

The background of the slide features a large, light blue watermark of the Indiana Department of Transportation logo. The logo is circular and contains the text "INDIANA DEPARTMENT OF TRANSPORTATION" around the perimeter. In the center, there is a shield with various icons representing different modes of transportation: an airplane, a train, a car, and a bus.

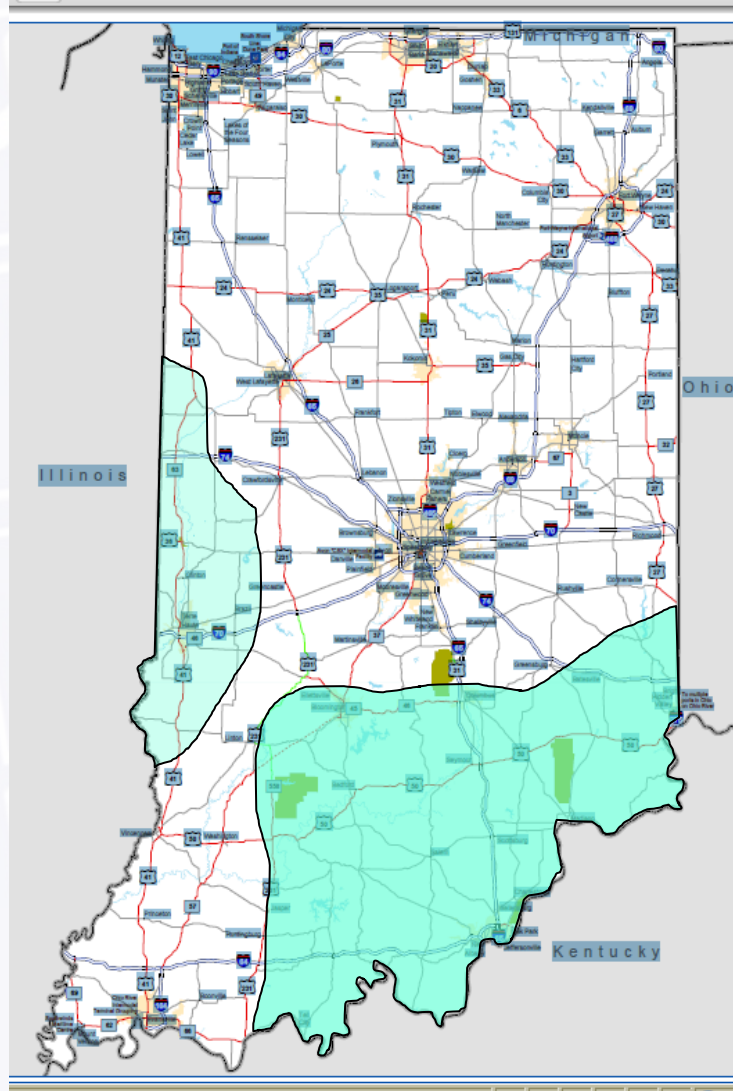
# 2025 Midwest Geotechnical Engineering Conference

## SR 156 Design Build Landslide Project

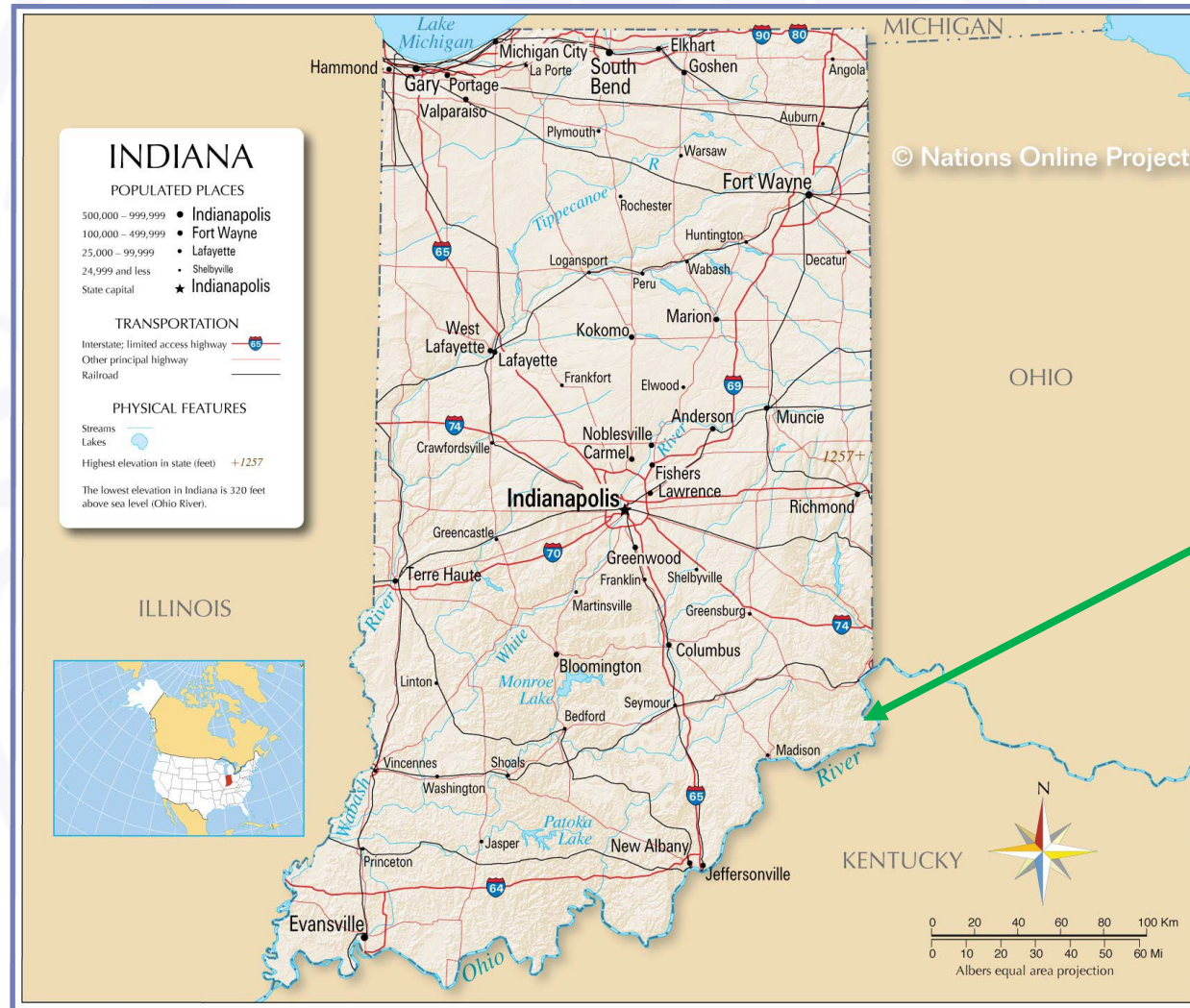
September 24, 2025

Joey Franzino

# Indiana Road Map



# SR 156 Slides in Switzerland and Ohio Counties





# SR 156 Slides in Switzerland and Ohio Counties





# Photos – Slide 1





# Slide 1 Emergency Repair





# Slide 2 Photo





# Slide 3 Photos





# Slide 4 Photo

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# Slide 4 Emergency Repair





# Design Build

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- Design Bid Build –The Design is completed by INDOT or a Consultant for INDOT and the Contractor builds according to the design.
- Design Build – INDOT Provides objectives of the project, and the Contractor designs it, the design gets approved by INDOT, the Contractor builds it.
- INDOT has used the Design Build Process for certain major projects.
- Design Build projects have been successful for INDOT for over 30 years.
- While portions of INDOT Landslides have been Design Build in the past, INDOT had never truly let a Design Build Landslide Project.



# Original Concept

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- In 2013, each of the four slides were drilled.
  - Slide 1 was drilled by Alt & Witzig
  - Slides 2, 3 and 4 were drilled by the INDOT Drilling Crew
  - A Geotechnical Engineering Report was prepared for each slide by Joey Franzino, and reviewed by our Geologist at the time, Jon Paauwe.
- It was my opinion, that drilled shafts was the most appropriate correction.
  - Drilled Shafts are probably the most effective landslide correction.
  - They are also the most expensive.
  - Therefore, drilled shafts are usually our last resort when every other option is either:
    - Infeasible
    - Not cost effective because of the volume or quantities needed to make it feasible

# Meetings with the Seymour District

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- Several Meetings were held at the site and with Seymour District
  - Seymour District Construction talked with us about constructability of our design.
  - We made several adjustments, trying to imagine what would get us the best bid.
  - Construction Engineer Isaac Deburger originally proposed the concept of Design Build.
- The biggest concerns with Design Build were how we can ensure we get a Design we are happy with from a Contractor in which profitability was the biggest concern.
- How can we at INDOT take control in a Design Build Landslide Project, and ensure we provide our customers, the residents of Switzerland and Ohio Counties, a safe and long term product to stop these massive slides?



# Design Build Landslide Program

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- Plans were drawn up by Lochmueller Group
  - The plans do not specify a correction type specifically.
  - The plans specify right of way the Contractor has to work with.
  - The plans specify that any permits are the responsibility of the Contractor.
- The Contract Documents spelled out a procedure for the slide
  - They require the bidding Contractors to have a team including:
    - An INDOT approved Design Consultant
    - An INDOT approved Geotechnical Consultant
  - They require any Contractor with intent to bid to submit:
    - A Technical Proposal
    - Plans for their proposal
    - All analysis related to their proposal

# Technical Proposal Review Process

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- Five weeks before the letting, we held a question and answer session.
  - We gave one hour to each Contractor individually. There were three Contractors.
  - Each Contractor brought their entire Design and Geotechnical Team to the meeting.
  - It was an opportunity for each Contractor and Team to ask what INDOT will accept.
- Technical Proposals were due four weeks before the letting.
- Three Contractors submitted Technical Proposals.
- We were given about two weeks to review the Technical Proposals.
- The Technical Proposals were reviewed by:
  - INDOT Geotechnical Engineering (Joey Franzino and Victoria Leffel)
  - The Design Consultant (Lochmueller Group, Nick Will)
  - The INDOT Project Manager (Travis Mankin)
  - INDOT Construction (Isaac Deburger)



# Technical Proposal Review Process

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- We decided on three possible scenarios for Technical Proposal Review.
  - 1. The Technical Proposal is perfect, and the Contractor can bid it.
  - 2. The technical Proposal is OK, but we have certain concerns with it.
  - 3. The Technical Proposal is unacceptable, and the Contractor may not bid it.
- For each of the three technical proposals, we had concerns, but approved them.
- We sent a letter to each Contractor with the following information:
  - A list of our concerns for their specific plans, analyses, or other aspect of their proposal.
  - We told them they can bid on this Contract.
  - We told them that if they are the winning bidder, they will be asked for an updated technical proposal, addressing all of our concerns.
  - We indicated in the letter, that they should bid accordingly, because no change orders will be granted based on additional cost to design in accordance with our concerns.

# Construction

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- This Contract was won by Force Construction.
  - Their Design Consultant was Janssen & Spaans.
  - Their Geotechnical Consultant was Geotill.
- The Contractor began by having Geotill do additional borings and testing.
  - INDOT was open to approved additional borings and tests to make design adjustments.
  - The benefit was that Geotill was able to analytically prove that in certain locations, shafts did not have to go as deep, and that saves the Contractor some money.
  - Each of these changes to the design required INDOT approval.
- The Contractor made a few other design changes with INDOT approval.
  - Slight adjustments to shaft locations on one of the slides
  - The use of plug piles as opposed to concrete lagging for all four slides.



# Construction Photos

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# Post Construction Photos





# Post Construction



# Acknowledgements

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- Victoria Leffel – INDOT Geologist
- Jon Paauwe – INDOT Geologist
- Travis Mankin – INDOT Project Manager
- Isaac Deburger – INDOT Construction Area Engineer
- Brad Burk – INDOT Construction
- Nick Will – Lochmueller Group – Design Consultant for INDOT
- Malek Smadi – Geotill – Geotechnical Consultant for Force Construction
- Bob Gray – Janssen & Spaans – Design Consultant for Force Construction
- Pat Kirchner – Force Construction
- Everyone else who participated in this successful project



**Questions?**