



# I-70 Floyd Hill

## Floyd Hill CMGC Technical Team

### Meeting Summary

March 1, 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 3-1-24

1. *Introductions & Agenda Review*
2. *Project Updates*
3. *Follow up: Central Section Walls*
4. *ITF Updates and Recommendations*
5. *Wrap Up & Next Steps*

TT members confirmed the meeting agenda with no changes.

## 2. Project Updates

### Main Projects

- *East Section Construction* - EB wall work continues and the drills have moved further up the hill. The Team is also progressing on drainage work below the walls. Further east, the Team will begin installing 2 miles of wildlife fencing and will be coordinating this work through the summer. At the end of March, WB I-70 lanes will be narrowed and WB traffic will shift towards the median. The narrower lanes may have some impacts on traffic.
- *West Section Design* - The Team received a Notice to Proceed (NTP) 2 days ago. West Section work will begin with pothole repairs and patching. The following week, the Team will be shifting traffic and moving temporary barriers to prepare for median work and nightly closures.

### Early Projects

- *Genesee Wildlife Crossing* - In the final phase, wrapping up April/May of 2024.



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- *Roundabouts* - Wall work is mostly complete and the Team is working on paving and final grading. The Team anticipates an early summer completion for both roundabouts.

## Environmental

- No updates.

## Utilities

- Utility work is progressing and Kraemer is helping to facilitate ongoing trench work. Xcel has a trench and conduit installed from US 6 to the Saddle Cut. Lumen and Centurylink have installed their trench opposite of Excel. About  $\frac{2}{3}$  of the area needed has been trenched and conduit has been pulled. Along the hillside, work is tracking to be completed later in March with Excel potentially moving underground and removing poles. The Project Team is still working closely with the environmental team to make sure work remains within the permit.

## ROW

- CDOT has provided an offer to Clear Creek County and the county is in the process of responding. CDOT is confident that the ROW will be in place by the early summer.
- CDOT is also working with Central City and hoping to work towards an agreement on the ROW as well as the 1041.

## Other Updates

- N/A

## TT Questions/Comments

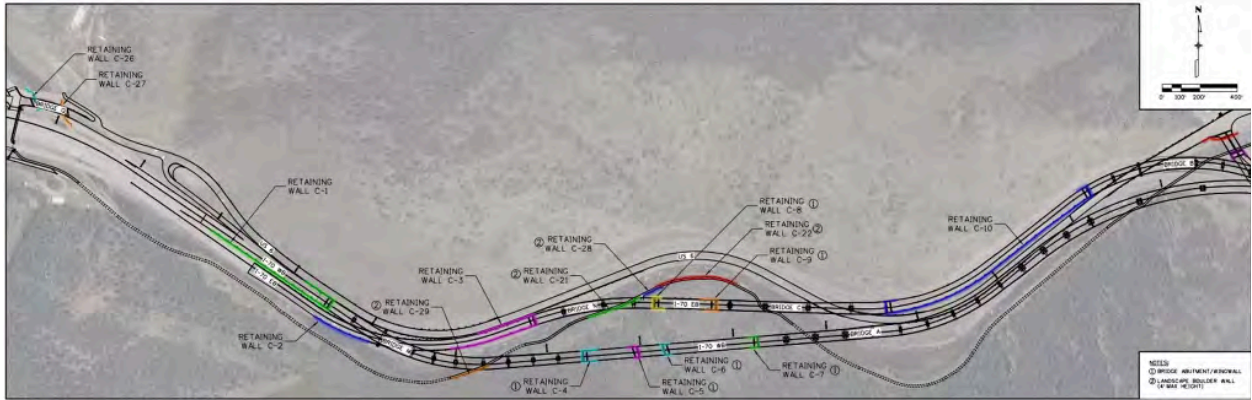
- **Comment** (Cindy Neely, Clear Creek County): Cindy suggested that the team share and celebrate when the utility poles come down, as this will be a major fire protection win.

## 3. Follow Up: Central Section Walls

Daniel Estes, CDR Associates, noted that the TT had previously worked through the low and medium visibility walls. Matt Hogan, Kraemer, then walked through the constructability and budget considerations for each of the high visibility walls: C-1 (seen in green below), C-3 (seen in magenta below), and C-10 (seen in blue below).



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Central Section Wall Key Map

Matt started with C-1, the wraparound wall for where Bridge M lands



Wall C-1 looking east on EB with Bridge M and WB 1-70 in view. The wall is seen here with 5x10 panels.

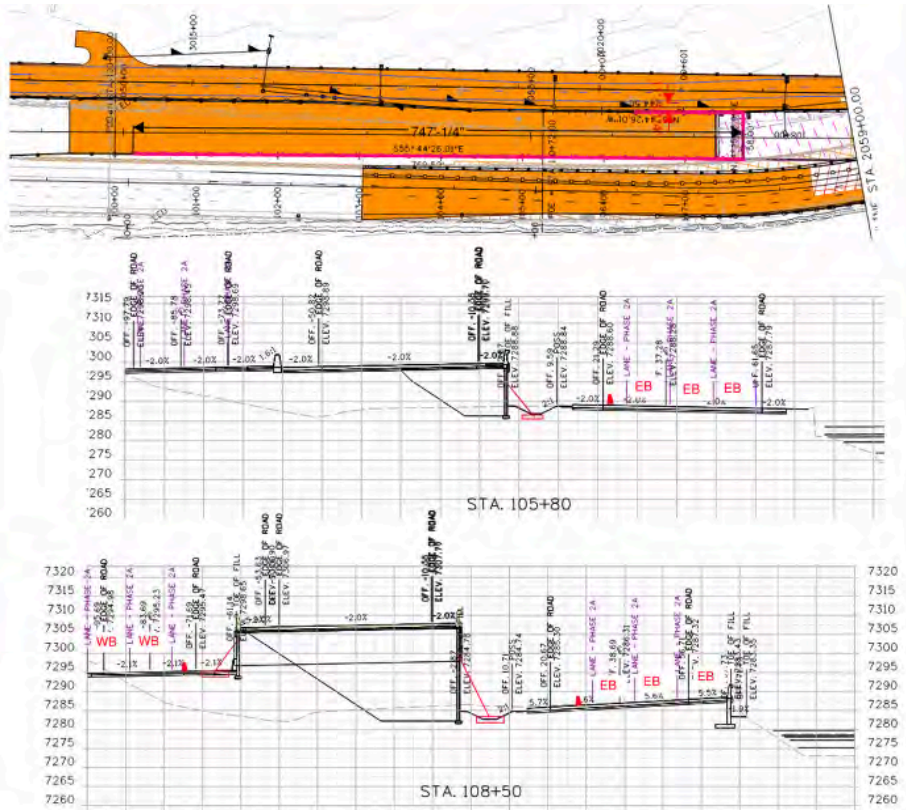


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Wall C-1

Wall C-1 seen from the Greenway Trail. The wall is seen here with 5x10 panels.



Design schematic and cross section of Wall C-1.



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When wall C-1 will be constructed, WB I-70 will be in the existing roadway. The wall will be built in the median. The Team will have more room for construction than originally anticipated, thus, it is functionally possible to build a full height wall in this area. There would be a 15% premium for the full height wall versus the cost of the 5x10 panels.

The TT then looked at Wall C-3, which wraps around to Bridge N on the north side.



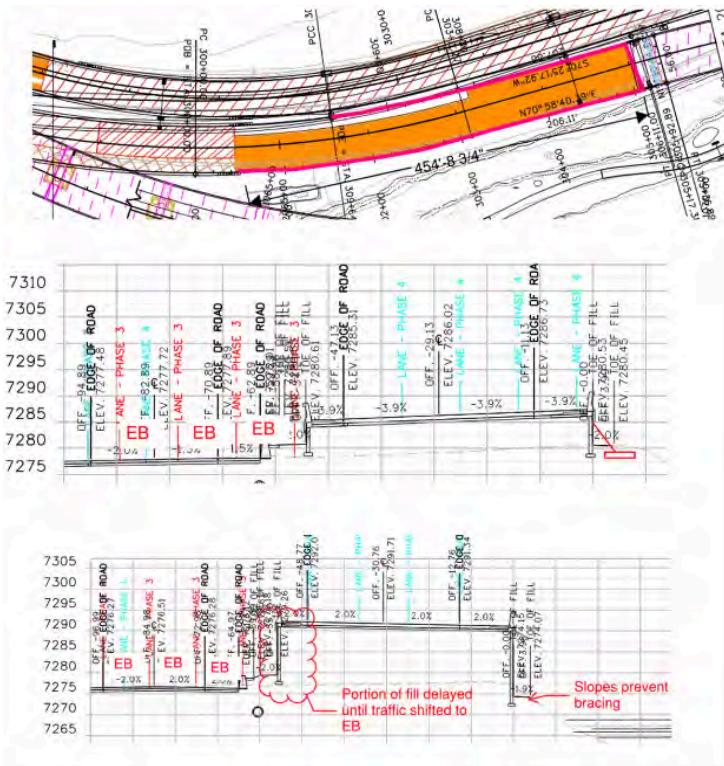
*Wall C-3 seen looking east from the Greenway Trail on the south side. The wall is seen here with 5x10 panels.*



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Wall C-3 seen from future US 6 looking west on the north side with Bridge M in the distance. The wall is seen here with 5x10 panels.

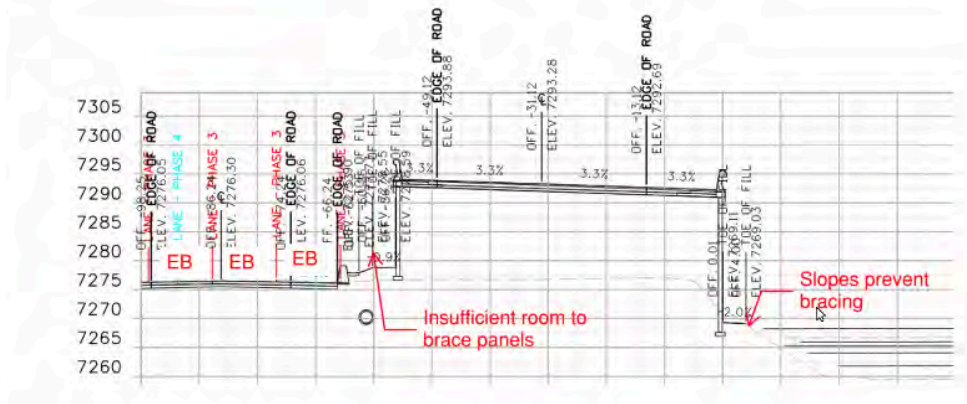


Design schematic and cross section of Wall C-3.



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450 feet of the wall C-3 is exposed to the river and 300 feet of the wall is exposed to US 6 on the other side. This wall will be built after WB is on the new viaduct. Given where EB will be, there is not much space to brace the wall. The Team will need to use a phased wall construction approach. The blue below represents Phase 4. As the wall gets closer to the bridge, the slope down to the river prevents bracing. Full height walls would require two-stage construction and there would be a 20% premium. The additional costs would be due to wall scouring and extra materials and structural elements. There are a number of construction challenges with Wall C-3.



Wall C-10 is along EB in the narrows from Bridge C abutment to Bride B abutment, runs along US 6.



Wall C-10

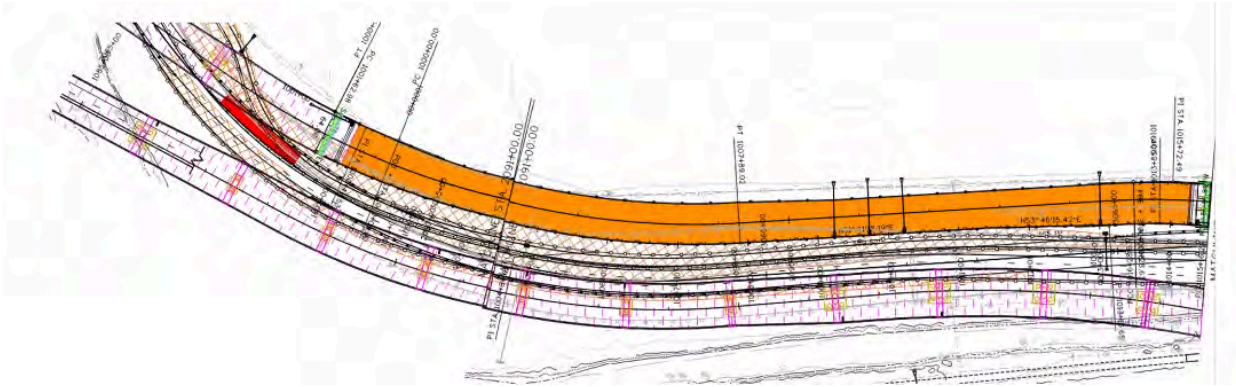
Wall C-10 seen looking west on US 6. The wall is seen here with 5x10 panels.



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Wall C-10 seen from the Greenway Trail. The wall is seen here with 5x10 panels.



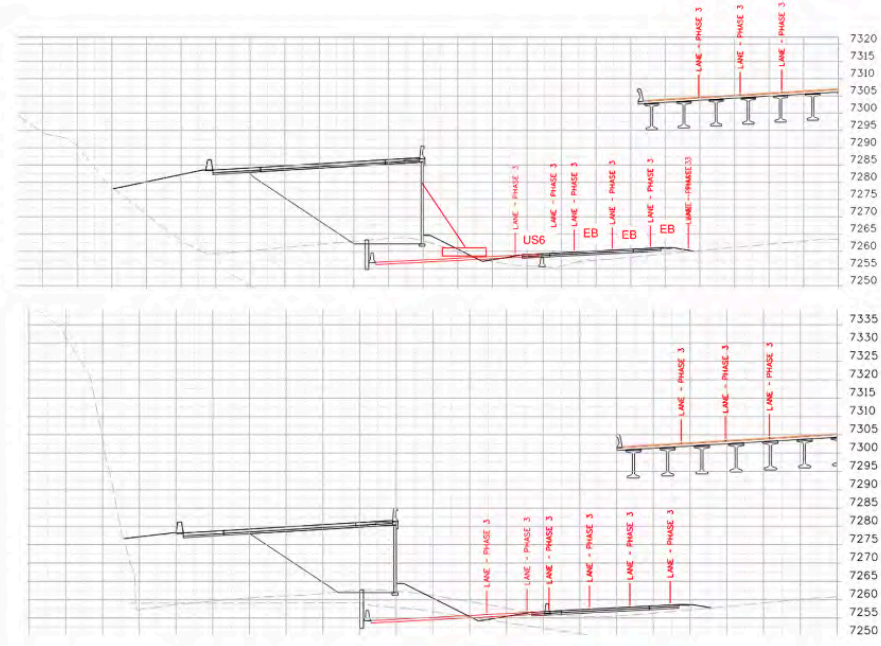
Design schematic of Wall C-10.

Wall C-10 will not be constructed until WB is up on the viaduct. C-10 is adjacent to 3 lanes of EB I-70 and US 6. There are 4 lanes that will need to be maintained and barrier-separated through this area. The rock excavation will minimize the overall height of this wall to 20-30' as there will be some fill.



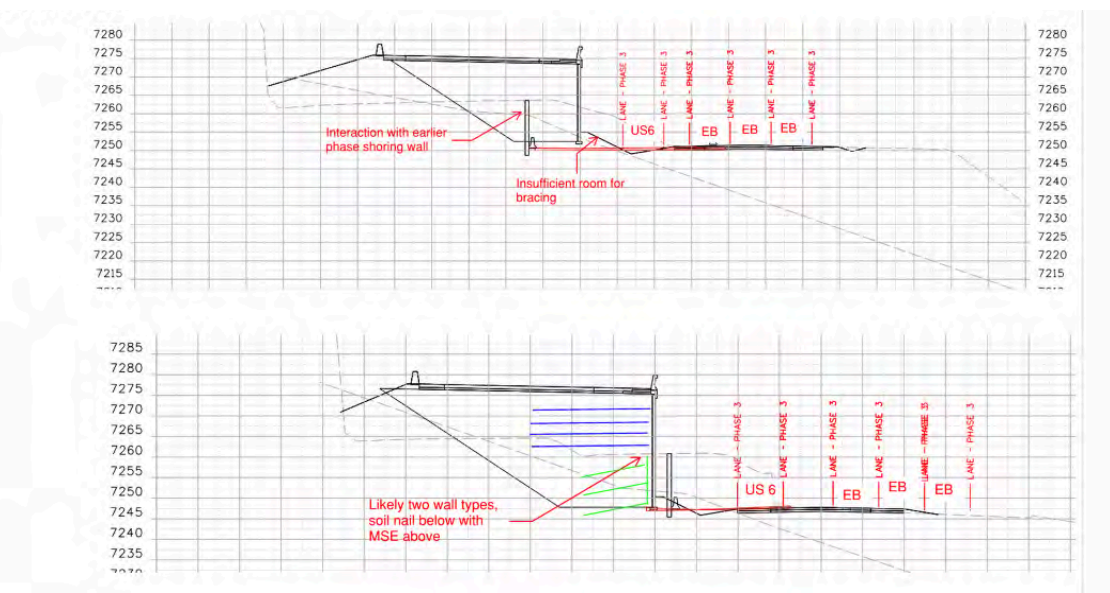


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Cross section of Wall C-10.

In the cross section above, the red horizontal line shows where traffic will be shifted to build the columns for the bridges. At the far west end, there is room to brace, but as this wall is put up on fill, MSE walls will be more flexible with settlement versus a single wall panel.



Additional wall C-10 design schematic.



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There will be spacing and bracing issues in this location. A shoring wall (seen above) will be built in Package 3 and removed in Package 4 and then rebuilt. There would be an 18% premium for full height walls. Moving forward with full height panels on all three walls would cost roughly \$2 million.

## TT Questions/Comments

- **Question** (Cindy Neely, Clear Creek County): What does the Team need to know from the TT to move forward?
  - **Response** (Matt Hogan, Kraemer): We need input, based on this new information, on what type of wall system to design. The aesthetic treatment on the wall panels does not make a difference to the structural engineering or to the cost.
- **Comment** (Bill Coffin, Saddleback POA): Given the constraints, it does not seem like there are many options.
  - **Response**: The only other option is cast in place alternatives. The premiums for these were about the same as full height panels, but there would be more impacts to the public so the Team has not looked into this option as much.
- **Comment** (Cindy Neely): The options are 5x10 panels or full height panels, but if we deviate from CO Random Reveal on these three walls, there may be other options.
  - **Response** (Kevin Shanks, THK): If there are concerns with the 5x10 panels and how the horizontal joints would impact CO Random Reveal, we could look at different form liners that would respond better to that concern. We should decide what we are comfortable with structurally and then can figure out what the form liners should be.
  - **Response** (Amy Saxton, Clear Creek County): All three walls (C-1, 3, and 10) are visible from the Greenway or US 6, but not necessarily from I-70. \$2 million is a lot of money to spend to have a CO Random Reveal treatment for walls that are not actually on I-70. It may be reasonable to look at a different design surface.
- **Comment** (Cindy Neely): Cindy appreciates the need to find fiscal adjustments where possible, and adding \$2 million dollars to the project cost does not seem appropriate.
- **Question**: Kevin, how do you feel about looking at different design surfaces?
  - **Response** (Kevin Shanks): Aesthetic guidelines are ultimately guidelines, and the CSS process is context specific. Given that, there is value in exploring what other options may fit here aesthetically beyond CO



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Random Reveal. We can change texture on the renderings to showcase different examples. Landscape walls were always treated differently so there is some precedent for this.

**TT Agreement:** The Team will move forward with a 5x10 panel wall design, and will present other wall treatment options to the TT that may be more compatible with the grid look of the 5x10 panels.

- **Question** (Kurt Kionka, CDOT): Kurt agrees that this is a fair compromise, and wanted to confirm if the Team is looking at 5x5 panels too or just 5x10?
  - **Response:** The team is looking at 5x10 panels only. This was deemed the best option considering all the factors (cost, constructability, aesthetics).

## Next steps and Timeline

Matt Hogan hopes to be able to bring in other form liners within the month. Matt will also reach out to local precasters and see if there is an opportunity for the TT to go on a field trip to get a look and feel for these in real life.

- **ACTION:** At the next TT meeting, the Team will bring pictures/renderings of different form liners.

## 4. ITF Updates and Recommendations

Daniel Estes, CDR Associates, provided an overview of the recent Greenway Shuttle and Deicer ITFs.

**The Greenway Shuttle ITF** came to a consensus that the project shuttle option was the preferred option for a variety of reasons. These primarily included level of service, scalability, and cost. The project shuttle would be operated by the Kraemer traffic control team and would be cell phone directed 10 hours a day, 7 days a week. It would accommodate 4 people and bikes and would be parked at Two Bears or Hidden Valley. Mike Raber, Clear Creek Bikeway User Group, expressed support for this option. Amy Saxton, Clear Creek County, emphasized that the project shuttle option focuses on the service as needed versus looking at an existing system (i.e. Clear Creek RoundAbout), and this makes it much more efficient.

There is also a communication plan dedicated directly to the Greenway Trail closure. The Communications Team has completed initial outreach informing the public about the closure. In phase 2, the Team pushed out a survey and received over 100



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responses which, in part, helped to confirm the project shuttle option. The last phase will continue throughout the closure and will include informing the public about the shuttle option. The Communications Team will reach out to various stakeholder groups and has a robust plan in place that highlights specific touchpoints. The Team will continue reaching out to communities and the media ahead of each season.

**ACTION:** Jon Cain and Amy Saxton will touch base and look into a closure sign that is located on 214. Jon would like to move the sign west towards the beginning of the bridge so that it is more visible. The Project Team's closure sign is at Hidden Valley.

**The Deicer ITF** focused less on coming to a decision, and more on information sharing. This included two presentations from CDOT, one from Josh Giovanetti, Region 1 Water Quality Specialist, and the second from Mike Chapman, Winter Operations Program Manager. Mike's presentation covered all of the different factors that go into deicer application, the technology behind it, and the consortiums that CDOT is part of. There was also a discussion on upcoming research related to deicers and the opportunity to submit further research proposals. CDOT had a snow plow on site for ITF members to look at. The group talked about some potential next steps, but questions still remain on what the project is doing to advance this issue.

## TT Questions/Comments

- **Question:** Did the ITF discuss how the project can inform deicer/salinity issues?
  - **Response:** Yes, the ITF talked about technology that provides information on how icy roads are and incorporating that into the design of the project.
  - **Response (Amy Saxton):** The group talked about looking at the specific drainage design figures put in place on this project and opportunities for sampling to figure out if/how well these features are working.

Kurt has initiated a water quality working group to help find practical, functional solutions and to work with environmental experts. This group also talks about the Clear Creek 1041 so as not to use TT/ITF time to discuss that.

- **Comment (Cindy Neely):** The project has attempted to implement design modifications to address salinity that are not commonly used. One real project-level contribution to the salinity discussion would be to conduct the sampling necessary to see if those modifications actually have an impact. If so, those could be passed on to other projects for future implementation.
  - **Response (Kurt Kionka):** This was talked about at a high level at the ITF. Looking into the implementation of something like this gets complex as



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there is a difference between what comes off of WB and what actually goes into the creek. Kurt hopes the working group can address some of these challenges.

- **Comment** (Daniel Este, CDR Associates): Some members have expressed an interest in scheduling the next Deicer ITF meeting. Would it be possible for this working group to give a presentation to the Deicer ITF?
  - **Response** (Kurt Kionka): The working group is currently meeting monthly and likely needs a few more meetings before there would be something to present. Could look at the next ITF meeting in mid-summer.
- **Question** (Mike Raber): How many CDOT snow plows are at the same level of sophistication as the plow that was at the meeting?
  - **Response** (Kurt Kionka): Kurt believes that that level is the standard in all CDOT snow plows.

## 5. Wrap Up & Next Steps

### TT Cadence Change

- There has been a recommendation to scale back TT meetings from every two weeks to once a month based on upcoming topics and timing. There may be a few cases where the TT needs to meet more frequently which can be scheduled on a case-by-case basis. Based on this, the next TT will be March 29th.
  - **ACTION:** CDR will delete the old invite and create a new invite. The meeting will be at the same time on Fridays every 4 weeks.

### ACTION ITEMS:

- **ACTION:** At the next TT meeting, the Team will bring pictures/renderings of different form liners.
- **ACTION:** Matt Hogan will reach out to local precasters and see if there is an opportunity for the TT to go on a field trip to see the form liners in person.
- **ACTION:** Jon Cain and Amy Saxton will touch base and look into a closure sign that is located on 214.
- **ACTION:** CDR will delete the old invite and create a new invite. The meeting will be at the same time on Fridays every 4 weeks.



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## 6. Attendees

David Duke, Mike Vanatta (Jefferson County); Amy Saxton, Cindy Neely (Clear Creek County); Margaret Bowes (I-70 Coalition); Lynnette Hailey (Black Hawk), Julian Gonzalez, Bill Schiebel, Liz Cramer (FHWA); Sam Spicer, Kevin Shanks (THK); Lisa Wolff, Bill Coffin (Floyd Hill POA); Jack Beard, Joe Behm, Sam Hoover (Central City); Tyler Weldon (Bridge and Tunnel Enterprise); Andy Marsh, Jon Cain (Idaho Springs); Lindsey Daniels (CIG Public Relations); Mandy Whorton (PEAK Consulting); Tracy Sakaguchi (CMCA); Matt Aguirre (AtkinsRéalis), Matt Hogan, Emily Wilfong (Kraemer); Abbie Modafferi, Kurt Kionka, Ryan Sullivan, Badr Husini (CDOT); Jonathan Bartsch, Daniel Estes, Julia Oleksiak (CDR Associates)