



I-70 Floyd Hill

Floyd Hill CMGC Technical Team

Meeting Summary

January 5, 2024, 10:30am 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 1-5-24

1. *Introductions & Agenda Review*
2. *Project Updates*
3. *Central Section Walls: High and Medium Visibility*
4. *Wrap Up & Next Steps*

TT members confirmed the meeting agenda with one addition of an Access Package 3 update.

2. Project Updates

Main Projects

- *East Section Construction* - The current big focus is on soil nail walls and building drainage ditches. Walls E-10, E-11, and E-8 have progressed and the Team is working on ancillary rock wall mitigation. In the next week, Walls E-2 and E-3 (closer to the top of Floyd Hill) will start to see a lot of activity. There are two upcoming blasts currently scheduled for January 24 and 31 at Wall 10.
- *West Section Design* - The Team is targeting late February/early March for construction activity to begin in the West Section. Blasting in this section won't begin until later in the summer.

Early Projects

- *Roundabouts* - At US 40, the Team is working on finishing up the walls. The curb and gutter work is complete and the Team is getting the pass through lane ready. At County Road 65, the Team is working on walls and grading.



I-70 Floyd Hill

- *Genesee Wildlife Crossing* - Girders have been set and the Team is working on getting the deck poured. Work has been limited in recent days by low temperatures.
- *El Rancho Parking Lot* - Construction is projected to begin in the summer.

Environmental

- Working through final approvals for the West package.
- Archeological reporting is in process now. Centennial Archaeology will present findings either to the full TT or an ITF likely in March.
- No concerns on air quality monitoring.

Utilities

- Progress is still being made on the current utility relocation efforts but there are some issues with multiple utility providers trying to work in the same locations. The Project Team is working with the utility companies to keep the process moving forward.

ROW

- CDOT received appraisals back from Clear Creek County and have acquired some necessary parcels of private property. CDOT is meeting with Central City next week and part of that discussion will include ROW-related issues.

TT Questions

- **Question** (Cindy Neely, Clear Creek County): What is happening with utilities in the West Section? What is happening at Hidden Valley going east along the Greenway Trail?
 - **Response** (Tyler Brady, CDOT): Several utilities have sought permits in the West Section which CDOT will be issuing. Some activity will begin in this area. At Hidden Valley going east, all communications lines are installed past the saddle. The trench is close to completion from Hidden Valley to the Saddle Cut area on the north side. There will be a joint trench that will house communications and CDOT fiber. Excel is working on the south side of the Greenway Trail.
- **Question** (Mike Raber, Clear Creek Bicycle Users Group): How close are the utilities to the schedule presented?
 - **Response** (Kurt Kionka, CDOT): The utilities are behind schedule but have 3 crews working now (instead of 1) in an effort to try and get back on track. The goal was that utilities will be “out of the way” by the spring, but



I-70 Floyd Hill

there is still a lot of work to do in the Hill section depending on how the trench goes.

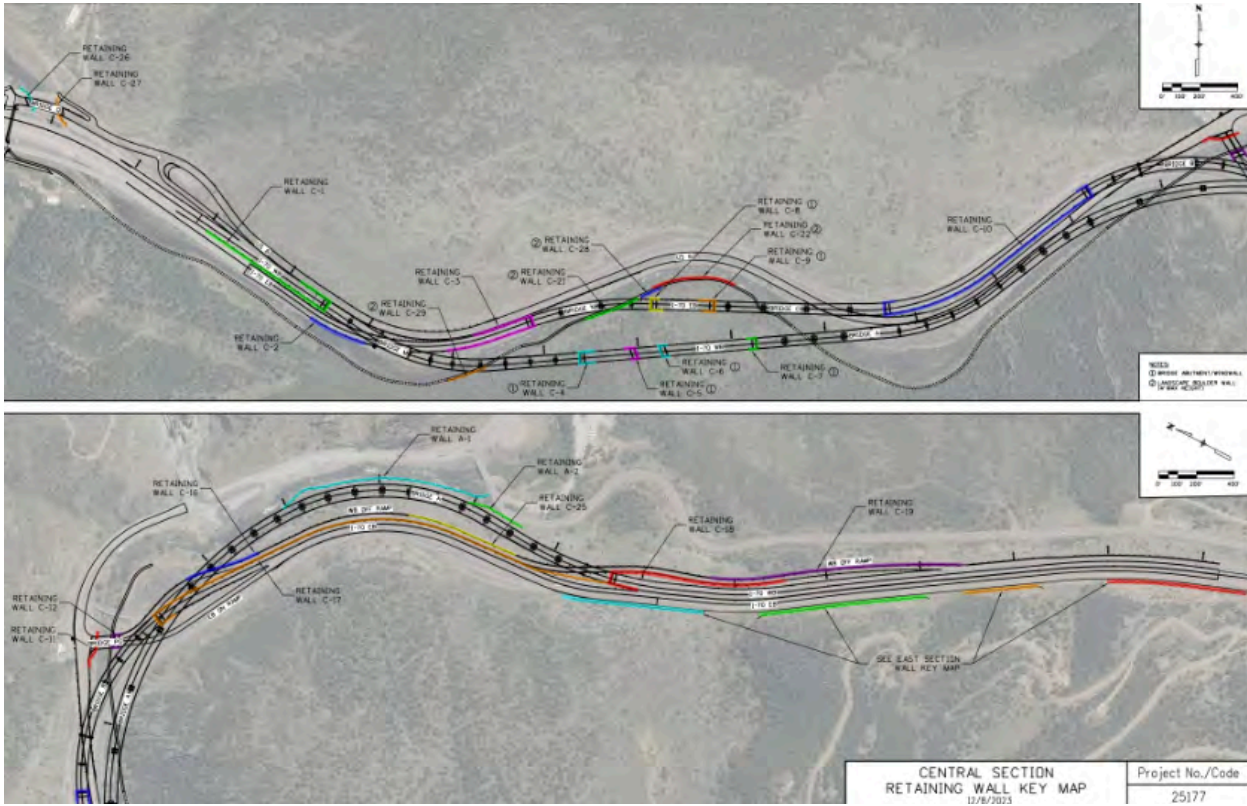
- **Question:** Are the properties in Hidden Valley a part of ROW conversations?
 - **Response:** The current plan does not impact properties on the south side of Hidden Valley.
- **Question:** (Margaret Bowes, I-70 Coalition): The entrance to the WB Mountain Express Lane has moved. Stakeholders have been asking why this has been moved even though the Floyd Hill lane won't open for a few years? There are also some striping issues in this area that we are aware CDOT is working on.
 - **Response** (Matt Hogan, Kraemer): The West Section package will include a big rock cut in the area in question, so the signs needed to be moved to shift traffic to give the Team room to do that work. The move happened early as this will be the first activity that needs to get done on the West Section and the Team wanted the move to happen before peak use for that lane.
- **Question** (Cindy Neely): Related to striping, there is an unusual visual effect in the morning where you can't see the new white striping, but you can see where it's been filled in from the old. This is causing cars to edge towards the right and the side we don't want them on. Is it possible to brighten up the stripes or add shadowing?
 - **Response/ACTION:** Matt Hogan will look into potential solutions.

3. Central Section Walls: High and Medium Visibility

Matt Aguirre, Atkins, re-introduced this topic to the TT. The TT had previously been introduced to the Central Section Walls in the fall of 2023 and then the Project Team walked through all of the Central Section Walls with the TT on the 12/1/23 meeting. Due to the high number of walls in this section, the Project Team separated them by category into high, medium, and low visibility. Today, the TT will be reviewing the visual impact of the high visibility and medium visibility walls with the goal of providing the Project Team input on the aesthetics, constructability, and cost of the different wall construction methods (5x5 MSE panels, 5x10 MSE panels, full height panels or cast in place). Kevin Shanks, THK Associates, then walked the group through renderings of example walls, starting with high visibility walls and moving to medium visibility walls.



I-70 Floyd Hill



Central Section wall key map



I-70 Floyd Hill

Wall C-1: wraparound wall for where Bridge M lands. First view is looking east on EB with Bridge M and WB 1-70 in view. Second view is from the Greenway Trail.



Wall Treatment: Full height



Wall Treatment: Full height



I-70 Floyd Hill



Wall Treatment: 5x5 panels



Wall Treatment: 5x5 panels



I-70 Floyd Hill



Wall Treatment: 5x10 panels



Wall Treatment: 5x10 panels



I-70 Floyd Hill

C-1 is a wraparound wall that can be seen from the Greenway and is adjacent to the frontage road. This wall will be built in detoured WB I-70 in a narrow corridor. 20 ft walls require external bracing and, due to the space constraints, there is not enough room to do a full height MSE panel in this location. The two other full height options would be a gabion wall which adds an extra sequence of time, or a full height cast in place wall which requires a lot of construction travel in and out of the median and increased traffic disruptions.

TT Questions/Comments

- **Comment:** When looking at the renderings of the 5x5 or 5x10 panels it looks like the depth of the joints is less than the grooves of CO Random Reveal which look deeper and wider.
 - **Response:** These will be chamfered joints which have a smaller depth than CO Random Reveal. CO Random Reveal has a 1.5 inch max depth, while the horizontal line would only be $\frac{3}{4}$ inch. The angle of the sun throughout the day will also have an impact on how visible the joints will be—likely more visible midday and less visible in the morning and the afternoon. This effect is hard to fully represent in the renderings.
- **Comment** (Amy Saxton, Clear Creek County): In previous TT meetings, this group discussed aesthetics and the preference to reserve the use of full height walls in high visibility areas, and that in medium to low visibility areas we could look at using the smaller panels. We had not discussed which walls would qualify as being high visibility. Is the aim today to reconsider prior aesthetics discussions?
 - **Response:** The reason we are talking about the wall aesthetics discussion again today is due to cost and constructability. We need to determine what is most important to this group and look at the potential impacts on constructability and budget on the high visibility walls. There have also been significant design changes to some of the walls (C-10) that have impacts on constructability and budget considerations.
- **Comment** (Jon Cain, Idaho Springs): Jon expressed support for the 5x10 panels and noted that in the renderings, the full height panels make the walls look bigger.
 - **Response:** The Project Team will still need to work through viability with suppliers of the 5x10 panels as this is not a customary panel size.
- **Question** (Cindy Neely): At what height does the difficulty in construction happen?



I-70 Floyd Hill

- **Response:** There is not an exact point, as it will depend on specific wall conditions. However, the more reinforcement and bracing are needed, the more risk there is to the panel and the more difficult construction becomes. Full height walls also do not have flexibility to settle and thus can be more prone to cracking over time. 5x5 walls are the fastest to construct and most economical. They are also the most flexible and settle better. The Project Team will work to limit settlement with design of whichever wall treatment is chosen.
- **Question** (Amy Saxton): The “grid” appearance of the smaller panels is a departure from CO Random Reveal. As such, would we consider having the panels without CO Random Reveal?
 - **Response:** Without CO Random Reveal, the grid would look very out of place within the aesthetics of the larger corridor.
- **Comment:** The horizontal lines present some problems with aesthetics but have benefits to constructability.

ACTION: The Team will work on presentation materials to better showcase what the 5x5 panels look like in real time conditions.



I-70 Floyd Hill

Wall C-10: along EB in the narrows from Bridge C abutment to Bride B abutment, runs along US 6. First view is looking west on US 6. Second view is from the Greenway Trail.



Wall Treatment: Full height



Wall Treatment: Full height



I-70 Floyd Hill



Wall C-10

Wall Treatment: 5x5 panels



Wall C-10

Wall Treatment: 5x5 panels



I-70 Floyd Hill



Wall Treatment: 5x10 panels



Wall Treatment: 5x10 panels



I-70 Floyd Hill

The TT agreed that C-10 continues to be one of the most highly visible walls in this section and more discussion should take place to determine the aesthetic treatment.

Wall C-18: runs on WB inside off-ramp before you go under Bridge A; **Wall C-19** runs on outside of WB off-ramp, essentially a fill wall. Image view from US 40.



Wall Treatment: Full height



Wall Treatment: 5x5 panels



I-70 Floyd Hill



Wall Treatment: 5x10 panels



Greenway Trail below Bridge A

The TT agreed that both walls C-18 and C-19 could be categorized as low visibility.



I-70 Floyd Hill

Wall C-17 (upper): runs all the way from Bridge B abutment up the hill to Bridge A abutment along EB/WB off-ramp; **Wall C-25** (lower): runs along outside of WB off-ramp. First view is from the Fry Property across US 6. Second view is from the WB off-ramp.



Wall Treatment: Full height



Wall Treatment: Full height



I-70 Floyd Hill



Wall C-17 & 25

Wall Treatment: 5x5 panels



Wall C-17 & 25

Wall Treatment: 5x5 panels



I-70 Floyd Hill



Wall C-17 & 25

Wall Treatment: 5x10 panels



Wall C-17 & 25

Wall Treatment: 5x10 panels



I-70 Floyd Hill

The TT agreed that both walls C-17 and C-25 could be categorized as medium visibility. Clear Creek County representatives expressed support for using 5x5 panels on these walls.

The Project Team then walked the TT through the remaining walls in the section by referencing the wall key map. An overview of those walls is listed in the table below.

Wall(s)	Proposed Aesthetic Treatments
Wall C-2	Match smooth surface aesthetic that is already there
Walls C-4, 5, 6, 7, 8, 9	Abutment walls going into the Saddle Cut. The current plan is to match aesthetics of what has been done for abutments on this project before. The only aesthetic change will be a sloping of the coping versus stair stepping (bigger squares, no texture)
Walls C-11 & 12	Abutment walls for Bridge PG, wing wall will go to CO Random Reveal
Wall C-22	Retaining/fill wall that the Greenway Trail sits on top of. Rock wall 4 ft or less
Wall C-21	Top wall on the high side of Greenway trail. Rock wall 4 ft or less
Walls C-28 & 29	Very similar to C-21 & C-22
Wall A-2	Meant to be temporary. Intend to backfill
Wall C-3	EB wall that is needed for the grade difference to get to Bridge N. This will be another visible wall.

ACTION: The Team will put together renderings for C-3 and bring these to the TT for review

TT Agreement: Walls C-16, 17, 25, 18, and 19 are lower visibility. The Project Team is able to move forward with 5x5 MSE panels with CO Random Reveal on these.



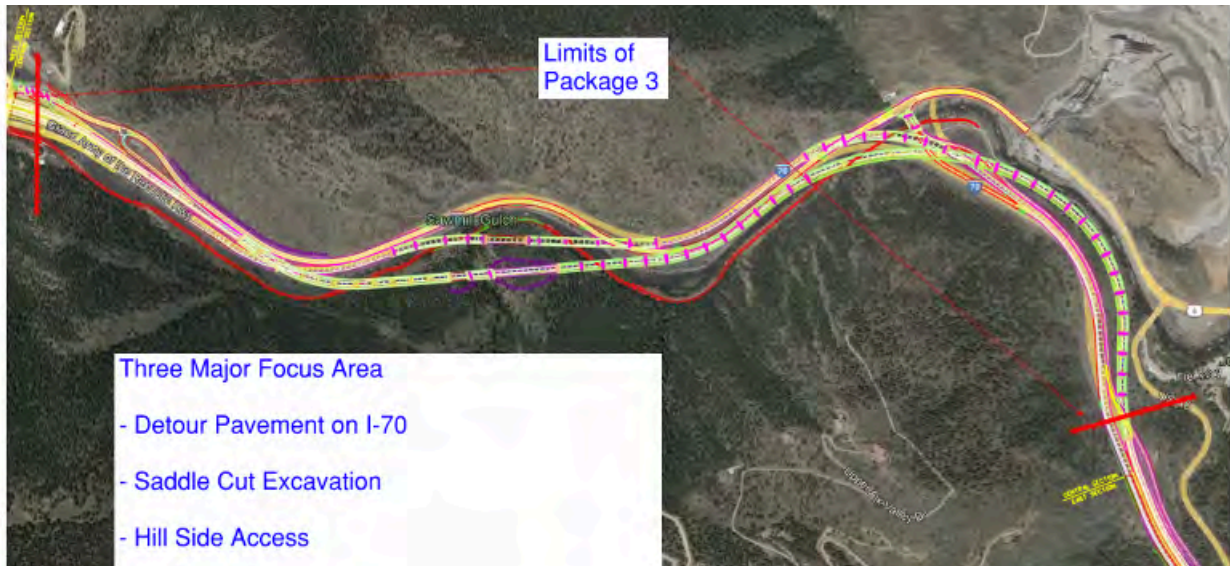
I-70 Floyd Hill

TT Agreement: Walls C-1, 3, and 10 are high visibility and will require some additional work to develop a high visibility treatment.

ACTION: The Project Team will take the feedback from today and will put together an approach for Walls C-1, 3, and 10, taking constructability and budget challenges into consideration, and present back to the TT.

4. Package 3 Access Roads

Per the request of Clear Creek County representatives, Matt Hogan, Kraemer, and Matt Aguirre, Atkins, walked the TT through the Package 3 Access Roads and updates to this package since previous designs were submitted to Clear Creek County. The Team shared the graphics below to showcase the three major focus areas of Package 3 which are 1) Detour pavement on I-70, 2) Saddle Cut excavation, and 3) Hill Side access.



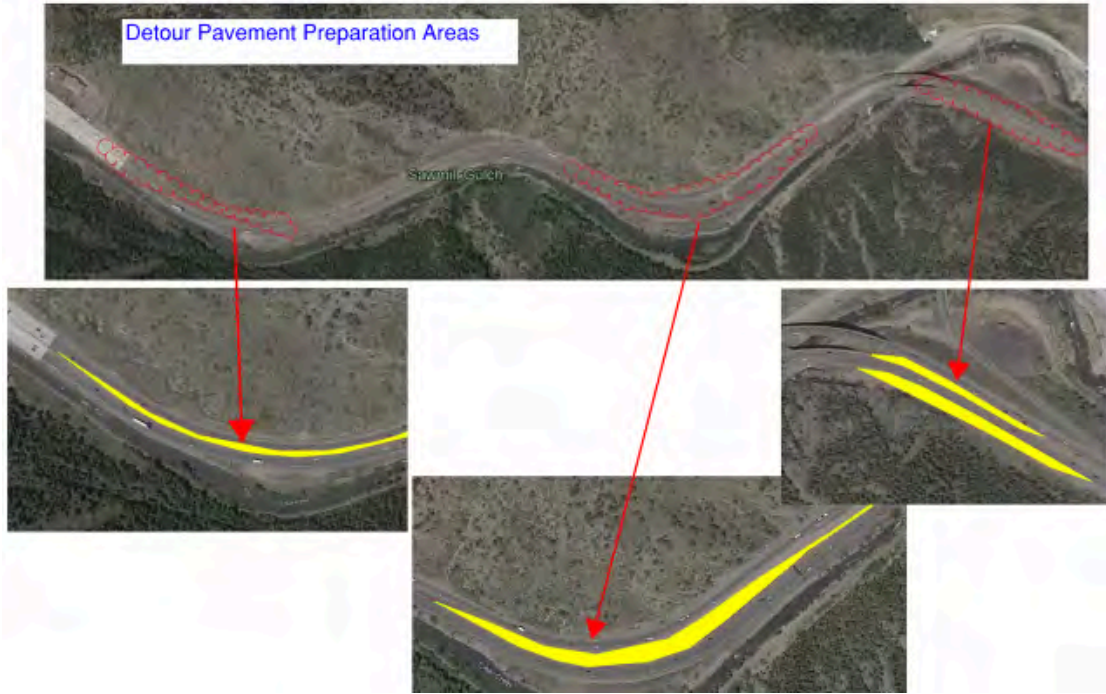
Package 3 boundaries seen above in red



I-70 Floyd Hill

Detour pavement preparation will be happening through the canyon as part of Package 3 and can be seen in the map below. These three areas are all in CDOTs existing ROW.

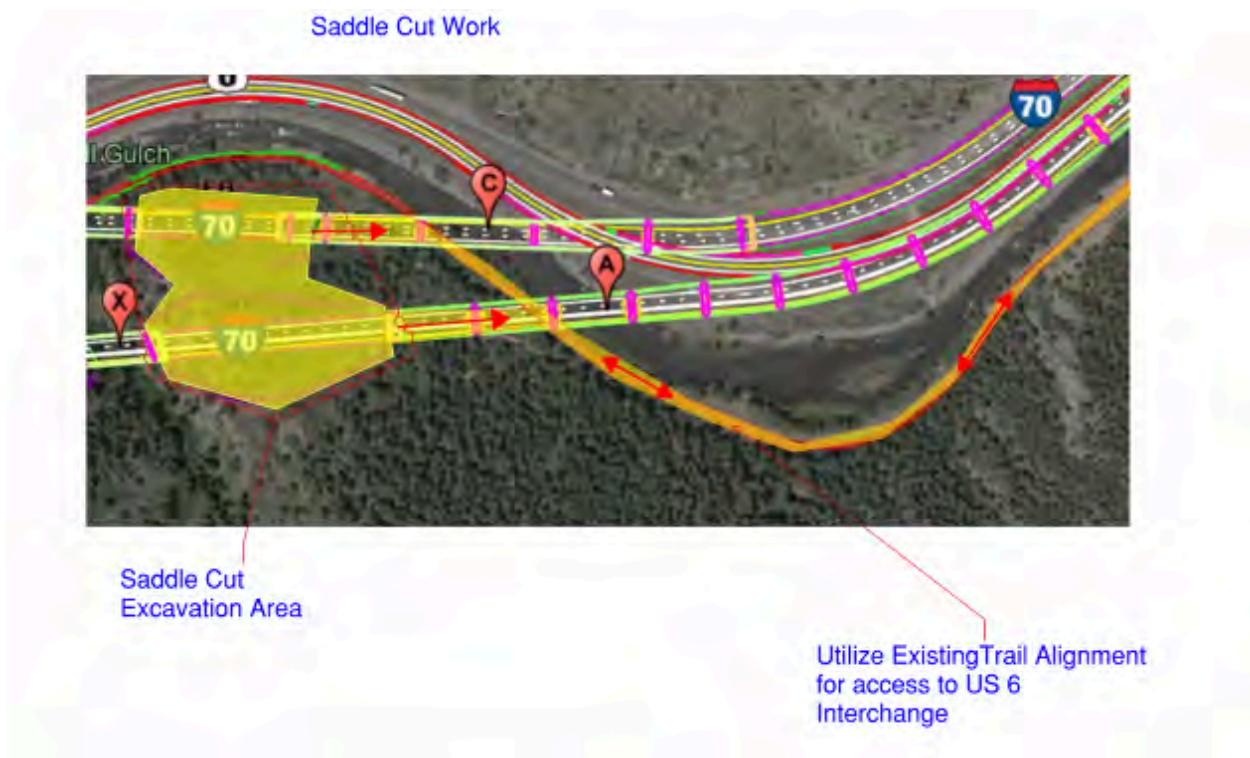
1. Just E of Hidden Valley
2. Just E of the Saddle Cut (for a detour taking place at the beginning of Package 4)
3. Just E of US 6 on both sides of I-70





I-70 Floyd Hill

Saddle Cut excavation will also happen as part of Package 3. All of the construction material from the Saddle Cut will be transported on the existing Greenway Trail and be driven towards US 6. The Team will not be widening the trail or clearing trees. It is important to advance the Saddle Cut in Package 3 because that path will ultimately be in the way of future columns. The red arrows in the diagram below represent two very steep construction access roads. These access roads will be closed on either end with construction fencing to keep people out of the construction zone.

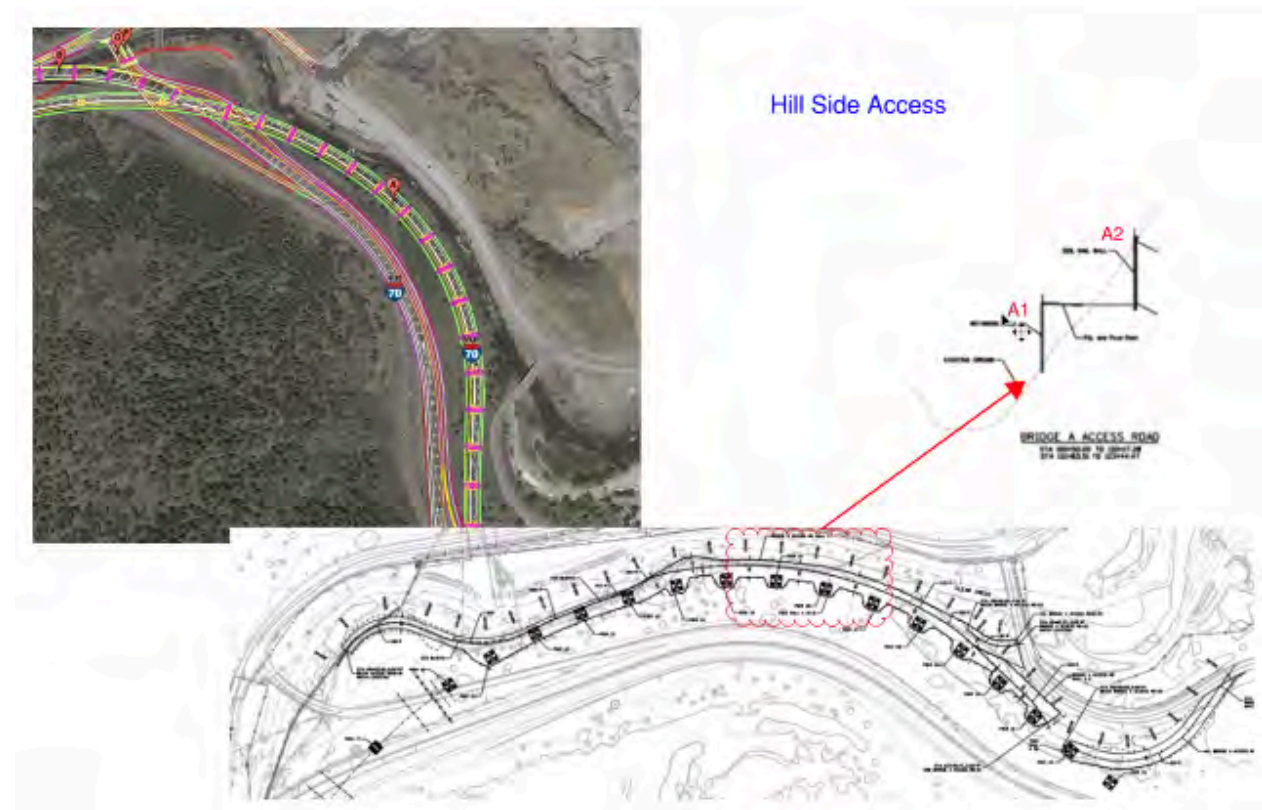




I-70 Floyd Hill

For Hill Side access (US 40 and US 6 interchanges), the area needed for cut walls will have some temporary aesthetic changes. Wall A-1 is a fill wall and will be a permanent gabion basket wall. A-2, which is below the flat level area that is being created for construction access will be backfilled.

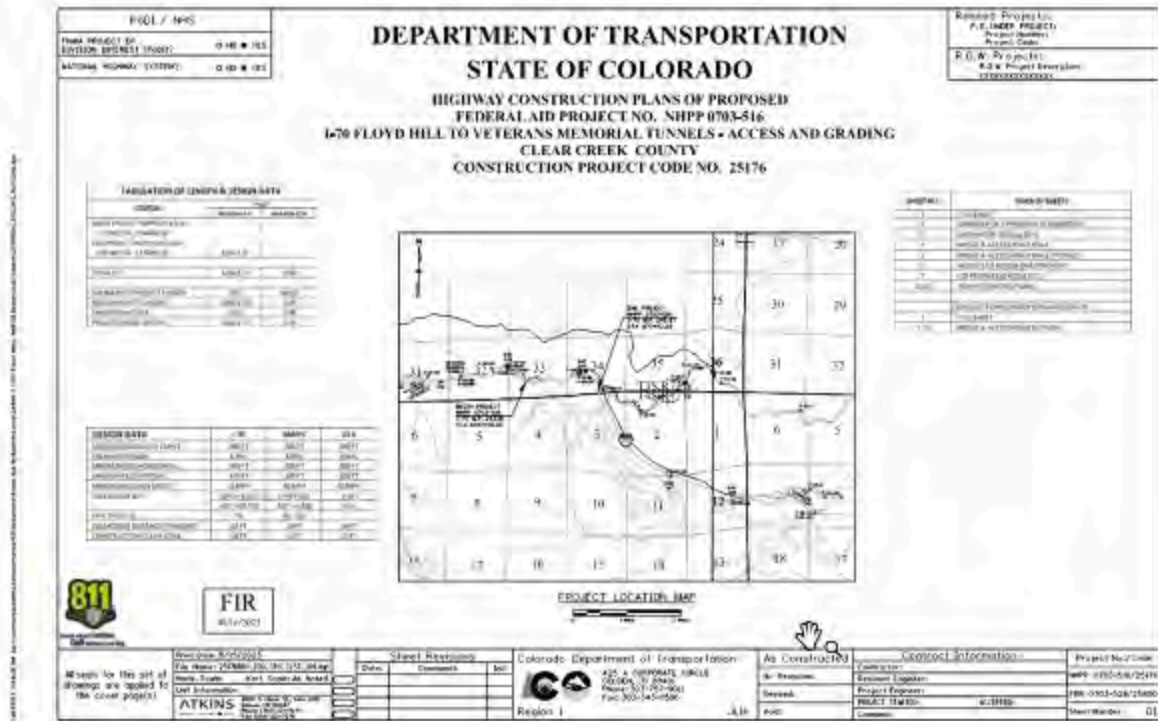
ACTION: Add A-1 wall specification (rock size, etc.) to future TT meeting agenda



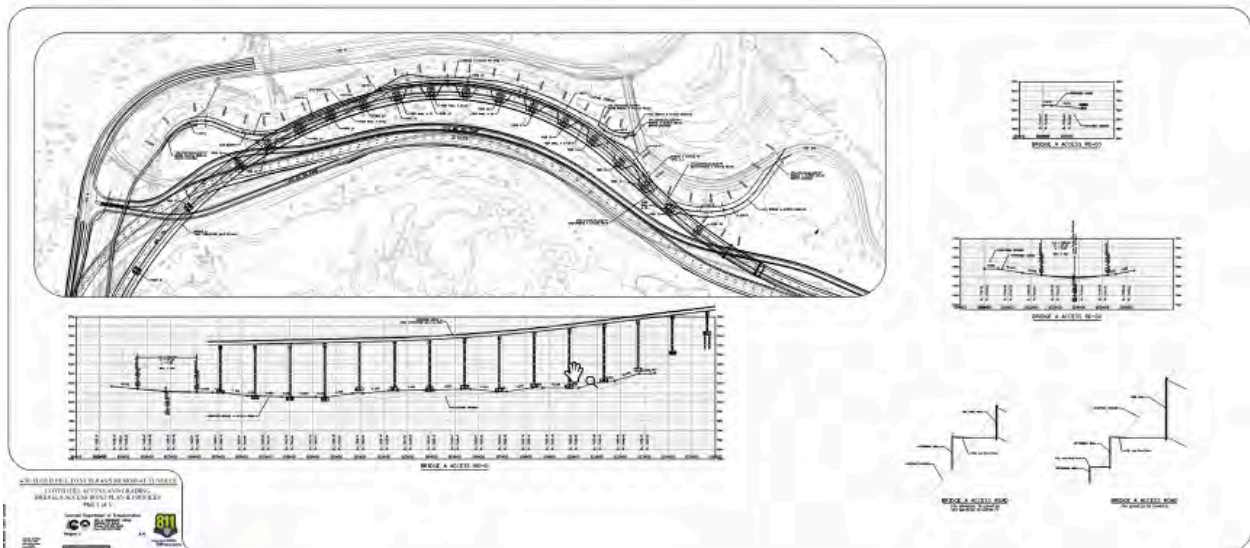
Matt Aguirre then shared some of the initial information given to Clear Creek to showcase how this Package has been updated. Changes are listed under each image below.



I-70 Floyd Hill



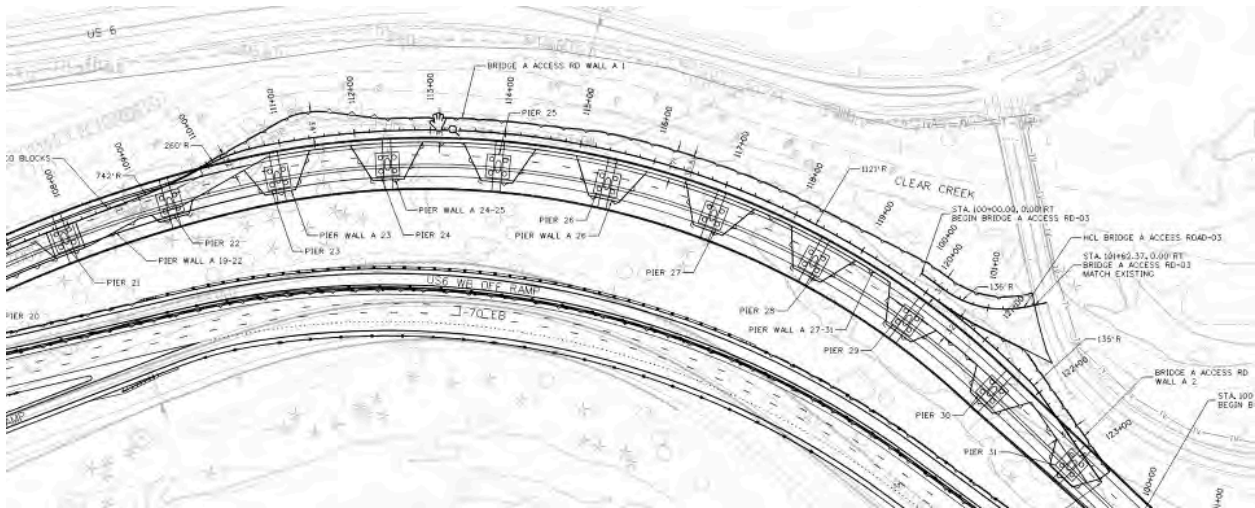
FIR from August 2023 (30%), now nearly 90% and FOR



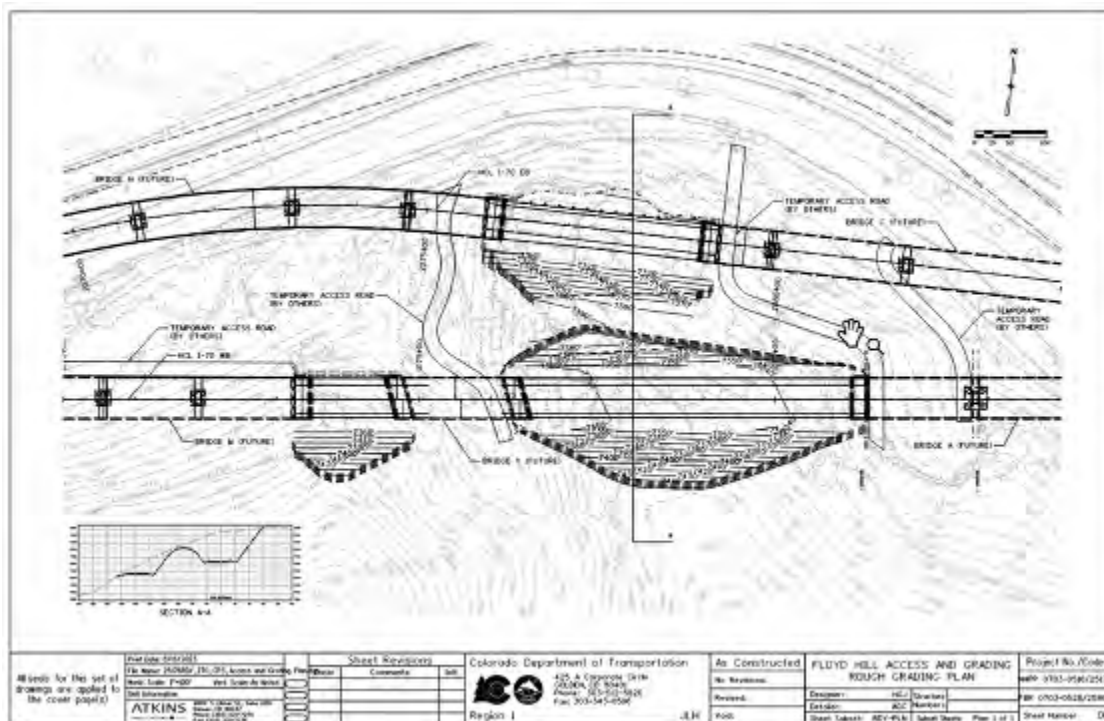
The bridge pictured won't be constructed



I-70 Floyd Hill



Wall A-1 is shown above, but design has since been updated



High level grading exhibit, has since been updated. The 3 access paths pictured are not designed roads, they show areas of disturbance that will be used to get equipment to the site. Since these are not permanent features, they will not be designed by Atkins, Kraemer will create these. Revegetation, including regrading, for those access paths will be a part of Package 4. Access Bridges will also be a part of Package 4.



I-70 Floyd Hill

TT Questions/Comments

- **TT Question:** Will the Greenway Trail stay wider once construction is done?
 - **Response:** The pavement of the Greenway Trail is currently gone, but the Trail will go back to county standards (10 ft wide, 2 ft shoulders) once reopened.

5. Wrap Up & Next Steps

Future TT Topics

- Gabion basket walls (A-1) rock size

ITF Updates

- Deicer ITF has been scheduled for: 2/15
- Greenway Closure and Shuttle ITF: Doodle Poll forthcoming

ACTION ITEMS:

- **ACTION:** Matt Hogan will look into the striping issues that Cindy brought up
- **ACTION:** The Team will work on presentation materials to better showcase what the 5x5 panels look like in real time conditions
- **ACTION:** The Team will put together renderings for C-3 and bring these to the TT for review
- **ACTION:** The Project Team will take the feedback from today's wall discussion and will put together an approach for Walls C-1, 3, and 10 and present back to the TT at a future meeting.
- **ACTION:** Add A-1 wall specification (rock size, etc.) to a future TT meeting agenda

6. Attendees

Sam Hoover, Jack Beard (Central City); Jon Cain (Idaho Springs); Amy Saxton, Cindy Neely (Clear Creek County); Matt Raber (Clear Creek Bicycle Users Group); Bill Coffin (Floyd Hill POA/Saddleback POA); Jo Ann Sorensen, John Curtis, Diane Kielty (UCCWA); Chelly Sundermeyer, Julian Gonzales, Liz Cramer (FHWA); Margaret Bowes (I-70 Coalition); Stefi Szrek (Jefferson County); Tracy Sakaguchi (CMCA); Tammy



I-70 Floyd Hill

Heffron (HDR); Mandy Whorton, Ashley Bushey (PEAK Consulting); Kevin Shanks (THK); Matt Hogan (Kraemer); Matt Aguire, Anthony Pisano (Atkins); Kurt Kionka, Tyler Brady, Jeff Hampton, Abbie Modafferi, Ryan Sullivan (CDOT); Daniel Estes, Julia Oleksiak (CDR Associates)