As-Built For Bear Creek Reach 6 Friendly Village Mobile Home Park

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As with all stream restoration projects minor changes were made to the final designs during construction. These design changes were made in the felid during construction to better address and/or incorporate site-specific conditions that were discovered during LWD installation. Please refer to sheet 2 of 2 “As-Built Friendly Village Reach 6” for actual LWD orientation, sheet 2 of 2 was prepared using sketches and photos taken during LWD installation and accurately depicts the placement and orientation of the logs, root wads and porous weir. For a simplicity I have separated the design changes into 5 circled areas labeled #1-5 on sheet 1 of 2 “As-Built”. For an explanation if these changes please see below.

Area 1.

During construction it became apparent that there would be a rather large void between the downstream end of our project and the existing downstream bank. To fill this void and reduce the likelihood of streambank erosion immediately downstream of the project a root wad was added. The orientation of the LWD in this structure differed slightly from the final design, with most root wads being oriented to face into the current with straight logs used to fill in the voids between them.

Area 2.

This is the middle and lower end of the “overflow channel”. The final designs called for some buried LWD and more or less informal log weirs. This was determined to be insufficient during construction as soils appeared to be highly erodible and more substantial weirs were deemed necessary. Double log weirs, weirs that have two logs stacked on top of each other with bank paralleling log edges were used to help reduce the risk of excessively scouring during overflow channel activation. Rock that was originally intended to be scattered around on the right bank of the downstream end of the overflow channel was instead used to make a porous weir. The porous weir was intended to provide additional protection against excessive scouring of the overflow channel.

Area 3.

Concerns over the creek getting behind this structure resulted in a field call to make this structure’s profile lower then originally planed. To reduce the profile of this structure the angled upstream root wad was replaced with a straight log. Another straight log was then placed downstream to support the landward end of the straight log that replaced the root wad.

Area 4.

The root wad on the right bank of the overflow channel was replaced with a straight log. Because this root wad would be in the water only occasionally it was move to another location on the site where it would be inundated more often and provide a greater benefit to fish.

Area 5.

The root wads taken from structures 3 and 4 were added to structure 5 along with additional straight logs that were extras from the wood delivery. At structure 5 Bear Creek takes a sharp turn and experiences the full force of the creek head on. It was determine in the field that adding extra wood to this structure would be beneficial to the strength of the structure as well as to aquatic life. The brush revetment on the landward side of this structure was deleted. It was determine that this was unnecessary as the buried LWD in the bank would provided greater protection against erosion then the brush revetment.