

INDOT Hydraulics Process Modernization and Policy Updates

Stephanie Wagner, PE Director of Bridge Engineering

Mark Bailey, PE Director of Hydraulics

How did we get here?



I-90 (NY State Thruway) over Schoharie Creek

- Collapsed April 1987
 - 10 fatalities
 - 30-year-old bridge
 - 15,000 vehicles a day
- +/- 10' scour hole



Snowmelt + 5.9" of Rain = Est. 50 Yr. Flood

Schoharie Bridge Investigation and Research



- 1:50 Scale Model
- Colorado State University

Contributing Factors

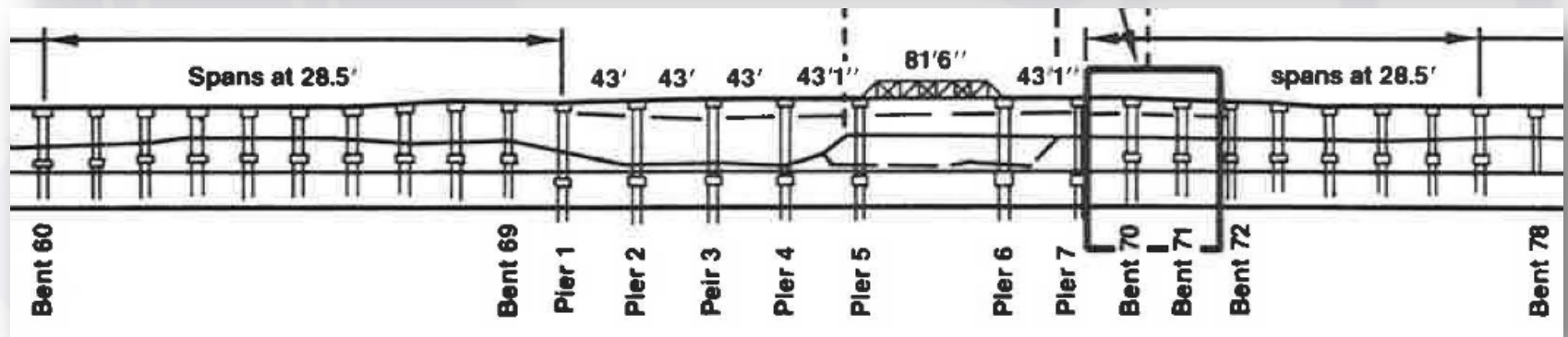
- Waterway Geometry
- Sheet Piling Removed
- Improperly Sized Riprap

US 51 over Hatchie River

- Collapsed April 1989
 - 8 fatalities
 - Built in 1936

Contributing Factors

- Stream Migration
- Foundations
 - Shallower in Floodplain
 - Independent Footings
- Adjacent Structure

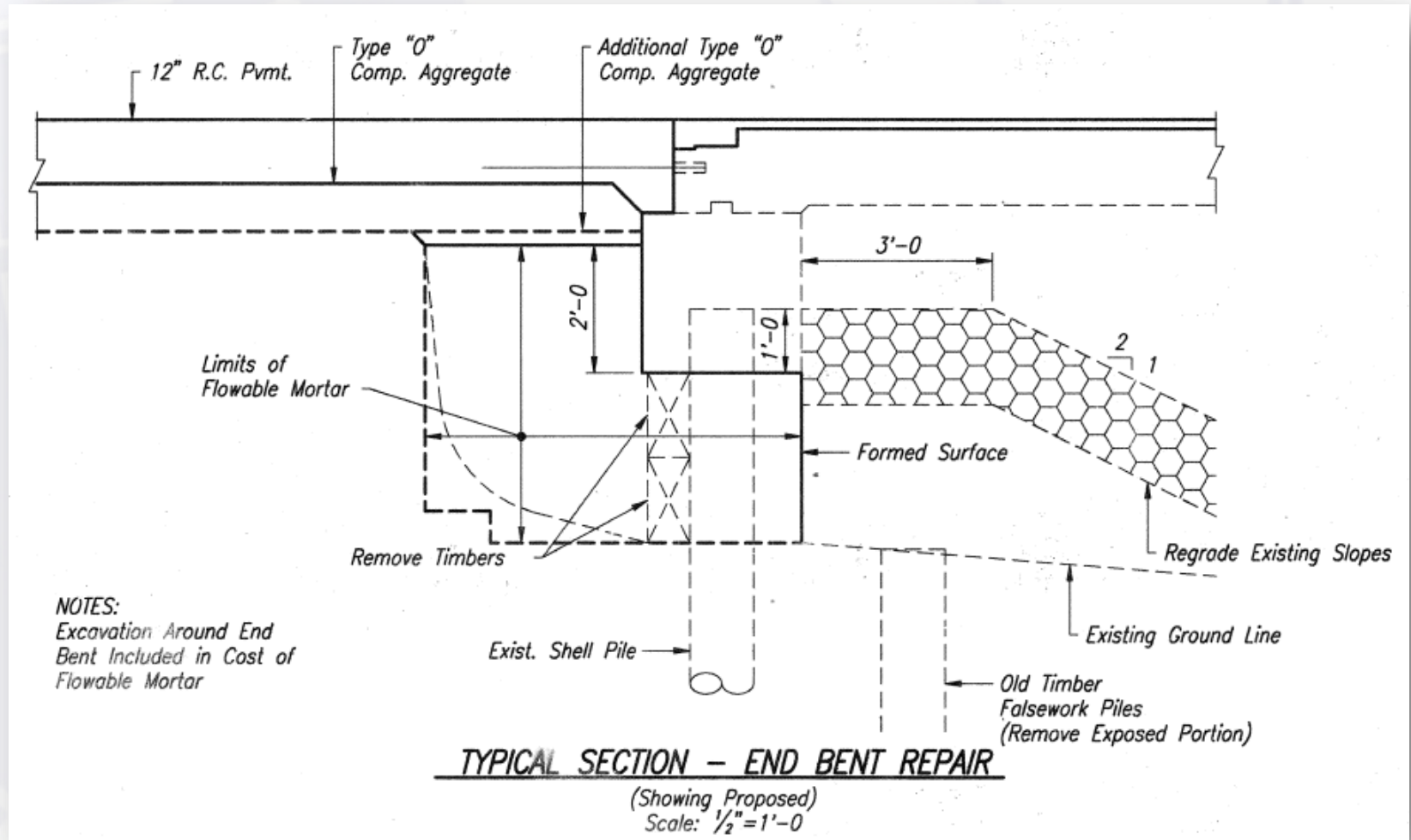


National Reactions

- 1988 National Bridge Scour Program initiated by FHWA
 - Policy applied to every bridge over a waterway (existing or under design)
 - Design for scour resistance
 - Evaluate existing bridges for scour vulnerability
 - Determine prudent measures to be taken
- 1989 Indiana Dept of Highways releases updated Hydraulics Manual
- Thru 1990's
 - Started process of evaluating every existing bridges
 - Prioritized by a risk-based approach and within rehab projects
 - Constant reminders to designers
 - Isolated issues throughout the state

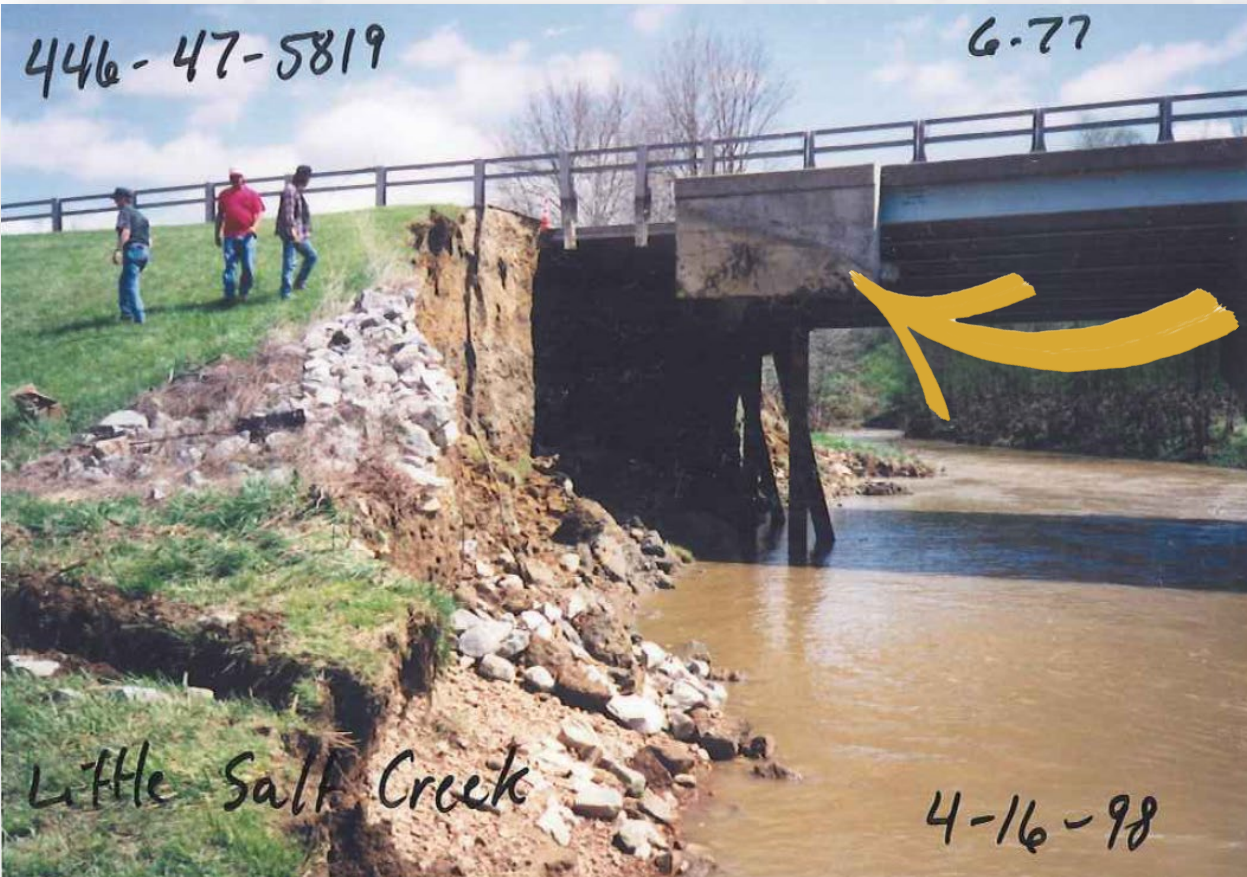
I-74 over Branch of Black Creek (1996)

- Thursday of Race Weekend
- Water Overtopped I-74 Westbound
- Exposed Abutment Piles
- Closed Interstate



SR 446 over Little Salt Creek (April 1998)

- Significant Spill-Slope Loss
- Unsupported 10" RCBA



SR 446 over Little Salt Creek (Repaired)



INDOT's Plan in Action

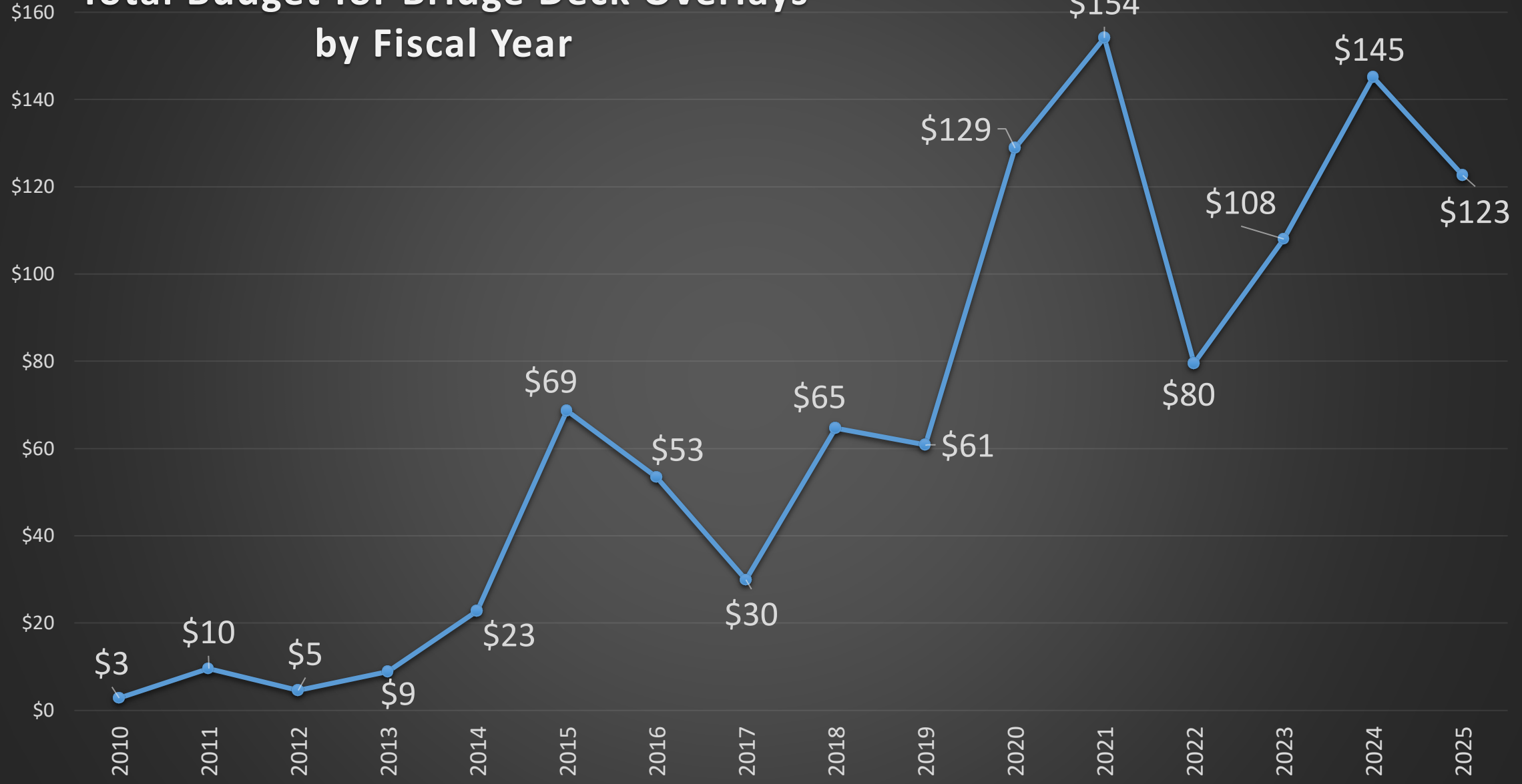
- New Bridges – Design for Scour
- 18,000 Existing Bridges in Indiana??
 - Scour Analysis for every bridge project
 - Hundreds of design projects and targeted scour analysis contracts

**ALMOST
THERE!**

- Meanwhile... Bridge Preventive Maintenance Program
 - Started in 2010's
 - Many new work types (joint replacements, polymeric overlays) w/ shorter design life's
 - Included existing work type: Rigid Overlays

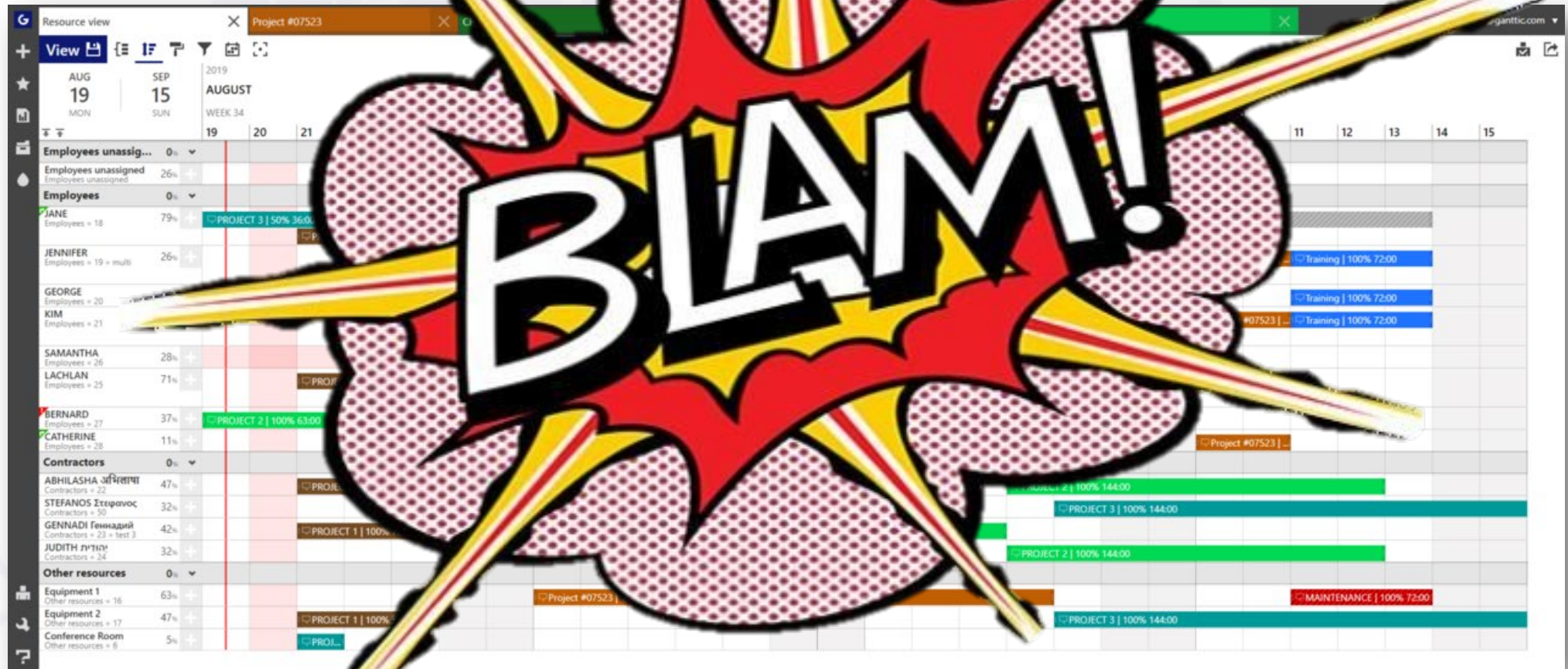
Total Budget for Bridge Deck Overlays by Fiscal Year

MILLIONS



Today

- Schedule surprises
 - Waterway Permits
 - R/W Acquisition



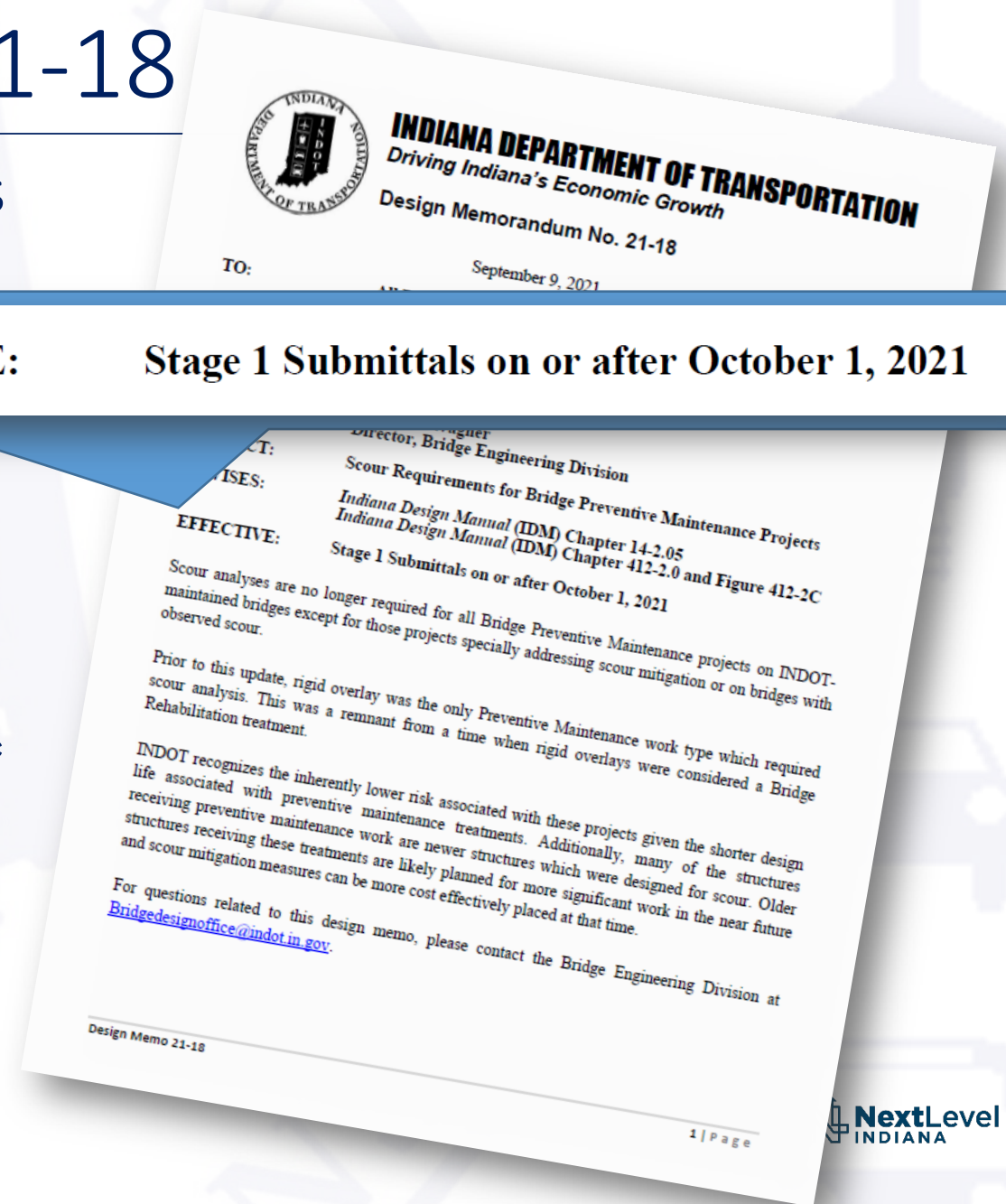
Design Memorandum No. 21-18

- Eliminates the scour analysis requirements for all PM projects
- Why?
 - Shorter design life (lower risk)
 - Newer structures designed for scour (TYP.)
 - Existing scour analysis for most bridges
- Exceptions
 - Bridges with Scour Analysis Status = 7 in BIAS*
 - Field observed scour must be addressed
 - Scour specific projects still require analysis

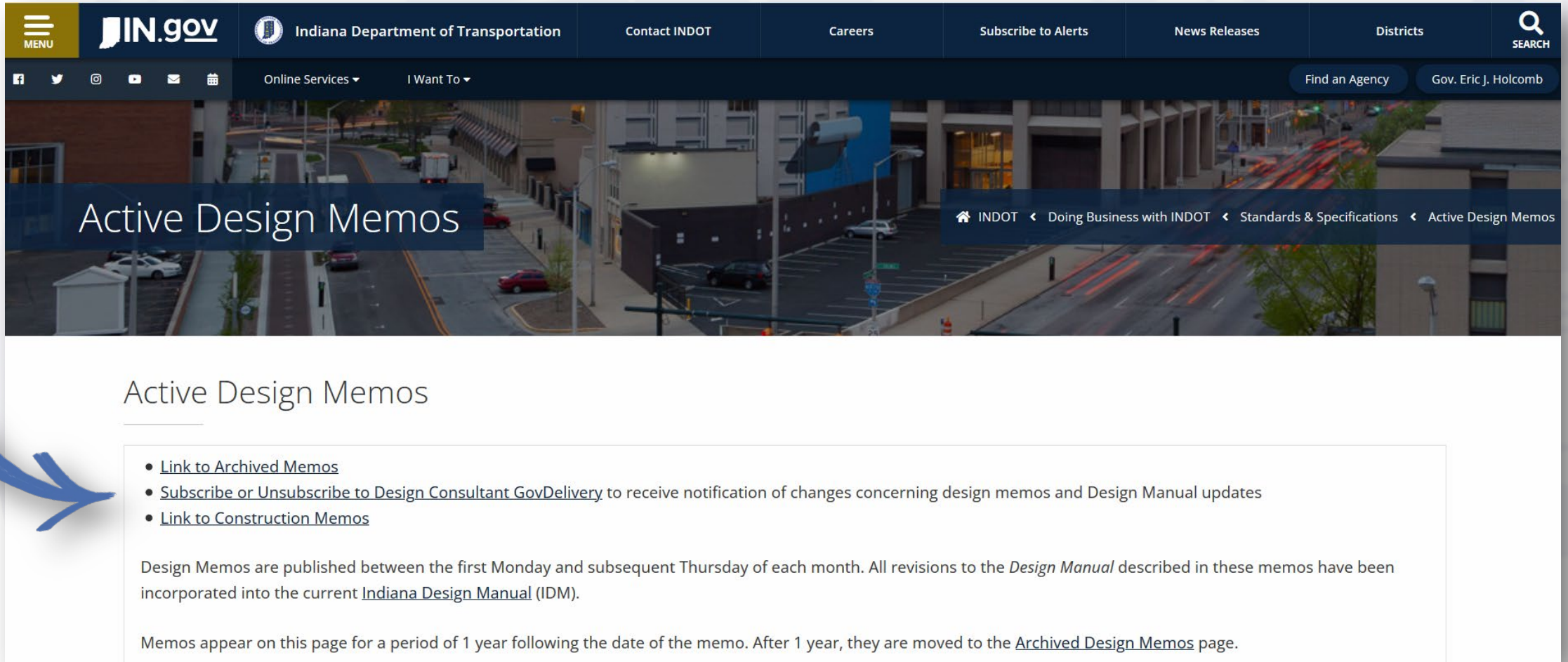
* Revision forthcoming

EFFECTIVE:

Stage 1 Submittals on or after October 1, 2021



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Online Services I Want To Find an Agency Gov. Eric J. Holcomb

Active Design Memos

INDOT < Doing Business with INDOT < Standards & Specifications < Active Design Memos

Active Design Memos

- [Link to Archived Memos](#)
- [Subscribe or Unsubscribe to Design Consultant GovDelivery](#) to receive notification of changes concerning design memos and Design Manual updates
- [Link to Construction Memos](#)

Design Memos are published between the first Monday and subsequent Thursday of each month. All revisions to the *Design Manual* described in these memos have been incorporated into the current [Indiana Design Manual \(IDM\)](#).

Memos appear on this page for a period of 1 year following the date of the memo. After 1 year, they are moved to the [Archived Design Memos](#) page.

Queue Seamless Transition...

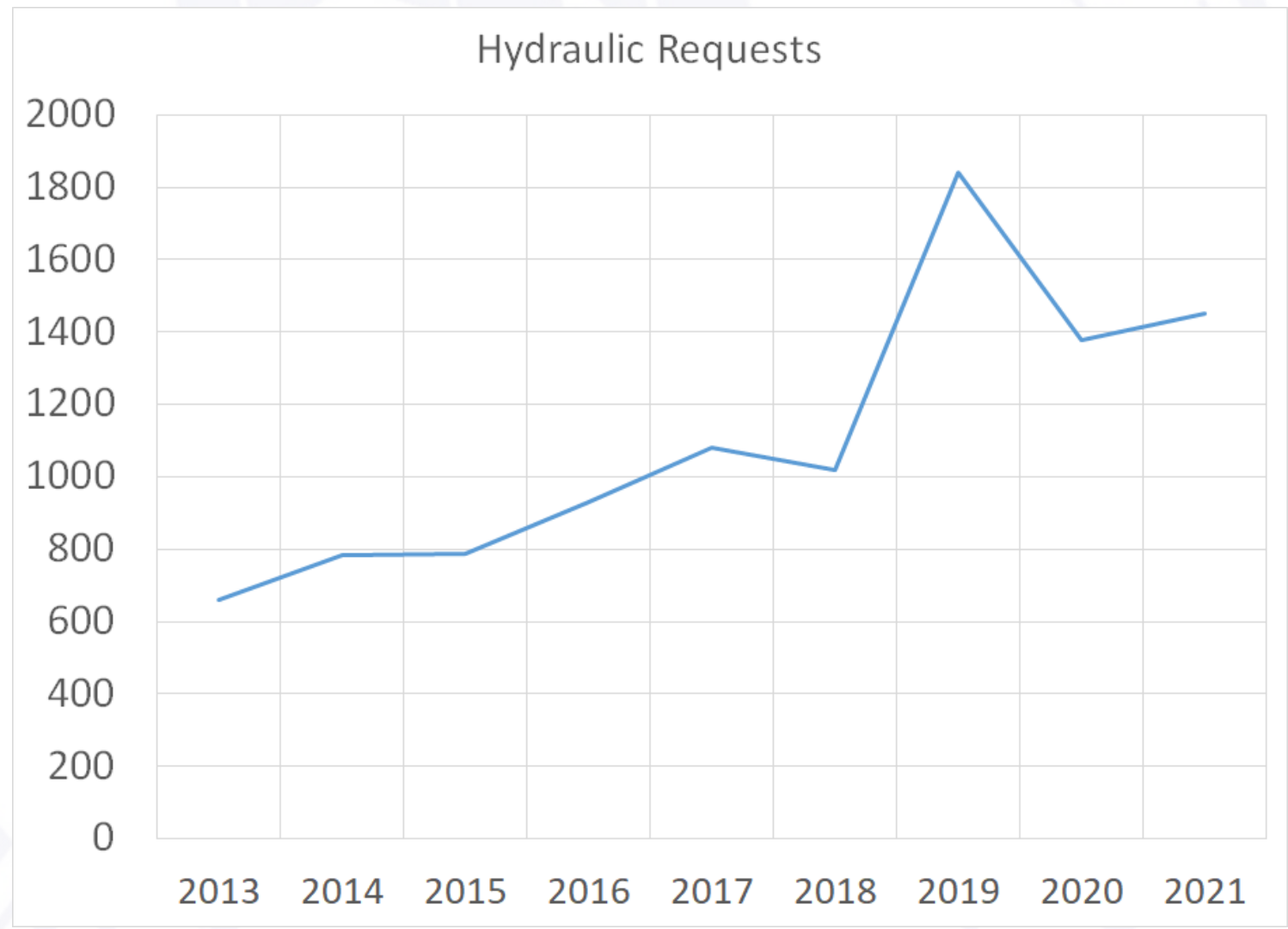


Hydraulics Process Modernization and Policy Updates

- Process Modernization
 1. Hydraulics Request Application (HRA)
 2. BIAS update
- Policy Updates
 1. Design Memo 21-18
 2. Design Memo 21-XX
 3. Indiana Design Manual re-write
 4. Prequalification

Hydraulics Request Application (HRA)

- Process Modernization
 - Why?

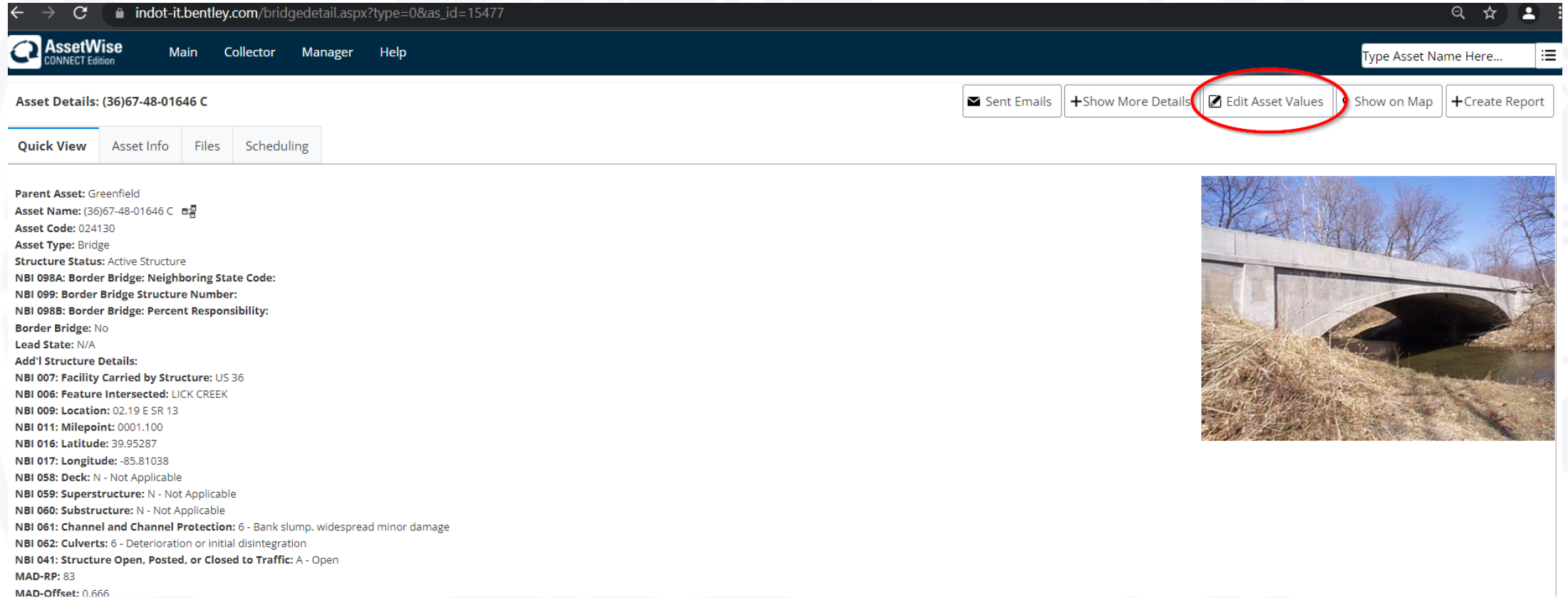


Hydraulics Request Application (HRA)

- History
 - One year of development time
 - Went live 3/26/2021 with a soft internal rollout
 - 6/29/2021 opened up for everyone – 4 ½ months
- As of 11/12/2021
 - 237 users
 - 38 firms
 - 1959 requests processed
 - 12,000 emails eliminated
 - At an average of 10 min. per request of time savings, 333 hours (so far)
 - On pace to more than pay for itself in 1 year
- Demo at the end of this presentation

BIAS update

- Hydraulic Scour Data

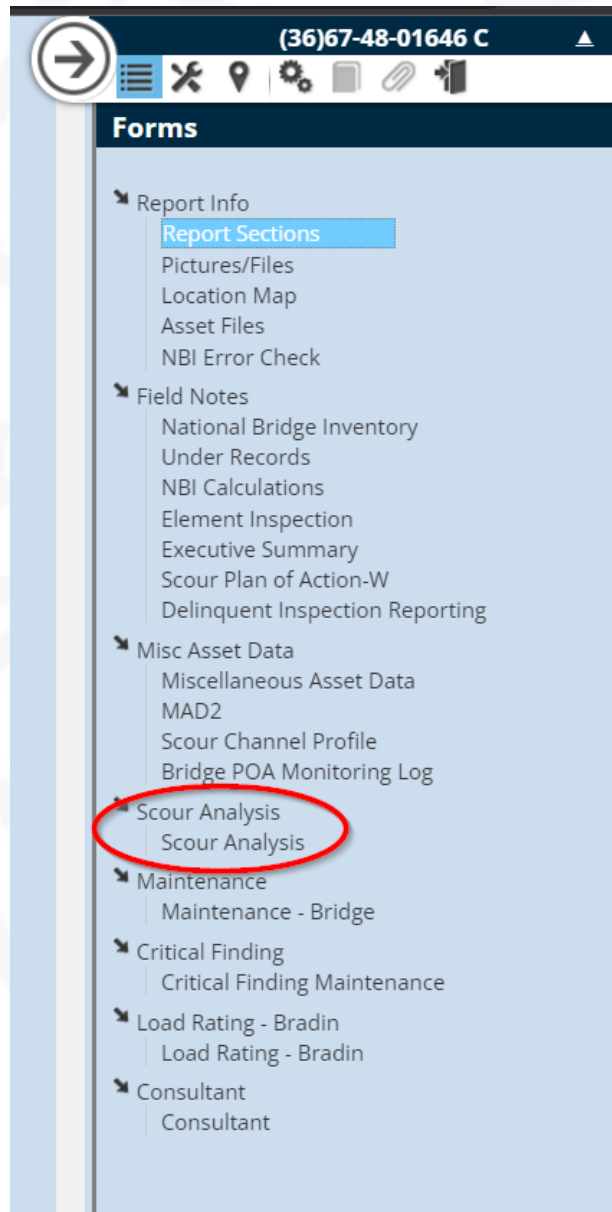


The screenshot shows the Bentley AssetWise web application interface. The browser address bar displays the URL: `indot-it.bentley.com/bridgedetail.aspx?type=0&as_id=15477`. The application header includes the Bentley logo, navigation links (Main, Collector, Manager, Help), and a search bar labeled "Type Asset Name Here...". Below the header, the page title is "Asset Details: (36)67-48-01646 C". A toolbar contains several buttons: "Sent Emails", "+ Show More Details", "Edit Asset Values" (highlighted with a red circle), "Show on Map", and "+ Create Report". The main content area is divided into tabs: "Quick View" (selected), "Asset Info", "Files", and "Scheduling". The "Quick View" tab displays a list of asset details:

- Parent Asset: Greenfield
- Asset Name: (36)67-48-01646 C
- Asset Code: 024130
- Asset Type: Bridge
- Structure Status: Active Structure
- NBI 098A: Border Bridge: Neighboring State Code:
- NBI 099: Border Bridge Structure Number:
- NBI 098B: Border Bridge: Percent Responsibility:
- Border Bridge: No
- Lead State: N/A
- Add'l Structure Details:
- NBI 007: Facility Carried by Structure: US 36
- NBI 006: Feature Intersected: LICK CREEK
- NBI 009: Location: 02.19 E SR 13
- NBI 011: Milepoint: 0001.100
- NBI 016: Latitude: 39.95287
- NBI 017: Longitude: -85.81038
- NBI 058: Deck: N - Not Applicable
- NBI 059: Superstructure: N - Not Applicable
- NBI 060: Substructure: N - Not Applicable
- NBI 061: Channel and Channel Protection: 6 - Bank slump, widespread minor damage
- NBI 062: Culverts: 6 - Deterioration or initial disintegration
- NBI 041: Structure Open, Posted, or Closed to Traffic: A - Open
- MAD-RP: 83
- MAD-Offset: 0.666

On the right side of the page, there is a photograph of a concrete bridge with a single arch spanning over a creek. The bridge is surrounded by trees and some brush.

BIAS update



(36)67-48-01646 C

Forms

- Report Info
 - Report Sections
 - Pictures/Files
 - Location Map
 - Asset Files
 - NBI Error Check
- Field Notes
 - National Bridge Inventory
 - Under Records
 - NBI Calculations
 - Element Inspection
 - Executive Summary
 - Scour Plan of Action-W
 - Delinquent Inspection Reporting
- Misc Asset Data
 - Miscellaneous Asset Data
 - MAD2
 - Scour Channel Profile
 - Bridge POA Monitoring Log
- Scour Analysis
 - Scour Analysis
- Maintenance
 - Maintenance - Bridge
- Critical Finding
 - Critical Finding Maintenance
- Load Rating - Bradin
 - Load Rating - Bradin
- Consultant
 - Consultant

BIAS update

National Bridge Inventory Scour Critical Bridge Appraisal

NBI 113: Scour Critical Bridges

NBI 113a Scour Critical Bridges Comments

Appears stable; no apparent scour issues.
Scour Channel Profile data in BIAS bridge file.

Scour Determination by Analysis (To Be Completed by Hydraulics)

Scour Analysis Status

Scour Analysis Date

Scour Analysis Determination

Hydraulics Comments

Scour Critical Follow-up Action by Bridge Inspection

Scour Critical Safety Status

Date of Counter Measure Placed or Field Verified

Bridge Inspection Comments

Scour Delineators installed

BIAS update

Scour Analysis Status **5-Scou** Scour Analysis Date

Hydraulics Comments

- 1-Scour Analysis on file
- 2-Scour POA on file
- 3-Scour Analysis is NOT on file, bridge should have been designed for scour

Scour Critical Follow

4-Scour Analysis is not on file, scour analysis being performed in house

Scour Critical Safety :

5-Scour Analysis not on file, scour analysis needed

Bridge Inspection Cor

6-Scour Analysis not needed. Structure type is not susceptible to scour

Scour Delineators ins

7-Bridge programmed to be rehabbed or replaced.



Policy Updates

- Design Memo 21-18 (Scour Requirements for Bridge Preventive Maintenance Projects)
 - Just covered by Stephanie



Policy Updates

- Design Memo 21-XX (Requiring all submittals to use the HRA starting on XX/XX)



Policy Updates

- Indiana Design Manual re-write
 - Updates to 202
 - Re-write of 203
 - Incorporating the developing design guidance from the hydraulics website
 - Clarifying some grey areas, plugging some holes
 - Taking a corridor wide design approach instead of individual design elements
 - Bridge
 - Small Structure
 - Storm Drains
 - Ditches
 - Detention



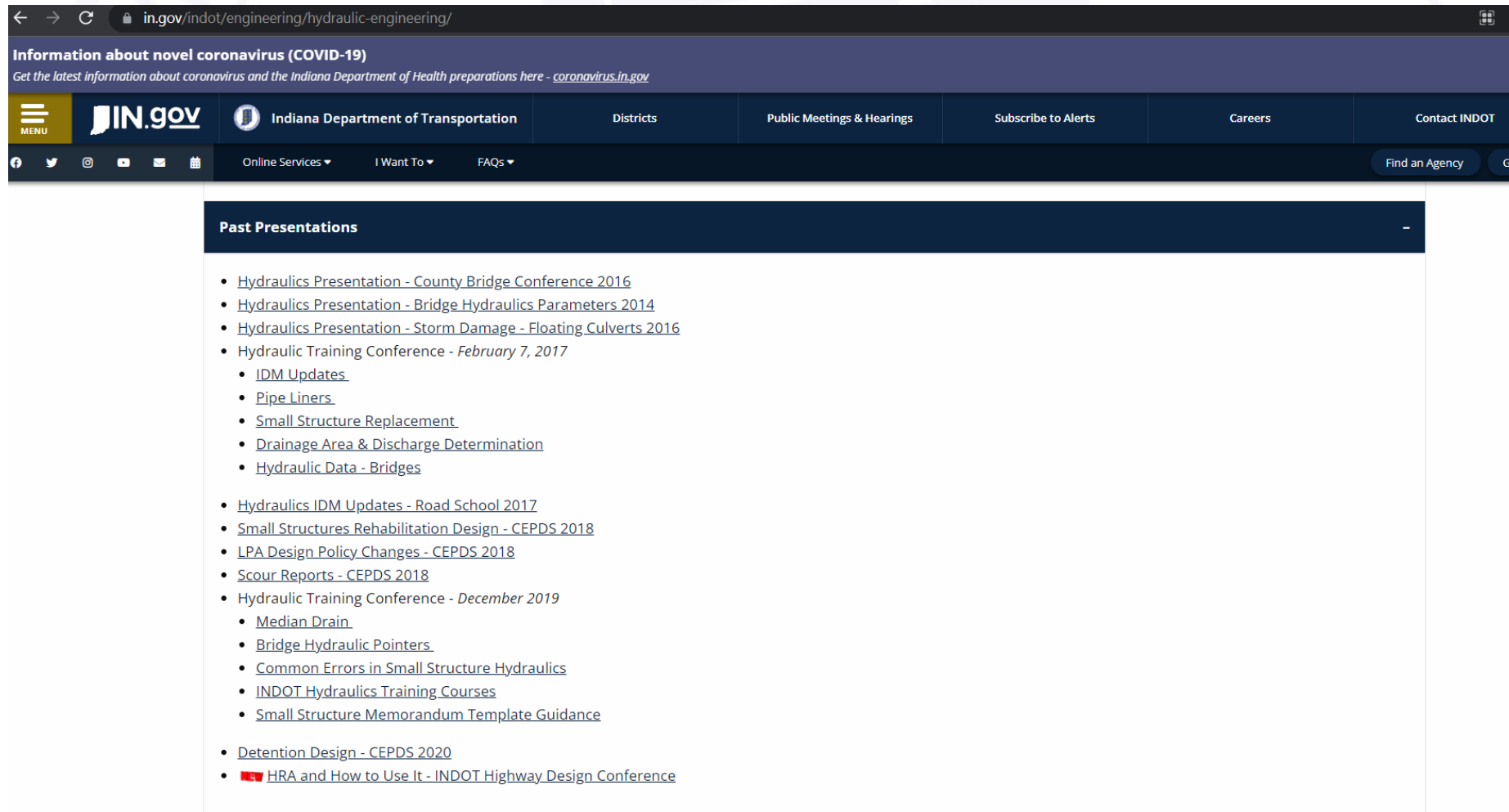
Policy Updates

- Prequalifications
 - Tracking resubmittals
 - Quantity and %



HRA Demonstration

- <https://www.in.gov/indot/engineering/hydraulic-engineering/>



The screenshot shows the Indiana Department of Transportation (INDOT) website. The browser address bar displays <https://www.in.gov/indot/engineering/hydraulic-engineering/>. The page features a dark blue header with the text "Information about novel coronavirus (COVID-19)" and a link to [coronavirus.in.gov](https://www.in.gov/coronavirus). Below the header is a navigation menu with the following items: "IN.gov", "Indiana Department of Transportation", "Districts", "Public Meetings & Hearings", "Subscribe to Alerts", "Careers", and "Contact INDOT". A secondary navigation bar includes "Online Services", "I Want To", "FAQs", "Find an Agency", and "Gov".

The main content area is titled "Past Presentations" and contains a list of links to various presentations and reports:

- [Hydraulics Presentation - County Bridge Conference 2016](#)
- [Hydraulics Presentation - Bridge Hydraulics Parameters 2014](#)
- [Hydraulics Presentation - Storm Damage - Floating Culverts 2016](#)
- [Hydraulic Training Conference - February 7, 2017](#)
 - [IDM Updates](#)
 - [Pipe Liners](#)
 - [Small Structure Replacement](#)
 - [Drainage Area & Discharge Determination](#)
 - [Hydraulic Data - Bridges](#)
- [Hydraulics IDM Updates - Road School 2017](#)
- [Small Structures Rehabilitation Design - CEPDS 2018](#)
- [LPA Design Policy Changes - CEPDS 2018](#)
- [Scour Reports - CEPDS 2018](#)
- [Hydraulic Training Conference - December 2019](#)
 - [Median Drain](#)
 - [Bridge Hydraulic Pointers](#)
 - [Common Errors in Small Structure Hydraulics](#)
 - [INDOT Hydraulics Training Courses](#)
 - [Small Structure Memorandum Template Guidance](#)
- [Detention Design - CEPDS 2020](#)
- [HRA and How to Use It - INDOT Highway Design Conference](#)



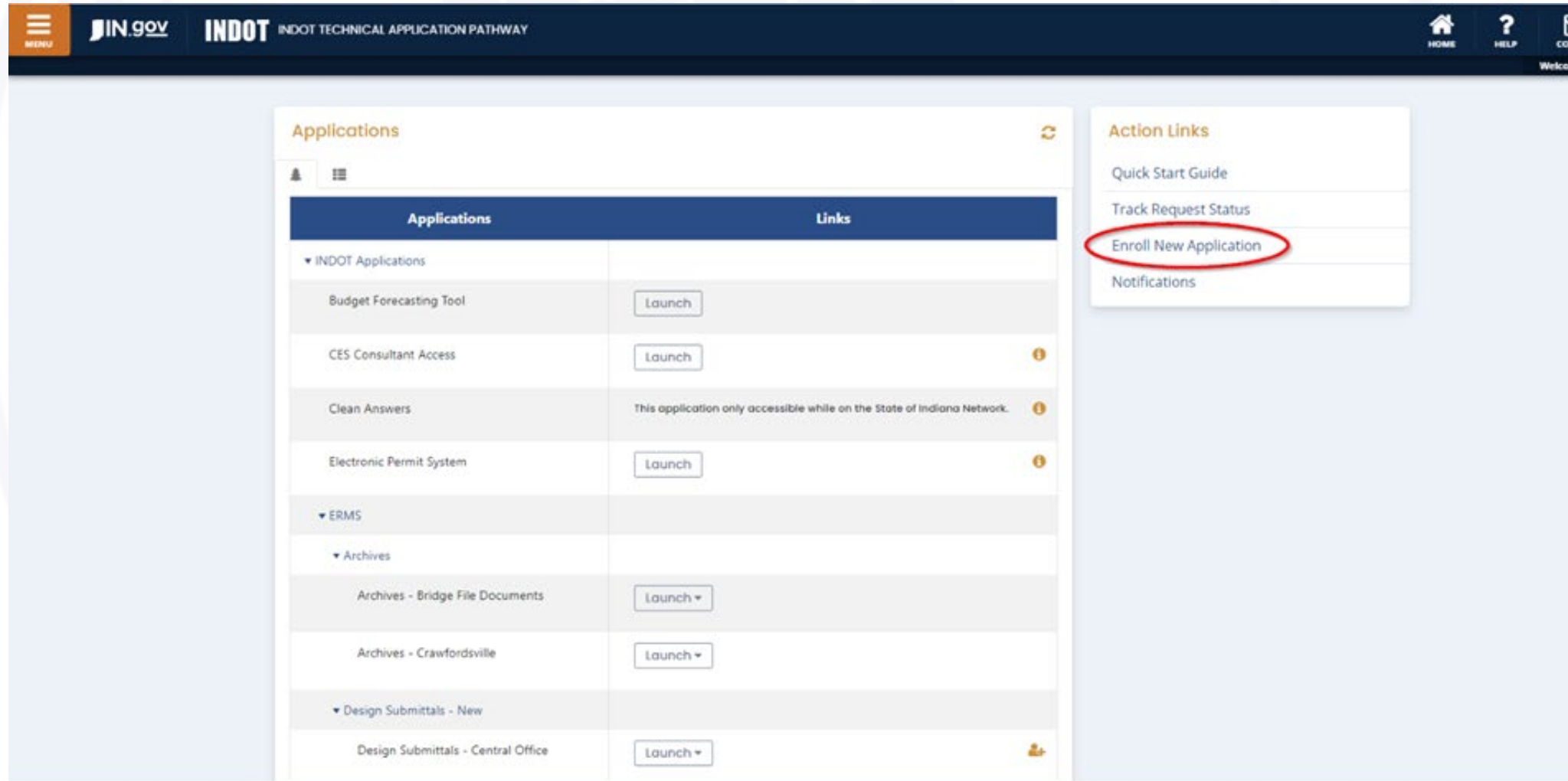
HRA Demonstration

1. Get access to the application!



HRA Demonstration

- <https://itap.indot.in.gov/>.
- Click **Enroll New Application**



The screenshot displays the INDOT Technical Application Pathway web application. The header includes the IN.gov logo, the INDOT logo, and the text 'INDOT TECHNICAL APPLICATION PATHWAY'. The main content area is divided into two sections: 'Applications' and 'Action Links'.

The 'Applications' section contains a table with the following data:









Applications	Links
▼ INDOT Applications	
Budget Forecasting Tool	Launch
CES Consultant Access	Launch
Clean Answers	This application only accessible while on the State of Indiana Network.
Electronic Permit System	Launch
▼ ERMS	
▼ Archives	
Archives - Bridge File Documents	Launch
Archives - Crawfordsville	Launch
▼ Design Submittals - New	
Design Submittals - Central Office	Launch

The 'Action Links' section contains the following links:

- Quick Start Guide
- Track Request Status
- Enroll New Application** (circled in red)
- Notifications



HRA Demonstration

▼ Human Resources	
Bonus Automation System	Launch 
Employee Development Training Admin	Launch 
Employee Development Training Request	Launch 
HR Organizational Charts	Launch 
Hydraulics Request Application	Launch 
PathWeb	Launch 
PayWise	Launch  
- Professional Services Contracting System	



HRA Demonstration

- What role to you need to request?

Home » Applications » Hydraulics Request Application

Application Users **Application Roles**

Roles Active Application Roles

[+ Add New](#) [Excel Export](#)

	Role	Description	Auto Assign	Mai... Exte...	Allow Registration	Status Date
	HRA Bridge QA	HRA Bridge QA Role	Not Auto-Assigned	No	Internal, External (excl. An...	Active 3/25/2021
	HRA QA	HRA QA Activity Role	Not Auto-Assigned	No	Internal, External (excl. An...	Active 3/25/2021
	HRA Reviewer	HRA Read-only Reviewer	Not Auto-Assigned	No	Internal, External (excl. An...	Active 3/25/2021
	HRA Requester	HRA Requester	Not Auto-Assigned	No	Internal, External (excl. An...	Active 3/25/2021
	HRA Engineer	HRA Enigneer	Not Auto-Assigned	No	Internal, External (excl. An...	Active 3/25/2021
	Administrator	Administrator	Not Auto-Assigned	No	Internal, External (excl. An...	Active 3/25/2021

Page 1 of 1 10 items per page 1 - 6 of 6 items

HRA Demonstration

hra.indot.in.gov/Dashboard

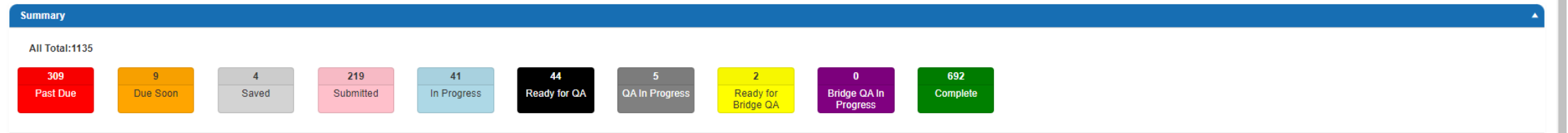
INDOT Hydraulics Request Application

HOME SEARCH ADMIN LOGOUT

Welcome Mark Bailey

Announcements (1)

* Hydraulic reviews for standard priority projects are currently running 3 to 4 weeks behind schedule. We apologize for the inconvenience and are doing everything that we can to get back on schedule.



My Tasks All Tasks

Include Completed Requests

	Requ... ID	Created By	Created User Organizat...	Route Name	Asset #	New Undocumented Asset #	Des #	INDOT Project Mana...	Is Survey Need...	Assigned To	Requ... Type	Design Review	Sub Type	Created Date	Due Date	Status
	1	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	I465-165-10518 B		1900758	Shattuck, Brian	No		Bridge	Review	Replacement only	03/29/2021	04/02/2021 -228 day(s)	Cancelled
	22	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	I465-165-10518 B		1900758	Shattuck, Brian	No	Schmidt, William	Bridge	Review	Replacement only	03/29/2021	04/05/2021 -225 day(s)	Approved
	63	Bailey, Mark	INDOT - Hydraulics Engineer	I69	037-49-10555 NBL		1901721	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Replacement only	03/31/2021	04/06/2021 -224 day(s)	Approved
	101	Bailey, Mark	INDOT - Hydraulics Engineer	PR 69	I465-159-10580		1801695	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Replacement only	04/05/2021	04/09/2021 -221 day(s)	Approved
	2	System, HRA	System Users	SR 64		T0000148322			No	Dougherty, Merril	Permit			03/29/2021	04/12/2021 -217 day(s)	Approved
	21	System, HRA	System Users	SR 48		T0000147523			No	Dougherty, Merril	Permit			03/29/2021	04/12/2021 -217 day(s)	Approved

HRA Demonstration

hra.indot.in.gov/Dashboard

IN.GOV **INDOT** Hydraulics Request Application

HOME SEARCH ADMIN LOGOUT

Welcome Mark Bailey



My Tasks All Tasks

Include Completed Requests

	Req... ID	Created By	Created User Organi...	Route Name	Asset #	New Undocumented Asset #	Des #	IND... Proj... Ma...	Is Sur... Nee...	Assigned To	Req... Type	Des... Rev...	Sub Type	Created Date	Due D
	1	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	I465-165-10518 B		1900758	Shattuck, Brian	No		Bridge	Review	Replace... only	03/29/2021	04/0... -76
	22	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	I465-165-10518 B		1900758	Shattuck, Brian	No	Schmidt, William	Bridge	Review	Replace... only	03/29/2021	04/0... -73
	63	Bailey, Mark	INDOT - Hydraulics Engineer	I69	037-49-10555 NBL		1901721	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Replace... only	03/31/2021	04/0... -72
	101	Bailey, Mark	INDOT - Hydraulics Engineer	PR 69	I465-159-10580		1801695	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Replace... only	04/05/2021	04/0... -69
	2	System, HRA	System Users	SR 64		T0000148322			No	Dougherty, Merrill	Permit			03/29/2021	04/1... -66
	21	System, HRA	System Users	SR 48		T0000147523			No	Dougherty, Merrill	Permit			03/29/2021	04/1... -66

HRA Demonstration

Summary

All Total:317



My Tasks All Tasks

Include Completed Requests

	Req... ID	Created By	Created User Organi...	Route Name	Asset #	New Undocumented Asset #	Des #	IND... Proj... Ma...	Is Sur... Nee...	Assigned To	Req... Type	Des... Rev...	Sub Type	Created Date	Due D
	44	Cox, Tony	INDOT - Hydraulics Engineer			CLV 149-064-4.44			No	Froman, Meagan	Small Structure	Review	Replace... only	03/30/2021	05/1... -34
	166	Schmidt, William	INDOT - Hydraulics Engineer			CLV-23961	1900215	Hockaday, Jacqueline	No	Froman, Meagan	Small Structure	Review	Replace... only	04/09/2021	05/2... -24
	285	Dougherty, Merrill	INDOT - Hydraulics Engineer			CLV-23857	1900188	Hockaday, Jacqueline	No	Froman, Meagan	Small Structure	Review	Replace... only	04/20/2021	06/0... -13
	286	Dougherty, Merrill	INDOT - Hydraulics Engineer		CV 014-066-51.24		1800182	Thomas, Amber	No	Froman, Meagan	Small Structure	Review	Replace... only	04/20/2021	06/0... -13
	325	Dougherty, Merrill	INDOT - Hydraulics Engineer		CV 135-041-129.45		1801028	Schneider, Chase	No	Boehm, James	Small Structure	Review	Replace... only	04/23/2021	06/0... -10

HRA Demonstration

My Tasks All Tasks

Include Completed Requests

Request ID	Created By	Created User Organizat...	Route Name	Asset #	New Undocumented Asset #	Des #	INDOT Project Mana...	Is Survey Need...	Assigned To	Request Type	Design Review	
1	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	1465-165-10518 B		1900758	Shattuck, Brian	No		Bridge	Review	Req only
22	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	1465-165-10518 B		1900758	Shattuck, Brian	No	Schmidt, William	Bridge	Review	Req only
63	Bailey, Mark	INDOT - Hydraulics Engineer	I69	037-49-10555 NBL		1901721	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Req only
101	Bailey, Mark	INDOT - Hydraulics Engineer	PR 69	1465-159-10580		1801695	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Req only

HRA Demonstration

Asset Details: (I465)31-49-04449 B

Sent Emails Show More Details Edit Asset Values Show on Map Create Report

Quick View Asset Info Files Scheduling

Parent Asset: Greenfield

Asset Name: (I465)31-49-04449 B

Asset Code: 051160

Asset Type: Bridge

Structure Status: Active Structure

NBI 098A: Border Bridge: Neighboring State Code:

NBI 099: Border Bridge Structure Number:

NBI 098B: Border Bridge: Percent Responsibility:

Border Bridge: No

Lead State: N/A

Add'l Structure Details:

NBI 007: Facility Carried by Structure: US 31 NB RAMP

NBI 006: Feature Intersected: I-465 EB, LICK CREEK

NBI 009: Location: 00.10 E US 31

NBI 011: Milepoint: 0002.100

NBI 016: Latitude: 39.69866

NBI 017: Longitude: -86.14725

NBI 058: Deck: 6 - Satisfactory Condition (minor deterioration)

NBI 059: Superstructure: 7 - Good Condition (some minor problems)

NBI 060: Substructure: 6 - Satisfactory Condition (minor deterioration)

NBI 061: Channel and Channel Protection: 6 - Bank slump, widespread minor damage

NBI 062: Culverts: N - Not Applicable

NBI 041: Structure Open, Posted, or Closed to Traffic: A - Open

MAD-RP: 2

MAD-Offset: 0.085

Open Reports

No open reports found for this asset

Scheduling



HRA Demonstration



Asset Details: CV 001-015-00.11

- Sent Emails
- Show More Details
- Edit Asset Values
- Show on Map
- Create Report

Quick View Asset Info Files Scheduling

Parent Asset: 05 Culverts
Asset Name: CV 001-015-00.11
Asset Code: 93005152
Asset Type: Culvert
Structure Status: Active Structure
NBI 007: Facility Carried by Structure: SR 1
NBI 006: Feature Intersected:
NBI 009: Location: SR 1 0.11 N US 50
NBI 011: Milepoint: 0.11
NBI 016: Latitude: 39.12449
NBI 017: Longitude: -84.84866
NBI 059: Superstructure: N - Not Applicable
NBI 060: Substructure: N - Not Applicable
NBI 062: Culverts: 7 - Shrinkage cracks, light scaling
MAD-RP: 00
MAD-Offset: 11



Open Reports
No open reports found for this asset

Scheduling

Inspection Type	Frequency	Last Inspection Date	Due Date	Schedule Date	User Assigned	Comments	Ongoing
Culvert	60 Months	02/12/2018	February 2026	02/12/2026			

HRA Demonstration

The screenshot displays the 'Bridge and Drainage Assets Viewer' interface. The map shows several assets including 'IN-37-BR W', 'IN-46 W', 'IN-37-BR W', and 'IN-37-BR E'. A blue dot on the 'IN-37-BR W' asset is connected to a pop-up information window. The window title is 'Culvert Small: CLV-54176'. The 'Asset Name' field is highlighted with a red box and contains the text 'CLV-54176 (human readable)'. Other fields in the window include 'Last Edit operation: New', 'Vendor Status: Collected', 'Indot Status: Candidate for review', 'Date installed: 12/31/1899', 'Flow Direction: From - To', 'Upstream Material: Steel', and 'Upstream Coating: N/A'. A 'Zoom to' button is located at the bottom of the window.

Field	Value
Asset Name (human readable)	CLV-54176
Last Edit operation	New
Vendor Status	Collected
Indot Status	Candidate for review
Date installed	12/31/1899
Flow Direction	From - To
Upstream Material	Steel
Upstream Coating	N/A

HRA Demonstration

IN.GOV **INDOT** Hydraulics Request Application

HOME SEARCH ADMIN LOGOUT Welcome Mark Bailey













Summary

All Total: 319

- 25 Past Due
- 1 Due Soon
- 19 Saved
- 51 Submitted
- 37 In Progress
- 1 Ready for QA
- 5 QA In Progress
- 0 Ready for Bridge QA
- 0 Bridge QA In Progress
- 152 Complete

My Tasks All Tasks

Include Completed Requests

	Req...	Created By	Created User Organiz...	Route Name	Asset #	New Undocumented Asset #	Des #	INDOT Proj... Man...	Is Survey Nee...	Assigned To	Req... Type	Design Revi...	Sub Type	Created Date	Due Date	Status
  	1	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	I465-165-10518 B		1900758	Shattuck, Brian	No		Bridge	Review	Replacem... only	03/29/2021	04/02/2021 -77 day(s)	Cancelled
  	22	Bailey, Mark	INDOT - Hydraulics Engineer	I-465	I465-165-10518 B		1900758	Shattuck, Brian	No	Schmidt, William	Bridge	Review	Replacem... only	03/29/2021	04/05/2021 -74 day(s)	Approved
  	63	Bailey, Mark	INDOT - Hydraulics Engineer	I69	037-49-10555 NBL		1901721	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Replacem... only	03/31/2021	04/06/2021 -73 day(s)	Approved
  	101	Bailey, Mark	INDOT - Hydraulics Engineer	PR 69	I465-159-10580		1801695	Pangallo, Andrew	No	Schmidt, William	Bridge	Review	Replacem... only	04/05/2021	04/09/2021 -70 day(s)	Approved


HRA Demonstration





INDOT Hydraulics Request Application

8 Saved | 51 Submitted | 2 In Progress | 0 Ready for QA | 0 QA In Progress

Created By	Created By Organization	Route Name	Asset #	New Undocu... Asset #	De
horst, ca	HNTB Indiana, Inc.	I-70/I-65	1600808-8	1600808-8	1600
horst, ca	HNTB Indiana, Inc.	I-70/I-65		1600808-123-D	1600





HRA Demonstration

 MENU

 HOME
  SEARCH
  ADMIN
  LOGOUT

IN.gov INDOT Hydraulics Request Application

Asset #
Des #
Route

Request Types

[Select All](#) [Clear All](#)

Bridge
 LPA
 Road: Storm Sewer or Detention

Drainage Complaint
 Permit
 Small Structure

Request Status

[Select All](#) [Clear All](#)

Approved
 Deleted
 QA In Progress
 Resubmit

Bridge QA In Progress
 Designed
 Ready for Bridge QA
 Saved

Cancelled
 In Progress
 Ready for QA
 Submitted

Is On Hold

District

[Select All](#) [Clear All](#)

Crawfordsville
 Greenfield
 Seymour


Fort Wayne
 LaPorte
 Vincennes

Requested By

Assigned To

Date Range

Search Results: Applications (0)

	Req... ID	Created By	Created User Organi...	Route Name	Asset #	New Undoc... Asset #	Des #	Is Sur... Nee...	Assigned To	Req... Type	Sub Type	Created Date
---	-----------	------------	------------------------	------------	---------	----------------------	-------	------------------	-------------	-------------	----------	--------------

Page of
10 items per page

HRA Demonstration

IN.GOV **INDOT** Hydraulics Request Application

HOME SEARCH ADMIN LOGOUT Welcome Mark Bailey

Asset # Des # Route

Request Types
Request Status
District
Requested By
Assigned To
Date Range

Enter User Name(s)

Request Created Date From To
Request Submitted Date From To
Request Completed Date From To

Search Results: Applications (0)

Req... ID	Created By	Created User Organi...	Route Name	Asset #	New Undoc... Asset #	Des #	Is Sur... Nee...	Assigned To	Req... Type	Sub Type	Created Date
-----------	------------	------------------------	------------	---------	----------------------	-------	------------------	-------------	-------------	----------	--------------

Page of 0 items per page



HRA Demonstration



HRA Demonstration

Summary

















Total:48

21 Past Due	0 Due Soon	8 Submitted	6 In Progress	1 Ready for QA	3 QA In Progress	0 Ready for Bridge QA	0 Bridge QA In Progress	30 Complete
----------------	---------------	----------------	------------------	-------------------	---------------------	--------------------------	----------------------------	----------------

My Tools

[+ New Request](#)

Include Completed Requests

	Request ID	Created By	Created User Organization	Route Name	Asset #	New Undocume... Asset #	Des #	INDOT Project Manager	Is Survey Needed?	Re
   	3	Bracamontes, David	INDOT - Technical Services 3		CV 032-048-095.98, CV I465-049-44.50	CLV 002-064-43.62			Yes	Sma
   	264	System, HRA	System Users	Route 53		TAB114234			No	Pen
   	44	Boehm, James	INDOT - Hydraulics Engineer			I-65 CLV 28190			No	Sma
   	90	Bracamontes, David	INDOT - Technical Services 3		033-20-02765				No	Brid



HRA Demonstration

Create Hydraulics Request

Request Type

* Fields with this color background

CLV 014-086-49.46 1800

- Bridge
- Drainage Complaint
- LPA
- Road: Storm Sewer or Detention
- Small Structure

Cancel





HRA Demonstration

Create Hydraulics Request

Request Type: Small Structure

Design or Review: [Dropdown]

* Fields with this color background

Design

Review

Cancel

HRA Demonstration

Create Hydraulics Request [X]

Request Type

Design or Review

* Fields with this color background are required

1600808-123-S | 1600808 | Shattuck Brian No | Emerick James

HRA Demonstration

hradev.indot.in.gov/Hydraulics/Home/RatingRequest/1069

Saved > Submitted > In Progress > Ready for QA > QA In Progress > Completed

Request Information

Request Type	Small Structure
Design Review	Review
Sub Type	<input type="text" value=""/> Rehab and replacement options Replacement only Other
Standard Priority Due Date	
Due Date Shorter Or Longer Than 45 Days?	
Is Resubmittal?	

Request Determination

+ New Small Structure

HRA Demonstration

hradev.indot.in.gov/Hydraulics/Home/RatingRequest/1069

Progress: **Saved** > Submitted > In Progress > Ready for QA > QA In Progress > Completed

Request Information

Request Type	Small Structure
Design Review	Review
Sub Type	Rehab and replacement options
Standard Priority Due Date	12/30/2021
Due Date Shorter Or Longer Than 45 Days?	<input type="checkbox"/>
Is Resubmittal?	No

Request Determination

+ New Small Structure

Small Structure List

HRA Demonstration

hradev.indot.in.gov/Hydraulics/Home/RatingRequest/1069

Progress: **Saved** > Submitted > In Progress > Ready for QA > QA In Progress > Completed

Request Information

Request Type	Small Structure	Cre
Design Review	Review	Cre
Sub Type	Rehab and replacement options	Cre
Standard Priority Due Date	12/30/2021	Sul
Due Date Shorter Or Longer Than 45 Days?	<input checked="" type="checkbox"/>	
Alternative Due Date	12/30/2021	
Reason	My projects schedule was just moved up to this fiscal year!	
Is Resubmittal?	No	

HRA Demonstration

hradev.indot.in.gov/Hydraulics/Home/RatingRequest/1069

Saved Submitted In Progress Ready for QA QA In Progress Completed

Request Information

Request Type	Small Structure	Created By
Design Review	Review	Created User Organization
Sub Type	Rehab and replacement options	Created Date
Standard Priority Due Date	12/30/2021	Submitted Date
Due Date Shorter Or Longer Than 45 Days?	<input checked="" type="checkbox"/>	
Alternative Due Date	12/30/2021	
Reason	My projects schedule was just moved up to this fiscal year!	
Is Resubmittal?	No	

Request Determination

+ New Small Structure

Small Structure List

Asset #	New Undocume... Asset #	Des #	INDOT Proj... Man...	Route Name	District	County
---------	-------------------------	-------	----------------------	------------	----------	--------

Page 0 of 0 10 items per page

Save For Later Submit Request Cancel Request



HRA Demonstration

Create Small Structure [Close]

Asset # or Des # [Dropdown]

* Fields with this color background [Orange bar]

Asset #
Des #

[Create] [Cancel]





HRA Demonstration

Create Small Structure [X]

Asset # or Des # Des # [v]

Des # 1900 [x]

* Fields with this color background

- 1900003
- 1900004
- 1900005
- 1900006
- 1900007
- 1900008
- 1900009
- 1900010
- 1900011

[Cancel]



HRA Demonstration

Create Small Structure ✕

Asset # or Des #	Des #
Des #	1900003

* Fields with this color background are required

HRA Demonstration

Date :06/21/2021

INDOT FULL PROJECT LISTING

DES #: 1900003

CONTRACT #: R 43595

LEAD: 1900003

ORIGIN #: 1900003

LETTING DATE: 01/19/2023

CONTRACT AWARD DATE:

FCR COMPLETE DATE:

FEDERAL PLACE CODE:

PROGRAM CLASS: Normal Project

SPECIAL FUND CATEGORY:

URBANIZED AREA: Not Applicable

ADDL'L ELEMENTS:

ROUTE #: US - 52

SPONSORED BY: Indiana Department of Transportation

LOCATION: Intersection of US 52 and Holland Rd, 3.1 miles E of SR 252

MANAGED BY: Seymour District

WORK TYPE: Intersect. Improv. W/ Added Turn Lanes

FHWA OVERSIGHT/PODI: Assumed/State Administered

WORK CATEGORY: District Intersection Improvement Project

WORK ZONE IMPACT:

LPA DESIGNED CERTIFIED:

DS DESIGNER: Consultant State - On Call

ALTERNATE BID:

ROUTE TRANSFER:

FROM RP: 158 + 5

TO RP: 158 + 31

TRANSFER CODE:

LON: -84 58 50.0408

LAT: 39 23 9.9753

TRANSFER TYPE:

ASSET GROUP: District Discretionary

PROGRAM YEAR: 2023

SCORE:




BRIDGE/CULVERT INFORMATION

HRA Demonstration

Request Determination

+ New Small Structure

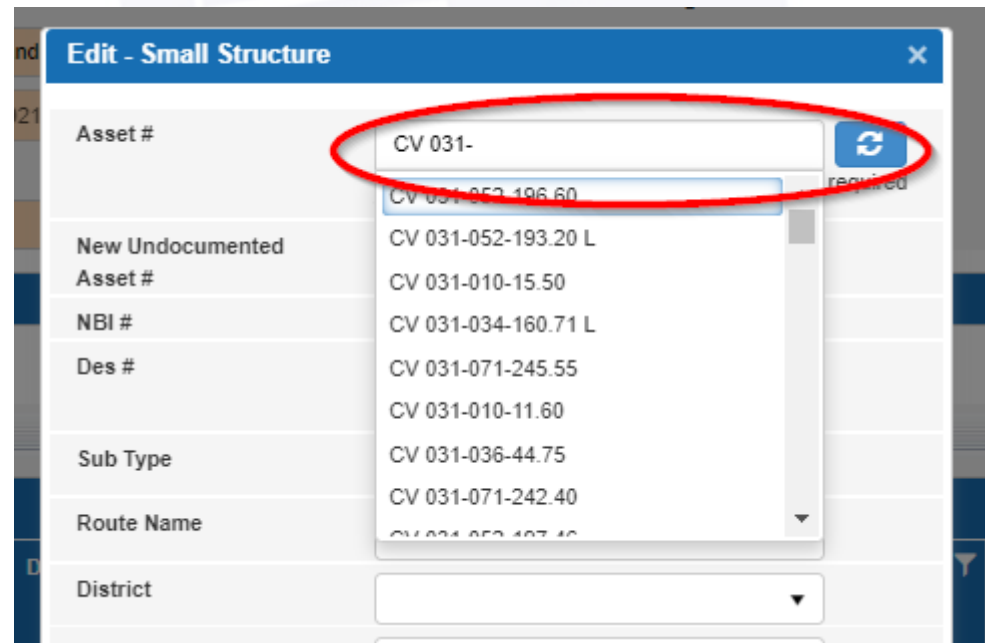
Small Structure List

	Asset #	New Undocume... Asset #	Des #	INDOT Proj... Man...	Sub Type	Route Name	District
  			1900003	Metcalf, Karlei		US 52	340

Page 1 of 1 10 items per page

Save For Later Submit Request Cancel Request

HRA Demonstration




The screenshot shows a software interface window titled "Edit - Small Structure". The window contains several input fields. The "Asset #" field is currently selected, and a dropdown menu is open, displaying a list of asset numbers. The first item in the list, "CV 031-", is circled in red. Other items in the list include "CV 031-052-196.60", "CV 031-052-193.20 L", "CV 031-010-15.50", "CV 031-034-160.71 L", "CV 031-071-245.55", "CV 031-010-11.60", "CV 031-036-44.75", "CV 031-071-242.40", and "CV 031-052-197.40". A blue refresh icon is visible to the right of the dropdown menu.

Field	Value
Asset #	CV 031-
New Undocumented Asset #	CV 031-052-193.20 L
NBI #	CV 031-010-15.50
Des #	CV 031-034-160.71 L
Sub Type	CV 031-071-245.55
Route Name	CV 031-010-11.60
District	CV 031-036-44.75

HRA Demonstration

Edit - Small Structure

Asset # 

Note: Asset # or New Undocumented Asset# is required for document attachments.

New Undocumented Asset #

NBI #

Des # 1900003
[SPMS DES Full Project Listing](#)

Route Name

District

County

Location

Latitude

Longitude

Source Text

Reference Post

Reference Post Offset

Stream Name

INDOT Project Manager Metcalf, Karlei

Is There Known Overtopping Or Erosion?

* Fields with this color background are required



HRA Demonstration



HRA Demonstration

hradev.indot.in.gov/Hydraulics/Home/RatingRequest/1069

Request Information

Request Type	Small Structure	Created By	Bailey, Mark
Design Review	Review	Created User Organization	INDOT - Hydraulics E
Sub Type	Rehab and replacement options	Created Date	11/15/2021 01:49:29
Standard Priority Due Date	12/30/2021	Submitted Date	
Due Date Shorter Or Longer Than 45 Days?	<input checked="" type="checkbox"/>		
Alternative Due Date	12/01/2021		
Reason	My project was moved into this fiscal year		
Is Resubmittal?	No		

Request Determination

+ New Small Structure

Small Structure List

Asset #	New Undocume... Asset #	Des #	INDOT Proj... Man...	Route Name	District	County	Refe... Post	Refe... Post Offset
	1900003-D-1	1900003	Metcalf, Karlei	US 52	340	Franklin		

Page 1 of 1 | 10 items per page

Save For Later | Submit Request | Cancel Request



HRA Demonstration






HRA Demonstration

Request Determination

+ New Small Structure

Small Structure List

	Asset #	New Undocume... Asset #	Des #	INDOT Proj... Man...	Sub Type	Route Name	Distri
  	CLV-10094						

Page 1 of 1 10 items per page

Save For Later Submit Request Cancel Request



HRA Demonstration

Documents [Close]

+ [Refresh]

	Document Name	Document Type	Description
--	---------------	---------------	-------------

Page [] of 0 [] [] 10 items per page



HRA Demonstration

Upload Documents [X]

Select Files... Clear Files

File Name	Document Type	Description	Upload Status
-----------	---------------	-------------	---------------

Page 0 of 0 10 items per page No items to display

Upload Status 0% Upload Files

Close

HRA Demonstration

Upload Documents

Select Files... Clear Files

	File Name	Document Type	Description	Upload Status
<input type="checkbox"/>	HydroMemo Prelim CLV-10094.pdf		HydroMemo Prelim CLV-10094	Pending
<input type="checkbox"/>	CLV-10094.hy8		CLV-10094	Pending
<input type="checkbox"/>	CLV-10094 report.pdf		CLV-10094 report	Pending

Page 1 of 1 10 items per page 1 - 3 of 3 items

Upload Status 0%



HRA Demonstration

Document Type		
MOT...	▼	Lo

- Design Computations
- Final Design Computations
- Other
- Plans
- Preliminary Memo
- Model
- Reports

iter

▼

Metcalf, US 52 340





HRA Demonstration



All design requests have no required file types.						
		Design Computations	Plans	Preliminary Memo	Model	Reports
Bridge	Scour	One of these	X	X	X	One of these
	Replacement Only	One of these	X	X	X	One of these
	Other	One of these		X		One of these
Drainage Complaint		One of these		X		One of these
LPA		One of these	X	X	X	One of these
Road: Storm Sewer or Detention	Storm Sewer	One of these	X			One of these
	Detention	One of these	X			One of these
	Other	One of these	X			One of these
Small Structure	Rehab and replacement options	One of these		X	X	One of these
	Replacement only	One of these		X	X	One of these

HRA Demonstration

Upload Documents

Select Files... Clear Files

	File Name	Document Type	Description	Upload Status
<input type="checkbox"/>	HydroMemo Prelim CLV-10094.pdf	Preliminary Memo	HydroMemo Prelim CLV-10094	Pending
<input type="checkbox"/>	CLV-10094.hy8	Model	CLV-10094	Pending
<input type="checkbox"/>	CLV-10094 report.pdf	Reports	CLV-10094 report	Pending

Page 1 of 1 10 items per page 1 - 3 of 3 items

Upload Status 0% [Upload Files](#)



HRA Demonstration

Rating Request [ID:828] | HRA - Google Chrome

hraqa.indot.in.gov/Hydraulics/Home/RatingRequest/828

Progress: Saved > Submitted > In Progress > Ready for QA > QA In Progress > Completed

Request Information

Request Type	Small Structure	Created By
--------------	-----------------	------------






HRA Demonstration

Request Determination

+ New Small Structure

Small Structure List

	Asset #	New Undocume... Asset #	Des #	INDOT Proj... Man...	Sub Type	Route Name	District	County	Refe... Post	Refe... Post Offset	Created Date
  	CV 031-010-11.60						Seymour	Clark	11	60	05/17/202

Page 1 of 1 | 10 items per page | 1 - 1 of 1 items

 Save For Later **Submit Request**  Cancel Request

HRA Demonstration

Special Thanks

- Jennifer Hart Helping me to understand how to get an app created
- Doug Glaser MIS Project Manager
- Chen Qiao MIS ASAP Specialist
- Joy Patel MIS Enterprise Applications
- INDOT Hydraulics Engineering Staff Hours of testing
- Merril Dougherty Even more testing, debugging, and creating the undocumented asset number naming conventions
- Clair Bammann Writing the help manual & providing a lot of content for this presentation

Q&A / The End



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- **Design Questions:** hydraulics@indot.in.gov