



MEETING NOTES

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| PROJECT: | 23982-23929 I-70 West Vail Pass Safety and Operations Improvements |
| PURPOSE: | Combined Project Leadership Team (PLT) and Technical Team (TT) Meeting #32 |
| DATE HELD: | October 17, 2022 |
| LOCATION: | Online Google Meet Meeting |
| ATTENDING: | Karen Berdoulay, Program Engineer, CDOT Region 3 John Kronholm, Project Manager, CDOT Region 3 Gabrielle Benedict, CDOT Bridge and Tunnel Sarah Navarro, CDOT Region 3 Zebulon White, CDOT Region 3 Traffic and Operations Patrick Chavez, CDOT I-70 Operations Stacia Sellers, CDOT Communications Danielle Neumann, DNR Jeff Bellen, FHWA Marcus Dreux, USFS Mark Hane, USFS Melvin Woody, USFS Greg Hall, Town of Vail Dick Cleveland, Town of Vail Pete Wadden, Town of Vail Kevin Sharkey, Eagle County ECO Trails Larissa Read, ERWSD Shannon Anderson, Bicycle Colorado Tracy Sakaguchi, Colorado Motor Carriers Jon Stavney, NWCOG Pete Remington, Kiewit Mark Gutknecht, Kiewit Randal Lapsley, R S & H Sam Stavish, CIG Jim Clarke, Jacobs Loretta LaRiviere, Jacobs |
| COPIES: | Attendees |

SUMMARY OF DISCUSSION:

1. Introductions & Meeting Purpose

- John introduced the attendees at today's meeting.
- Randal said today's agenda will review work completed since the last PLT/TT meeting, some details on design innovations and value engineering we have been working on, a construction and winter shutdown update, and the project schedule and next steps.

2. Review of Work Completed Since the Last Technical Team (TT) Meeting

- John said there was an EMS ITF Meeting on September 15th where we revisited with the emergency service providers for Vail Pass. We talked about the EB closure system at Exit 180 which includes one overhead and a couple of smaller ground mounted electronic signs that can have varying messages on them. All agreed having additional signs at this interchange would help facilitate operations for temporary traffic holds and closing Vail Pass for short periods of time and the signs can provide additional messages that we want to get to the traveling public.
- The PLT/TT site visit was held on September 19th and the majority of the visit was spent walking the bike path and looking at the bridge.



3. Design Innovation/VE Update

- a. Randal said we are looking at all things we can do to save money but don't change the nature, quality, or long-term maintenance elements of the project. He said one of the innovations the team has been moving forward with in the design is the SMSE wall which is a retaining wall that combines characteristics of two different types of walls, a soil nail wall and mechanical stabilized earth wall. A soil nail wall is where we drive nails into the existing material to create an anchor for the face of the wall, and the mechanically stabilized wall uses geosynthetic fabric as a layering system that helps stabilize the backfill of the wall. We found the combination of these two methods in certain locations provides a great benefit.

This wall will be in an area of widening along I-70 that is on the outside of the eastbound lanes. We need a wall in this area for the steep slope down to the bike path. Because of the requirements for the straps of the wall, it would typically require us to excavate back deeper into existing rock. But if we use soil nails in this area, we can avoid excavating out a lot of additional material and it would save both cost to excavate the material and reduce the amount of new material that goes back that has to be of a certain type of grade size to work with the straps. This saves the project time and money and is value added.

John said it looks like it a little over \$1M in savings and that is a huge savings for the project.

- b. Construction Phasing

Randal said we continue to try to innovate and look at things creatively and design the projects to maximize the value for the cost that it is. Because project budget is higher than we originally anticipated we are looking for every way we can optimize the costs.

With the change in CP #4 to go from the CMGC to a design-bid-build process and the addition of the additional bridge, we were able to get another construction season to allow Package 4 to be built.

We had originally anticipated that we were going to have to build all of the eastbound lanes in one construction season and in order to do that we needed to get all of the detour pavement put in place this fall as part of CP #3 so next spring we could start construction as quickly as possible. But the extension in the construction schedule allowed us the opportunity to phase the project that would save money because we would use less detour paving.

We've worked with our designers and Kiewit to provide options for a contractor if they were to come in and want to do one or the other construction phasing method. They could move eastbound I-70 over as far as they could on the eastbound side and then be able to build the outside piece of it and then would move traffic back over and do it in more phases. More phases take longer to do from a construction scheduling standpoint, but it reduces the overall cost of the project.

4. Construction Update and Winter Shutdown

- a. Pete said the trail construction and paving is progressing. We've got a lot of the slopes finished and we were seeding last week while the weather is still good. CP# 2 trail work will be done by Thanksgiving

The lower pedestrian bridge was set about a week ago and the second bridge will be delivered this Friday and it will be set next week.

The westbound bridge substructure abutments are being formed and the last pier pour will be on Tuesday and there will be four more pours for pier caps that will be done before we shut down for the winter.



Wall 3-4 was planned to be a soil nail wall, but we realized there was natural rock there, so we worked with CDOT and RS & H to change it to a natural wall cut to be an aesthetic and financial benefit for the project.

Crews have started to pull off some of the concrete barrier on the highway and it will all be removed when we shut down for the winter.

Traffic will return to the preconstruction alignment for the winter. The CP #2 trail will be in its new alignment along with the small portion of the CP #3 trail along US 6.

1. Marcus asked if the temporary creek crossings be removed this fall.

Pete said the Polk Creek crossing will stay in place, but the two Black Gore Creek crossings will be removed.

2. Marcus asked if there will be any revegetation done on the terrace portion of the natural rock wall or will it just be a natural rock wall like you see in other places.

John said Jen confirmed they are planning to place topsoil up there but probably not until next year. This has been done historically on the other sculpted rock outcrops.

3. Marcus inquired what the surface of the SMSE wall will be.

Randal said it is a precast facing wall. It is on the drop down side of I-70 so it won't be very visible. Pete said it will look the same as the cruciform wall that is already up there.

4. Patrick said maintenance was asking when the width restrictions will be removed. And if we do have a snowstorm before the barriers are removed, there will be no lane closures.

Pete said the day before Thanksgiving is what is on the schedule for all the barriers to be removed and the lanes to be back to their normal width and in the event of a snowstorm before then, there will not be any lane closures set up.

5. Schedule and Next Steps

- a. Randal said CP# 1 is nearly complete with just a little more work to be done on some of the closure system elements at the top of the Pass. CP #2 is in full speed right now on the recreation path. CP #3 is about halfway through the bridge work and will continue on next year. CP #4 and CP #5 will start up next year.

CP #4 FOR design submittal is October 28th and the final submittal is planned for January 4th.

CP #5 DOR submittal for the eastbound bridge will be in January and the final plans should be completed by July 2023.

The next PLT/TT meeting is scheduled for November 14th.

1. Tracy said she was recently in the corridor and noticed the barrels on the truck escape ramp were broken up. Are trucks getting that far up and is anyone tracking the use of the ramp?

John said a truck did make it all the way to the end, crashed through the barrels and hit the end of the embankment a little bit. The truck was light, around 47K pounds. The driver was able to maintain control of the tractor trailer truck the entire length of the ramp and walked away from the crash so we consider it was a very successful use of the truck escape ramp and undoubtedly saved lives because he may not have made it around the next corner at 90 plus mph.



John said the truck entered the escape ramp at the design speed and the anticipated outcome was he would hit the barrels. We have had a few other trucks with heavier loads, and they sunk in right away. He saw an oversize load, carrying a house and they sunk in very quickly. We are going to have a follow up meeting to talk about the ramp and its performance but at this time it has saved at least one life and is performing as anticipated.

One of the biggest differences between the new ramp and the previous ramp has 18" of arrestor bed material on a curve rated at 45-55 mph so if this same truck had used that ramp, chances are he wouldn't have been able to negotiate the truck around the curve and would have gone over the embankment or rolled which has happened in the past.

At this point Kiewit's obligations have ended and the state owns the ramp. Maintenance is going to replace the barrels and fluff up the material to get it ready for the next truck that needs to use it.

Tracy thanked John for letting her know the weight of the truck. The new ramp is much more approachable than the old one.

2. Jon said there is a big shoulder before the approach to the truck ramp and that must give a trucker more options on how or when to get over, but it probably can't be designed into all ramps. There are truck tracking devices, and if they track speed, and a vehicle of a certain size is going too fast, could the VMS signs display a notice for people about the truck issue?

Tracy said they are working on a project at EJMT for downhill speed warnings and if we can get it installed, we would like to utilize it in other corridors such as Vail Pass because to give other drivers warning is very important.

John said he is on the panel of a NCHRP study that is starting today that will collect information from all fifty states about truck escape ramp use and data. The intent is to reach out to see what other states are doing and their standard practices are. It's interesting that truck escape ramps have been coming to light much more recently, especially in Colorado. He will share more information with Tracy on the study.

John said there was a CSP officer up the hill and when he saw the trailer truck go flying by he followed him down to the ramp so somewhere there is a dash cam video of the truck weaving through traffic at 90 mph and then using the ramp.

Patrick says maintenance does track the events and write up a report for every time a truck is in the ramp and CSP also writes up a report when they have a trooper out there.

3. Shannon asked if a light truck hit the escape ramp could it run up into the bike path at the top of the cul-de-sac?

John said it is very doubtful there would be an interaction between a runaway truck and the bike path. In order to get to the bike path, they would have to avoid the arrestor bed all together and drive around a very sharp curve at the top and continue on to the bike path. If they went straight up the truck escape ramp and they flew over the top for whatever reason they would end up in a big gully behind the bike path.

4. Marcus asked what is the construction going on in the median by the truck ramp?



John said that is going to be median guard rail. They're installing a cable rail in two locations on the lower part of Vail Pass. It is a safety project that came about as a result of areas that were identified where there were crashes where vehicles crossed over the median.

- b. Karen said we mentioned a few months ago how we are working to address the budget shortfall. CP #1, 2 & 3 are all fully funded and under contract. Not awarded are CP #4 & 5. CP #5 has its own funding through the Bridge and Tunnel Enterprise. The challenge we have now is our CP #4 work is over budget and part of that is because the other packages were over budget.

We are looking at this a number of different ways. We continue to value engineer as was presented today and we are also looking for new funding sources, one of which is a freight grant that we are using to backfill the shortfall. We're trying to use region funding sources as well as ask for leadership support to look for other statewide funding sources.

One of the other things we are considering is a potential scope cut. This is a challenge for the project because we have committed to all of the scope in the INFRA Grant. The only things that were not in the original grant were adding some cameras and fiber relocation that comes with its own money.

We are meeting with CDOT leadership monthly and have a field visit with some senior leadership team members next week to get them familiar with what is left to build and to try to get buy in for other funding sources. I'm hoping to have good news for you in November, but it is still a challenge we are facing.

1. Greg asked if she would like any support for when you meet with leadership for additional funding.

Karen said she is bringing up the support that has been provided in the past. This grant was supported by all of Region 3. The challenge is there are so many other needs CDOT is trying to balance statewide. But, yes, anything you think would be helpful, we are open to it. She's not looking to gather signatures or letters at this time. But if there are side conversations you have, you could vocalize your support for the project.