



## Lockwood Valley Road Emergency Repairs (MP 1.75)

### Habitat Mitigation and Monitoring Plan

*prepared by*

**Ventura County Public Works Agency**

Roads and Transportation

800 South Victoria Avenue / #1620

Ventura, California 93009

Contact: Cody Stults, P.E., Engineering Manager

*prepared with the assistance of*

**Rincon Consultants, Inc.**

2060 Knoll Drive

Ventura, California 93003

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# 1 Introduction

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On behalf of the Ventura County Public Works Agency – Roads and Transportation (Roads and Transportation), Rincon Consultants, Inc. (Rincon) prepared this Habitat Mitigation and Monitoring Plan (HMMP) to address temporary and permanent aquatic resource impacts associated with emergency washout repairs along the Cuyama River at Lockwood Valley Road Mile Post (MP) 1.75 Emergency Repair Project (project; Figure 1).

## 1.1 Project Description

The project will implement permanent repairs to Lockwood Valley Road at MP 1.75, enabling the full reopening of this critical transportation route. The road sustained significant damage during severe storm events in February 2024, resulting in the undermining of the roadbed by the Cuyama River, asphalt failure, and full closure in both directions.

Lockwood Valley Road is a rural connector that links local communities to State Route 33. Currently, it is accessible only to emergency vehicles and residents, who must navigate a temporary bypass over a backfilled and stabilized southern shoulder.

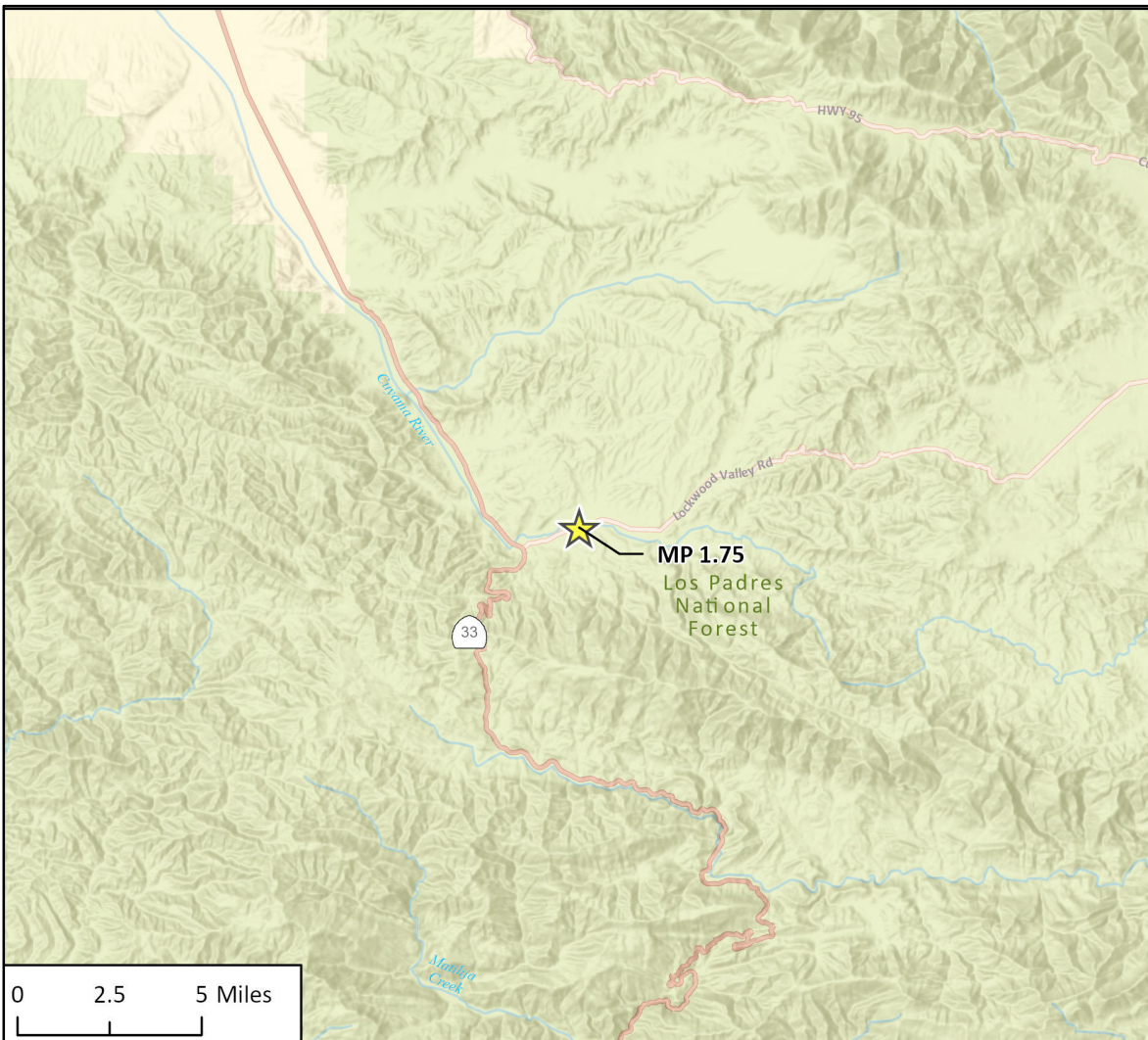
## 1.2 Project Location and Scope

The project site is situated within the Los Padres National Forest, adjacent to the Cuyama River, and identified by Assessor Parcel Number 002-014-010. The proposed work involves the reconstruction of approximately 310 linear feet of roadway at MP 1.75 (Figure 2). Key activities include:

- Removal and recycling of damaged pavement and road materials
- Excavation and installation of rock riprap revetment with a buried toe along the riverbank
- Reconstruction of the road foundation
- Repaving with asphalt concrete and processed miscellaneous base
- Temporary diversion of river flow, in accordance with a project-specific water diversion plan prepared in accordance with the Ventura County Public Works Agency Water Diversion Guide
- Reconstruction of the southern shoulder
- Road restriping and reinstallation of a centerline rumble strip
- Implementation of erosion and slope protection measures using armored rock riprap

These improvements are designed to restore the road to its pre-damage condition without expanding its footprint. Upon completion, the roadway will maintain its existing 12-foot lane widths and 10-foot southern shoulder.

**Figure 1 Regional Location**

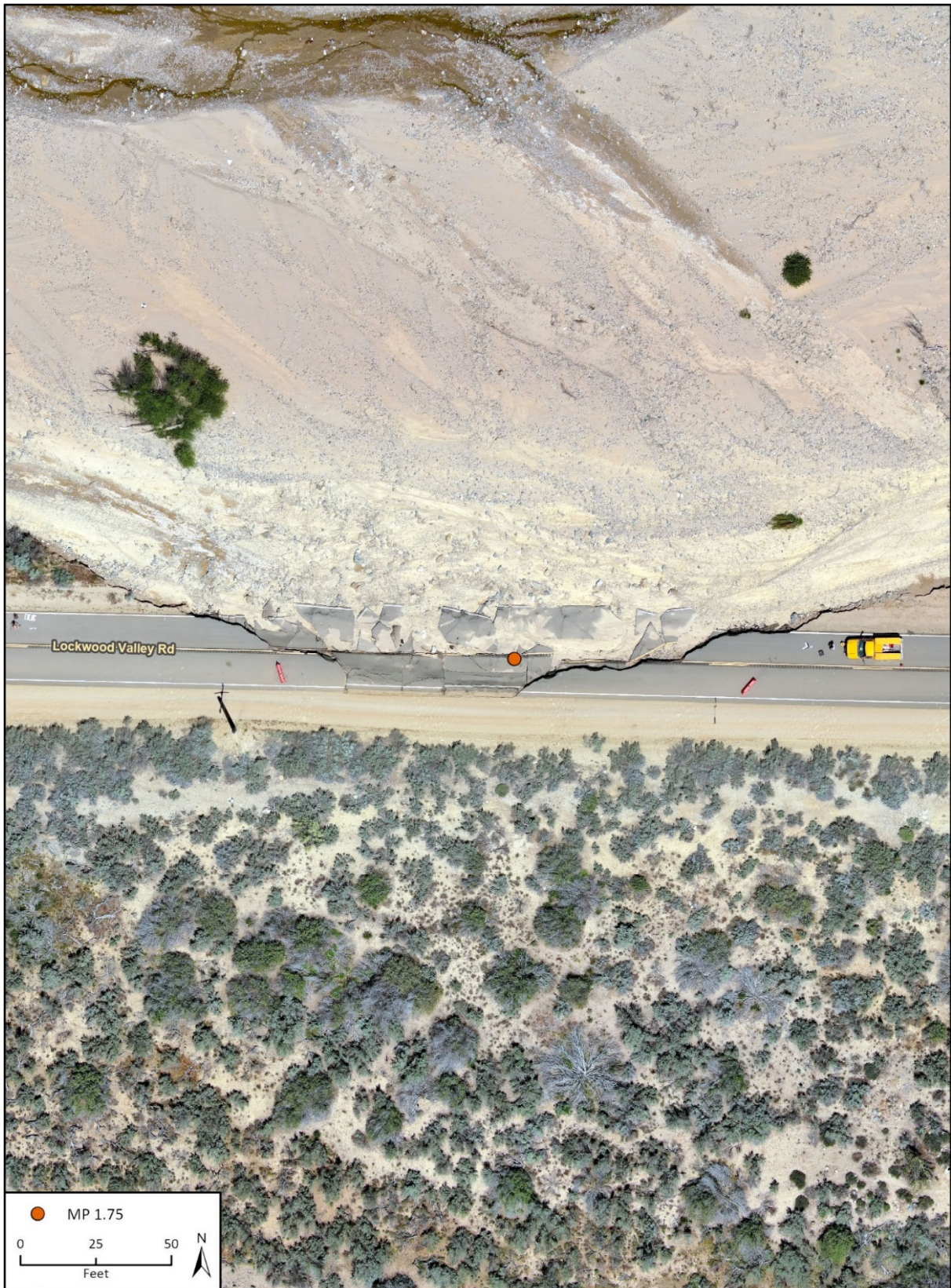


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Fig 1 Regional Location



**Figure 2 Project Location**



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Elev. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

## 1.3 Purpose and Need

The Central Coast Regional Water Quality Control Board (CCRWQCB) has reviewed and accepted the application for emergency repairs at Lockwood Valley Road MP 1.75 and is currently conducting supervisory review of the draft 401 Water Quality Certification No. 35625WQ01. The application identifies 0.161 acre and 281 linear feet of permanent stream-channel impacts associated with riprap installation, with all other roadway reconstruction activities confined to the previously disturbed roadway footprint. As part of the Certification process, the CCRWQCB requires verification of impact quantities, accounting of temporary and permanent effects, implementation of avoidance and minimization measures, and development of a mitigation and restoration framework to ensure no net loss of aquatic resource function in accordance with the State Wetland Procedures. Temporary impacts require in-kind restoration to pre-project conditions, while permanent impacts trigger compensatory mitigation requirements; completion and submission of the Mitigation Monitoring Plan is required prior to final permit closure.

This HMMP provides the restoration design, compensatory mitigation strategy, success criteria, monitoring and reporting protocols, and adaptive management framework necessary to comply with CCRWQCB conditions under Clean Water Act (CWA) Section 401 and the Porter-Cologne Water Quality Control Act. It specifically addresses the temporary and permanent aquatic resource impacts associated with emergency washout repairs at MP 1.75 and supports the Board's ongoing supervisory review leading to final Certification issuance.

## 1.4 Regulatory Context

The Cuyama River at MP 1.75 is subject to the jurisdiction of the:

- U.S. Army Corps of Engineers (USACE; CWA §404) – non-wetland waters of the U.S. to the Ordinary High Water Mark (OHWM);
- CCRWQCB (CWA §401 / Porter-Cologne) – waters of the State to top of bank; and
- California Department of Fish and Wildlife (CDFW; Fish and Game Code §1602) – streambed to top of bank or outer edge of riparian vegetation.

This HMMP addresses CCRWQCB direction provided on February 12, 2026, on categorizing temporary versus permanent impacts, defining success criteria and monitoring, and providing an HMMP for backfilling/seeding the rock slope protection (RSP) footprint and compensatory mitigation for the expanded riprap area.

## 2 Environmental Setting

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### 2.1 Hydrology and Geomorphology

The Cuyama River at MP 1.75 exhibits a well-defined OHWM and flows seasonally with intermittent/relatively permanent hydrology during the wet season. The active bed is dominated by river wash (sand/cobble) with sparse, patchy willows (*Salix* spp.) along protected margins. Approximately 200 linear feet of the channel occur adjacent to the repair reach.

### 2.2 Soils

Soils at MP 1.75 are mapped as the Agua Dulce–Los Robles–Modjeska families association. They are well-drained and non-hydric, consistent with the coarse alluvial setting.

### 2.3 Vegetation and Land Cover

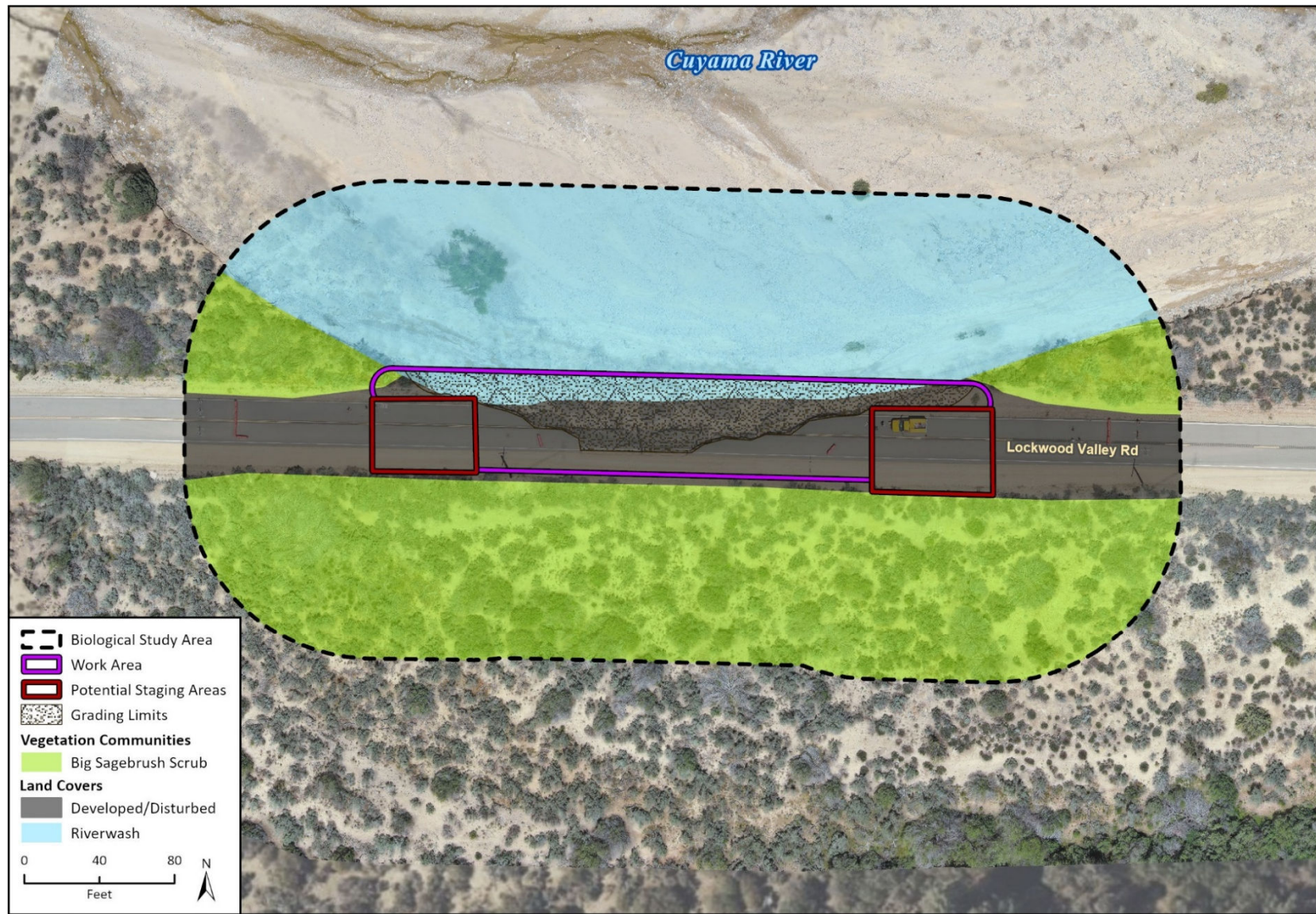
Vegetation and land cover types at MP 1.75 include big sagebrush scrub (*Artemisia tridentata*) on upland/shoulder positions, river wash within the active channel, and developed/disturbed roadway margins. The riparian vegetation is limited, with scattered arroyo willow (*Salix lasiolepis*) and sandbar willow (*Salix exigua*) along local micro-sheltered margins. Big sagebrush is the dominant shrub species, accompanied by subdominant shrubs such as thick-leaved yerba santa (*Eriodictyon crassifolium*), rubber rabbitbrush (*Ericameria nauseosa*), chaparral yucca (*Hesperoyucca whipplei*), and coffeeberry (*Frangula californica*). The herbaceous layer is primarily composed of red brome (*Bromus rubens*), flat-spine bur ragweed (*Ambrosia acanthicarpa*), and tarragon (*Artemisia dracunculus*).

In total, approximately 1.26 acres of big sagebrush scrub were mapped within the biological study area at MP 1.75 (Figure 3). Big sagebrush scrub is the only vegetation community documented within the study area. Land cover types also include riverwash and developed/disturbed areas. Portions of the big sagebrush scrub occur in a patchy, discontinuous pattern, where native shrub cover is interspersed with openings dominated by non-native herbaceous species. These inclusions consist largely of invasive annual grasses and forbs, such as red brome (*Bromus rubens*), cheatgrass (*Bromus tectorum*), Mediterranean grass (*Schismus barbatus*), annual beard grass (*Polypogon monspeliensis*), rattail six-weeks grass (*Festuca myuros*), bur clover (*Medicago polymorpha*), and coastal heron's bill (*Erodium cicutarium*), which commonly establish in disturbed areas within the scrub.

### 2.4 Water Quality and Beneficial Uses

The receiving waters occur within the Reyes Creek-Cuyama River watershed (Hydrologic Unit Code 180600070105). Basin Plan beneficial uses for the Cuyama River include Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Groundwater Recharge (GWR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Contact and Non-Contact Recreation (REC-1/REC-2), Wildlife Habitat (WILD), Cold Freshwater Habitat (COLD) and Warm Freshwater Habitat (WARM), Spawning (SPWN), Rare Species (RARE), Freshwater Replenishment (FRSH), and Commercial/Sport Fishing (COMM). The Cuyama River is 303(d)-listed for boron, chloride, pH, sodium, specific conductivity, and turbidity; no Total Maximum Daily Loads (TMDLs) are established for these listings at the project reach.

Figure 3 Vegetation and Land Cover



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Fig X Vegetation Communities MP 1.75

## 3 Impact Assessment and Mitigation Approach

### 3.1 Impact Categorization

Consistent with CCRWQCB direction, replacement of existing RSP within the former road footprint is a temporary impact addressed by backfilling voids with native alluvium and seeding. Expansion of the RSP footprint constitutes a permanent impact requiring compensatory mitigation. Based on plan quantities and agency coordination, approximately 0.08 acre of new RSP (fill below top of bank) is anticipated at MP 1.75 (Figure 4).

### 3.2 Compensatory Mitigation

The following explanation summarizes the regulatory foundation for applying a 2:1 compensatory mitigation ratio to permanent impacts at MP 1.75, as required by the CCRWQCB. Compensatory mitigation for temporary work was not required for the proposed emergency repairs along Lockwood Valley Road because all work occurred within the existing right-of-way or temporary construction easements, with no expansion of the roadway footprint. The permanent placement of riprap at Mile Point 1.75 was a protective measure designed solely to prevent future erosion and undercutting of the roadway, not to alter natural hydrology or aquatic resource functions. These restorative actions were necessary to stabilize damaged infrastructure following severe storm events and to ensure long-term public safety, without resulting in a net loss of aquatic resources or impairment of water quality.

To mitigate permanent impacts on big sagebrush scrub, the project includes reestablishing non-native inclusions to native sagebrush scrub, thereby improving habitat structure, composition, and overall ecological integrity. Two areas located east and west of the permanent RSP have been designated for reestablishment (Figure 5).

The 2:1 compensatory mitigation ratio applied to permanent impacts at MP 1.75 is based on direction provided by the CCRWQCB during project coordination, which specified that permanent fill below top of bank associated with expanded RSP must be mitigated at a ratio of 2:1. This requirement reflects CCRWQCB's standard practice for non-wetland waters of the State where permanent hard-armoring results in a long-term loss of natural fluvial or riparian functions that cannot be replaced within the armored footprint. The Natural Environment Study and jurisdictional delineation delineated the extent of new RSP as approximately 0.08 acre, triggering a compensatory mitigation requirement of 0.16 acre (Table 1). The ratio therefore ensures that unavoidable permanent encroachments into waters of the State are offset by functional uplift elsewhere within the same watershed.

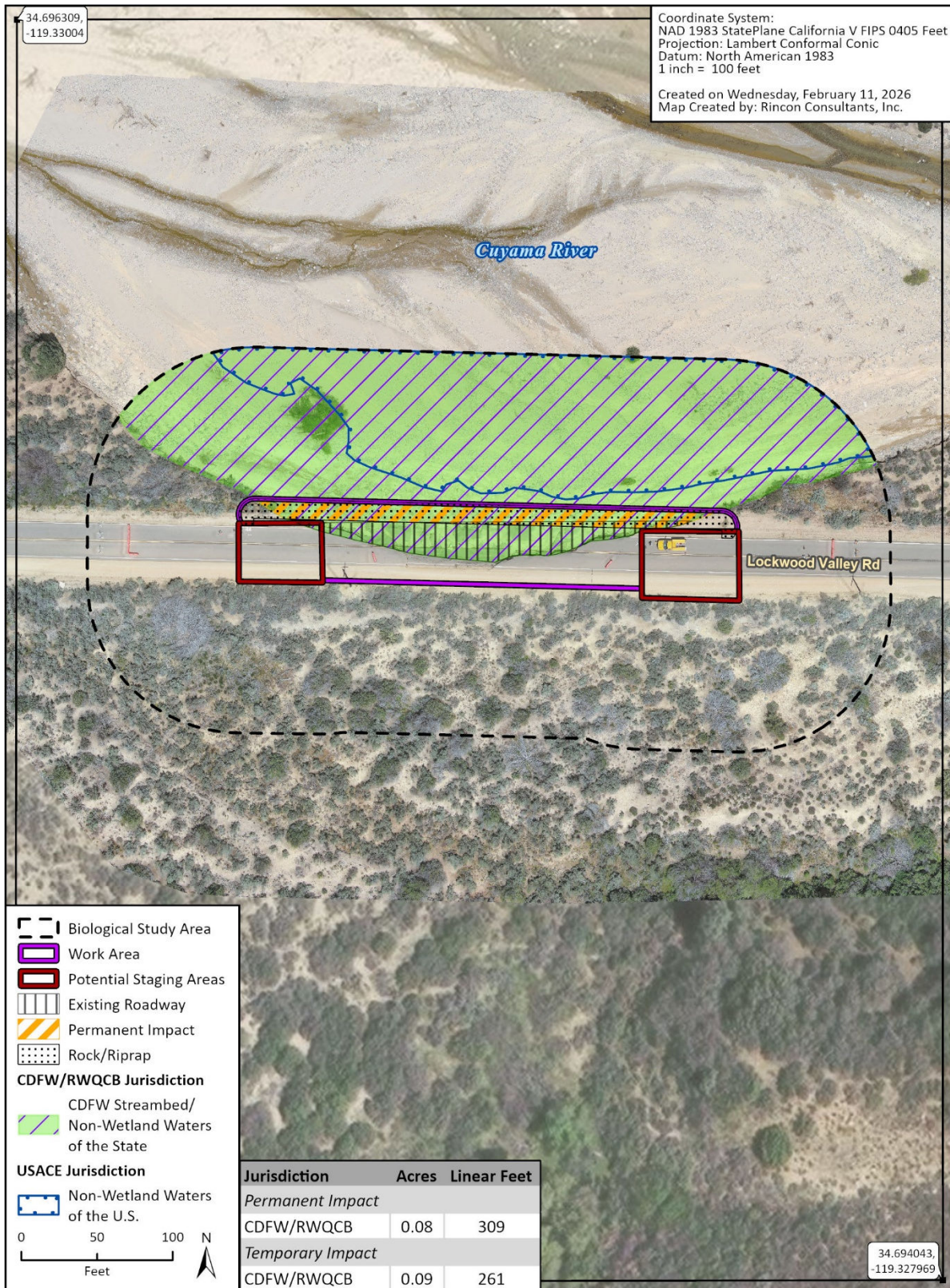
**Table 1 Mitigation Summary Table**

Impact Type	Acreage	Mitigation Type	Ratio	Required Acreage
Temporary (work areas)	N/A	Backfill and hydroseed	N/A	Site restoration only
Permanent (expanded RSP)	0.08 acre	Compensatory mitigation	2:1	0.16 acre

### 3.3 Mitigation Strategy

This HMMP employs a hybrid, site-realistic approach: (A) backfill RSP voids with native river alluvium (sand/cobble fines) to create recruitment pockets and micro-retention of fines and seed; (B) hydroseed upland/shoulder and stable upper RSP surfaces with a local, drought-tolerant native mix; and, (C) rely on passive riparian recruitment within the active bed where planting would be ineffective.

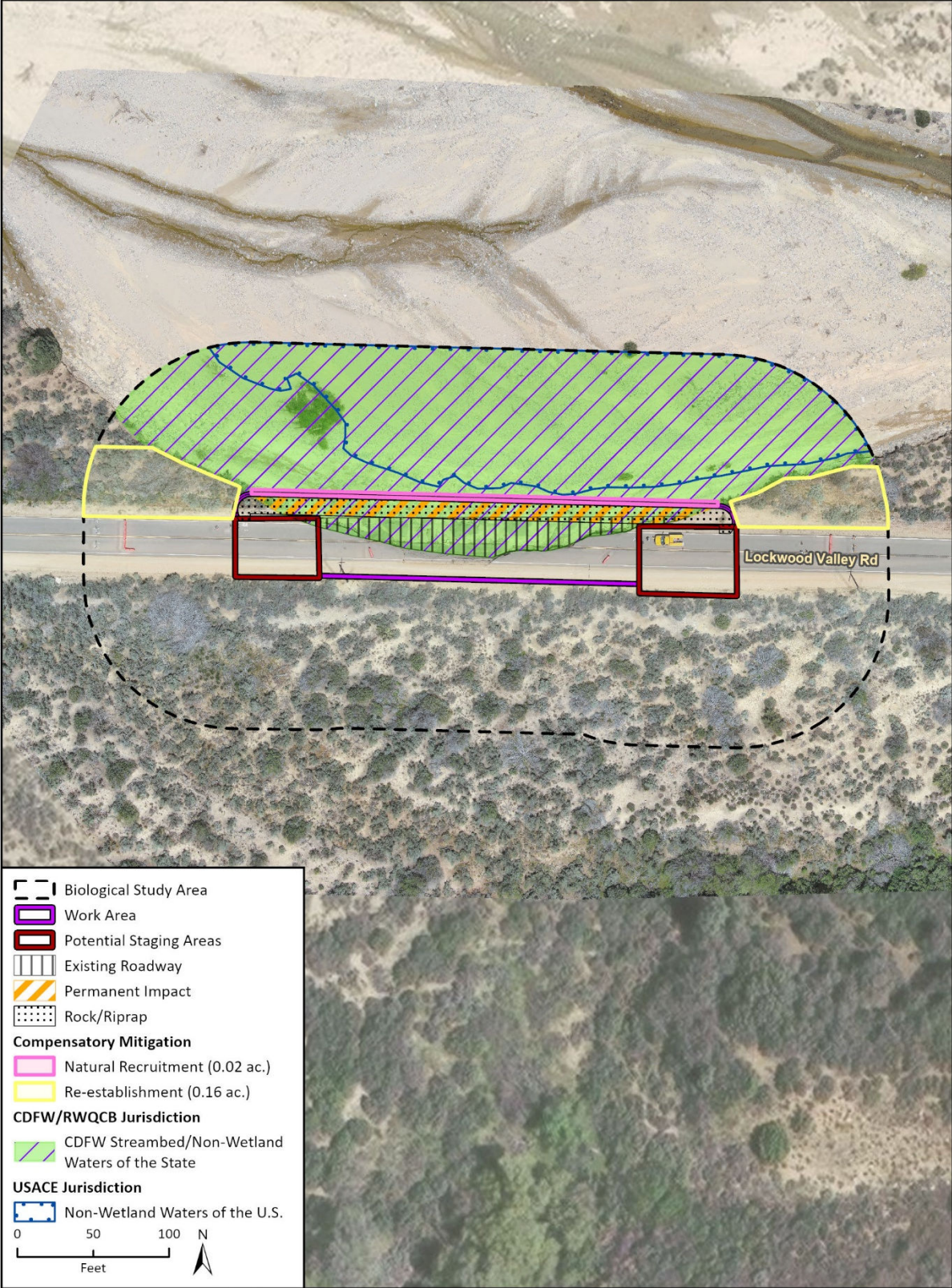
**Figure 4 Project Impacts**



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 Fig X Impacts to Jurisdictional Resources MP 1.75

Figure 5 Compensatory Mitigation



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Fig. X Compensatory Mitigation MP 1.75

## 4 Re-establishment Design

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### 4.1 Objectives

The reconstructed embankment will be stabilized using permeable, un-grouted RSP combined with native alluvium pocketing to encourage natural sediment retention and colonization. Native vegetation will be re-established on upland and shoulder margins through application of a locally appropriate seed mix suited to the site's big sagebrush scrub community. Within the river wash zone, the restoration approach relies on passive riparian recruitment rather than active planting, recognizing that the high-energy thalweg does not support long-term plant establishment. Throughout the restoration area, California Invasive Plant Council (Cal-IPC) High-rated invasive species will be suppressed to below five percent cover through targeted management.

### 4.2 Treatments and Methods

#### **RSP Backfill and Surface Treatment (within both existing and expanded RSP)**

The following treatments are designed to stabilize the reconstructed embankment, enhance surface roughness, and promote establishment of natural vegetation within both the existing and expanded RSP footprint at MP 1.75.

- Fill voids with native river alluvium salvaged during construction (sand/cobble mix that matches site gradation) to create pockets for native seed capture.
- Apply native upland seed mix across accessible, stable upper lifts and adjacent shoulders (see seed mix below).
- No imported topsoil; rely on local alluvium and roughened surfaces (board-tooth finish) to trap fines/seed.

#### **Upland/Shoulder Hydroseeding (disturbed margins above OHWM)**

Hydroseeding will use a multispecies, locally appropriate native mix consistent with the species identified in Table 5 of the project's Natural Environment Study, including:

- Deerweed (*Acmispon glaber*)
- Western ragweed (*Ambrosia psilostachya*)
- Big sagebrush (*Artemisia tridentata*)
- Farewell-to-spring (*Clarkia purpurea*)
- California buckwheat (*Eriogonum fasciculatum*)
- Rubber rabbitbrush (*Ericameria nauseosa*)
- California poppy (*Eschscholzia californica*)
- Fescue (*Festuca microstachys*)
- Meadow barley (*Hordeum brachyantherum*)
- Goldfields (*Lasthenia californica*)
- Tidy tips (*Layia platyglossa*)
- Silver bush lupine (*Lupinus albifrons*)
- Bush monkeyflower (*Diplacus aurantiacus*)
- One-sided bluegrass (*Poa secunda*)

- Purple needlegrass (*Stipa pulchra*)

The mix will be applied in a two-step hydroseeding process using arbuscular mycorrhizal inoculum followed by cellulose mulch and tackifier. Final species proportions and pure live seed (PLS) rates will be refined to match site-specific big sagebrush scrub conditions and availability from native-seed suppliers within Ventura, Santa Barbara, or Kern counties.

### **Riparian Zone (within OHWM)**

Within the OHWM, no active planting will be conducted because the MP 1.75 reach of the Cuyama River exhibits high-energy seasonal flow, coarse river wash substrate, and low retention capacity, all of which reduce survivability of planted material and cause frequent scour and redistribution of bed material. These factors are consistent with the Natural Environment Study description of the channel as an intermittent system with a primarily unvegetated sand-and-cobble bed and only scattered willow patches along protected margins. Instead, riparian establishment will rely on passive recruitment of willow and mule fat (*Baccharis salicifolia*), which naturally colonize where hydrology and substrate conditions create short-lived establishment windows. Restoration actions upstream in the RSP footprint, including void pocketing with salvaged native alluvium, are expected to generate small, sheltered micro-sites that provide temporary moisture retention and refuge from shear stress, improving the likelihood of natural seedling establishment during favorable flow years.

### **Invasive Species Control**

Invasive species management will consist of bi-annual, seasonally timed removal events, one in early spring and one in the late spring, to reduce invasive plant cover within the restoration area. Control efforts will emphasize hand-pulling and manual removal as the primary treatment method, with targeted application of aquatic-approved herbicides only when necessary to address persistent or resprouting individuals. This management framework aligns with the HMMP implementation approach proposed for the MP 1.75 restoration area and will continue for the full monitoring period for effective suppression of high-ranking Cal-IPC-listed invasive species.

## **4.3 Implementation Schedule**

The implementation schedule below outlines the anticipated sequence and timing of restoration activities, monitoring, and reporting for the MP 1.75 site. The timeline is structured to align with construction phasing, seasonal hydrologic conditions, native-plant establishment windows, and the two-year monitoring and reporting framework. This schedule is indicative and may be refined as final construction dates, weather patterns, and site conditions are confirmed.

- Construction and RSP Backfill/Surface Treatments: Immediately post-grade, dry season 2026.
- Hydroseeding (upland/shoulder): First suitable window after initial rains or late fall 2026.
- Monitoring Years: 2027–2028 (with option for 2029 if triggers require).
- Annual Reports: December 31, 2028, and December 31, 2029 (and December 1, 2030, if extended).

## 5 Success Criteria

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### 5.1 Reference-Based and Site-Potential Standards

The CCRWQCB encouraged using a reference site within the watershed to anchor ecological performance where percent cover expectations are low; however, given the highly disturbed nature of the project site, we propose site-realistic standards coupled with an optional reference comparison if a suitable analog reach is identified during Year 1 monitoring reconnaissance.

#### **Upland/Shoulder (Hydroseeded) Areas**

- By the end of Year 2, the 0.16-acre restoration area shall support a minimum of 25% absolute cover of native shrub species and 35–40% absolute cover of native herbaceous species, for a combined total native vegetative cover of approximately 60–65%.
- Invasive plant species rated as 'High' by the Cal-IPC shall not exceed 5% absolute cover. Cover estimates shall be averaged across all monitoring transects or quadrats within the restoration area.

#### **RSP Footprint (Backfill/Seeded Voids and Upper Lifts)**

- Demonstrated stable surface (no active rilling/gullies >3 inches depth over 10 feet), native colonization evidence in pockets (e.g., *Acmispon*, annual forbs/graminoids), and <5% absolute cover of Cal-IPC High invasives.

#### **Riparian Signal at Margins (Passive Recruitment)**

- Willow recruitment criterion: At least 10 naturally recruited willow individuals (any native *Salix*) within accessible margin micro-sites in the treated reach, or ≥5% absolute cover of native woody riparian species within OHWM margins, or cover relative to reference if identified (e.g., ≥25% of reference riparian cover). Include adaptive management triggers (see Section 7). This addresses CCRWQCB's request for measurable, enforceable riparian metrics.

## 6 Monitoring, Reporting, and Adaptive Management

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### 6.1 Duration and Frequency

Given the limited restoration potential and scope, Roads and Transportation proposes two years of monitoring with two visits per year (spring and fall). Roads and Transportation will provide a contingency to extend up to Year 3 if specific triggers are not met by Year 2.

- Spring (Apr/May): captures thalweg/annuals and early recruitment.
- Fall (Oct/Nov): captures perennial native cover and late-season invasive expression.

### 6.2 Data Collection

The following monitoring methods outline the quantitative and qualitative data collection procedures that will be used to evaluate vegetation establishment, riparian recruitment, site stability, invasive species trends, and overall restoration performance at MP 1.75.

- Vegetation cover: Line-intercept or quadrat ( $\geq 5$  transects or 30–50 square meter quadrats spanning treatment strata).
- Recruitment: Tally natural willow/other riparian recruits (species, height class, health).
- Stability: Visual stability survey; map/measure any erosional features.
- Invasives: Percent cover by species; treatment log.
- Photo-points: Fixed stations (minimum 8), spring/fall.

### 6.3 Reporting

An Annual Report, due by December 31 following each monitoring year, will summarize the monitoring methods, compare results to the success criteria, include photographs, describe invasive species control efforts, and provide adaptive management recommendations.

### 6.4 Adaptive Management Triggers and Responses

If any of the following occurs, Roads and Transportation will implement corrective actions and, if needed, extend monitoring to Year 3:

- Upland native cover below target by  $>10$  percentage points  $\rightarrow$  supplemental seeding in late fall; spot irrigation (water truck) in the first post-treatment wetting front if feasible; soil surface roughening where crusted.
- Cal-IPC High  $\geq 5\%$  cover  $\rightarrow$  intensify targeted control frequency/technique.
- Willow recruitment  $<10$  individuals and  $<5\%$  woody cover (and no reference-relative success)  $\rightarrow$  install 10–20 live stakes in protected toe pockets only if post-Year-1 hydrology indicates survivable micro-sites; otherwise, continue passive approach and focus on invasive suppression and micro-topography pockets during maintenance.
- RSP surface instability (gullies/rills)  $\rightarrow$  add native alluvium, adjust pocketing, improve upstream BMPs.

## 7 Performance Summary and Completion Criteria

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The project will be considered successful (and eligible for closeout) when:

- a. Upland/Shoulder:  $\geq 25\%$  native shrub and  $\geq 35\text{--}40\%$  native herbaceous cover, for a combined total native vegetative cover of approximately 60–65%; Cal-IPC High  $< 5\%$ ;
- b. RSP footprint: stable surface without active erosion; Cal-IPC High  $< 5\%$ ; visible native colonization in pockets;
- c. Riparian margins:  $\geq 10$  willow recruits (or  $\geq 5\%$  woody riparian cover, or  $\geq 25\%$  of reference cover if used);
- d. Compensatory mitigation (0.16 acre): meets site-specific native cover, invasive, and stability targets established in correspondence with CCRWQC via email (Woods 2026); and
- e. As-built documentation, monitoring reports, and adaptive actions are complete and accepted by the CCRWQCB.

## 8 References

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Rincon Consultants, Inc. 2025a. Water Quality Technical Memorandum for the Lockwood Valley Road Improvements Project, Ventura County, California. 11 Aug. 2025.

\_\_\_\_\_. 2025b. Natural Environment Study: Lockwood Valley Road Emergency Repairs Project, MP 1.75 and MP 12.69. Prepared for Ventura County Public Works Agency – Roads and Transportation, Sept. 2025.

\_\_\_\_\_. 2025c. VCPWA Lockwood Valley Road Emergency Repairs Project: Jurisdictional Delineation Report. 25 Sept. 2025.

Woods, April. 2026. "RE: [EXT] 35625WQ01 Lockwood Valley Road Emergency Repairs Project (MP 1.75)." Received by Tyler Barns, 4 Feb. 2026.