

PETER'S CREEK PROJECT DESCRIPTION – REVISED JUNE 1, 2022

The goal of this project is to rebuild an existing bridge and construct a new bridge across Peter's Creek on property that is owned and managed by Save the Redwoods League. These bridges will be a part of an access improvement program that allows safe and low impact access to property as well as adjacent state park lands and trails. The project area is shown on **Figure 1**. The bridges will be clear span structures that are 50 feet and 100 feet in span. Bridge 1 is the shorter of the bridges and entails replacing what appears to be a rusting, old railroad flat car bridge. The existing bridge is not used for vehicles only for hiking because of its condition. The replacement bridge will be fire truck rated. Bridge 2 is a new bridge will be placed between two high banks about 800 feet upstream of the first bridge. The existing site plans and general project layout is shown in the attached plan set. The existing bridge provides the only possible construction access to the second bridge site. Currently, that bridge is unsafe to carry construction equipment and materials. The bridge will either need to be temporally reinforced or replaced prior to construction of the second bridge.

The access route to the second bridge is a historic road that was likely constructed in the early 1900's as part of logging operations in the area. The road is generally wider than 15 feet but slight improvements will need to be completed in specific areas to make it safe for construction access. Several large downed logs will need to be moved. A short area of the roadway has been narrowed by bank erosion. This area will need a temporary fix to provide a minimum width of 12 feet to allow safe equipment and material access. A second area of the road is narrowed by a very large stump. This stump will need to be removed and the access way re-graded.



Two separate staging areas will be developed at or near each bridge site. These staging areas will be separated from the surrounding area with silt fencing and/or exclusionary fencing. All trees in around active construction zones will be protected by exclusionary fencing or timber trunk wraps whichever is more suitable for the location and application. Vegetation will be cleared within the project area for grading, resulting in the loss of approximately 10 trees of diameters ranging from 6 to 10 inches.

General construction access is good at the first site but is more challenging at the second site. To reach the far bridge abutment location of Bridge 2, a portion of the existing creek bed will need to be used. Cofferdams will be constructed upstream of the proposed bridge to channel summer low flows into a diversion pipe which would be laid on the bed of creek. The cofferdam will be constructed of sand bags filled with clean rock fill. Plastic sheeting will be laid down prior to sandbags to make it water tight and to facilitate clean, easy removal. Where necessary, along the

creek bed access route clean fill material will be placed over the pipe to allow equipment and vehicle movement. A second flow diversion is proposed at the first bridge site as well. This diversion may or may not be necessary depending on how the contractor chooses to construct the first bridge. A third smaller creek diversion/exclusion dam is needed at the area where the access road is to be temporarily widened. The design for this feature will ultimately be the responsibility of the building contractor, but it is likely that some shoring will be needed along the toe of the creek bank within ordinary high water to support the road extension. This area will be isolated from the active creek flow to reduce impacts.

Cut and fills will be limited on the project. Cuts will occur for improvements to access roads and excavations for bridge foundations. The small amounts of fill may be placed to provide smooth trail grades. The largest fill area will be at the north side of the Bridge 2, where an existing depression creates an awkward transition from the bridge landing to the existing trail connection. All cuts and fills are expected to generally balance on the site, but small amounts of unsuitable material may be off hauled.



AREAS OF IMPACT: Figures 2 and 3 shown in the area of impact on the site. These areas are broken down into several categories.

Total Area of impact: 27,275 square feet or 0.63 acres

Area of Upland impact: 19,736 square feet or 0.45 acres

Area of temporary impacts below Ordinary High Water (OHW) as defined by modeled 2-year creek flow water surface profile: 7,535 square feet; 0.17 acres

The project will permanently affect 12,650 square feet or 0.29 acres.

The access trails will be generally un-impacted. The trails leading to and across bridge one are fire road width. The access trail to bridge 2 is approximately 6 to 10 feet wide. Some minor grading and clearing will be needed as shown on the plans. All trails will be left or returned to their existing condition.

CONSTRUCTION DURATION:

Construction may occur over two summer construction seasons. The first bridge needs to be able to carry equipment and supplies for the construction of the second bridge. Therefore, it is likely that the first bridge will be constructed and then, the following year the second bridge will be installed. Each bridge will take 2-3 months to complete. Construction should start no later than August 1 and will be completed and/or winterized by October 1 of that construction season.

CONSTRUCTION EQUIPMENT AND SEQUENCING:

The project is expected to utilize a variety of light trucks and heavy equipment. Workers will likely have ½ ton pickups or greater. On site heavy equipment may include a 130 excavator or larger, backhoe/skip loaders, small dozer (D3 or less), truck or track mounted drilling rigs, and small compact front end loaders. A small crane may be needed briefly. Portable generators will be used to supply electric power on the site.

First season, first bridge construction sequencing

1. Mobilization and staging: This is the start of the project construction. The staging area is established and the site is isolated from the surrounding area by install of silt fence and tree protection. As necessary a coffer dam and diversion will be installed beneath the bridge.
2. Clearing and grubbing: The new bridge foundation sites will be cleared of vegetation and any tree removals will occur.
3. Portions of the old bridge and log structure may be demolished and removed from the site.
4. Foundation installation: This will involve excavation, forming and steel placement and concrete pours
5. Bridge structure installation: This includes placement of steel stringers and lateral bracing that will make the structural supports of the bridge.
6. Bridge deck and railing installation. Installation of concrete deck (maybe precast off site) and safety rails on bridge.
7. Bridge approach grading: The final grading and establish of the bridge approaches will be completed this may involve minor amounts of fill road bed improvement
8. Erosion control: The temporary erosion control and winterization measures will be installed. This may include installation of temporary straw wattles and seeding and mulching for site winterization.
9. Closeout and demobilization.
10. Periodic site checks throughout the winter.

Second season, second bridge and trail construction

1. Mobilization and staging: This is the start of the project construction season. The staging area(s) are established and is isolated from the surrounding area. Silt fences and tree protection is installed as needed.
2. Site clearing grubbing: The new bridge foundation sites and permanent trail alignments will be cleared of vegetation and any tree removals will occur.
3. Water Management and access routes: Installation of the bridge site coffer dam and diversion pipe, also installation of exclusionary bank toe features at the trail width improvement site.
4. Installation of temporary trail width shoring
5. Rough Trail grading including removal of large stump and installation of creek bed access route and tree removal as needed.
6. Foundation preparation and cable anchor installation: This may include drilling or excavate counterweights for cable suspension.
7. Cable tower installation: Cable towers would be installed on appropriate foundations. Towers may be prefabricated offsite and assembled and erected on site.
8. Cable bridge deck and railing installation
9. Bridge approach trail grading and filling
10. Cofferdam Removal and Streambed restoration
11. Erosion control installation of temporary straw wattles and seeding and mulching for site winterization
12. Closeout and site clean up
13. Periodic site checks throughout the winter.