



# Chapter 8

## Section 4(f)

Section 4(f) of the US Department of Transportation Act protects publicly owned parks, recreation areas, wildlife or waterfowl refuges, and historic sites. By law, a Section 4(f) property may be converted to a transportation use only if there is no prudent and feasible alternative and the project includes all possible planning to minimize harm to the resource. This chapter examines the range of alternatives considered, the effects the Proposed Action creates on 4(f) properties, and measures considered to minimize and mitigate any potential harm.

### **8.1 Section 4(f) Resources**

There are four public recreational facilities in the vicinity of the US 421 Milton-Madison Bridge over the Ohio River that have the potential to be affected by the project. These resources, listed below, are documented and pictured in **Appendix B**.

Jaycee Park, beneath the Indiana bridge approach, provides playground equipment, volleyball and basketball courts, and two picnic shelters near the riverfront.

Madison City Campground, off Vaughn Drive east of Madison, provides RV camping sites with a bathhouse and dump station.

The Boat Ramp in Milton, east of the US 421 Bridge, provides the only public boat ramp for Ohio River access in Trimble County.

The Milton City Park, east of the KY 36-US 421 intersection, provides a baseball field, playground equipment, a multi-use path, and a covered picnic shelter.

In addition to the recreational resources described above, the US 421 Bridge, Madison National Historic Landmark District, Madison Historic District, Third Street Historic District, Hunter's Bottom Historic District, and other individually NRHP-eligible historic structures qualify as Section 4(f) resources.

The National Historic Landmark District in Madison contains approximately 1,800 individual resources that contribute to the district. The district covers a period of significance from 1817 to 1939 and demonstrates historic themes related to its architecture and ethnic heritage. The

2006 National Historic Landmark nomination form, on file with the National Park Service, contains details about themes and contributing historic elements.

The Madison Historic District covers a larger area, including most of the National Historic Landmark District. This district covers a period of significance from 1800 to 1874. It conveys themes of architecture, agriculture, commerce, and transportation. With the consensus of Section 106 consulting parties, the period of significance for the Madison Historic District was extended to 1939 for this project. Of the surveyed properties, 74 resources were identified as contributing elements to the Madison Historic District (beyond the National Historic Landmark). A total of 14 of these structures are considered individually eligible for listing on the National Register.

The Third Street Historic District in Milton lies just north of the Kentucky bridge abutment. The district covers a period of significance from 1850 to 1899 and demonstrates a historic architectural theme. The district contains three contributing structures, all previously listed in the National Register.

The Hunter's Bottom Historic District east of Milton covers a period of significance from 1800 to 1924. It is notable for its themes of architecture, agriculture, exploration/settlement, and commerce. Five properties were surveyed that are considered contributing elements to the Hunter's Bottom Historic District, one of which has been previously listed on the National Register.

Beyond the boundaries of these districts, there is one more individually eligible property in Madison and four more individually eligible properties in Milton.

The Clifty Falls State Park Southern Gatehouse in Madison is eligible under criteria A & C. The gatehouse is an excellent example of an early to mid twentieth century New Deal era project in Jefferson County. It was constructed by the Works Progress Administration (WPA). The one-story cut stone building is topped by a side gable roof covered in wood shingles with a large exterior chimney of cut stone. A cut stone wall also runs along the entryway to the park. The building exhibits integrity as it retains its historic form and much of its original materials.

In Milton, the commercial building at 103 Ferry Street is listed on the National Register as eligible under criteria A & C. The two-story brick building has a hip roof and a bracketed cornice to enhance the front façade. The building is an excellent example of a late nineteenth century building associated with the development of commercial enterprise in Trimble County. The building exhibits integrity as it retains its historic form and much of its original materials.

In Milton, the commercial building at the corner of KY 36 and Ferry Street is listed on the National Register as eligible under criteria A & C. The two-story brick building has a hip roof, continuous stone foundation, and two interior chimneys. Originally, the structure served as a commercial development and the Masonic lodge for the community. The building is an excellent example of a late nineteenth century building associated with the development of commercial enterprise in Trimble County. The building exhibits integrity as it retains its historic form and much of its original materials.

A house along KY 36, identified as WSA-234 for this project, is eligible for listing on the National Register under criterion C. The two-story brick house has a continuous stone foundation, cross gable roof, three chimneys, and one story front porch. The front façade has a projecting cornice

with paired brackets, modillions, and returns. All windows have limestone lintels and sills. The residence is an excellent example of a mid-nineteenth century residence constructed in Trimble County. The building exhibits integrity as it retains its historic form and much of its original materials.

Another house along KY 36, identified as WSA-235 for this project, is eligible for listing on the National Register under criterion C. This one-story brick house has a cross gable roof, a shed porch on the front façade, and interior brick chimneys. The single-leaf entryway has a four-pane transom; all windows are topped by jack arches. The residence is an excellent example of an early to mid-nineteenth century residence constructed in Trimble County. The building exhibits integrity as it retains its historic form and much of its original materials.

The US 421 Bridge itself is also an individually eligible historic resource. The US 421 Bridge has been determined individually eligible under Criteria A & C. The bridge is an excellent example of an early twentieth century truss bridge, as well as being associated with the J. G. White Engineering Corporation, an influential and important bridge builder of that era. Despite its deteriorating condition, the bridge exhibits integrity as it retains its historic form and much of its original material. Letters from the State Historic Preservation Offices (SHPO) in both states regarding the eligibility of the bridge are included in **Appendix E**.

There are no wildlife or waterfowl refuges present within the immediate project area that may be affected by any of the alternatives, including the Proposed Action.

## **8.2 Programmatic Section 4(f) Use of the US 421 Bridge**

The Proposed Action for the Milton-Madison Bridge Project involves the replacement of the existing truss superstructure of the US 421 Bridge over the Ohio River. This project qualifies as a use of a Section 4(f) resource – the bridge itself – and is addressed under the *Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges*<sup>1</sup>.

The Programmatic agreement applies because:

1. The project will replace the superstructure of the bridge using federal funds.
2. The project requires the use of the US 421 Bridge, determined eligible for listing in the National Register of Historic Places based on statements from the Kentucky SHPO and the Indiana SHPO. Letters regarding the eligibility of the bridge from both SHPOs are included in **Appendix M**.
3. The project impairs the historic integrity of the structure through the demolition of the superstructure.
4. The US 421 Bridge is not a National Historic Landmark.
5. Agreement among the FHWA, the two state SHPOs and the Advisory Council on Historic Preservation has been reached through procedures pursuant to Section 106 of the National Historic Preservation Act.

### **8.2.1 Alternatives Considered**

A Section 4(f) property may be converted to a transportation use only if there is no prudent and feasible alternative and the project includes all possible planning to minimize harm to the resource. This section describes the bridge location alternatives considered and applies criteria to determine if any of these meet the guidelines to be prudent and feasible.

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<sup>1</sup> Available on the FHWA website at <http://www.environment.fhwa.dot.gov/4f/4fnationwidevals.asp>

**Chapter 3** documents the range of alternatives considered for this project and the alternatives screening. Four strategies were identified that could potentially meet the project purpose: No Build, Rehabilitation, Superstructure Replacement, and New Bridge at a New Location, shown in **Figure 8.1** below.

#### ***8.2.1.1 Avoidance Alternative***

An avoidance alternative is any feasible and prudent alternative that avoids the use of all Section 4(f) resources. To be feasible, an alternative must be constructible as a matter of sound engineering judgment. The criteria to determine prudence is more complex. All 16 of the initial bridge location alternatives developed are conceptually feasible.

According to the *Section 4(f) Policy Paper* published by FHWA in 2005, an alternative is not prudent if

- It does not meet the project's purpose and need
- It leads to unacceptable safety or operational problems
- It leads to severe impacts even after mitigation
- It results in costs of extraordinary magnitude
- It causes unique problems or unusual factors

In addition, if an alternative meets multiple of these factors that cumulatively lead to unique problems or impacts, it is considered imprudent.

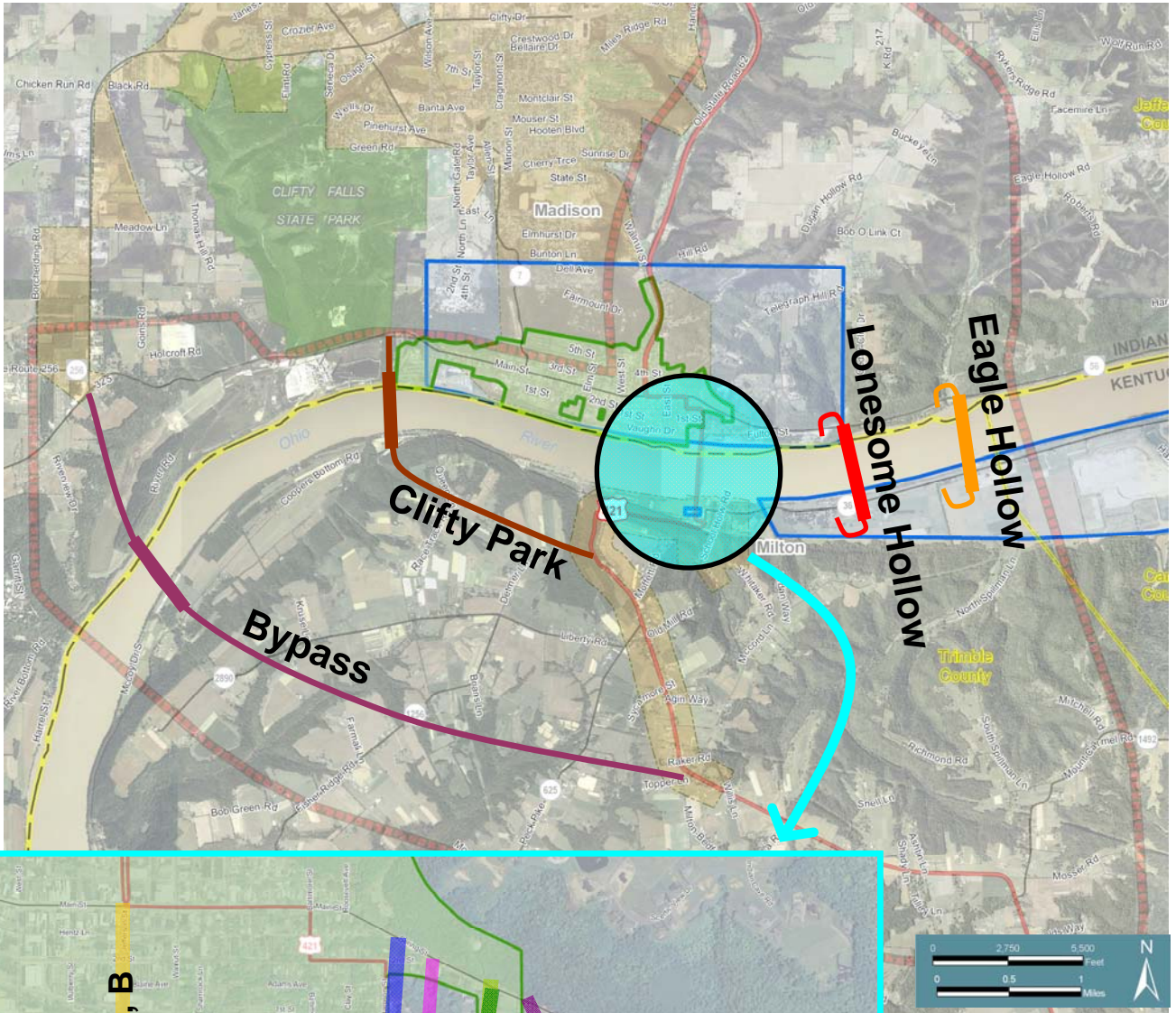
Avoidance of all Section 4(f) resources in Milton and Madison is difficult due to the extent of historic districts in both states. The Madison Historic District covers all of downtown Madison, stretching along 3 miles of the Indiana riverfront. To the east, the Hunter's Bottom Historic District covers 7 miles of Kentucky riverfront east of Milton. These two resources make it difficult to construct a cross-river link between Lower Milton and downtown Madison that would avoid Section 4(f) resources. Connections to the west avoid the districts but lead to constructability issues and do not satisfy the community connectivity element of the project purpose.

Five alternatives were dismissed because they would not meet the purpose and need for the project:

- The Rehabilitation Alternative does not address geometric or structural deficiencies and does not improve safety on the bridge.
- The Western Bypass Alternative does not maintain or improve mobility and community connectivity.
- The Clifty Park Alternative does not maintain or improve mobility and community connectivity.
- The Lonesome Hollow Alternative does not maintain or improve mobility and community connectivity.
- The Eagle Hollow Alternative does not maintain or improve mobility and community connectivity.

While the No Build Alternative does not meet the purpose and need, it was carried through the analysis as a comparison point for impacts between other alternatives.

**Figure 8.1: New Location Alternatives Considered**



Five more alternatives were dismissed because they would cause severe impacts on the communities:

- The Jefferson Street Alternatives were dismissed because they would have substantial impacts in the heart of the National Historic Landmark District and would divide the community.
- The Parallel Alternative was dismissed because it displaces a large portion of historic Lower Milton and impacts three of the four historic districts.
- The KY 36 Alternative was also dismissed because it displaces a large portion of historic Lower Milton.
- The End of Fulton Alternative was dismissed because it results in excessive costs and environmental consequences; a portion of the ridgeline north of SR 56 would have to be removed in order to meet the navigational clearance over the river and connect safely to SR 56.

As described in **Section 3.2.2**, the Around Milton and Ferry Street Alternatives were combined to form the new Tiber Creek Alternatives. The original Canip Creek A and B Alternatives were combined to form the new Canip Creek Alternative. The six remaining alternatives (No Build, Superstructure Replacement with Full Approaches, Superstructure Replacement with Minimal Approaches, Tiber Creek A, Tiber Creek B, and Canip Creek) were screened against existing Section 4(f) resources to determine if an avoidance alternative exists. **Table 8.1** illustrates the results of this screening; no prudent and feasible avoidance alternative was identified.

#### ***8.2.1.2 Least Harm Analysis***

When an avoidance alternative does not exist, the alternative that causes the least overall harm to Section 4(f) resources must be selected. This section describes impacts to Section 4(f) resources that result from the six remaining alternatives to determine which would result in the least harm.

Four of the six remaining alternatives lead to a Section 4(f) use within the National Historic Landmark District. Even incorporating design elements and mitigation measures to minimize impacts, any of these four alternatives would result in greater adverse impacts to the National Historic Landmark than the No Build Alternative or the Proposed Action. **Table 8.2** compares the number of direct effects within the National Historic Landmark for each of these six alternatives.

**Table 8.1 – Uses of Section 4(f) Resources by Alternative**

	No Build <sup>1</sup>	Superstructure Full	Superstructure Minimal (Proposed Action)	Tiber A	Tiber B	Canip
<b>Permanent conversion of land to a transportation use</b>						
National Historic Landmark	No	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
Madison Historic District	No	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
Third Street Historic District	No	<b>Yes</b>	No	No	No	No
Hunter's Bottom Historic District	No	No	No	No	No	<b>Yes</b>
US 421 Bridge	No	<b>Yes</b>	<b>Yes</b>	Potential <sup>2</sup>	Potential <sup>2</sup>	Potential <sup>2</sup>
Number of other historic structures beyond districts directly affected	0	0	0	<b>2</b>	<b>3</b>	<b>2</b>
Jaycee Park, Madison	No	Potential Temporary Use	Potential Temporary Use	No	No	No
Madison Campground	No	Temporary Use	Temporary Use	<b>Yes</b>	<b>Yes</b>	No
Milton Boat Ramp	No	Temporary Use	Temporary Use	No	No	No
Milton City Park	No	No	No	No	<b>Yes</b>	<b>Yes</b>

<sup>1</sup> The No Build Alternative does not satisfy the purpose for the project.

<sup>2</sup> In the Tiber A, Tiber B, and Canip Alternatives, the existing bridge could be taken over by a third party. If no third party is identified to assume the ownership responsibilities, the existing bridge would be demolished following construction of the new structure.

**Table 8.2 – Direct Effects to Contributing Structures within the NHL**

Alternative	Displacements	Partial Parcel Takes
No Build	0	0
Superstructure Full	5	7
Superstructure Minimal (Proposed Action)	0	0
Tiber Creek A	1	13
Tiber Creek B	1	13
Canip Creek	1	13

**Tables 8.3 through 8.5** summarize direct effects to historic structures and parcels within the Madison Historic District, Third Street Historic District, and Hunter’s Bottom Historic District resulting from the six remaining alternatives. Impacts within the Madison Historic District only count properties beyond the boundary of the National Historic Landmark District.

**Table 8.3 - Direct Effects to Contributing Structures within the Madison HD**

Alternative	Displacements	Partial Parcel Takes
No Build	0	0
Superstructure Full	1	1
Superstructure Minimal (Proposed Action)	0	0
Tiber Creek A	2	5
Tiber Creek B	2	5
Canip Creek	4	6

NOTE: Only considers properties located in Madison HD and beyond NHL boundary

**Table 8.4 - Direct Effects to Contributing Structures within the Third Street HD**

Alternative	Displacements	Partial Parcel Takes
No Build	0	0
Superstructure Full	2	0
Superstructure Minimal (Proposed Action)	0	0
Tiber Creek A	0	0
Tiber Creek B	0	0
Canip Creek	0	0

**Table 8.5 - Direct Effects to Contributing Structures within the Hunter's Bottom HD**

Alternative	Displacements	Partial Parcel Takes
No Build	0	0
Superstructure Full	0	0
Superstructure Minimal (Proposed Action)	0	0
Tiber Creek A	0	0
Tiber Creek B	0	0
Canip Creek	0	1

**Table 8.6** summarizes the impacts to other Section 4(f) resources resulting from the six remaining alternatives.

**Table 8.6- Direct Effects to other Section 4(f) Resources**

Alternative	Acreage	Description
<b>Jaycee Park</b> total acreage = 3		
No Build	0	
Superstructure Full	2	
Superstructure Minimal (Proposed Action)	2	Temporary use for construction staging
Tiber Creek A	0	
Tiber Creek B	0	
Canip Creek	0	
<b>Madison City Campground</b> total acreage = 4		
No Build	0	
Superstructure Full	Full	Temporary use for ferry staging
Superstructure Minimal (Proposed Action)	Full	Temporary use for ferry staging
Tiber Creek A	Full	Passes through middle of campground
Tiber Creek B	1	Passes along eastern boundary
Canip Creek	0	
<b>Milton Boat Ramp</b> total acreage = 1		
No Build	0	
Superstructure Full	Full	Temporary use for ferry staging
Superstructure Minimal (Proposed Action)	Full	Temporary use for ferry staging
Tiber Creek A	0	
Tiber Creek B	0	
Canip Creek	0	
<b>Milton City Park</b> total acreage = 68		
No Build	0	
Superstructure Full	0	
Superstructure Minimal (Proposed Action)	0	
Tiber Creek A	0	
Tiber Creek B	0	Passes next to western boundary
Canip Creek	5	Passes through middle of park

Because the No Build Alternative and the Proposed Action do not require the acquisition of any new right-of-way, they result in fewer Section 4(f) uses. Based upon the above discussion, the Proposed Action would have the least harm on Section 4(f) resources.

### **8.2.1.3 Findings**

The No Build Alternative ignores the basic transportation need for the project: to improve or replace the functionally obsolete/structurally deficient bridge, to improve or maintain cross-river mobility and community connectivity, and to improve safety. Because it does not address the deteriorating structural condition, the No Build Alternative poses serious and unacceptable safety hazards for the future. This alternative necessitates the closure of the bridge to all traffic, estimated to occur between 2020-2025.

The Rehabilitation Alternative was considered but does not address the basic transportation need for the project. The American Association of State Highway and Transportation Officials (AASHTO) published *Guidelines for Historic Bridge Rehabilitation and Replacement* (November 2008) that establishes a protocol for defining when rehabilitation of historic bridges is prudent and feasible based on engineering and environmental judgments. In the case of the US 421 Milton-Madison Bridge, the superstructure condition (showing continual deterioration since the 1997 rehabilitation and rated poor in 2009), the geometry (narrow lanes, inadequate stopping sight distances), and load carrying capacity (based on structural condition and steel fatigue) of the bridge are inadequate and “cannot be improved in a manner that is feasible and prudent.” **Appendix N** provides more information on the guidance published by AASHTO and its application to the Milton-Madison Bridge Project. With two 20-foot wide lanes and no shoulders, the existing bridge is seriously deficient geometrically and cannot be widened to safely meet the required capacity for the volume or size of modern vehicles using the bridge.

To build on a new location without using the old bridge, Alternatives 4 through 16 were developed to provide a new Ohio River crossing on a new location. As discussed previously, many of these alternatives were eliminated because they do not address the purpose for the project or were associated with substantial impacts to the natural or human environment. The three new alignment alternatives developed in detail (Tiber Creek A, Tiber Creek B, and Canip Creek) would not necessarily impact the US 421 Bridge itself, but would lead to Section 4(f) uses of other resources including the National Historic Landmark District.

## **8.2.2 Measures to Mitigate Harm**

All possible planning to minimize harm went into the development of the Proposed Action and preliminary design of the replacement superstructure. Based on input from Section 106 consulting parties, PAG representatives, and members of the public, a truss superstructure mimicking the profile of the existing bridge was selected as a replacement. At the February 2009 public meeting in Madison, attendees were polled to determine aesthetic preferences for a new river crossing, selecting between key elements on different truss, cable-stay, and arch bridge types. Two tower cable-stay bridges were preferred by the public; a truss bridge similar in appearance to the existing bridge was preferred by Section 106 consulting parties and was rated “above average” by the public. Additional aesthetic elements such as color, pier shape, and railing options were coordinated with Section 106 consulting parties and PAG members to ensure the replacement truss would be compatible with the historic character of the area.

Stipulations in the Section 106 Memorandum of Agreement also specify that the builder plates on the existing bridge will be removed and publicly displayed (if present on the bridge and

salvageable); the truss will be documented to HAER standards prior to demolition; and the video footage of the 1929 bridge opening will be reformatted to DVD/VHS.

### **8.3 De Minimis Section 4(f) Use of Jaycee Park**

Because of its close proximity to the US 421 Bridge, Jaycee Park would likely be needed as a staging area during the construction of the Proposed Action. This action qualifies as a *de minimis* use of the park as a Section 4(f) resource. A *de minimis* impact finding is appropriate if the transportation use, including consideration of impact avoidance, minimization, and mitigation or enhancement measures, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

A *de minimis* finding is appropriate because:

1. Jaycee Park is a publicly owned recreational area located adjacent to the existing highway.
2. There is an absence of an adverse effect on the activities, features, and attributes that qualify the resource for protection under Section 4(f).
  - a. Short term, the amount and location of land within the park that may potentially be used for construction staging will not impair the use of the park area for its intended purpose. If used for a staging area, recreational facilities within the potential staging areas – volleyball courts and a picnic shelter – will be relocated within the park area prior to construction activities.
  - b. Long term, the Proposed Action lies totally within existing state right-of-way; therefore, no land acquisition within the park is required.
3. The Mayor of Madison, as the official with jurisdiction over the resources, concurs that the project will not have an adverse effect to the park, taking into consideration the proposed mitigation measures. This is documented in a letter from FHWA, included in **Appendix M**.
4. The park was not developed with Section 6(f) funding.

#### **8.3.1 Measures to Mitigate Harm**

This project will have a *de minimis* impact on the use of the park. This takes into account the following measures to minimize harm.

Prior to bridge construction activities, the project team will complete the following work elements, if the park is selected by the contractor for use as a construction staging area:

- Coordinate with the city to ensure planned sidewalk connections from the new bridge to Vaughn Drive are appropriate for the needs of the community;
- Reconstruct the picnic shelter currently located west of the bridge to Bi-Centennial Park;
- Relocate the volleyball courts currently east of the bridge, constructing two temporary courts west of the basketball court; and
- Improve the existing waterfront access point located approximately 600 feet west of the bridge.

Once the park is no longer need for staging, the project team will:

- Restore the three volleyball courts east of the bridge at or near their current location, reconstructed to the existing condition or better;
- Restore the picnic shelter west of the bridge at or near its current location, reconstructed to the existing condition or better;
- Re-grade the affected parcels to correct existing drainage issues;

- Construct a new riverfront sidewalk 350 feet in length on the north side of Vaughn Drive along the affected parcels;
- Provide a paved parking area beneath the bridge for park visitors;
- Restore the waterfront access point immediately west of the bridge to its existing condition or better; and
- Re-seed grass to restore landscaped elements of the affected parcels.

### **8.3.2 Coordination and Public Involvement**

Public involvement activities and coordination points for the Milton-Madison Bridge Project are described further in **Chapter 6**. The public notice and public hearing for the EA, to be held in January 2010, will satisfy the coordination requirement. Details about potential construction staging areas and 4(f) use of the park were discussed at the December 2009 Project Advisory Group (PAG) meeting and Section 106 Consulting Parties meeting as well.

## **8.4 Net Benefit Section 4(f) Use of Madison Campground**

To minimize mobility and access impacts during the bridge closure, the Madison City Campground will be used for a ferry staging area during the closure period. Taking into account proposed mitigation and enhancement measures, this action qualifies as a net benefit and is addressed under the *Section 4(f) Evaluation and Approval for Transportation Projects that have a Net Benefit to a Section 4(f) property*<sup>2</sup>.

The Programmatic agreement applies to the campground because:

1. The project uses the Madison City Campground, a publicly owned recreational area.
2. The proposed project includes all appropriate measures to minimize harm and subsequent mitigations necessary to preserve and enhance features and values of the property that originally qualified it as a Section 4(f) resource. This is discussed further in **Section 8.4.2**.
3. The Mayor of Madison, as the official with jurisdiction over the campground, concurs with the assessment of the impacts, the proposed measures to minimize harm, and the mitigation necessary to preserve, rehabilitate, and enhance those features and values of the Section 4(f) property; and that such measures will be a net benefit to the Section 4(f) property. This is documented in the letter from FHWA, included in **Appendix M**.

### **8.4.1 Alternatives Considered**

The following alternatives have been considered that avoid the use of the US 421 Bridge over the Ohio River: 1) No Build, 2) Improve the existing bridge without using the Section 4(f) Property, and 3) Build a new bridge at a new location without using the Section 4(f) property.

#### **8.4.1.1 Findings**

The No Build Alternative is not feasible and prudent because it would neither address nor correct the transportation need cited as the project purpose, necessitating the proposed project. The purpose of the project is to improve or replace the functionally obsolete/structurally deficient bridge, to improve or maintain cross-river mobility and community connectivity, and to improve safety.

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<sup>2</sup> Available on the FHWA website at <http://www.environment.fhwa.dot.gov/4f/4fnationwideevals.asp>

Improving the bridge without the use of the Section 4(f) property (rehabilitation) was considered but does not address the basic transportation need for the project. The superstructure condition (showing continual deterioration since the 1997 rehabilitation and rated poor in 2009), the geometry (narrow lanes, inadequate stopping sight distances), and load carrying capacity (based on structural condition and steel fatigue) of the bridge are inadequate and “cannot be improved in a manner that is feasible and prudent.”<sup>3</sup> **Appendix N** provides more information on the guidance published by AASHTO and its application to the Milton-Madison Bridge Project. With two 20-foot wide lanes and no shoulders, the existing bridge is seriously deficient geometrically and cannot be widened to safely meet the required capacity for the volume or size of modern vehicles using the bridge.

As discussed in the FHWA *Section 4(f) Evaluation and Approval for Transportation Projects that have a Net Benefit to a Section 4(f) property*, “it is not feasible and prudent to avoid Section 4(f) property by using engineering design or transportation system management techniques, such as minor location shifts, changes in engineering design standards, use of retaining walls and/or other structures and traffic diversions or other traffic management measures if implementing such measures would result in any of the following:

- Substantial adverse community impacts to adjacent homes, businesses or other improved properties; or
- Substantially increased transportation facility or structure cost; or
- Unique engineering, traffic, maintenance or safety problems; or
- Substantial adverse social, economic or environmental impacts; or
- A substantial missed opportunity to benefit a Section 4(f) property; or
- Identified transportation needs not being met; and
- Impacts, costs or problems would be truly unusual, unique or of extraordinary magnitude when compared with the proposed use of Section 4(f) property after taking into account measures to minimize harm and mitigate for adverse uses, and enhance the functions and value of the Section 4(f) property.”

To build on a new location without using the Section 4(f) property, Alternatives 4 through 16 were developed to provide a new Ohio River crossing on a new location. As discussed in **Chapter 3**, many of these alternatives were eliminated because they do not address the purpose for the project or were associated with substantial impacts to the natural or human environment. Avoidance of all Section 4(f) resources is difficult due to the extent of historic districts in both states. The Madison Historic District covers all of downtown Madison, stretching along 3 miles of the Indiana riverfront. To the east, the Hunter’s Bottom Historic District covers 7 miles of Kentucky riverfront east of Milton. These two resources make it difficult to construct a cross-river link between Lower Milton and downtown Madison that would avoid Section 4(f) resources. Connections to the west avoid the districts but lead to constructability issues and/or do not satisfy the community connectivity element of the project purpose.

Five alternatives were dismissed because they would not meet the purpose and need for the project:

- The Rehabilitation Alternative does not address geometric or structural deficiencies and does not improve safety on the bridge.
- The Western Bypass Alternative does not maintain or improve mobility and community connectivity.

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<sup>3</sup> American Association of State Highway and Transportation Officials. (November 2008). *Guidelines for Historic Bridge Rehabilitation and Replacement*.

- The Clifty Park Alternative does not maintain or improve mobility and community connectivity.
- The Lonesome Hollow Alternative does not maintain or improve mobility and community connectivity.
- The Eagle Hollow Alternative does not maintain or improve mobility and community connectivity.

While the No Build Alternative does not meet the purpose and need, it was carried through the analysis as a comparison point for impacts between other alternatives.

Five more alternatives were dismissed because they would cause severe impacts on the communities:

- The Jefferson Street Alternatives were dismissed because they would have substantial impacts in the heart of the National Historic Landmark District and would divide the community.
- The Parallel Alternative was dismissed because it displaces a large portion of historic Lower Milton and impacts three of the four historic districts.
- The KY 36 Alternative was also dismissed because it displaces a large portion of historic Lower Milton.
- The End of Fulton Alternative was dismissed because it results in excessive costs and environmental consequences; a portion of the ridgeline north of SR 56 would have to be removed in order to meet the navigational clearance over the river and connect safely to SR 56.

The six remaining alternatives (No Build, Superstructure Replacement with Full Approaches, Superstructure Replacement with Minimal Approaches, Tiber Creek A, Tiber Creek B, and Canip Creek) were screened against existing Section 4(f) resources to determine if an avoidance alternative exists; no prudent and feasible avoidance alternative was identified. Because the No Build Alternative and the Proposed Action do not require the acquisition of any new right-of-way, they result in fewer Section 4(f) uses, causing the least overall harm on Section 4(f) resources.

#### ***8.4.1.2 Locations Considered for the Ferry Dock in Madison***

While construction of the Proposed Action does not result in a permanent take within the Madison Campground, this action will lead to an estimated 12-month closure of the bridge, severing access between communities. To reduce the resulting impacts on the communities and historic districts, KYTC and INDOT have agreed to provide a ferry between Milton and Madison during the closure period.

As discussed in **Section 4.2.7**, the 12-month closure of the bridge will result in an estimated \$387,000 per day increase in transportation costs for users (due to longer travel times and distances) if no ferry service is provided. Additionally, the one year closure will lead to estimated losses of 620 jobs and \$54 million in economic output for the three county area (Jefferson County in Indiana and Trimble and Carroll Counties in Kentucky). Providing a ferry service between communities will lessen impacts by preserving connectivity and mobility. With the ferry service, the 12-month closure of the bridge will result in an estimated \$210,000 per day increase in transportation costs. The closure period will lead to fewer losses for the three county area: 517 jobs and \$44 million in economic output with the ferry service. It should be noted that other mitigation measures (e.g. marketing campaign or business planning seminar) may further reduce these impacts. Construction expenditures will bring additional jobs and economic stimulus to the region during the three year construction period.

To run a ferry service, docks will be needed in both communities with adequate storage space for waiting vehicles. Existing docks and ramps with access to the Ohio River were considered first to minimize impacts to the environment. Two sites in Madison were initially considered as candidates for the Indiana ferry dock: the boat ramp between Jefferson and West Streets and the permanently closed boat launch at the end of Ferry Street. For the Kentucky side, the Milton Boat Ramp is the only public facility of its kind in Trimble County. Input from PAG members indicated that the Jefferson Street site in Madison is used heavily for recreational boaters and the Madison Regatta. Ferry launch sites on the same side of the bridge would help optimize performance and safety of the ferry service. Therefore, the Milton Boat Ramp and the Madison Ferry Street sites were selected as the most desirable sites to minimize impacts. (A letter documenting the existing condition of the Madison boat ramp is included in **Appendix M.**)

To avoid use of the campground, the project team considered limiting the ferry staging area to the undeveloped space south of the RV lot. However, this area does not provide adequate queuing/parking space by itself and is subject to flooding during high water events.

As discussed in the FHWA *Section 4(f) Evaluation and Approval for Transportation Projects that have a Net Benefit to a Section 4(f) property*, "It is not feasible and prudent to avoid Section 4(f) property by constructing at a new location if:

- The new location would not address or correct the problems cited as the NEPA purpose and need, which necessitated the proposed project; or
- The new location would result in substantial adverse social, economic or environmental impacts (including such impacts as extensive severing of productive farmlands, displacement of a substantial number of families or businesses, serious disruption of community cohesion, jeopardize the continued existence of any endangered or threatened species or resulting in the destruction or adverse modification of their designated critical habitat, substantial damage to wetlands or other sensitive natural areas, or greater impacts to other Section 4(f) properties); or
- The new location would substantially increase costs or cause substantial engineering difficulties (such as an inability to achieve minimum design standards or to meet the requirements of various permitting agencies such as those involved with navigation, pollution, or the environment); and
- Such problems, impacts, costs, or difficulties would be truly unusual or unique or of extraordinary magnitude when compared with the proposed use of the Section 4(f) property after taking into account proposed measures to minimize harm, mitigation for adverse use, and the enhancement of the Section 4(f) property's functions and value."

#### **8.4.2 Measures to Mitigate Harm**

This proposed temporary conversion of the campground to a ferry staging area includes all possible planning to minimize harm, includes appropriate mitigation measures, and the official with jurisdiction agrees in writing.

As outlined in the *2007-2012 Parks and Recreation Master Plan*, the campground is scheduled for a comprehensive renovation, including repairing RV stalls, replacing the bathhouse, and relocating the dump station. To perform these upgrades, the campground will be closed to visitors for up to one year's camping season. This is scheduled to be carried out in fiscal year 2012 by the City of Madison. Correspondence with the City of Madison indicates that this planned improvement to the park is concurrent with the timing of the ferry operation for the

Milton-Madison Bridge Project and the City of Madison would support the temporary use of the Madison Campground for the ferry service during the planned closure.

While the dock itself and primary queuing area will be located south of the campground, this area is prone to flooding. To provide backup queuing space and parking, the project team proposes to pave portions of the campground area, as shown in **Figure 8.2**, and use the facility during the one-year scheduled closure for renovations. Once the bridge is reopened to vehicular traffic, the campground will be restored to better than its original condition by repairing RV stalls, replacing the bathhouse, and relocating the dump station, thus providing a net benefit to the Section 4(f) resource. Temporary pavement/parking improvements will be removed and the planned campground renovations described in the *Parks and Recreation Master Plan* will be completed.

### **8.4.3 Coordination and Public Involvement**

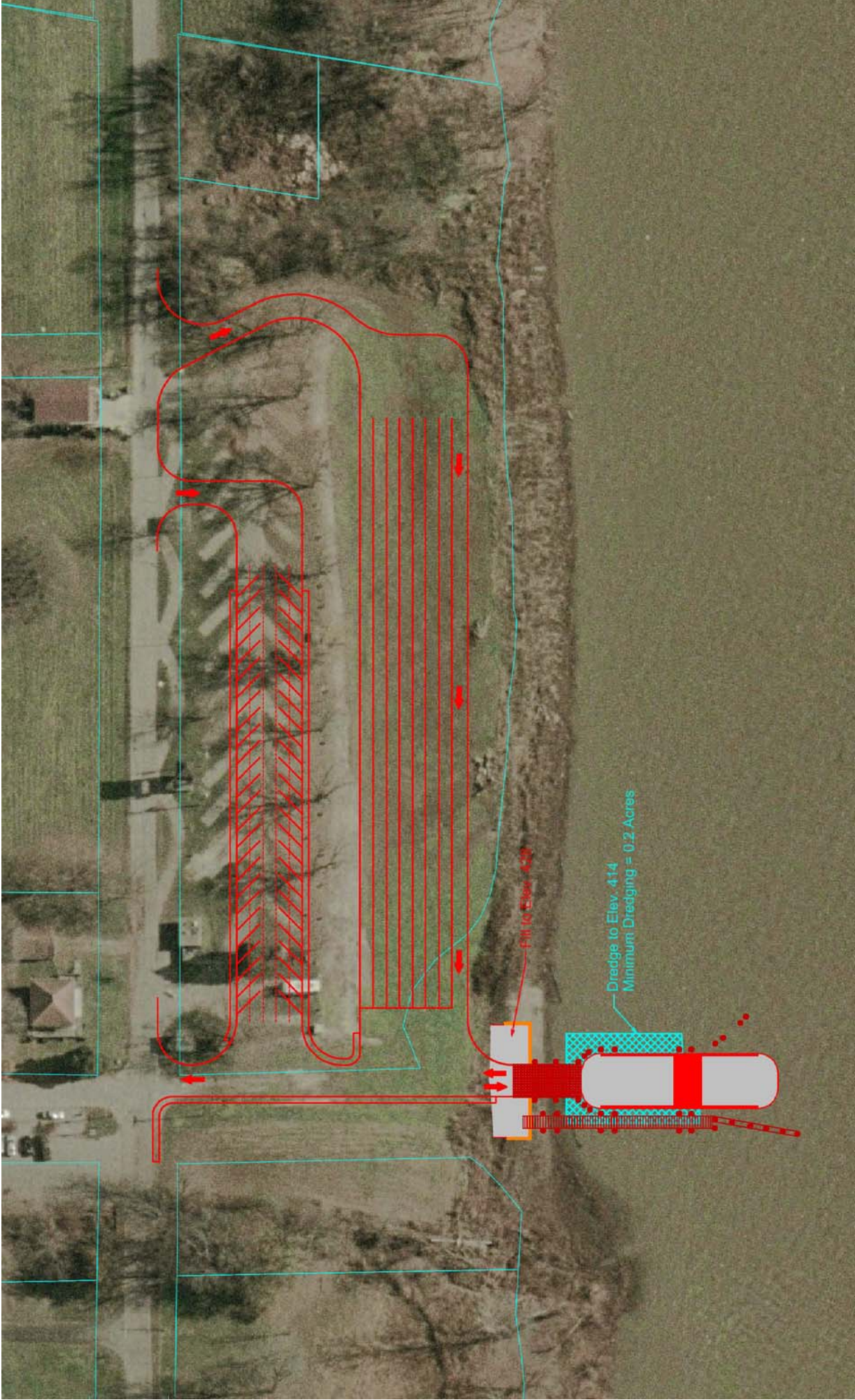
Public involvement activities and coordination points for the Milton-Madison Bridge Project are described further in **Chapter 6**. The public notice and public hearing for the EA, to be held in January 2010, will satisfy the coordination requirement. Details about the ferry service and Section 4(f) use of the campground were placed on the project website in November 2009. The ferry service and its associated use of the campground were discussed at the December 2009 PAG meeting and the Section 106 meeting. Additional information was included in a December 2009 project news release and distributed in the December 2009 project newsletter.

## **8.5 De Minimis Section 4(f) Use of Milton Boat Ramp**

To minimize community impacts during the bridge closure, the Milton Boat Ramp will be used for a ferry staging area during the bridge closure period. This action qualifies as a *de minimis* use of the boat ramp as a Section 4(f) resource. A *de minimis* impact finding is appropriate if the transportation use, including consideration of impact avoidance, minimization, and mitigation or enhancement measures, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

A *de minimis* finding is appropriate because:

1. The Milton Boat Ramp is a publicly owned recreational area located adjacent to the existing highway.
2. There will be no adverse effect on the activities, features, and attributes that qualify the resource for protection under Section 4(f).
  - a. Short term, a temporary replacement public boat ramp will be constructed at another location prior to conversion of the existing ramp into a ferry dock. Therefore, the recreational functions of the existing resource will be maintained during construction.
  - b. Long term, the Proposed Action lies totally within existing state right-of-way; therefore, no land acquisition is required.
3. The Mayor of Milton, as the official with jurisdiction over the resource, concurs that the project will not have an adverse effect to the ramp and proposed mitigation measures. This is documented in the letter from FHWA, included in **Appendix M**.
4. The boat ramp was not developed with Section 6(f) funding.



**Figure 8.2**  
Conceptual Ferry Dock  
Improvements in Madison

### **8.5.1 Measures to Mitigate Harm**

This project will have a *de minimis* impact to the use of the boat ramp. This includes the following measures to minimize harm.

Prior to bridge construction activities, the project team will create an interim facility to provide public access to the Ohio River for small watercraft. The temporary facility will be located to the west of the US 421 Bridge with access from Cooper's Bottom Road in Milton. This will replace the recreational functions of the existing boat launch, which will be converted to a ferry dock for use during the bridge closure period. This will include:

- Repaving the existing boat ramp parking area
- Constructing a secondary parking lot to the west for additional queuing/parking
- Constructing a covered pedestrian shelter
- Adding a concrete apron, retaining walls, and floating landing that adjusts with the water level so cars can drive onto the ferry
- Creating a walk-on dock for pedestrian passengers
- Constructing additional in-water improvements as necessary (dredging, pile construction, etc.) to provide for safe ferry operation

**Figure 8.3** shows a conceptual layout for the ferry area in Milton.

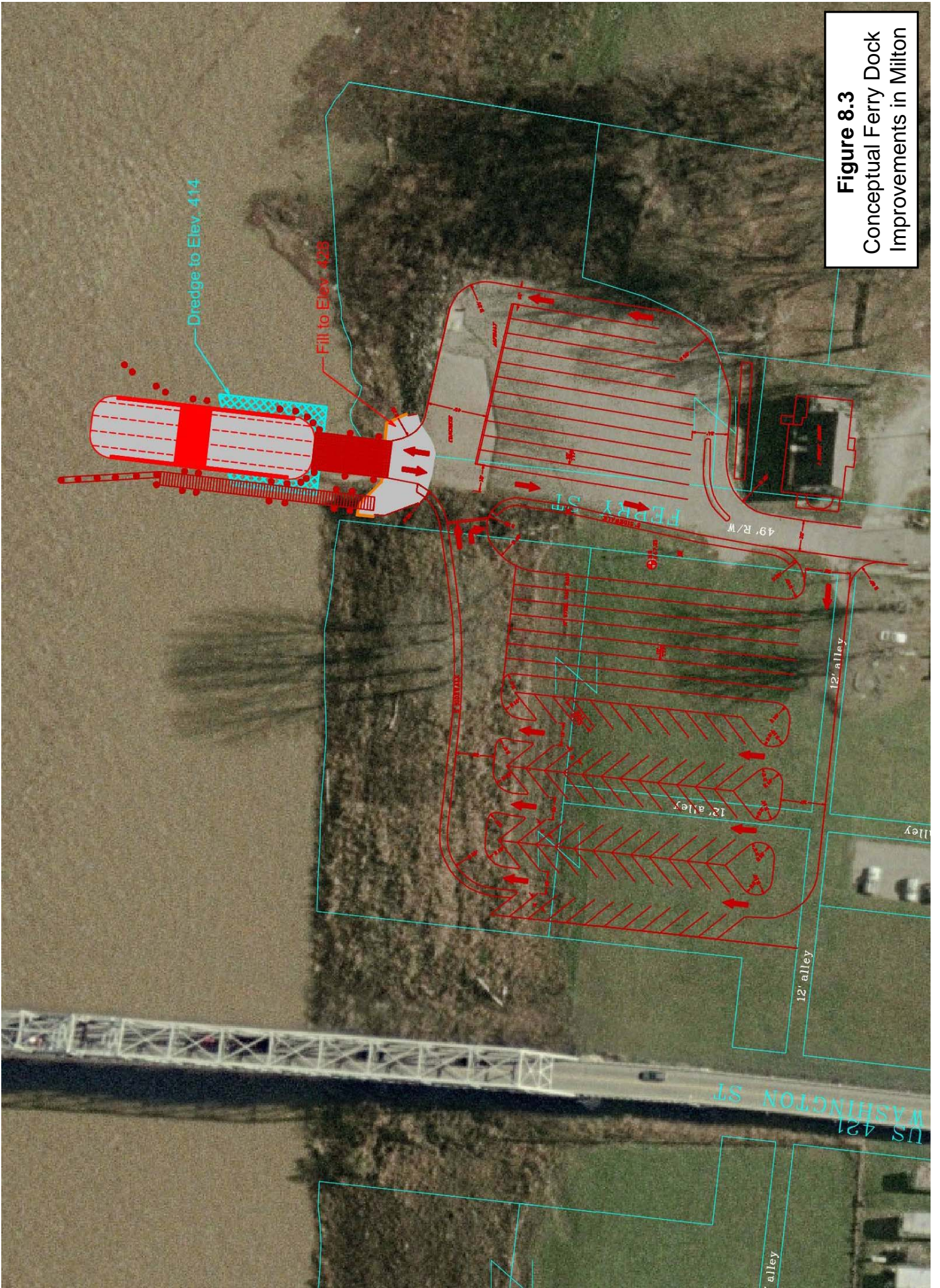
Following the bridge closure period and operation of the ferry service, the existing ramp will be returned to the City for public use as a boat ramp. Once the temporary improvements (secondary parking lot, floating landing, walk-on dock, piles, etc.) are removed, the boat ramp will have improved waterfront access for small boats and a new sidewalk connection to Ferry Street. The existing parking lot will be resurfaced to improve its condition.

### **8.5.2 Coordination and Public Involvement**

Public involvement activities and coordination points for the Milton-Madison Bridge Project are described further in **Chapter 6**. The public notice and public hearing for the EA, to be held in January 2010, will satisfy the coordination requirement. Details about the ferry service and Section 4(f) use of the boat ramp were placed on the project website in November 2009. The ferry service and its associated use of the boat ramp were discussed at the December 2009 PAG meeting and the December 2009 Section 106 meeting. Additional information was included in a December 2009 project news release and distributed in the December 2009 project newsletter.

## **8.6 Other Section 4(f) Resources**

The Proposed Action will not result in a Section 4(f) use of any other public parks, recreational lands, wildlife/waterfowl refuges, or historic sites.



**Figure 8.3**  
Conceptual Ferry Dock  
Improvements in Milton