



## FDM 3-22-1 Overview

February 18, 2020

### 1.1 Background

23 CFR Part 667.1 requires that state DOTs, "...shall conduct statewide evaluations to determine if there are reasonable alternatives to roads, highways, and bridges that have required repair and reconstruction activities on two or more occasions due to emergency events."

23 CFR Part 667.3 further defines 'emergency events' as, "...natural disaster or catastrophic failure resulting in an emergency declared by the Governor of the State or an emergency or disaster declared by the President of the United States."

23 CFR Part 667.5 sets forth the requirement that states must identify any road, highway, or bridge that, on or after January 1, 1997, required repair and reconstruction on two or more occasions due to emergency events. The Department has created a database of those sites that would prompt an evaluation pursuant to definitions and criteria in Part 667 and 667.9.

23 CFR Part 667.7 sets forth the policy enforcement as, "Beginning on November 23, 2020...State DOT must prepare an evaluation...for the affected portion of the road, highway, or bridge prior to including any project relating to such facility in its STIP."

### 1.2 Purpose

The purpose of this Section is to set forth the conforming evaluation process that WisDOT will use on those proposed projects that meet the criteria stated in 23 CFR Part 667.7.

## FDM 3-22-5 Process and Procedures to Document Compliance with 23 CFR 667

November 17, 2020

### 5.1 F4R Database

WisDOT has compiled a digital database of all state highway assets meeting the 23 CFR 667 definition of an 'emergency event' site since January 1, 1997. It is referred to as the F4R (Facilities Repeatedly Requiring Repair and Reconstruction) database.

The F4R database is maintained by the Division of Transportation Investment Management – Bureau of Planning and Economic Development, Planning Section. For further information about the database, email: [bop.dtim@dot.wi.gov](mailto:bop.dtim@dot.wi.gov).

### 5.2 F4R Site Review Documentation

F4R site review is required for any LET project using Department funding of any type. The review is constrained within the identified limits of the project. The review process and documentation will be different depending on whether the project is funded and scheduled under State Highway Rehabilitation (SHR), the Majors Program, or Local Program and other uniquely-funded projects. Those variants are described as follows.

#### 5.2.1 SHR Projects

For SHR projects, review for presence of F4R sites located within the proposed project limits occurs at each of these phases of the Facilities Development Process;

- WisDOT Scope Certification pursuant to [FDM 3-1-10, Project Definition Phase](#).  
[The 23 CFR 667 Resiliency Scope Certification Form](#) shall be completed and included as part of scope certification for a proposed project.
- WisDOT environmental document preparation pursuant to [FDM 3-1-15, Project Delivery Phase](#).

The [Categorical Exclusion Checklist](#) template and [Environmental Report and Environmental Assessment](#) template include verbiage to indicate if the proposed project includes a known F4R site within the proposed projects limits. If an Environmental Impact Statement (EIS) will be prepared for the proposed project, the discussion of a known F4R site within the limits of a proposed project shall be included in the Alternatives Section of the EIS.

If the presence of a F4R site within the proposed project limits is identified during either phase, a discussion is required, and final determination must be made about the evaluation and decision on alternatives that would either eliminate or substantially mitigate a repeat of previous damage, or substantially reduce the level of effort necessary to recover from that damage should it recur.

### 5.2.2 Major/Mega Projects

For Major/Mega projects, review for the presence of F4R sites located within the proposed project limits occurs at these points in the project development process;

- The requirement to identify the presence of F4R sites is described in **PMM 3-1-5, Project Evaluation and Ranking for Study**. The process identified in PMM 3-1-5 is required for the Transportation Project Commission (TPC) to approve a proposed project for study (TPC Step One).
- The requirement to review for a known F4R site within the proposed project limits of a proposed project approved for study by the TPC shall also be included as a part of the **Process Initiation Letter** template. This template is sent to FHWA for proposed projects requiring preparation of an Environmental Impact Statement or an Environmental Assessment.

If the presence of a F4R site within the proposed project limits is identified during the Major/Mega project development process, a discussion about the evaluation and decision on alternatives that would either eliminate or substantially mitigate a repeat of previous damage, or substantially reduce the level of effort necessary to recover from that damage should it recur is required as part of the appropriate environmental document type being prepared for the proposed project.

### 5.2.3 Local Program and Other Uniquely-funded Projects

For Local Program and other uniquely-funded projects (e.g., Transportation Economic Assistance, Transportation Alternatives Program, etc.) not covered by FDM Chapter 3, review for the presence of F4R sites located within the proposed project limits shall occur in this method:

- The requirement to review for the presence of F4R sites within the proposed limits of a project is the responsibility of the project sponsor and shall be accomplished before the project is included in the State Transportation Improvement Program (STIP), STIP amendment or Regional Plan Commission or Metropolitan Planning Organization Transportation Improvement Program (TIP) or TIP amendment.
- **The 23 CFR 667 Resiliency Scope Certification Form** shall be completed and included as part of the administrative record for a proposed project.

If the presence of a F4R site within the proposed project limits is identified during the project development process for these proposed project types, prior to inclusion of the project in the STIP or TIP, a discussion and final determination must be made about the evaluation and decision on alternatives that would either eliminate or substantially mitigate a repeat of previous damage, or substantially reduce the level of effort necessary to recover from that damage should it recur. This determination shall also be included as part of the appropriate environmental document type being prepared for the proposed project.

## FDM 3-22-10 23 CFR 667 Conforming Evaluation for F4R Sites

November 17, 2020

### 10.1 Evaluation Methodology

23 CFR 667 does not explicitly prescribe the method or metrics for the conforming evaluation therein described, allowing each state to develop its own methodology. However, the one implied evaluation requirement is that it must analyze an option(s) that would either eliminate or substantially mitigate a repeat of previous damage, or significantly reduce the level of effort necessary to recover from that damage should it recur.

These resolving or mitigatory solutions must be appropriately analyzed within the context of the statistical frequency of the previous damage events and life cycle cost to construct and maintain the solution being proposed. And, must then be compared to a same analysis on replace-in-kind or incrementally graduated solutions. The resultant benefit/cost comparison from each option becomes the determining factor in choosing a recommended solution.

The most significant criterion is the frequency of the damage event. A more frequent event will raise the cost threshold for repairs, while a less frequent event would do the opposite. For example:

- If asset damage was a result of a 10-year frequency event, you have reasonable risk probability of incurring similar damage to replace-in-kind solutions every 10 years. If the replace-in-kind cost to repair that damage is \$1,000,000, the 10-year frequency would accrue \$5,000,000 sunk costs in 50 years.

This means your resolving options could go as high as \$5,000,000 provided they had a 50-year asset life and were designed to withstand at least a 50-year frequency damage event.

- If on the other hand, asset damage was a result of a 100-year frequency event, you have reasonable risk probability of incurring similar damage to the replace-in-kind solution every 100 years. If the replace-in-kind cost is \$1,000,000, the 100-year frequency would only accrue \$1,000,000 sunk costs in 100 years. This means your resolving options could only go as high as \$1,000,000 **provided** it they had a 100-year asset life and were designed to a 100-year frequency event.

Thus, is it extremely important that supportable research is done to attribute the correct event frequency to **the past damage events** at the F4R site. Local sponsors document past damage event benefit/costs within their project notes using a methodology and criteria of their choosing.

All non-let costs are to be included as well as costs associated with environmental mitigation, real estate, utilities, railroads, etc.

## 10.2 Evaluation Process

What 23 CFR 667 describes as the metrics for its evaluation process is a basic engineering economic and impact alternative analysis that arrives at a singular preferred alternative. [FDM 3-1-10](#) and [FDM 11-4-3](#) detail the Department's Scope Certification requirements which are the milestones that any STIP or TIP project must complete to have a programmatically valid preferred alternative.

The WisDOT F4R Evaluation Process would therefore be identified as that process described in [FDM 3-1-10](#) and [FDM 11-4-3](#), and where the F4R Evaluation Completion documentation would be the Scope Certification Document and supporting documentation therein referenced.

### 10.2.1 Completed Conforming Evaluations

23 CFR 667 states FHWA can require review of any evaluation done on a F4R site at any time. It is therefore imperative that any completed conforming evaluations be kept on file and readily accessible. The WisDOT F4R database includes a field for 'Completed Conforming Evaluations' and is where such evaluations should be filed.

A PDF file of all documents relevant to the F4R conforming evaluation should be created and then stored in the 'Completed Conforming Evaluations' field of the evaluated site. The PDF file should be sent via email to the Division of Transportation Investment Management – Bureau of Planning and Economic Development, Planning Section at [bop.dtim@dot.wi.gov](mailto:bop.dtim@dot.wi.gov). For further information about the F4R database or F4R evaluations, contact BPED at this email address.

### 10.2.2 Emergency Events Occurring After Completion of Resiliency Scope Certification

It is possible emergency event(s), as defined in 23 CFR 667.3, could occur after the 23 CFR 667 Resiliency Scope Certification is completed.

When environmental document preparation is initiated, the document preparer should review the F4R Database included on WisDOT's website at: <https://wisconsin.gov/Pages/doing-bus/local-gov/astnce-pgms/highway/f4r.aspx>.

If a review of the F4R Database indicates any portion of the project termini includes an F4R site and an F4R Conforming Evaluation was not completed as part of the Department's Scope Certification process as identified in [FDM 3-22-10](#), an evaluation should occur as part of the environmental document as soon as possible. If applicable, the alternatives discussion in the environmental document must also include an analysis of alternatives that could either eliminate or substantially mitigate a repeat of previous damage, or substantially reduce the level of effort necessary to recover from that damage should it recur in the same manner that a Conforming Evaluation would be completed in [FDM 3-22-10](#).



**23 CFR 667 RESILIENCY SCOPE CERTIFICATION**

Wisconsin Department of Transportation  
DT1895 1/2020

Provide the following information about the project.

Design and Construction IDs	Funding Source(s) (check all that apply) <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Local
Project Name	Project Termini/Location Being Evaluated by the form
Name of Route or Facility to be Improved	Facility Classification

This form provides certification that the above subject project has been correctly reviewed pursuant to requirements of FDM Section 3-22 for facilities repeatedly requiring repair and reconstruction (F4R) with the following results:

- There were no F4R sites identified within the limits of this project.
- There was one or more F4R site(s) identified within the limits of this project. The F4R database unique site identifier for the site(s) is/are:

If no F4R sites were identified within the limits of this project, the Regional Planning Chief, Project Sponsor or their delegate can sign the document where noted below, and file it as part of the Scope Certification documentation package.

If one or more F4R sites are identified within the limits of this project, a conforming evaluation pursuant to FDM Procedure 3-22-10 is required before Scope Certification on this project can occur. When the conforming evaluation is completed, it shall be:

- Made part of this project's Scope Certification documentation for SHR projects.
- Made part of this project's administrative record for Local Program and other uniquely-funded projects
- Uploaded to the F4R data base for the site(s) evaluated. If more than one site was evaluated, the evaluations should be uploaded separately for each site. Instruction for this uploading procedure is found in FDM Procedure 3-22-10.5.

Once the steps have occurred, the Regional Planning Chief, Project Sponsor or their delegate shall sign this certification document where noted below and file it as part of the Scope Certification documentation package.

I hereby certify that 23 CFR 677 certification process pursuant to FDM Section 3-22 has been followed and correctly completed.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name, Title)

\_\_\_\_\_  
(Date)