LRFD Bridge Design Manual Update ~ January 2015

Article	LRFD
Entire BDM Updated	All BDM chapters have been updated. All update markups prior to January 2015 have been accepted and the markups have been removed. All articles will be designated with a January 2015 date. Markups for the January 2015 release are included.
Chapter 1 Revised	Existing *Chapter 1 Introduction* and existing *Chapter 2 General Design* were combined into a new *Chapter 1 General Design* in order to make room for new *Chapter 2 Sustainable Bridge Design*.
Chapter 2 New	Existing *Chapter 1 Introduction* and existing *Chapter 2 General Design* were combined into a new *Chapter 1 General Design* in order to make room for new *Chapter 2 Sustainable Bridge Design*.
Chapter 9 New	*Draft Bridge Aesthetics* chapter has been incorporated into the BDM as Chapter 9 and is no longer a draft.
Preface	Miscellaneous updates.
1.6 and C1.6	Added article addressing Buy America Provisions particularly as it relates to difficulties some fabricators have in obtaining smaller size channels.
1.14.1	Bridge design numbers are no longer required on road design sheets.
1.14.2	Bridge 2000 has replaced Form 220008. Other minor changes.
3.1.3, 3.1.4 and 3.1.5.2	Added two definitions, an abbreviation, and a reference.
3.2.2.1	Added language for drainage area determination and to methods of estimating discharges particularly for urban hydrology.
3.2.2.2	Added language for using 2-D hydraulic models for complex hydraulic locations.
3.2.2.7	Updated reference.
3.2.6.1.5	Minor update.
C3.2.6.1.6	Delete reference to MM No. 159
C3.2.6.1.7	Added permission to use a portion of AASHTO LRFD Bridge Design Specifications in manual.
3.2.6.2.2 and C3.2.6.2.2	Incorporated bridge sidewalk information from MM No. 11 into commentary.
3.2.6.4 and C3.2.6.4	Included statement from MM No. 85 for discontinuing the use of the term “Centerline of Bridge Roadway” for four lane divided highways. Delete reference to the MM No. 85 from the commentary.
C3.2.6.6	Delete reference to MM No. 81
3.2.7.3.7	Added article addressing use of MSE walls adjacent to abutments.
C3.2.7.4	Added permission to use a portion of AASHTO LRFD Bridge Design Specifications in manual.
3.2.7.5, C3.2.7.5, and 6.5.4.3.1	Details for determining wind length were added to commentary.
3.2.9	Address change regarding use of Form 621012.
3.2.10.1	Added subheadings and modified some language for COE 408

	approval.
3.2.11 and C3.2.11	Deleted references to two preliminary forms.
3.2.12 and C3.2.12	Added article addressing noise walls.
5.2.1.1, 5.2.4.1.1.2, 5.2.4.1.2, 5.4.2.4.2, 5.5.2.4.2, 5.6.2.4.1.2, 5.6.2.4.2, 5.8.1.1.1, C5.8.1.1.1, 5.8.5.1.1, C5.8.5.1.1, 6.5.4.1.2, 6.5.4.2.2 and 6.5.4.3.2	Stainless steel reinforcement is now required (as of the January 2015 letting) for all barrier rail to bridge deck/wing reinforcement for interstate and primary bridges.
5.2.4.1.2	Clarified the typical lap splice class requirements for transverse and longitudinal deck reinforcement.
5.4.2.1.5, 5.4.2.4.1.4, 5.4.2.4.1.9 and C5.4.2.4.1.9	Incorporated changes in camber calculation method based on ISU research report. PPCB standards will be updated for camber in early 2015.
5.5.2.4.1.6, 13.9.1 and 13.9.2	CADD Note E904/M904 allowing for fabricator substitution of a thicker flange plate for a thinner plate with butt welded joint in the negative moment region has been deleted. In order to specify a flange plate thickness transition using a butt welded joint a weight savings of about 1200 pounds must be realized by the designer.
5.5.2.4.1.8	Shear connectors shall be attached to top flange splice plates greater than 42” in length.
5.5.2.4.1.10 and 5.5.2.4.1.13	Added language addressing the use of longitudinal stiffeners for steel girders.
5.8.5.1.1	Added paragraph allowing stainless steel reinforcement bar weight to be calculated based on uncoated/epoxy-coated reinforcement weight.
6.2.4.1	Clarified cross-section orientation for battered piles.
6.2.6.1 and C6.2.6.1	For steel H piles the use of a reduced structural resistance factor of 0.50 when pile points are used was clarified.
6.5.1.1.1, C6.5.1.1.1, and 6.5.1.5	The use of integral abutments was extended with restrictions to horizontally curved steel girders.
6.5.1.1.1 and 6.5.1.1.2	Modified language addressing the use of abutment paving block details.
6.6.4.1.1.2	Added a figure to illustrate the location of pier cap steps.
7.2.4.6	Modified language addressing culvert wall thickness transitions between the barrel and wings.
10.2 and C10.2	General update of the Sign Support article particularly with respect to AASHTO Specifications and sign support standards.
13.2.1 and 13.2.2	Added note to address PPP and 404 permits for tied road plan projects.
13.3.1, 13.3.2 and LRFD Pile Design Examples	Delete note E177 addressing the Service to LRFD comparison of pile bearing resistance since it is no longer required to be placed in let plan sets.
13.8.2 and LRFD Pile Design Examples	Note E718 and E818 were modified to indicate starting elevation for pile driving. The change is particularly meant to address pile bent situations.