Copper River Watershed Habitat Enhancement Project

Cordova EVOS Site COP 43,44, and 45

95% Plans and Specifications Review Meeting

Meeting Minutes

Amended with Heather’s Comments

Date: November 19, 2019

Time: 1:30 pm

Location: Teleconference

Conference Calling Number: 1-877-620-0608

Code: 12345654321#

MEETING PARTICIPANTS

|  |  |  |
| --- | --- | --- |
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**ROLL CALL AND WELCOME**

Kate Morse welcomed everyone to the review meeting of the 95% drawings and specifications for the fish habitat enhancement project. She asked the meeting participants to identify themselves. The Agenda is pretty simple. We will start with the review of the plans and then move on to the specifications. She then turned the meeting over to BCE to walk through the comments received on the design.

**Agenda Item #1 - Review of 95% design and specifications for 25-mile culverts (Cop 43, 44, 45) with design engineers from BCE.**

**Project Review by Artem Ruppert, ADOT&PF**

**Sheet G-001**

5. Add several lines with data info such as length of grade raise, width of roadway, length of project, daily traffic volume (95-2015) (and anything else relevant to project summary (S)

*RESPONSE:* Will do

**Sheet G-002 (See red-lined Sheet)**

1. Item 201(1) by SY. Better to wrap it up into item 201(3B) Clearing and Grubbing by LS. One less thing to inspect in field-and it has been recent practice at DOT for smaller projects. Add table of lump sum estimated quantities on this sheet-and list approximate clearing square yardage at each site, not just total of 2940 SY (C). Section 201 Clearing is now subsidiary to item 602(2) Aluminum Box Culvert. List estimated area (acreage) that would need cleared so contactor can bid appropriately. Suggest including table on G-002 along with other estimated quantities. (or in supplemental info-say designer notebook-that is available to bidders).

*RESPONSE:* Quantity of this Item was included in the cost estimate and will be provided in the Bid Schedule provided to the bidders.

Artem asked if this was going to be in supplemental information somewhere because there isn’t a pay item clearing right now and it’s useful for bidders to know. There will be a separate bid schedule for this item based on the cost estimate BCE will prepare. The quantities will be placed on the bid schedule.

6. Item 630(1) Geotextile, Separation by SY should be actually 630(100) Geotextile, Reinforcement, Type II. (?) or indicate where geotextile, separation is used-(C). 630(1) Geotextile Separation Clearing is now subsidiary to item 611(2) Riprap, Class II. List estimated area (square yard) that would need ordered so contactor can bid appropriately (overlap per specs does not need to be calculated). Suggest including table on G-002.

*RESPONSE:* No Geotextile separation will be used. Geotextile Erosion control class 1 (631(2) is the one subsidiary to 611(2) and quantity of which is included in the estimate and provided in the Bid Schedule.

7. Add item 613(2) Culvert Marker, by each, 6 total (3 pipes @ inlet + outlet).-(S). OK, see if quantity needs to change to add 1 more for 36”x48” arch extension under item 603(2).

*RESPONSE:* Will add 1 culvert marker for the extension of COP 46.

8. Add item 642(3) Three Person survey party by Contingent Sum (CS) for unexpected survey needs to assist project engineer in field if/when necessary by directive (S). Decided not to include?

RESPONSE: Decided not to include but will be considered if that is the decision of the team.

It’s normally done by the survey crew who’s there already. Just a possibility to do some unanticipated work, which is always the case during construction. If this isn’t included, then you may be forced to do a change order in the field. It’s a recommendation to make the project engineer’s life easier in the field.

Per Heather, we will have a qualified grade checker on this project. Kate to make sure we have a requirement for the grade checker’s background in the bid package.

*ACTION: BCE will add this item.*

9. Add pay item 640(4) Worker Meals and Lodging, or per diem by LS.

RESPONSE: Decided not to include but will be considered if that is the decision of the team.

This is state law under the Department of Labor.

*ACTION: BCE will add this item.*

10. Add pay item 643(23) Traffic Price Adjustment by CS-to provide incentive to contractor to handle traffic in a manner acceptable and give tool to Project Engineer to manage traffic & safety. Normally item has $0 amount and refers to 2017 specs 643-3.06 Traffic Price Adjustment and Table 643-3 Adjustment rates.

RESPONSE: Decided not to include but will be considered if that is the decision of the team.

There was a question asked to clarify who the Project Engineer is to make the decision about traffic management. Is it Heather with US Fish and Wildlife or someone else? Heather will serve as the project engineer. The Copper River Watershed Project (CRWP) will serve as the engineer/contracting officer. Two very different roles for the project. This will be defined at the front of the specifications.

The question was also asked about how many lanes is the Copper River highway within the project limits? It is a two-lane highway.

*ACTION: BCE will add this pay item.*

11. Delete item 203(3) Excavation by CY-it encourages contractor to excavate more than necessary to get paid (and take responsibility to doing it in a safe manner). Unnecessary and time-consuming task in field to measure volume of excavation. Suggest marking Unclassified Excavation subsidiary to each culvert item (in specs and General or Culvert notes). Add verbiage to culvert notes: “Culvert Trench excavation, backfill above embedment material, and compaction for culvert installation will not be measured for payment and is subsidiary to the corresponding individual 602(1) culvert item at each location”. “S” done, ok. I recommend adding to General note 8&9 that all excavation is subsidiary to 602(2) Aluminum Box Culvert item and would not be measured for payment. (in addition to specifications).

 Heather agrees that this would be better as a lump sum or subsidiary item.

RESPONSE: Excavation quantities were added in the cost estimate and will be provided in the Bid Schedule

14. Delete items 204(1) Borrow Select Fill Type B and F. Item 203(5) Borrow Select Fill Material, Type A by CY shall be also deleted (also non-DOT standard item names). Instead recommend using item 203(6) Borrow by Ton (will point to use Selected Material, Type A per 703-2.07-1). Otherwise difficult to measure in field. I see that Subbase, Grading F is retained for bedding. How is it paid for? Add a note if its subsidiary to 203(6) Borrow. Note somewhere (table) estimated quantity.

RESPONSE: Quantity of this item is included in the cost estimate and will be provided in the Bid Schedule

17. Recommend adding verbiage in General notes “Any dewatering for culvert installation is subsidiary to 672(1) Stream Diversion & Dewatering” pay item. It shall comply with the State of Alaska Department of Environmental Conservation (DEC)-required permit that contractor is required to obtain”. Or adding to specifications “General Requirements” I did not see where this may be addressed specifically, not needed?

RESPONSE: Dewatering is part of Item 672(1) and has note on C-300 -C-302 that the diversion and Dewatering plan should be submitted to the Engineer for review 10 days prior to starting construction. So, it might not necessary to add such verbiage.

Normally for dewatering, the contractor is required to apply for a permit with DEC first before proceeding with work. And it’s always been subsidiary to contractor’s work. This comment is just to clarify expectations for the contractor.

Megan Marie stated that while there may be some DEC involvement related to the SWPPP, the actual diversion and dewatering is a DNR permit. Chantel added that she does have the DNR temporary use of water on her list of permits for the project.

19. DOT recommends to have SWPPP specifications and following pay items added due to environmental sensitivity of work locations (even if area is less than 1 acre):

-641(1) Erosion, Sediment and Pollution Control (by Lump Sum)

 -641(3) Temporary Erosion, Sediment and Pollution Control (by Lump Sum)

*-641(4) Temporary Erosion, Sediment and Pollution Control Additives (by Contingent Sum)*

*-641(5) Temporary Erosion, Sediment and Pollution Control by Directive (by Contingent Sum)*

-641(6) Withholding (by Contingent Sum) -Decided not to include but will be considered if that is the decision of the team.

-641(7) SWPPP Manager (by Lump Sum) Items 641(4), 641(5) and 641(5) are needed as 641 refer to them and allows payment for work that is not possible anticipate at bid time.

RESPONSE: Decided not to include but will be considered if that the decision of the team.

BCE asked if Items 641(4) and 641(5) were duplication. Per Artem, this is a best practice to have a contingency amount for these items. So, the contractor will be compensated for work in the field that wasn’t anticipated ahead of time. Franklin commented that while we don’t usually have these items in our projects, he’s okay with including these items on the schedule. Heather concurs with this decision.

*ACTION: BCE will include these two pay items.*

20. Estimate of quantity note 5 Section 602 topsoil made subsidiary to seeding item 618(1). Again, note somewhere estimated quantity of Topsoil (in cy) so contractor can bid on it.

RESPONSE: Seeding Item 618(1) quantity was added in the cost estimate and will be provided in the Bid Schedule

21. Note 12C: Add that this work is subsidiary to 602(2) pay items. “Approved by ...” is misspelled. –

RESPONSE: BCE will add and correct the spelling.

22. Why items 690(1)-1 Stream/Weir Substrate-Fine Materials and 690(1)-2 Stream/Weir Substrate Coarse Materials have varied quantities at each identical pipe, they seem to be defined by same geometry on C-101. Because of differing shapes for substrate outside of culverts?

RESPONSE: Different because of differing shapes for substrate outside of culverts.

Artem is aware of the different substrate outside of the culverts. He forgot to remove this comment.

**Sheet C-100 (See also red-lined Sheet)**

9. Note 1: recommend adding new culvert marker post to pipe extension under 613(2)

RESPONSE: - We’ll add that.

**Sheet C-101 (See also red-lined Sheet)**

3. Typical Culvert Section-see redlines-show details (slopes) for substrate inside pipe, ok most addressed except height of stream substrate material inside pipe not given. Shall it at least refer to drawings C-500 to C-502 Stream Sections?

RESPONSE: BCE will add height of stream substrate.

8. Suggest Note for “stream Substrate Material, See table 1&2” add reference to culvert notes 3-5.

RESPONSE: BCE will update the substrate notes.

9. Label for Excavation Line, See Note 2. As it applies to left side of pipe suggest instead say “Excavation Line (TYP) VARIES, see note 2”

RESPONSE: BCE will revise.

10. Half-circle shape of low flow channel may not be easily constructible for all length of pipe. And will be hard to inspect conformance. Would it be acceptable to replace it or approximate it with defined slopes?

RESPONSE: To be discussed in the meeting.

Per Artem, his concern is the space limitations and the size of the equipment to make a half-circle. It’s not going to be easy. Bill Spencer with HDR stated that we could add a note that the low flow channels wandering through the larger rocks, as long as they’re close to the dimension, we’re fine. If it wanders in and around the big rocks, that’s fine too. This could be addressed in a note.

Franklin asked if there was a depth for the channel and just wants to make sure it’s provided, relative to the bank. Bill referred the team to Sheet 500 for the depth and width of the channel. As you clear the fine from around the larger rocks, if we have the approximate dimensions, it’s okay if some of the larger substrate pushes out into the channel and makes it wander one way or another. Gillian added that in reality it will be more of a “V” or a “U”, and she didn’t have an issue with the meandering. Just as long as the depth is maintained.

*ACTION: add a depth to C101 and a note about the channel meandering around any boulders or large rocks.*

11. Typical road X-section should have a note saying that shown 32 ft. road width at culverts is wider at 35.8 ft. Define how transition is accomplished or/and refer to C-200-C-202 Sheets. Why embankment could not be kept 32 ft. everywhere (please clarify to DOT)

RESPONSE: Transition is shown on the plan, culvert section will be wider so that the foreslope will daylight on the culvert end.

Per Artem, ADOT typically tries to avoid situations like this. They only build widenings for culverts if pipe is skewed. Otherwise, you have to take into account safety. Drivers can become confused if the road suddenly widens. It can also create some maintenance issues. So, he wondered why the road width couldn’t be the same throughout the culvert intervals. We have to consider the safety of people as well as the fish habitat.

Bill Spencer commented that one location has a fair amount of skew to it in order to support the culvert. At the end we need to bump those embankments out, so the culvert is equally loaded on both sides structurally. COP 43 and 45 are obviously skewed. But COP 44 you can avoid widening. We can show the road width the same, with the road tapering off to the top of the culvert. The actual roadway width would stay the same.

Artem, we could build that, but we might want to install some delineators at the beginning and end of the transition to alert the traffic. Where it widens at each culvert, have four delineators at each transition. They can be installed at the hinge point somewhere.

Bill asked if the delineators are preferred over making the road one width within the project area. Artem wanted to check on that with a traffic engineer.

*ACTION: Artem will check with an ADOT traffic engineer on their preference and will let BCE know. BCE will revise the plans to have the roadway as one width and will adjust the drawings if ADOT would like delineators at each transition.*

**Sheet C-200 to C-202 (See also red-lined Sheet)**

2. May want to add any culvert notes, list skew and H&H Hydro data etc.; Show arrow to indicate direction of flow. It should be clear at a glance what flow direction is.

RESPONSE: What H&H Hydro data would you want to be added?

It’s an FHWA requirement to have the H&H summary as part of the crossing. The data is available. It just needs to get it on the plans. The data for all three locations doesn’t need to be on the same plan sheet as the crossing. It can be on a separate sheet. As long as the information is somewhere in the plan set.

ADOT also has requirements in their manual to show the overtopping flow or the headwater ratio. It should be in the drainage manual.

*ACTION: HDR will get the summary tables to BCE for inclusion with the plan set.*

4. Elevation labels are grayed out, make them black again to be visible.

RESPONSE: BCE will revise.

5. Unclear what dashed line is? Road Edge- Add to legend. Some extra lines visible now would disappear on production-level drawings.

RESPONSE: Dashed lines are the existing grade contours and was labeled. Road edge, BCE will add to legend.

**Sheet C-400 to C-402 (See also red-lined Sheet)**

6. Other suggestions as noted-Submitted acceptable letter regarding roadside basis of design.

RESPONSE: The justification letter was submitted to Dan Adamczak with ADOT&PF.

Kate asked for a copy of the justification letter for their files.

*ACTION: BCE to send a copy of the letter to Kate/Chantel, CRWP, for the project files.*

Kate asked Artem if he had any other questions or comments.

Artem mentioned that he didn’t see any comment about the height of substrate material inside the culvert. It seems like you changed the height from the 65% design by about 5’ of height. So, it would leave 3-1/2’ for flow. Is that correct? Wondering how difficult that be to construct. Will equipment, such as a bobcat, fit in the culvert to place fill or will it be done by hand with shovels? If equipment be used, will it damage the pipe?

With past projects, the contractor has used bobcats and smaller equipment, like pusher machines, to place fill. For this project, we went with the larger pipe than what we had designed before because we wanted it deeper and to get equipment in there.

It is a valid concern. You do need more clearance on pipe where you’re putting in more infill compared to a standard pipe with only a couple feet of infill. Basically, the more infill you have in the pipe, the less room the equipment has to work with. Ideally, we would raise the road another foot, but we’re too late in the design for that. It was discussed with Heather, in which we decided to go with a larger pipe. Unfortunately, there wasn’t an interim size of pipe.

Gillian can get some feedback on this concern from their construction engineer and can share with the team.

Chantel asked for clarification for the permits. One of the permits had a question about the type of equipment in the stream or the number of crossings on the stream. BCE responded to no equipment in the stream. With this discussion, should that be updated?

We will be using a bobcat to place the fill. From Megan, to clarify, in the steam means generally in the holding waters of the stream. So, the culvert backfill work and other work is usually in the dewatered section of the stream. It’s not necessarily in the stream. Chantel stated it was an ADF&G permit, so this was helpful.

Artem thought it might be a good idea to warn contractors to be extra careful working with the pipe. If they punch a hole in the pipe, that’s the end of the project. Insert some verbiage about pre-construction meeting and discuss how the substrate will be placed inside of a pipe.

*ACTION: BCE to insert a note on the drawings to caution the contractor about working on the pipe.*

Hearing no further comments or questions, the team briefly discussed the fact that we were missing Heather’s comments. Since she is on leave, we probably won’t receive her comments until the week of December 2nd.

Franklin asked if the Engineer’s Estimate could be shared as well. BCE confirmed that they did submit the Cost Estimate to Heather with the 65% submittal.

There was a last question about the culvert that is being extended. Is that the only culvert in that section of 2,000’ being affected or are there any other culverts in the area being affected. George confirmed that it is only COP 43, 44, 45, and 46.

**Sheet G-001 (Heather’s comments)**

To the table on Sheet G-001, add Cop 46 for extension under project descriptions.

**Sheet C-302**

Note 2: Diversion culvert is not necessary. Stream flows for culvert sites Cop 43, 44 & 45 are hydraulically interconnected by an existing channel. Contractor to clear connecting channel to insure flow from one site to another.

Add “and to ensure smolts out-migrate during construction.”

**Project Review by Steve McGroarty, ADOT&PF**

**PLANS**

BCE received the following comments from the Alaska Department of Transportation and Public Facilities (ADOT&PF) per below.

**Sheet C-101:**

COMMENT: The Subbase, Grading F culvert backfill layer that should surround the full perimeter of the culvert; and was shown in the 65% plans; has been eliminated. The culvert backfill should be Subbase, Grading F for a minimum of 18 inches around the perimeter of the culvert.

*RESPONSE: Based on the plan redline and comment No. 14 by Artem Ruppert with ADOT&PF for the 65% review, we eliminated the 18” perimeter Subbase grading F. We’ll put back if that is the decision of the team.*

There was discussion about what ADOT&PF requires and what would work best for the design because of the hydro issue. Typically, ADOT&PF requires Type F or maximum particle size Type A. Typically, there is a maximum size appropriate for bedding and backfill. Jeff Stutzke from the hydrology team stated that the preferred method is to essentially surround the pipe with the same subbase F, which is not really shown in the 95% detail. This was originally shown in the 65% design detail, but it was removed based on comments received from that review.

Another option is to put a note on limiting the substrate size, type A. Less than 3” is common. We can research that with the suppliers and figure that out. Or, go back to Type F.

Steve McGroarty with ADOT&PF provided some background on why ADOT Northern Region created subbase F. Historically, you have the material not only around the culverts but within distance or depth of the road surface. They use max particle size to facilitate reclamation, paving of asphalt, or future projects. This also created a single pay item for borrow, but it has two specs depending on where you use it. This led to a number of issues with contractors. So, ADOT created subbase F as a separate, stand-alone pay item. Here with subbase F, it’s been adopted as an appropriate bedding and backfill material.

He doesn’t know gradations or cobble count of the anticipated material sites. If you do call out through a sheet note that the backfill within 18” of the culvert has to have a maximum particle size, there again, you’re creating a single pay item with two different specifications associated with it. So, hopefully, the contractor pays attention to that, or they come back later with a change order for more money.

BCE already has a separate item for subbase F. It is used under the pipe. We can also just add it around the pipe. Artem prefers it as a separate pay item. If we make it subsidiary, then we need a quantity. Heather agrees that this should be a separate pay item with a quantity.

*ACTION: BCE to research material Type A with maximum substrate or use Type F (which is essentially a 2”- selected material Type A) under and round the pipe as a separate pay item.*

*COMMENT:* Note 1 – states *“Excavated material may be used for Fill Material, Type A as approved by the Engineer, provided it conforms to 703-2.07-2 Selected Material, Type B.”*

Note 1 has been changed, but not as recommended in comments on the 65% Plan Set. The Typical Section was modified to eliminate Selected Material, Type B. If you deleted the Selected Material, Type B to simplify the typical section by eliminating a material type this is okay but may be more restrictive than necessary. Note # 1 should be modified as follows: *“Excavated material may be used for Selected Material, Type A located a minimum of 30 inches below the road surface, as approved by the Engineer, provided it conforms to 703-2.07-3 Selected Material, Type C.”*

*RESPONSE:* This note 1 *“Excavated material may be used for Fill Material, Type A as*

*approved by the Engineer, provided it conforms to 703-2.07-2 Selected Material, Type B.”* is what Artem put on the plan redline. BCE revised the drawing based on this comment. Revision of the note will be discussed in the meeting.

Steve stated that typically where the road embankment is re-usable, we require Type A within a certain depth of the road surface. And we’ll specify either select Type B below that or select Type C below that.

There are two issues with using material select Type B - 1) your plan set no longer calls for any selective material Type B; and, 2) Select material Type B has a maximum gradation passing the 200 sieve of 10%, which could be frost-susceptible. So, we typically don’t like to see that within a certain distance of the road surface to avoid frost heave of the road surface. If you’re calling it out as selected material Type B, that requires the contractor to do gradation tests to prove that it meets that specification.

Whereas selected material Type C simply has to be compactible. The engineer can determine that in the field without requiring gradation tests. This is why he suggested the language that excavated material may be used for selected material Type A located a minimum 30 inches below the road surface provided it conforms to the requirements of selected material Type C.

Artem agreed with the issues that Steve identified. Although in Cordova, they’re not likely to have frost heaves.

*ACTION: Use select Type A material for the first 30”, which makes it easier for the contractor and engineer in the field. Then change to Select Type C or better for the rest.*

COMMENT: Note 4 requires coarse and fine materials (culvert filling) to follow the gradation noted in table 1 and 2 respectively. These gradations appear unnecessarily restrictive, difficult to adjudicate in the field and may be more expensive than is

necessary.

RESPONSE: This note was used in previous USFWS fish passage projects and will be discussed in the meeting.

Steve stated that he is outside his area of experience, but he explained that you’re asking for some pretty tight specifications on these various materials. He’s not quite sure how the contractors can produce that or how your engineering staff in the field will document and accept that they have produced the required gradations. It seems like it’s pretty onerous, difficult to adjudicate and expensive to accomplish the goals of the project.

Bill responded that the reason the gradations are tight is that we are trying to get a mass of material starting with 20” plus riprap going all the way down to sand and even finer that will hold the water on the surface and not lose the stream into the substrate. There are a lot of culvert projects where the stream is flowing through the culvert above the water table. It’s pretty important that the mix of materials be finely graded so the water doesn’t get lost in the substrate.

This project one may be more forgiving because it is backwatered. He asked Franklin to weigh in on relaxing gradations on this particular one.

Franklin responded that these questions come up occasionally on how well the contractor can come up with these. He doesn’t remember their standard responses. We do a pebble count of the course material to determine how close we are to the design mix. With this location being backwatered, he would stick to what we have here.

Gillian added that this is pretty standard design requirement for Fish and Game and Fish and Wildlife stream simulation type projects. We haven’t had a problem with material. Generally, they will inspect it at source before they move it to the site. For more remote locations, we let them use native material for the smaller fraction. That’s what Franklin is talking about with the pebble count. But we haven’t had any issues in sourcing the material in Cordova because there’s pretty good availability of both quarries and gravel pits. So, we don’t anticipate this as an issue at these locations. It’s more of an issue in remote locations. She recommends sticking to the specs as Bill has outlined. There has not been a lot of pushback from contractors for this item in general for the three to ten projects that we do every year.

Steve asked if this material extends through aprons. Gillian responded that it’s the actual streambed. Where we call it an apron is where we reconstruct the stream channel. A large part of what makes this material stable is that it needs to armor itself, like a natural streambed would, so the water stays on top of it. It also prevents the fines, etc. from scouring out from between the larger pieces. The way this gradation is determined is a density gradation. We want it to be as dense as possible. It’ll extend out, and it will eventually be indistinguishable from the natural streambed about 5-6 hours after the site is re-watered. We can answer more questions about that. But in Cordova there’s never been an issue with getting rocks. Steve appreciated the explanation and the discussion.

This was the end of Steve’s comments. Kate asked him if he had any other comments or questions? He didn’t have any. Kate then checked in with the other team members on the call if they had any further comments or questions.

Jeff Stutzke wanted to confirm that the intent is to propagate the low flow channel through the apron. Gillian responded that the low flow channel will need to connect to the existing thalweg. That isn’t very clear on the plan view. Jeff commented that it would be helpful to make it clearer that the low flow channel will extend through the aprons and transition to the existing channel. He was glad to see that as far as the road embankment, we are making it one continuous grade.

In looking at the toe wood construction, it almost appears as sort of a ditch dike in front of the ditch. In the one detail on Sheet C-101, it shows the typical collar riprap flat or flush with the existing ditch line. But then in the detail it shows where it’s raised. Is it blocking the ditch? I’m not sure of the intent. It’s shown on Sheet 601 as well.

Jeff’s other comment with the toe wood, it calls for Class 1, which isn’t part of the quantity. Will that be an issue for the contractor to produce Class 1 for that toe wood? It looks like it’s being paid for by the linear foot, which provides flexibility. How many feet will be constructed there? Gillian asked if the rock for the bio-engineering section is not included in the quantities. Jeff responded that it is, but it comes off as Class 1. Do we want to do something different? He’s thinking about what the contractor would have to produce and he may want to know what the quantity of that item is. He suggested to have it as a lump sum.

Gillian agreed that there’s no way to tell. This did come up recently on another project. We don’t have a good quantity of rock per linear foot for toe wood yet. It doesn’t have to be class 1. The general idea is to provide some large rocks. This drawing shows quite a bit of rock. It doesn’t have to be class 1, if there’s an existing size category in the spec or in the quantities that it could be added to.

Jeff referred to Sheet 601, the total toe wood cross section shows—how that’s going to blend into the ditch. It’s almost acting like a dike.

Gillian responded that this comes up on projects where there’s not a lot of space. This might be something that gets added to the drawings so it’s clear. We have had projects where the ditch just ran into the back of the newly constructed banks and just pooled there. For the toe wood rock, she’s not sure how to spec that out as a quantity, so it may have to be a lump sum.

Bill suggested that we could add a note there that states “the anchor foundation is class 1 riprap” and then specify or use a fraction of the mix that we’re also using for the stream substrate. We could add a rate there that it’s paid for by the linear foot. For example, they need to add a cubic yard of rock material to every so many feet—pick a number so the contractor will know how many cubic yards of material he will need to fill this requirement. Heather agrees with this approach.

*ACTION: Change to 1 cubic yard per 10 linear feet.*

The question about the ditch does need to be addressed. Last summer she worked on a project where the ditch terminated in a brush layer, which is not ideal. If there is a rogue ditch that drains into the stream, how do we deal with that?

If you have a bio-engineered bank and you have that much water running down it, it will eventually cause it to fail in that local section. So, she would prefer running the water somewhere else. Into a wetland area or we can create a hardened ditch drainage into the creek. One or the other. The only time we’ve had damage to our bio-engineered banks is from ditch water.

Bill commented that if there is some toe wood on the upstream side of the culvert, it may need to be armored. The upstream ditch would get used if a beaver blocks the culvert. Then the water would run down this ditch line and into an adjacent culvert. It would see quite a bit of flow. Otherwise, just having it run into the wetlands is fine. The ditch lines are definitely being used right now to equalize the hydrology among the three pipes. So, this should be maintained.

Gillian asked if there will be significant flow often, then would it be worth armoring it in some way. Water does tend to build up behind the bioengineering, if it creates a lift. Then we get decreased plant survival. Plants can be a little bit wet, but they don’t like being in a pond. The more you can direct it into the wetlands, the better.

There was some discussion on whether or not the toe wood on the upstream side should be eliminated. The third one, either 44 or 45, has a channel width that needs to be maintained. Then the toe wood might be a reasonable solution to that. If a section is disturbed while connecting the ditch lines, then have toe wood in the disturbed areas. We don’t want to dig up a functional bank and replace it with toe wood.

Jeff commented that he was trying to picture the phasing of the work like a contractor. Gillian responded that typically you would start the toe wood at the same time as you’re placing the stream substrate to build them up a little bit. The lowered anchored logs are way below the water line.

Jeff stated that the team has done a good job. All of his comments have been addressed. He doesn’t have any more comments to add.

Kate asked if there was a conclusion on eliminating the toe wood on the upstream side or will we have Heather provide the final answer.

Bill suggested that we wrap the stream substrate into the riprap that’s on the bank and eliminate the toe wood on the upstream side. Gillian added that by incorporating the ditch, it looks like it’s a relatively short section of toe wood.

Per Heather, if there are no existing banks on the upstream side, we will eliminate the toe wood in the field. Add a note for the contractor re-grade the ditches to avoid pooling behind the banks as directed by the engineer. We need the flexibility to adjust the amount of bank reconstruction to suit the actual conditions in the field which is dependent on how much the contractor disturbs and subtle changes in topography that are often not picked up on the survey.

*ACTION: add a note for the contractor to re-grade the ditches to avoid pooling behind the banks, as directed by the engineer.*

Kate noted that Megan and Gillian didn’t have any new comments. She asked if any of the other team members had any comments or questions to add. Hearing none, the team moved on to discuss the specifications.

**SPECIFICATIONS**

Kate asked BCE to walk the team through the comments received. Egor referred the team to the redline comments received from ADOT&PF.

**General Requirements**

COMMENT 1: The road closure of four hours at a time for project work is not enough time for work tasks.

The best practice is to allow single 36 hr. or 3 shifts, 12-hrs long, at each location. This will give the contractor enough time to assemble the pipe, to place substrate and backfill. Over the three-day period, they could close one lane during the day and be done by the third night. Most contractors may prefer36-hours all at once. And this would be at each location. The contractor can ask for more time, if they need it.

Kate added that there may be some research projects in the area when this work is being done. Personnel may need to get to and from their remote field camps on the other side of the culverts. So, the contractor needs to coordinate and communicate when these road closures will occur so that CRWSP can notify the community and community partners about when these closures will happen.

Luca asked if the construction window is March 1 to April 15? Kate thought it was between June 1 to July 31 because of the fish window determined during the 65% design review call. Apparently, Megan had left the call. She is the one to answer the question about fish windows. Gillian will send her an email.

A question came up about high water during June to July. The highest water is in July. It’s not huge. So, it should be fine during this work period. In March of 2019, it was still frozen. Sit it was pretty low flows. Breakup is around April.

Artem reminded everyone that the ferry service to Cordova has been suspended until May of 2020 in case the contractor will rely on the ferry to transport the culverts or materials for the project. While there are private ferries or barges available, it will be expensive. Per Gillian, need to plan for a 16-week lead time for the culverts.

Currently, the notice to proceed is set for February 21, 2020. The fish window has been established by Fish and Game as June 1 to July 31. There is also a bird migration window of May 15 to July 15.

*ACTION:*

* *Add to Scope of Work that in addition to replacing three culverts, we are extending one culvert (Cop 46).*
* *Contractor to create a traffic control plans that provides a 2-week notice to CRWP before any road closures so they can notify the community, agencies, and stakeholders of the upcoming road closures.*
* *The bird migration window is May 15 to July 15. Contractor to complete clearing and grubbing before May 15.*
* *The fish window is June 1 through July 31.*
* *Construction to be completed by August 15.*

**Permits**

Chantel wanted to confirm which permits the contractor will be coordinating and which ones the Watershed Project will be coordinating. From her notes from previous team meetings, she has the following:

* The contractor will be in charge of obtaining the ADF&G resource permit, which is currently listed under the Watershed Project.
* CRWSP is handling landowner use permits, which is listed in the contractor’s list.

Is this correct, or does there need to be a change in the spec?

Per Gillian, the resource permit is permission to handle the fish. The contact for that at Fish & Game is Josh Clarke. It will depend on who will move fish. There are some folks who already have a fish resource permit, or they have to obtain one for the project. Sometimes the local fish and game office will move fish for you. But most contractors just get the permit and do it themselves. Franklin recommended leaving this one to the contractor.

Gillian added that Josh gets a lot of applications. So, we can apply for the resource permit early and just change the name on it later. There may be a requirement to turn in the application 30 or 60 days ahead of work. So, we can either apply for the permit and change the name or if the contractor applies for the permit. Just make sure they are aware of the 30-60 day turnaround.

For the landowner permit, the landowner is ADOT because the project area is within their right -of-way and not on Forest Service land. Chantel did discuss this permit with Dan Adamczyk. To apply for the road closure and the special use permit from ADOT, the contractor will need to provide a traffic control plan. Is this permit application better on the contractor’s list or on the list for coordination between the Watershed Project and the contractor? It was decided that Chantel will discuss this further with Dan and will follow his recommendations. If this task needs to move to a different list, then Chantel will contact BCE to make that revision to the specifications.

Discussed revising the verbiage in the last paragraph that references the requirement for a SWPPP for projects under one acre. BCE will revise this paragraph, per Artem’s comment.

*ACTION:*

* *Keep the fish handling permit on the list for CRWSP to obtain because of the lead time needed. Then later, amend the permit with the name of the contractor for their work.*
* *BCE to remove USFS as a landowner on the list.*
* *CRWSP will discuss the landowner permit further with Dan and will follow Dan’s recommendations on who should obtain the special use permit. They will let BCE know if the specs need to be revised.*
* *BCE will revise that last paragraph with new verbiage proved by Artem concerning the requirement of a SWPPP when less than one acre is disturbed.*

**Utility Locates**

BCE did utility locates as part of the Geotech activities. The contractor will verify the utility. Will remove the reference to Dan Adamczak as the coordinator for dig permits.

*ACTION: BCE to remove Dan Adamczak as the contact person for dig permits.*

**Other Requirements**

COMMENT: “Contractor must wash equipment prior to mobilization to the City of Cordova to ensure that the spread of invasive species is prevented” Chantel asked that this be changed “…mobilization to or from the City…” so that the contractors based in town have to wash their equipment before going to the work site.

*ACTION: BCE to add “…mobilization to or from the City…” to the specs.*

**Section 201 – Clearing and Grubbing**

Per Heather, past projects have not been successful when they try to salvage, stockpile and re-use vegetative mat. So, add to this section that the vegetative mat will be made available offsite to support revegetation needed for this project. The contractor shall harvest and transport vegetation from the approved offsite location. Harvest vegetative mat within five miles of the project work site.

*ACTION:*

*Remove: “additional vegetative mat, if required.*

*Anything that says, “if needed”.*

*Add: vegetative mat will be made available offsite to support revegetation needed for this project. The contractor shall harvest and transport vegetation from the approved offsite location. Harvest vegetative mat within five miles of the project work site.*

*Keep: the contractor shall notify engineer 72-hours in advance. Harvest and transplant will occur within one day.*

**Section 203 – Excavation and Embankment**

To follow-up the discussion on subbase Type F, we’re going to add it as a pay item to this section. Per Heather, make this a stand-alone item and provide a bid quantity.

There was some discussion on whether BCE was removing 2017 specs and writing a special provision for this section or just adding to this section. Also look at Section 201.

Also, was the decision from the previous discussion to make the bedding and backfill subsidiary and indicate a quantity so the contractor can incorporate it into their price for the culvert. Either way works.

Heather prefers that excavation to be subsidiary or lump sum.

*ACTION: BCE to insert “add the following”*

**Section 204 – Structural Excavation for Conduits and Minor Structures**

*ACTION: BCE will*

* *add “subbase Type F will be subsidiary to culvert not to pay item and borrow”. And we’ll provide a quantity.*
* *add sub-base will be paid under 602(2) instead of 203(6).*

**Section 301 – Aggregate Surface Course**

There was discussion that this is a standard item and doesn’t need a special provision. To make it easier for the contractor, add a description and basis of payment.

*ACTION: BCE will insert “add the following” to this section.*

**Section 602 – Structural Plate, Aluminum Plate and Box Culverts**

*ACTION: BCE will change the verbiage.*

**Section 611 – Riprap**

It was discussed during the plan review that these are two different items. One is for reinforcement and erosion control. There needs to be a specification for geotextile erosion control even though it is made subsidiary. We can leave this section alone and use Section 631 of 2017 Specs for geotextile erosion control. It may be easier to leave ADOT standard verbiage in Section 631 because it covers all sorts of geotextile material, including reinforcement and erosion control.

**Section 630 – Geotextile for Embankment and Roadway Separation Stabilization and Reinforcement**

The state came out with modifications to the Geotech specifications in 2019. There’s now a state standard modification which supersedes the 2017 specification. Steve would be happy to provide a copy of that for distribution. It can be inserted into these specs or adopted by reference.

Artem recommended that in Section 631, Basis of Payment, adding a short special provision to state “geotextile, erosion control, is made subsidiary to pay item 611, riprap.”

Steve will need to provide a special provision for Section 729 that provides the material specifications or requirements for the geotextile in Section 630.

*ACTION: BCE will make these revisions.*

**Section 640 – Mobilization and Demobilization**

*ACTION:*

* *BCE will insert “add the following”*
* *BCE to add Section 640(4) Worker Meals and Lodging to be in compliance with labor laws.*

**Section 641 – Erosion Sediment and Pollution Control**

There was discussion about the intent to add to the section or to change it with a special provision. Since you’re open to adding contingent sums, the cleaner way is to refer to specifications that we already have. Just add the basis of payment and list all the pay items that need to be included.

*ACTION: BCE will revise this section.*

**Section 642 – Construction Surveying and Monuments**

Per the discussion for the plans, we will add a 3-team crew. This is for contingencies during construction. There will also be a qualified grade checker for the project, per the earlier discussion.

*ACTION: BCE will revise.*

**Section 703 – Aggregates**

There was discussion that we only need verbiage for subbase. Selected Material Type A is already included, which is standard.

*ACTION: BCE will remove top two tables and keep subbase F*

**Section 724 - Seed**

There was a discussion about the seeds and whether or not the contractor would be able to find two types of seeds. It was noted that on Plan C-600 it calls for three different types of sees in the hydro mix. However, one of the seeds is not native to the Copper River area, so it needs to be removed, which leaves us with two seeds that the Forest Service ecologist likes. The table in the specs is correct.

*ACTION: BCE to update the plans to match the specs.*

**Section 726 – Topsoil**

*ACTION: BCE will add basis of payment.*

**Section 729 - Geosynthetics**

Steve will need to provide a special provision for Section 729 that provides the material specifications or requirements for the geotextile mentioned in Section 630. As stated earlier, the department updated the geotextile provisions earlier this year. He will select the provisions that are appropriate to include as a special provision for this project.

*ACTION: Steve to provide the special provisions to the team.*

**General Comments**

Geotech Report

Per Steve, the Geotech Report was not generated by the department of transportation. Therefore, we would not want to be distributing someone else’s report. Whomever is the contracting agency should be listed in the specification that will provide those records. That information would be useful to the contractor to see in the bid package as supplemental information. And leave in the statement that the contractor is responsible for obtaining additional Geotech data.

And similarly, for the hydrology and hydraulics report. This information may be valuable to the contractor as well, as part of the bid package. His main point is that since the department didn’t write these reports, they are not the ones to distribute it.

ACTION: BCE will remove the references to ADOT on these two reports.

Schedule

Steve asked about the construction window being in midsummer. Section 201 on clearing and grubbing mentions a bird window and prohibition of clearing and grubbing between May 15 and July 15. He wasn’t sure if that would mean shifting the overall project back or if the contractor would have to clear before May 15 or obtain a waiver. Franklin responded that the contractor would perform clearing and grubbing before May 15. Steve suggested providing a general sheet note that the clearing has to be performed ahead of time.

Artem suggested adding that no additional money will be paid. It’s all subsidiary to main item.

*ACTION: BCE to add a general note to the plans (Sheet G-002) that clearing needs to occur before May 15, and that it’s subsidiary to the main item. Construction is to occur during the fish window of June 1 to July 31, to be completed by August 15.*

Basis of Payment – 602(2)

Steve commented that we consider that these items are subsidiary to 602(2).

*ACTION: BCE will revise.*

Basis of Payment – 611

COMMENT: Suggest that you consider allowing the use of excavated road embankment and material from culvert trench excavation from voids and riprap.

There was discussion about the contractor being allowed to use certain items material types, including topsoil or borrow and it seemed to me like use of the excavated road embankment might be another material type that would be appropriate for that. There may be biological reasons that you want to certain types of materials there, so he would defer to the biologists.

Franklin commented that leaving it as is with more organic material will work because the priority is to get vegetation to grow back. Using organic material will facilitate that.

Borrow isn’t a material type except it comes from outside the project limits. If you want organic soils in there to promote re-veg, borrow may not be the wording that you want. To avoid bringing in non-native species by bringing in local topsoil or local fine grain soils with some organic content, you may need to define that rather than listing it as borrow.

*ACTION: BCE will remove borrow and insert salvage organic soils for top 6-10”, which is the important part, and then the remaining can be any fine material.*

Egor didn’t have any more comments to discuss with the team. Kate asked if anyone else had any comments. Hearing none, Kate moved on to discuss the project timeline.

**2. Next Steps for EVOS Project**

* 1. COP 43-45 working timeline (updated 12/2/19):
		1. End of November – Permit applications submitted
		2. December 13, 2019 – 99.9% review of specs
		3. December 16-17 – Construction Contract Management training (reschedule December partner check-in)
		4. December 20, 2019 – last comments on specs are due to CRWP
		5. January 3, 2020 – 100% design drawings and specs are due
		6. January 8, 2020 – Invitation to Bid
		7. February 12, 2020 – Bids Due
		8. February 21, 2020 – Notice to Proceed
	2. Hydrology data collection will be ongoing for the next 1.5 years and will help to inform future designs.
	3. Anything other actions needed to complete project?

3. Round robin, any other questions or comments from stakeholders or designers?

* Kate hasn’t heard from Robbie about whether or not he wants to receive the excavated culverts. She will continue to follow-up with him.
* The week of November 25 BCE will get the meeting minutes distributed.
* The week of December 2 we will aim to have Heather review the minutes and provide her input for the final drawings.
* The team will review the specs one more time.
* The revisions to the plans and specs can be started.
* Kate will follow-up with Heather on an updated schedule.



The meeting was adjourned.