

INDOT Updates

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Design Memos

- Design Memos are used by INDOT to communicate changes to design policies, procedures, and criteria.

Indiana Design Manual

Indiana Design Manual 2013-Current

Archived Design Manuals

Design Memoranda

Design Manual Editable Documents

CAD Standards Manual

CAD Support

[INDIANA DESIGN MANUAL](#) » [INDIANA DESIGN MANUAL 2013- CURRENT](#)

INDIANA DESIGN MANUAL 2013- CURRENT

Welcome to the current version of the *Indiana Design Manual*. The *Design Manual* was restructured during 2011 and 2012. Those chapters that have not yet been rewritten are found in their new part and chapter location but retain their existing chapter number. View the [IDM Chapter Reorganization](#) document for details.

Active on or after January 1, 2013

The on-line version of the *Design Manual* was last updated: 12/06/2017

Revisions to the *Design Manual* occurring after January 1, 2013 have been incorporated into this current *Indiana Design Manual 2013*. Users should consult [design memoranda](#) for revision details and policy updates. Stay current on INDOT design standards and policy changes by subscribing to [DesignConsultants Listserv](#).

17-03: Mechanically Stabilized Earth (MSE) Walls

- Initial review for suitability by the Office of Geotechnical Services when MSE walls are proposed.
- Additional guidance added to the Design Manual
 - Acute angles limited to 70 degrees. In general acute angles should be avoided altogether.
 - Pile sleeves should be assumed. Edge distance from back of MSE wall panel to edge of pile sleeve is 3 ft.
 - Do not place utilities or structures through the reinforced zone
 - Drainage systems required. Details are standard. Location to daylight appropriately are determined by the designer.
 - All obstructions are to be shown on MSE Wall Detail sheets.



Bridge Load Rating

- 17-05 Interim Load Rating and Posting
- 17-06 Procedure for Bridge Load Rating Requests
- Bridge Inspection Memos (CountyBridges listserv)
 - 17-06 INDOT Bridge Inspection Manual Part 3DIN Load Rating Database
 - 18-01 BRADIN Load Rating Database
- 17-25 Bridge Load Rating for Design-Build Projects



17-07: Hydraulic Design

- In-kind Culvert Replacement policy extended to all small structure replacements.
 - Allowable backwater is 3 ft or the existing backwater, whichever is less.
 - HY-8 version 7.2 required for analysis.
- Bridge Replacement policy updated
 - Additional language added to clarify establishing the natural condition and maximum backwater
 - Allowable backwater is based on existing backwater – typically 3 ft or existing, whichever is less. Other considerations for existing backwater less than 0.14 ft.
- Office of Hydraulics has many resources on its webpage <http://in.gov/indot/3595.htm>, including the complete list of projects the Office is designing or reviewing.



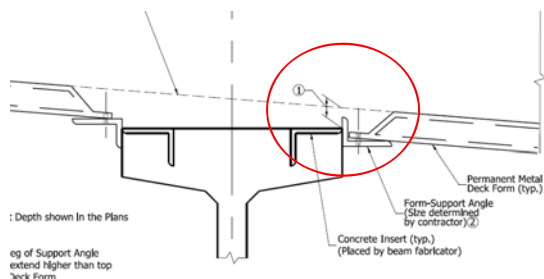
17-10: MASH and New Guardrail Standards

- Implementation of new national testing standards for safety hardware (MASH)
- INDOT has adopted the Midwest Guardrail System (MGS) as its new standard for guardrail
 - Details are in RPD 601-R-658 and will be incorporated into the next publication of the INDOT Standard Drawings as 601-MGSA.
- INDOT is currently evaluating MASH-compliant guardrail end treatments (terminals) for inclusion on the Approved Materials List.
- Changes to cast-in-place median barrier and bridge railing are anticipated.
 - INDOT is monitoring research studies and crash tests of existing and new bridge railing.

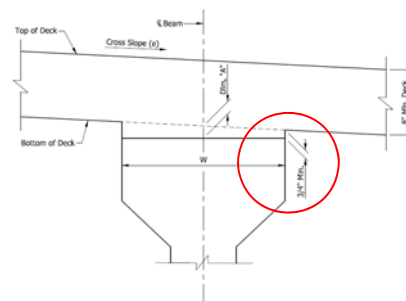


17-16: Permanent Metal Forms

- Revisions to the *Standard Specifications* to ensure that form angle used in conjunction with permanent metal deck form will not protrude beyond the theoretical bottom of the deck as well as to preclude field cutting of the angle.



Guidance in GIFE



Shown on plans



17-20: Complex Bridge Requirements

- Coordination and approval from the Office of Bridge Design for complex bridges
 - Aims to ensure that the bridge owner
 - Is informed of the complex and rigorous analysis required for the bridge design;
 - Is Aware of potential for increased inspection and maintenance costs is understood;
 - Can set the appropriate qualifications for the design consultant.



17-23 Rev: LRFD Bridge Design Requirements

- Stage 2 submittals on or after ~~January 1, 2018~~ **August 1, 2018** should use the AASHTO *LRFD Bridge Design Specifications*, 8th Edition, 2017
- May use 8th Edition or continue to use 7th Edition until the revised effective date.



17-24: ADA Reminders

- Preferred slopes are to be used in design. 1.5% for cross slope, 8% or less for ramp running slope
- Counter slope (rate of change) should be detailed.
- Pedestrian pushbutton location should be considered when locating and designing curb ramps. INDOT *Standard Drawings* series 805-PPBA
- ADA Technical Advisory Committee is available to answer ADA-related questions, provide guidance for ADA inquiries and to approve determinations of technical infeasibility. ADA@indot.in.gov
- Additional ADA resources
 - INDOT Designers webpage
 - INDOT Construction Management webpage



17-27: Bridge Length Culverts

- Level One Controlling Criteria
 - Bridge Clear Roadway Width is not applicable
 - Use lane width, shoulder width, and guardrail offset to establish the appropriate cross section.
 - Bridge Railing Safety Performance Criteria is not applicable.
 - Use same criteria for determining Roadside Barrier test level. IDM 49-5.01
 - TL-3 is the minimum test level for State-Maintained routes and the NHS.
 - MGS Long Span
 - MGS Structure Top-Mounted
 - (In-progress) MGS Side-Mounted



NextLevel
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18-02: Historic Bridge Alternatives Analysis

- Requirement of the Historic Bridges Programmatic Agreement (2006)
- Incorporates the development and review of the HBAA into the project development process.
- Identifies additional resources for developing the HBAA
- Environmental Services Cultural Resources Office and the Bridges Division Office of Bridge Design must review and provide concurrence.



INDOT » CURRENT PROGRAMS » GREEN INITIATIVES » INDIANA HISTORIC BRIDGES INVENTORY

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INDOT Ongoing Activities for MASH-Compliant Bridge Railing

- Reviewing INDOT Bridge Railings for Continued Use
- NCHRP 20-7 (Task 395)
 - Performance-based comparison of test levels between NCHRP Report 350 and MASH
 - Vehicle stability (minimum rail heights)
 - Bridge railing strength (lateral design impact loads and application height)
 - Bridge rail geometrics (snagging potential)
 - Global Equivalency
 - Rail Specific Analysis
- Reviewing the Bridge Railing Performance Test Level Policy.
- Reviewing Test Level Selection methodology



MASH Resources

- Midwest Roadside Safety Pooled Fund Study
<https://mwrsf.unl.edu/researchhub.php>
- Roadside Safety Research Program Pooled Fund Study
<https://www.roadsidepooledfund.org/>
<https://www.roadsidepooledfund.org/mash-implementation/search/>
- FHWA Roadside Hardware Policy and Guidance webpage
https://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/#crashworthy
- Project 20-07/Task 395 *MASH Equivalency of NCHRP Report 350-Approved Bridge Railings*
[http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07\(395\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(395)_FR.pdf)

