Project Review Comments

PROJECT: 21-1080 R, Cleveland Skamokawa Creek Restoration Project

Sponsor: Wahkiakum Conservation Dist Program: SALMON ST PROJ Status: Application Resubmitted

MEETING: Initial Review

Shared: 4/2/2021

Review Status: Needs more information

Considerations:

Topics	Comments
Review Panel Comments - Initial	
Questions (response required)	
	What is the current rate of bank erosion at the proposed bank structures sites? Do you have any photographs of the eroding banks to illustrate the magnitude of the issue?
	Reply: Only a few of the proposed structures are located where the creek removed vegetation the past couple of winters. These are areas where the creek recruited red alder leaving an exposed vertical bank. The biggest bank erosion concerns is along the lower right bank where rock rip rap placed to protect the road crossing ends. The creek bank is avulsing above the rock and threatens to erode in behind the rock.
	How incised is the creek channel ? At what flood-recurrence interval does the creek typically overtop its banks?
	Reply: The creek is entrenched not necessarily incised. The creek reaches top of bank once or twice each winter. The 2-year flood flow flows across portions of the farm.
	What does an undercut bank structure look like and how does it function?
	Reply: The undercut bank structure consist of a large diamter log laid parallel to the creek. Rootwads are laid perpendicular to the log with small end buried in the streambank. The rootwad extend about 5-10 feet beyond the log creating an undercut bank. The remainder of the structure is racked to influence flood flows.
	The conceptual designs indicate that the riparian buffer is an average of 68 feet. What is the minimum buffer width that will be maintained and where is this likely to occur?
	Reply: Falk Creek has the minimum buffer averaging about 30 feet. This buffer is one the landowner agreed to with reservation as the creek is not moving and it is their most productive hayfield.
Improvements to Make Project Technically Sound (response required)	
	The project sponsor should include a LiDAR bare-earth shaded relief of the project reach to help show the geomorphic characteristics of the site. A simple screenshot of the project area from the Washington Department of Natural Resources LiDAR portal would be satisfactory.
	Reply: Attached in PRISM
	Please elaborate on SMART objectives to identify biological goals that are specific and measurable (e.g., reduce invasive species area by 90% , reconnect at least 500 feet of side channel length, add at least 200 conifer trees per acre of riparian area). The current objectives are simply implementation goals.

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	Reply: Increase instream habitat quantity and diversity through placement of large woody debris. Restore riparian function along 3000 feet of Middle Valley Skamokawa that coupled with the other riparian restoration projects will begin to address watershed concerns for both shade and fine sediment delivery. Effectively exclude livestock from Middle Valley Skamokawa Creek.
	The application states that 18 habitat wood structures will be placed in Skamokawa Creek, but the cost estimate has a quantity of 14 habitat structures and one debris jam. Please clarify the actual number of structures being constructed and ensure that the current cost estimate is accurate.
	Reply: Reviewed the cost estimate and the concept plan map. Both are accurate. The project includes 14 habitat clusters, 2 undercut bank structures, and one debris jam structure.
	The value of the habitat in Falk Creek is not clearly represented in the proposal, but the sponsor provided information about the ownership and the condition of this small tributary in the presentation. Including this information in the proposal supports and justifies the benefit of fencing, riparian treatments and Large wood installations in this tributary..
	Reply: The habitat in Skamokawa Creek is valued for Chum, Coho, Chinook, and Steelhead habitat. The current habitat conditions is very similar to other reaches in Skamokawa Creek. The habitat is riffle dominated and entrenched with fine sediment. Riparian conditions consist of a single thread of Red Alder. The landowners had effectively removed livestock from the creek. Recent flood flows have recruited several lengths of red alder and fences are hanging out over the creek in 2-3 locations. The landowners are interested in improving salmon habitat and restoring riparian function along the creek. They thought they would be able to achieve this with 20-30 foot wide buffers. Most of the wood structures are being installed for habitat value. The two undercut bank structures, the debris jam, and three of the habitat clusters are being installed for both habitat value as well as streambank stability. This is necessary to provide time for root strength function to develop.
General Comments (response not required)	
	The project sponsor has done extensive work in the Skamokawa Creek basin that links many smaller projects into a larger strategy of successful salmon habitat restoration on private agricultural lands.
	Reply: Thank you for recognizing the effort and the accomplishments realized through the Skamokawa Creek Watershed project.

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Sponsor: Wahkiakum Conservation Dist Program: SALMON ST PROJ Status: Application Resubmitted

MEETING: LE Review

Shared: 4/15/2021

Topics	Comments
Lead Entity Comments	
Questions For Applicant	
	Falk Creek headwaters are protected by DNR as marbled murrelet habitat. Provide more details on Falk Creek drainage and existing habitat conditions to help understand why and how the proposed work fits in with watershed processes in this drainage.
	Reply: Falk Creek flows along the East boundary of the Cleveland parcel for about 1000 feet. There is about 500 feet of creek flowing through pasture on what was once the Case property. From there up the District worked with the Case family and installed both wood structures and a forest riparian buffer. The buffer is about 15 years of age and buffers both sides of Falk Creek. The buffered section of stream extends upstream to the industry road. Upstream of the industry road is DNR ownership. Through the Skamokawa Creek Community watershed effort and if the Cleveland project is funded, the District will have conducted restoration on all but about 1000 feet of non-industrial ownership in the Falk Creek subbasin.
	What project aspects are focused on landowner interests (i.e. bank stability) versus riparian habitat function? This information is essential to helping understand how the proposal meets salmon recovery project criteria.
	Reply: The landowner approached the District to assist in establishing a forested riparian buffer. Understand that bank stability is one function of a riparian buffer. The critical functions in the Skamokawa Creek watershed include shade, bank stability, allochtonous inputs, terrestrial habitat, and future wood recruitment. After meeting with the landowner, the District encouraged the installation of wood structures to promote instream habitat (pools) and to slow migration to provide time needed to establish root strength riparian function.
	Clarify where the narrowest and widest riparian buffer locations are in the project area.
	Reply: This seems to be best answered by looking at the buffer polygon on the concept map. The buffer is narrowest along Falk Creek. The original project did not include Falk Creek, when we approached the landowner with the TAC request he hesitantly said yes, he could buffer Falk Creek. However, the field adjacent to Falk Creek is his most productive hayfield which is required to generate the feed that carries their operation through the winter months. Along Middle Valley Skamokawa Creek the buffer is pretty uniform. The average buffer width was determined by dividing the buffer polygon size in square feet by the length of creek frontage.
	Were maximum buffer widths pursued with the landowner? Details are needed on how 68 feet buffers were landed on. It would be helpful to consult Ecology's riparian buffer width mapping tool, as well as fish presence information in SalmonScape and the DNR Forest Practices tools. You can access the Ecology buffer tool here: https://www.arcgis.com/home/webmap/viewer.html?webmap=d5478a4aaf704d81bac63ffc934e1549&extent=-123.0388%2C47.109%2C-122.5317%2C47.2963.

	Reply: The landowner originally wanted much smaller buffers, something closer to about 30 feet. I met with the landowner and as we were walking and talking I pointed out the tractor access trails and suggested that we should extend buffers out to the access corridor. This would maximize the buffer width and maximize the amount of pasture / hayfield retained for the operation (livelihood). Once the polygons were roughed in, the area of the polygon in square feet was divided by the stream frontage to obtain the average buffer width. The buffer averages 68 feet on each side of Middle Valley Skamokawa. We have installed well over 50 forest riparian buffers along about 20 miles of local rivers and streams through the Conservation Reserve Enhanced Program. I do believe the buffer polygon to be very accurate and revealing. This is one of the first projects that we have requested funding through salmon recovery. We typically would install buffers through the Conservation Reserved Enhanced Program. We were not quite expecting to run into a big debate over site potential tree height. Being one of many at Oregon State that worked on the Forest Ecosystem Management Assessment Team, I am quite familiar with effective buffer widths and the nuances for each of the riparian functions. Sixty-eight foot buffers provide 100% of the bank stabilization needs, 80% of the shade needs, and most of the wood recruitment needs if you take into account the percent likelihood of a tree reaching the creek and equally important in an entrenched (not incised) will the tree ever enter the creek and function. Where 68 foot buffers fail to meet riparian function is in the terrestrial wildlife need. But you must appreciate the fact that elk and deer favor the forage afforded by the local pastures and hayfields. We believe that we have struck a very common sense balance with the proposed project given the resource needs and the landowners management needs.
	Although 68 foot riparian buffers are indeed better than nothing, concerned that plantings would be taken out in 2-3 year flood events even if planting occurred with placement of large wood. This is important to consider in cost-benefit evaluation, especially because these are proposed narrow buffers on such a short length of the river. Can you provide details on how these narrow buffers will provide habitat benefits? Can you provide information from past projects with similar riparian restoration as an example of how similar methods have turned out in terms of habitat improvements in the long run?
	Reply: We have implemented 12 projects within the Skamokawa Creek Community watershed encompassing about 12 miles of riparian buffer. All have performed beautifully. We would not have done any of them if we were not allowed to install wood structures. Our wood structures provided increased instream habitat quantity and diversity and serve to deflect stream energy toward the center of the channel. Without the wood structures, you are right, in some areas we were losing 10 feet of streambank in a single 2+year flood event. The question to be asking is do you want 2800 feet of 68 foot buffer (each side) or do you want 2800 feet of no buffer. Please read the salmon recovery plan as we have strayed from its intent. The salmon recovery plan recognizes the need to work with people and integrate salmon recovery into land management activities. The Districts thermograph project from 15 years ago showed that most of the stream temperature excursions above state standards occurred in reaches downstream of forested land use. The District has been working with landowners to implement projects focused on the long term objective of restoring riparian function for the past 15 years. We now have buffers approaching 15 years of age and the shade function is being restored. We have plans to redeploy recording thermograph to assess the effect of our efforts. Until then about all we can do is provide a qualitative "things are looking good".