Bear Creek Reach 6 Restoration at Friendly Village

12-1282

AASF Repose to SRFB comments.

Adopt A Stream Foundation (AASF) proposes alterations to the pre proposal based on committee comments and our experience this summer installing LWD upstream on the property. The proposal will be adjusted to accommodate:

* Increased design budget
* More large wood
* Less excavation
* Retain native vegetation

Because the project is small and has limited budget AASF proposes, lower risk, straightforward treatment techniques.

Tom Slocum and Steve Toth provided written review on June 5th , a site visit occurred on May 30th. Committee comments are in italics AASF response follows.

1. **Recommended improvements to make this a technically sound project according to the SRFB’s criteria.**

*The proposal aptly justifies why work on this degraded reach of urban creek supports high priority ecological and social objectives of the WRIA 8 salmon recovery plan. While the proposed habitat enhancement work consists of common and technically straight-forward treatment techniques, the review panel cautions that because of the sub-basin’s disrupted hydrology and sediment transport patterns and severe limitations on the ability of the channel to respond to them, the sustainability of any in-channel treatments at the site will be subject to risks that are beyond the scope and budget of this small project to control. In particular, the long term effectiveness of excavating the outside bank of the meander to a sloping bench as a means of stabilizing erosion and providing flood storage is doubtful, given that a few winter high water events could easily erode the bench back to a vertical cut bank. This scenario occurred at the Ohop Creek SRFB restoration project near Eatonville within two years of construction, and the review panel suggests that the sponsor discuss the effectiveness of this technique with the Ohop project sponsor (Nisqually Indian Tribe).*

AASF agrees that the project in the context of a highly altered system cannot control for most geomorphic risks. The excavation is intended facilitate wood installation and provide planting area. Therefore we agree that more emphasis should be on wood and planting and less on excavation. We have left messages with Nisqually staff, but haven’t yet had an opportunity to speak in person. AASF will continue to seek the opportunity to learn more about lessons learned at Ohop to inform this design.

The re-graded bank will be protected by increased amounts of LWD. Additional design and review is also necessary. The design and permitting budget will be increased from $4,500 to $12,500. An engineer has been secured to review the design work (as match, approx. $6,000) and may be asked to provide stamped plans if higher risk (e.g. mid channel LWD structures or side channel) techniques are determined to be within design and implementation budget and then employed.

*We also caution the sponsor to avoid giving the property owner the impression that regrading the left bank will make a significant reduction in flooding at the site, unless appropriate hydrologic and hydraulic modeling has been completed to demonstrate that it will. The review panel’s informal field observations suggest that channel constriction by structures immediately downstream of the site will backwater the site during flood conditions, regardless of the proposed bank regrading.*

AASF concurs with that assessment. The property owner is aware that this project will not make a significant reduction in flooding. Our position is that the project will marginally increase flood storage at the site and it should be managed as a frequently flooded area, that is, planted with native vegetation and allow for controlled channel change. We have also advocated that all frequently flooded areas on the property should be managed as such. He is also aware that downstream constrictions affect flooding and will continue to backwater his property especially the project area.

*Because of the significant uncertainties associated with the effectiveness and sustainability of the bank regrading component of the design, the review panel suggests that the sponsor focus instead on installing abundant LWD pieces along the existing left bank to enhance salmon habitat complexity and reduce bank erosion. Please also consider the merits of installing a mid channel LWD structure that is positioned to deflect high flows over the point bar on the inside of the meander, and which will further improve habitat complexity.*

Conceptually the plans have been changed to de-emphasize excavation and instead spend additional resources on LWD. However, re-grading the bank especially on the outside bend will be necessary to eliminate sheer banks. A gradual slope will allow for properly installed LWD structures and provide expanded planting areas. During the site visit the committee suggested a side channel on the left bank in the project area. AASF will explore a full (year round) side channel during final design; currently it is not the preferred option due to limited space on the left bank and increased implementation and engineering cost. A high flow channel near the left bank (winter channel) will likely be part of the final design but it will be subject to cost and design constraints.

Based on our experience installing LWD this summer at this site the design will need to account for very sandy alluvial soils. Rebar anchoring will not be effective - earth anchors will need to be sized appropriately for conditions which means larger earth anchors. Longer logs are needed at this site in order to provide year round habitat benefits. Length is important so that the longs can be interacting with the water in the summer low flows and be securely anchored on the bank even in higher winter flows. A minimum of 20’ appears to be necessary due to dramatically different summer and winter flows. Long logs and bigger earth anchors will have some affect on the quantity of wood used to remain within budget.

*We strongly support the proposed revegetation component of the project, especially if it can retain the existing large cottonwood tree on the left bank.*

Native vegetation will be retained in the project area as appropriate. The large cottonwood tree and surrounding shrubs will be preserved.

**2. Missing Pre-application information.**

In the final proposal, please include sufficient budget to prepare the design and as-built documentation that is required in Manual 18 Appendix D