



# I-70 Floyd Hill

## Floyd Hill CMGC Technical Team

### Meeting Summary

October 6, 2023, 9:00 to 12:00 PM

Kraemer Floyd Hill Office: 35715 US-40 Building B, Ste 220, Evergreen, CO 90439

## 1. Introductions, Meeting Purpose and Project Updates

CDR Associates opened the meeting and reviewed the agenda.

### TT Agenda 10-06-23

- *Project Updates*
- *Greenway Detour Options: Follow Up and Next Steps*
- *Central Section Wall Panels: Follow Up*
- *Introduction to Saddle Cut Geotech Data*
- *Introduction Alternate Girder Types*
- *Next Steps, Action Items, & Wrap Up*

TT members confirmed the meeting agenda with no changes.

## 2. Project Updates

### Main Projects

- **East Section Construction:** wall construction and drainage construction is progressing, shotcrete going in place. No blasting this week or next week as the team is catching up on other items such as excavating. Environmental BMPs put in place this week. The milling pile is getting cleaned up, and the team is getting ready to work with utilities.
- **Grading** is starting midway by Sawmill Gulch.
- **West Section:** 90% plans, looking at the final scope of the west section. Submitting 1041 to Clear Creek and Idaho Springs soon. The team will be negotiating price in November with construction beginning in early 2024. 1041 permits to be accepted in the next two months.
- **Question:** (Bill Coffin, Saddleback Community POA): Will there be construction fencing added on either end?
  - **Response:** There are cones and signs right now since so much is coming in and out. The team will monitor this moving forward.



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- **TT Comment:** There needs to be more messaging that the trail is closed in the winter and that in the summer the team will be working on a detour.
- Central Section: had FIR, 60% tracking for FOR around December, construction beginning in late 2024.
- Package 3: moving towards FOR submission later this winter (post Thanksgiving).
- The Greenway Trail closed on October 2nd and the team has executed the initial communications plan which has included every project communications tool except for text alerts. The Team has reached out to recreation groups and mapping applications (i.e Alltrails, Gaia, Google), put up signage, and posted on social media and Next Door. The Team is managing complaints and building contacts with Jefferson County for additional information sharing. Static signs will be put up at locations that Mike Raber, Clear Creek Bicycle Users Group, helped identify. These will be large signs with a QR code for more information.
- **Comment** (Stephanie Gibson, FHWA): There might be some adaptive management necessary and the Team may want to consider variable signs at that time.
- **Question** (Mike Raber): Is the closure being communicated to the bicycle community?
  - **Response:** Yes, the team has reached out to a comprehensive list of recreation groups including Bike Jeffco, Bicycle Colorado, and other cycling groups.

## Early Projects

- *The Genesee Wildlife Crossing:* paving operations were taking place yesterday. Sunday night they will be doing their traffic switch.
- *US 40:* Closure of US 40 East of 65. The team is making progress on grading, completing 3-4 phases at one time with the closures.
- *El Rancho* - FOR meeting yesterday, Jeff Hampton, CDOT, will reach out to designers to see if there are any bigger updates.
- APC is still paving from the tunnel and making their way east. They plan on paving until the 1st of November.
- There is Bridge rehab work on EB I-70 of 6th and Clear Creek.
- Wall work with sculpted shotcrete has been completed.
- The truck ramp project was awarded and will be coming up soon.



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## Environmental

- The Team had a pre-vegetation conference about seeding, there are no major updates.
- Air quality monitors: September particulate matter data looks good, all values are less than 50% of the maximums and there is no significant difference between the two monitors. There has been no loss of data for more than an hour.

## Utilities

- There are various utility partners. Some will be starting work from the east, some starting from the west. There will be active construction the whole way through as well as utilities on 6th and 40. All utilities permits are in place.

## ROW

- CDOT closed with one private property owner near Hidden Valley. Tyler Brady, CDOT, had appraisal walks with Clear Creek and Central City. CDOT is waiting to get appraisals back from both entities.

## 3. Greenway Detour Options: Follow Up

CDR recapped the Greenway Detour process to date. Matt Aguirre, Atkins, provided the TT with updates. This issue was introduced to the TT back in June regarding the schedule. The TT brainstormed possible options and the design team explored these options in detail. At the last meeting, the TT reviewed 3 options in the matrix. Option B (shuttle and 103 detour) rose to the top.

- **Comment** (Mike Raber): I am comfortable with the shuttle from Hidden Valley and Two Bears. It is a relatively short distance and a quick detour and would be the most practical. 103 isn't a true detour versus getting in and doing a 5 minute shuttle. Bikes under Colorado law are vehicles and hold rights and duties as the rider of any other vehicle.
- **Question** (Margaret Bowes, I-70 Coalition): Can we get a high level description of how the shuttle would operate?
  - **Response:** The team is still determining this. One of the next steps will be to have conversations with Pegasus and RoundAbout for Clear Creek County. The need for it will help determine frequency.
  - **Comment** (Mike Raber): Pegasus runs every couple of hours, can only carry one bike, and doesn't stop on the route currently. An on-demand shuttle would be needed for April-October.



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- **Comment** (Amy Saxton, Clear Creek County): We could take some time this winter to run a survey, open public comment to collect some data, and really think this through. We can work with mapping applications for thru-cyclists (i.e. Strava) to make sure we are talking to our target audience.
  - **Question** (Kurt Kionka), CDOT: how can we help facilitate that?
    - **Response**: Clear Creek can work on this and ask questions about the types of users and services they are looking into. Can look at days of the week of ridership as well.
  - **Comment** (Mike Raber): I would like CDOT to participate in this effort as well, could Carrie Tremblatt be involved in the creation of this survey as well?
  - **Comment**: (Emily Wilfong, CDOT): We could have an ITF or focus groups to inform what this looks like.
- **Question** (Paul Aguilar, FHWA): One additional option was closing the trail during the week and keeping it open on weekends. Is this option feasible?
  - **Response** (Matt Hogan, Kraemer): This option was discussed during the Team site visit. The Construction Team works on most Saturdays so likely Sunday is the only day construction isn't happening. The roads in the project area are made for construction access and not pedestrian/bike traffic. The level of maintenance would be worrisome and the Team would also have a huge liability concern. This option was deemed likely unfeasible, but could be reexamined in subsequent meetings focused on the specifics of the shuttle service.
- **Comment** (Tyler Brady, CDOT): The Team is looking into a shuttle option with bike racks that only touch the tires, not the bike rim, allowing for 6 bikes to be transported without damage. This would accommodate different user groups. The Team is looking into a signaling and alert system so that the shuttle could be there as needed. These are details that still need to be worked through.
- An ITF can help with determining these next steps as well as data collection.
- Carrie Tremblatt is working on collecting Strava data, and would be on the ITF.
- The intersection of 6th and US 40 is where the trail would close. A map can be found here: <https://www.codot.gov/projects/i70floydhill/clear-creek-greenway-trail>
- **ACTION**: CDOT and Clear Creek County connect regarding the visitor use survey.
- **ACTION**: CDR to schedule Greenway Shuttle Detour ITF following initial discussions between CDOT and Clear Creek County.
  - ITF Goal: Determine the best path forward to meet the needs of the users regarding scheduling and the shuttle.

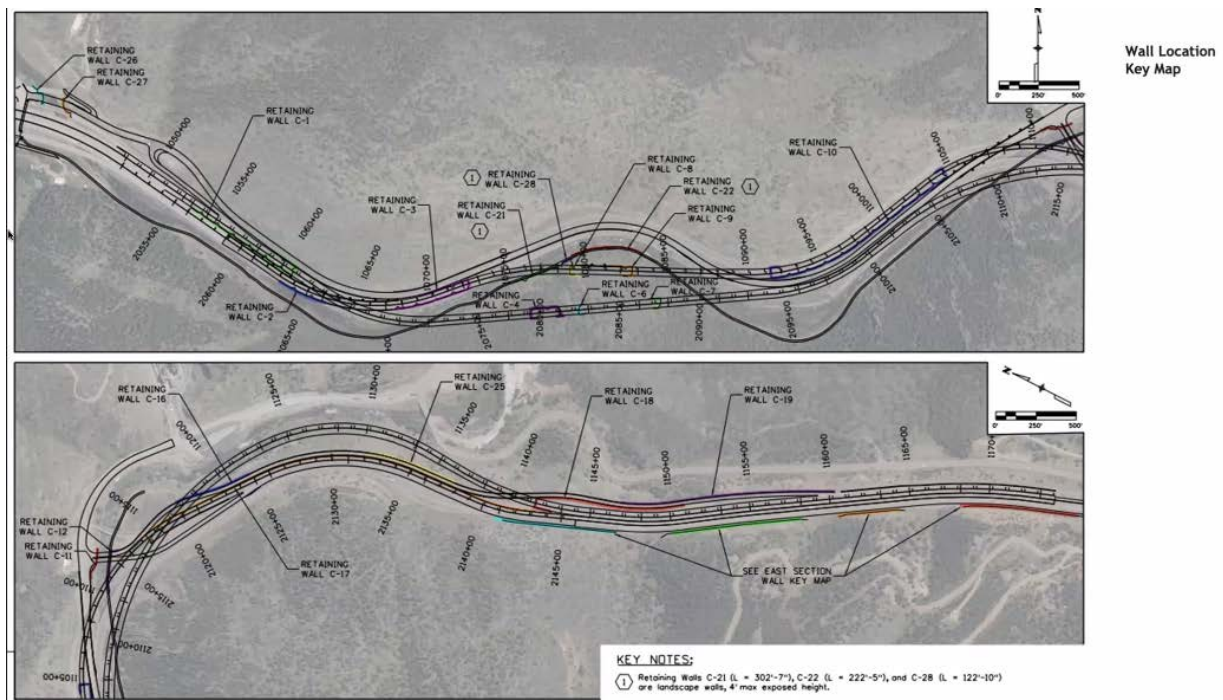


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- ITF Participants: Amy Saxton, Margaret Bowes, Abbie Moddafiari, Julian Gonzalez, Carrie Tremblatt, Matt Aguirre, Tyler Brady, Jon Cain, Bill Coffin, Mike Raber, Emily Wilfong, Mandy Whorton, Lindsey Daniels, Rhegan Fernandes, Paul Aguilar
- **ACTION:** Document the option and conversation of having the trail open on Sunday.
- **TT Comment:** The Greenway has been rebranded as the Clear Creek Trail.

## 4. Central Section Wall Panels: Follow Up

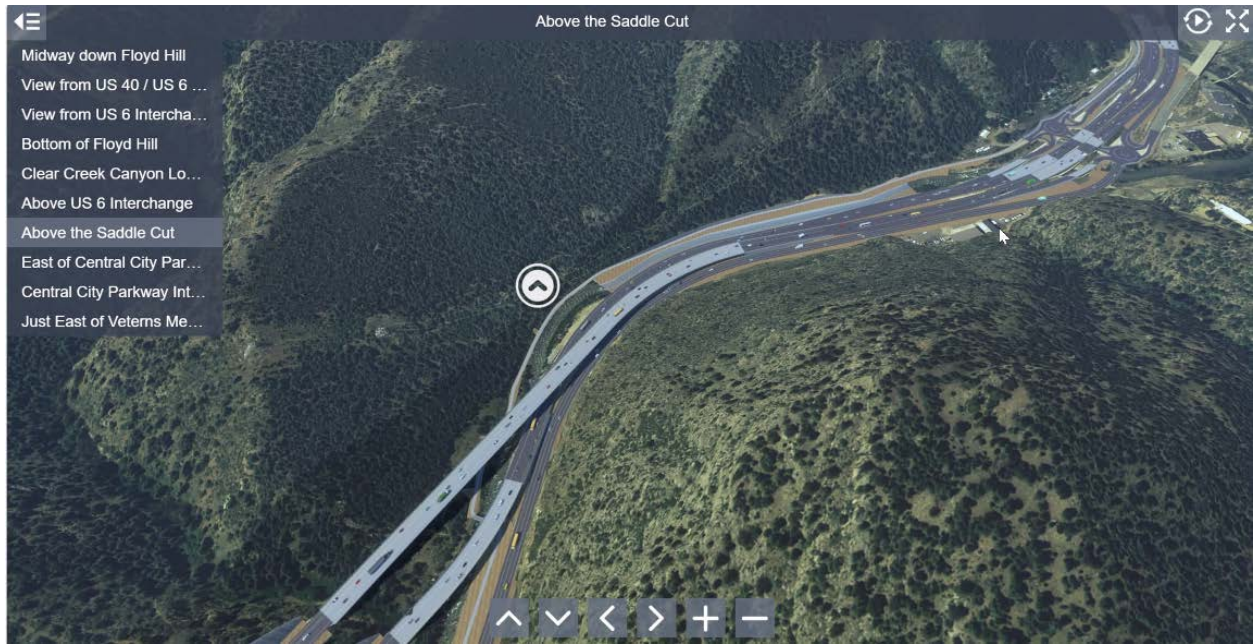
Matt Hogan, Kraemer, walked the TT through various wall locations along the project.



- Wall 10: Can only see it from the frontage road and visible from the Greenway.
- Walls 4, 6, 7 & C8, C9: Abutment wing walls, up on the slope a ways that wrap around and tie into slopes up on the side of the hill. Along the roadway these would be CO Random Reveal.
- Wall 28: On the trail, less than 4 feet tall and will be rockery walls (landscape wall).



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- C16 (below WB offramp) & 17 (very end of 17 gets ~40 ft by Bridge B) visible 40-50 feet up from the slope, but from I-70 perspective you cannot see these. They are not really visible from many places, primarily visible on I-70 off ramp.



- Walls 18 & 19 as WB off ramp begins to peel off, ~15 feet tall.
- Option A or B: both full height walls, one pre cast 10ft wide, one cast in place (can be done without impacting traffic, but have more equipment getting into and



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out of the work zone). Extra steps take extra time, but both have the same amount of backfill in them.

- Option C: 5x5 MSE panels construction.
- Option D: 5x10 MSE panels, would be a new way to do MSE, has not been done yet with this size panel. The movement in settling has some potential additional maintenance. 10 feet is the full height MSE panel limit.
- Most walls in the corridor are not this tall. The Twin Tunnels were all cast in place along the river. Across the river there were shorter panels.
- Wall C1: tapers down to less than 10 feet but sections up to 20 ft; C3: tapers down but goes to 25 feet tall; C10: on average 20 feet exposed along the length of C10.
- Walls supporting infrastructure, all default to CO random reveal.
- Walls C1, C3, C10: pose a space constraint challenge in the canyon.
- Up the Hill C10, C16, C25: still investigating the height layout, exact location, global stability. This will impact the cast in place wall from the engineering aspect.
- **TT Comment:** Each wall has a different role for visual connectivity and impacts and cost implications with time. For the walls with the highest visual value for the driver can we do full height/cast in place, and for the other walls that have lesser value, maybe we can use MSE, for some abutments could continue the MSE aesthetic versus CO Random Reveal.
- **ACTION:** The Team will work on a context specific analysis of each wall and bring to the TT to build understanding on the visibility and constructability of each wall. There will be a TT specifically focused on this wall by wall review. Key questions to consider include:
  - 1) What's visible from the highway
  - 2) What's visible from the Greenway
  - 3) What are the other walls that will be hidden by landscaping, etc. over the years (hard to know the success rate of this)
  - 4) What is Kraemer's recommendation
- East section walls are not visible to the interstate which might help with this determination.
- The TT could also consider identifying walls on which a smooth surface could be used that don't have a visual impact. The goal is to limit visual treatments in the county.

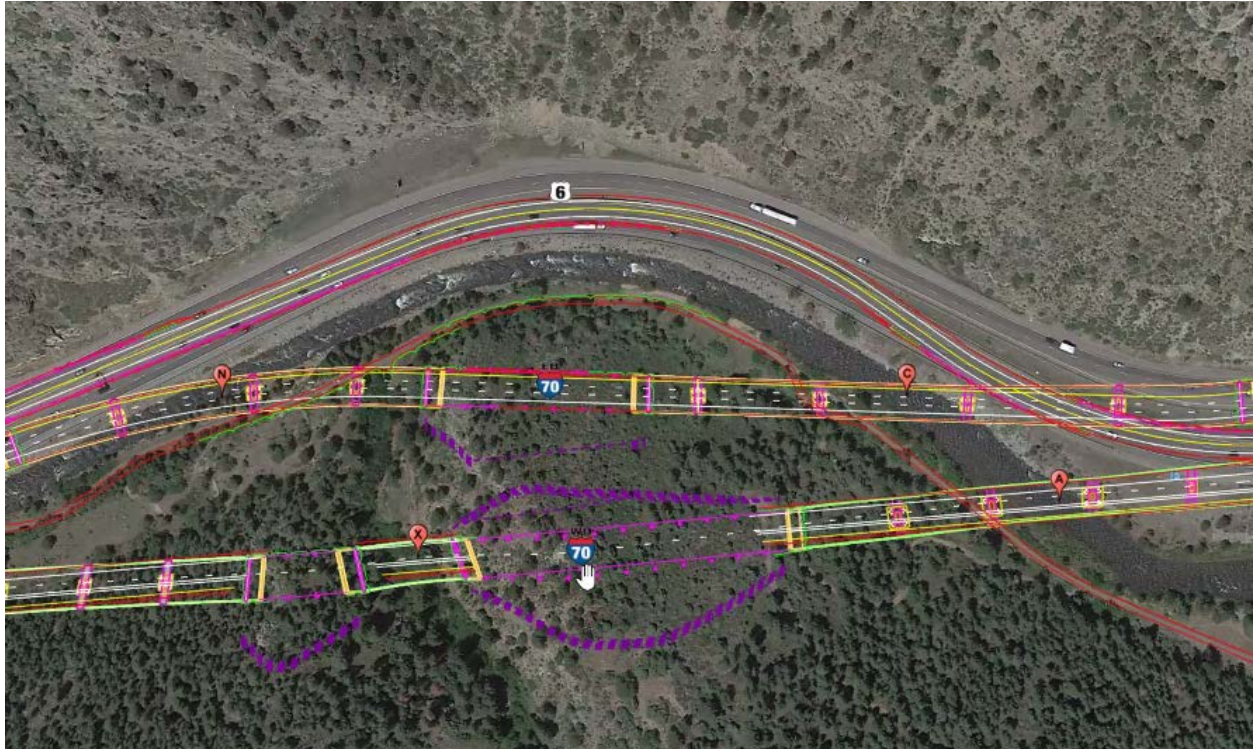
## 5. Introduction to Saddle Cut Geotech Data

Matt Aguirre, Atkins, introduced the TT to new saddle cut geotechnical data.

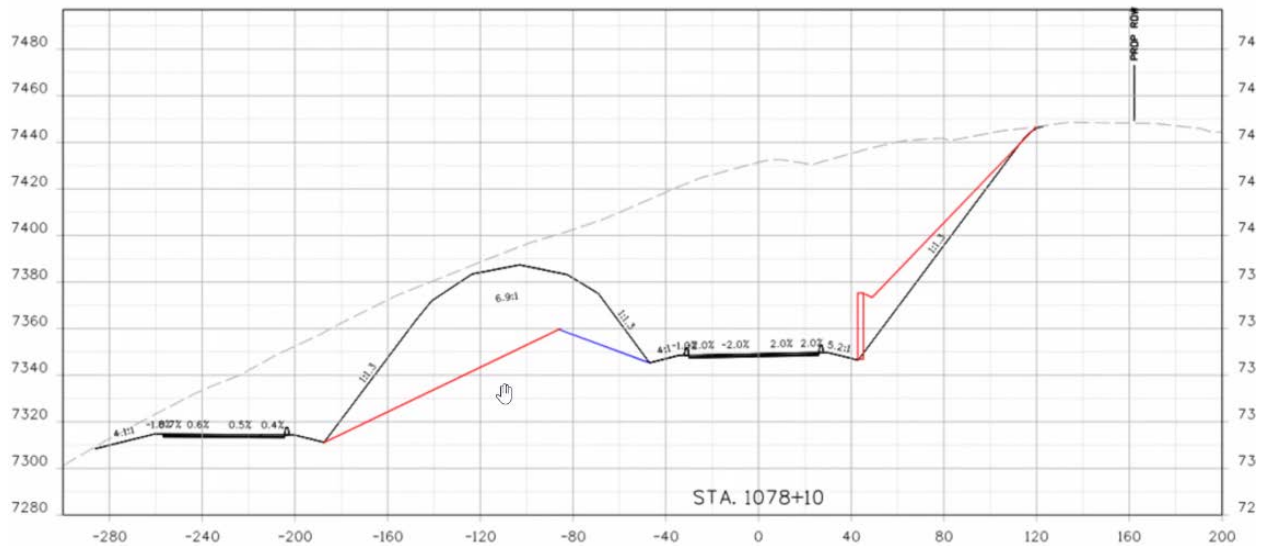




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- The Team is analyzing what the slopes look like on either side of the saddle cut based on new geotechnical data. They will be ready to discuss more in an upcoming meeting, this is just an introduction.



The Team is finding that there is not as competent rock in this section as there is in some other sections of the project. There is more overburden, what is actually rock is



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less competent, and then there is some competent rock further down. The Team is looking into what can be incorporated into the different levels where they are. It's not homogenous.

- **Comment** (Cindy Neely, Clear Creek County): This is potentially a major shift in the depth of cut, amount of overburden removed, and shape of the hill.
  - **Response** (Matt Aguirre): A shift in the shape of the hill, yes, the depth profile is locked in based on the shape of the road. The Team is figuring out how best to treat this, and it will likely look a bit different than what was previously discussed. They will present strategies for mitigation in an upcoming meeting.

## 6. Introduction Alternate Gider Types

Matt Hogan, Kraemer, and Tammy Hefferon, HDR, introduced the topic of alternate girder types. Previously, girder types were brought to the TT, but due to the project's interest in ongoing design refinements, the TT is revisiting the issue. The issue for the TT centers on whether to use U girders or Bulb T girders in specific locations.



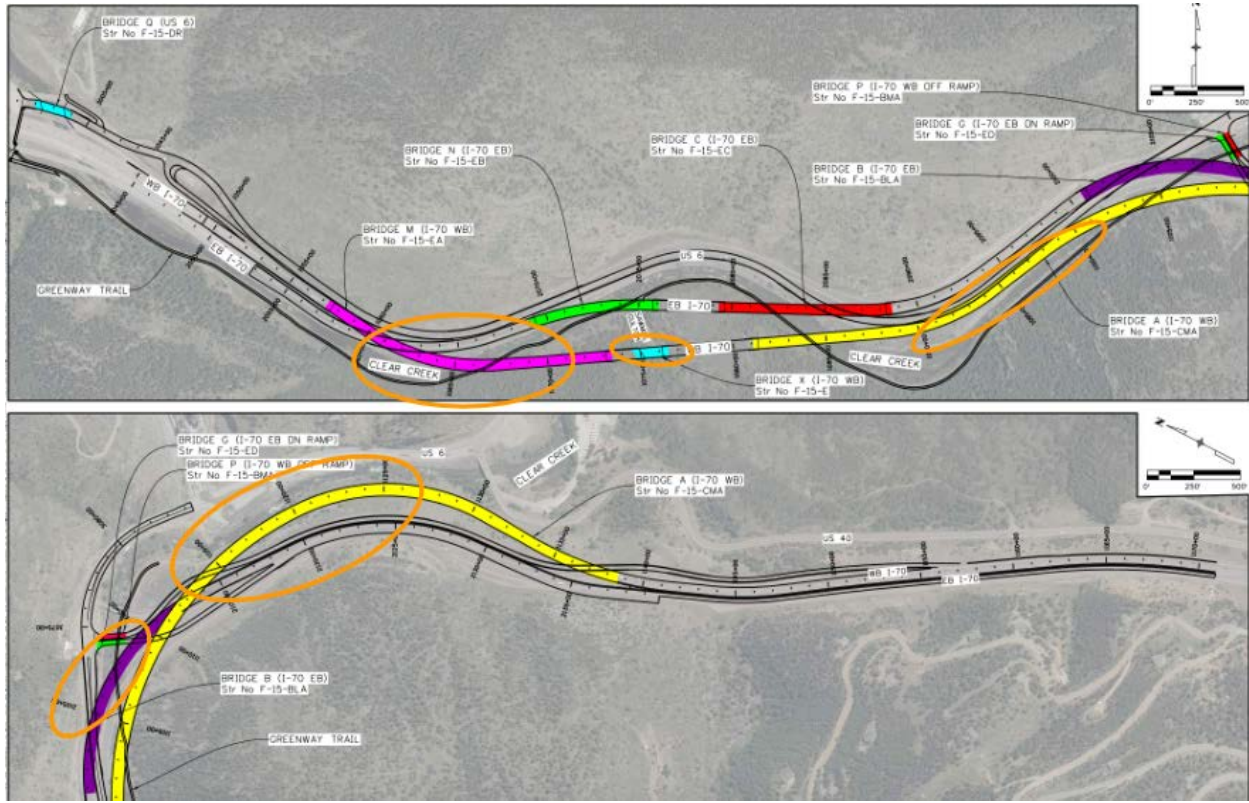
U girders



Colorado Bulb Tees



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- Every color on the map above represents a different bridge. The orange circles are pretensioned girders which is what we are talking about today. The bridges without the orange circles span long lengths and geometry will not allow a single span with an I. The team is still looking into this. Bridge N is the hardest to solve with curvature. A standard U Girder weighs 240,000 lbs.
- 241 bridge: Colorado bulb tee girders in prestressed options are lighter in the 160,000 lbs range and easier to construct as traditional cranes can erect them.
- All will be concrete girders and will be stained appropriately.
- U Girders can be cast in a curve; would have to splice a CBT
- **ACTION:** Kraemer will bring back renderings of different girder types and will continue to look at opportunities on how to implement this.
- The girders might be inconsistent on one bridge, but would still be consistent from any viewshed a user would have.
- **Question:** Has the Team looked into steel girders?
  - **Response:** Yes, Kraemer is investigating this option, but there are no steel fabricators in CO which makes it tough. Concrete has been closer to matching aesthetic guidelines in the corridor as well. The maintenance would also be different on steel girders.



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## 7. Next Steps, Action Items, & Wrap Up

### ACTION ITEMS:

- **ACTION:** CDOT and Clear Creek County connect regarding the visitor use survey.
- **ACTION:** CDR to schedule Greenway Shuttle Detour ITF, following CDOT and Clear Creek County discussions
- **ACTION:** Document the option and conversation of having the trail open on Sunday.
- **ACTION:** The Team will work on a context specific analysis of each wall and bring to the TT to build understanding on the visibility and constructability of each wall. There will be a TT specifically focused on this wall by wall review.
- **ACTION:** Kraemer will bring back renderings of different girder types for further review.
- **ACTION:** CDR to Circle back on Construction TT kickoff, multiple members out of country on 10/20.

## 6. Attendees

Bill Coffin (Saddleback Community POA); Sam Hoover (Central City); Cindy Neely, Amy Saxton (Clear Creek County); Matt Aguirre (Atkins), Matt Hogan, Koichi Shimomura (Kraemer); Kevin Shanks (THK); Margaret Bowes (I-70 Coalition); Mike Raber (Clear Creek Bicycle Users Group); Jon Cain (Idaho Springs); Stephanie Gibson, Chelly Sundermeyer, Paul Aguilar, Julian Gonzalez, Elizabeth Cramer (FHWA); Stefi Szrek (Jefferson County); Lisa Wolff (Floyd Hill HOA); Tracy Sakaguchi (CMCA); Tammy Hefferon (HDR); Emily Wilfong, Abbie Modaffieri, Carrie Tremblatt, Francesca Toronado, Tyler Brady, Jeff Hampton, Stacia Sellers, Kurt Kionka, Tyler Weldon, Ryan Sullivan (CDOT); Mandy Whorton (PEAK Consulting); Rhegan Fernandes (CIG Public Relations); Daniel Estes, Julia Oleksiak (CDR Associates)