CHIPS CREEK BRIDGE PROJECT:

Almanor Ranger District, Lassen National Forest
Plumas County, CA
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BACKGROUND

The Almanor Ranger District, Lassen National Forest, proposes the Chips Creek Bridge Project to provide a sustainable crossing for the Pacific Crest National Scenic Trail across Chips Creek.

This project is located in the Mt. Hope management area (MA 47) on the Almanor Ranger District of the Lassen National Forest in Plumas County where the Pacific Crest Trail (PCT) crosses Chips Creek southeast of the Poison Springs trailhead, in T25N; R6E; sec. 7, Mt. Diablo Meridian. A vicinity and project map are enclosed.

The project area falls within one-quarter mile of either side of Chips Creek along the PCT, a Class 3 ("developed") national scenic trail that receives high levels of hiker and equestrian use between May and October annually. The steep terrain, unstable slopes, and erosive soils that define the area present challenges to maintaining a safe, stable stream crossing. As a result of the Storrie Fire (2000) and subsequent hydrologic events, stream bank erosion and significant sediment loading in the creek has occurred. An engineered crossing did not exist prior to the Storrie Fire, and erosion and sediment loading resulting from the fire have created a need for a more sustainable crossing at Chips Creek. A network of user-created routes exist, accessing crossing points along the stream bank, none of which are suitable for stock and all of which affect watershed stability and natural restoration processes.

This project would be consistent with and designed to implement resource management activities and components of the 1992 Lassen National Forest (LNF) Land and Resource Management Plan (LRMP) and 1993 Record of Decision (ROD), as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) ROD (2004), and the Management Indicator Species (MIS) amendment (2007).

MANAGEMENT DIRECTION

The following management direction and desired conditions apply to the Chips Creek crossing within the existing analysis framework (statute, regulation, Forest Plan, and other direction).

Lassen National Forest Land and Resource Management Plan (1992)

Facilities:

Provide a stable and cost-efficient trail system through appropriate construction, reconstruction, and/or maintenance. (Standard and Guide)

1) Meet current objectives for trail management and use of all designated hiking, equestrian, off-highway vehicle, and over-snow trails.

2) Maintain all trails and related structures to protect the recreation amenities of adjacent areas, provide reasonable access, be an efficient transportation system, and provide various experience levels according to type and volume of use.

3) Construct, reconstruct, and maintain each trail to satisfy reasonable environmental and economic criteria.

Recreation:

- Provide a wide range of outdoor recreation opportunities to meet public demand by furnishing different levels of access, service, facilities, and information. (Standard and Guide)

Soils:

- Restore all substantial areas of significantly degraded soil. (Standard and Guide)
- Manage for reduced soil exposure, erosion, and sedimentation, and minimize cutbanks and bank sloughing. (Management Prescription)

Water and Riparian Areas:

- Provide water of sufficient quality and quantity to meet current needs. Meet additional future demand where compatible with other resource needs. (Standard and Guide)
- Maintain or improve riparian-dependent resources in and around wetlands, stream corridors (including ephemeral and intermittent streams), lakes, seeps, springs, and wet meadows. (Standard and Guide)

Fish:

- Maintain or improve habitat for all native species and compatible non-native species. (Standard and Guide)

Sensitive Plants:

- Maintain habitat and viable populations to contribute to eventual delisting of sensitive plants that are found on the Forest. (Standard and Guide)

Comprehensive Management Plan for the Pacific Crest National Scenic Trail (1982)

The Comprehensive Management Plan for the Pacific Crest National Scenic Trail (CMPPCNST) provides direction for trail location, design, signing, and user facilities, including criteria for stream crossings.

General Location Criteria:

- Marshes, areas of thin or unstable soil, small lakes, meadows, and other fragile areas are particularly susceptible to damage if used heavily. The trail should bypass these areas, if at all possible.

General Design Criteria:

- River, Highway, Railroad Crossings. The trail should be located to provide safe crossings by means of bridges or underpasses, except at low volume roads or railroads that can be safely crossed on grade. Special attention should be given to the safety problem that traffic noise can create for equestrians.
- Structures. Structures should be built to the standard currently in use by the agency administering that land area, and be designed to harmonize with the surrounding environment.

Sierra Nevada Forest Plan Amendment (2004)

- Streamflow Patterns and Sediment Regimes. Maintain and restore in-stream flows sufficient to sustain desired conditions of riparian, aquatic, wetland, and meadow habitats and keep sediment regimes as close as possible to those with which aquatic and riparian biota evolved. (Goal)

- Stream Banks and Shorelines. Maintain and restore the physical structure and condition of the stream banks and shorelines to minimize erosion and sustain desired habitat diversity. (Goal)

- Identify and implement restoration actions to maintain, restore, or enhance water quality and maintain, restore, or enhance habitat for riparian and aquatic species. (Resource Conservation Objective #6)

- Prevent disturbance to streambanks and natural lake and pond shorelines caused by resource activities (for example, livestock, off-highway vehicles, and dispersed recreation) from exceeding 20 percent of stream reach or 20 percent of natural lake and pond shorelines. Disturbance includes bank sloughing, chiseling, trampling, and other means of exposing bare soil or cutting plant roots. This standard does not apply to developed recreation sites, sites authorized under special use permits and designated off-highway vehicle routes. (Standard and Guide #103)

PURPOSE AND NEED FOR ACTION

The Chips Creek drainage poses significant engineering challenges for the development of safe and sustainable stream crossing alternatives. Steep slopes and highly erosive soils combined with the tremendous width of the stream course (upwards of 70 feet) and potential for a significant hydrologic event preclude the use of rip rap or other such minimal trail design features for construction of a crossing. During periods of high flow, the creek becomes an impassable river with sufficient energy to transport large diameter boulders and woody debris. In its current condition, the Chips Creek crossing contributes to substantial erosion of the stream bank, sediment loading in the creek, and loss of riparian habitat. The lack of an engineered route across the creek also poses a hazard to hikers and stock users when navigating a route down to and across the creek. During periods of high run-off, the crossing becomes impassable. Without a sustainable, engineered crossing at Chips Creek, these adverse conditions will persist.

There is a need to abate stream bank erosion and sediment loading at the Chips Creek crossing by stabilizing the banks and realigning the trail approach while providing for safe, sustainable access across the creek along the PCT for hikers and stock users. The purpose of this project is to provide a safe and sustainable crossing for hikers and stock users along the PCT, as well as to improve water quality, improve riparian and aquatic resource habitat, and support natural restoration processes.

PROPOSED ACTION

The Almanor Ranger District is proposing to construct an engineered creek crossing in the form of a bridge across Chips Creek along the PCT. The bridge would be built to stock standards (minimum width of 7 feet) and designed to meet the Forest Service Built Environment Image Guide (BEIG) criteria, as well as trail design guidelines featured in the CMPPCNST.

Specifically, the Proposed Action would include:

- Restoration and stabilization of approximately 100 feet of stream bank along the north and south side of Chips Creek by:

  - Obliterating existing user-created routes.
  - Armoring stream banks directly adjacent the bridge footings.
  - Revegetation with native plant species
- Constructing approximately 600 feet of new trail tread east of the crossing and approximately 20 feet of trail tread west of the proposed crossing to create a sustainable approach to the proposed bridge, prevent further erosion, and tie to existing PCT trail tread.
- Abandonment and rehabilitation of approximately 1,000 feet of existing trail tread where it leads to the current ford crossing.
- Building footings for the proposed bridge crossing, including blasting to create approximately 10x9x9 foot holes to accommodate concrete abutments.

Trail construction methods could include, but would not be limited to, the use of fill material (rock, soil); construction of trail features including puncheons, retaining walls, rip rap, and cribbing; the use of rock drills; and, the limited application of explosives where necessary to move large rock. Trail rehabilitation methods could include, but would not be limited to, vertical mulching and naturalization of the site with duff, downed branches, rocks, etc. No trees are anticipated to be felled with this proposed action, but any tree felled incidental to implementation for safety would be left in place.

All activities associated with the Proposed Action would incorporate best management practices (BMPs) for recreation, soil, water quality, and aquatic resources. The Proposed Action would meet management objectives for the Mt. Hope Management Area per LRMP (1992) direction. Trail maintenance and bridge construction standards would be followed as outlined in Forest Service Handbook 2309.18.

INTEGRATED DESIGN FEATURES (IDFs)

The following Integrated Design Features (IDFs) are resource protection measures that are developed by specialists and incorporated as part of the proposed action for this project. They are in addition to Best Management Practices (BMPs) and standards and guidelines from the Lassen LRMP, as amended. These IDFs are also included for implementation parameters that would be incorporated into treatments, contracts, or used to guide Forest Service personnel in conducting implementation.

Aquatics:

- No tightly woven fiber netting or similar material would be used as an erosion control method to ensure that Sierra Nevada yellow-legged frog would not get trapped, injured, or killed.
- A fisheries biologist would visit the project area prior to implementation to determine the presence or absence of Sierra Nevada yellow-legged frogs.
- If a Sierra Nevada yellow-legged frog is observed during project construction, activities would be stopped until a Forest Service or Service-approved biologist has assessed the situation and determined the correct course of action.

Botany:

Rare Plants:

- New occurrences of threatened, endangered, or sensitive (TES) plant species discovered before or during ground-disturbing activities would be protected through flag-and-avoid methods.
- No ground-disturbing activities would take place within occurrences of *Clarkia mildrediae* ssp. *mildrediae*.

Noxious Weeds:

- All off-road equipment would be weed-free prior to entering NFS lands. Staging of equipment would be done in weed-free areas.
- New small infestations identified during project implementation would be evaluated and treated according to the species present and project constraints, and avoided by project activities.
- If project implementation calls for mulches or fills, they would be certified weed-free.

Fuels:

- If any tree is felled incidental to bridge placement for safety, felled trees would be limbed and bucked. All cut vegetation would be scattered to avoid creating concentrations of fuel. Prioritize slash broadcasting in areas needing cover due to project activities (see soils IDF).

Heritage:

- If heritage resources are identified during project implementation (unanticipated discovery), all work would cease immediately in that area until the situation is reviewed and an assessment and mitigation plan instituted to insure protection of the site.

Recreation:

- Prior to construction, signs would be posted at trailheads immediately north and south of this section of the PCT informing users of the project work and implementation date(s). Temporary traffic control measures would be put in place during construction to ensure the safety of the recreating public.

Silviculture

- If any tree is felled incidental to bridge placement for safety, cut stumps of live conifers with a 14-inch stump diameter or larger would be treated with an Environmental Protection Agency (EPA)-approved borate compound which is registered in California for the prevention of annosus root disease. No EPA-approved borate compound would be applied within 25 feet of live streams and meadow/wetlands.

Soils

- Soils lacking adequate ground cover because of disturbances caused by the proposed action would be mulched with available forest materials, such as pine needles, tree bark, branches, or with imported mulch, such as certified weed-free straw.

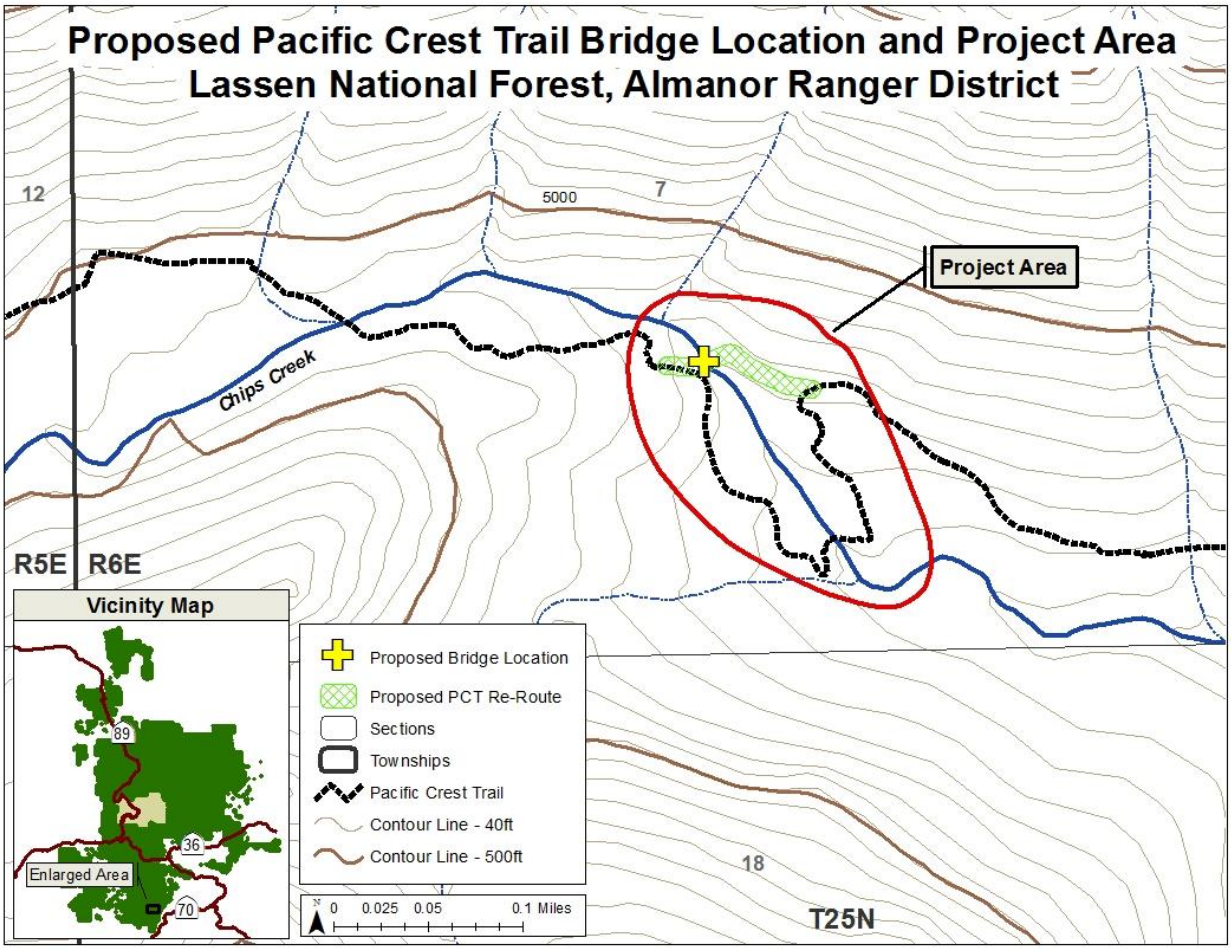
Wildlife

- If a Forest Sensitive species is found nesting or denning within one-quarter mile of the proposed bridge activity, activities would be stopped and the limited operating period appropriate to that species would be observed. If a Forest Service or Service-approved biologist has assessed the situation and determined that the activities would not affect the reproduction of that species based upon the intensity, duration, timing, and specific location of the activities, the LOP may be lifted.

DECISION TO BE MADE

The decision to be made is whether to implement this project as proposed, as modified to address issues raised during scoping, or not at all. The timeframe for implementation would be dependent upon winter snowpack and site-specific conditions, but would be intended to take place before the end of 2017.

PROJECT AREA MAP



LITERATURE CITED

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