
**EDDY GULCH LATE-SUCCESSIONAL RESERVE
FUELS / HABITAT PROTECTION PROJECT**

ROADS REPORT

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Roads Report

1.1 Introduction

Engineering is a support function for management activities on National Forests. In vegetation management projects, engineering identifies road needs including reconstruction, new construction and maintenance. The object is to provide safe use of the road system, protect the road investment, and mitigate any road-related resource damage. Engineering also participates in the location of proposed temporary roads (roads that are used once and then stabilized and closed). For the Eddy Gulch Late-Successional Reserve (LSR) Fuels / Habitat Protection Project, project level-transportation analysis and project-specific road reconnaissance were used to help in the development of the Proposed Action.

This section focuses on the existing transportation system and changes that could potentially occur under Alternative A (No Action) or from implementation of the Alternative B (Proposed Action) or Alternative C. Both action alternatives would accomplish the following actions on existing roads:

- Maintain roads as necessary for project operations, and
- Close (open, use as temp spur, stabilize, and close) all unauthorized roads used for the project but not needed for long-term forest management.

1.1.1 Project Location

The Eddy Gulch LSR Project Assessment Area is located on the Salmon River and Scott River Ranger Districts, Klamath National Forest, in southwestern Siskiyou County. The LSR is located mostly west of Etna Summit, south of North Russian Creek and the town of Sawyers Bar, east of Forks of Salmon, and north of Cecilville. The LSR is about 61,900 acres in size, making it one of the largest LSRs on the Klamath National Forest. The LSR encompasses much of the area between the North and South Forks of the Salmon River, as well as headwaters of Etna Creek. Elevations range from 1,100 feet to about 8,000 feet. The terrain is generally steep and dissected by sharp ridges and streams. There are a few private inholdings in the LSR and along the main Salmon River and other stream corridors adjacent to the LSR.

The legal description for the Eddy Gulch LSR includes the following (all Mount Diablo Meridian):

T38N, R11W, Sections 2–5, 8–10, and 17–19
T38N, R12W, Sections 1–3, 9–16, and 22–24
T39N, R10W, Sections 2–10, 15–21, and 29–31
T39N, R11W, Sections 1–18, 20–29, and 32–36
T39N, R12W, Sections 11–14, 23–25, and 36
T40N, R10W, Sections 3–5, 8–11, and 13–35
T40N, R11W, Sections 24–27 and 34–36
T41N, R10W, Sections 2–5, 8–17, 20–24, 26–29, and 31–34
T42N, R10W, Sections 28–29 and 32–35

1.1.2 Terms

Eddy Gulch LSR—the entire 61,900-acre LSR.

Assessment Area—the 37,239-acre portion of the Eddy Gulch LSR west of Etna Summit where various treatments are proposed. All released roadless areas that occur in the LSR were excluded from planning efforts and are therefore not part of the Assessment Area.

Treatment Unit—the acres proposed for some type of on-the-ground treatment under a particular alternative.

Analysis Area—the area around treatment units considered in the effects analysis (the analysis area may be larger than the LSR Assessment Area). The analysis area varies by resource.

1.2 Summary of the Alternatives

Chapter 2 in the environmental impact statement (EIS) for the Eddy Gulch LSR Project presents more information about the three alternatives, and Appendix A contains project maps.

1.2.1 Alternative A: No Action

The no-action alternative is described as continuation of the current level of management and public use—this includes road maintenance, dispersed recreation (hunting, fishing, camping, and hiking), mining, watershed restoration projects, and the modeled wildfire. The time frame for analysis is considered to be 20 years. Given the fuel hazard in the Eddy Gulch LSR and current predictions of climate change, it is assumed at least one wildfire will escape initial attack during the 20-year period and burn under 90th percentile weather conditions (defined as 10 percent of the days in the historical weather database that had lower fuel moisture and higher wind speeds compared to the rest of the days). An analysis of a wildfire for three days that escaped initial attack in the Eddy Gulch LSR Project Assessment Area indicates that fire would burn 7,200 acres. Of those 7,200 acres, 1,355 acres (19 percent) would be surface fire; 5,065 acres (70 percent) would be a passive crown fire; and 780 acres (11 percent) would be an active crown fire.

1.2.2 Alternative B: Proposed Action

The Klamath National Forest proposes 25,969 acres of treatments to protect late-successional habitat and communities. Three primary treatment types were identified in the Assessment Area: Fuel Reduction Zones (FRZs), Prescribed Burn Units (Rx Units), and Roadside (RS) treatments along emergency access routes, which are described below.

- **FRZs**—strategically located on ridgetops to increase resistance to the spread of wildfires. The FRZs would be wide enough to capture most short-range spot fires, and ground, ladder, and crown fuels would be reduced so as to change crown fires to surface fires within the treated areas. The FRZs would provide safe locations for fire-suppression personnel to take fire-suppression actions during 90th percentile weather conditions, and they serve as anchor points for additional landscape-level fuel treatments, such as underburning.

- **Proposed Action.** Construct 16 FRZs totaling 8,291 acres to increase resistance to wildfires. The 8,291 acres includes 931 acres in 42 M Units (thinning units) and 7,383 acres in fuel reduction areas (outside the M Units) to reduce ground and ladder fuels.
- **Rx Units**—a series of landscape-level treatments (ranging from 250 to 4,300 acres in size) designed to increase resilience to wildfires by reducing ground and ladder fuels. Most of these treatments would occur on south-facing aspects where fuels dry faster, and treatments would support the role of the FRZs.
 - **Proposed Action. Implement** 17,524 acres of Rx Units to increase resiliency to wildfires.
- **RS treatments**—along 60 miles of emergency access routes identified in the Salmon River Community Wildfire Protection Plan (CWPP) (SRFSC 2007) and designed to facilitate emergency access for residents to evacuate and for suppression forces to safely enter the LSR in the event of a wildfire.
 - **Proposed Action.** Treat 44 miles of emergency access routes in FRZs and Rx Units (treatments would be similar to the FRZ or Rx Unit the route passes through) and 16 miles (with 154 acres of treatments) of RS treatments outside of FRZs and Rx Units—a total of 60 miles of RS treatments along emergency access routes.

1.2.2.1 Summary of Road Treatments under the Proposed Action

Construction of new temporary roads and use of former logging access routes are proposed to facilitate access to treatment units.

- Approximately 1.03 miles (5,433 feet) of new temporary roads would be used to access all or portions of seven M Units. These roads are described as “New Temporary Road” in Table 1. All of these temporary roads would be closed (ripped and mulched, as needed) following thinning.
- Approximately 0.98 mile (5,177 feet) of former logging access routes would be re-opened (vegetation removed and bladed) to access all or portions of five M Units. These routes, described as “Former Logging Access Route” in Table 1, would be water-barred and closed immediately after logging thinning is completed.
- Five spurs, each less than 100 feet long, would be bladed for tractor or cable yarding operations in two units.
- Existing landings would be used. The core Interdisciplinary (ID) Team considered using whole-tree yarding to reduce slash treatments; however, it would require larger landings and was therefore not considered further.

Table 1. Proposed new temporary roads, former logging access route updates, and operational spurs.

Location	Length (feet)	Access For	Description
Intersection 39N53	1,577	M Unit 15 (Cable)	New Temporary Road
Intersection 39N20	550	M Unit 17	New Temporary Road
Intersection 39N73	1,074	M Unit 21 (Cable)	New Temporary Road
Intersection FS39	605	M Unit 24	New Temporary Road
Intersection 39N58B	617	M Unit 36	New Temporary Road
Intersection 39N53A	560	M Unit 37	New Temporary Road
Intersection 39N37A	450	M Unit 75	New Temporary Road
Intersection 39N23	1,123	M Unit 9	Former Logging Access Route
Intersection 39N53	1,381	M Unit 15 (Tractor)	Former Logging Access Route
Intersection 39N58	519	M Unit 25	Former Logging Access Route
Intersection 39N04 – Lafayette Pt.	2,154	M Units 43 and 8	Former Logging Access Route
Intersection FS39A	240	M Unit 23	Four Logging Spurs at 60 Feet Each–Operations
Intersection 39N04A	100	M Unit 39	Short Logging Spur–Operations

1.2.2.2 Proposed Haul Roads and Drafting Sites

Haul Roads. There are five basic routes that would be used to haul products out of the Assessment Area following thinning; all of these routes have been used in the past and are suitable for use with this project:

- 2E001 (Sawyers Bar). The route connects to County Road 1C01 with haul to Etna and Highway 3 to Yreka.
- 40N61 (Whites Gulch Rd). The route connects to County Road 1C01 with haul to Etna and Highway 3 to Yreka.
- FS39. The route connects with County Road 1C02 with haul to Callahan and Highway 3 to Yreka.
- 39N20. The route connects with County Road 1C02 at Shadow Creek with haul to Callahan and Highway 3 to Yreka.
- **39N23.** The route connects with County Road 1C02 at Cecilville with haul to Callahan and Highway 3 to Yreka.

1.2.2.3 Drafting Sites

Prior to and during haul, a portion of the road maintenance needs will be dust abatement. Water drafting sites for dust abatement will occur at designated sites for that purpose—existing drafting sites and access routes will be used. No vegetation removal will be allowed at drafting sites with the exception of vegetation trimming done in such a way that existing vegetation and associated root strength along stream banks and access routes are maintained.

1.2.3 Alternative C: No New Temporary Roads Constructed

Alternative C responds to public concerns regarding the environmental and economic effects of constructing new temporary roads. Alternative C is similar to the Proposed Action but approximately 1.03 miles (5,443 feet) of new temporary roads identified in the Proposed Action would not be constructed. As a result, no fuels treatments would occur in portions of seven M Units. This reduces the total acres of treatments in M Units from 931 acres under Alternative B to 832 acres in Alternative C. Fuels treatments could not be carried out in those M Units because of excessive treatment costs, high existing dead crown fuel loadings, and potential heat damage to the overstory if these untreated units were prescribed burned.

Under Alternative C, the FRZs would continue to total 8,291 acres; however, 99 acres in M Units would remain untreated. The total number of acres treated by tractor yarding would remain at 361 acres; however, the acres of cable yarding would be reduced from 570 acres under Alternative B to 471 acres under Alternative C. Reducing acres of M Units treated would also reduce the number of acres treated in two Rx Units because excessive fuels remaining in M Units would preclude safely burning portions of the two Rx Units. Six-foot-wide control lines would be constructed around the perimeter of those untreated areas to keep prescribed burns out of those portions of Rx Units. There would be no changes in the miles of emergency access routes treated, transportation plan, or resource protection measures.

1.3 Significant Issue

Public and agency comments received during collaboration and scoping efforts did not identify any significant issues related to forest vegetation. The only significant issue was in regard to construction of new temporary roads to access some of the treatment units. Alternative C was developed in response to public concerns regarding the environmental and economic impacts of constructing new temporary roads.

1.4 Regulatory Framework

The Klamath National Forest Land and Resource Management Plan (Klamath LRMP) (USFS 1995) contains Standards and Guidelines for management of the Forest's road system.

1.5 Methodology

1.5.1 Analysis Methods and Assumptions

The North Fork of the Salmon River and South Fork of the Salmon River transportation reports document access needs by management group (lands, recreation, fire/fuels, and silviculture); the existing transportation management, including road conditions; road-related resource effects; and provides preliminary recommendations for each system road within the area analyzed. These reports also document proposed changes in road management, including decommissioning and change in closure status of system roads and the inclusion in the transportation system and closure of unauthorized roads.

1.5.2 Scope of the Analysis

Analysis Area. The analysis area is the Eddy Gulch LSR Project Assessment Area.

Analysis Period. Short-term effects are those occurring from actions in the immediate future (0–3 years). Long-term effects are those occurring over several seasons (3 years and beyond).

1.5.3 Intensity of Effects

“Intensity” refers to the severity of effects or the degree to which the action may adversely or beneficially affect a resource. The intensity definitions listed below are used in the “Environmental Consequences” section to evaluate effects of the alternatives.

Negligible—Effects would be at the lowest levels of detection and would have no appreciable effect on resources, values, or processes.

Minor—Effects would be perceptible but slight and localized. If mitigation were needed to offset any adverse effects, it would be relatively simple to implement and would likely be successful.

Moderate—Effects would be readily apparent and widespread, and would result in a noticeable change to resources, values, or processes. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful.

Major—Effects would be readily apparent and widespread, and beneficial effects would result in a substantial alteration, and adverse effects would also result in substantial alteration with loss of resources, values, or processes and would likely be permanent. Mitigation measures to offset adverse effects would be necessary, extensive, and their success could not be guaranteed.

1.6 Affected Environmental (Existing Conditions)

The Eddy Gulch LSR Assessment Area is well roaded. Road mileages for each category of road found in the LSR are shown in Table 2.

The maintenance levels for Forest Service roads in the Eddy Gulch LSR Assessment Area are shown in Table 3.

Table 2. Eddy Gulch LSR road categories.

Road Category	Miles
County Road	20.7
Klamath National Forest System Road	137.2
Klamath National Forest System Road, Decommissioned	21.6
Klamath National Forest Nonsystem Road	39.6
Klamath National Forest Nonsystem Road, Decommissioned	10.8
Private / Other Jurisdiction	39.6

Table 3. Eddy Gulch LSR road maintenance levels.

Maintenance Level	Miles
1 – Basic Custodial Care (Closed)	10.0
2 – High Clearance Vehicles	87.2
3 – Suitable for Passenger Vehicles	61.5

The National Forest System roads are very stable with few if any problem spots; there is little sediment coming off of the roads in the Assessment Area. The road system will function for commercial use with only maintenance. The unauthorized roads in the Assessment Area are mostly old logging temporary roads, abandoned railroad grades, or roads created to access camp sites or water sources. Most of the unauthorized roads are closed and re-vegetated, but the ones to camp sites and water sources are open to vehicle use. In recent years, off-highway vehicle (OHV) riders have been opening unauthorized roads to OHV use. A field assessment was completed on all Maintenance Level 1 and 2 roads in the Assessment Area.

1.7 Environmental Consequences

1.7.1 Alternative A: No Action

1.7.1.1 Effects

The no-action alternative would provide for continued routine maintenance on National Forest System roads as funding allows.

Conclusion. Continued road system improvements by the Klamath National Forest would result in short- and long-term minor to major beneficial effects, depending on the extent of future improvements.

1.7.2 Alternative B: Proposed Action

The Proposed Action includes the following transportation system requirements:

- Unauthorized roads with high use would be put on the National Forest System so that the Forest Service can manage their use.
- Existing system roads with little use would be closed to protect the road investment and prevent resource damage, and the existing National Forest System road would receive needed maintenance from the commercial operators.
- Temporary roads constructed by the project would be closed.

1.7.2.1 Effects

User Safety and Comfort. Maintenance of haul roads by the project would improve driver safety and comfort by clearing, blading, and dust abatement where required for haul. Clearing roadside vegetation would improve visibility. Blading would remove rocks and debris and smooth the road

surface. Dust abatement would improve user safety on gravel and native surfaced roads. But, the increased truck and heavy equipment traffic during the implementation of the project would make the haul routes more hazardous during the life of the project. In summary the Proposed Action is equally more likely to improve user safety and comfort in the years after the project than the no-action alternative, which depends on routine maintenance, as funds allow, for accomplishing maintenance work.

1.7.2.2 Other Effects

The effects from construction of new temporary roads and use of former logging access routes and operational spurs on resources in the Eddy Gulch LSR Assessment Area are detailed in the resource sections that are presented in the EIS for the Eddy Gulch LSR Project.

Conclusion. Continued road system improvements by the Klamath National Forest would result in short- and long-term minor to major beneficial effects, depending on the extent of future improvements.

1.7.3 Alternative C: No New Temporary Roads Constructed

1.7.3.1 Effects

The second action alternative eliminates **the 1.03 miles of new** temporary road construction, **thus no effects would** result. As with the Proposed Action, unauthorized roads with high use would be put on the National Forest System so that the Forest Service can manage their use. Existing system roads with little use would be closed to protect the road investment and prevent resource damage, and the existing National Forest System road would receive needed maintenance from the commercial operators.

Other Effects. The effects of **using the former logging access routes under** Alternative C are detailed in the resource sections that presented in Chapter 3 of the EIS for the Eddy Gulch LSR Project.

Conclusion. Continued road system improvements by the Klamath National Forest would result in short- and long-term minor to major beneficial effects, depending on the extent of future improvements.

1.8 Resource Protection Measures

Resource protection measures (mitigation measures) are built into the Proposed Action (refer to Chapter 2 of the Eddy LSR Project EIS. Resource-specific protection measures are also contained in Chapter 2.

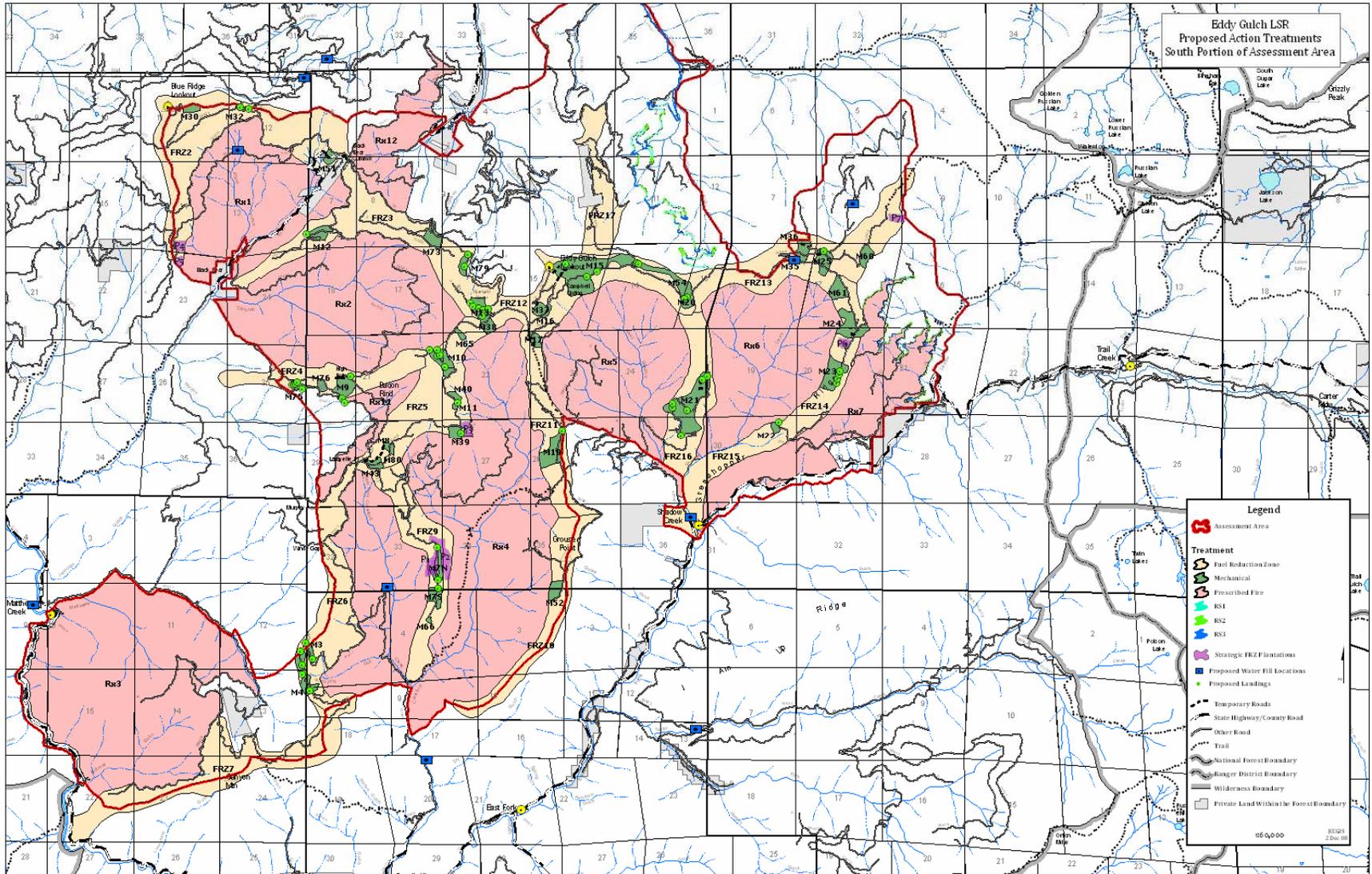
Literature Cited

Salmon River Fire Safe Council (SRFSC). 2007. Salmon River Community Wildfire Protection Plan. October 2007. <http://www.srrc.org/publications/index.php>.

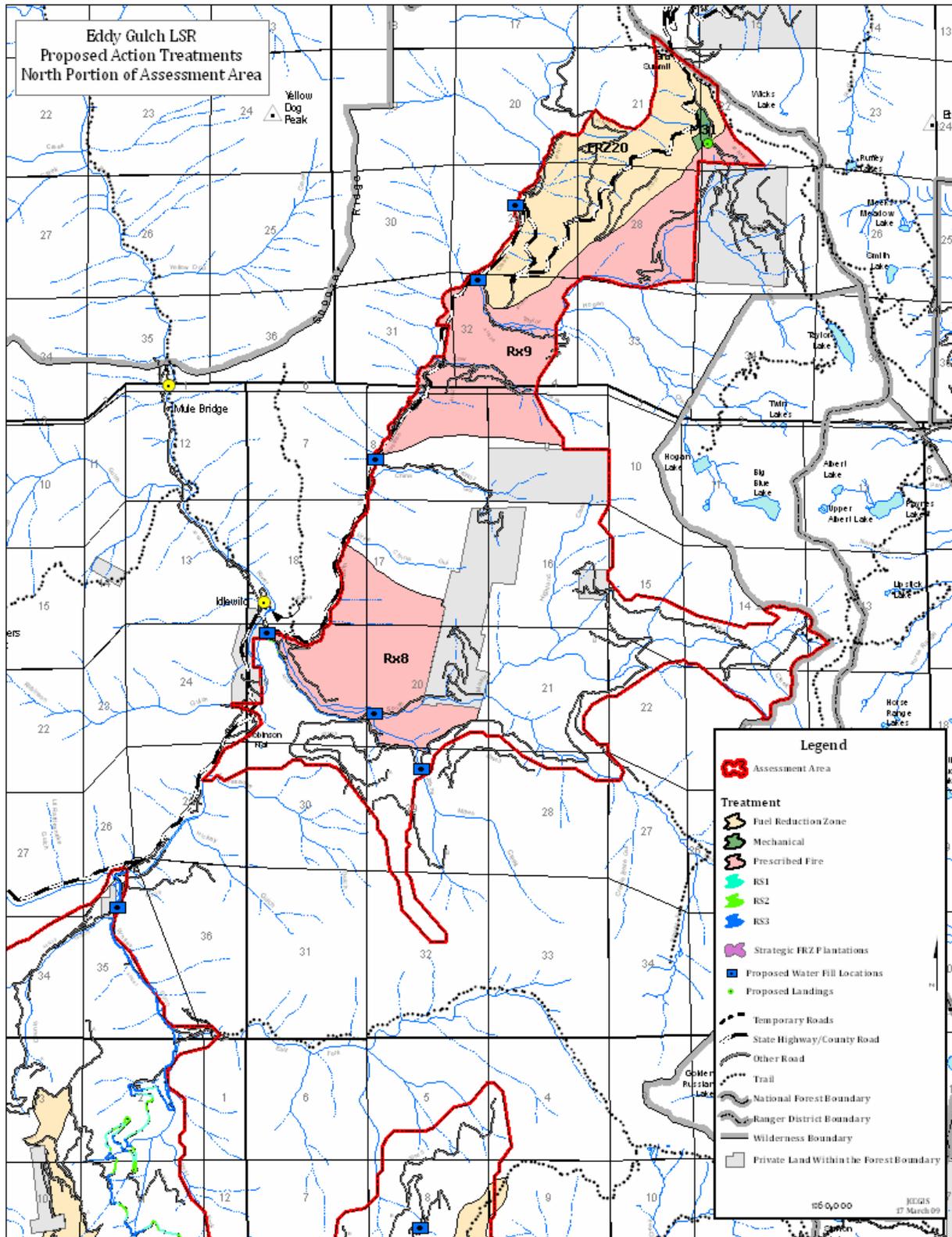
United States Department of Agriculture United States Forest Service (USFS). 1995. Klamath National Forest Land and Resource Management Plan.

Appendix A
Maps

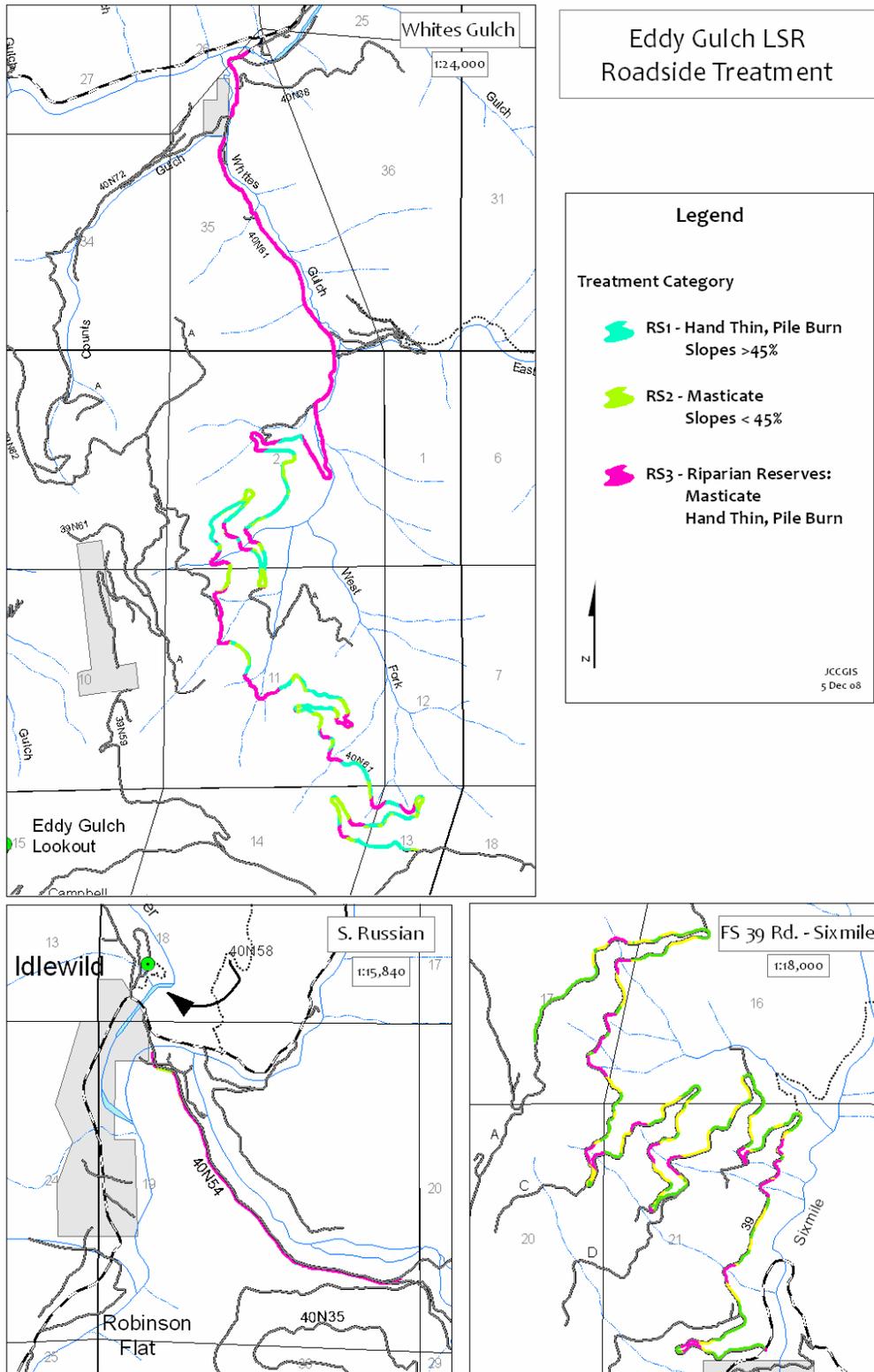
Map A-1. Proposed treatment units in the south portion of the Eddy Gulch LSR Project Assessment Area.



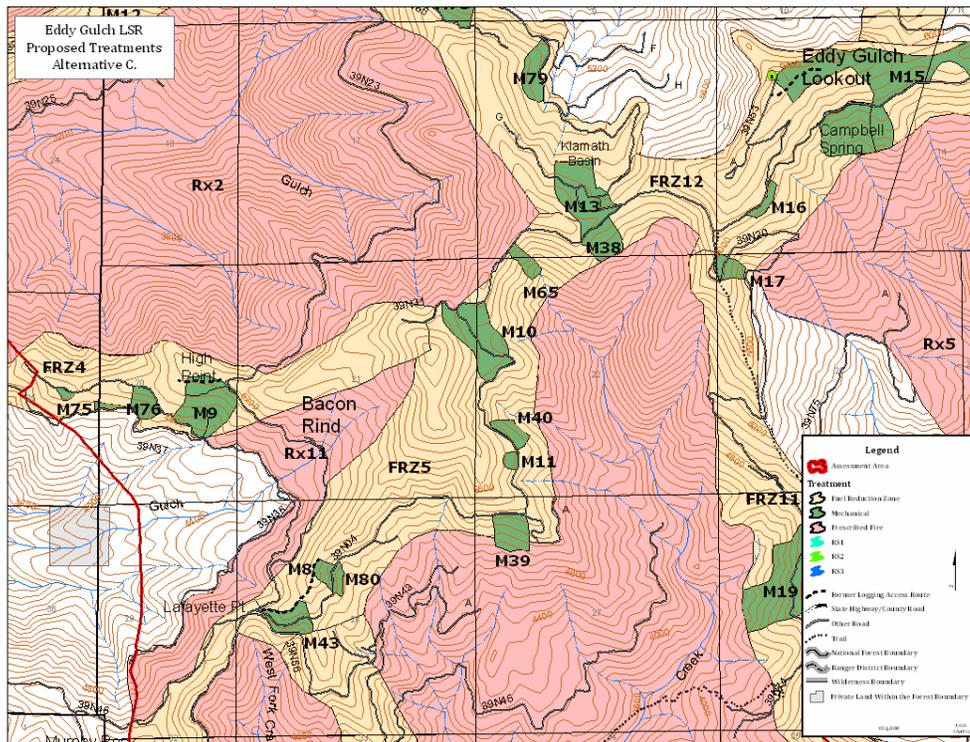
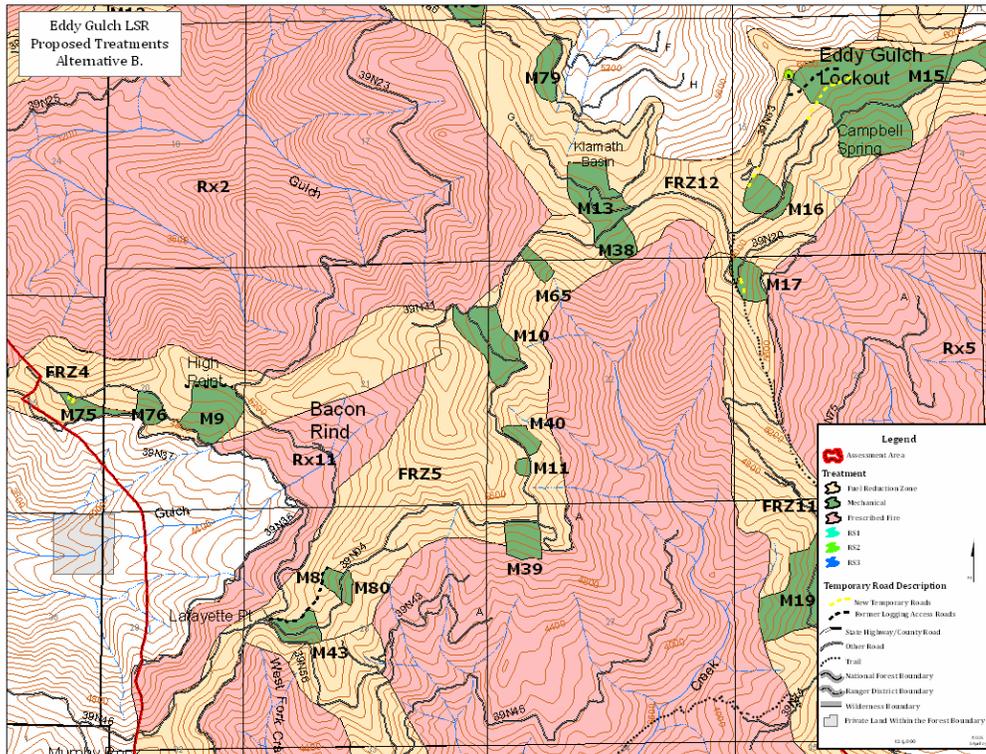
Map A-2. Proposed treatment units in the north portion of the Eddy Gulch LSR Project Assessment Area.



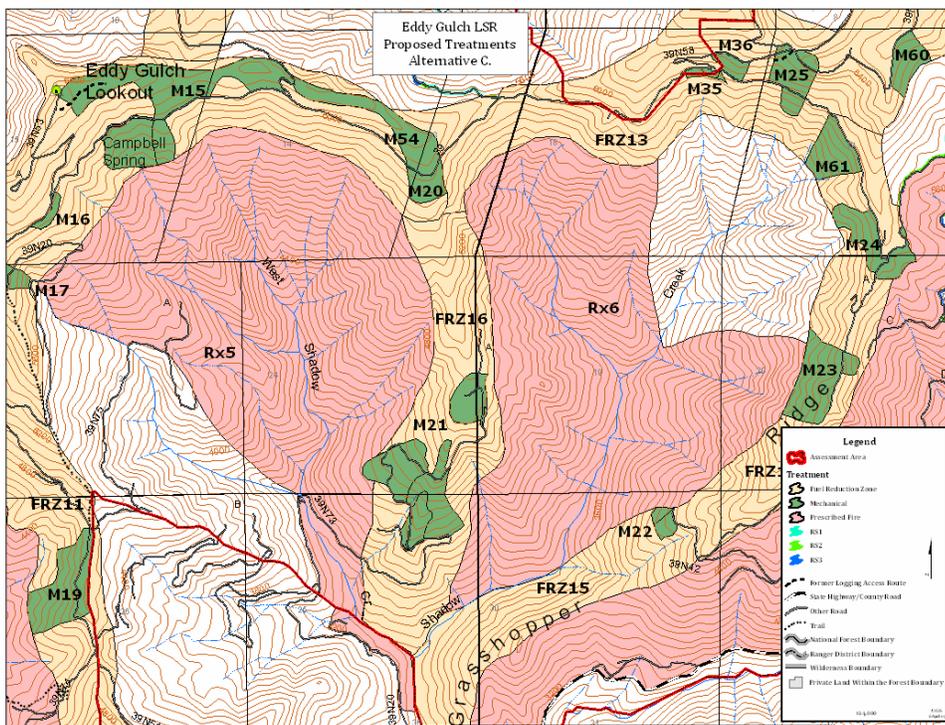
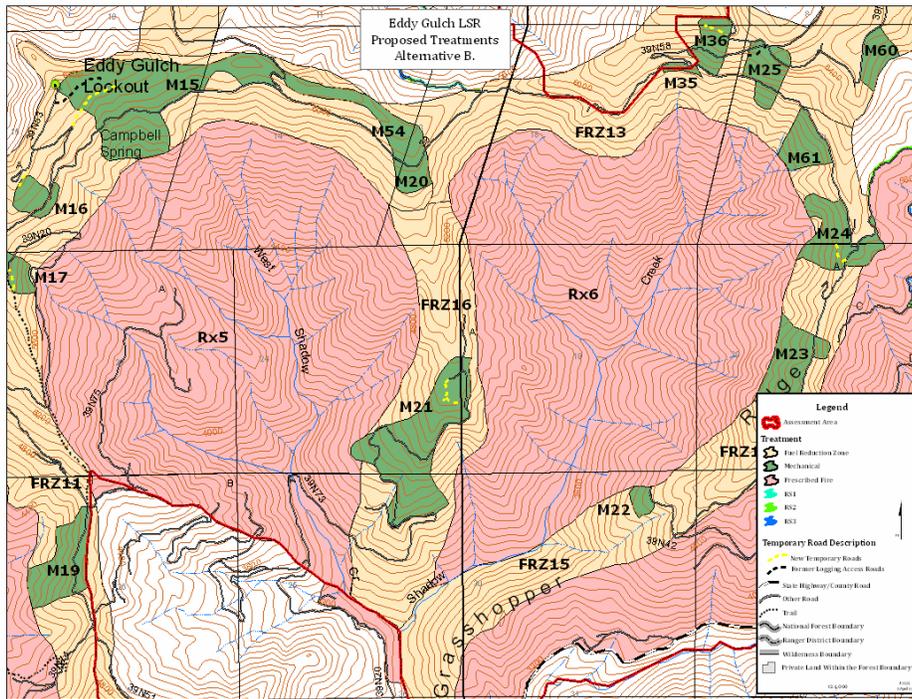
Map A-3. RS treatments along emergency access routes that do not pass through an FRZ or Rx Unit.



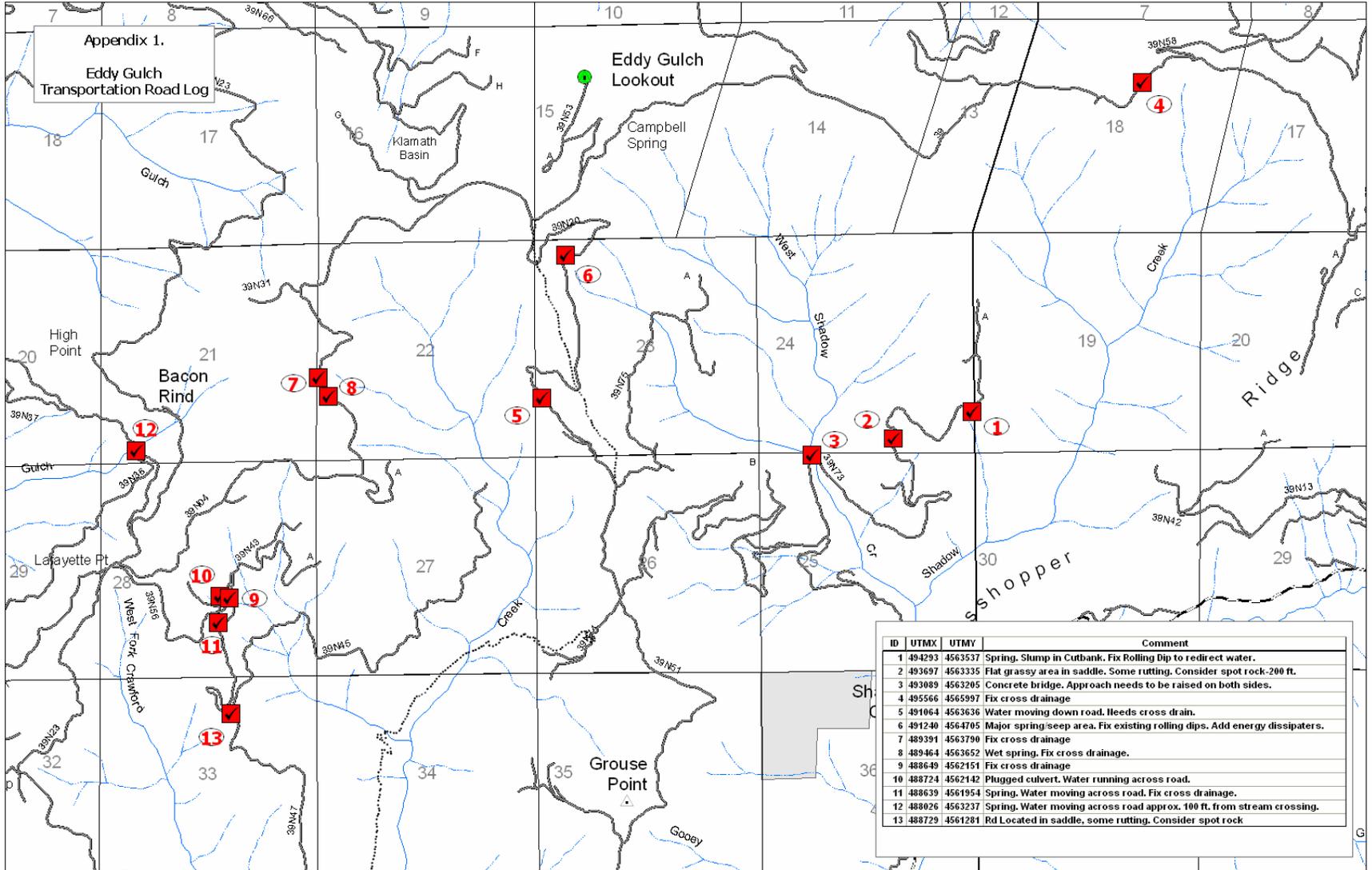
Map A-4a. View 1: Alternative B—configuration of treatment units *with construction* of 1.03 miles of new temporary roads and Alternative C—configuration of treatment units *without construction* of 1.03 miles of new temporary roads.



Map A-4a. View 2: Alternative B—configuration of treatment units *with construction* of 1.03 miles of new temporary roads and Alternative C—configuration of treatment units *without construction* of 1.03 miles of new temporary roads.



Map A-5. Eddy Gulch LSR Project transportation road log.



Map A-6. Proposed water fill locations and haul routes.

