New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

Bridge Procedures and Design Guide February 2018 AMENDMENTS

AMENDMENT INDEX:

AMENDMENT #1 (R2)

December 27, 2019

The following is an ADDITION to the Bridge Procedures and Design Guide (BPDG). In the event of conflicts, please contact the Bridge Bureau for clarification:

Guide for Bridge Barrier Rails (BBR):

1. NMDOT is committed to compliance with the AASHTO-FHWA Joint Implementation Agreement for MASH as amended by the jointly published Q&A document dated November 13, 2019. See: https://design.transportation.org/mash-implementation/.

2. NMDOT's determination of conformance with MASH criteria will be based upon the availability of the following documents: an FHWA eligibility letter and Test Reports from A2LA-accredited test facilities that confirm all strength and safety performance criteria of MASH have been met. An additional basis of acceptance shall be determination of satisfaction of MASH criteria in the NCHRP 20-07 / Task 395 Report, dated November 2017. The Test-Level criteria of each assembly will be included with the acceptance documentation listed above. Where appropriate MASH-2016 devices are not yet available, it is acceptable to utilize NCHRP 350 devices (see November 13, 2019 document discussed above for clarification).

3. Per NCHRP 20-07 / Task 395 dated November 2017, the NMDOT standard drawing designs for the 42" Concrete BBR (514-03) and the 42" Metal BBR (543-07) satisfy MASH TL-4 criteria. It is recommended that 514-03 be used everywhere practical – concrete is the most cost-effective for both initial installation and maintenance. It is acceptable to utilize 514-03 and 543-07 at any location (unless engineering judgement suggests that a higher Test-Level rail be used; in which case, the EOR must provide a custom design).

4. NMDOT will continue to utilize the current 32" metal and concrete BBR based upon the NCHRP 350 crash test data until an appropriate MASH-tested device becomes available. At that time, the standard drawing will be revised and reissued.

5. With regard to Test-Level requirements on Bridges, determination of Test-Level requirements is as follows:

TL-4 is required on interstates

TL-3 may be used off interstates

Engineering judgement may be used to INCREASE the Test-Level requirements for specific bridges with the approval of the Assistant District Engineer for Design (ADE-D). Modifications to REDUCE the Test-Level Criteria must be approved by the Chief Engineer. Consider the following with regard to INCREASING the Test-Level requirement:

Areas that see high ADT, particularly if there is a high percentage of truck traffic

BBR that protects significant geographic changes (deep canyons)

Tight curves and/or superelevation

6. If a project needs a “special” BBR, please contact the State Bridge Engineer. Note: BBRs that are “special” will mostly likely be very expensive—make sure that is accounted for in the project estimate. The Engineer of Record (EOR) must present the conformance documentation for the approval of the State Bridge Engineer and the ADE-D prior to completion of design and must incorporate the design into the design documents, which will be stamped by the EOR.

Note:

For TL-4, the 42” standard is based upon an absolute minimum of 36”+2*3” = 42” to accommodate 2 future 3” overlays.

END AMENDMENT #1 (revised2)

AMENDMENT #2

May 8, 2020

The following is an ADDITION to the Bridge Procedures and Design Guide (BPDG). In the event of conflicts, please contact the Bridge Bureau for clarification:

General Policy Regarding Adjacent Box Girders

Adjacent Box Girder bridges are not to be used in Bridge Type Selection or Bridge Design for Bridges that will be owned by the State of New Mexico without pre-authorization from the State Bridge Engineer.

This policy is based upon the observed long-term performance of this bridge type. The following issues have been observed: failure of transverse post-tensioning, fabrication issues with thin webs, differential camber, difficulty with inspection, difficulty with long-term maintenance / repair, failure of membranes resulting in leakage between girders.

END AMENDMENT #2

AMENDMENT #3

May 8, 2020

The following is an ADDITION to the Bridge Procedures and Design Guide (BPDG). In the event of conflicts, please contact the Bridge Bureau for clarification:

General Policy Regarding MSE Walls

MSE walls are not to be used without the pre-authorization of the State Bridge Engineer and the State Geotechnical Engineer.

This policy is based upon MSE wall construction is highly dependent on site specific soil conditions. Some soils in the state are not suitable for MSE wall construction. The following issues have also been observed: minor movement of face panels that result in inspection concerns that require expenditure of limited technical resources to confirm and explain that the issues are aesthetic and non-structural, impact damage to face panels.

END AMENDMENT #3

AMENDMENT #4

May 8, 2020

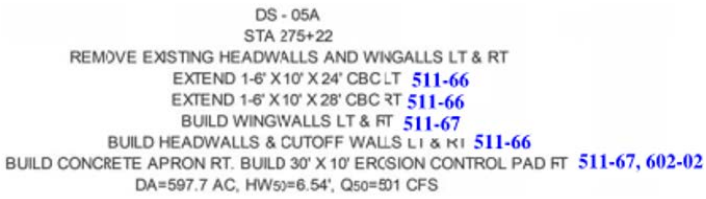
The following is an ADDITION to the Bridge Procedures and Design Guide (BPDG). In the event of conflicts, please contact the Bridge Bureau for clarification:

General Policy Regarding Series 2 and Series 10 Drawings with regard to Standard Drawing Call-Out

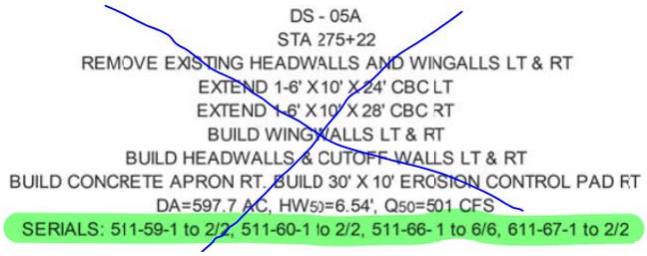
When drainage structures exist, their design will typically be in both the Series 2 and Series 10 drawings. The intent is that the Series 2 drawings capture the scope of work and quantities, while the Series 10 drawings capture the build notes and all references to Standard Drawings.

Within the Series 10 drawings, we request that the standard drawing reference be made adjacent to the build note the standard is meant to address. This practice makes it easier both to design QC/QA and to construction.

Do this:



Not this:



END AMENDMENT #4

AMENDMENT #5

May 8, 2020

The following is an ADDITION to the Bridge Procedures and Design Guide (BPDG). In the event of conflicts, please contact the Bridge Bureau for clarification:

General Policy Regarding Bridge Deck Reinforcing Steel

Non-corrosive steel shall be used for bridge deck reinforcing steel. The use of epoxy coated reinforcing steel is discouraged.

This is a departure from the Departments previous position, which was to use epoxy coated reinforcing steel in bridge decks. This change is based upon field observation of damage to the epoxy coating that is an inevitable result of material handling. This incidental damage results in concentrated and amplified local corrosion potential. This damage can result in a significant reduction in the service life of the bridge.

END AMENDMENT #5