



## Transportation & Environmental

[Download Full Agenda](#)

### Wednesday, April 24

9:30 AM – 10:15 AM

#### **NDE Scanning and Photogrammetric Data for Concrete Bridge Decks and Girders Condition Assessment**

Purdue University recently compared NDE methods for concrete bridge decks for the Indiana DOT and found Impact Echo scanning to be the most accurate method. Sonic Impact Echo and other NDE methods will be discussed for bare concrete decks and asphalt overlaid decks to map both top and bottom delaminations due to corrosion for repairs. The second case history presents 3-D results of Impact Echo Scanning and Ground Penetrating Radar (GPR) Scanning plus Spectral Analyses of Surface Waves tests of post-tensioned/pre-stressed concrete bridge girders.

Speaker

- **Patrick Miller, PE**, Olson Engineering, Associate Principal Engineer

10:30 AM – 11:15 AM

#### **Waters of the US (WOTUS) & Clean Water Act Section 404**

The Clean Water Act gives the EPA and the United States Army Corps of Engineers the authority to define "waters of the United States" in regulations. "Waters of the United States" refers to bodies of water such as rivers, lakes, and streams that the federal government protects. In Colorado (and 47 other states), the Army issues 404 permits to protect the waters of the United States from dredge and fill activities.

On May 25, 2023, the Supreme Court issued a decision in *Sackett v. EPA* that reinterprets the scope of federal jurisdiction under the Clean Water Act. The Court's decision holds that the significant nexus test, used by EPA and the Corps to determine the scope of federal Clean Water Act jurisdiction since the *Rapanos* decision, is no longer valid. The Court articulated a new jurisdictional test for adjacent wetlands that extends Clean Water Act jurisdiction to only those wetlands that are as a practical matter indistinguishable from waters of the United States.

This requires a party asserting jurisdiction over adjacent wetlands to establish first that the adjacent body of water constitutes "waters of the United States," which the Court defines as "a relatively permanent body of water connected to traditional interstate navigable waters." Second, a party asserting jurisdiction must also show that the wetland has a continuous surface connection

with that water, making it difficult to determine where the “water” ends, and the “wetland” begins.

Although the Court’s decision directly addresses only the scope of “adjacent wetlands,” its description of “waters of the United States” as including only relatively permanent bodies of water connected to traditional interstate navigable waters will likely result in ephemeral and intermittent waters, which constitute the majority of Colorado’s stream miles, being outside the scope of federal Clean Water Act jurisdiction.

This Supreme Court decision will result in less water quality protections for Colorado. These water quality protections have been in place since the 1980s and the division is engaging stakeholders on a draft policy for enforcement of unpermitted dredged and fill material into state waters that is intended to continue protecting Colorado’s waters under Colorado law.

Speaker

- **Moneka Worah**, ERO Resources Corporation, Natural Resource Specialist/Principal

**11:30 AM – 12:15 PM**

#### **Update from CDOT Office of Environmental Justice & Equity**

Speaker

- **Chessie Price**, Colorado Department of Transportation (CDOT), Communication Specialist, Office of Environmental Justice & Equity

**2:00 PM – 2:45 PM**

#### **Update from City & County of Denver DOTI**

As the recently appointed executive director of City & County of Denver's Department of Transportation and Infrastructure (DOTI), Amy Ford will provide an overview of her vision and priorities for the agency.

Speaker

- **Amy Ford**, Denver Department of Transportation and Infrastructure, Executive Director

**3:15 PM – 4:00 PM**

#### **Climate Pollution Reduction Planning Standard**

Speaker

- **Alvan-Bidal Sanchez**, DRCOG, Regional Transportation Planning Program Manager

## Thursday, April 25

9:30 AM – 10:15 AM

### **Embracing Genuine Collaboration: It's Time to Pivot from Traditional Transactional Mindsets**

Delve into the essence of true collaboration in construction and engineering projects with project delivery expert Arthur Antoine, PhD, and sociologist Adenife Modile, PhD, who specializes in group dynamics and behavior. Explore how to transcend merely task completion, teamwork, and cooperation towards amplifying team synergies. It's an opportune time to learn actionable strategies for application in our industry with the perpetual evolution of new collaborative project delivery methods.

#### Speakers

- **Arthur Antoine, PhD, PE**, Axiom Consulting & Project Management, Director of Project Delivery
- **Adenife Modile, PhD**, Coker University, Assistant Professor of Sociology & Coordinator of The Sociology Program

10:30 AM – 11:15 AM

### **Kicking Horse Canyon Phase 4: Mountainous Terrain Innovative Design**

This highway reconstruction project involves safety improvements along three miles of highway through the Kicking Horse Canyon approximately three miles East of Golden, British Columbia. The steep terrain, geologic site conditions and unique loadings such as active landslides, retrogressive slope failures, 300-year event avalanches, rock fall, and debris flow, provided unique design and construction challenges relevant to many highway improvement projects throughout the Rocky Mountains, including Colorado. This presentation will provide specific examples of innovative and unique solutions for the design and construction of roadway structures in mountainous terrain.

#### Speakers

- **Andrew Moore, PE, PhD**, Parsons, Colorado/Utah Bridge Practice Lead
- **Konlee Dobbins, PE**, Parsons, Project Manager / Regional Bridge Technical Manager

11:30 AM – 12:15 PM

### **The Beautiful Collision of Civil Engineering, Automation & AI**

As engineering and programming fields begin to merge, tools and workforce are evolving as well. This presentation will discuss how tools like ChatGPT, open source scripting and automation can enhance engineering capabilities: unlocking new capabilities, increasing efficiencies, and bolstering quality. From this fusion of civil engineering and the tech industry arises a new workforce of scientific programmers where engineers are now writing code, automating workflows and scaling datasets to the terabyte level.

## Speakers

- **Geoff Uhlemann, PE**, Michael Baker International, Innovation Leader
- **Daniel Aragon**, Michael Baker International, Systems Developer

2:15 PM – 3:00 PM

### **Update from CDOT Deputy Chief Engineer**

#### Speaker

- **Robert Hays, PE**, Division of Engineering, Colorado Department of Transportation, Deputy Chief Engineer

3:30 PM – 4:15 PM

### **Two Mini Sessions: Green Stormwater & Performance-based Specifications**

#### **Identifying Key Factors: Green Stormwater Infrastructure Implementation & Maintenance**

This presentation first summarizes a literature review of studies and state stormwater manuals and their guidance regarding the proper construction, inspection, and maintenance for green stormwater infrastructure. In addition, a case study reviewing maintenance and inspection data from Fairfax County, VA is utilized to demonstrate the differences in maintenance deficiencies between public and private facilities and how different site conditions impact facilities. Lastly, this presentation compares findings from a bioretention study to the inspection data from the county to determine if county inspections are discovering the same deficiencies outlined by the bioretention study.

#### **Performance-based Specifications: Maximizing Your Dollar Without Sacrificing Performance**

The presentation will dive into the benefits of writing performance based specifications as opposed to focusing on material specifications, highlighting national studies to show how open competition helps to drive down project costs. It will also address how CDOT is currently using this procedure for their stormwater infrastructure, diving into the details with how CDOT is reaping the benefits, allowing a perfect example for agencies and engineers to utilize. With the current issues the industry is facing, both in material costs and schedule, this topic has never been more prescient!

#### Speakers

- **Zack DelGrosso**, StormTrap, Water Quality Solutions Specialist – Mountain West
- **Evan Fischgrund, PE**, Advanced Drainage Systems, Regional Engineering Manager – West Zone