

SE Freeways Design Manual

Transmittal for 12/19/2018 update



General

The updates presented below were made to the SE Freeways Design Manual (SEF DM).

The SE Freeways Design Manual includes Appendix A: IH-94 North-South Design Manual and Appendix B: Zoo Interchange Design Manual. These appendices have project specific information and should be used in conjunction with the SE Freeways Design Manual.

Notices were inserted in various locations indicating that PPQ application is frozen.

Note that there is no definitive plan for the continuation of these update letters after this one. References to contacting the DMC with proposed updates have, consequently been removed.

Chapter 1d: PS&E

SEF Specifications

SEF Specifications are to be accessed through the Table of Contents located

<http://roadwaystandards.dot.wi.gov/standards/sef/sef-toc.html>

This Table of Contents works in conjunction with the review checklist referenced below.

**Reference I-94 N-S manual chapter 2f (Appendix A) for variance.*

**Reference Zoo manual chapter 16c (Appendix B) for variance.*

Specifications List

Following is a general, potentially not all-inclusive, summary of updates made to the specifications list. Any items listed without comments generally had Style Guide related updates made.

Also, see "CO formatting guidelines" located in the Region's PDS RESOURCE AREA. Additional descriptions imply Style Guide and formatting updates were accounted for as necessary in addition to listed spec content:

- sef-106-005 (20181219) - Information to Bidders, Use of Recovered Material
 - *Discontinued. Moved to SER directory with changes and renamed SER-106-001- Special Waste Materials.*

- sef-650-005 (20181219) - Survey Project
 - *Modified the reference from standard spec 650.3.1(6) to 650.3.1.1(2) in response to the December 11, 2018 ASP-6 update.*
- sef-999-020 (20181219) - Material and Equipment Staging
 - *Discontinued. Moved to SER directory with changes and renamed SER-107-011- Material Stockpile and Equipment Storage*

*The current (potentially not all-inclusive) list of **Former SEFDM** SPVs that have been removed from the directory is addressed in chapter 1D.*

Standard sequence of Special Provisions with SE Freeways specifications included (Exhibit 1)

Renamed the special provisions moved to the SER directory and re-designated them accordingly.

Pay Plan Quantity

The PPQ Item List is frozen from use again. It remains in the following link, however, in draft form with comments and other future considerations tracked within it in preparation of future re-authorization for use by the SEF Design Chief:

\\Wke31fp1\n3public\SEF\DesignManual\Specifications\Final Specifications\PPQ Item List 18_1219.docx

Details List

SEF Details, SE Region Details that originate from, or are associated with 94 N-S Details, and Other "SER" Details (already frequently used or proposed for SEF projects) are referenced at:

<\\dotwkefile1p\N3PUBLIC\SEF\DesignManual\Construction Details>

*Notice continued reference to the Construction Details Committee (impacts designated in this letter with *).*

Updates have been made to the details list in the "Ongoing Updates" folder.

Discontinued Details

- Taper end layout for conc pavt... (12/3/18)
 - Coverage for these various details now exists in SDD "Concrete Pavement Jointing Acceleration/Deceleration Lane".

Chapter 3: Community Sensitive Solutions (CSS)

Added the following Introduction section:

INTRODUCTION

For Backbone projects refer to FDM Chapter 11, Section 3

<https://wisconsindot.gov/rdwy/fdm/fd-11-03.pdf#fd11-3>

Chapter 4: Design

Design Criteria

Guided designers to follow FDM 11-1-10 Application of Design Criteria

<http://roadwaystandards.dot.wi.gov/standards/fdm/fd-11-01.pdf>

Replaced references to the former Exceptions to Standards with Design Justifications.

8. Cross Slope

Updated the following reference to match FDM update.

- Traveled way: See “FDM 11-20-1 Modernization Dimensions and Design Classes”.

<https://wisconsindot.gov/rdwy/fdm/fd-11-20.pdf#fd11-20-1>

Other Design Criteria as it Relates to Freeways, C-D Roadways, and Ramps

Curb Ramps

Added the following guidance:

See Curb Ramp Design Guidance email (Exhibit 5) from the Southeast Region Bicycle and Pedestrian Coordinator. A Max Extent Feasible template (Exhibit 6) reference was inserted into the email and included in the SEF DM as well.

Exhibit 5

Email

From: Squires, Christopher G - DOT
Sent: Tuesday, October 16, 2018 5:36 PM
To: Levy, Andrew J - DOT <Andrew.Levy@dot.wi.gov>
Subject: Draft Reminder Email

Use perpendicular curb ramps (Type 2) that are on line with the sidewalk because the crossing distance is shorter, and it helps to align people with visual or mobility issues to the opposite side of the street. At times, it may be necessary to offset the perpendicular ramps slightly outside the crosswalk area. Consider Type 3 curb ramps in these situations. Where perpendicular (Type 2 or 3) curb ramps are not technically feasible, parallel ramps are the next preferred ramp type. A parallel ramp consists of two ramps, both parallel, where the running slope is in-line with the direction of travel and the sidewalk is lowered to a level landing space where a turn is made to enter the street crossing. Parallel ramps are typically installed where the available space between the back of curb and property line (or physical constraint) is insufficient to permit a typical perpendicular ramp installation. Type 7A or 7B ramps are essentially parallel ramps. While SDD 8D5 sheet 3 labels Type 7 ramps as "Mid-Block Crossing" they can be used at intersections as well. A curb ramp design may also consist of a combination of perpendicular and parallel ramps depending on intersection geometry.

Lastly, a diagonal ramp (Type 1 or 1A) may be constructed as a single ramp centered on the curb return. **Diagonal ramps are the least preferred ramp type and are only to be used as a last resort.** Diagonal ramps:

- Increase crossing distances;
- Require wheelchair users to turn at the top and bottom of the ramp, requiring more time within the street;
- Do not provide guidance for the visually impaired pedestrians to the opposite side of the street.

Per guidance under FDM 11-46-5.1, document any design decisions in the DSR relative to curb ramp selection and hierarchy. This means that, before Type 1 ramps are utilized, documentation is required to show what alternatives were evaluated and what physical constraints prevent the use of another ramp type. Documentation is also required whenever site or physical constraints limit or restrict the ability to meet current ADA minimum standards to the full extent. Documentation must show how ramps were made compliant to the maximum extent feasible. Future FDM updates will include a form template for curb ramp compliance data and documentation. In the meantime, the attached template (**Exhibit 6 inserted into SEF DM**) can be used. Draft documentation for ramp hierarchy or maximum extent feasible is to be forwarded to the Bike/Ped unit for review prior to DSR approval. Once concurrence on the documentation is reached, the documentation can be added to the DSR.

For additional guidance, see:

- FDM 11-46-5.1.2 Technical Infeasibility
- FDM 11-46-.2.1 Curb Ramp Type Selection
- WI Guide to Pedestrian Best Practices
- *Planning and Design for Alterations* from the US Access Board provides examples and guidance for designing ramps in challenging or constrained environments. (<https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/guidance-and-research/accessible-public-rights-of-way-planning-and-design-for-alterations/chapter-1%E2%80%94introduction>)

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³Exhibit 6

Attach to DSR

Project Id:

Curb Ramp Location:

Ramp Design Standards	Existing	Proposed
Ramp Type (Perpendicular, Parallel, Diagonal, median, refuge island)		
Detectable Warning Field (Truncated Domes) Present Depth (2' max) Spans ramp width (yes/no)		
Ramp width (ft)		
Ramp length (ft)		
Ramp running slope (%)		
Ramp cross slope (%)		
Flare slope (%) (Right and Left)		
Gutter flange cross slope (%)		
Flange line slope (%)		
Rollover slope (change between ramp and gutter slope %)		
Level Landings* ¹ Width (ft) Length (ft) Cross slope in any direction (%)		

Design Decision Documentation²:

(Describe reasoning that supports proposed curb ramp type and demonstrates that design is compliant to maximum extent feasible within existing physical or site constraints that make it technically infeasible³ to meet all standards)

³To eventually be replaced by FDM coverage.

¹ If diagonal ramp, bottom landing dimensions needed, see sdd 8d5.

² If curb ramp fully compliant note as such.

³ Such as right-of-way availability, underground structure, adjacent structures, drainage, natural or historic features, underlying terrain, steep grades. See FDM 11-46-5.

Chapter 5: Drainage

Added language to the recent Silt Fence Heavy Duty guidance advising coordination with DNR and the WisDOT Stormwater & Erosion Control Engineer to determine appropriate locations.

Chapter 11: Quality Control

Modified references from “Exceptions to Standards” to “Design Justifications”.

Plans-off-Shelf Review Guidance

- TMP including detour proposals

Modified the bullets as follows:

- If TMP is more than two years old, it must be reassessed.
- Review to determine the impact of other projects in the area on the TMP.

Consistency Checklist

SEF Review Checklist

The SEF Review Checklist has been updated.

As a reminder, each design team is required to complete this checklist and include it, as detailed within the chapter, as part of their quality process documentation.

In addition to the changes to the *SEF Specs* and *Bid Items & Details* tabs to match the specification changes identified in Section 1d, the following updates are included in this Revision 20 document:

- “SEF Specs” tab – 2 changes
- “Sp Prov – PS&E” tab – 4 changes
- “Plan Issues” tab – 2 changes
- “Estimate” tab – 1 change
- *CO formatting guidelines - no changes

*This tab is generally under the control of the SE Region in the following location.
<\\dotwkefile1p\n3public\PDS\PDS RESOURCE AREA\01 Design\05 Special Provisions>