

## **Nevada County Transportation Commission meeting – July 19, 2023**

### State Route 20 Omega Curves Safety and Operation Improvement Project Presentation by Caltrans Engineer T Chris Johnson

T Chris Johnson:

Following up with what Jeff presented on the current project, I don't have any colored photographs yet. Perhaps we can come back in a year and share the revegetation efforts on Omega Curves. I'm not going to show every plan sheet, we have about a hundred plan sheets. A lot of those are quantity plan sheets. So, I've just given a snapshot of five slides of plan sheets of the type of planting that we are intending to install and the permanent erosion control.

The plants selected are native to this location in Nevada County, we're not putting in any non-native species. We have thousands of trees that we will be planting in this area once all the grading and all the slopes are complete. We have saved a lot of the existing topsoil that we will be spreading back over the slopes because it has a lot of the good nutrients that are native to the area that help to promote the future growth of the planting.

This is an example of one of the planting sheets and the quantity of trees that'll be going in there. We have a detail that shows the pattern of how these plants will be planted. And keep in mind we're not putting in big 15 gallon or 24-inch box trees in here. We're putting in little pot trees. We have found that the larger trees are much harder to establish, putting in smaller types of planting we have greater success over time.

Keeping in mind that there was forest here, there is background forest and there will be forest here again, but it will take time. So please keep that in mind that it could take another 10 years before you start seeing trees that are anywhere between 10, 15, 20 feet high. Here is an example of other slopes. These are some of the longer steeper slopes and some of the cut slopes up in here. And some of the decommissioned areas that we will be planting with this project.

Here is what we call permanent erosion control. These are the plants that help with plant succession, once again all native to this location in the Sierra Nevada mountains at this elevation and that are going to grow just great once we get them established. This will be the seed mix that is sprayed over the slopes and then we will go in and plant the plants. And so, they'll have this meadow effect once the plants grow with the trees interspersed in the area. And as I mentioned before, we're setting up for plant succession here. So that's really the intent of our planting scheme strategy that was used.

The last slide shows an example of the different types of erosion control. We use different types of strategies for cut slopes and fill slopes. So that's why you see this EC type two, EC type one. And then we have fiber rolls which are slope interrupters to help to slow down the water flow as it's coming down the slopes so that we don't create any further erosion and wash out all the seed mix. So, that's what the intent of the fiber rolls are for. Make sure I hit all the right ones. This project currently has what we call a one-year plant establishment period. When the contract is all built and all the plants are planted, we have a maintenance period of one year. That's part of the contract and then when that's completed, we're going to follow it up with another two year maintenance contract.

What that does is it enables us to plant any plants that have died. It allows us to maintain the area to once again ensure the success of the planting there. And that's all I have for now. And as I mentioned, it'd be great to be able to come back to the commission to show the success of the plants that we've planted out there. I know that the plants have been ordered, the erosion control will begin here, I'm assuming, in the next few months. And so maybe perhaps next summer once we get a flush of growth and we have the trees planted, we can come back and give an example of the type of plantings and how well they're doing. So that's all I have for now.

Tom Ivy:

What are some of the primary trees you're planting?

T Chris Johnson:

Let me go back to that. We have white fir, red fir, incense, cedar, sugar pine, ponderosa pine and Douglas fir. It's always exciting once the planting goes in and that's one of the things I actually enjoy about my profession. It's very dynamic. You put in these little baby plants and then over time you get to watch it grow almost like a child. So, it's really nice.

For the seed mix we have White Yarrow, Spanish Clover, Western Needle Grass, Wheatgrass, Slender Revenue, Greenleaf, Manzanita, Pinemat Manzanita, Mountain Sagebrush, California Broom, Blue Wild Rye, Rubber Rabbitbrush, California Poppy, Lupins, Stool Lupin, Bluegrass, Big Sherman and Small Fescue.

Susan Hoek:

Beautiful. I'm so happy to hear that you're going for a meadow effect that will really create a lot of biodiversity, so I'm excited for that.

T Chris Johnson:

Exactly. So, there's kind of a combination of grasses and lupines and some shrubs in there too. Once again, we're setting the stage for plant succession, as this is a very challenging environment. We do have the plant establishment and following up with a maintenance period to really help these plants along and if anything dies, we have money to be able to replant any plants and trees that have died and also fix any erosion control that might have failed. So, this is, as I mentioned, very dynamic work. Jeff's real lucky, once he puts down pavement it kind of stays there for the most part. But planting is a different scenario.

Ed Scofield:

Very good. Thank you, T Chris.

T Chris Johnson:

You're welcome. I'm going to take off, I'm up in Eureka actually right now and I have some work to finish up before I drive back to Marysville. So nice to meet you all.