INDOT Updates

Elizabeth Mouser, PE INDOT Highway Engineering Director



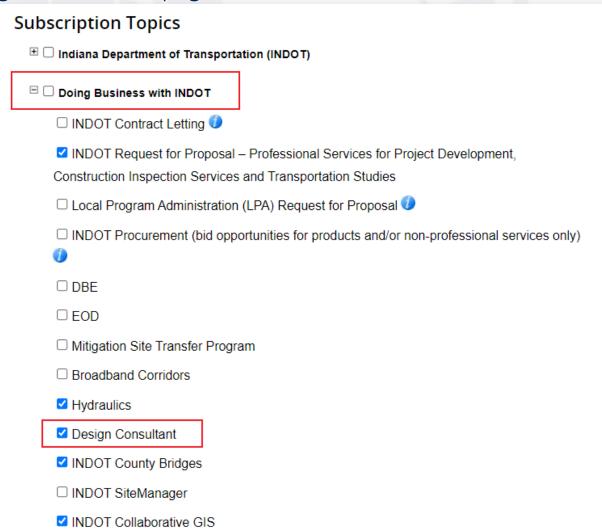
June 30, 2021



Information and Communication

- Design Consultant Listserv Gov Delivery [INDOT Design Consultants]
 - link available from Indiana Design Manual webpage
 - Communication
 - Design Memos changes
 - Construction Memos
 - Training opportunities, sur

From Sub-INDOT Design Consultants [De-INDOT Design Consultants IND





Webpages to Bookmark – Indiana Design Manual

IDM https://www.in.gov/indot/d



Have Questions? - Click Here

Listed below are topics with links to the email of their corresponding content owner.

Americans with Disabilities Act (ADA)

Part 1 - Project Design Development

Part 2 - Hydrology and Hydraulics

Part 3 - Roadway Design

Part 4 - Structural (Bridge Design)

Part 5 - Traffic and Safety

Part 6 - Pavement Design

INDOT Standard Specifications

<u>Chapter 203</u> - Hydraulics and Drainage Design (Rev. Apr. 2017)

<u>Chapter 50</u> - Economic Analysis (Rev. Apr. 2016)

<u>Chapter 53</u> - Geometric Design Tables - New

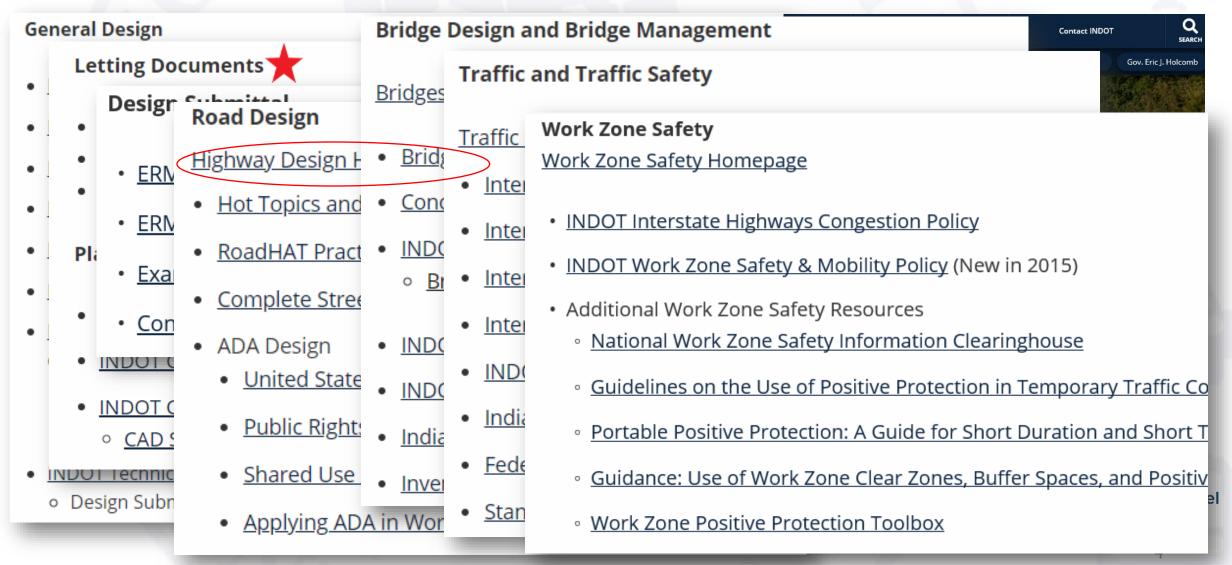
Contruction/Reconstruction (Rev. Feb. 2019)

<u>Chapter 54</u> - Geometric Design of Existing Freeway (3R) or



Webpages to Bookmark - Designers

Designers https://www.in.gov/indot/2731.htm



Information and Communication

- Design Consultant Listserv
 Gov Delivery [INDOT Design Consultants]
 - link available from Indiana Design Manual webpage
 - Communication
 - Design Memos changes to design policies, procedures, and criteria
 - Construction Memos
 - Training opportunities, surveys
- 2021 Standard Drawings eff. September 2021
 - Published every year
- 2022 Standard Specifications eff. September 2021 (Constr. Management)
 - Published on 2-year cycle
 - Get the news first from Standards Committee webpage
- Recurring Special Provisions Menu (Constr. Management)
 - Quarterly updates
 - Applicable menu is based on contract letting date, not RFC date. Available from the Standards Committee webpage [Guidance for Selecting Effective Letting Date]



Webpages to Bookmark – Standards & Specifications

Standards & Specifications https://www.in.gov/dot/div/contracts/standards/



Standards, Specifications, and Provisions

- Standards Committee
- Standard Specifications
- Standard Drawings
- Recurring and Unique Special Provisions & Recurring Plan Details
- Special Provisions Technical Advisories have been discontinued as of 08/06/18. The publication schedule for the RSP Menu has been standardized and occurs in February, May, August, and November, approximately 14 days after the preceding Standards Committee meeting. The schedule of Standards Committee meetings, submittals, and distributions is available from the Standards Committee webpage found in the link above titled "Standards Committee."
- Indiana Design Manual

Memos, Policies, and Instructions

- Design Memorandums
- · Construction Memorandums
- Work Zone Safety Mobility Policy
- Interstate Highways Congestion Policy
- General Instructions to Field Employees (GIFE)

Webpages to Bookmark – Recurring Provisions

https://www.in.gov/dot/div/contracts/standards/rsp/index.html

Recurring and Unique Special Pr

- ☆ INDOT < Doing Business with INDOT < Standards & Specifications</p>
 - Recurring and Unique Special Provisions



Recurring Special Provisions & Plan Details

- NEW September 2021 Edition For Lettings on or after September 1, 2021
- September 2019 Edition For Lettings on or after September 1, 2019 thru August 31, 2021

Unique Special Provisions

Effective October 1, 2020, all USPs must be submitted for review and approval through SharePoint. You must be a member of the INDOT Unique Special Provisions Team via Microsoft Teams to access the SharePoint stee. <u>Click here</u> to gend a request to be added to the team.

- Unique Special Provision Process
- List of Unique Provisions (xls) /(pdf) (samples) (updated 5/10/21)
- Instructions for Use Unique Special Provisions (revised June 2021)
- USP Menu (updated June 2021)

Archived and Inactive Files

Archived and Inactive Files

Information and Communication

Selecting a Letting Effective Date for RSPs

Std. Comm. Mtg. Date	First Available Effective Letting Date		Publish RSP Menu	Final Tracings Submission Due	Ready for Letting Docs to CA	Bid Letting Date	RSP Menu Date Selected to Build CIB
	RSP/RPD Only	w/ Pay Item or Design Change	Std Comm. Mtg Date + 14	30 Days prior to RFC	10 Weeks prior to Letting		
08/20/20	Mar. 2021	Mar. 2021		Mon 10/5/20	Wed 11/4/20	Wed 1/13/21	AUG. 2020 MENU
09/17/20	Mar. 2021	Mar. 2021		Mon 11/2/20	Wed 12/2/20	Wed 2/10/21	AUG. 2020 MENO
10/15/20	Mar. 2021	June 2021	Thu 10/29/20	Mon 11/30/20	Wed 12/30/20	Wed 3/10/21	
11/18/20	June 2021	June 2021		Mon 12/28/20	Wed 1/27/21	Wed 4/7/21	NOV. 2020 MENU
12/17/20	June 2021	June 2021		Mon 1/25/21	Wed 2/24/21	Wed 5/5/21	
01/21/21	June 2021	Sept. 2021	Thu 2/4/21	Tue 3/2/21	Thu 4/1/21	Special Letting Only (June)	



20-02: Ramp Maximum Grade

- Section 48-5.04(01) revised to remove an inadvertent figure reference include in guidance for ramp grade within the freeway/ramp junction
- The ramp grade within the freeway/ramp junction up to the physical nose should be approximately the same grade as that provided on the mainline. However, adequate sight distance is more important than grade control.

Design Speed, mph	20-25	25 20	33	45-50
Desirable Maximum Grade, %	6 to 8	5 to 7	4 to 6	3 to 5

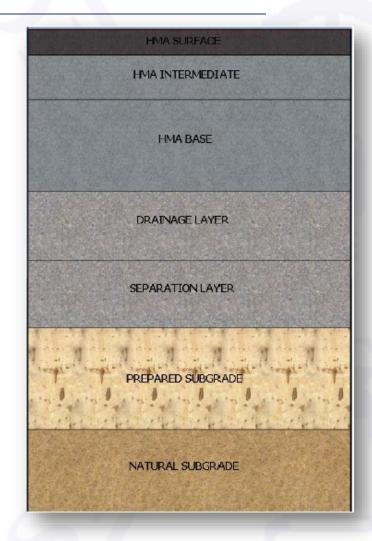
- Additional guidance for selecting maximum ramps grades for high-speed system interchanges.
 - Grades over 4% require concurrence from INDOT Corridor Development.





20-04: Subgrade Treatments

- Subgrade Treatment Type IB, 14 in. chemical soil modification, divided to indicate the modification material.
 - Type IBC will be used to indicate cement modification.
 - Type IBL will be used to indicate lime modification.
- Subgrade Treatment Type IIA, 8 in. chemical soil modification deleted
- IDM 17-4.02 (01) Subgrade Treatment Types revised to point to the *Standard Specifications* for subgrade descriptions





20-05: Stormwater Management

- RSP 205-R-706 updated established prices for stormwater management items.
- *Revised* RSP 205-R-706 incorporated Stormwater process review findings (complete overhaul)
 - Updated terminology. "Stormwater management measures (features)" are now "Best Management Practices (BMPs)"
 - Added sections and established unit costs for Protected Resource Signs and Protected Resource Fence.
 - A Stormwater Quality Control Plans (SWQCP) is required only where project includes a waterway permit, Rule 5, or Construction Stormwater General Permit
 - A Stormwater Quality Manager Level 1 or Level 2 determination is only required where the project includes a SWQCP.
 - Deleted SWQCP Preparation and Implementation, [Level 1/Level 2] pay items. Created new separate pay items for SWQCP Preparation and Stormwater Management Implementation. Note that the Stormwater Quality Manager Level is no longer part of the pay item.
- Updated IDM Ch 14 to include submitting for SWQM Determination





20-05: Stormwater Management

Book.

SWQM Level and Pay Item Selection					
If project	And	SWQM Level Determination	Include the following pay items		
Contains Best Management Practices (BMPs) [formerly Stormwater Management Measures]	Contains a waterway permit (401/404), a 327 IAC 15-5 permit (Rule 5), or Construction Stormwater General Permit (Rule 5) *	Is required (Level 1 or Level 2)	205-12108 Stormwater Management Budget (DOL) 205-12618 SWQCP Preparation (LS) 205-12616 Stormwater Mgmt Implementation (LS)		
Contains Best Management Practices (BMPs)	Does not contain a waterway permit (401/404), a 327 IAC 15-5 permit (Rule 5), or Construction Stormwater General Permit (Rule 5) *	Is not required (N/A)	205-12108 Stormwater Management Budget (DOL) 205-12616 Stormwater Mgmt Implementation (LS)		
Does not contain Best Management Practices (BMPs)		Is not required (N/A)	No 205 pay items		

⁽¹⁾ The SWQM Level indicated on the Contract Preparation Document is placed on the proposal page of the Contract Information

* Additional revisions adopted in Feb 2021 and incorporated into the 2022 *Standard Specifications.* CIF is considered a waterway permit



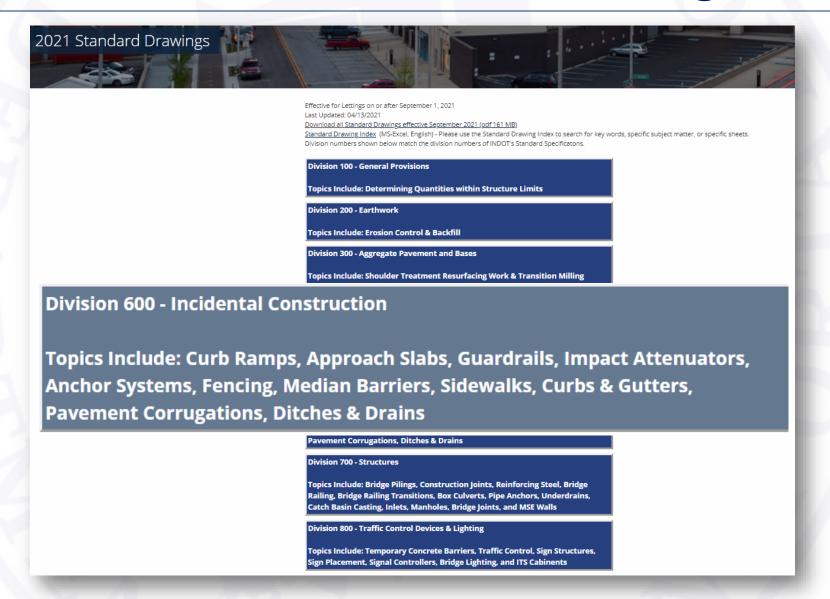
20-09 and 21-15: Standard Drawings

- Announced the annual publication of the INDOT Standard Drawings
 - Drawings become effective with contracts letting in September of the publication year
- Includes the Standard Drawing Index
 - Short list of drawings that have been added, deleted, or revised since the last publication





20-09 and 21-15: Standard Drawings





20-10: Seed Mixtures

- IDM Chapter 17 seeding and sodding revisions associated with RSP 621-R-697, Seed Updates.
- Grass and Legume seed mixtures are out. Floodplain and Shade mixtures are in.
 - Floodplain mix used with IDNR CIF permits
 - Shade mix used where shade is expected to cover the ground >5 hours per day, e.g. seeded areas adjacent tall forested areas, under bridges where environmentally regulated mixes are not required.
- Additional IDM revisions to add guidance for mulching and erosion control pay items





20-12: Truck Mounted Attenuators

- Recurring Special Provision 801-T-227 and Recurring Plan Detail 801-T-227d
- TMA pay item (DAYS)
- IDM 503-3.05(04) Positive Protection Devices updated
- Coordination with Construction for use



20-13: Level One Controlling Criteria

- Level One geometric design criteria revisions
- To better align INDOT's guidance with the federal requirements.
- Key Points
 - FHWA revised controlling criteria (for the NHS)
 - Further refined criteria for high-speed and low-speed applications
 - INDOT adopted controlling criteria (for NHS and Non-NHS) + plus additional criteria
 - Level One Checklist revised
- (Update 10/8/20) All 10 high-speed criteria apply to Freeways and Interstates, including exit and entrance ramps, regardless of design speed.
- Q&A document available from the Highway Design webpage, https://www.in.gov/indot/2684.htm under Training and Resources



Design Criteria – Level One and Level Two Classifications					
	Design Criteria	High Speed (50 mph or higher & Freeways, incl. ramps)	Low Speed (45 mph or lower)		
1	Design speed	Level One	Level One		
2	Lane width	Level One	Level One only if on the National Truck Network. Otherwise, Level Two.		
3	Shoulder width (uncurbed section) (1)	Level One	Level Two		
4	Bridge clear roadway width ⁽²⁾	Level Two	Level Two		
5	Design loading structural capacity	Level One	Level One		
6	Horizontal curve, minimum radius	Level One	Level Two		
7	Superelevation transition length and distribution	Level Two	Level Two		
8a	Stopping sight distance, horizontal curve	Level One	Level Two		
8b	Stopping sight distance, vertical curve (crest only)	Level One	Level Two		
9	<mark>Maximum</mark> grade	Level One	Level Two		
10	Travel lane cross slope	Level One	Level Two		
11	Superelevation rate	Level One	Level Two		
12	Minimum vertical clearance	Level One	Level One		
40	Americans with Disabilities Act (ADA)	Level One	Level One		
13	Exceptions are processed as an ADA Technical Inquiry or Technical Infeasibility Determination				
14	Bridge Railing Test Level	Level Two	Level Two		

(Update 10/8/20) All 10 high-speed criteria apply to Freeways and Interstates, including exit and entrance ramps, regardless of design speed.

хх	x FHWA controlling criteria			
хx	Revised FHWA controlling criteria			
XX	INDOT-specific criteria			

Color coding is for context. Both FHWA and INDOT criteria are applicable to NHS and non-NHS routes.



Design Memo 20-14

- Established design criteria for preventive maintenance and 3R resurfacing projects on Freeways/Interstates
- Key Points
 - Memo is applicable to Freeway/Interstate pavement resurfacing projects
 - "Partial 3R" and "interstate" are not compatible terms
 - PM or Rehabilitation (3R) designation is determined by the pavement treatment.
 - PM treatments keep an asset in a state of good repair
 - Rehabilitation treatments restore structural integrity
 - PM and Rehabilitation treatments are defined in IDM Ch 602
- Q&A document available from the Highway Design webpage, https://www.in.gov/indot/2684.htm under Training and Resources







20-16 Proprietary Materials

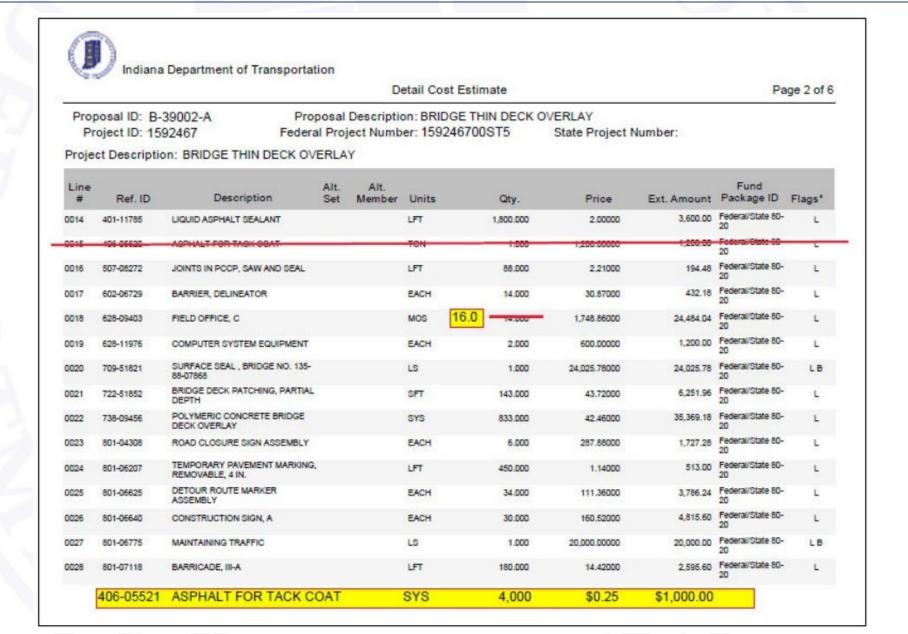
- Changes first announced in DM 19-11
 - 23 CFR 635.411 (a)-(e) revised such that Federal funds participation no longer restricted when State DOTs specify a trade name for approval in Federal-aid contracts.
 - INDOT's continues to utilize an approval process
 - Highway Design Review Office coordinates all requests during design.
 - Approval by item Highway Engineering, Bridge Engineering, Traffic Engineering
 - Applicable to LPA projects
- IDM Chapter 17 updated
- Proprietary Material Request forms consolidated into a single form.

20-17 Preprint Changes and Construction Revisions

- IDM Chapter 14 updated
- Preprint Changes
 - Contact information
 - Timeframes for accepting revisions
 - Specific requirement for revising the Schedule of Pay Items (contact <u>CESsupport@indot.in.gov</u> for PDF)
- Construction Changes
 - What to include with plan revisions
 - Where to place clouds on replacement sheets
- Figures added to illustrate expectations



20-17 Preprint Changes and Construction Revisions



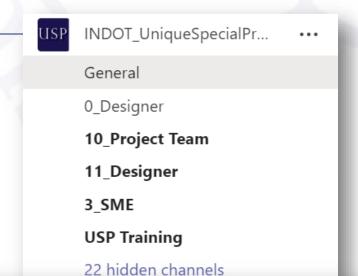
20-20 APS Studies, Ped Push Buttons, Curb Ramps

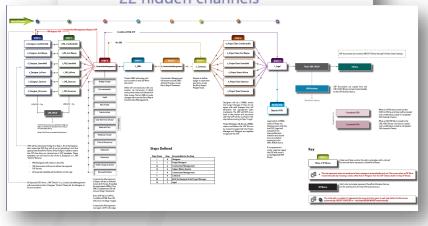
- IDM Chapters 51 and 502 updated to reflect changes in the APS Policy (Operations Memo 14-01)
- For a new signal installation, signal modernization, or intersection improvement project, APS is required where pedestrian signals are part of the project.
- Pushbutton details on plans should include
 - Plan view pushbutton and pb clear space
 - Station and offset. Include the distance between assemblies where two pb provided.
 - Percussive tones or speech walk messages required based on spacing



20-21 USP Process

- USP workflow now in SharePoint, accessible through the INDOT Unique Special Provisions Team via Microsoft Teams
- Must be a team member
- At FT, initially a hybrid SharePoint/ERMS process. Effective July 2021 lettings SharePoint only process.
- Use the Teams page for the most up to date guidance
- Design Memo 21-17
 - Updated the Design Manual to reflect the SharePoint USP approval process.
 - Updates to Recurring Special Provisions & Plan Details webpage, https://www.in.gov/dot/div/contracts/standards/rsp/index.html, including a link to request access to the INDOT_UniqueSpecialProvisions Team
 - Updates to USP Menu and Instructions for Use







21-17 IDM Updates for USP Process

	Unique Special Processing The USP Menu should be uploaded to Elements		Rev. June 2021		
	Contract No: District:				
Standard Specifications Year: 2022	Submitted by: Contact Information:				
Standard Specifications Section	Unique Special Provision Title	Document Filename	Comments		



20-24 Temporary Pavement Markings

- RSP 801-T-128, Temporary Pavement Markings revised Standard Specifications section 801.12 to require that temporary edge lines be placed within 10 workdays of opening a segment of resurfaced roadway to traffic
- Applies to locations that have been specified for permanent durable edge line pavement markings (IDM Figure 502-2C)
- For temporary markings used in conjunction with HMA pavement, the quantity should be calculated for each lift of intermediate and surface.
- Width specified should be that of the existing pavement marking.



21-02 MSE Walls

- Revised IDM Chapters 14 and 410 for MSE wall initial feasibility reviews and incorporation of an MSE wall checklist
- Initial feasibility review and MSE wall design review checklist are submitted to INDOT Geotechnical Services via email. MSEWallShopDrawings@indot.in.gov
- Submit Stage 1 plans (after review) for an initial feasibility review
- Submit MSE Wall Design Review Checklist at Stage 3
 - Checklist is available from the Editable Documents webpage.

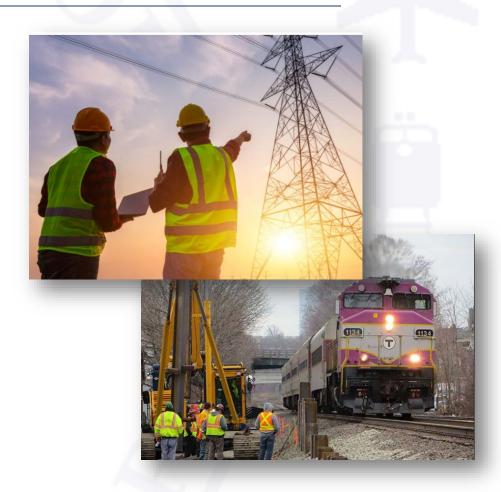






21-03 IDM Chapters 104 and 105

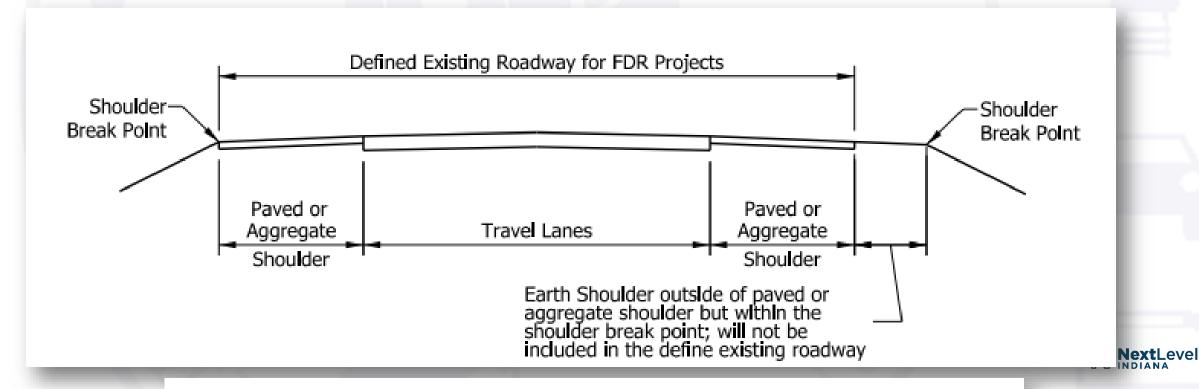
 Complete rewrite of Utility Coordination and RR Coordination chapters.





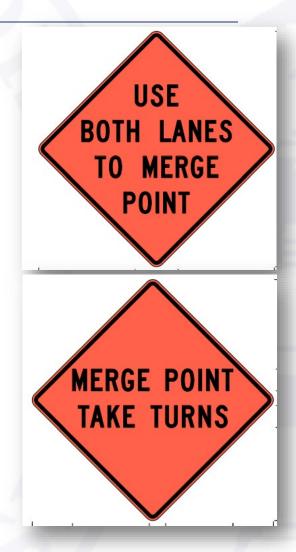
21-04 FDR Projects and Rule 5 Permits

- FDR projects that are contained within the existing roadway will not require a Rule 5/ Construction Stormwater General Permit.
- FDR projects that include disturbance outside of the defined existing roadway should be submitted for a permit determination in accordance with the INDOT Waterway Permit Manual, Chapter 2.



21-10 Zipper Merge

- Added zipper merge to the work zone toolbox for traffic mitigation
- Used when a lane reduction is expected to generate a queue for at least two hours a day for five days of the week and approval is given by the district Traffic Engineer.
- The zipper merge is not intended for high-speed free flow merge conditions.
- PCMS may be used (e.g free flow, slow, or stopped traffic messages)
 - Show on the plans and include a unique special provision for speed sensor compatible PCMS should be included in the contract.





Upcoming Changes

- Standard Pavement Section for select project work activities
 - Catalog Pavement Design process has been standardized for eligible small structure replacement and bridges projects.
 - Pavement Design requests will no longer be required for these project types
 - The pavement section is selected using the ESAL category (based on the average annual daily truck traffic, AADTT) at the project location.
 - Tentative August design memo for implementation

Pood Catagory	Annual Avg Daily Trucks	ESAL	Pavement Design - Roadway
Road Category	Contruction Year AADTT	(millions)	(ESAL Category, PG Binder Temperature, Depth)#
Interstates (A)	1900 < AADTT < 5700	10 < ESAL < 30	Roadway Catalog ID High ESAL (4,76,14")
	AADTT < 570	< 3	Roadway Catalog ID Low ESAL (3,64,10")
Freeways and Principal Arterials (B)	570 < AADTT < 1900	3 < ESAL < 10	Roadway Catalog ID Med. ESAL (3,70,12")
	1900 < AADTT < 5700	10 < ESAL < 30	Roadway Catalog ID High ESAL (4,76,14")
	AADTT < 510	< 3	Roadway Catalog ID Low ESAL (3,64,10")
Remaining Road Classes (C)	510 < AADTT < 1700	3 < ESAL < 10	Roadway Catalog ID Med. ESAL (3,70,12")
	1700 < AADTT < 5700	10 < ESAL < 30	Roadway Catalog ID High ESAL (4,76,14")

Upcoming Changes

- Pavement Design will return to the Pavement Design Request Process for all projects.
 - Designer will be responsible for compiling requesting and compiling supporting documentation and submitting the pavement design request.
 - Documentation will vary by work type. Guidance for general work types will be provided.
 - FWD
 - Geotechnical (investigation or soil parameters)
 - Pavement History*
 - Cores
 - Traffic Count/Traffic Forecast
 - For turnkey projects that include a pavement design task, the design firm will be responsible for requesting and compiling the supporting documentation and completing the pavement design.
 - Pavement design and supporting documentation submitted for approval.
 - Effective with FY 25 contract lettings



QUESTIONS



Road Design RoadReviewTeam@indot.in.gov

Bridge Design BridgeDesignOffice@indot.in.gov

