

INDOT Updates

Elizabeth Phillips
Standards and Policy, INDOT

INDOT Bridge Design Conference – February 16, 2016



Agenda

- **Communication**
- **Design Memo Review**
- **Work In Progress**
- **Questions**



Communication

- Design Consultant Listserv is the email distribution list used to communicate changes to the Design Manual and Recurring Special Provisions Menu.



Design Manual Updates



[INDOT](#) > [Doing Business with INDOT](#) > [Standards & Specifications](#) > Active Design Memoranda

INDIANA DESIGN MANUAL

Welcome to the Indiana Department of Transportation's Design Manual Information site.




Design Manual Active On or After January 1, 2013

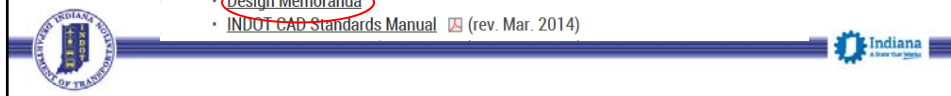
- [Current Design Manual - 2013](#)

Design Manuals Active Prior to January 1, 2013

- [Archived Design Manuals](#)

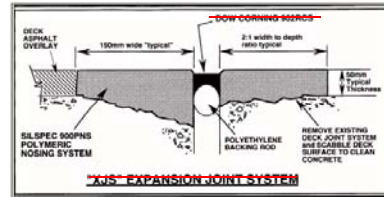
Additional Information

- [INDOT Typical Plans \(Bridge\)](#)  (rev. Sept. 2015)
- [Concrete Beam Detail_DGN Files](#) (added May 2015)
- [INDOT Sample Scour Report](#)  (added May 2015)
- [Design Manual Editable Documents](#)
- [Design Memoranda](#)
- [INDOT CAD Standards Manual](#)  (rev. Mar. 2014)



DM15-07 Proprietary Materials

- XJS is a proprietary product and should not be used on plans.
- RSP 724-B145 Structural Expansion Joint Sealing System contains the necessary material requirements.
- Proprietary Material Basics
 - Federal dollars cannot be used for a proprietary material without prior approval.
 - Specific product names can be used where at least 3 products are listed.
 - Local funds can be utilized for proprietary products. The cost estimate must show these items as "Z" items.



DM 15-08 Title Sheet Signatures

- **LPA Plans must include the following signatures**
 - The LPA's board or administrative body. The minimum number of signatures is that which represents a quorum. The LPA's fiduciary representative may sign in lieu of the board members or administrative body.
 - The LPA's Employee in Responsible Charge (ERC).
- **The person's name and title should be printed below the signature.**

15 _____
Name, Title Date

Name, Title Date

Name, Employee in Responsible Charge Date



DM 15-09 Storm Water Mngmt. Field Guide

Inlet Protection



CI-06






Filter sock inlet protection staked correctly.



DM 15-13 Waterway Permits Manual

[INDOT](#) > [About INDOT](#) > [Central Office](#) > [Environmental Services](#) > [Ecology & Waterway Permitting](#)

- Reference guide when evaluating waterway impacts
- Summarizes major environmental laws and regulations
- Permits checklist



DM 15-11 Anchored TCB

- **Anchoring details removed from the Standard Drawings**
- **Designer determines the location where anchoring is required**
 - Typically anchored adjacent a significant drop off, e.g. phased bridge construction.
 - Typically not anchored to separate two-way traffic.
 - INDOT has successfully crash tested a new detail to meet MASH 2009 TL-3 requirements.
 - A Federal-aid eligibility letter B-258



DM 15-12 Design Resources

- **Example Bridge Plans**
 - Provides guidance on the purpose of, and information to be shown on each sheet.
 - Updated for CAD Standards
- **Standard Beam Detail Sheets**
 - ASCE-INDOT Structures Committee
 - Standardized format for providing concrete beam details to contractors and the concrete beam industry.
- **Bridge Design Practice Pointers**
 - ASCE-INDOT Structures Committee
 - highlight known software idiosyncrasies and overlooked detailing elements.

[INDOT](#) > [Doing Business with INDOT](#) > [Consultants/Pre-Construction](#) > [Designers](#) > Bridges & Structures



DM 15-14 Geotech Info for MSE Walls

- Include Maximum Factored Bearing Resistance from the geotechnical report on contract plans.



Location	PSF
321+50 "PR-NWL" To 325+50 "PR-NWL"	5,850
325+50 "PR-NWL" To Bent No. 1	7,500
Bent No. 1	23,650



Design Memos 15-17 and 15-18

■ 15-17 Contract Letting Questions

- Designers should not answer questions directly from the contractor prior to letting.

Letting Dates	Updates	Archives
September 2, 2015 Regular Letting	08/06/15 Supplemental 1 Notice to Contractors, Schedule of Pay Items Posted 08/05/15 Notice to Contractors, Schedule of Pay Items Posted	
August 19, 2015 Regular Letting	08/06/15 Supplemental 1 Notice to Contractors, Schedule of Pay Items Posted	

■ 15-18 Performance Evaluation Guidelines

- Clarification of Responsible Persons,
- Addition of an evaluation appeals deadline,
- Explanation of selection scoring rules,
- Subconsultant evaluations, and
- Description of Performance Types.



DM 16-01 Structure Number

Don't know what your structure number is, whether or not you need one, or how to assign one? Ask! INBridgesHelp@INDOT.in.gov

INDOT Bridge Numbering System

normally 4 - digits	max. 3 - digits	5 - digits	max. 4 - digits
ROUTE	COUNTY OR REF. POST	STRUCTURE NUMBER	STRUCTURE DESIGNATION

P (469)24-02-06948 AWBL

Current Road #

Original Road #

STRUCTURE NUMBER =
Consecutively Assigned Number given
to INDOT bridges for identification.

The 02000 series of numbers are
reserved for bridges on or near a
railroad *

STRUCTURE DESIGNATION

EBL = East Bound Lane
WBL = West Bound Lane
NBL = North Bound Lane
SBL = South Bound Lane
ADJ = Adjacent to Mainline
CD = Collector - Distributor
DR = Directional Ramp
R = Ramp
etc.

P = State Properties (Parks, Prisons, Hospitals, etc.)
I = Interstate Highway

County Number - used with: U.S. Routes, State Routes, State Properties & Toll Road
Ref. Post - used with Interstate Highways. Use the Ref. Post only - no offset, no rounding.

J = Parallel but different bridge
A = 1st contract Rehab / Preventative Maintenance (PM)
B = 2nd contract Rehab/PM
C = 3rd contract Rehab/PM, etc.

PM items such as bridge washing or cleaning, removing channel debris, lubricating bearings or hinges do not require a new designation number.

DM 16-01 Structure Number

PLANS

Title Sheet

PROJECT	DESIGNATION
CONTRACT	BRIDGE FILE
SECTION	REF. POST

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	DATE	STATUS
57-14-0000	Pre-stressed Concrete Beam Type	1 SPAN, 0 DEG. SKW. @ 84' & 10' OF CLEAR SPAN	Wade Creek	1938-02 Use "J"

Use the full bridge number for both Structure and Bridge File. This is the new structure number for new and replaced bridges.

For rehabilitated bridges and bridges programmed for preventative maintenance, use the existing structure number and the new designation.

Layout Sheet

Identify the existing structure on the layout sheet

EXISTING STRUCTURE

The existing structure (57-14-12345) is a single span steel-pony truss bridge built in 1938 with an 84' span and 24' clear roadway reinforced concrete deck with wingwalls. Existing structure to be removed.

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS FOR SPANS OVER 20 FEET

Note: A box structure or 3-sided structure with a span greater than 20 ft measured along the roadway centerline is a bridge and must have a structure number assigned.

7


ADA Field Audits

- **Most Common Areas of Non-Compliance**
 - Cross Slope
 - 2.000000000000% Max.
 - Ramp Running Slope
 - 8.333333333333% Max.
 - 10% for 6" is not acceptable.
 - Detectable Warning Surface
 - Must extend the full width of the ramp.
 - Landing/Turning Space
 - Lack thereof
 - Insufficient width. 4'x4' or 5'x4' where constrained



DM 15-20 Curb Ramp Details

- Summarizes the main difference between ADAAG and PROWAG for design of ADA facilities.
- Requires sufficient plan details to ensure curb ramps can be constructed compliantly.
- Identifying curb ramp by Type, e.g. Type A, is no longer acceptable.
 - IDM 51-1.05: *Curb ramps should not have to be field designed.*
- Curb ramps constructed on an existing facility require a more details than new construction.

Work In Progress






- **Curb Ramp Std. Dwgs**
 - Approved in January, effective September 2016
 - new pay item: Curb Ramp, Concrete and Detectable Warning Surface
 - Plans should indicate slopes less than the maximum.
- **Pipe Height of Cover Std. Dwg.**
 - 715-PHCL, changes to several tables
 - 715-PIPE, new material
- **LRFD 7th Edition**
 - review in progress

Work In Progress


- **NCHRP 350 to MASH 201X**
 - AASHTO Standing Committee on Highways adopted the Implementation Plan
 - December 31, 2017: w-beam barriers and cast-in-place concrete barrier
 - June 30, 2018: w-beam terminals
 - December 31, 2018: cable barriers, cable barrier terminals, and crash cushions
 - December 31, 2019: bridge rails, transitions, all other longitudinal barriers (including portable barriers installed permanently), all other terminals, sign supports, and all other breakaway hardware
 - Temporary work zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested to MASH.





Work In Progress


- **Controlling Criteria**
 - Proposed revisions to controlling criteria are on the Federal Register for review.
 - In general fewer criteria overall, and distinctions for high speed vs. low speed roadways
 - Specific content requirements for design exceptions.
 - INDOT has the final decision on which elements in addition to the controlling criteria will require a design exception.





Work In Progress


- **Use of Letter (8 ½" x 11") Plan Size**
 - Originally developed for district-designed resurface contracts that have very few details, e.g. a typical section and a strip map.
 - Full sized (24" x 36") plans should be used where mark ups will be applied to as-built plans, when complex design elements are drawn, and when larger drawings are needed to provided legibility.
 - Letter size plans are placed in Section 2 of the CIB.
 - File size must be less than 10 Mb [DM 14-13]
 - No more than 100 pages (50 pages double-sided) [IDM 14-3.03]
 - Every page must be stamped for consultant-designed plans. [864 IAC 1.1-7-3]





Work In Progress

- **Bridge Inspection Coordination**
 - RSP 105-C-249, Effective September 2016 for all B- and R- contracts.
 - Identifies bridges within a project's construction limits that are due for inspection, regardless of actual work being performed on the bridge.
 - Bridges must be inspected within 90 days of being open to traffic, including maintenance of traffic.
 - Designers will need to contact the district Bridge Inspector or query BIAS for the list of structures.



Office of Standards and Policy

Elizabeth Phillips
ephillips@indot.in.gov

Naveed Burki
nburki@indot.in.gov

Katherine Smutzer
ksmutzer@indot.in.gov



