

# Central Federal Highway Lands Division



# Society of American Military Engineers, SAME – Denver Post

December  
Meeting  
12/17/20



# FHWA - Central Federal Lands Highway Division

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**Connecting Roads & Bridges with Federal Lands Highway...  
We Work Where You Love to Play!**

## Presented by:

- **Jill Locken, P.E.;** Quality Assurance Engineer -  
Office of Engineering
- **Adam Rosener, P.L.S.;** Program Manager -  
Planning & Programming Division
- **James Herlyck, P.E.;** Program Manager -  
Planning & Programming Division
- **Deborah Haberer, PMP;** Management & Program Analyst  
- Construction Division

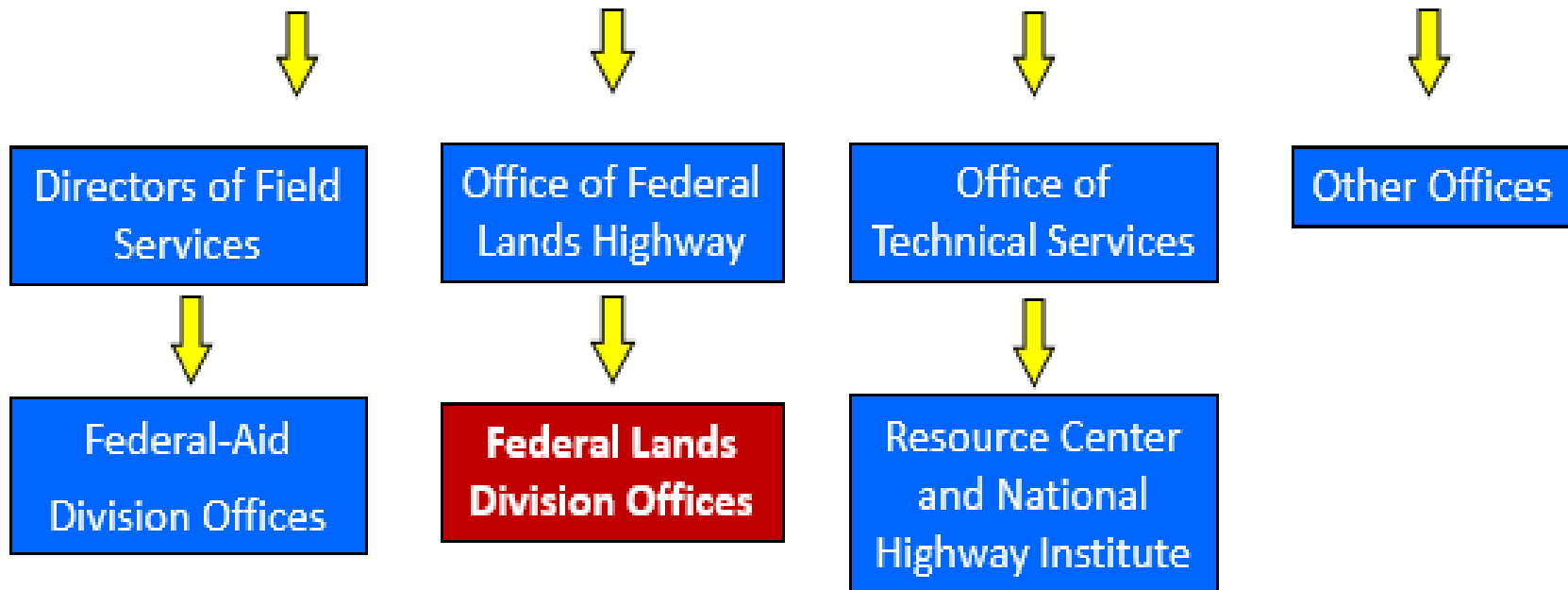
# Jill Locken, P.E., PMP – Quality Assurance Engineer

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- Central Federal Lands
  - Office Engineering
  - Focus on Quality primarily within Project Delivery
  - Futures Team Coach
- FHWA - People, Partners and Projects Overview
- Point Bonita Lighthouse
  - Project Overview



# FHWA - Central Federal Lands Highway Division



# FHWA - Central Federal Lands Highway Division

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## **FLH Mission is to improve transportation to and within Federal and Tribal Lands by:**

- Building accessible and scenic roads that ensure the many national treasures within our Federal Lands can be enjoyed by all.
- Providing technical services to the highway/transportation community

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## PLACES - Where We Work



# Federal and Tribal Lands in the U.S.



# FHWA - Central Federal Lands Highway Division

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## **PEOPLE - Project Delivery Services**

- **Planning and Programming**
- **Project Management**
- **Technical Services**
  - **Surveying**
  - **Highway Design**
  - **Pavement and Materials**
  - **Hydraulics**
  - **Geotechnical**
- **Acquisitions and Contracting**
- **Construction Management**
  - **Construction Inspection**



# FHWA - Central Federal Lands Highway Division

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## PARTNERS - We Work With...



# FHWA Central Federal Lands Highway Division

## PARTNERS - We Work With...

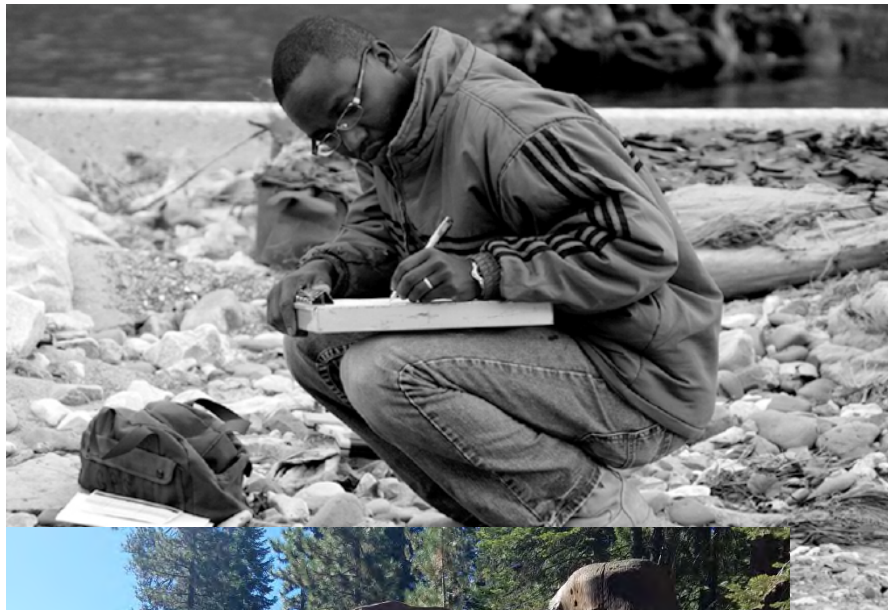


# FHWA - Central Federal Lands Highway Division

**We work  
where you  
play!**



# FHWA - Central Federal Lands Highway Division



# FHWA - Central Federal Lands Highway Division



# FHWA - Central Federal Lands Highway Division

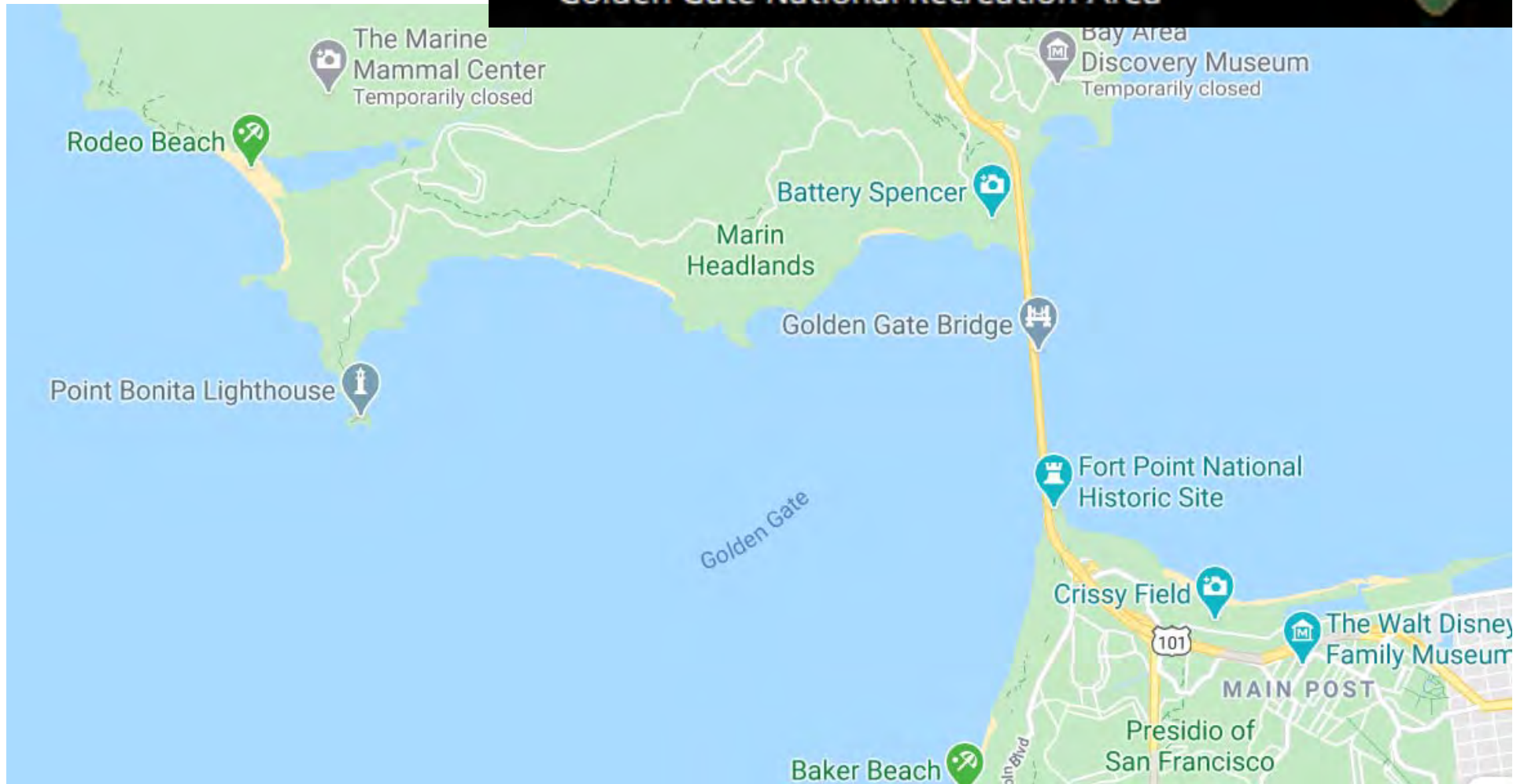
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## **PROJECTS to showcase:**

- 1. Point Bonita Lighthouse – Golden Gate National Recreation Area, California**
- 2. Cottonwood Pass, Gunnison County, Colorado**
- 3. Trinity County Bridges, California**

# Point Bonita Lighthouse - Bridge Replacement

National Park Service  
U.S. Department of the Interior  
Golden Gate National Recreation Area



Replace 156-ft timber pedestrian suspension bridge

NPS-Golden Gate National Recreation Area (GOGA)





# Our Partners

GGNRA-NPS

US Coast Guard

HDR Engineering Inc. (designer)

Flatiron West Inc. (contractor)



# CM/GC innovative contracting method

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14 months to complete

Contract Amount: \$1,863,441.80



# Project Constraints

- Limited Funding
- Limited construction window due to environmental restrictions
- 50 year design life in harsh marine climate
- Long lead time for specialized construction materials (timber, stainless steel)
- Difficult Site Access (6' by 5' tunnel,  $\frac{3}{4}$  mile long trail)



## Unique features

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Historic structure (Point Bonita Lighthouse)

Difficult access (historic rock tunnel to bridge & lighthouse)

Extreme location & performance required in seismic zone

Saltwater environment

High partner demand for 50-yr life & minimal maintenance



# Point Bonita Access Tunnel



# Hazardous Material Removal



# Innovative stainless steel construction



# Bridge Pre-assembly





# Temporary Access to Lighthouse



1/5/12

Al Greening - 89437

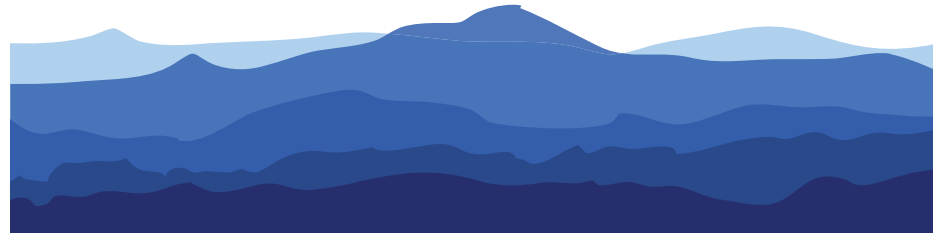
# Concrete Pour

## West anchor block



## SE wind anchor

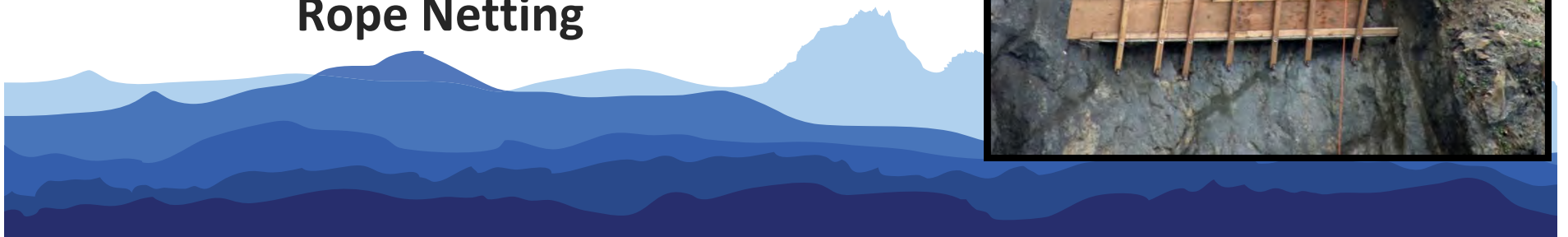
# Bridge Assembly



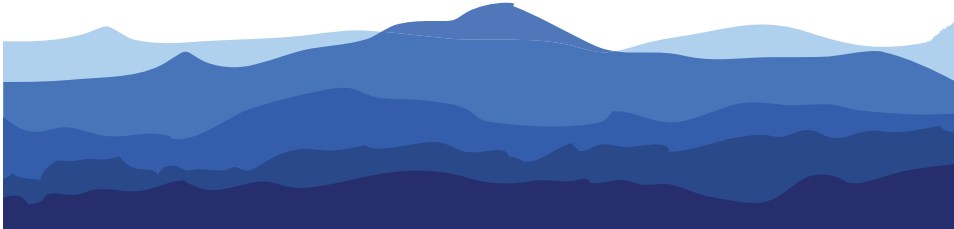
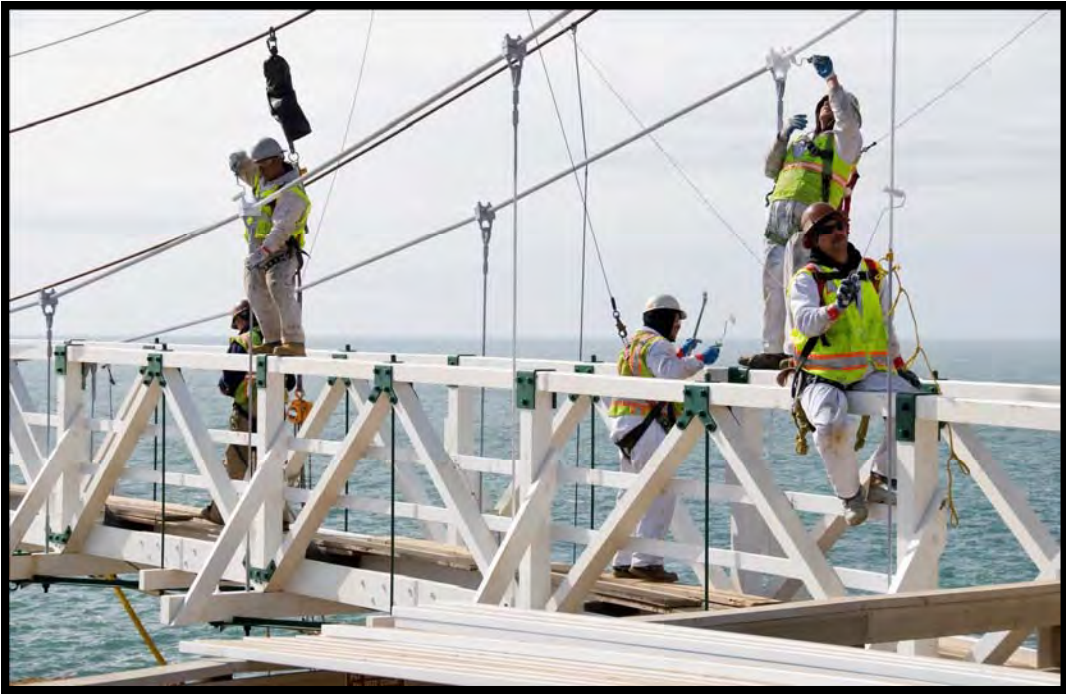
# West Buttress Stabilization



**Rope Netting**



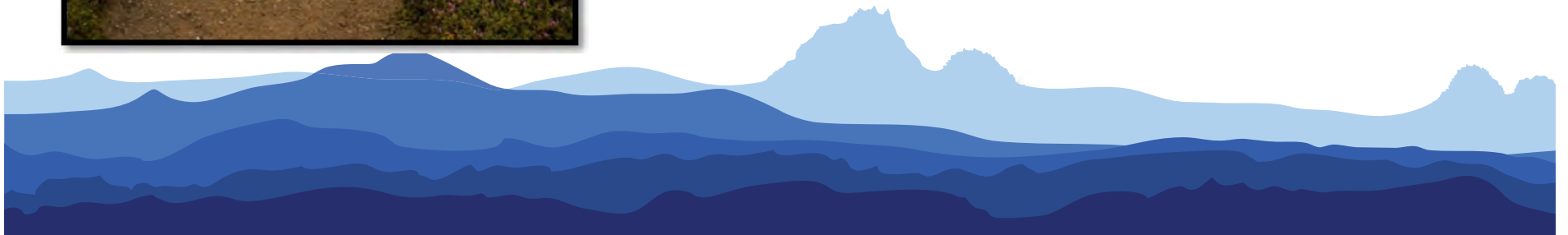
# Painting



# Ribbon Cutting 4/13/2012



# Before and After



# Finished Project





# Finished Project



# Finished Project



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## PEOPLE, PARTNERS & PROJECTS

Q&A by Jill Locken, P.E.

Please enter questions in CHAT



# James Herlyck, P.E. – Program Manager

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- Central Federal Lands
  - Planning & Programming Division
  - Futures Team Coach
- Trinity County Bridges, California
  - Project Overview



# Trinity County Bridges, CA

## Trinity County

- Project Owner
- Programming
- Delivery Input
- CEQA
- ROW (Non-Fed)



## CALTRANS & FHWA CA Division Office

- Programming & Transferring Funds



## FHWA-CFLHD



- Stewardship and Oversight of Funds
- NEPA
- Contract Solicitation & Procurement
- Design & Construction Oversight
- ROW (Fed) – Facilitate Contractor

## RNR Construction,

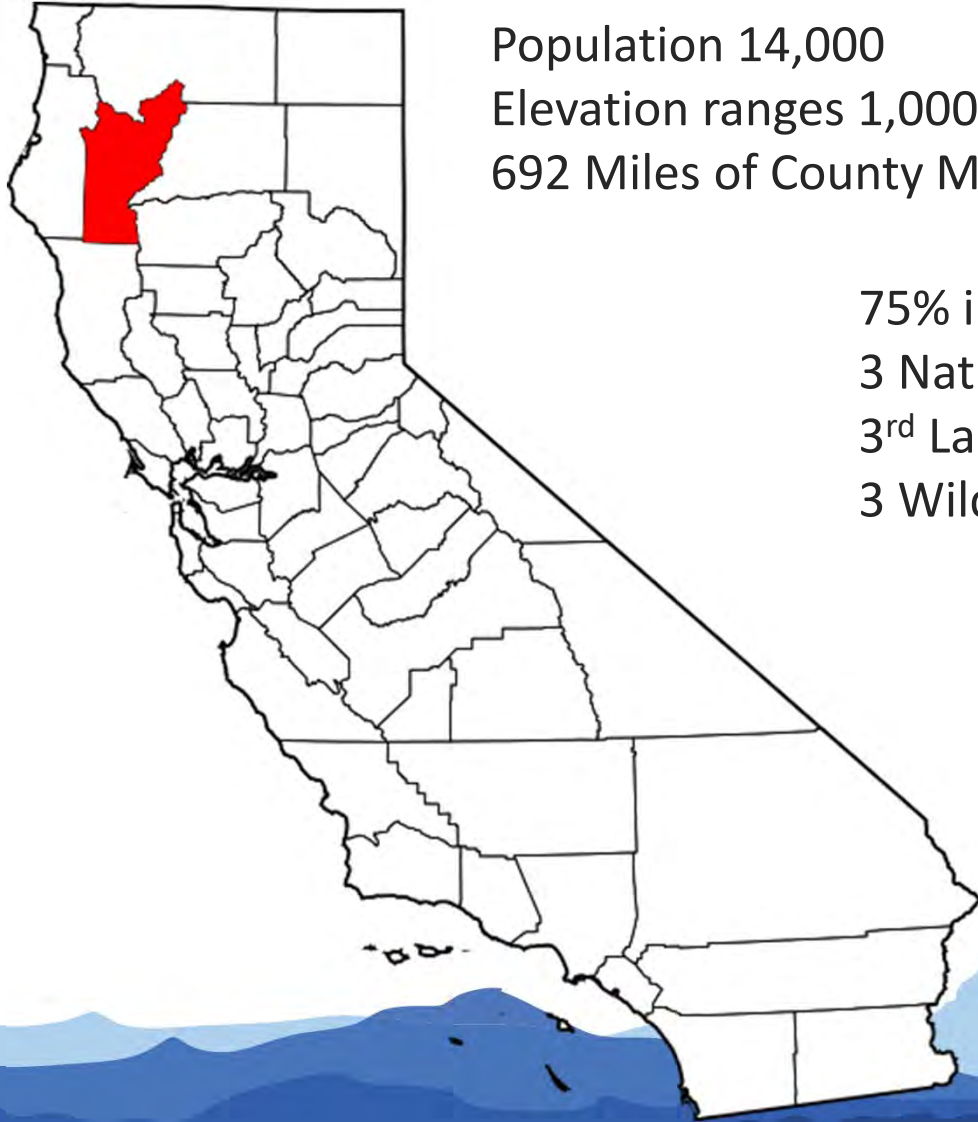


## Dokken Engineering & Subs

- Designer of Record
- ROW Acquisition
- Utility Relocation
- Construction



# Meet Trinity County



Population 14,000

Elevation ranges 1,000 to 9,025 ft.

692 Miles of County Maintain Roads

75% in National Wild & Scenic River System

3 National Forests

3<sup>rd</sup> Largest Lake in California

3 Wilderness Areas

**NO:**

Traffic Signals

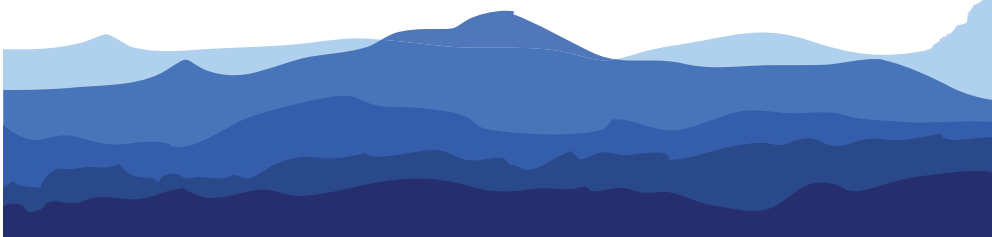
Freeways

Parking Meters

Incorporated Cities

# Design-Build Approach: Request for Qualifications

- Project Understanding, Technical Approach
  - Do they know Design-Build?
- Team Organization, Past Performance
  - Organizational Structure
  - Joint Relationship
  - Individual Design
  - Individual Construction
- Technical Qualifications
- Quality Management Plan



# Design-Build Approach: Request for Proposals

- Design Standards
  - Bridges: AASHTO LRFD amended by CA Statutes
  - Roads: AASHTO
  - Plans and Specifications: CFLHD Guidance
  - Material Types
  - Aesthetics
- Constraints
  - Environmental Windows
  - Pile Driving, Noise
  - Clear trees in winter
  - Traffic control, no alternate access
- Very Important to Define What You Don't Want!





# Design-Build Approach: Selected Firms

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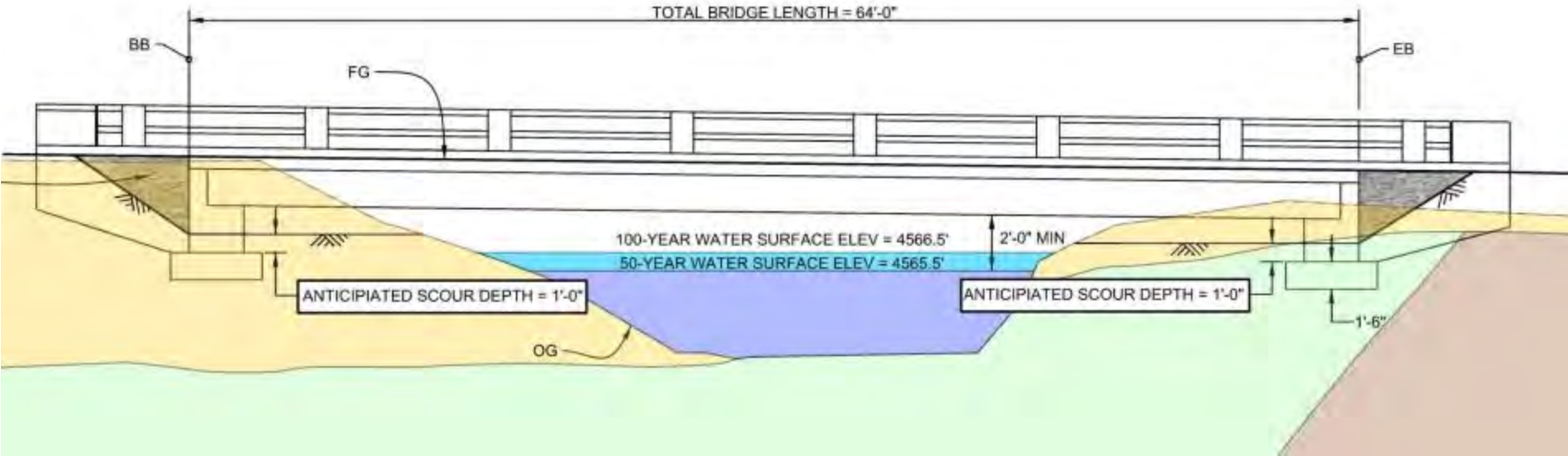
## RNR Construction

- Heavy Civil Infrastructure Contractor, Structure Specialist.
- Long history in design-build
- In 2017, design-build projects included 10 bridges, 2 large vault structures, 34 soundwalls and 1 Dam.

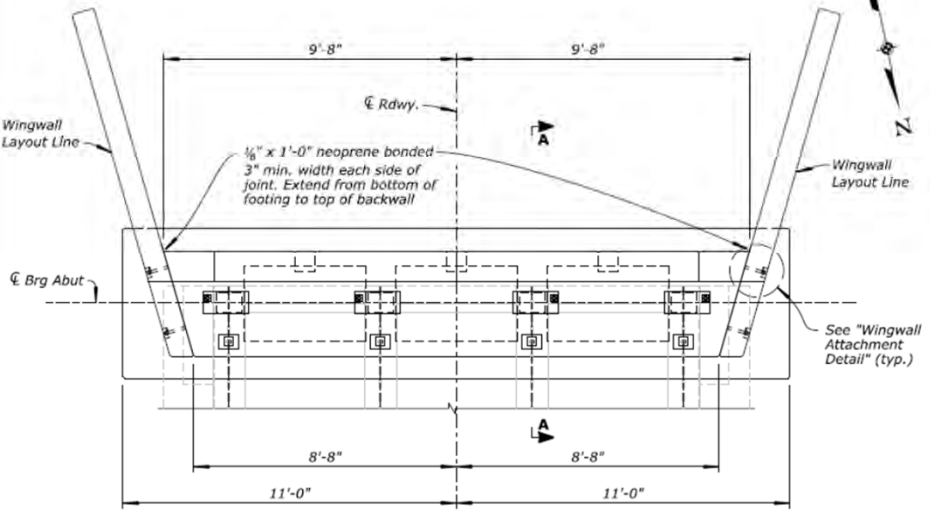
## Dokken Engineering

- Formed in 1986 by former Caltrans engineers
- Performed design-build since 1994
- Long history working with RNR Construction

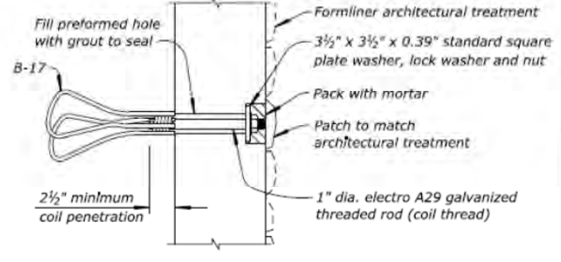
# Preliminary Concept



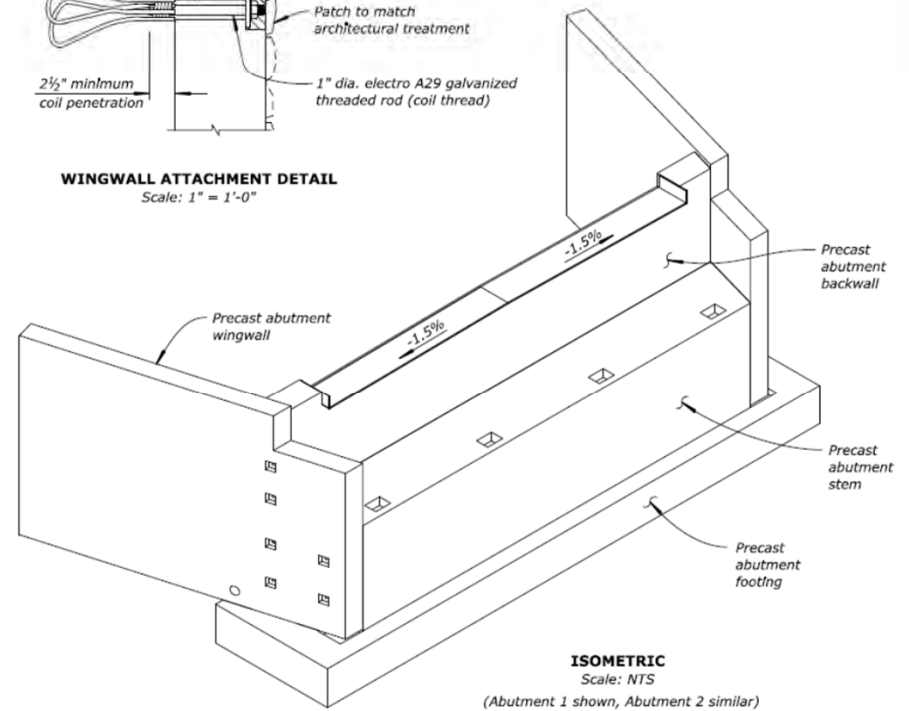




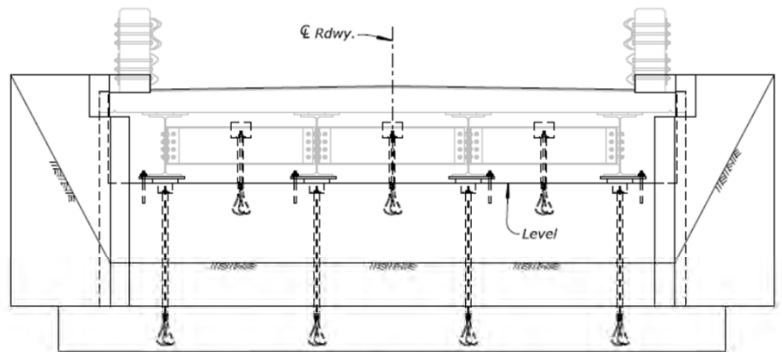
**PLAN**  
Scale: 1/4" = 1'-0"  
(Abutment 1 shown, Abutment 2 similar)



**WINGWALL ATTACHMENT DETAIL**  
Scale: 1" = 1'-0"



**ISOMETRIC**  
Scale: NTS  
(Abutment 1 shown, Abutment 2 similar)



**ELEVATION**  
Scale: 1/4" = 1'-0"  
(Abutment 1 shown, Abutment 2 similar)

**NOTE:**  
For "Section A-A", see "Abutment  
Assembly No. 2" sheet.

**AS-BUILT**  
 DATE OF AS-BUILT: 1-16-18  
 DATE OF CONSTRUCTION: OCT 2017  
 PROJECT NO.: CA HBP TRI CR104(1) ET AL  
 RECORD GROUP: RG3093  
 BRIDGE NO.: 5C-196  
 DESIGN-BUILD PM: A. CATELLIER  
 DOR: R. BURNS



U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION  
  
 ADAMS CREEK BRIDGE AT COFFEE CREEK ROAD  
 (Br. No. 5C-196)  
 TRINITY COUNTY, CALIFORNIA  
  
**ABUTMENT ASSEMBLY (1 OF 2)**

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT MANAGER	BRIDGE DRAWING	DATE	DRAWING NO.
								R. BURNS, SE	K. DANG	F. ENRIQUEZ, PE	AS NOTED	ANDRE CATELLIER, PE	4 of 18	APRIL 2017	RG3093-D

# Precasting Abutment Elements



# Precast Footing Placement



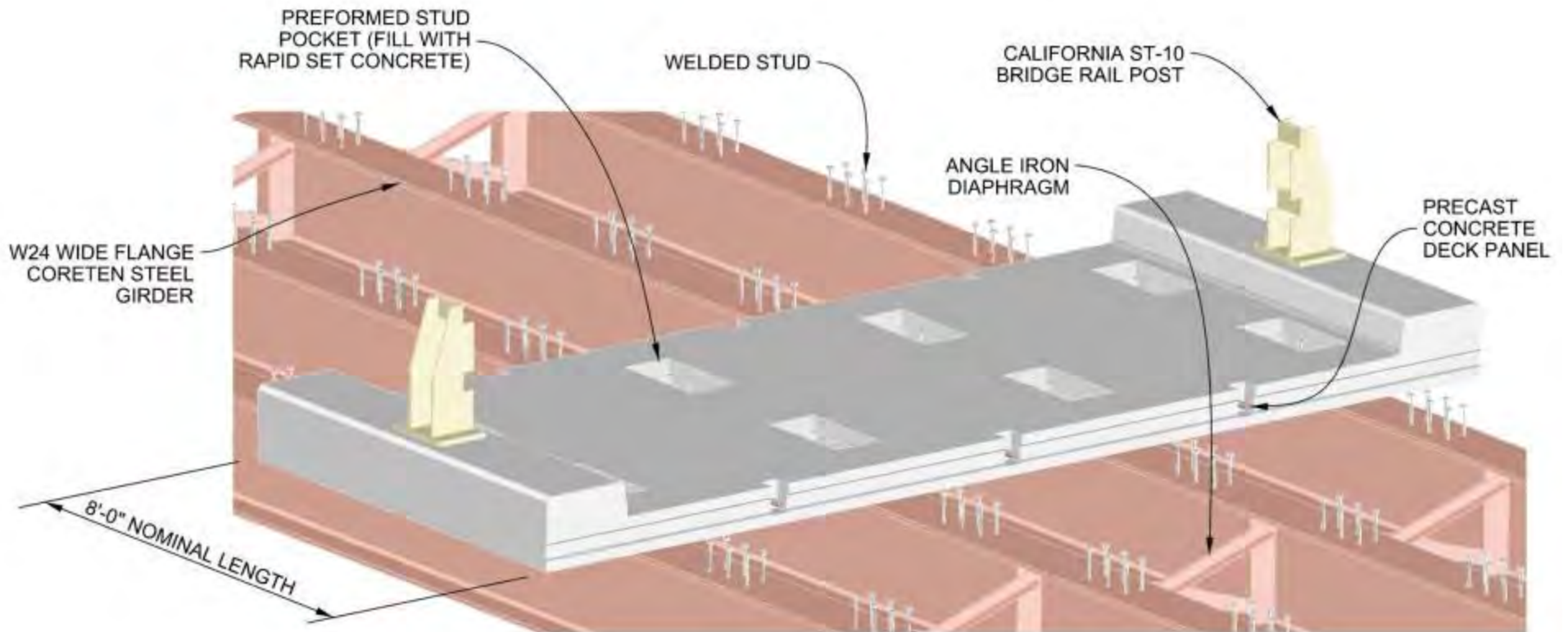
# Precast Abutment Placement



# Wingwall-Abutment Connection







**ABC SYSTEM ISOMETRIC VIEW**

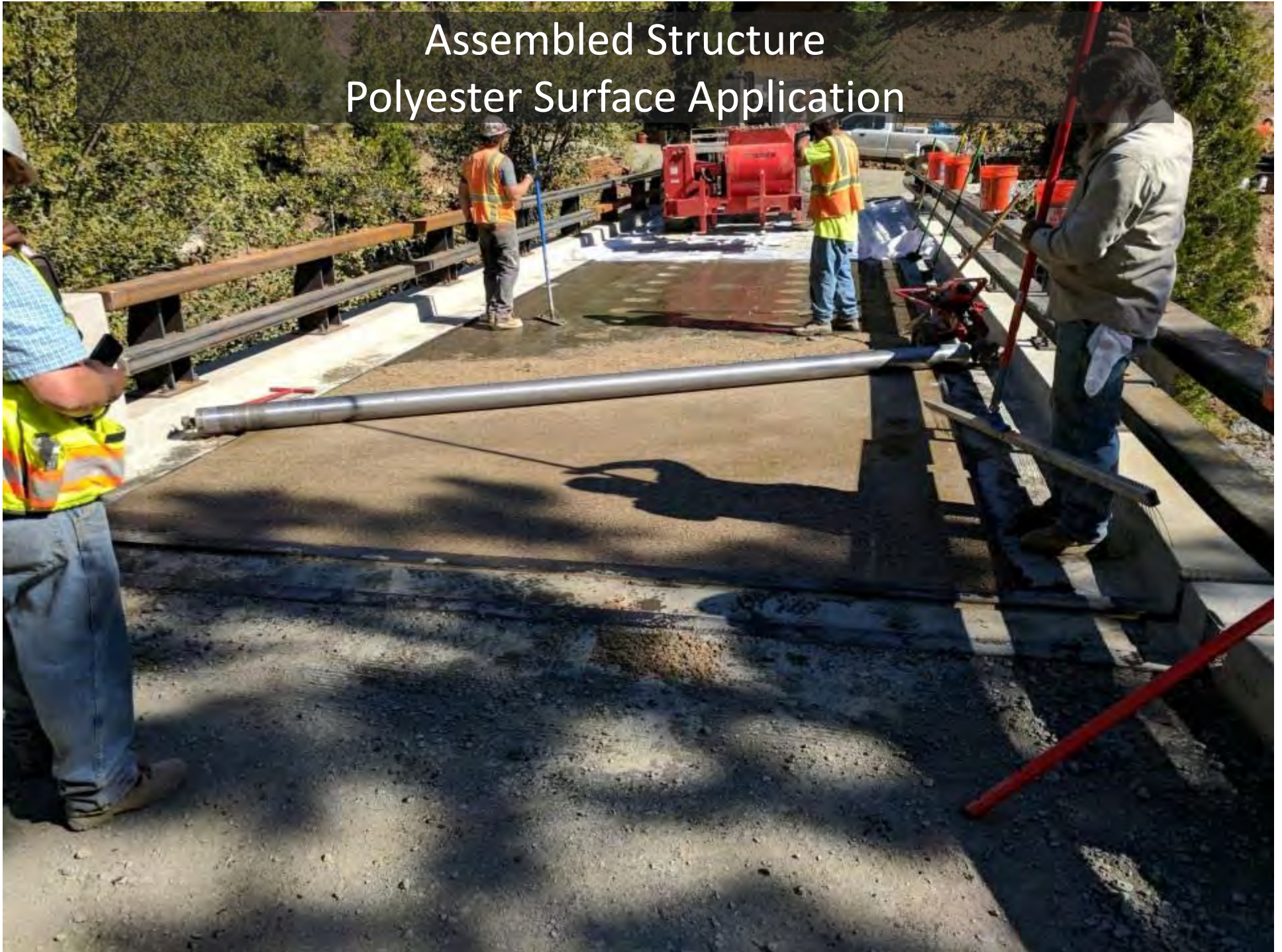
NO SCALE



# Bridge Deck over Girders



# Assembled Structure Polyester Surface Application



# Adams Creek Bridge



# Coffee Creek Bridge



# Mumbo Creek Bridge



# RNR and Dokken Take-Aways

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- Design Build Projects focus technical expertise, reduce administrative disputes and financial gain from changes/complications.
- Design-build Projects enhance project delivery
  - allow for joint design and construction preparation periods
  - Provides far superior vehicle for trying different site and construction designs
  - Improves construction planning since construction involved in design
- Numerous public entities executing design build today, while Private sector is a decade ahead.
- Not Every Project Can Be Design/Build
- Design/Build May Provide Most Successful Projects in the Future



# Final Outcomes

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## Scope

- No Scope Changes

## Schedule

- NEPA/CEQA 7 months
- ROW Acquisition 3 months
- Construction Finished About a Month After Contract Date
- Less than 3 years, Scoping to Completion

## Budget

- \$8.7 Million Original Budget
- \$7.9 Million Final Cost





# FHWA - Central Federal Lands Highway Division

## PEOPLE, PARTNERS & PROJECTS

Q&A by James Herlyck, P.E.  
Please enter questions in CHAT



# Adam Rosener, P.L.S., Program Manager

- **Central Federal Lands**
  - Planning & Programming Division
  - Futures Team Coach
- **Cottonwood Pass, Colorado**
  - Project Overview
- **Career Development Program**
  - Recent Graduates
- **Student Intern Program**
  - Current Students
- **USAJobs.gov**



# Cottonwood Pass, Colorado

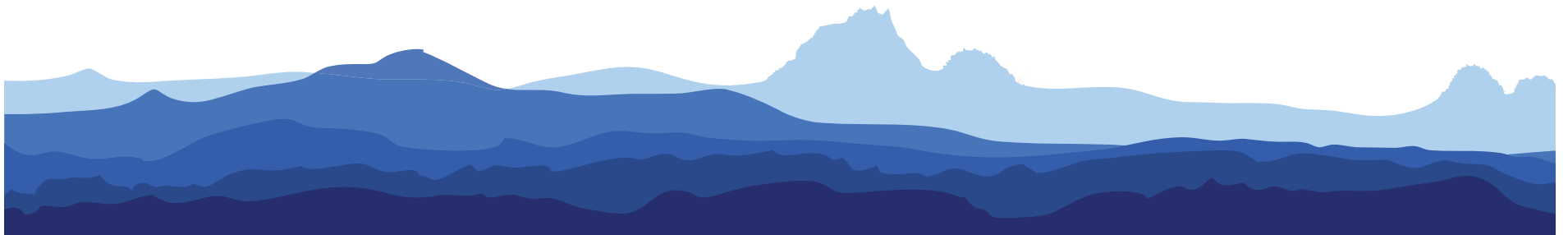
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*Central Federal Lands*



Gunnison  
County  
COLORADO



# Cottonwood Pass Project Overview

- From the 80's to 2019
- 57 mile corridor
- Cottonwood Pass is 4<sup>th</sup> highest paved road in U.S.



# Partner Collaboration

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## Gunnison County

- Project Sponsor
- County Road 209 Owner & Maintaining Agency

## Chaffee County

- Project Sponsor
- County Road 306 Owner & Maintaining Agency

## FHWA-CFLHD

- Lead Federal Agency
- Primary Funding Contributor

## United States Forest Service

- Project Sponsor

## Colorado Dept. of Transportation

- Toll Credit and Funding Contributor



# Construction Prime, Subs and Inspection

## United Companies & Subs

- Constructor of West Side

## Kirkland Construction & Subs

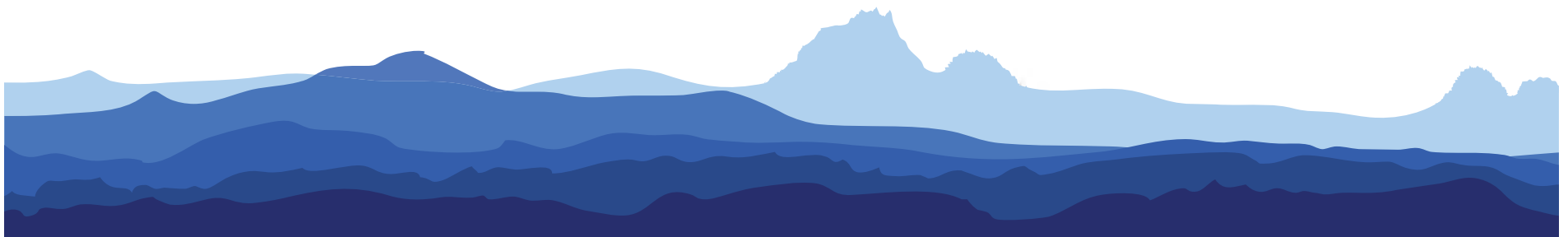
- Constructor of East Side

## Yeh & Associates

- FHWA Construction Admin & Inspection Services

## HDR Inc

- FHWA Construction Admin & Inspection Services



# Construction Featured Quantities

## Cottonwood Pass West Side

Total Cost                      \$24.5M

Major realignment

0.5 miles length reduced by  
straightening

127,000 cubic yards of earth moved

42,620 tons of asphalt placed

## Cottonwood Pass East Side

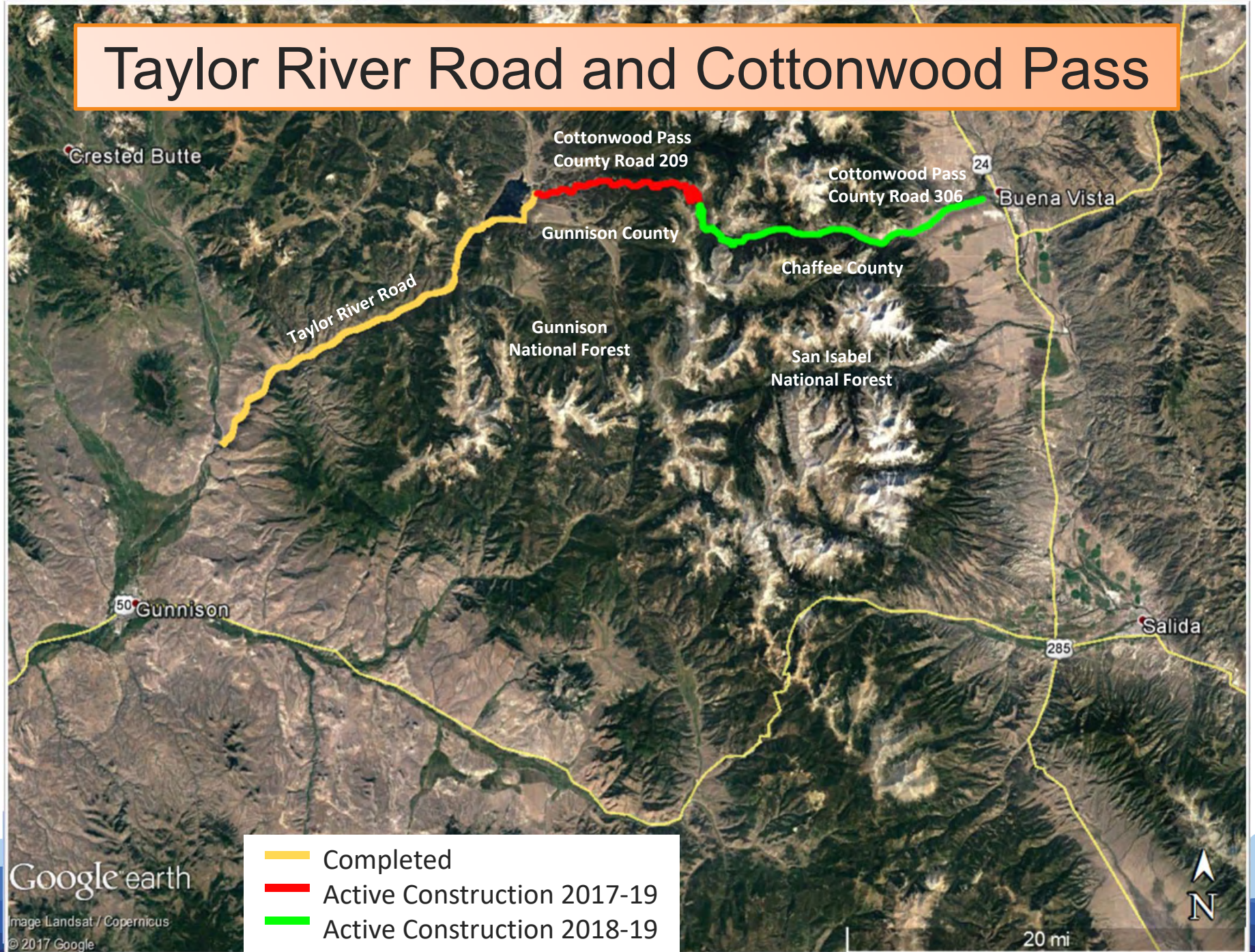
Total Cost                      \$13.8M

46,418 cubic yards of earth moved

42,496 tons of asphalt placed



# Taylor River Road and Cottonwood Pass





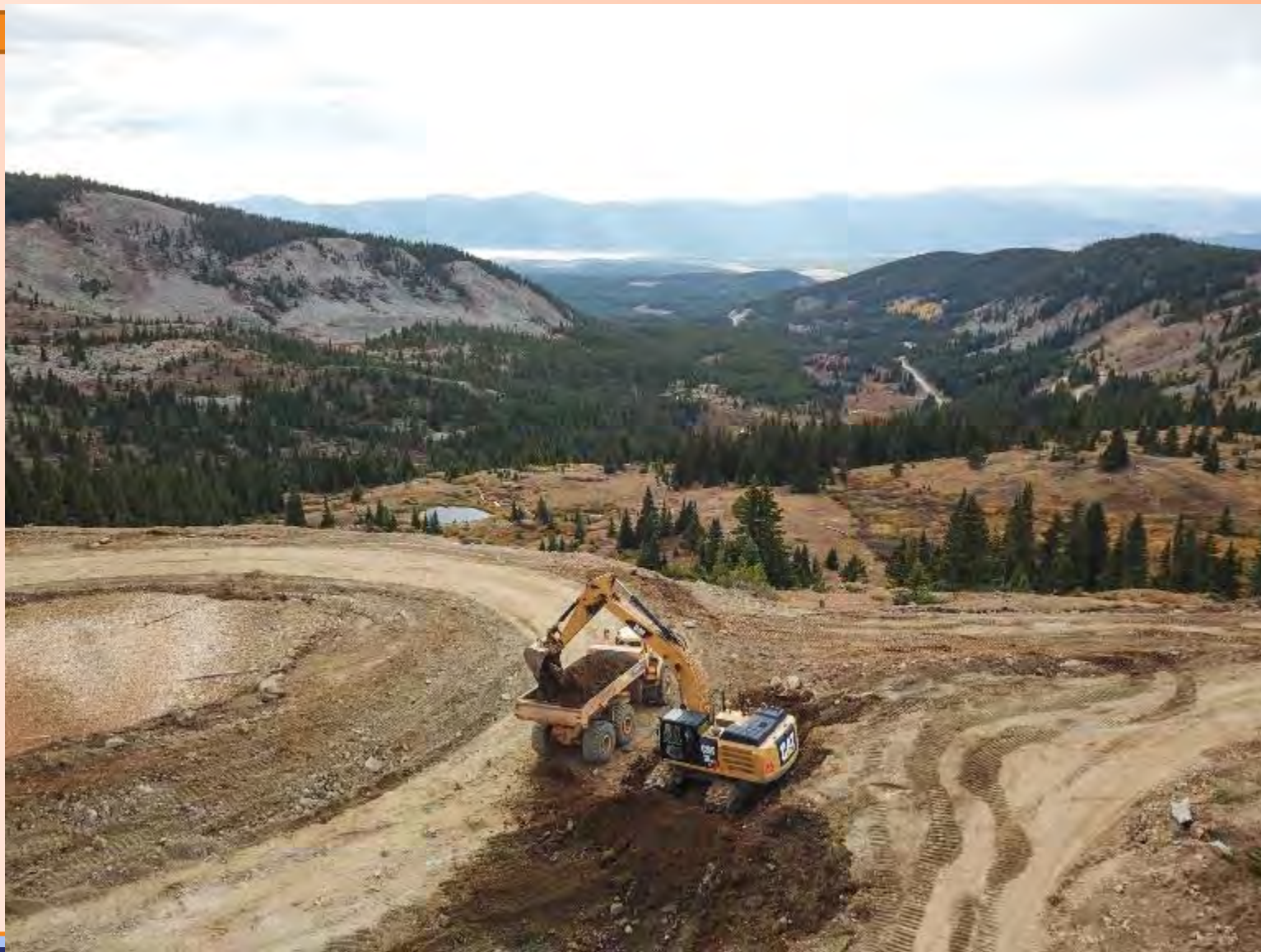
# Project Photos – Fall 2017



# Project Photos – Fall 2017



# Project Photos – Fall 2017



# Project Photos – Fall 2017



## Project Photos – Fall 2018



# Project Photos – Fall 2018



# Project Photos – Summer 2019



# Project Photos – Summer 2019





# Finished Project – Fall 2019



# Finished Project – Fall 2019



# Finished Project – Fall 2019



# Finished Project – Fall 2019



# Finished Project – Fall 2019



# Finished Project – Fall 2019



# Finished Project – Fall 2019



# ASCE Students – Time for Q & A:

## PEOPLE, PARTNERS & PROJECTS

Q&A led by Adam Rosener, P.L.S.

Please enter questions in CHAT





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## Career Development Program

- 2 year training and developmental program
- 4-5 assignments
- Upon graduation placed in construction
- Any one of the 14 states
- Per diem and living expenses

## Student Intern Program

- Construction inspection
- Any one of the 14 states
- Per diem and living expenses
- Option to work P/T during school

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## More info on careers

<https://flh.fhwa.dot.gov/careers>

## Current openings:

[www.usajobs.gov](http://www.usajobs.gov) Search "FHWA"

For CFL, narrow search further to "Colorado"



# S.A.M.E. – Final Time for Q & A:

## PEOPLE, PARTNERS & PROJECTS

### FINAL Q&A

Please enter questions in CHAT



# Thank You S.A.M.E. Denver Post & Guests!

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**Central Federal Lands Highway Division  
Lakewood, Colorado**

**For more information please see our website at:  
<https://highways.dot.gov/federal-lands/careers>**

Please send your questions to: [CFL\\_Careers@dot.gov](mailto:CFL_Careers@dot.gov)