



Get Involved:



or use [slido.com](#) 2658 678

Presenters & Crew:



Agenda

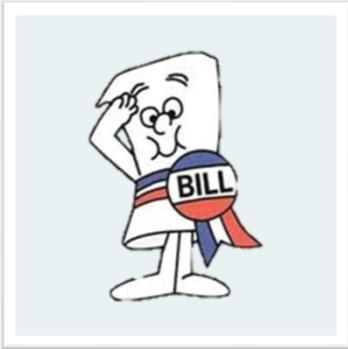
7:45am	Registration/Sign-In
8:15am	<u>INDOT Updates including the Evolution of Semi-Integral End Bents</u> Stephanie Wagner, 50 min.
9:05am	<u>Materials and Construction Hot Topics</u> Pete White, 30 min
9:35am	Break 20 min.
9:55am	<u>Bridge Railing Considerations for Preservation Projects</u> Elizabeth Mouser, 50 min
10:45am	<u>Retaining Walls 101</u> Mike Wigger, 50 min
11:35am	Lunch 90 min
1:05pm	<u>Industry Experience Panel</u> Sebastian D'Onorio, Kevin Thomas, Jackie Dohrenwend, Amy Huebschman, Mike Wenning. 50 min
1:55pm	<u>Blueprints to Nowhere: The untold stories of unbuilt bridges</u> Jim Lesh, 30 min
2:25pm	Break 20 min
2:45pm	<u>Behind the Scenes: Load Ratings</u> Jennifer Hart, 50min
3:35pm	<u>Open Pile Bent Repairs/Case Studies</u> Mike McCool, 30min
4:05pm	Adjourn

A bit of Housekeeping

In-person:  
Restrooms  
Exits  
Lunch

Virtual:  
Tech ?'s → Teams Q&A

All: Presenter Questions use Slido (or raise your hand)  
Attendance Tracking and Survey at the End  
QR Code for both are on Name Tag



Design Memo Updates: Schoolhouse Rock Edition



### Issue Noted

- Known Discrepancies/Conflicts



### Issue Noted


- Known Discrepancies/Conflicts
- National Policy Changes





Issue Noted

- Known Discrepancies/Conflicts
- National Policy Changes
- Field Observation

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Investigate

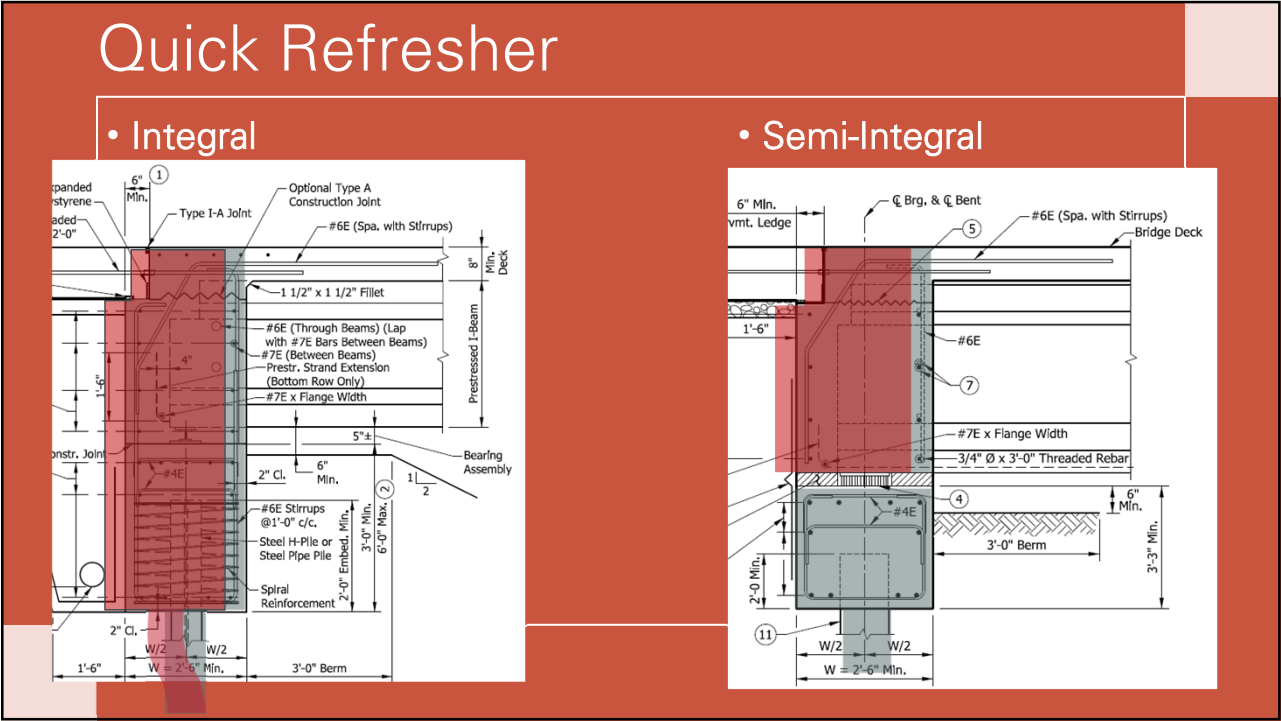
- Pull Data
  - Similar Structures/Details
- Historical Policy Changes
- Ask Around
  - INDOT
  - Partners
  - Neighbors
- Other Factors

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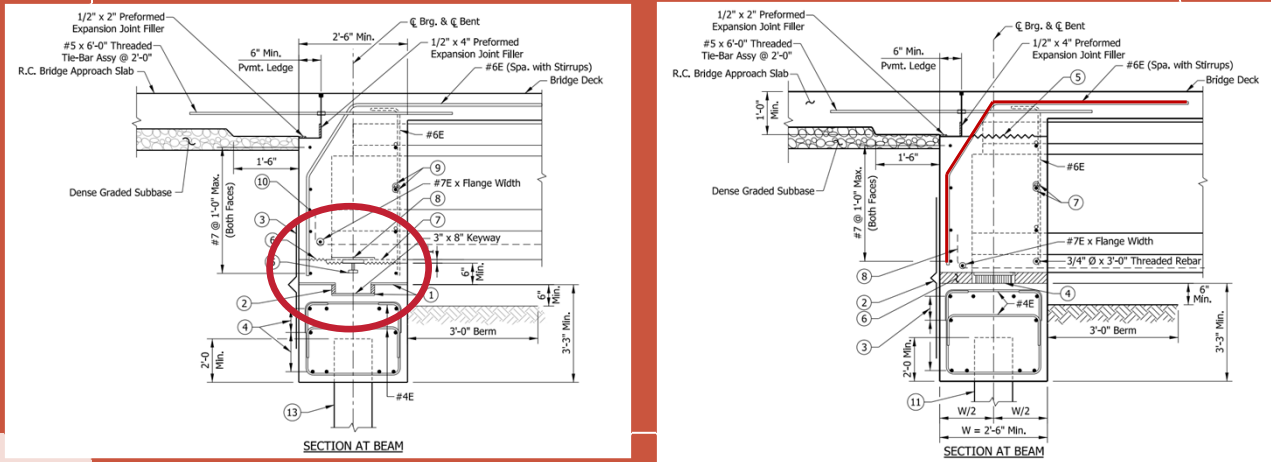
2025 INDOT Bridge Design Conference4





# Investigation Findings

- Semi-Integral (Method 1)
- Semi-Integral (Method 2)



# Findings

- Illinois Detail

- ✓

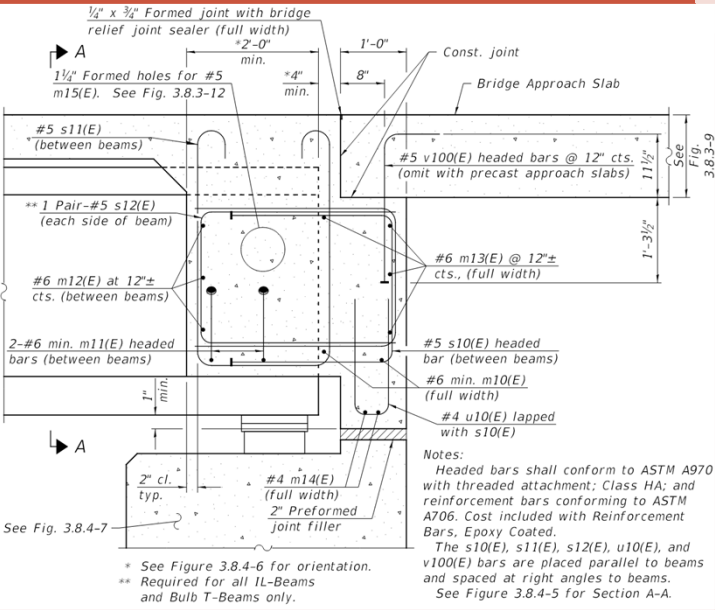
Simplified Rebar
- ✓

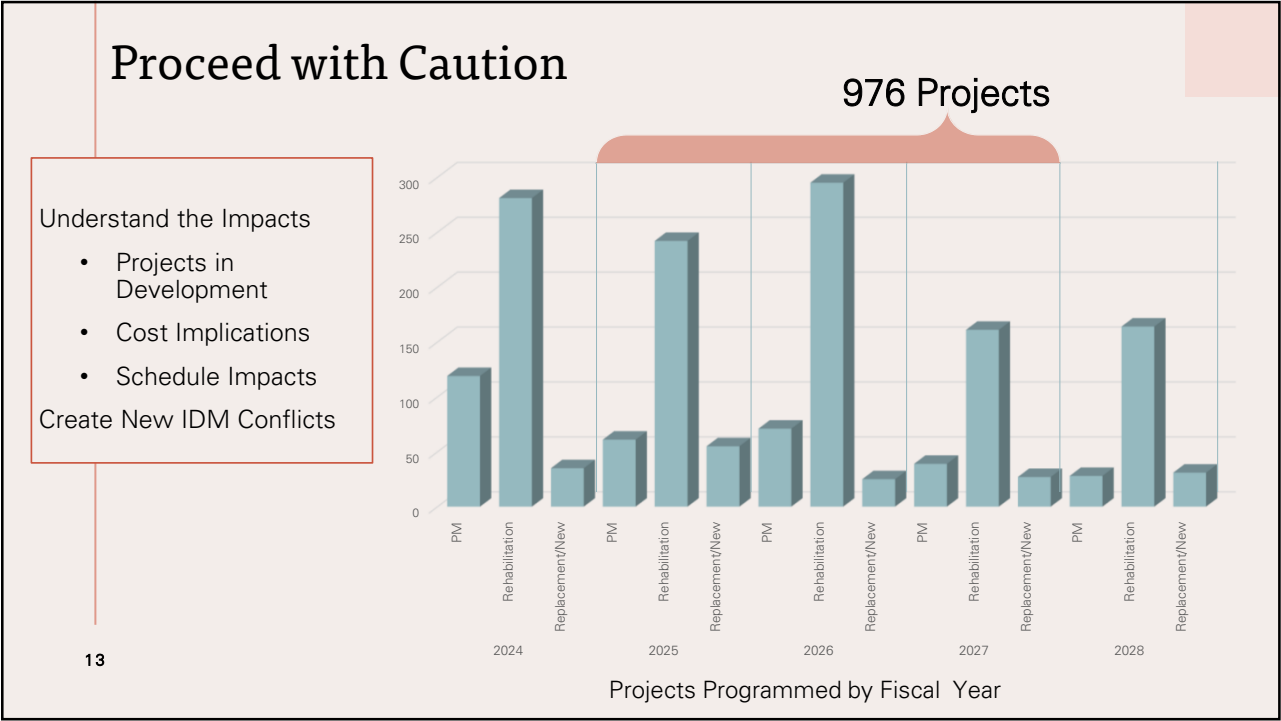
Wider Pavement Ledge
- ✓

Access to Bearings
- ✗

Difficult to Form
- ✗

Exposed Strand Ends





# Pilot

- Proceed with Caution
- DIY

SECTION B-B  
(Shown Between Beams)  
Scale: 3/4" = 1'-0"

## Rehab of 47-54-4122

### Constructed in 2017

## (Co-)Pilot

- Structures Committee
- Draft Details 2019-2023
- North Split/Section 5
  - Unique Opportunity for Contractor Feedback








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## Standardize

- Capture a Majority of Scenarios
  - Rehabilitations increased the scenarios exponentially

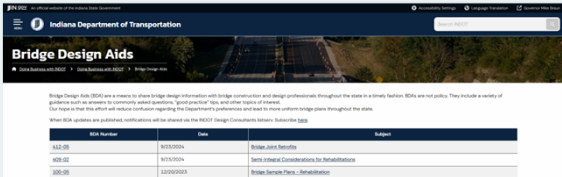


### New Construction = Design Manual



- Formal Guidance

### Rehabilitations – Bridge Design Aid



File Number	Date	Subject
100-01	8/15/2014	Bridge Joint Details
100-02	8/15/2014	Deck Internal Connections for Rehabilitation
100-03	12/10/2015	Bridge Deck Details - Rehabilitation

- Sharing Best Practices and Lessons Learned

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Standardize

SECTION B-B BETWEEN CONCRETE BEAMS

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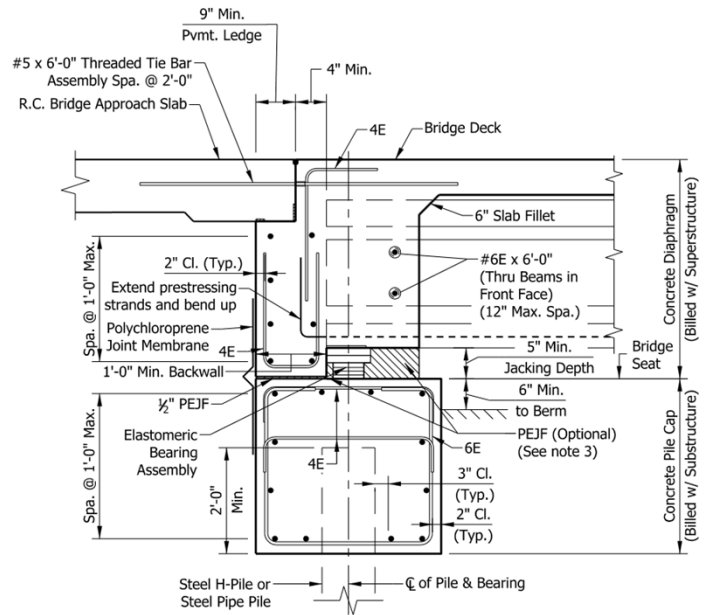
Standardize

- Cleaner Rebar Details
  - 2 Piece-Stirrups for Flexibility
  - No Complex Angles

SECTION B-B BETWEEN CONCRETE BEAMS

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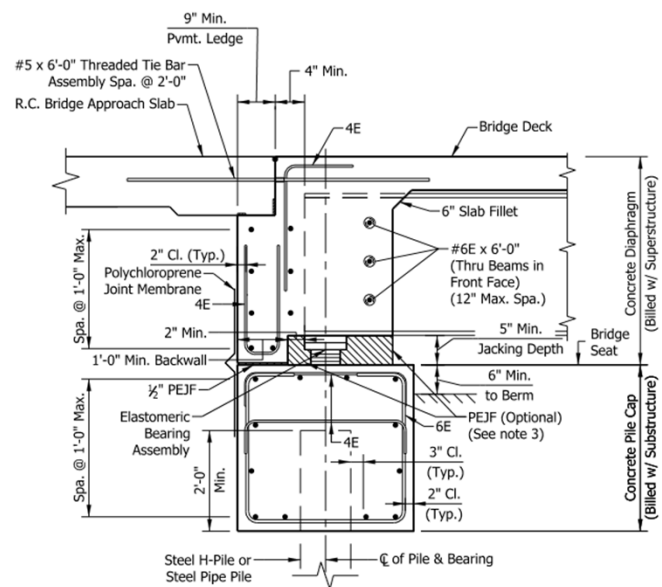
- Encase Extended Strands
- Assess to Bearings
  - \*PEFJ may remain in place
- Ability to Jack & Support
- Widened Pavement Ledge



SECTION A-A THROUGH CONCRETE BEAM

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- Steel – Web Encasement



SECTION A-A THROUGH STEEL BEAM

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# Standardize

- No More Keyways
- No More Candy Canes\*

\* Doesn't meet the "Majority of Scenarios" Check, See BDA

Notes:

- Wingwall required for transverse restraint, except in cases where bridge seat provides necessary restraint.
- All cap reinforcement to be designed. Sizes and spacing shown are minimums.

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# Standardize

- Updated Bearing Assemblies for Potential Replacement

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# Publish

- Published September 2024
  - STG 3 Submittals after March 2025

Design Memo No. 24-12

September 11, 2024

October 11, 2024




- Clarification: PEFJ Noted (Result on Contractor Feedback)

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 Call about projects that have been pushed out!

# Fresh Design Memos!

Design Memos:



- 24-12 Semi-Integral End Bents
- 24-13 Integral End Bent Details
- 24-14 Pavement Ledge Width
- 25-04 NEXT Beams
- 25-05 Reinforcing Bar Support Devices
- 25-06 Prestressing Strands
- And Bridge Design Aids!



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# 24-13 Integral End Bent Details

Highlights:

- Method A is out!

Pile Driving Tolerances (+/- 4") >> Beam Bearing Tolerances

SUGGESTED INTEGRAL END BENT DETAIL  
Method A, Beams Attached Directly to Piling

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# 24-14 Pavement Ledge Width

Highlights:

- Clean Up Reference to 6" Pavement Ledge

REVISES: *Indiana Design Manual*/Figures 405-3F, 406-16E, 406-16L, 406-16S, 409-2D, and 409-3D

Integral Cap at Slab Superstructure (Section Through End Bent)


I-BEAM: END BENT CAP SIZING AND BEARING LAYOUT DETAILS

SUGGESTED INTEGRAL END BENT DETAILS

## 25-04 NEXT Beams


Highlights:

- FYI-RE: Standard Spec. 707 updates and Std.Dwg. 707-BPDF series to show Fabrication Tolerances for Next Beams
- Added NEXT Beams as acceptable Prestressed Beam Type (IDM 406-12.02)
- Reference PCI Northeast website for more now...
  - 2023 Design Conference Presentation
  - 2024 Road School Presentation
- Added details for deeper Wide Bulb-tee Beams to IDM Figures
  - 72", 78" and 84"




Pilot Projects:

- B-42405 US 31 over Blue Lick Creek
- B-43129 SR 49 over Ahlgrim Ditch
- B-44138 SR 341 over Dry Run



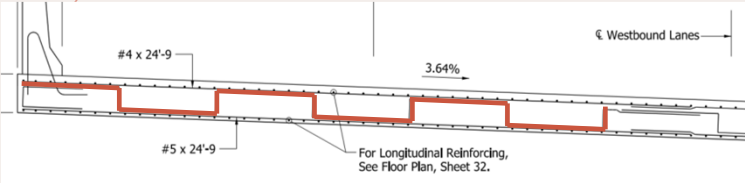
27



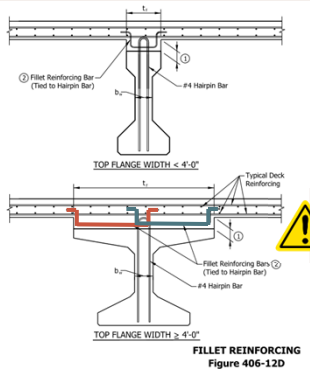
Beware of cost data: INDOT procured the beams outside of the contract.


## 25-05 Reinforcing Bar Supports

- Crankshaft Bars are Out
- Fillet Reinforcement
  - Two bars
  - Move away from term "Haunch"




Contractors are now required to limit the maximum distance between rebar supports to 4'. Need additional bars on wide flange shapes to meet this requirement.





FILLET REINFORCING  
Figure 406-12D

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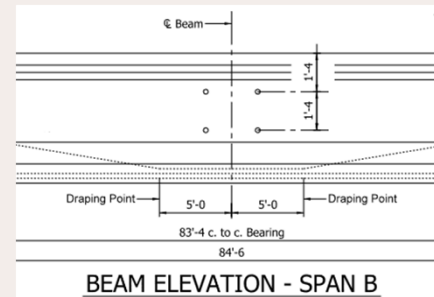


Don't be stingy, camber is tough to predict!

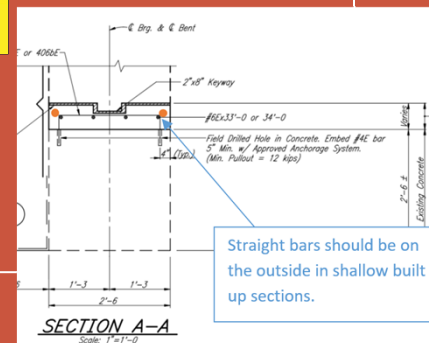
- Reminder RE: Cutting Top Stands

- 10' between for beam > 50' long

- Show Pockets, but don't Detail



# BDA 409-02 Semi-Integral for Rehabs



## BDA 412-02 Bridge Deck Overlays

Revised Pay Item Guidance


- No More Optional Bid on Lettings after 9/1/25
- New "Bridge Deck Overlay, Rigid" Pay Item [ 722-000134 ]
  - Contractor choice after bid
  - LMC or SFMC

Need USP until Sept 2025 Letting for Rigid Pay Item, Copy language from Standards Committee Meeting referenced in BDA

Payment will be made under:

Pay Item	Pay Unit Symbol
Bridge Deck Overlay Budget.....	DOL
Bridge Deck Overlay, Latex Modified.....	SYS
Bridge Deck Overlay, LMC-VE .....	SYS
Bridge Deck Overlay, Patching.....	SFT
Bridge Deck Overlay, Rigid .....	SYS
Bridge Deck Overlay, Silica Fume Modified .....	SYS
Bridge Deck, Remove Existing Concrete Overlay and Surface .....	SYS
Bridge Deck, Remove Existing Concrete Surface .....	SYS
Bridge Deck, Remove Existing Polymer Overlay System and Surface .....	SYS
Bridge Deck Patching, Full Depth .....	SFT
Bridge Deck Patching, Partial Depth .....	SFT
Hydrodemolition .....	SYS
Longitudinal Grooving.....	SYS
Overlay Dam .....	SFT

District's Dealer's Choice



## BDA 412-05 Bridge Joint Retrofits

Guidance from the Trenches

- Measure the Existing Opening in the Field
- Nosing Materials and Overlay Dam Info
- Non-Anchored Joints Replacements
- SS Retrofits Options







