MINUTES OF SPECIAL MEETING
July 15, 2015

A Special Meeting of the Nevada County Transportation Commission (NCTC) was held on Wednesday, July 15, 2015, commencing at the Truckee Town Hall, 10183 Truckee Airport Road, Truckee, California. The meeting was scheduled for 12:15 p.m.

Members Present:	Terri Andersen, Nate Beason, Carolyn Wallace Dee, Ann Guerra, Larry Jostes, and Ed Scofield
Members Absent:	Jason Fouyer
Staff Present:	Daniel Landon, Executive Director; Mike Woodman, Transportation Planner; Nancy Holman, Administrative Services Officer; Toni Perry, Administrative Assistant
Standing Orders:	Chairman Jostes convened the Nevada County Transportation Commission meeting at 12:15 p.m. in the front parking lot of the Truckee Town Hall

The purpose of this Special Meeting was for NCTC to tour the construction site of the "State Route (SR) 89 Truckee Mousehole Pedestrian Tunnel/Undercrossing and Multi-Use Path Project" located just south of Interstate 80 at the SR 89 South undercrossing of the Union Pacific Railroad. Members of the public were invited to meet the bus at 12:30 p.m. at the construction site to receive information, participate in the tour, and discuss the project with the Commission and Town of Truckee staff.

Chairman Jostes recessed the meeting at 12:15 p.m. and the Commission boarded a bus provided by the Town of Truckee. The bus left the front entrance of Town Hall at 12:20 p.m. to transport the Commission, NCTC staff, and Town staff to the construction site along SR 89 at the Mousehole. The bus arrived at the site at 12:30 p.m. and Chairman Jostes reconvened the Special Meeting.

Becky Bucar, Town of Truckee Engineering Manager, introduced several of the construction crew: Steve Cozad, Resident Engineer on the project; Mitch Edwards, Inspector; and Joel Duckworth, Construction Foreman for Gordon N. Ball, Inc., the main contractor. Ms. Bucar conducted the tour and explained the work in progress. The tour started on the south side of the tunnel and the group viewed retaining wall #1 as it was being constructed. She explained that the footings are enforced with rebar and the 10 foot wide trail will sit on top of the retaining wall. She said they were constrained on the width of the trail in order to allow for the area needed for the vehicle travel lane and the required shoulder. Therefore, the trail is close to the roadway on the south side of the tunnel. She said on the north side the trail bends away from the roadway more and is closer to the creek. The trail will connect to the sidewalk along the I-80

roundabouts. Ms. Bucar said the trail will be made of concrete and it will be cleared of snow in the winter. The Town will do maintenance on the trail, and Caltrans and the Town will share maintenance of the tunnel and retaining walls. All of the structures and trail are built on Caltrans right-of-way. Commissioner Scofield asked if the entire project was in Nevada County. Ms. Bucar replied no, the Placer County line was half way between the traffic signal at West River Street and the south end of the tunnel; West River Street is in Placer County.

Ms. Bucar pointed out where the transit shelter will be placed. She explained that the trail will start at West River Street and proceed up the side of the highway to just before the tunnel where it will bend in toward the opening of the tunnel. They constructed a reaction frame that will be used to jack against when they push the tunnel box through the embankment. The frame has piles that go 20 feet into the ground and there is dirt behind it to hold it in place. She said the box itself weighs about 800 tons with all of the rebar and concrete. There are 4 jacks and each one can push about 300 tons, so there will be about 1,200 tons of force to push the tunnel through the embankment. She said when the project is completed the reaction frame will be removed. Ms. Bucar explained they will be excavating the dirt as they push the tunnel through. It was explained that they will actually dig a hole slightly smaller than the outside of the box in order to have a tight fit. They will bore a small amount of the hillside at a time and then jack the box into that area. Mitch Edwards, the Inspector, said they will jack and bore as they go and it will never be over-excavated, so it will not allow for settlement or a cave-in that would cause movement of the railroad tracks. He said they have about 30 freeze pipes that will go through the hillside to hold the embankment in place as they work. They estimate it will take two weeks to push the box through the embankment, and once they start the jacking they will work 24 hours around the clock.

Ms. Bucar said there are monitoring devices placed on the cracks in the vehicle tunnel and there are about 36 survey points on the top of the embankment and on the shoring that a surveyor checks daily for any movement as a result of the work they are doing. They are only allowed to have a 1/2 inch movement on the hillside before they have to shut down the project to mitigate it; only a 1/4 inch movement is allowed on the vehicle tunnel cracks. Ms. Bucar was asked if this process has been done on any other project. Ms. Bucar said no. There was a project where they pushed a tunnel under Highway 101 for utilities. She did not think anyone has ever bored a pedestrian/bicycle tunnel under live railroad tracks using soil freezing; this is pretty unique.

Ms. Bucar took the group up close to the tunnel to see the shield that has been built. She said it is an angled piece of metal at the front of the tunnel that will brace and secure things as they do the boring and push the box through. They built the shield at night because the daytime temperatures were too high and there was a fire danger during the day. She said the nails sticking out of the embankment go in about 10 or 15 feet and there is mesh that gets secured with Shotcrete to shore up the embankment. She said the other side of the tunnel will have the nails installed when they put in the freeze pipes. Steve Cozad, Resident Engineer, said when they bore through the tunnel, just before they break through on the other side, they will remove the tunnel portion of Shotcrete so they can bore right through without blowing it out. Ms. Bucar reported they used a device to examine what is buried in the hillside and they know there is a buried trestle and small boulders they will encounter as they bore through the hillside. She said all of the material excavated from the embankment and retaining walls construction are being stockpiled south of the work site and tested to classify it.

Ms. Bucar stated the rebar work to form the tunnel was almost done and ready to be poured with concrete. It will be one piece that will cure for three weeks or more as they wait for the freezing of the hillside to be complete. She said once they get all the freeze pipes installed it will take

about five weeks for the hillside to be frozen and then they will push the tunnel through. They are using a special liquid (calcium chloride/water brine) in the freeze pipes. The hillside around the outside perimeter of where they will bore is going to be faced with concrete. A question asked of Steve Cozad was if they had cut a new tunnel next to an old tunnel before and did they have any experience of what affects it had. Steve Cozad replied he had not, but the engineers have done a lot of research on it. He said they will carefully monitor the gauges and if there is any widening of the cracks they will stop and reevaluate. A question was asked if a problem occurs, would there be funds available to repair the problem before they could continue with the tunnel. Mr. Cozad responded that the way the contract was written, the contractor was required to provide contingency plans on how to go forward if various situations occurred. He said if, for instance, they get some settlement, they would have to adjust procedures and possibly do some pressure routing to correct it. He said these were all part of the contractor's proposal, so they would not need additional approval for other work. Mr. Cozad said there are many unknowns in this type of work, but the contractor thought it through very well. He stated that working with Union Pacific Railroad (UPRR), they are very strict about any work around their tracks, and they have reviewed and approved everything that was submitted and are comfortable that this procedure will work. He said ground freezing has been done in the past, so it is not completely unique, but the freezing process is not used a lot. With Caltrans it is fairly new, and with UPRR it is the first time they have had the process used near their tracks. Mr. Cozad said during the freezing process, they do not expect the ground to heave enough to lift the tracks. There is a railroad flagman on the project whenever work is done within the UPRR right-of-way, who also monitors the safety aspect of the tracks, and he would stop the trains if there were a problem.

The tour participants walked through the vehicle tunnel to the north side of the project. Mr. Cozad was asked why there were only monitoring devices on the cracks of the vehicle tunnel closest to the project and not on the other side of the tunnel also. Mr. Cozad replied that they felt that any affect would be local and they do not even expect movement on the closest side. They do not think the process will affect the vehicle tunnel on either side.

On the north side of the project Ms. Bucar explained that the freeze pipes were being formed in an arch around the area that will be cut out to allow the box to be pushed through. The box is 119 feet long. They average installation of about one pipe per day. Mr. Cozad said they start with a 3 inch steel pipe and they put a small PVC pipe inside, all the way through to the ends, and then they pump the material into the pipes and it comes out the ends of the small pipes and doubles back around the outside and then they grab it there. The pipes are connected with manifolds and connected to the freeze operation, which is located on the west side of the road. Ms. Bucar reported there will be two retaining walls on the north side of the project. There is a big basin that will catch storm water. Mr. Cozad said the trail will go up to the height of the retaining wall and will have hand rails. The third retaining wall will go from the north side of the tunnel up to the intersection at Deerfield Drive.

Ms. Bucar was asked if the new tunnel will have concrete around the outer walls to finish it off, like the older Mousehole vehicle tunnel. Ms. Bucar said there will be a wall around the perimeter of the tunnel, with a date stamp at the top, and rock veneer. It will look very similar to the Mousehole.

Commissioner Scofield asked if a bore process would be used to actually get the dirt out of the tunnel area. Mr. Cozad replied that they will use a small excavator with a rotary head on it, so it slowly digs away at the dirt that then drops down. They will scoop up the dirt and move it back as they work their way through. Ms. Bucar said they will not use a large tunnel boring machine. Commissioner Scofield asked what they would do if they hit a boulder or the old trestle. Ms.

Bucar said they will cut the trestle and pull it out in pieces. Mr. Cozad said the rotary head actually has carbide teeth, so it will chew through a granite boulder. He said the question will be if they hit a boulder that is partially in the way of the box and partially out, that will be where they have an issue. He said they can take out the part that is in the hole, but if the other part falls in they will have a void to deal with. He said the contractor has contingency plans and that portion of the work is subcontracted. Commissioner Scofield asked when the jacking will start. Ms. Bucar replied around the end of August or the first part of September. Mr. Cozad said it would be two to three weeks before they started the freezing process, and then they have about four or five weeks to freeze the soil. When the hillside gets down to the temperature that they need, around 20 degrees Fahrenheit, then they will start the jacking process. Ms. Bucar stated they are doing the ground freezing because of the possible situation Mr. Cozad just mentioned. It is an extra precaution to add this as another shoring system beyond the box being in there to shore everything. She said in case you get a void, there is another layer that keeps everything in place.

The tour concluded at the construction site and Chairman Jostes recessed the meeting at 1:15 p.m. The participants walked up to the traffic signal at Deerfield Drive, crossed the street, and boarded the bus in the shopping center.

The bus arrived at the Truckee Town Hall front parking lot. Chairman Jostes reconvened the Special Meeting at 1:30 p.m. in the parking lot.

PUBLIC COMMENT

Chairman Jostes asked for public comment. There was no public comment.

SCHEDULE FOR NEXT MEETING

The next regularly scheduled meeting of the Nevada County Transportation Commission is on September 16, 2015 at the Nevada County Board of Supervisors Chambers, 950 Maidu Avenue, Nevada City, CA.

ADJOURNMENT OF MEETING

Chairman Jostes adjourned the meeting at 1:30 p.m.

Respectfully submitted: Antoinette Perry
Antoinette Perry, Administrative Assistant

Approved on: September 16, 2015

By: _____
Jason Fouyer, Vice Chairman
Nevada County Transportation Commission