are also being proposed as part of this new preferred alternative.

### **1.2 Description and Purpose of and Need for the Proposed Project**

#### **1.2.1 Description of the Existing Bridge**

The M-85 structure over the Rouge River is a double-leaf Chicago Style bascule bridge (drawbridge). The structure is commonly referred to as the Fort Street Bridge and will be referred to as such throughout the remainder of this document. Built in 1922, the bridge is considered historically significant and is protected by Section 4(f) of the Department of Transportation Act. Further discussion of the bridge's historic nature is given in *Section 3 – Section 4(f) Evaluation*. The bridge carries five lanes of traffic and two eight-foot sidewalks over the Rouge River in Detroit between Dix Avenue and I-75. (See **Exhibit 1** for the project location). The total length of the structure is approximately 278 feet, measured from the centerline of bearing at abutment A to the centerline of bearing at abutment B. The roadway is 56 feet wide between curbs and has an overall width of 74 feet. Each bascule pier is 80 feet long and 95 feet wide and houses the motors, pinion gears, and racks used to lift the leaves to allow water craft to pass through the shipping channel. The existing horizontal clearance (distance between fenders) of the channel is 118 feet.

Each movable leaf measures 82 feet from trunnion (horizontal pivot point) to toe (end of the bascule leaf). Stationary spans over the bascule piers measure approximately 35 feet long, and each approach span is 29 feet long (See Photograph 7 in **Appendix A**). The roadway deck of the bascule portion of the bridge is an open grid steel deck, flanked by steel grid sidewalks. The trunnion and approach spans carry concrete roadway decks, while the roadway approaches are paved with asphalt. The two abutments are reinforced concrete supported on timber piles. The piles are arranged as to miss the two brick utility tunnels beneath the bridge.

The bridge originally had two operator houses. However, the operator's house at the southwest corner was removed during a previous rehabilitation. The streetcar tracks, decorative approach, and original bridge railings have also been removed. The remaining octagon-shaped operator's house is located at the northeast corner of the bridge. An operator opens the bridge on an

average of six to eight times per day. Although most openings are of short duration, about 10 percent may last 15 minutes or more.

Based on 2009 traffic data, the average daily traffic (ADT) on the existing bridge is 10,450 vehicles. Commercial traffic on Fort Street at the Miller Street intersection is approximately 15 percent and approximately 14 percent on Fort Street at Oakwood Boulevard. Oakwood Boulevard carries about 7 percent commercial traffic during peak hours. The 2030 ADT is expected to be approximately 11,550 vehicles with approximately the same percentage of commercial traffic. The intersections at both ends of the bridge operate at Level of Service (LOS) B or above and are expected to operate at the same level in the future. According to 2001 AASHTO, LOS D or above is acceptable.

### **1.2.2 Purpose of and Need for Replacing Historic Bridge on the Existing Alignment**

The purpose and need for replacing this historic bridge on the existing alignment rather than on a 13° Skewed Alignment, remains the same. The primary purpose of the proposed project is to correct deficiencies of the bascule bridge so traffic flow on Fort Street (M-85) over the Rouge River, as well as boat traffic within the river channel, can be maintained. The secondary purpose is to improve traffic operations at the intersection of Fort Street and Oakwood Boulevard.

The need to rehabilitate or replace the bridge is driven by its deteriorating condition. Specific bridge deficiencies include inward pier migration, structural deterioration, inadequacies in the electrical and mechanical systems, a substandard fender system, and a horizontal clearance that does not meet current U.S. Coast Guard standards. Although extensive repairs have been made to the bridge over the years, replacement or a major rehabilitation is imminent. In addition to correcting deficiencies associated with the bridge, there is also a need to improve the traffic operations at the Fort Street/Oakwood Boulevard intersection.

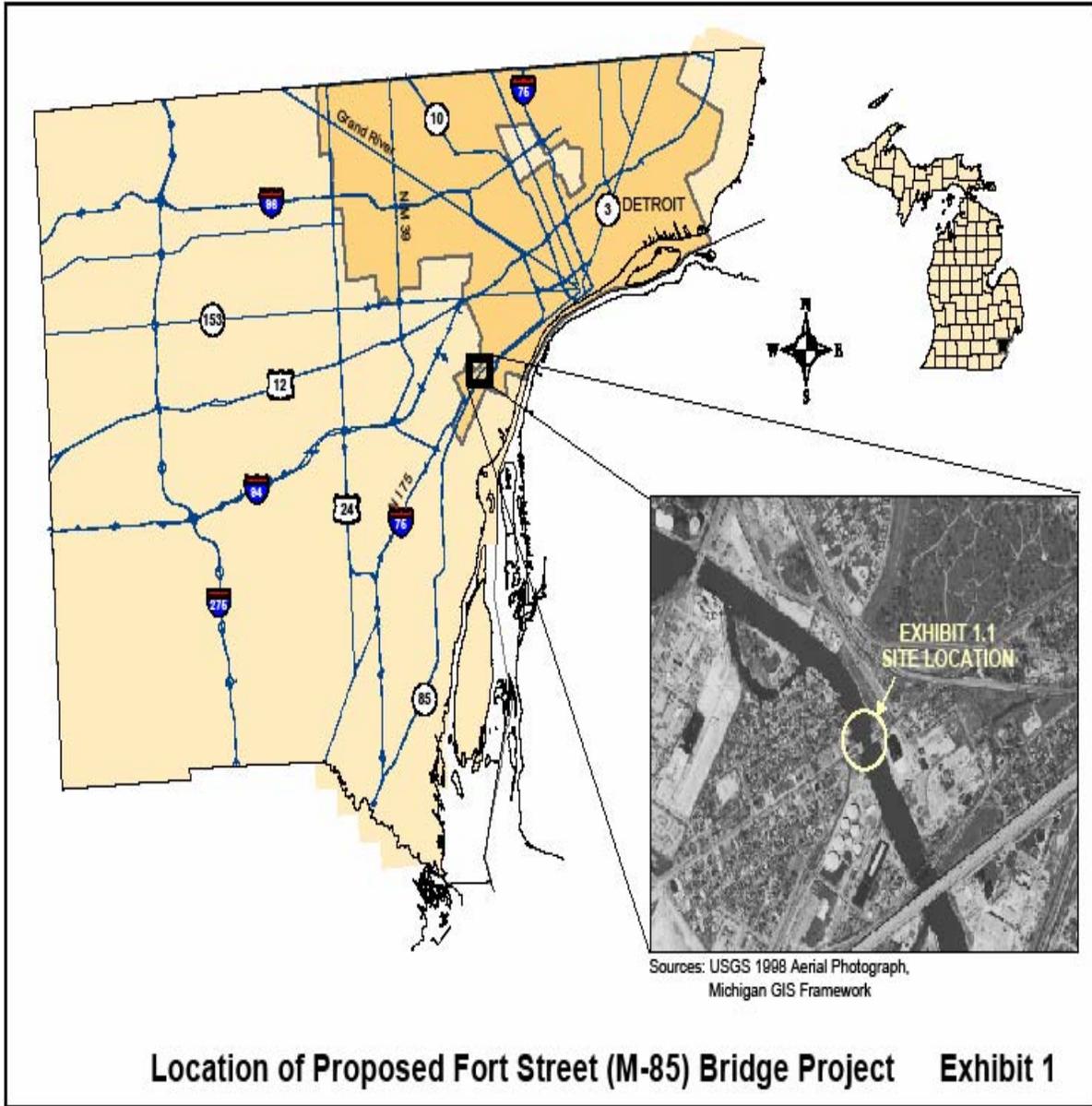
### **1.2.3 Bridge Deficiencies**

***Pier migration.*** Previous investigations have documented that the bascule piers have moved together almost six inches over the life of the structure, interfering with the opening and closing of the bascule leaves. Several maintenance procedures have been employed to alleviate problems associated with the inward migration of the piers. In 1964, an automatic sprinkler system was installed to cool off the ends of the bridge so the leaves would close properly in warm weather. In 1978, MDOT rebuilt the ends of the bascule leaves, shortening them so as not to impede bridge operations. The future stability of the piers is in question. Cracks in the brickwork and concrete are visible in the machinery rooms of the bascule piers.

***Structural deterioration.*** According to the most recent Bridge Safety Inspection, conducted in September 2009, the Fort Street bridge superstructure is generally in fair to poor condition. (Refer to **Appendix B** for a copy of the report.) All the built-up members have active corrosion in the seams between back-to-back angles at the members' lacing bars and batten plates. Corrosion and pack rusting are generally worse at the inboard bascule trusses. The floor beams on the bascule span are trussed type members and are generally in poor condition. Active

# Exhibit 1

## Location of Proposed Fort Street Bridge Project



corrosion and section loss have typically developed at the top flange connection to the inboard bascule trusses; in many cases corrosion has caused holes in the connecting material reducing the capacity of the connection. The floor beams also have section loss on the outstanding legs of the top and bottom flange angles. The open grid roadway deck on the bascule span, installed in 1978, is in fair to poor condition. There are several areas where there are bent or missing grating bars. Photographs 3 and 4 in **Appendix A** illustrate structural deterioration documented during the bridge's structural system inspection in 1998.

***Horizontal clearance.*** According to navigational charts, the distance between fenders is 118 feet. The U.S. Coast Guard has stated that a horizontal clearance of less than 135 feet is not conducive to maintaining safety to the bridge and transiting vessels, nor could a lesser clearance be established to meet the needs of future navigation on the Rouge River.

***Electrical system inadequacies.*** In general, the electrical equipment is operational and well-maintained. However, many of the components are from the 1970s or earlier and are of obsolete manufacture. There are no in-sight disconnect switches for the main span motors and center lock motor, which is a National Electric Code violation. Limit switches are not provided on the motor and machinery brakes, which is in violation of American Association of State Highway and Transportation Officials (AASHTO) standards. Results of insulation resistance to ground tests performed on motors and feeders indicated deterioration and the possibility for a failure.

***Mechanical system inadequacies.*** The mechanical components of the bridge are in satisfactory condition, but they show their age with respect to wear and design. The gears and bearings show considerable wear but appear to be well-aligned. The span locks are worn to the point of being out of tolerance. The mechanical components of the bridge would not meet current AASHTO requirements. Long term use of the bridge would require complete mechanical rehabilitation.

***Substandard fender system.*** The fender system, necessary to protect the piers from accidental collision with freighters traveling the Rouge River, is in fair condition. Repairs to the fender system were completed in 2001 and were intended to extend the serviceable life of the bridge by about ten years. The existing fender system is minimal, deteriorating, and does not meet current AASHTO guidelines. The fender system is visible in Photographs 1 and 5 of **Appendix A**.

#### **1.2.4 Traffic Flow on M-85**

***Fort Street/Oakwood Boulevard intersection.*** The alignment of the roads at the west end of the bridge does not provide for the most efficient flow of traffic. Of the five lanes on the bridge, two are for eastbound traffic and three are for westbound traffic. Traffic in the right westbound lane must continue west on Oakwood Boulevard. Traffic in the left and center lanes must make a left turn at the intersection and continue south on Fort Street. Modifications to the intersection at the west end of the bridge would improve traffic operations by adding either a 2-phased light which would improve traffic flow on both Fort Street and Oakwood Boulevard, or a 3-phased light which would allow for a left turn lane on northbound Fort Street to westbound Oakwood Boulevard. The community will have an opportunity to provide input into the final decision

regarding the addition of the left turn lane from northbound Fort Street to westbound Oakwood Boulevard. See Photograph 6 in **Appendix A** for a view of the existing intersection.

## **1.3 Alternatives**

### **1.3.1 No Action Alternative**

The no-action alternative involves taking no action to rehabilitate or replace the existing structure, other than routine maintenance. Routine maintenance would not correct all of the deficiencies that may cause structural failure which could eventually lead to the permanent closure of the bridge. Therefore, this alternative is not recommended but is used as a benchmark for analyzing the other alternatives.

### **1.3.2 New Preferred Alternative - Replacement of Bascule Bridge on Existing Alignment (Alternative A)**

The New Preferred Alternative shown in **Exhibit 2** would involve constructing a new single-leaf bascule bridge over the Rouge River using the existing alignment, and adding a 2-phased light at the intersection of Fort Street and Oakwood Boulevard which would improve traffic operations for motorists and allow pedestrians and other non-motorized users to safely cross the street at this intersection. A second option shown in **Exhibit 2A** would still involve constructing a new single-leaf bascule bridge on existing alignment, but would include constructing a left turn lane from northbound Fort Street to westbound Oakwood Boulevard with a 3-phase light at the intersection. This movement would allow motorists an opportunity to turn on to west Oakwood Boulevard from north Fort Street; and non-motorized users would be able to safely cross the street at this intersection. The public will have an opportunity at a Public Hearing to provide input into the final decision regarding the left turn lane. To satisfy U.S. Coast Guard requirements, the horizontal clearance of the new bridge would need to be increased from 118 feet to at least 135 feet. The new bridge would have five twelve-foot lanes with eight-foot sidewalks on both sides. Barriers would separate bridge traffic from pedestrians and bicyclists and improve safety. **Exhibit 4** shows a typical cross section of the proposed structure.

Constructing a new bascule bridge on the existing alignment would result in a shorter bridge span, with a correspondingly lower cost than building on a new alignment. However, there will be additional costs to adjust substructure footings to avoid the existing caissons and the existing brick utility tunnels underlying the bascule piers and abutment footings. Utilities will be relocated from the existing tunnels under the existing M-85 structure and reburied in MDOT's right of way adjacent to the new bridge and approaches. The existing brick utility tunnels under the existing structure will be removed or filled during construction operations.

MDOT is also proposing two different structure options for replacing the bridge. The two options are: A single-leaf bascule with an overhead counterweight and a single-leaf bascule with a below-deck counterweight. The overhead counterweight option would save several million dollars by not having to construct a very large and deep pit within the pier to accommodate the counterweight. Not having a large counterweight pit also avoids the cost to maintain a pit. However, this overhead counterweight would be a large structure that would be visible to the

Community (See **Exhibit 3**). The large counterweight for the second option would not be visible to the community since it would be fully contained within an enclosed pier (See **Exhibit 3A**). The public will have an opportunity to view and comment on both options at a Public Hearing which will be held after the Supplement has been approved by FHWA.

A bridge closure and detour of up to two years will be required for vehicular traffic. See *Section 2.5 – Maintaining Traffic*, for further details about the proposed detour. Boat traffic in the channel will be maintained during construction.

Replacing the bridge on its existing alignment would satisfy U.S. Coast Guard requirements, improve traffic flow at the Fort Street/Oakwood Boulevard intersection, and the costs for obtaining right of way for this alternative would be substantially less than the costs for obtaining right of way for Alternative B. (See *Replacing the Bridge on A New Alignment (Alternative B)*). Therefore, Alternative A is the preferred alternative and its potential impacts are addressed in this Supplement.

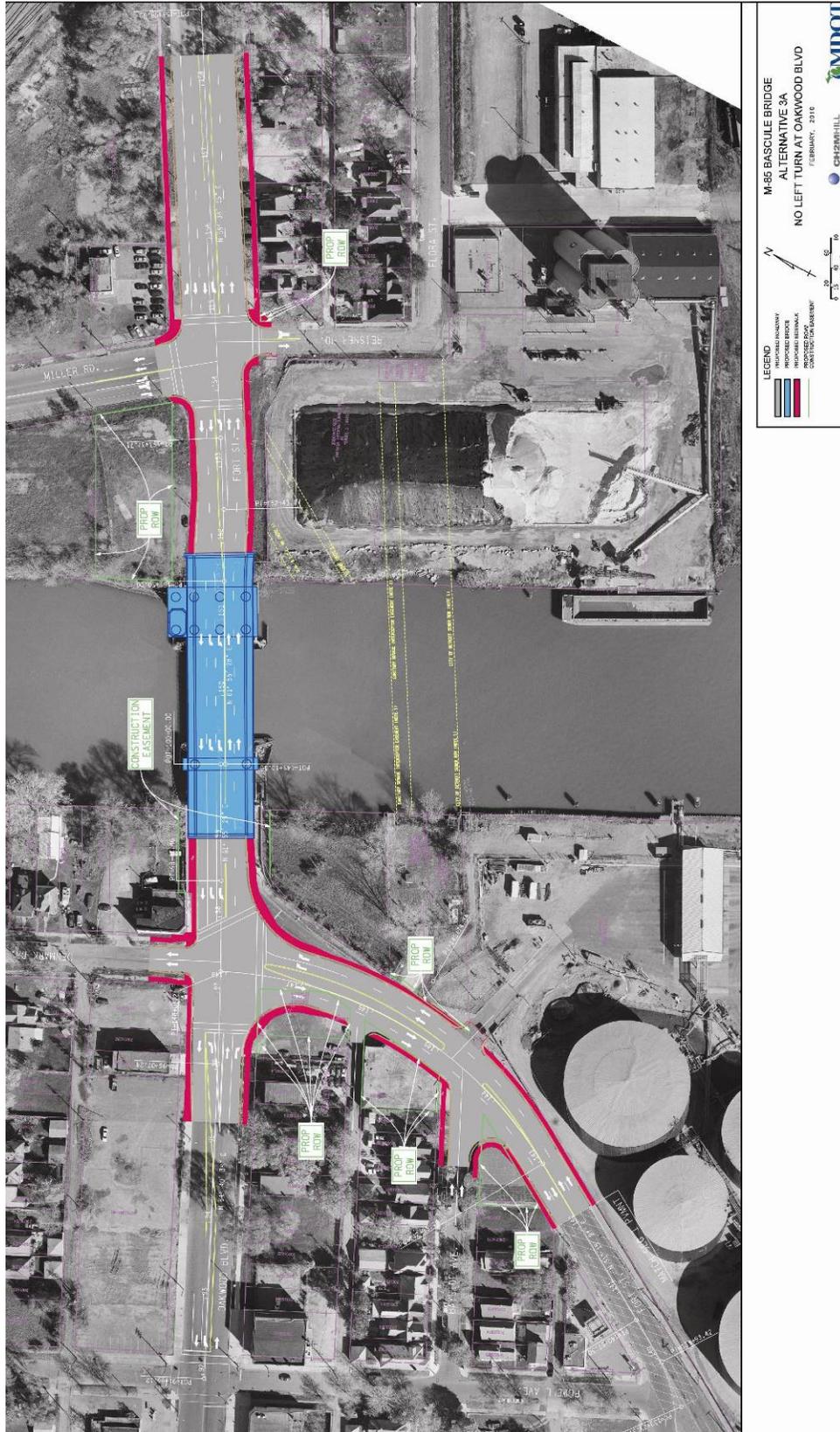
### **Replacing the Bridge on a New Alignment (Alternative B)**

Alternative B, shown in **Exhibit 5** would involve constructing a new bascule bridge with a new alignment to improve the Fort Street/Oakwood Boulevard intersection. This alternative would favor Fort Street making it the primary movement. To satisfy U.S. Coast Guard requirements, the horizontal clearance of the new bridge would need to be increased from 118 feet to at least 135 feet. The lanes and sidewalks would have the same dimensions as described in Alternative A and illustrated in *Exhibit 4 – Cross Section of Proposed Bridge*. Building on a new alignment may also allow for the retention of the operator's house, thereby providing an opportunity for mitigating the historic aspect of the existing bridge. Measures to record the historic nature of the existing bridge are outlined in Section 3.6 of the Section 4(f) Evaluation and in the draft Memorandum of Agreement (**Appendix E**).

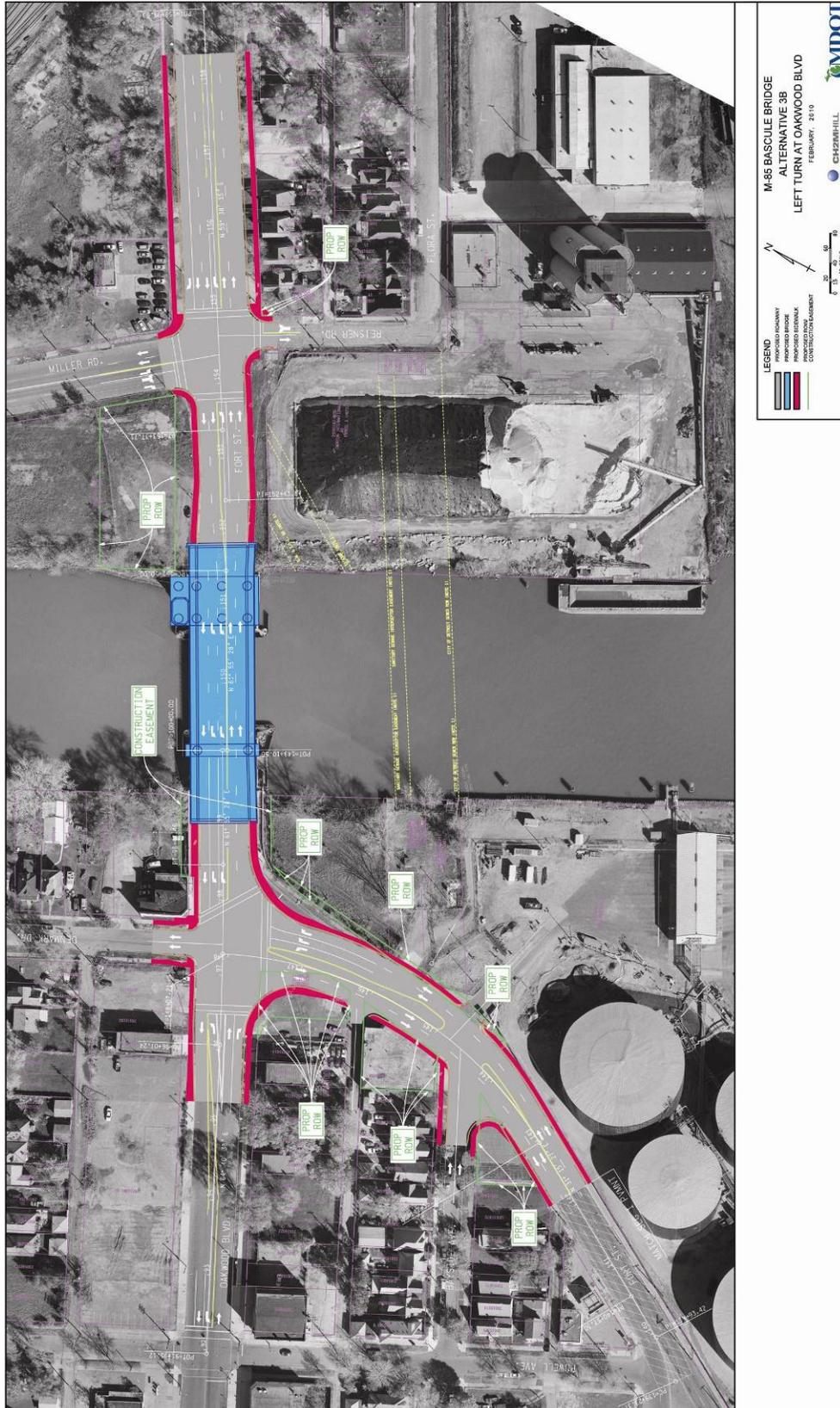
Alternative B would have required additional right-of-way from Marathon Oil, Wayne County Department of Public Works (vacant lot at the southwest quadrant), Morton Salt (part of the salt storage yard at the southeast quadrant), part of the parking lot on the corner of Oakwood Boulevard and Denmark Avenue, and a small portion from the lot at Fort Street and Reisener Street. Building on a new alignment south of the existing structure, at a 13° skew, would increase the length of the bridge and the construction cost. The additional construction costs would be offset by less complex construction with minimal or no impact to the existing utility system in brick tunnels beneath the existing bridge. Overall costs for Alternative B would be substantially more than replacing the bridge on its existing alignment because of excessive right of way costs for obtaining property from Morton Salt and Marathon Oil. A bridge closure and detour of up to two years would be required for vehicular traffic, as referenced previously for Alternative A. Boat traffic in the channel would be maintained during construction.

Alternative B would satisfy U.S. Coast Guard requirements, improve the Fort Street/Oakwood Boulevard intersection, have minimal impacts to utilities in the tunnel beneath the bridge, but because of excessive right of way costs this alternative is no longer feasible.

## Exhibit 2 - Replacement on Existing Alignment



# Exhibit 2A Replacement on Existing Alignment (with Left Turn Lane)



**Exhibit 3 - Proposed Bridge with Overhead Counterweight**



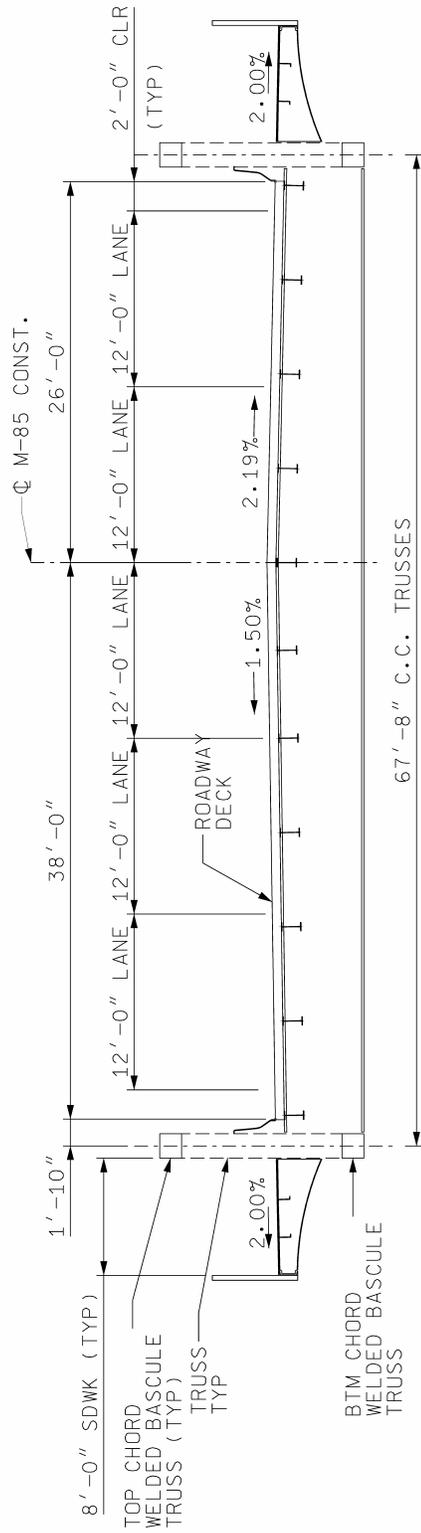
**AERIAL VIEW OF PROPOSED BRIDGE - OVERHEAD COUNTERWEIGHT**

**Exhibit 3A - Proposed Bridge with Underdeck Counterweight**



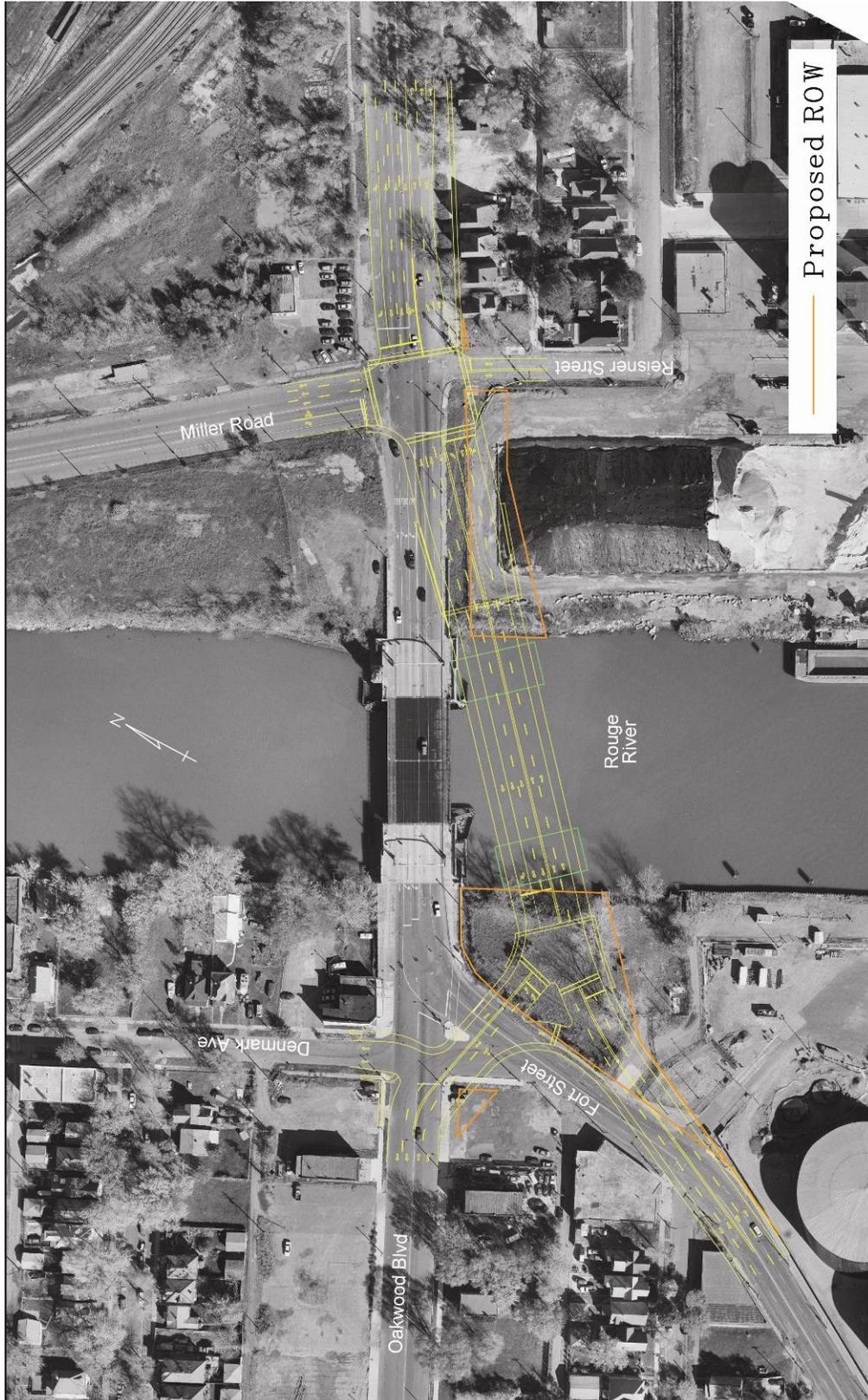
**AERIAL VIEW OF PROPOSED BRIDGE - UNDERDECK COUNTERWEIGHT**

# Exhibit 4 - Cross Section of Proposed Bridge



PROPOSED SECTION AT FLOORBEAMS  
 LOOKING UPSTATION (EAST)

**Exhibit 5 - Fort Street (M-85) Bridge Replacement on 13° Skewed Alignment**



## **SECTION 2 - AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MEASURES TO MITIGATE IMPACTS**

As with all proposed projects, MDOT and FHWA have conducted a review of potential social, economic, and environmental impacts associated with replacing the bridge on the existing alignment. Impacts that had a reasonable possibility for individual or cumulative significant impacts were analyzed as part of this supplement. The result of this analysis and measures to minimize short-term impacts during construction are discussed below. Specific mitigation measures for the proposed replacement of the Fort Street Bridge are described on the *Green Sheet: Project Mitigation Summary* following this section.

### **2.1 Right-of-Way Impacts**

In order to replace the Fort Street (M-85) Bascule Bridge over the Rouge River on the existing alignment and improve the Fort Street and Oakwood Boulevard Intersection, MDOT will need to acquire fee right of way on both sides of the existing bridge and along Fort Street. There will be 4 properties that will be acquired as total takes and 6 properties that will be partial takes. Partial fee right of way will be needed at the corner of Fort Street and Reisener Street, and at the northeast corner of the bridge. MDOT will also need to acquire right of way south of the Fort Street/Oakwood Boulevard intersection in order to improve traffic operations. Fee right of way (partial takes) on the east side of Fort Street, south of the Fort Street/Oakwood Boulevard will be required from the Marathon Oil Company, Wayne County Department of Public Works, and the City of Detroit (DWSD). On the west side of Fort Street, south of the intersection, MDOT will need to acquire four properties and one partial take. The properties that will be acquired as total takes include a parking lot, two commercial buildings (auto repair and warehouse) and a vacant lot. No residential structures will be impacted or displaced. A conceptual stage relocation plan and a more detailed listing of right of way acquisition can be found in **Appendix C**.

Two easements will be needed to relocate the utilities from the existing tunnels under the existing M-85 structure, and relocated on future MDOT right of way at the northeast corner of the bridge (currently CSX property). An easement north of Bryan's Café will also be needed to relocate the utilities on the west side of the river at the northwest corner of the bridge.

All fee right-of-way will be acquired in conformance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

### **2.2 Social Impacts**

The proposed project will not cause any long-term negative impacts on any minority, ethnic, low-income, elderly or handicapped groups, or on area schools, churches, recreation areas, or police and fire protection facilities. No neighborhoods will be permanently separated from community facilities or services. However, there will be temporary impacts to the residents, businesses, community services, motorists, pedestrians, bicyclists, transit users, and emergency services during the two-year construction of the new bridge. MDOT will need to close the existing bridge and detour traffic for two years to construct the new bridge. During the two-year construction period, motorists (including emergency vehicles) and transit and non-motorized

users will incur longer travel times and distances in crossing the Rouge River to reach their destinations. Access will be maintained to area businesses and residences located on each side of the river during construction. For a complete discussion of the detour route refer to *Section 2.5 – Maintaining Traffic*.

**Mitigation measures.** As part of an on-going coordination effort, MDOT will continue to coordinate with the city of Detroit and the community in providing information about the proposed project and detour route, and implementing mitigation measures to minimize delays in response time of emergency vehicles during the two year construction period. MDOT will also continue to coordinate with the city’s Department of Transportation and the Detroit School District regarding transit routes that will need to be adjusted during the construction of the new bridge.

### **2.3 Considerations Relating to Pedestrians, Bicyclists, and Transit Users**

The existing Fort Street Bridge has eight foot sidewalks on both sides of the bridge which provides connectivity to the existing sidewalks in the adjacent neighborhoods on both sides of the river. During the construction of the new bridge, pedestrians and bicyclists will not be able to use the Fort Street Bridge to cross over the Rouge River. Non-motorized users will have to travel about three-quarters of a mile northwest to the Dix Bridge via Miller Street or about one and one-quarter mile northwest via Oakwood Boulevard, Sanders, and Dix Avenue to cross the river.

Although non-motorized users will be required to travel longer distances to cross over the Rouge River, there are sidewalks and paths adjacent to local streets that pedestrians and bicyclists can use to reach the Dix Bridge crossing. After the new bridge has been constructed, non-motorized users will once again have access to the new eight-foot sidewalks on both sides the bridge. The new bridge will have a barrier between the sidewalk and roadway, which will improve safety for pedestrians and bicyclists. The new eight-foot sidewalks are compatible with the Rouge River Gateway Master Plan and the regional Greenways Initiative as discussed in *Section 2.10 – Visual Resources*.

**Mitigation measures.** Signing for temporary routes for non-motorized and pedestrian users.

### **2.4 Environmental Justice**

The purpose of Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority and Low-Income Populations is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Long-term disproportionately high and adverse human health or environmental effects on minority and low-income populations are not anticipated as a result of this project.

The presence of minority and low-income populations within the affected area was determined by an analysis of the U.S. Census Data for 2000, field reviews, and discussions with local officials. The minority population in the city of Detroit is more than 85 percent, while 26 percent of the residents in the city are considered low-income per the poverty guidelines established by the U.S. Department of Health and Human Services. The minority population in the project area

varies from 98 percent in the Boynton sub-community which is located on the west side of the Rouge River to 67 percent in the Vernor sub-community which is located on the east side of the Rouge River. The low-income population for these two sub-communities also varies. The percentage of residents who are considered low-income in Boynton and Vernor is 20 percent and 31 percent respectively.

The proposed replacement of the Fort Street bascule bridge, which includes closing the bridge and detouring traffic over local roads for two years, will cause temporary disproportionately high and adverse impacts that were discussed in *Section 2.2- Social Impacts*. However, the proposed action will not cause permanent disproportionately high and adverse effects on minority or low-income populations within the project area.

The proposed project, when completed, will provide a barrier between the sidewalk and roadway, which will improve safety for pedestrians and bicyclists who travel over the bridge each day. MDOT will improve the Oakwood Boulevard/Fort Street intersection by improving traffic operations with a 2-phase light, or a 3-phase light if a dedicated left turn lane is added to movement should the community decide.

In the past MDOT has held several meetings with local stakeholders including neighborhood groups and city officials to inform them of the proposed project and the two year detour that will be required during construction of the new bridge. A public hearing on the proposed changes to the preferred alternative will be held for the public after the Supplement to the Environmental Assessment has been signed by FHWA.

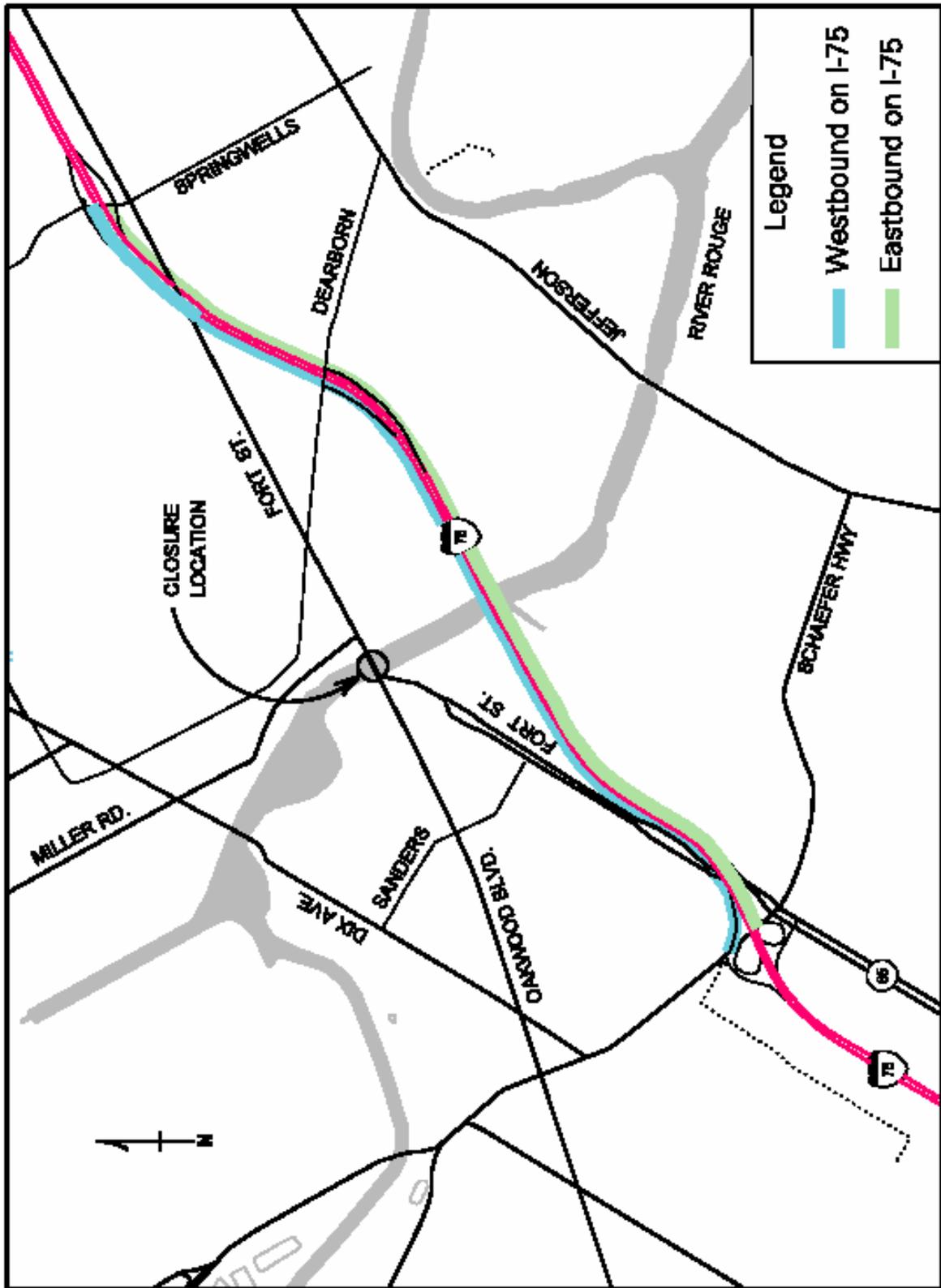
The proposed project will not cause long-term disproportionately high and adverse effects on minority and low-income populations located in and near the project area at this time. However, a continuing effort will be made to identify disproportionately high and adverse impacts to minority and low-income populations during subsequent phases of this project. If such impacts are identified, every effort will be made to involve the impacted groups in the project development process, and to avoid, minimize, or mitigate these impacts.

## **2.5 Maintaining Traffic during Construction**

MDOT has developed a plan to maintain traffic during the construction of the new bascule bridge. The maintaining traffic plan that was developed and discussed in the original EA will be used to maintain traffic during the construction of the new bascule bridge. A two-year detour route will still be required for vehicular traffic, while boat traffic will be maintained on the Rouge River 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 and alternative routes.

MDOT proposes to detour through traffic on Fort Street to I-75 at Schaefer Road and Springwells Road; with local traffic (including transit) being detoured to Miller Road, Dix Avenue, and Oakwood Boulevard (see **Exhibit 6 – Through Traffic Detour for Fort Street**).

Exhibit 6 - Through Traffic Detour for Fort Street (M-85)



Motorists, pedestrians, and bicyclists will be able to cross the Rouge River at the Dix Bridge approximately three-quarters of a mile northwest of Fort Street via Miller Street or about one and one-quarter mile northwest of Fort Street via Oakwood Boulevard, Sanders, and Dix Avenue. Access to local businesses and residences will be maintained during construction. Bus service for area residents will be maintained on local roads during construction. MDOT will coordinate with the Detroit Department of Transportation (DDOT) and other transit providers to accommodate users.

**Mitigation measures.** A component of the Maintaining Traffic Plan will be the development and implementation of a Motorist Information Plan (MIP). The MIP will include electronic message signs along I-75 and Fort Street informing motorists that the Fort Street Bridge is closed to vehicular and non-motorized traffic, and that through traffic is being detoured on to I-75 with local traffic being detoured to Miller Road, Dix Avenue, and Oakwood Boulevard. The message signs will also inform motorists and non-motorized users that local access to residences and businesses within the project area is being maintained during construction.

## **2.6 Land Use**

The general land uses adjacent to the historic bascule bridge are zoned for intense industrial use. The properties located on the south side of the bridge include the Marathon Oil Refinery and the Morton Salt Company. The other land uses adjacent to the bascule bridge include a vacant parcel located northeast of the bridge, and a commercial property located northwest of the bridge. A residential neighborhood is located just west of the bascule bridge; while industrial and commercial uses can be found east of the bridge along Fort Street and Miller Road. The proposed improvements will not change existing land use patterns in the area and is consistent with the city of Detroit's master plan.

## **2.7 Indirect and Cumulative Impacts**

The proposed replacement of the bascule bridge is not expected to generate an increase in traffic volumes or alter travel patterns in the area after construction has been completed. However, there will be short term impacts for motorists and residents who need to travel over the Rouge River during construction. As previously mentioned, a two year detour will be required during the construction of the new bridge. Through traffic will be detoured to I-75 at Schaefer Road and Springwells Road; with local traffic being detoured to Miller Road, Dix Avenue, and Oakwood Boulevard. Traffic will not be detoured through residential neighborhoods. Motorists and non-motorized users will incur longer travel times and distances during the two years that the bridge is under construction. Access will be maintained to local businesses and residents in the project area.

The proposed project, when completed, will provide the following benefits to the residents and motorists who travel over the bridge each day. MDOT will improve the Oakwood Boulevard/Fort Street intersection by improving traffic operations by adding either a 2-phase light or a 3-phase light if the community decides that they would like to have a left turn lane constructed on northbound Fort Street to westbound Oakwood Boulevard.

The proposed project will not have an adverse affect on other projects being proposed in the area. The construction of the bascule bridge is the first step towards improving the M-85 (Fort Street) Corridor which begins at Clark Street and terminates at I-75/Schaefer in Detroit. MDOT is developing a strategy to improve the roadway and structures within this corridor including the reconstruction of the crossovers in front of the Marathon Ashland Petroleum facility, adjusting drainage structures, spot repairs, and pavement milling and resurfacing of Fort Street over the next ten years. The proposed improvements will also support the Marathon Ashland Refinery expansion plans to increase refinery output, which will generate more traffic to the facility. The Detroit Intermodal Freight Terminal (DIFT) study, the proposed Detroit River International Crossing (DRIC) project, the proposed I-94 rehabilitation project from I-96 to Connor Avenue, and the Ambassador Bridge Gateway project are also in close proximity but will not be affected by this proposed project.

## **2.8 Historic and Archaeological Resources**

The FHWA, the State Historic Preservation Office (SHPO), and MDOT concur that the proposed bridge replacement would have an adverse effect on the Fort Street bascule bridge. The bridge, built in 1922, is considered a historic resource and is eligible for listing on the National Register of Historic Places. This designation is based on criteria established by National Register of Historic Places (See *Section 3.3 Historic 4(f) Property*). The historic integrity of the bridge has been compromised by the replacement of approach railings and, in particular, by the removal of the operator's house at the southwest end of the bridge. There have been minor alterations to the remaining operator's house at the northeast end. Although the structural conditions of the bridge range from fair to poor, the bridge's deterioration and its integrity preclude its eligibility for listing on the National Register of Historic Places.

The Fort Street bridge has long been a gateway into Detroit and carries considerable historical significance. The bridge was built at a time when the city was becoming a world-class industrial city, spurred by the phenomenal growth of the auto industry. The bridge met the need of ever-growing automobile traffic and, for many years, accommodated streetcars. The bridge was, and still is, a critical crossing for people traveling to and from Detroit and Dearborn. The bridge provides a crucial link between neighborhoods on both sides of the bridge. Through the years these neighborhoods have prospered and struggled, but have always remained viable.

The need for this Chicago-style trunnion bascule bridge, as well as a sister bridge at Dix Road and the bascule bridge at Jefferson Avenue, was triggered by the development of the Ford Rouge Plant during and after World War I. Henry Ford's revolutionary complex controlled the process of building automobiles from raw materials to showroom-ready product. This required the Rouge River to be navigable by large freighters. The Wayne County Road Commission, at the request of Ford, undertook major improvements to accommodate the growing factory complex, which in addition to meeting a growing consumer demand, also was an important defense supplier.

As expressed by a state historical marker affixed to the Operator's House, the bridge was an important crossing during the Hunger March of 1933, one of the volatile clashes between the auto industry and the emerging *International Union, United Auto Automobile Aerospace and Agricultural Implement Workers of America*, commonly referred to as the United Auto Workers

(UAW). The bridge and its setting provide a visible and accessible locale for interpreting the development of the modern auto industry and the rise of the modern labor movement, both of which are major events with international significance. Further information about the historic significance of the bridge is provided in *Section 3.3 of the Section 4(f) Evaluation*.

The SHPO and MDOT have concurred that the proposed alternatives will not affect any archaeological sites eligible for listing on the National Register of Historic Places.

**Mitigation measures.** Refer to *Section 3.6 of the Section 4(f) Evaluation* for details about proposed mitigation measures for historic resources and **Appendix E – draft Memorandum of Agreement**. The 2005 MOA has been terminated by FHWA.

## 2.9 Recreational Resources

There are no public recreational areas located adjacent to the proposed project. Barolo Park is located near the proposed detour route, however, access will be maintained to the park during construction and no impacts are anticipated.

## 2.10 Visual Resources

The project location is situated in an urban area with a mix of industrial, commercial, and residential landscape elements. A combination of natural and built features provides visual contrast to the area. The Rouge River, the dominant natural feature of the project area, is maintained as an active shipping channel from the turning basin north of the bridge to the river's mouth at Zug Island. According to the U.S. Environmental Protection Agency, the Rouge River is considered impaired for aesthetic value in all branches except some headwater areas. Unnatural color from waste water discharges, solid waste, oil, and unnatural odors diminish the river's aesthetic quality.

Several built elements, visible both within and from the project area, have significant lines and forms that create interesting visual character. The primary built feature, which is also historically significant, is the existing bascule bridge and the remaining operator's house (See *Photograph 2* in **Appendix A**). Other dominant built features include the bascule railroad bridge and I-75 to the south and various industrial storage tanks. Morton International stockpiles salt in an area directly adjacent to the project area. When the stockpile is present, it also presents an interesting visual feature. The large ships that pass through the channel when the bridge is lifted offer transitory visual interest.

Visual conditions may be affected by the removal of the operator's house on the existing bridge and the potential overhead counterweight that would be visible to the surrounding community. However, improvements to visual quality through an architecturally appropriate bridge design would improve the views of the new bridge and surrounding area for both users of the bridge and the communities on either side of the structure. The improved visual quality of the project area would help create a positive response in users and enhance community pride of residents.

The new bridge, which would accommodate pedestrians and bicyclists on both sides of the bridge, is compatible with the Rouge River Gateway Master Plan and the regional Greenways Initiative. Although the proposed bridge project lies within the Rouge River Gateway area, the master plan does not include specific plans for the Fort Street Bridge. The plan, developed through a collaborative effort of the Rouge River Gateway Partnership, proposes a public multi-modal pathway for the entire length of the gateway along with signage at key sites to interpret the region's history and environmental restoration efforts.

**Mitigation measures.** The proposed bridge project will improve the aesthetic value of the project area. The project provides an opportunity to improve visual quality through attention to architecturally appropriate bridge design. The operator's house will not be retained as part of the project, but will be documented and photographed. (See *Section 3.6* of the *Section 4(f) Evaluation* for further details).

## 2.11 Coastal Zone

This proposed project lies within the coastal zone boundary as defined by the Coastal Zone Management Act. Issuance of the Michigan Department of Environmental Quality (MDEQ) permits assures consistency with the Coastal Zone Management Plan. See *Section 2.19 – Permit Discussion*.

## 2.12 Floodplains/Hydraulics

The proposed bridge replacement is located within the 100 year floodplain. No significant adverse impacts or increased risk due to increased flood hazards will occur on adjacent properties based upon the preliminary hydraulics analysis conducted during the design review process for the new preferred alternative (Alternative A – on existing alignment). Modeling of the proposed design shows that no harmful interference will result as a consequence of the project because it will meet permitting requirements Part 31 of PA 451, 1994 as amended.

Review of the project area for a distance of 500 feet upstream and downstream of the existing bridge was undertaken to identify natural and beneficial floodplain values. Alteration of the riparian zone has effectively eliminated most natural floodplain functions and values. The functions and values evaluated include: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge. Of these, fisheries values and waterborne recreation use are retained and unaffected as movement between the nearest upstream obstruction and the confluence with the Detroit River will continue.

Economic and commercial values attached to this reach of the river accrue from the flow of goods and services provided by the floodway via ship and barge traffic. The docking of tugs and other watercraft at Fordson Island on the south shore of the Rouge River will benefit by the proposed construction as the span will be increased from 135 feet to a minimum of 150 feet (wall to wall), increasing the horizontal clearance from the existing 118 feet to 135 feet between the face of the fendering system. Passage of vessels will not be hampered by the new bridge as it will remain as a bascule. The proposed project would not support incompatible floodplain

development because it does not support development within the floodplain or alter existing access to the floodplain. The proposed project would maintain local and regional access to existing commercial and industrial facilities and is consistent with zoning and land use plans of the city of Detroit.

**Mitigation measures.** The MDEQ mandates that no change in flood stage should take place on properties adjacent to the project. Mitigation will include the removal of both existing abutments and approach roads with the new structure center waterway opening increased from 118' to 135'. No detrimental impacts to the floodplain are anticipated. The hydraulic analysis will be verified during the design process after the bascule counterweight option has been determined.

## **2.13 Wetland Impacts**

Review of the Detroit U.S. Geological Survey Map and National Wetland Inventory (NWI) map indicated no wetlands occur at the project site. A MDEQ site inspection in fall 2000 and an MDOT field review in spring 2003 support the inventory information.

## **2.14 Water Quality**

The oldest and most heavily populated and industrialized area in southeast Michigan is located within the Rouge River Watershed. The Rouge River has four main branches totaling 125 miles of waterways primarily flowing through Wayne and Oakland counties, with some headwaters in Washtenaw County. The Rouge drains a 438 square mile area that includes more than 400 lakes and ponds, and more than 50 miles of parkland along its banks. The river winds its way through 48 communities and provides recreational opportunities for more than 1.5 million people. The lower four miles of the river are maintained as a shipping channel from the turning basin upstream of the project to the river's mouth at the south end of Zug Island. The flow rate of the Rouge River at the Fort Street bridge crossing is usually at least 28 cubic feet per second.

As part of the Rouge River National Wet Weather Demonstration Project, watershed management plans have been developed for all of the subwatersheds in the Rouge River basin in accordance with the requirements of the Michigan National Pollutant Discharge Elimination System (NPDES) General Storm Water Permit. This includes the Main 3-4 Subwatershed in which the Fort Street Bascule Bridge is located.

The Main 3-4 Subwatershed Management Plan identifies problems that have impaired desired uses of the river. These include, but are not limited to, restrictions on fish and wildlife consumption, degradation of fish and wildlife populations, fish tumors or other deformities, degradation of benthos (plants and animals on the river bottom), restrictions on dredging activities, eutrophication or undesirable algae, beach closings, degradation of aesthetics, and loss of fish and wildlife habitat. In compliance with MDOT's NPDES Stormwater Discharge Permit, measures to avoid, minimize, and mitigate water quality impacts, as described in this document, are compatible with the long term goals for water quality described in the Main 3-4 Subwatershed Management Plan.

**Post construction impacts.** Drainage from the bridge deck discharges directly to the river through the open grate deck structure of the existing bascule bridge. This drainage conveys sediment and other pollutants associated with road run off directly to the river. The new bridge structure on existing alignment may have an open grate bridge deck. However, pollutants discharged from the bridge deck are not expected to cause water quality issues due to the relatively small amount of bridge deck drainage in comparison to the total flow of the river.

The project will not result in a significant amount of new impervious area. Where feasible, drainage from the road and approaches will be routed overland, and thus be filtered by vegetation prior to being discharged to the river. There are no anticipated post construction impacts from this project that will affect the designated uses of the Rouge River.

**Soil erosion and sedimentation control during construction.** Accelerated sedimentation caused by construction will be controlled before it enters the Rouge River or leaves the right-of-way 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 on design plans to prevent erosion and sedimentation. The design plans will describe the erosion controls and their locations. The following is a partial listing of general soil erosion and sedimentation control measures to be carried out in accordance with permit requirements.

- No work will be done in the Rouge River channel during periods of seasonally-high water, except as necessary to prevent erosion.
- Road fill side slopes, ditches, and other raw areas draining directly into the Rouge 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.
- 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.
- The contractor shall have the capability of performing seeding and mulching at locations within 500 feet of any streams or drains within 24 hours of being directed to perform such work by the project engineer.
- 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.
- The contractor is responsible for preventing the tracking of material onto local roads and streets. If material is tracked onto roads or streets, it shall be removed.

**Mitigation measures.** All disturbed sewer lines will be addressed in accordance with local ordinances. Due to the urban nature of the area, abandoned water wells and septic systems are not likely to be present. In the event that these systems are encountered during construction, they

will be addressed in accordance with the local ordinance requirements. Beyond all these items, all other Michigan Department of Community Health (MDCH), local health department and MDEQ requirements designed to protect surface and groundwater quality will be met.

## **2.15 Fisheries and Wildlife**

This reach of the Rouge River is classified by the Michigan Department of Natural Resources (MDNR) as a cool water stream. Characteristic species of game fish include Largemouth Bass, Smallmouth Bass, Channel Catfish, and Northern Pike, with an occasional Steelhead (personal communication G. Townes, MDNR). Historical changes made to the stream bed in the form of dredging and stream bank stabilization by the use of seawalls have eliminated spawning and nursery areas associated with shallow, vegetated waters. Fish use in the project area is limited to passage as far as the first dam upstream and the confluence with the Detroit River downstream.

Observations of wildlife use by MDOT's Ecologist, revealed no use of the bridge structure for nesting by any avian species, and occasional use of the structure for loafing by Ring-billed Gull. Use of the river for active foraging by waterbirds (waterfowl, herons, grebes, and gulls) was not observed on any site visit in the immediate vicinity of the bridge. No amphibian, reptile, or mammal species were observed. Wildlife cover and food resources are limited and those terrestrial species observed are characteristic of urban environments.

**Mitigation Measures.** To protect potential fish spawning activity and larval fish development, no work in the Rouge River will be allowed between March 1 and May 31. Work may occur within enclosed cofferdams if they are installed prior to the protection date.

## **2.16 Endangered and Threatened Species**

Endangered and threatened species are officially protected in Michigan by both federal and state Endangered Species Acts, Public Law 93-205 and Part 365 of Public Act 451 (Natural Resources and Environmental Protection Act) respectively. An endangered species (E) under the Acts is defined as in danger of extinction throughout all or a significant portion of its range. A threatened species (T) under the Acts is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Special Concern (SC) species are not afforded legal protection under the Michigan Act but are of concern because of declining populations within Michigan, or are species for which more information is needed. A candidate species is a species for which the U.S. Fish and Wildlife Service has sufficient information on their biological status to propose them as threatened or endangered under the Federal Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

There are no Federal or State listed threatened or endangered species, or any species proposed for listing, known to be present at the project site based upon a recent database search that was conducted in February 2010.

Previous correspondence from the U.S. Fish and Wildlife Service states that "... information in our files does not indicate the presence of any federally endangered threatened, or proposed

species, or designated or proposed critical habitat in the action area”. Comments from MDNR indicated that the project “should have no impact on rare or unique natural features at the location specified above”.

## 2.17 Noise

The project area is primarily surrounded by industrial and commercial properties with a few residences east and northwest of the project area. No noise analysis will be required for this project. Noise mitigation, such as a noise wall, is usually not provided for commercial or industrial properties, because a noise wall may interfere with the view of and access to the property. The location and number of residences do not make noise abatement reasonable or feasible as required by MDOT’s 2003 Noise Abatement Policy #10136.

**Mitigation measures for construction noise levels and vibration impacts.** 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 observed.

Where pavement must be fractured or structures must be removed, care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is anticipated, basement surveys will be offered before construction begins to document any damage caused by highway construction. Locations of structures potentially affected by vibration damage will be identified during the design phase.

## 2.18 Air Quality

The Fort Street Bridge project is located in an area that has been designated by the U. S. Environmental Protection Agency (EPA) as a maintenance area for carbon monoxide (CO), inhalable coarse particulate matter (PM<sub>10</sub>), and 8-hour ozone (O<sup>3</sup>). EPA has designated the project area to be in non-attainment for 1997 (Annual) and 2006 (24 hour) fine particulate matter standards (PM<sub>2.5</sub>). The project is a bridge reconstruction without any lane additions and therefore is exempt from conformity procedures under 40 CFR part 93.126 - Exempt projects.

Project level microscale or “hot-spot” analysis is addressed under 40 CFR part 93.123 for CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. FHWA and EPA issued a joint guidance on PM hot-spot analysis on March 29, 2006 and a clarification on the joint guidance was published on June 12, 2009. CO and PM hot-spot analyses are required for projects of air quality concern, that is, a project with frequent congestion and high percentage of commercial traffic. The MDOT 2008 Sufficiency Report gives the project section of Fort Street a level of service “C” (LOS-C), and an annual average daily traffic (AADT) of 23,000 of which 4% is commercial traffic. These data are below the definition of a project of air quality concern as defined in the regulation and guidance. Since the bridge reconstruction is not being done due to increased capacity and has little to no congestion, CO and PM hot-spot analyses are not required.

The project is in Southeast Michigan Council of Governments (SEMCOG) 2035 Regional Transportation Plan (RTP) and will be included in SEMCOG's 2011-2014 Transportation Improvement Plan (TIP) which will be approved in the fall 2010.

**Mitigation measures during construction.** The construction period is of short duration. Therefore, construction equipment emission mitigation is not required, but several measures may be taken anyway that include strategies that reduce engine activity or reduce emissions per unit of operating time. The contractor must comply with all federal, state, and local laws and regulations governing the control of air pollution. During the construction of the 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. Construction equipment should be kept clean, tuned-up, and in good operating condition. MDOT's Standard Construction Specification Sections 107.15(A) and 107.19 would apply to control fugitive dust during construction and cleaning of haul roads. All MDOT vehicles and equipment must follow MDOT Guidance #10179 (2/15/2009) *Vehicle and Equipment Engine Idling*.

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 concrete plant must meet the minimum 250-foot setback requirement from any residential, commercial, or public assembly property or the contractor is required to apply for a permit to install from MDEQ. Portable crushers must have a setback of 500 feet or more for a general permit; otherwise, a permit to install is required. Asphalt plants must have a setback of 800 feet or ore or a site specific permit is required. 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 project engineer.

## **2.19 Sites of Environmental Contamination**

A Project Area Contamination Survey (PACS) was performed to determine if known or potential sites of environmental contamination exist that could affect the project's design, cost, or schedule. The PACS included a historical records review and identified three potential sites within the proposed project area: a former gasoline station and two industrial properties. In addition, the potential for contaminated river sediment was identified. As a result of the PACS, MDOT determined that further investigation was needed.

A consultant was hired to perform a Preliminary Site Investigation (PSI) of the project area for the skewed alternative (Alternative B). The consultant's PSI analyzed eight soil borings and two groundwater samples in the project area. The sampling locations are shown in **Appendix D**. Concentrations of each compound tested were compared to the State of Michigan Part 201 Generic Cleanup Criteria and Screening Levels as established by the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Test results from the groundwater sample at B-4 detected metal constituents at concentrations above state criteria. Chromium and silver exceeded one or both of the drinking water protection and groundwater-surfacewater interface protection criteria. Some of the soil samples collected did have concentrations of contamination above state criteria. Boring B-7 has levels of benzo (a) pyrene that exceed the direct contact criterion for residential and commercial I exposure and fluoranthene and phenanthrene exceeded the groundwater-surfacewater interface protection criteria. Soil samples from borings B-1, B-2, B-3, B-4, and B-7 contained one or more metals that exceeded the groundwater-surfacewater interface protection criteria. Arsenic levels exceeded the residential and commercial I direct contact criterion in B-1 and B-4. One small area under the existing road on the west end of the bridge will need additional environmental testing to determine if any contamination exists that will affect the removal of the pavement in that area. If testing indicates that contamination is present, MDOT will properly remove and dispose of any contamination.

MDOT will conduct a Project Area Contamination Survey (PACS) during the design phase on the three commercial properties that are now needed in order to construct the new bascule bridge on existing alignment and to improve the intersection at Fort Street and Oakwood Boulevard. If the PACS identify known or potential sites of environmental contamination, a Preliminary Site Investigation will also be conducted during the design phase. If testing indicates that contamination is present, MDOT will properly remove and dispose of any contamination.

**Mitigation measures.** Exceedances of groundwater-surfacewater interface and direct contact criteria will require mitigation measures to be taken for this project. All areas of contamination must be noted in the plans and marked with a shaded area. Contaminated soils that are excavated and reused as fill shall not be relocated to a different area within the construction site. If contaminated soil must be removed from the site it will need to be tested and transported to a licensed landfill that will accept these wastes.

Dewatering may be needed, due to construction work below the water table at this site. All dewatering will be pumped to a holding tank. Disposal of this water will be done in accordance with all applicable regulations. Analytical testing of the water and authorization from the MDEQ will be required prior to the water being discharged to the river or storm sewers. The groundwater may also require treatment before being discharged or may be hauled and disposed of at an appropriate facility.

Sediment in the Rouge River may be contaminated and proper measures must be taken to contain any disturbed sediments. In addition, proper measures for disposal of sediments must be followed. The proposed project may result in a short term increase of sediment discharges in storm water run off during construction. Some excavation of river bottom material will occur during construction. Appropriate characterization of river sediment in this area and implementation of appropriate best management practices (BMPs) such as coffer dams and turbidity curtains will minimize sediment disturbance and control sediment loss in the river. Sediment sampling and testing was performed adjacent to the bridge in the year 2000 and one sample near the southeast corner of the bridge found levels of arsenic to be above its Residential and Commercial Direct Contact Criteria. River bottom material from within the proposed

construction area will be sampled and characterized for all appropriate contaminants including PCBs before construction begins.

Due to the fact that groundwater-surfacewater interface criteria was exceeded for all land uses, a sub-surface utility plan will be needed to ensure that no deep utility cuts will impact any contaminated areas. Construction activities will need to avoid installing new utilities through contaminated areas identified in the PSI. Routing utilities through contaminated areas identified creates the potential for contaminated groundwater to migrate along the utility cut to the river. If contaminated areas cannot be avoided, steps will be taken to prevent the migration of contaminated groundwater along the utility corridor to the river (e.g., appropriate installation of check dams or use of a nonporous backfill). Information obtained in the PSI will also be used to plan for disposal of contaminated media generated during construction.

A Risk Management Plan which includes a Worker Health and Safety Plan will be needed before construction begins to address direct contact issues with contaminants. Construction site precautions must be taken to reduce dermal exposure. Soil erosion and sedimentation controls should also be installed and monitored during soil disturbance activities. An Environmental Risk Assessment was written for the work on M-85 over the Rouge River.

References: Preliminary Site Investigation Report by *psi* consulting firm  
Environmental Risk Assessment for M-85

## 2.20 Permits Required

Construction activities for the proposed bridge replacement over the Rouge River will require several state and federal permits:

### **State: Natural Resources and Environmental Protection Act, PA 451 of 1994**

- Part 31 – Water Resources Protection
- Part 301 – Inland Lakes and Streams
- Part 55 – Air Pollution Control

### **Federal:**

- Section 9 of the Rivers and Harbors Act of 1899
- Section 10 of the Rivers and Harbors Act of 1899
- Sections 401 and 404 of the Federal Water Pollution Control Act of 1972

Parts 31 and 301 are administered by the MDEQ. A Part 31 Water Resources Protection Construction Permit (which is reviewed and issued with the Part 301 application) is needed to place fill material within any part of a floodplain with a drainage area of two square miles or greater. MDOT also has a statewide National Pollutant Discharge Elimination System (NPDES) storm water permit which requires mitigation of post construction storm water impacts to the maximum extent practical for all new construction projects within the state's urbanized areas. A Part 301 Inland Lakes and Streams Permit is required for any work below the ordinary high water mark of any inland lake, stream or drain including the placement of a permanent or temporary river crossing, haul road, or construction access pad.

Soil erosion and sedimentation control permits for this project will not be required. However, MDOT will follow the approved Soil Erosion Control Program and Standard Plan on file with the MDEQ.

A Coast Guard Bridge Administration Program Permit, Section 9 of the Rivers and Harbors Act of 1899, will be needed. The permit will be based on a horizontal clearance of at least 135 feet and will follow other safety and navigational requirements. A Section 10 permit, administered by the U.S. Army Corps of Engineers, will also be required.

Final mitigation measures proposed in areas requiring permits will be developed in consultation with the appropriate resource agencies and will be included on the design plans and in the permit application.

## **2.21 Additional Measures to Minimize Impacts**

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, MDOT takes precautions to protect as many social and environmental systems as possible through route location, design, environmental, and construction processes. Construction activities that include the mitigation measures described below are those contained in the current 2003 *Michigan Standard Specifications for Construction*.

The following paragraphs discuss other general mitigation concepts that are currently being considered. Without the benefit of detailed design plans and data, tentative mitigation ideas are proposed as a means to avoid or reduce adverse impacts on identified resources. Further agency coordination will continue through the design stage. Design plans will be reviewed by MDOT 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.

The Project Mitigation Summary “Green Sheet” at the end of this section identifies all specific mitigation items set up for this project. More mitigation measures may be developed if additional impacts are identified. Specific mitigation measures will be included on the design plans and permit applications.

### **Right-Of-Way Acquisition and Relocation**

*Compliance with State and Federal laws* – Acquisition and relocation assistance and advisory services will be provided by the Michigan Department of Transportation (MDOT) in accordance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; Act 149, Michigan P.A. 1911, as amended; Act 87, Michigan P.A. 1980, as amended, and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. The 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.

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

***Purchasing Property*** – The MDOT will pay 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 would bring if offered for sale on the open market by a willing seller, with a reasonable time allowed to find a purchaser, 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 the Michigan Department of Transportation, Real Estate Division, 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 the Michigan Department of Transportation, Real Estate Division, 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 C**.

### **Existing Vegetation**

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

### **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.

- When surplus or unsuitable material is to be disposed of outside the right-of-way, 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, watercourse, or floodplain

without prior approval (and permit) by the appropriate resource agencies and the Federal Highway Administration.

- All regulations of the MDEQ governing disposal of solid wastes must be observed.

### **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 will take place prior to construction of the road if possible. The contractor will coordinate construction activities with affected utility companies.

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

### **Additional Mitigation or Modifications**

The final mitigation package will be reviewed by division representatives on the MDOT project study team, in cooperation with concerned state, federal, 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. These preceding mitigation concepts are based on the best information available through March 2010.

**Supplement to the  
Environmental Assessment  
Programmatic Section 4(f) Evaluation**

M-85 (Fort Street) Bascule Bridge Replacement  
Over the Rouge River in the City of Detroit  
Wayne County, Michigan

*Project Mitigation Summary “Green Sheet”  
For the Replacement of the Bascule Bridge  
on the Existing Alignment*

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 Finding of No Significant Impact (FONSI) for the Supplement to the M-85 EA/Programmatic Section 4(f) Evaluation. These mitigation items may be modified during the final design, right of way acquisition, or construction phases of this project.

**I. Social and Economic Environment**

- a. *Emergency Service Access* – This project will require a two year detour route and MDOT will continue to coordinate with the city of Detroit. As part of the coordination effort, MDOT proposes to provide funding to hire additional police officers to respond to emergencies on both sides of the bridge during the time the detour is in effect. MDOT will also coordinate with the Detroit Department of Transportation and Detroit School District regarding route changes during project construction.
- b. *Public Transportation* – During construction, bus service for area residents will be maintained on local roads. MDOT will coordinate with the Detroit Department of Transportation (DDOT) and other transit providers to accommodate users.
- c. *Pedestrian/Bicyclists* – During construction, non-motorized users will have to use the Dix Avenue Bridge located three-quarters of a mile northwest of Fort Street to cross the Rouge River. Temporary signing for the new Dix Avenue pedestrian and non-motorized route will be installed at the start of the construction phase. The

new Fort Street Bridge will accommodate both pedestrians and bicyclists on 8 foot wide sidewalks on both sides of the structure. The sidewalks will be separated from vehicle traffic by a barrier. This project is compatible with the Rouge River Gateway Master Plan which proposes a public multi-modal pathway for the entire length of the gateway.

- d. *Aesthetic/Visual* – The project will provide improved visual quality through architecturally appropriate bridge design and interpretive markers in accordance with the Memorandum of Agreement (MOA) between MDOT, FHWA and the State Historic Preservation Office (See draft MOA in **Appendix E**).
- e. *Relocations* – MDOT will need to acquire additional parcels of property for this project, including two commercial relocations (auto repair and warehouse) that were not required for the original skew alignment studied in the Environmental Assessment. Replacement commercial properties are available and businesses will be encouraged to relocate within the community.

## **II. Natural Environment**

- a. *River Crossing* – The new bascule bridge will increase the existing 118 foot navigation channel to at least 135 feet to meet current U.S. Coast Guard requirements. Since a detour route will be used, the existing bridge will be closed to vehicle traffic but open for navigation during the construction of the new bascule bridge.
- b. *Floodplains* – Mitigation will include removal of the both existing abutments and approach roads with the new structure waterway opening increased from 118’ to 135’. No detrimental impacts to the floodplain are anticipated. The hydraulic analysis will be verified during the design process after the bascule counterweight option has been determined.
- c. *Water Quality* – Strict soil erosion and sedimentation controls will be implemented on this project. Any catch basin inlets will be protected.

## **III. Cultural Environment (Memorandum of Agreement Mitigation)**

- a. *Historic Bridge* – The MDOT Environmental Section will coordinate a complete photo, video, and archival documentation prior to the removal of the existing historic bridge and construction of the new bridge.
- b. *Interpretive Markers* – New Interpretive Markers will be placed adjacent to the 8 foot sidewalks on the new bridge.
- c. *Consultation* – The SHPO will be consulted through the design phase and will review and comment on the bridge design.

#### **IV. Hazardous/Contaminated Materials**

- a. *Preliminary Site Investigation (PSI)* – A PSI was conducted and both soil and groundwater samples were found to exceed the groundwater-surface water interface protection criteria and/or direct contact criteria. All areas of contamination will be marked on the design plans.
- b. *Project Area Contamination Survey (PACS)* - A PACS will be conducted on the three commercial properties that will be displaced as a result of this project. If the PACS identify known or potential sites of environmental contamination, a Preliminary Site Investigation will be conducted during the design phase. If testing indicates that contamination is present, MDOT will properly remove and dispose of any contamination.
- c. *Contaminated Soil (PSI)* – The soil on the west side of the bridge where the pavement will be removed will be tested for contamination. Any contaminated soil that must be disposed of off-site will be tested and transported to a proper facility that will accept these wastes. Contaminated soils that are excavated during construction activities shall not be relocated to a different area within the construction site.
- d. *Dewatering Operations* – Pumped water will not be discharged into storm drains or surface water discharge points without testing and/or treatment.
- e. *River Sediment Contamination* – Rouge River bottom sediments will be excavated for construction of the new bridge piers and electrical cable installation. Additional sediment testing will occur prior to construction to determine the proper disposal methods to be used.
- f. *Utility Trenching* – A sub-surface utility plan will be prepared to ensure that no deep utility cuts will impact any contaminated areas. Any utility cuts in contaminated areas will be reviewed to ensure proper excavation and backfill methods.
- g. *Contamination Exposure* – A Worker Health and Safety Plan will be prepared prior to construction to reduce dermal exposure and address direct contact issues.

#### **V. Construction**

- a. *Construction Access Pads or Work Areas* – No stone access pads in the river are expected to be required. The temporary use of a barge in the river may be required for construction of the new bridge or removal of the existing bridge. Navigation will be maintained during construction and this project will comply with all navigation requirements of the U.S. Coast Guard.
- b. *Construction Permits* – Permits from the MDEQ, U.S. Army Corps of Engineers, and the U.S. Coast Guard are required for this project.

- c. *Time Restrictions* – Based on the most current available data, no work in the Rouge River will be allowed between March 1 and May 31 to protect fish spawning activity. Work may occur within enclosed cofferdams if they are installed prior to the protection date.
- d. *Existing Utility Tunnels* – Utilities will be relocated from the existing tunnels under the existing M-85 structure and reburied on future MDOT right of way at the northeast corner of the bridge (currently CSX property). However, on the west side of the river at the northwest corner of the bridge, the utilities may be located in an easement north of Bryan’s Café. The existing brick utility tunnels under the existing structure will be removed or filled during construction operations.
- e. *Noise and Vibration* – 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. Where pavement must be fractured or structures must be removed, care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is anticipated, basement surveys will be offered before construction begins to document any damage caused by highway construction.
- f. *Water quality* – All disturbed sewer lines will be addressed in accordance with local ordinance.

## **SECTION 3 – AMENDED SECTION 4(F) EVALUATION**

### **3.1 Introduction**

The property protected by Section 4(f) and potentially affected by the new proposed alternative is the Fort Street (M-85) bascule bridge over the Rouge River in Detroit.

Section 4(f) of the 1966 Department of Transportation Act specifies that publicly-owned land from a park, recreation area, or wildlife/waterfowl refuge of national, state or local significance or any land from a historic site of national, state, or local significance may not be used for transportation projects unless: (1) there is no feasible and prudent alternative to the use of such land; and (2) the proposed project includes all possible planning to minimize harm.

This Section 4(f) Evaluation discusses the proposed project, its potential impact to Section 4(f) property, avoidance alternatives, and measures to minimize harm. Based on the following evaluation, a preliminary determination has been made that the bridge replacement will impact a 4(f) resource, all alternatives have been fully evaluated, and measures will be taken to minimize the impacts to the Section 4(f) property. Upon considering comments received from resource agencies and the public concerning the bridge replacement, the Federal Highway Administration will either apply the Section 4(f) Evaluation and document the project files or prepare a separate final Section 4(f) document for processing under the procedures set forth in the Federal Highway Administration regulations 23 CFR 771.135.

### **3.2 Proposed Action and Need for the Project**

The primary purpose of the proposed project is to correct deficiencies of the bascule bridge so traffic flow on Fort Street (M-85) over the Rouge River, as well as boat traffic within the river channel, can be maintained. The secondary purpose is to improve traffic operations at the Fort Street and Oakwood Boulevard Intersection.

The need to rehabilitate or replace the bridge is driven by its deteriorating condition. Specific bridge deficiencies include inward pier migration, structural deterioration, inadequacies in the electrical and mechanical systems, a substandard fender system, and a horizontal clearance that does not meet current U.S. Coast Guard standards. Refer to *Section 1.1.3* of the Environmental Assessment for a further description of specific bridge deficiencies.

### **3.3 Historic 4(f) Property**

**Description.** The Fort Street Bascule Bridge, erected in 1922, is a double-leaf Chicago-style bascule bridge served by two approach structures. Refer to Section 1.1.1 for a detailed description of the bridge. See Appendix A for photographs of the bridge.

**Ownership.** Currently the bridge is owned by MDOT, with routine maintenance performed under special agreement by the Wayne County Road Commission for the department.

**Historic Significance.** The State Historic Preservation Office (SHPO) has verified the historic nature of the bridge. The Fort Street Bascule Bridge, despite continued deterioration and loss of architectural integrity, remains eligible for listing on the National Register of Historic Places under Criteria A, B and C<sup>1</sup>. The bascule bridge itself represents complex engineering and therefore is eligible under Criterion C. The bridge is also significant for its connection with the explosive growth of Detroit in the face of unprecedented industrial expansion, an expansion that was critical to the economic growth of the nation in the Post World War I period (Criterion A). As a gateway into a modern and flourishing city, its rising bascule spans permitted an unobstructed channel to the factories that helped fuel the growth of the city. Criterion A is also expressed by its connection with the Hunger March of 1933, a key event in the rise of the *International Union, United Automobile, Aerospace and Agricultural Implement Workers of America*, commonly referred to as the United Auto Workers Union (UAW). Criterion B is met because the Fort Street Bridge and the bascule bridges at Jefferson and Dix avenues were leveraged by Henry Ford along with navigation improvements to the Rouge River to assure freighters could reach his docks with no delays.

Under direction of the War Department, the Army Corps of Engineers transformed what was little more than a winding stream into a 300 foot wide, 22 foot deep shipping channel capable of efficiently handling large-scale freighter traffic. Like the Jefferson Avenue Bascule Bridge, the Fort Street Bascule Bridge replaced earlier swing type bridges that were determined to be obsolete in the face of the federal government's plans to modernize the Rouge River to better serve the expanding Ford Rouge complex (which had been a critical defense supplier during World War I) and other industries upstream.

The Fort Street Bascule Bridge was erected in 1922 by the Wayne County Road Commission, headed by the dynamic team of Edward N. Hines, John S. Haggerty, and William F. Butler, locally prominent and visionary leaders in the Wayne County Road Commission. Leroy C. Smith was the engineer manager, and working under him were Harry A. Shuptrine, bridge engineer,

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<sup>1</sup> The National Register of Historic Places was established in the National Historic Preservation Act of 1966 (NHPA). The register is administered by the Secretary of the Interior. While listing is primarily honorific, the register does offer some benefits and limited federal protections, including Section 106 review and Section 4(f) provisions in the Federal Highway Act of 1966. It should be noted that eligibility for listing, not just listing, triggers the Section 106 of the NHPA and Section 4(f) mandates. The register provides four Criteria. Criterion A applies to properties associated with events that have made significant contribution to the broad patterns of our history. Criterion B applies to properties associated with the lives of persons significant in our past. Criterion C is for properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction. Criterion D is used where a property is potentially eligible if they have yielded, or may be likely to yield, information important in prehistory or history. Typically properties must be at least fifty years old for consideration; however a property of exceptional importance can be eligible earlier.

and Lewis M. Gram, consulting engineer. The Chicago Bascule Bridge Company, experienced with this type of structure, served as design engineers. The contractors included Greiling Brothers Company (substructure), Bethlehem Steel Bridge Corporation (superstructure), Turner Engineering Company (electrical) and Wolverine Engineering and Construction, who performed the construction of architectural elements. The Fort Street Bascule Bridge was one of three double-leaf bascule bridges built across the River Rouge during the 1920s. Built the same year was the nearby Jefferson Avenue Bascule Bridge. The Dix Avenue Bascule Bridge, built in 1926, is a close kin in design and dimensions.

World War I was a critical trigger to Detroit's explosive economic growth in the 1920s, centered on the burgeoning automobile industry. The Rouge River was a prime location for industrial expansion, in large part influenced by Henry Ford's decision to build his dream facility, the massive Ford Rouge complex, where he could control the production of automobiles from raw material to showroom ready. Ford had already revolutionized auto production by introducing large-scale mass-production techniques. His still new Highland Park plant was unable to meet production demands, but the full development of the Rouge plant would take many years to fulfill.

Ford, however, recognized political expedience and moved quickly to open his Eagle boat factory. The factory supplied eagle boats, used as submarine chasers, to the United States World War I effort. The craft were important to the national defense, but also infused cash into Ford's coffers. It also provided the political clout to influence public investment in major transportation improvements – roads and bridges—that would be needed for his processing and manufacturing plants to be viable.

Ford's five-dollar-a-day wage structure was another revolutionary shift in industry. Ford's willingness to pay a higher wage was designed to forestall efforts to organize his workers. With the relatively high wage came more intrusive elements of Ford's paternalism, including strict control of workers within the plants, and oversight of their private lives as well. In addition, workers lacked any form of "safety net" during economic hard times. In 1932, a march was organized by the unemployed councils to call attention to the dire condition of the unemployed. The march was one of the defining moments that led to the creation of the UAW. The story of the Hunger March is summarized on the State Historical Marker displayed on the bridge operator's house:

#### *FORD HUNGER MARCH*

*On March 7, 1932, in the midst of the Depression, unemployed autoworkers, their families and union organizers braved bitter cold temperatures and gathered at this bridge, intent on marching to the Ford Rouge Plant and presenting a list of demands to Henry Ford. Some three thousand "hunger marchers" paraded down Miller Road. At the city limit Dearborn police blocked their path and hurled tear gas; the marchers responded with rocks and frozen mud. Near Gate No. 3 the demonstrators were bombarded by water from firehoses and a barrage of bullets. In the end, five marchers were killed, nineteen wounded by gunfire and numerous others by stones, bricks and clubs. Newspapers alleged the marchers were communists, but they were in fact people of all political, racial and ethnic backgrounds. Four of the deceased were white<sup>2</sup> and were buried at Woodmere Cemetery. The fifth decedent, Curtis Williams, was black. According to Shelton Tappes in *Untold Tales, Unsung Heroes*, this man was refused internment with the others.<sup>3</sup> Eventually, his remains were cremated and scattered over the Rouge plant by airplane.*

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<sup>2</sup> Joseph DeBlasto, Joseph York, Joseph Bussell & Coleman Leny

<sup>3</sup> Moon, Elaine Latzman. *Untold Tales, Unsung Heroes. An Oral History of Detroit's African-American Community, 1918-1967.* Detroit: Wayne State University Press, 1994.

### **3.4 Impacts on the Section 4(f) Property**

Alternative A (New Preferred Alternative) and Alternative B call for the removal and replacement of the bridge and would be considered an adverse effect.

#### **No Action Alternative**

This strategy involves no commitments beyond normal and routine maintenance activities. This approach would not address the Purpose and Need and the bridge would continue to deteriorate, resulting in an eventual closure and possible failure of the structure. Therefore, this alternative is not recommended but is used as a benchmark for analyzing the other alternatives.

#### **Replacement on Existing Alignment (Alternative A) – New Preferred Alternative**

Alternative A, shown in Exhibit 2, would build the new bridge on the same alignment as the existing bridge. This alternative would also address the intersection problems at the junction of Oakwood Boulevard and Fort Street. However, this alternative would create special engineering challenges to avoid existing and active utility tunnels which run beneath the existing bridge piers, and require right of way. Alternative A would require a long-term detour of two or more years because full demolition would be required prior to the construction of the new bridge.

#### **Replacement a 13° Skewed Alignment (Alternative B)**

Alternative B, illustrated in Exhibit 5, would construct the new bridge 13° south of the existing alignment. This skewed alignment would allow for geometric improvements at the substandard junction of Oakwood Boulevard and Fort Street. The new alignment would require right-of-way from Marathon Oil and the Wayne County Department of Public Works (vacant land at the southwest quadrant), Morton Salt (a portion of a salt storage yard at the southeast quadrant), and a portion of the parking lot at the corner of Oakwood Boulevard and Denmark Avenue. A very small amount of right-of-way would also be needed from the parcel located at the corner of Fort and Reisener streets across from Morton Salt. Alternative B would allow for the potential retention of the operator's house (and related pier structure) for use in a proposed labor history/transportation interpretive site. This alternative is no longer being considered because of the excessive costs for acquiring the right of way that was needed to construct this alternative.

### **3.5 Avoidance Alternatives**

#### **Replacement on 5° Skewed Alignment (Alternative C)**

Replacing the new bridge 5° south of the current alignment would result in unacceptable geometrics at both the westerly and easterly approaches and would require the taking of potentially historic residential properties on the south side of Fort Street, east of Reisener Street. This alternative has been removed from consideration because of the unsatisfactory geometrics but was initially considered for study as an alternative because it would not require a detour.

### **Rehabilitation of the Existing Bridge (Alternative D)**

The historic bridge would be rehabilitated to meet current American Association of State Highway and Transportation Officials (AASHTO) standards while following the Secretary of Interior Standards for Rehabilitation. This alternative was not carried forward because there are no known feasible ways to stop the active inward migration of the bridge piers. Rehabilitation of the existing bridge would also preclude improvements to the Oakwood Boulevard - South Fort Street intersection and this would not meet U.S. Coast Guard's navigable width of 135 feet between the fendering system.

### **Building on a New Location without Removing the Existing Bridge (Alternative E)**

Under this alternative, the existing historic bridge would be retained but be closed to vehicular or all traffic. A new crossing would be developed at an alternate location. This alternative was not considered a feasible or prudent alternate crossing.

### **Relocation of the Bridge to a New Site (Alternative F)**

The historic bridge would be relocated and reconstructed at a new location, while a new bridge would be constructed on the existing alignment. This alternative would not be feasible or prudent due to the high costs of reconstruction and dismantling, storing and transporting the bridge components; all of this presuming an appropriate location could be identified and secured for relocation.

## **3.6 Measures to Minimize Harm**

Proposed mitigation measures appear in a draft Memorandum of Agreement (MOA) between FHWA, the SHPO, and MDOT. See **Appendix E** for the draft MOA. The 2005 MOA has been terminated by FHWA.

### **3.6.1 Full Recordation of the Bridge Prior to Demolition** (see Section 3.6.4)

Proposed mitigation measures to record the bridge and neighboring area include:

- Photographic documentation of structure, site, interior spaces, and machinery
- Measured drawings of exterior and interior and plan and elevation views
- Textual history and description of the bridge
- Documentation of historical graphics including plans, specifications, press releases, articles, and historic photographs
- Textual and photographic documentation of the immediate neighborhoods on both sides of the existing bridge

### **3.6.2 Development of an Architecturally Appropriate Bridge Design**

The new bridge needs to be treated as a gateway bridge and the design will be architecturally appropriate. The design should draw from design trends prevalent during the period of prime significance for the bridge, roughly 1920 to 1945. The SHPO will be

consulted through the design phase and will be invited to comment on the bridge design and approach design.

### **3.6.3 Interpretive Markers Adjacent to the Sidewalks on the New Bridge**

The Interpretive Markers will be placed adjacent to the sidewalks on the new bridge. The Markers would:

- Interpret site significance in Detroit's labor history
- Interpret the significance of the site/bridge to the development of Detroit/Dearborn as industrial cities in post World War I
- Interpret the Rouge River as a natural feature and as transportation corridor.

### **3.6.4 Publication of Historic Bridge Documentation** (see *Section 3.6.1*)

Using the materials collected and developed for the bridge documentation discussed in section 3.6.1, MDOT would produce a popular history of the bridge and distribute it to appropriate repositories, including the State Library and Archives, Detroit and Dearborn public libraries, Wayne State University, and other potential recipients. Additional copies may be made available through MDOT or possibly through selected repositories, on-request and through just-in-time production.

## **3.7 Coordination**

Coordination regarding the historic resource associated with the Fort Street bridge project has been ongoing. Effects of the bridge replacement, the alternatives considered, and the proposed measures to minimize harm were reviewed by and developed in consultation with the State Historic Preservation Officer.

MDOT has coordinated with federal, state, and public agencies and other stakeholders concerning the project and will hold a public hearing. The public will be notified of the availability of this document and public meetings in a timely manner.

## **3.8 Conclusion**

Based on the considerations contained in this Section 4(f) Evaluation, there is no prudent and feasible alternative to using the historic property described in this section. The proposed bridge replacement includes all possible planning to minimize harm to this resource from such use.

## **SECTION 4 - PUBLIC INVOLVEMENT**

### **4.1 Public Involvement**

Comments from a Public Hearing that was held in January 2005 included a comment asking why a two year detour is needed for constructing either Alternative A or Alternative B. MDOT responded to this comment by saying that a two year detour is needed because the existing bridge needs to be removed before construction can start on the new bridge. A two year detour is still required for this project. The detour route for this project is the same detour route that was presented in the original EA.

A Public Hearing on the proposed project will be held after the Supplement to the Environmental Assessment has been approved and made available to the public. MDOT will complete the environmental review process by requesting a Finding of No Significant Impact (FONSI) from FHWA upon public and agency concurrence that the new selected alternative does not have significant impacts.

## **SECTION 5 - PROJECT COSTS**

### **5.1 Project Costs**

The estimated cost for constructing the replacement bridge is approximately \$50million (2009) dollars (with the overhead Counterweight) and \$60 million (2009) dollars (with underdeck counterweight). The cost includes right-of-way acquisition, preliminary engineering, construction engineering, construction of the bridge and approaches, and intersection improvements at Fort Street and Oakwood Boulevard.

## **SECTION 6 - CONCLUSION**

### **6.1 Conclusion**

The Michigan Department of Transportation has reviewed this project for potential impacts on the human and natural environments. Based on the information in this Supplement, field reviews, and coordination with other agencies and the public, it is anticipated that this project will have no long-term significant negative impacts on the natural or human environment within the project area.



# **APPENDIX A**

## Bridge Photographs



## Bridge Photographs



**Photograph 1.** A general view of the bridge looking toward the southwest



**Photograph 2.** The operator's house at the east end of the bridge

STRUCTURAL SYSTEM INSPECTION PHOTOGRAPHS

BRIDGE: FORT STREET BRIDGE (STRUCTURE ID NO. 82 1820710000000B04)

DATE: OCTOBER 1998



PHOTOGRAPH S-11 - View showing typical corrosion between back-to-back angles of floorbeam lower struts and reduced horizontal flange angle legs.

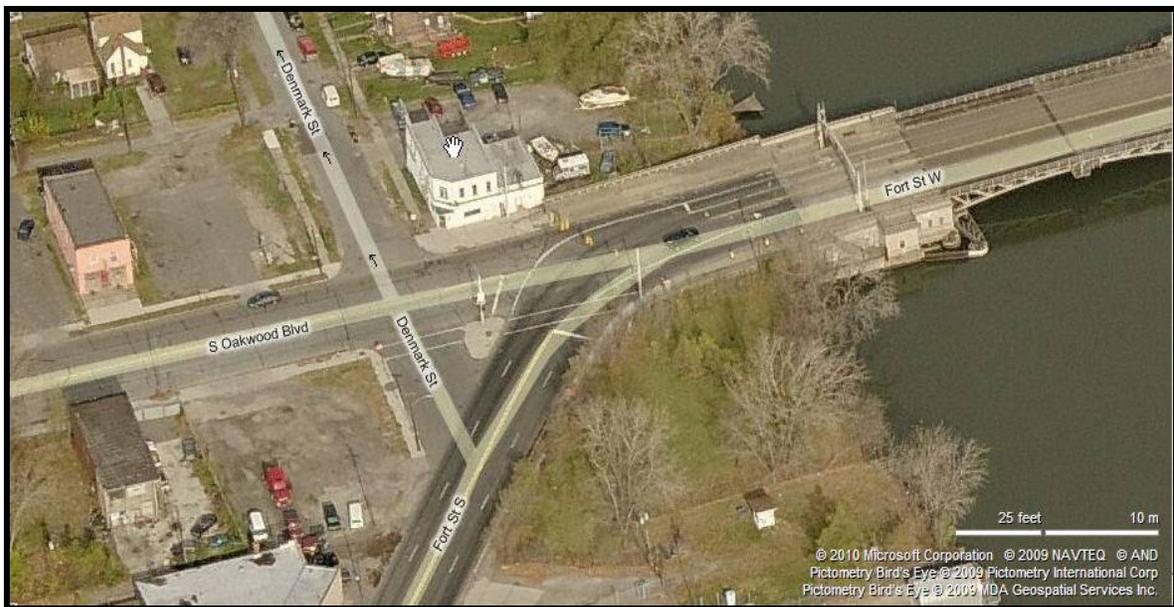


PHOTOGRAPH S-12 - View showing loss of floorbeam lower strut fastener due to occasionally occurring pack rust at inboard truss upper connection plates.

Photographs 3 (S-11) and 4 (S-12). Structural Inspection Photographs



**Photograph 5.** View of bridge fender system, northeast quadrant



**Photograph 6.** View of the Oakwood Boulevard/South Fort Street intersection



Photograph 7 – View of the leafs

## **APPENDIX B**

### Bridge Safety Inspection Report



**Bridge Safety Inspection Report**

Facility	Federal Structure ID	Inspector Name	Agency / Consultant	Inspection Date	<b>LEGEND</b>	
M-85	82182071000B040	KATHRENSR	MDOT Bridge Ops	11/02/2009		
Feature	Latitude	Longitude	Struc Num	Insp Freq		9 New
ROUGE RIVER	421728.76	830832.39	11321	3		7-8 Good
Location	Length	Width	Year Built	Year Recon		5-6 Fair
IN DETROIT 10400 FORT ST	281.8241	73.818	1926			3-4 Poor
					2 or Less Critical	

**NBI INSPECTION**

**Deck**

- |                       |       |  |
|-----------------------|-------|--|
| 1. Surface<br>SIA-58A | 3 3 3 | New traffic delineators have been installed across deck surface to channelize traffic to easterly side of bridge. There are a few locations where the steel channel has 100% section web loss over the stringers near FB0-0 Conc. surface above machinery room is fair. Galvanized metal grating, bent/dented 3 syd. Several small snagged bars. Loose plate at south end pounding w/ traffic grating, bent/dented 3 syd. Several small snagged bars. Loose plate at south end pounding w/ traffic. (2009),<br>There are a few locations where the steel channel has 100% section web loss over the stringers near FB0-0 Conc. surface above machinery room is fair. Galvanized metal grating, bent/dented 3 syd. Several small snagged bars. Loose plate at south end pounding w/ traffic. (2009),<br>There are a few locations where the steel channel has 100% section web loss over the stringers near FB0-0 Conc. surface above machinery room is fair. Galvanized metal grating, bent/dented 3 syd. Several small snagged bars. Loose plate at south end pounding w/ traffic.(2009). |
| 2. Expansion Jts      | 5 5 5 |  |
| 3. Other Joints       | 5 5 5 | Long. & Transv. joints missing filler in some locations, conc. spalling along edges. (2009).   |
| 4. Railings           | 5 5 5 | Long. & Transv. joints missing filler in some locations, conc. spalling along edges. (2009).   |
| 5. Sidewalks or curbs | 4 4 4 | Sidewalk grating near rear break is bent. SW Quadrant was repaired w/ plate. Curb breaking up along NW quadrant.(2009).<br>Sidewalk grating near rear break is bent. SW Quadrant was repaired w/ plate. Curb breaking up along NW quadrant.(2009).<br>Sidewalk grating near rear break is bent. SW Quadrant was repaired w/ plate. Curb breaking up along NW quadrant.(2009).  |
| 6. Deck<br>SIA-58     | 4 4 4 | Deck on tail span has several cracks with efflorescence, map cracked approximately 30% of area under sidewalks (hole in NE). Stringer encasement spalled, Beams bottom flange is exposed and rusted, leaching with stalactites(2009).  |
| 7. Drainage           |       |  |
| 9. Paint<br>SIA-59A   | 2 2 2 | Truss members - Rusted seams, lacing, battens, and connections with greater than 25% paint failure. Steel Stringers have near 75% paint failure w/ heavy section loss. (2009).<br>Truss members - Rusted seams, lacing, battens, and connections with greater than 25% paint failure. Steel Stringers have near 75% paint failure w/ heavy section loss. (2009).<br>Truss members - Rusted seams, lacing, battens, and connections with greater than 25% paint failure. Steel Stringers have near 75% paint failure w/ heavy section loss. (2009).   |
| 10. Section Loss      | 0 0 0 | Channels supporting deck grating have 100% section loss of web on east side near south break. Critical Holes in deck stringers near FB 0-0 and rear break. Holes in web of FB's near Rear Break. Gusset plates with holes and near 100% loss at connections of FB Diagonals, pack rust, connections with greater than 10% loss of section. Rack/Trunnion Framing has heavy section loss near rear break. West end has cracked cover plate at pivot and beams have holes in corners. (2009).<br>Critical Holes in deck stringers near FB 0-0 and rear break. Holes in web of FB's near Rear Break. Gusset plates with holes and near 100% loss at connections of FB Diagonals, pack rust, connections with greater than 10% loss of section. Rack/Trunnion Framing has heavy section loss near rear break. West end has cracked cover plate at pivot and beams have holes in corners. (2009).   |
| 11. Bearings          | 4 4 4 | Rusting, anchors and bracing reduced at longitudinal trunnion support truss bearings. Ctw. rear stop block bearing angle of anchor column cracked and gaps exist. (2009).<br>General rusting, anchors and bracing reduced at longitudinal trunnion support truss bearings. Ctw. rear stop block bearing angle of anchor column cracked and gaps exist. (2009).<br>General rusting, anchors and bracing reduced at longitudinal trunnion support truss bearings. Ctw. rear stop block bearing angle of anchor column cracked and gaps exist. (2009).  |

**Substructure**

- |                         |       |   |
|-------------------------|-------|---|
| 12. Abutments<br>SIA-60 | 4 4 4 | Several spalls and some map pattern cracking at corners and edges of the abutment seats. Vertical cracks exist full height of abutment stem. Brickwork indicates settling of ends.(2009).<br>Several spalls and some map pattern cracking at corners and edges of the abutment seats. Vertical cracks exist full height of abutment stem. Brickwork indicates settling of ends. (2009).<br>Several spalls and some map pattern cracking at corners and edges of the abutment seats. Vertical cracks exist full height of abutment stem. Brickwork indicates settling of ends. (2009). |
| 13. Piers<br>SIA-60     | 4 4 4 | Vertical leaching cracks inside pits of bascule piers. Heavy scale, spalls. Some timber fenders and plate missing, fender damage S.W(2009).<br>Vertical leaching cracks inside pits of bascule piers. Heavy scale, spalls. Some timber fenders and plate missing, fender damage S.W (2009).<br>Vertical leaching cracks inside pits of bascule piers. Heavy scale, spalls. Some timber fenders and plate missing, fender damage S.W(2009).  |
| 14. Slope Protection    | 4 4 4 | Erosion in all 4 quadrants and debris built up near corners of Bascule Piers (2009).<br>Erosion in all 4 quadrants and debris built up near corners of Bascule Piers (2009).<br>Erosion in all 4 quadrants and debris built up near corners of Bascule Piers(2009).   |



## **APPENDIX C**

**Conceptual Stage Relocation Plan**

**and**

**Potential Right of Way Acquisition**



**Michigan Department of Transportation  
Real Estate Division  
Conceptual Stage Relocation Plan  
Replacement of the Fort Street (M-85) Bascule Bridge  
Over the Rouge River in the City of Detroit  
Wayne County, Michigan  
Control Section 82073, Project Number 54049B**

February 22, 2010

**GENERAL AREA AND PROJECT INFORMATION**

This project involves replacing the historic Bascule Bridge over the Rouge River in the City of Detroit, Wayne County, Michigan. The primary purpose of the project is to correct deficiencies of the Bascule Bridge so traffic flow on Fort Street (M-85) over the Rouge River, as well as boat traffic within the river channel, can be maintained. In addition, the project will establish a traffic flow preference for M-85.

**DISPLACEMENTS**

No Action Alternative	No displacements
Alternative B	3 Business displacements
Preferred Alternative (Alternative A)	2 Business displacements

**DISPLACEMENT EFFECTS AND ANALYSIS**

Acquisition of property for this project will allow for an orderly and timely relocation of all eligible displaced residents, businesses, farms and nonprofit organizations (*community facilities*). The acquiring agency will ensure the availability of a sufficient number of replacement properties in the local area for all eligible displaces.

Business: The project may cause the displacement of approximately 2 businesses. A review of the local commercial real estate market indicates that there are a sufficient number of replacement sites available to relocate eligible displaced businesses. Displacement of these businesses is not expected to have a major economic or otherwise generally disruptive effect on the community impacted by this project.

**ASSURANCES**

The acquiring agency will offer assistance to all eligible residents, businesses, farms and non-profit organizations impacted by the project, including persons requiring special services and assistance. The agency's relocation program will provide such services in accordance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; Act 149, Michigan P.A. 1911, as amended; Act 87, Michigan P.A. 1980, as amended, and the

Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. The acquiring agency's relocation program is realistic and will provide for the orderly, timely and efficient relocation of all eligible displaced persons in compliance with state and federal guidelines.

**Prepared by:**

*Teresa R. Vanis*  
Teresa Vanis

**Date:** 2-22-10

**Approved by:**

*Eric A. Smith*  
Eric Smith

**Date:** 2-22-10

**M-85 Bascule Bridge Replacement Project  
Potential Right of Way Acquisition**

<b>Location</b>	<b>Area (Sft)</b>	<b>ROW Type</b>	<b>Total/Partial Takes</b>	<b>Comments</b>
South corner of Bayside Ave. and M-85 (Fort St.)	4857	Fee	Total	Warehouse located on site
North corner of Bayside Ave. and M-85 (Fort St.)	8324	Fee	Total	Automotive building on site
Southwest corner of Oakwood Blvd. and M-85 (Fort St.)	3276	Fee	Total	Vacant - City of Detroit Owned
Southwest corner of Oakwood Blvd. and M-85 (Fort St.)	3600	Fee	Total	Vacant
Southwest corner of Oakwood Blvd. and M-85 (Fort St.)	225	Fee	Partial	Vacant
Marathon Oil Property - East side of M-85 (Fort St.)	2305	Fee	Partial	
City of Detroit (DWSD) - East side of M-85 (Fort St.)	1016	Fee	Partial	
Wayne County - East side of M-85 (Fort St.)	735	Fee	Partial	
Marathon Oil Property - East side of M-85 (Fort St.)	765	Easement	N/A	Removal of existing bridge & retaining wall and construction of new bridge & retaining wall
Northeast corner of Denmark Dr. and M-85 (Fort St.)	1093	Easement	N/A	Removal of existing bridge & retaining wall and construction of new bridge & retaining wall
CSX - North side of M-85 (Fort St.) between River and Miller Rd.	22310	Fee	Partial	
Southeast corner of Reisner Rd. and M-85 (Fort St.)	113	Fee	Partial	



## **APPENDIX D**

### Environmental Risk Assessment and Sampling Site Locations



**ENVIRONMENTAL RISK ASSESSMENT  
and  
SAMPLING MAP OF LOCATIONS  
FOR  
M-85 FORT STREET BRIDGE OVER THE ROUGE RIVER**

**Environmental Contamination Risk Assessment Process**

MDOT reviews environmental contamination issues and provides some type of risk assessment for improve and expand projects in the Environmental Assessment (EA) and during the design phase. Known and potential sites of environmental contamination are evaluated for their impact to the project design, cost, schedule, and worker safety. Liability issues are also evaluated in terms of future risks and costs to the department.

MDOT staff or consultants hired by MDOT perform an initial site assessment through a records search to determine if any known or potential sites of environmental contamination are present within or adjacent to the project area. Once these sites have been identified a determination is made whether to conduct further investigation to assess the environmental contamination risk for the project. Further investigation could include additional records review or environmental testing in areas of concern. In order to evaluate worker safety potentials, environmental testing is performed in the proposed right-of-way to determine if contamination exists and what level of contamination is present. MDOT is exempt from environmental liability under Section 201126 of Act 451, P.A. 1994, as amended. The testing provides “due diligence” which is required under Part 201 and acts as a mechanism to assess contamination risks for worker safety, exacerbation potential, and to provide some type of cost estimate for construction activities due to environmental issues.

**Project Background and History Information**

A Preliminary Site Investigation (PSI) was performed along the proposed Fort Street (M-85) bridge replacement project located along the Rouge River in the city of Detroit, Wayne County. The proposed alignment will affect properties along the south side of the existing roadway. In the southwest corner Marathon Oil owns property and on the southeast corner of the project Morton Salt has property in active use and there is also an old gas station.

**Risk Assessment Testing for all alternatives**

The consultant’s PSI consisted of analysis of eight soil borings and two groundwater samples in the project area. Concentrations of each compound tested for were compared to the State of Michigan Part 201 Generic Cleanup Criteria and Screening Levels as established by the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

### **Summary for Proposed Alternative**

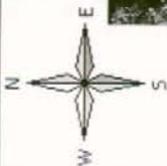
Test results from the groundwater sample at B-4 detected metal constituents at concentrations above state criteria. Chromium and silver exceeded one or both of the drinking water protection and groundwater-surfacewater interface protection criteria. Some of the soil samples collected did have concentrations of contamination above state criteria. Boring B-7 has levels of benzo(a)pyrene that exceed the direct contact criterion for residential and commercial I exposure and fluoranthene and phenanthrene exceeded the groundwater-surfacewater interface protection criteria. Soil samples from borings B-1, B-2, B-3, B-4, and B-7 contained one or more metals that exceeded the groundwater-surfacewater interface protection criteria. Arsenic levels exceeded the residential and commercial I direct contact criterion in B-1 and B-4. One small area under the existing road on the west end of the bridge will need additional environmental testing to determine if any contamination exists that will affect the removal of the pavement in that area. If testing indicates that contamination is present, MDOT will properly remove and dispose of any contamination.

### **Mitigation**

Exceedances of groundwater-surfacewater interface and direct contact criteria will require mitigation measures to be taken for this project. All areas of contamination must be noted in the plans and marked with a shaded area. Contaminated soils that are excavated and reused as fill shall not be relocated to a different area within the construction site. If contaminated soil must be removed from the site it will need to be tested and transported to a licensed landfill that will accept these wastes. If dewatering is required during construction, the groundwater may require treatment before being discharged. Permits may be required for the discharge of the groundwater. Sediment in the Rouge River may be contaminated and proper measures must be taken to contain the sediment if it is disturbed. Due to the fact that groundwater-surfacewater interface criteria was exceeded for all land uses a sub-surface utility plan will be needed to insure that no deep utility cuts will impact any contaminated areas. A Worker Health and Safety Plan will be needed to address direct contact issues for contaminants. Construction site precautions must be taken to reduce dermal exposure. Soil erosion and sedimentation controls should also be installed and monitored during soil disturbance activities.

*Reference:* Preliminary Site Investigation Report by *psi* consulting firm

Fort Street (M-85) at Rouge River Bridge - Detroit, Wayne County, MI



**LEGEND**

Approx. Scale: 1 inch = 100 feet  
 B-1 ⊗ Soil Boring

**PSI** Information  
 To Build On  
 Engineering • Consulting • Testing

MDOT  
 Fort St. at Rouge River Bridge, Detroit, MI

Environmental Services

1000 N Opytke Rd Site C, Auburn Hills MI 48326  
 Tel. 248.373.1970 Fax 248.373.0794

Figure 2

166-3G021



**APPENDIX E**

**Draft Memorandum of Agreement**



**DRAFT MEMORANDUM OF AGREEMENT BETWEEN  
THE FEDERAL HIGHWAY ADMINISTRATION AND  
THE MICHIGAN STATE HISTORIC PRESERVATION OFFICE  
REGARDING  
THE REPLACEMENT OF THE M-85 / FORT STREET BASCULE BRIDGE,  
CITY OF DETROIT, WAYNE COUNTY, MICHIGAN  
SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
PURSUANT TO 36 CRF PART 800.6(b)(1)**

**WHEREAS**, the Federal Highway Administration (FHWA) of the U.S. Department of Transportation has determined that the replacement of the M-85 / Fort Street Bascule Bridge, City of Detroit, Wayne County, Michigan, which appears to meet the criteria for listing in the National Register of Historic Places, will pose an adverse effect, and has consulted with the Michigan State Historic Preservation Office (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) (the Act); and

**WHEREAS**, The Michigan Department of Transportation (MDOT) participated in the consultation and has been invited to concur in this Memorandum of Agreement (MOA); and

**WHEREAS**, this MOA replaces the 2005 MOA. The 2005 MOA has been terminated by FHWA.

**NOW, THEREFORE, FHWA and SHPO** agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on the historic M-85/Fort Street Bascule Bridge.

**Stipulations**

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

**I. PHASE I MITIGATION**

**A. Recordation**

1. The Bridge shall be recorded so that there is a permanent record of its existence. MDOT shall prepare photographic documentation and a historical overview of the Bridge according to the SHPO *Documentation Guidelines*, attached hereto as **Attachment E**. Unless otherwise agreed to by the SHPO, MDOT shall ensure that all documentation is completed and accepted by the SHPO for deposit in the Archives of Michigan prior to the commencement of any demolition or construction activity concerning the bridge. MDOT will provide original copies of the recordation package to the SHPO for placement in the Archives of Michigan and appropriate local repositories designated by the SHPO.

2. MDOT shall include as part of the recordation package original or archival –quality copies of historic bridge plans and historic photographs; additionally, electronic versions of these historic plans and photographs, will be submitted.
3. Video recordation will be performed at the same time as Stipulation I.A.1 and will provide a permanent record of interior and exterior spaces and of the Bridge in operation. Distribution of the video recording shall follow Stipulation I.A.1.

### **B. Bridge Design**

1. Prior to completing the design for the new bridge, up to three public open house meetings will be held to allow public input on bridge aesthetics. FHWA and MDOT shall review the results of these forums and shall incorporate, where practicable, comments and/or suggestions from the public into the design.
2. FHWA and MDOT shall consult with the SHPO, Wayne County, the City of Detroit, and other interested parties and provide them with the opportunity to review and comment on the proposed architectural concepts and/or plans for the replacement bridge.

## **II. PHASE II. MITIGATION**

### **A. Interpretive Markers**

1. MDOT shall remove the existing Michigan Historical Marker and return it to SHPO, or their designee, prior to demolition of the subject bridge.
2. MDOT shall develop, purchase, and install up to four interpretive markers on the replacement bridge, to be located adjacent to the bridge sidewalks

### **B. Selective Salvage**

1. Prior to demolition of the historic bridge, MDOT shall consider the feasibility of selectively salvaging materials from the historic bridge, including but not limited to stone (panels, trim and details), streetcar utility arches, iron and steel members (truss pieces, gears, tracks, and beams).

### **III. GENERAL CONSIDERATIONS**

#### **A. Amendment**

1. Any party to this MOA may propose to the other parties that it be amended, whereupon the parties will consult in accordance with 36 CFR 800.6(c)(7) to consider such an amendment.
2. In the event that any portion of this MOA is found to be infeasible, the parties to this MOA shall consult to consider appropriate alternative mitigation.
3. Any additional or alternative actions considered pursuant to this agreement shall be subject to implementation by amending this MOA in accordance with this section.

#### **B. Dispute Resolution**

Should the SHPO or MDOT object within 30 (thirty) days to any actions proposed pursuant to this MOA, the FHWA shall consult with the objecting party to resolve the objection. If the FHWA determines that the objection cannot be resolved, the FHWA shall forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (Council). Within 45 (forty-five) days after receipt of all pertinent documentation, the Council will either:

1. Provide the FHWA with recommendations, which the FHWA will take into account in reaching a final decision regarding the dispute; or
2. Notify the FHWA that it will comment pursuant to 36 CFR 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by FHWA in accordance with 36 CFR 800.7(c)(4) with reference to the subject of the dispute.

#### **C. Termination**

1. If the FHWA determines that it cannot implement the terms of this MOA, or if the SHPO determines that the MOA is not being properly implemented, the FHWA or the SHPO may propose to the other parties to this MOA that it be terminated.
2. The party proposing to terminate this MOA shall so notify all parties to this MOA explaining the reasons for termination and affording at least sixty (60) days to consult and seek alternatives to termination. The parties shall then consult.
3. Should such consultation fail, the FHWA or the SHPO may terminate the MOA by so notifying all parties.
4. Should this MOA be terminated, the FHWA shall either
  - a. Consult in accordance with 36 CFR § 800.6 to develop a new MOA; or
  - b. Request the comments of the Council pursuant to 36 CFR § 800.7.

Execution and implementation of this MOA and submission to the Council evidences that FHWA has afforded the Council a reasonable opportunity to comment on the project and that the FHWA has taken into account the effects of the project on historic properties.

**FEDERAL HIGHWAY ADMINISTRATION**

By: \_\_\_\_\_ Date: \_\_\_\_\_  
James J. Steele, Division Administrator

**MICHIGAN STATE HISTORIC PRESERVATION OFFICER**

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Brian D. Conway, State Historic Preservation Officer

Concur:

**MICHIGAN DEPARTMENT OF TRANSPORTATION**

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Susan Mortel, Director, Bureau of Transportation Planning

