DOCKETED	
Docket Number:	25-OPT-02
Project Title:	Prairie Song Reliability Project
TN #:	264386
Document Title:	App 3-15A Water Quality Management Plan Part 5
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	6/20/2025 1:49:08 PM
Docketed Date:	6/20/2025

Appendix 3.15A

Water Quality Management Plan

5 of 6

N:\0036369.00_GIS_HydroExhibits\Hydrology Study Exhibits\Exhibits 6-8_Proposed [redacted]StoryMap\Project.aprx
Exhibit11A - 100 Yr Peak Velocity Project Area | 5/1/2025 1:16 PM | zjmaier

Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

Legend

- FLO-2D Model Boundary
- Project Boundary
- Proposed Gen-Tie Routes
- County Boundary
- Proposed Battery Layout Outline
- Proposed Access Roads
- 20-ft Contours
- Modeled Culverts

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

N

0 700 Feet

Westwood
Toll Free (888) 937-5150 westwoodps.com

Prairie Song Reliability Project

Los Angeles County, California

Exhibit 11A: Proposed 100-Year Peak Velocity Project Area Map

March 7, 2025

N:\0036369.00_GIS_HydroExhibits\Hydrology Study Exhibits\Exhibits 6-8_Proposed [redacted] Project.aprx
Exhibit12 - 100 Yr Peak Scour Project Area1 | 5/1/2025 1:17 PM | zjmaier

Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

Legend

- FLO-2D Model Boundary
- Project Boundary
- Proposed Gen-Tie Routes
- County Boundary
- Proposed Battery Layout Outline
- Proposed Access Roads
- 20-ft Contours
- Modeled Culverts

Scour (ft)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 +

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N

0 700 Feet

Prairie Song Reliability Project

Los Angeles County, California

Exhibit 12: Proposed 100-Year Peak Scour Project Area Map

March 7, 2025

N:\0036369.00_GIS_HydroExhibits\Hydrology Study Exhibits\Exhibits 6-8 [redacted] Reliability Project.aprx
Exhibit13 - 100 Yr Scour map | 5/1/2025 1:15 PM | zjmaier

Lakeview
Pearblossom Hwy
Sierra Hwy
Angeles Forest Hwy
Paris
Acton
South Antelope Valley
Singing Springs
14
N3

Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

Legend

- FLO-2D Model Boundary
- Project Boundary
- 100-Year 24-Hour Rainfall Depth Contours (inches)
- County Boundary

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Prairie Song Reliability Project

Los Angeles County, California

N

0 1 Miles

Exhibit 13: 100-Year 24-Hour Spatially Varied Rainfall Depths Map

March 7, 2025

Appendix A

NOAA Atlas 14 Precipitation Data – Project Area

NOAA Atlas 14, Volume 6, Version 2
Location name: Acton, California, USA*
Latitude: 34.4848°, Longitude: -118.1333°
Elevation: 3092.38 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.075 (0.063-0.092)	0.100 (0.083-0.122)	0.134 (0.111-0.163)	0.163 (0.134-0.201)	0.205 (0.163-0.261)	0.239 (0.186-0.311)	0.275 (0.208-0.368)	0.315 (0.231-0.432)	0.370 (0.261-0.531)	0.415 (0.282-0.617)
10-min	0.108 (0.090-0.131)	0.143 (0.119-0.174)	0.192 (0.159-0.234)	0.234 (0.192-0.288)	0.294 (0.233-0.375)	0.343 (0.266-0.446)	0.395 (0.299-0.527)	0.451 (0.331-0.620)	0.530 (0.373-0.761)	0.595 (0.404-0.885)
15-min	0.131 (0.108-0.159)	0.173 (0.144-0.211)	0.232 (0.192-0.283)	0.283 (0.232-0.348)	0.355 (0.282-0.453)	0.415 (0.322-0.540)	0.478 (0.361-0.638)	0.545 (0.401-0.750)	0.642 (0.452-0.920)	0.720 (0.489-1.07)
30-min	0.183 (0.152-0.223)	0.243 (0.201-0.295)	0.325 (0.269-0.397)	0.396 (0.325-0.488)	0.498 (0.395-0.635)	0.581 (0.451-0.757)	0.669 (0.506-0.894)	0.764 (0.561-1.05)	0.899 (0.633-1.29)	1.01 (0.685-1.50)
60-min	0.255 (0.212-0.310)	0.337 (0.280-0.411)	0.452 (0.374-0.553)	0.551 (0.452-0.679)	0.693 (0.549-0.883)	0.808 (0.627-1.05)	0.931 (0.704-1.24)	1.06 (0.781-1.46)	1.25 (0.881-1.80)	1.40 (0.953-2.09)
2-hr	0.377 (0.313-0.458)	0.499 (0.414-0.608)	0.667 (0.552-0.815)	0.809 (0.663-0.996)	1.01 (0.800-1.29)	1.17 (0.907-1.52)	1.34 (1.01-1.79)	1.52 (1.11-2.08)	1.77 (1.24-2.53)	1.97 (1.34-2.92)
3-hr	0.474 (0.394-0.577)	0.629 (0.521-0.765)	0.837 (0.693-1.02)	1.01 (0.831-1.25)	1.26 (0.998-1.61)	1.46 (1.13-1.90)	1.66 (1.25-2.22)	1.87 (1.38-2.58)	2.17 (1.53-3.11)	2.40 (1.63-3.57)
6-hr	0.680 (0.565-0.827)	0.902 (0.748-1.10)	1.20 (0.993-1.47)	1.45 (1.19-1.78)	1.80 (1.42-2.29)	2.07 (1.60-2.69)	2.35 (1.78-3.14)	2.64 (1.94-3.64)	3.05 (2.15-4.38)	3.37 (2.29-5.01)
12-hr	0.914 (0.759-1.11)	1.22 (1.01-1.48)	1.63 (1.35-1.99)	1.96 (1.61-2.42)	2.44 (1.93-3.10)	2.81 (2.17-3.65)	3.19 (2.41-4.26)	3.59 (2.64-4.93)	4.14 (2.91-5.93)	4.57 (3.11-6.79)
24-hr	1.24 (1.10-1.43)	1.66 (1.47-1.92)	2.23 (1.97-2.58)	2.71 (2.37-3.16)	3.37 (2.85-4.06)	3.89 (3.23-4.78)	4.43 (3.58-5.58)	4.99 (3.93-6.47)	5.78 (4.36-7.81)	6.40 (4.67-8.95)
2-day	1.50 (1.33-1.73)	2.03 (1.80-2.34)	2.75 (2.42-3.18)	3.35 (2.93-3.90)	4.19 (3.55-5.05)	4.86 (4.03-5.97)	5.55 (4.49-6.99)	6.28 (4.94-8.14)	7.30 (5.51-9.86)	8.11 (5.92-11.3)
3-day	1.67 (1.48-1.92)	2.27 (2.01-2.62)	3.09 (2.73-3.58)	3.79 (3.32-4.41)	4.76 (4.03-5.73)	5.54 (4.59-6.81)	6.35 (5.14-8.00)	7.21 (5.67-9.34)	8.41 (6.35-11.4)	9.38 (6.85-13.1)
4-day	1.76 (1.56-2.03)	2.42 (2.14-2.79)	3.31 (2.92-3.83)	4.06 (3.56-4.73)	5.13 (4.34-6.18)	5.98 (4.96-7.35)	6.87 (5.56-8.66)	7.82 (6.16-10.1)	9.16 (6.92-12.4)	10.2 (7.47-14.3)
7-day	1.99 (1.77-2.30)	2.74 (2.43-3.16)	3.77 (3.33-4.36)	4.66 (4.08-5.43)	5.92 (5.01-7.13)	6.94 (5.75-8.53)	8.01 (6.49-10.1)	9.17 (7.22-11.9)	10.8 (8.17-14.6)	12.2 (8.87-17.0)
10-day	2.13 (1.89-2.46)	2.94 (2.60-3.39)	4.06 (3.59-4.70)	5.03 (4.40-5.86)	6.42 (5.44-7.73)	7.54 (6.26-9.28)	8.74 (7.08-11.0)	10.0 (7.90-13.0)	11.9 (8.98-16.1)	13.4 (9.78-18.7)
20-day	2.51 (2.23-2.89)	3.50 (3.10-4.03)	4.88 (4.31-5.64)	6.07 (5.32-7.08)	7.81 (6.61-9.40)	9.22 (7.65-11.3)	10.7 (8.69-13.5)	12.4 (9.74-16.0)	14.7 (11.1-19.9)	16.6 (12.1-23.3)
30-day	2.89 (2.56-3.32)	4.03 (3.56-4.64)	5.63 (4.97-6.51)	7.02 (6.15-8.18)	9.04 (7.66-10.9)	10.7 (8.86-13.1)	12.4 (10.1-15.7)	14.3 (11.3-18.6)	17.0 (12.8-23.0)	19.2 (14.0-26.9)
45-day	3.38 (3.00-3.89)	4.71 (4.17-5.43)	6.57 (5.80-7.59)	8.16 (7.15-9.51)	10.5 (8.87-12.6)	12.3 (10.2-15.2)	14.3 (11.6-18.1)	16.5 (13.0-21.3)	19.5 (14.7-26.3)	21.9 (16.0-30.7)
60-day	3.81 (3.38-4.38)	5.30 (4.69-6.11)	7.37 (6.50-8.51)	9.13 (8.00-10.6)	11.7 (9.88-14.0)	13.7 (11.4-16.9)	15.9 (12.8-20.0)	18.2 (14.3-23.5)	21.4 (16.2-28.9)	24.0 (17.5-33.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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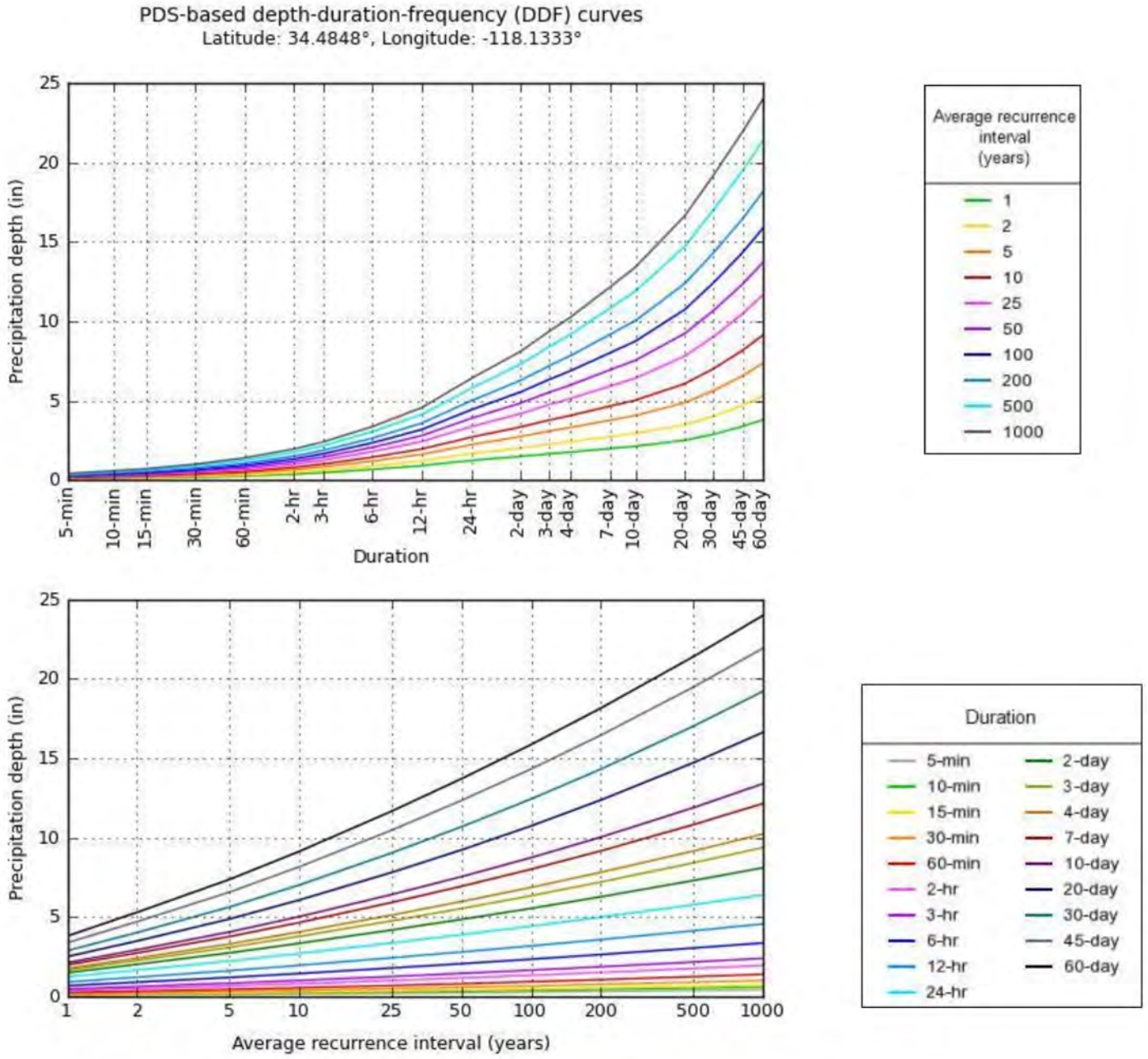
PF graphical



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Thu May 5 13:48:31 2022

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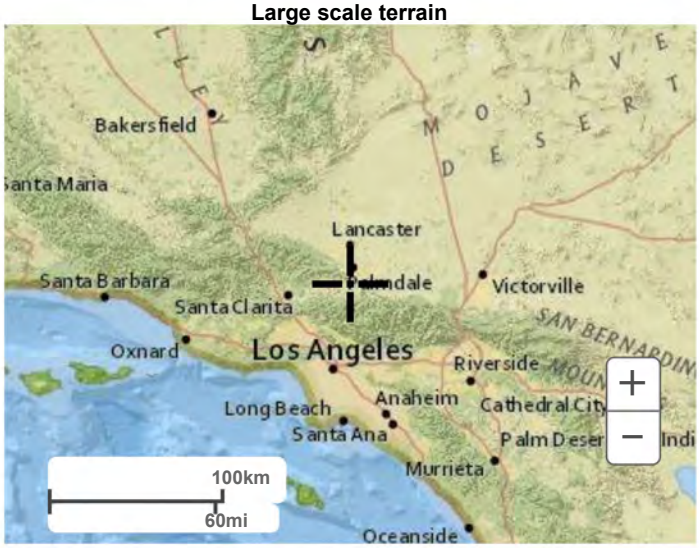
Maps & aerials

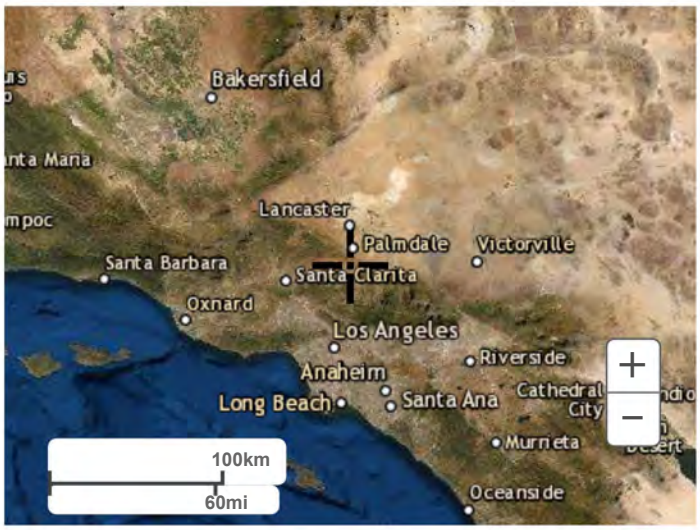
Small scale terrain

Large scale terrain



Large scale map

Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix B

Curve Number Table

Table 2. Semi-Arid Curve Numbers (adapted from NEH 630)

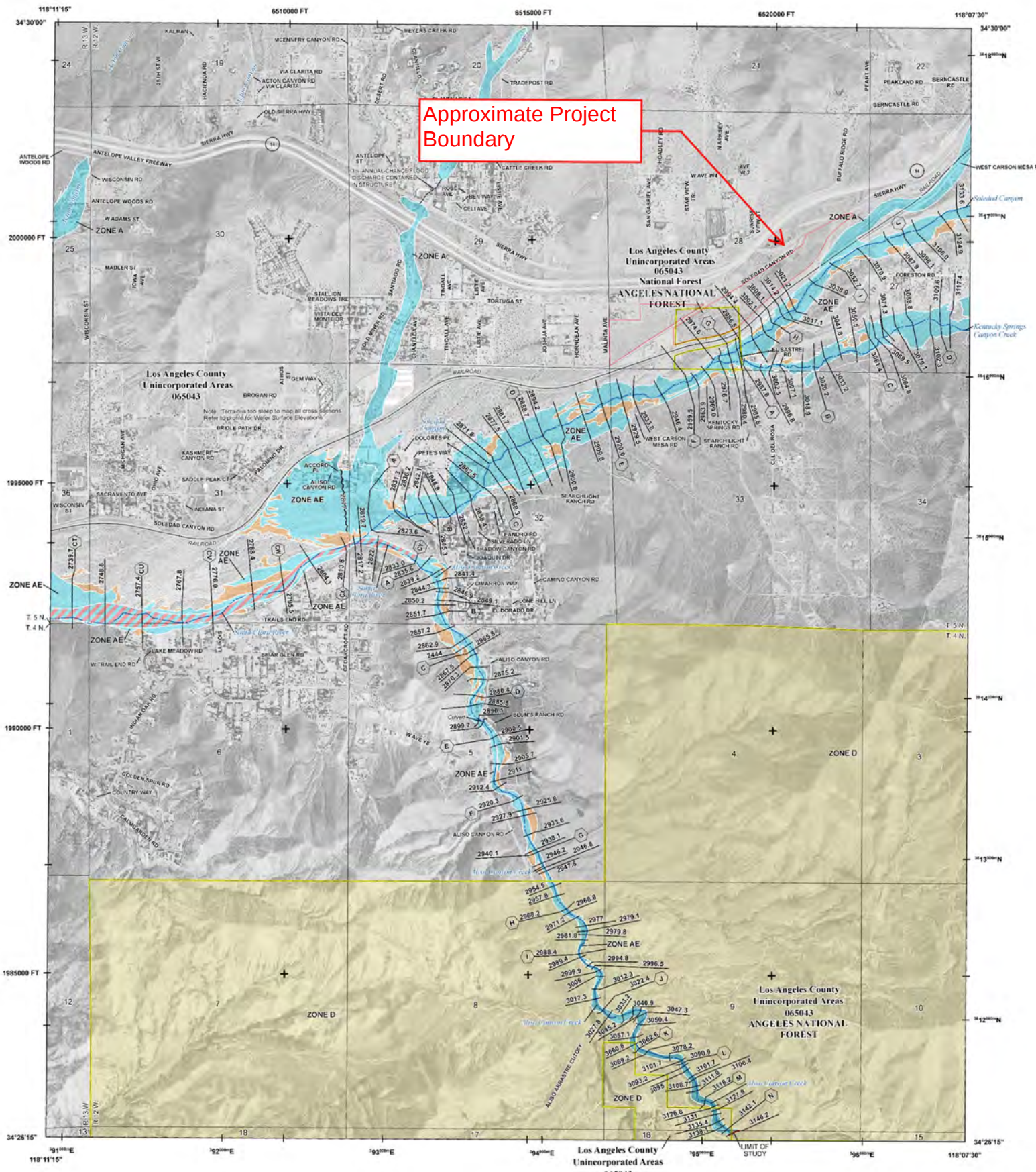
Class	Value	Classification Description	Curve Number				
			Soil Type*				
			A	B	C	D	W
Water	11	Open Water - areas of open water, generally with less than 25% cover of vegetation or soil.	98	98	98	98	100
	12	Perennial Ice/Snow - areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.	98	98	98	98	100
Developed	21	Developed, Open Space - areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.	46	65	77	82	100
	22	Developed, Low Intensity - areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.	61	75	83	87	100
	23	Developed, Medium Intensity – areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.	77	85	90	95	100
	24	Developed High Intensity -highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.	89	92	94	95	100
Barren	31	Barren Land (Rock/Sand/Clay) - areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.	77	86	91	94	100
Forest	41	Deciduous Forest - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.	43	55	70	77	100
	42	Evergreen Forest - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.	43	55	70	77	100
	43	Mixed Forest - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.	43	55	70	77	100
Shrubland	51	Dwarf Scrub - Alaska only areas dominated by shrubs less than 20 centimeters tall with shrub canopy typically greater than 20% of total vegetation. This type is often co-associated with grasses, sedges, herbs, and non-vascular vegetation.	55	71	81	89	100
	52	Shrub/Scrub - areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.	55	71	81	89	100
Herbaceous	71	Grassland/Herbaceous - areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.	55	71	81	89	100
	72	Sedge/Herbaceous - Alaska only areas dominated by sedges and forbs, generally greater than 80% of total vegetation. This type can occur with significant other grasses or other grass like plants, and includes sedge tundra, and sedge tussock tundra.	55	71	81	89	100
	73	Lichens - Alaska only areas dominated by fruticose or foliose lichens generally greater than 80% of total vegetation.	55	71	81	89	100
	74	Moss - Alaska only areas dominated by mosses, generally greater than 80% of total vegetation.	55	71	81	89	100
Planted/Cultivated	81	Pasture/Hay – areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.	55	71	81	89	100
	82	Cultivated Crops – areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.	67	78	85	89	100
	83	Small Grains	63	75	83	87	100
Wetlands	91	Woody Wetlands - areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	45	66	77	83	100
	92	Emergent Herbaceous Wetlands - Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	45	66	77	83	100

*A/D, B/D and C/D soils lumped as D soils, W denotes water

**Curve Numbers for NLCD Codes 41-43 have been increased from 30 to 43 as many of these areas are partially grazed Woods-grass combination.

Appendix C

FEMA Flood Insurance Rate Map (FIRM)



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*

OTHER AREAS
- NO SCREEN Areas of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert or Storm Sewer
- Levee, Dike or Floodwall

OTHER FEATURES
- 18.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation (BFE)
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency. This imagery was flown in 2014 and was produced with a 1-meter ground sample distance.

SCALE

Map Projection: Universal Transverse Mercator Zone 11N; North American Datum 1983; Western Hemisphere; Vertical Datum: NAVD 88

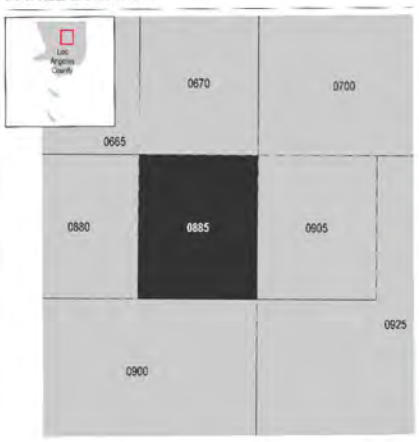
N

1 inch = 1,000 feet 1:12,000

0 1,000 2,000 4,000 feet

0 250 500 1,000 meters

PANEL LOCATOR



FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

LOS ANGELES COUNTY, CALIFORNIA

and Incorporated Areas

PANEL 885 OF 2350

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
LOS ANGELES COUNTY	065043	0885	G

VERSION NUMBER
2.3.3.2

MAP NUMBER
06037C0885G

MAP REVISED
JUNE 2, 2021

Attachment K: Stormwater Report

PRELIMINARY STORMWATER MANAGEMENT REPORT

Prairie Song Reliability Project

Los Angeles County, California

MARCH 2025

PREPARED FOR:

Prairie Song Reliability Project LLC

PREPARED BY:

Westwood

Preliminary Stormwater Management Report

Prairie Song Reliability Project

Los Angeles County, California

Prepared For:

Prairie Song Reliability Project LLC
[redacted]

Prepared By:

Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343
(952) 937-5150

Project Number: R0036369.01
Date: March 14, 2025

Table of Contents

Tables

Exhibits

Appendices

Introduction

The purpose of this report is to summarize the proposed stormwater management for the Prairie Song Reliability Project ("the project"). This report was prepared to meet stormwater management requirements of the State of California and Los Angeles County and is intended for submittal to these agencies for permitting review and approval.

The battery storage system is located on approximately 70 acres and is located in Los Angeles County, California, approximately 30 miles north of Los Angeles, with the nearest town being Acton, which is located about 3 miles southwest of the project area. The land cover across the project is primarily shrubland.

The proposed use of the site will be a Battery Energy Storage System (BESS) consisting of new impervious surface including BESS equipment pad, gravel access roads, laydown yard, and other associated infrastructure. The remainder of disturbed area on site will be restored to natural ground cover.

The grading and hydraulic structures proposed on site are designed to route offsite runoff through and around the BESS pad while maintaining the existing drainage patterns. Onsite runoff will be collected and routed to infiltration facilities to meet State of California and Los Angeles County water quality and hydromodification requirements.

Data Sources

TABLE 1: DATA SOURCES

Task	Format	Source	Use
Elevation	PrairieSong.las	Prairie Song Reliability Project LLC	Existing Modeling Elevations
Elevation	1m DEM	National Map	Existing Modeling Elevations
Elevation	PrairieSong~1.DWG PrairieSong~2.DWG PrairieSong Pole and Access Roads CIVIL FILE.dwg	Prairie Song Reliability Project LLC	Proposed Modeling Elevations
Landcover	Shapefile	USDA 2021 Crop Data Layer	Existing Landcover
Soils	Shapefile	LA County Soil Types Feature Layer	Soil Type
Soils (Percolation Test Letter)	PDF	Terracon	Soil Type & Design Infiltration Rate
Precipitation	PDF File	NOAA Atlas 14	Design Storms
Precipitation	HydroCalc Output	HydroCalc	Design Storms
Site Boundary	BESS Site.kmz	Prairie Song Reliability Project LLC	Define Project Extents
2014 Aerial Photography	ArcGIS Map Service	USDA FSA	Reference

Site Conditions

Site Location

The project site is proposed on approximately 70 acres and is located in Los Angeles County, California, approximately 30 miles north of Los Angeles, with the nearest town being Acton, which is located about 3 miles southwest of the project area. See Exhibit 1 for a map of the project location.

Topography Description

The existing topographic information used in this analysis was obtained from a combination of topography data provided by Prairie Song Reliability Project LLC for onsite areas and 1m DEM data from USGS The National Map for offsite contributing areas. Proposed grading from the 30% plans provided by Prairie Song Reliability Project LLC was used for modeling onsite proposed conditions. The existing terrain across the project area contains varying slopes from 2% to greater than 10%, with steeper slopes present in the southwest portion of the site.

Drainage Patterns

The project consists of two parcels, one to the southeast of Soledad Canyon Road and one to the northwest of the road, identified in this report as Drainage Area 1 (DA 1) and Drainage Area 2 (DA 2), respectively. Approximately 540 acres of offsite runoff enter DA 1 from the north and 11 acres enter DA 2 from the north. Drainage areas are shown in Exhibits 5 & 6. Runoff from each drainage area drains to the southwest, ultimately discharging to the Santa Clara River, located to the south of the project parcels.

Soils

Soils data was obtained from the geotechnical percolation test letter completed by Terracon on January 22, 2025, which can be found in Appendix D. In addition to the percolation test letter, LA County's soil types feature layer was downloaded and incorporated into the analysis.

The boring logs completed by Terracon indicate that the project's soils are composed of silty sand and poorly graded sand with silt. The LA County soil types feature layer show that the project is composed of soil type 15, which is Tujunga Fine Sandy Loam. Sand and sandy loam soils are classified as Hydrologic Soil Group (HSG) A soils by the Natural Resources Conservation Service (NRCS). Type A soils have low runoff potential and high infiltration rates. See Exhibit 3 for the soils distribution throughout the site.

Landcover

A review of aerial photographs and the USDA 2021 Crop Data Layer shows that the land cover across the site has historically and currently consists of shrubland. See Exhibit 4 for a map of the landcover throughout the site.

Infiltration

Terracon performed four percolation tests at the site on December 18 and 19, 2024, to determine infiltration rates for the project in accordance with the *Guidelines for Geotechnical Investigation and Reporting Low Impact Development Stormwater Infiltration,* published by the Los Angeles County Public Works Geotechnical and Materials Engineering Division Manual.

Terracon recommends a total reduction factor of 5 to be applied to the measured infiltration rate to determine the design infiltration rate, in accordance with the County of Los Angeles Department of Public Works GS200.1 document. The average of the four measured infiltration

rate tests was calculated to be 2.83 in/hr. The reduction factor of 5 was then applied to this value, resulting in a design infiltration rate of 0.57 in/hr. See Appendix D for the percolation test letter prepared by Terracon.

Seasonal High Water Table

The geotechnical percolation test letter prepared by Terracon was reviewed for seasonal high water levels. The report shows that there was no groundwater encountered in the boring locations so no impact to the seasonal high water table is anticipated.

Requirements

State and County requirements have been reviewed for the project. All requirements determined to be relevant to the project are summarized below.

Construction Stormwater Requirements

The California Stormwater Quality Association (CASQA) Stormwater Best Management Practice (BMP) Handbook provides guidance on the use of stormwater BMPs to meet the requirements of the California NPDES General Permit. Table 2 provides a summary of the recommended use case for sediment trap and sediment basin BMPs during temporary construction conditions. the following requirements apply.

TABLE 2: TEMPORARY CONSTRUCTION STORMWATER BMPS

Item	Use Case
Sediment Trap	Concentrated outflows <5ac contributing area
Sediment Basin	Concentrated outflows with >5ac contributing area

Post-Construction Stormwater Management Requirements

The following post-construction stormwater management requirements need to be met for the project.

TABLE 3: STORMWATER MANAGEMENT REQUIREMENTS

Agency	Location of Requirements	Requirement
LA County	County of Los Angeles Dept. of Public Works Low Impact Development Standards Manual	Retain 100% of the Stormwater Quality Design Volume on site (Greater of 0.75-inch 24-hour event or 85th percentile 24-hour event)
LA County	County of Los Angeles Dept. of Public Works Low Impact Development Standards Manual	Mitigate development drainage impacts for the LID, 2-, 5-, 10-, 25-, and 50-yr storm events
State of California	State of California NPDES General Permit	Post Construction Runoff Rates < Pre Construction Runoff Rates (85th percentile 24-hour event)

Drainage Improvements

Proposed drainage improvements will be sized per Table 4 below.

TABLE 4: DRAINAGE IMPROVEMENT SIZING REQUIREMENTS

Drainage Improvement	Regulating Agency	Requirement
Hydraulic Structures	Client	100-year 24-hour

Methodology

Existing and proposed conditions were modeled using the Los Angeles County Department of Public Works' HydroCalc software. HydroCalc is a software developed by Los Angeles County's Department of Public Works and is an approved software to compute runoff for sites within Los Angeles County. The software is based on the MODRAT methodology outlined in the 2006 Hydrology Manual and is designed to correlate with county-specific inputs.

Hydrology

A runoff coefficient, based on the rational method, was used for each scenario of the modeling. These coefficients were calculated based on the percent of impervious land in each condition. The percent of imperious land in each condition was selected based on the landcover in each condition.

Time of concentrations were calculated for each of the onsite drainage areas (Exhibit 5) in HydroCalc using the hydraulic length and slope of the watersheds, along with the rainfall intensity and the runoff coefficient of each condition.

According to the Low Impact Development Standards Manual, the Stormwater Quality Design Volume (SWQDv) is to be calculated based off the greater of either the 0.75" storm, or the rainfall depth of the 85th percentile storm at the project area, as determined from the Los Angeles County Hydrology Map. According to the Los Angeles County Hydrology Map, the 85th percentile rainfall depth at the project area is approximately 0.62" (Appendix A). Therefore, 0.75" was used as the rainfall depth, and the 85th percentile storm distribution, which is pre-loaded into HydroCalc, was used for the water quality analysis.

Atlas 14 precipitation data was used to determine the 50-year 24-hour rainfall depth. This value is an input into HydroCalc. The 2-yr, 5-yr, 10-yr, and 25-yr 24-hr rainfall depths are automatically calculated in HydroCalc by adjusting the 50-yr rainfall depth with multiplication factors imbedded in the program. See Table 5 and Appendix A for the rainfall depths utilized in the analysis.

TABLE 5: DESIGN RAINFALL DEPTHS

Storm Event	85th % 24-hour	SQDV 24-hour	2-year 24-hour	5-year 24-hour	10-year 24-hour	25-year 24-hour	50-year 24-hour
Rainfall (in)	0.62	0.75	1.63	2.46	3.01	3.70	4.21

HydroCalc requires an input of soil type, as classified by Los Angeles County. The soil types vary from Type 002-180. Each soil type has a Runoff Coefficient Curve, which can be used in coordination with the design storm rainfall intensity to determine the undeveloped runoff coefficient. This coefficient is used as an input parameter of the MODRAT calculations, and is

calculated automatically in the HydroCalc software. According to soil data obtained from Los Angeles County Department of Public Works, soil onsite belongs to soil Type 015 (Exhibit 3).

Hydraulics

Hydraulic structure sizing was completed using the contributing watershed properties and HydoCalc to find runoff rates to the anticipated structure locations. CulvertMaster was then used to size the culverts assuming 1' allowable headwater. CulvertMaster uses the methodologies outlined in Hydraulic Design Series Number 5 from the U.S. Federal Highway Administration to calculate capacities and end conditions.

Post-Construction Stormwater Management Approach

The use of the site will be a battery energy storage system (BESS). The site will consist of BESS equipment pad, gravel access roads, and other associated infrastructure. The BESS pads and access roads will consist of compacted native soil or fill topped with crushed rock.

The proposed substation and BESS will be a raised pad and runoff from this area will drain southwest into catch basins located across the site. A storm sewer network will route water from the catch basins into underground infiltration chambers and infiltration trenches. As there is significant offsite runoff draining to the site (Exhibit 6), hydraulic structures are proposed to capture offsite runoff and divert it through and around the site, maintaining overall existing drainage patterns while protecting the project area.

Infiltration facilities are proposed to provide rate control and treatment to meet the requirements of the State of California and Los Angeles County. An infiltration rate of 0.57 in/hour was used in the analysis of the site based on the percolation testing provided by Terracon. The storage volume provided within the infiltration facilities will infiltrate into the soil for treatment and a reduction in runoff rate and volume.

Construction Stormwater Management Approach

During construction, soil disturbance leads to areas of bare ground that produce higher runoff rates and volumes as well as increased sediment erosion. It is proposed to excavate the infiltration facility areas at the outset of construction to be used as temporary sediment basins to provide sediment control for the site during construction. The temporary sediment basins can then be converted into permanent infiltration facilities for post-construction stormwater management by removal of sediment and installation of the infiltration chambers and trenches. Compaction of soils within the infiltration facility footprints should be avoided during construction.

Modeling

The site is modeled in existing and proposed conditions in order to complete the water quantity analysis required.

Existing Conditions

The existing site consists of shrubland cover. The project is broken into two drainage areas divided by Soledad Canyon Rd. Drainage Area 1 is southeast of Soledad Canyon Rd and Drainage Area 2 is northwest of the road. See Table 6 for a summary of existing conditions.

TABLE 6: EXISTING CONDITIONS SUMMARY

Drainage Area ID	Area (ac)	Impervious Ratio
DA1	46.41	0.01
DA2	23.44	0.01

Proposed Conditions

The use of the site will be a BESS facility. The BESS site, substation, and associated roads are considered impervious area for the purpose of this study. Remaining area will be utilized for infiltration or returned to natural land cover. See Table 7 for a summary of proposed conditions.

TABLE 7: PROPOSED CONDITIONS SUMMARY

Drainage Area ID	Area (ac)	Impervious Ratio
DA1	46.41	0.67
DA2	23.44	0.72

Results

The results of the various analyses are described below.

Hydromodification Analysis

As the project discharges to a natural drainage system and is tributary to the Santa Clara River, hydromodification controls are required to be implemented. The project must fully mitigate off-site drainage impacts caused by hydromodification for the LID, 2-, 5-, 10-, 25-, and 50-year storm events per the Los Angeles County Low Impact Development Standards Manual. HydroCalc was used to calculate the runoff volume under existing and proposed conditions. The infiltration facilities are sized to store and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two drainage areas onsite. Table 8 presents a summary of the required and proposed infiltration volumes for the project. The HydroCalc calculations to determine these runoff volumes are presented in Appendix B.

TABLE 8: HYDROMODIFICATION SUMMARY

Drainage Area ID	50-year 24-Hour Runoff Volume (ac-ft)		50-Year 24-Hour Runoff Volume Difference (ac-ft)	Proposed Infiltration Volume (ac-ft)
	Existing	Proposed		
DA1	1.75	10.27	8.52	8.52
DA2	0.89	5.53	4.64	4.64
Total	2.64	15.80	13.16	13.16

Water Quality Analysis

The County of Los Angeles Department of Public Works Low Impact Development Standards Manual requires the project to retain 100 percent of the Stormwater Quality Design Volume (SWQDv) on site. HydroCalc was used to determine the SWQDv for the two project drainage

areas. See Table 9 for the runoff volume required to be retained on site and Appendix C for the HydroCalc calculations.

TABLE 9: SWQDV SUMMARY

Drainage Area ID	SWQDv (ac-ft)	Proposed Infiltration Volume (ac-ft)
DA1	1.83	8.52
DA2	0.98	4.64
Total	2.81	13.16

Stormwater Management Practices

Post-Construction Infiltration Facilities

Catch basins located throughout the battery storage development will route runoff from the BESS into the proposed infiltration facilities. A majority of infiltration will occur via ADS StormTech MC-3500 chambers. Appendix D contains a detail sheet for these chambers. Infiltration trenches along the southern end of each drainage area connected to the chamber system will aid in meeting the infiltration volume requirement. Tables 10 and 11 summarize the proposed infiltration facilities within the battery storage development area. Calculations can be found in Appendix D.

TABLE 10: INFILTRATION FACILITY VOLUME

	DA 1	DA 2
Req Infiltration Volume (ac-ft)	8.52	4.64
MC-3500 Chamber Volume (ac-ft)	8.19	4.54
Infiltration Trench Volume (ac-ft)	0.33	0.10
Total Provided Infiltration Volume (ac-ft)	8.52	4.64

TABLE 11: MC-3500 CHAMBER DRAWDOWN SUMMARY

Chamber Height (ft)	Design Infiltration Rate (in/hr)	Drawdown Time (hrs)
3.75	0.57	79

Transmission Line Tower Pad Infiltration Facilities

There are seven transmission line towers proposed along with the battery energy storage development. Each of the towers are to be built on a graded gravel pad. Infiltration basins are proposed at each of these pads to meet treatment and hydromodification requirements through infiltration. Table 12 provides a summary of the required and proposed infiltration volume for an individual pad. Calculations can be found in Appendix E.

TABLE 12: TRANSMISSION LINE TOWER PAD INFILTRATION SUMMARY

Pad Area (ac)	SWQDv (ac-ft)	50-year 24-Hour Runoff Volume (ac-ft)		50-Year 24-Hour Runoff Volume Difference (ac-ft)	Proposed Infiltration Volume (ac-ft)
		Existing	Proposed		
0.28	0.02	0.01	0.09	0.08	0.08

Hydraulic Structure Sizing

Hydraulic structures are proposed throughout the site to convey upstream flows through and around the site and at new access roads to maintain existing drainage patterns. See Exhibit 7 for hydraulic structure locations.

Hydraulic structures are sized for the 100-year 24-hour rain event with a 1 foot allowable head. Calculations were performed using HydroCalc and CulvertMaster and are included in Appendix F.

TABLE 13: HYDRAULIC STRUCTURE SUMMARY

Structure ID	Structure Diameter
DC01	1-12”
DC02	1-12”
DC03	1-60”
DC04	1-12”
DC05	1-12”
DC06	2-24”
DC07	1-18”
DC09	1-72”

Conclusion

The proposed site was designed to meet the stormwater management requirements of Los Angeles County and the State of California. The proposed grading and hydraulic structures are designed to route offsite runoff through and around the site, maintain overall existing drainage patterns, and route onsite runoff to the proposed infiltration facilities. Water quality treatment and hydromodification requirements are met through the use of infiltration chambers and trenches. The results of this report are preliminary and should be updated as design progresses.

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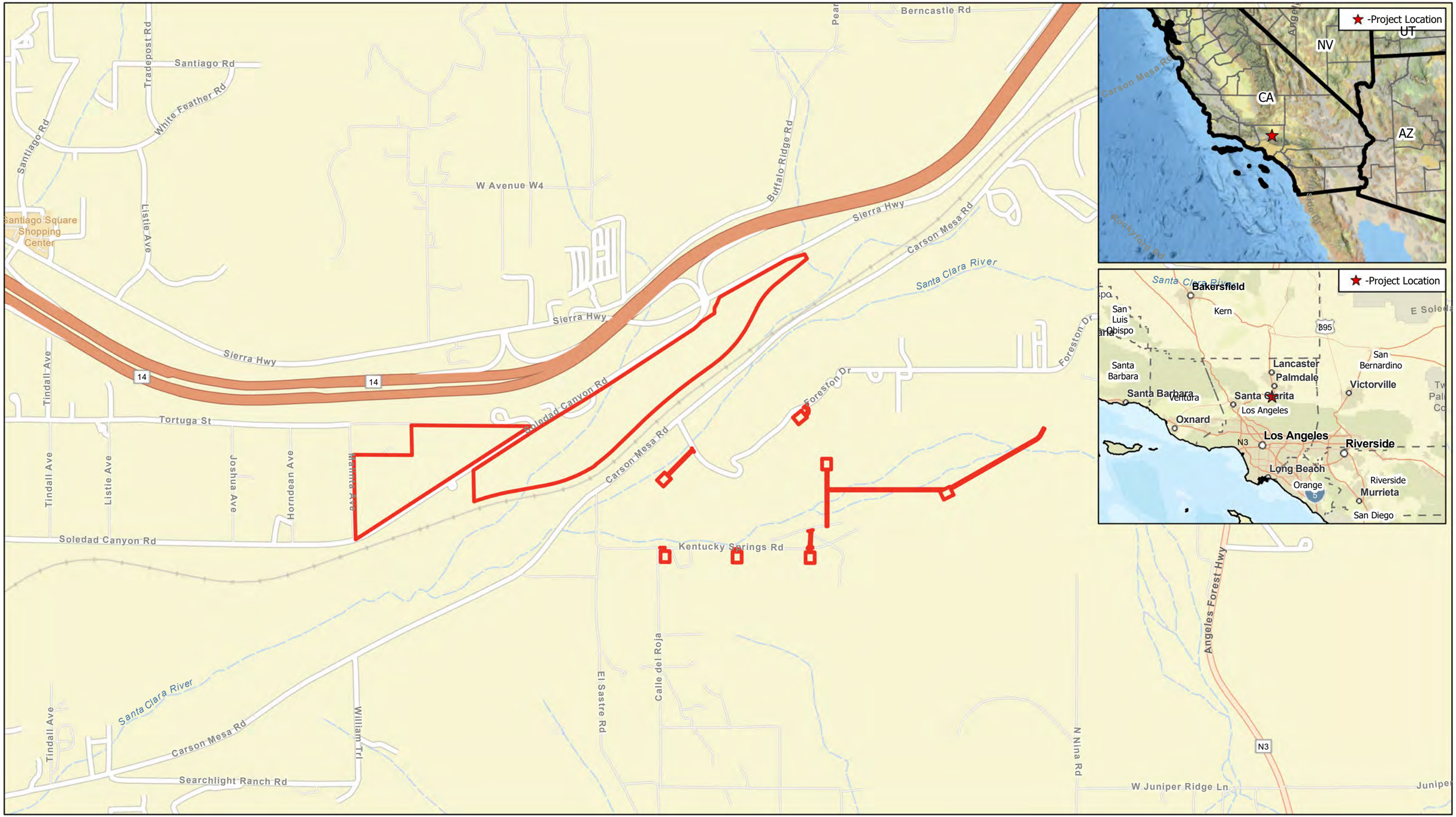
Exhibits



Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

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Legend

- Project Area
- County Boundary

Prairie Song Reliability Project

Los Angeles County, California

N

0 Feet 1,000

Exhibit 1: Location Map

March 14, 2025

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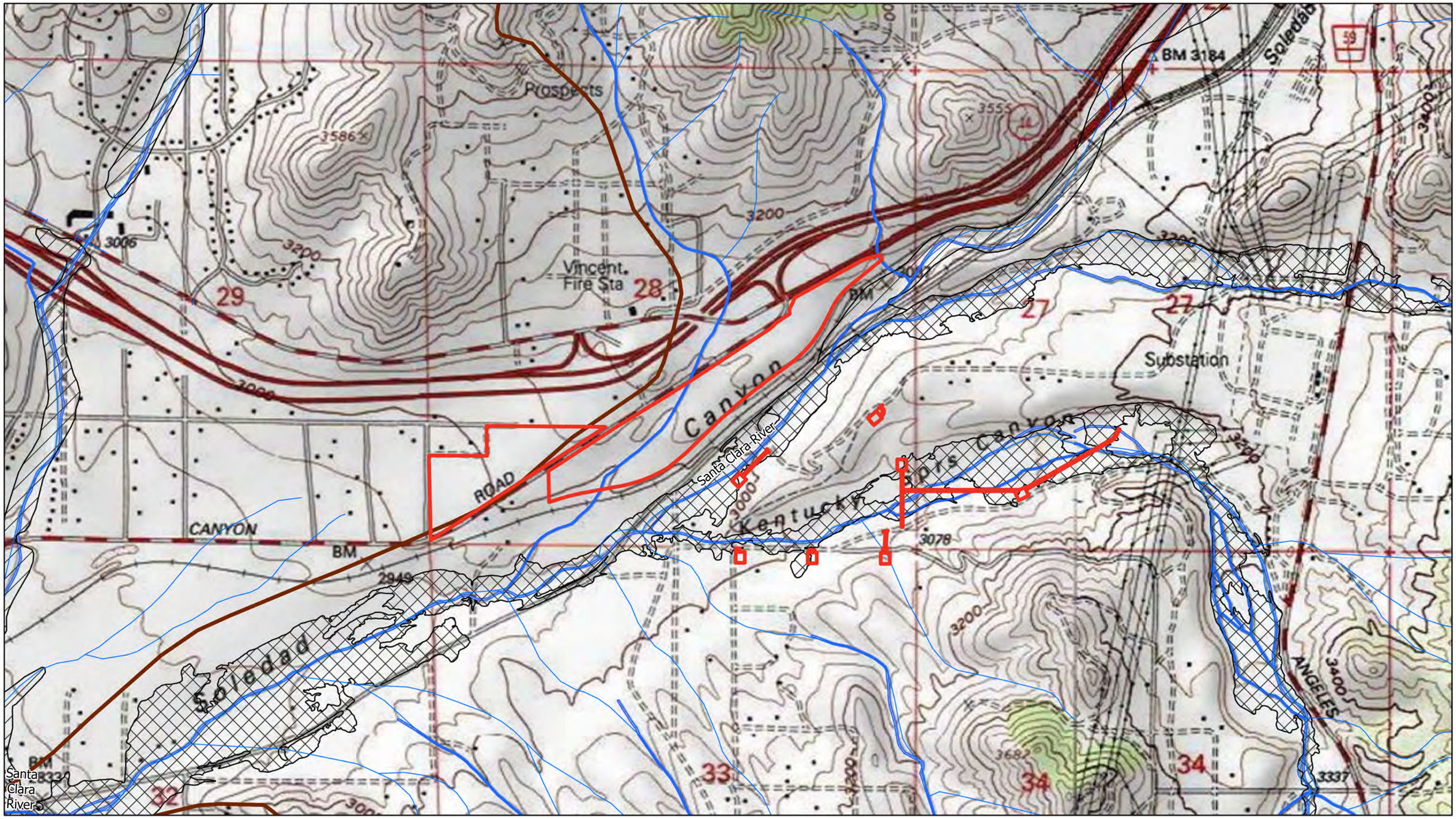

Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

Legend

- Project Area
- HUC-12 Boundary
- FEMA Zone A
- FEMA Zone AE
- NWI Wetlands
- NHD Flowlines

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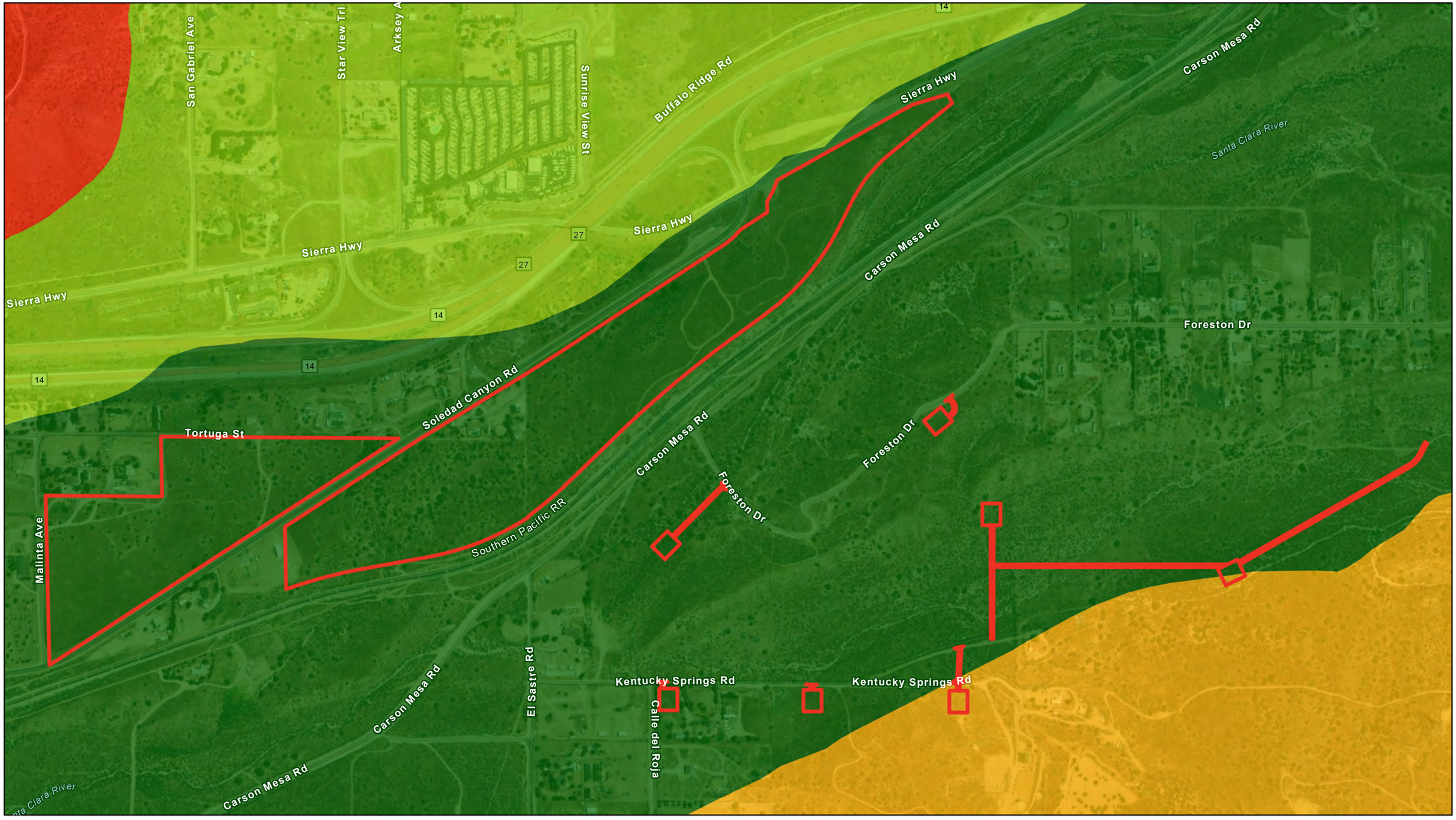
Los Angeles County, California

N

0 Feet 1,000

Exhibit 2: Base Hydrologic Map

March 14, 2025



Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

Legend

- Project Area

LA County Soil Classes

- 015
- 098
- 101
- 103

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Prairie Song Reliability Project

Los Angeles County, California

N

0 500 Feet

Exhibit 3: Soils Map

March 14, 2025

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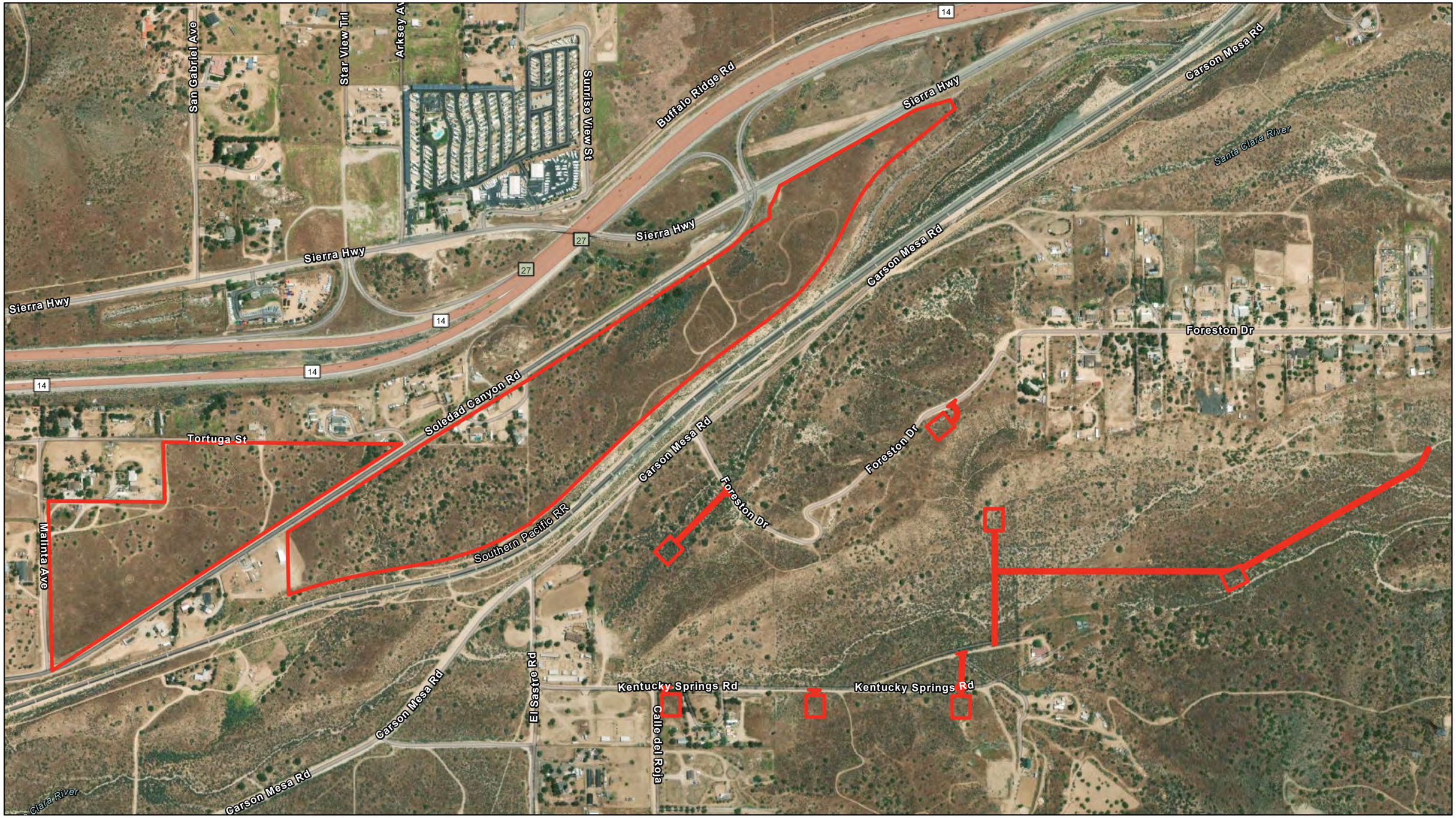

Data Source(s): Westwood (2025); Esri WMS Basemap Imagery (Accessed 2025); USGS (2025); FEMA (2025); USDA (2025)

Legend

Project Area

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Prairie Song Reliability Project

Los Angeles County, California

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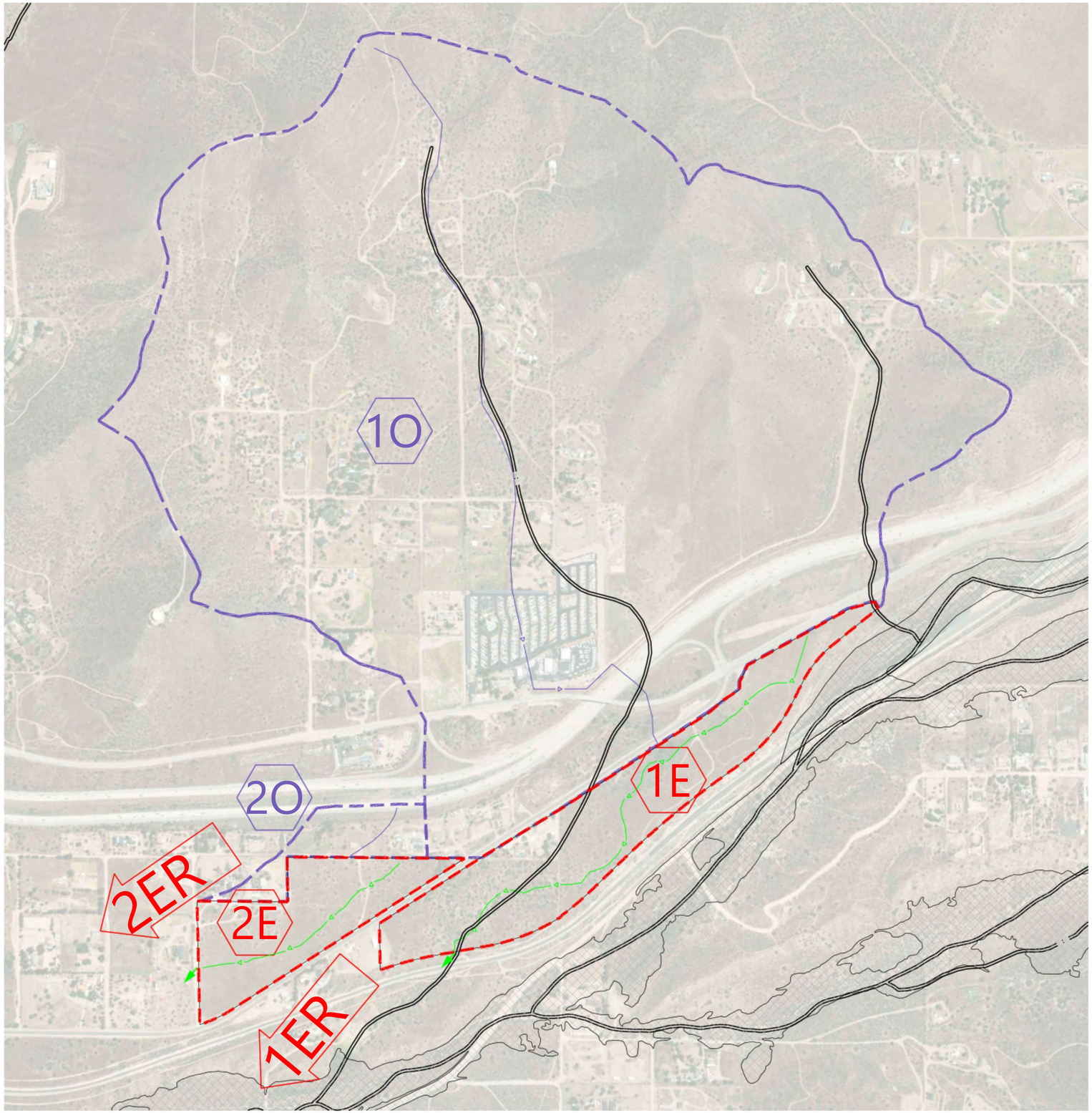
0 500 Feet

Exhibit 4: Landcover Map

March 14, 2025



LEGEND:

- PROJECT BOUNDARY
- EX. WETLAND
- FEMA FLOOD ZONE
- EX. ONSITE DRAINAGE AREA BOUNDARY
- EX. OFFSITE DRAINAGE AREA BOUNDARY
- EX. TIME OF CONCENTRATION LINE
- EX. OFFSITE TIME OF CONCENTRATION LINE
- DISCHARGE LOCATION
- 1 — ONSITE DRAINAGE AREA LABEL
- 10 — OFFSITE DRAINAGE AREA LABEL
- 1ER — DISCHARGE AREA LABEL

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PREPARED FOR:

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REVISIONS:

#	DATE	COMMENT	BY	CHK	APR

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Prairie Song Reliability Project
Los Angeles County, California

Overall Existing Drainage Map

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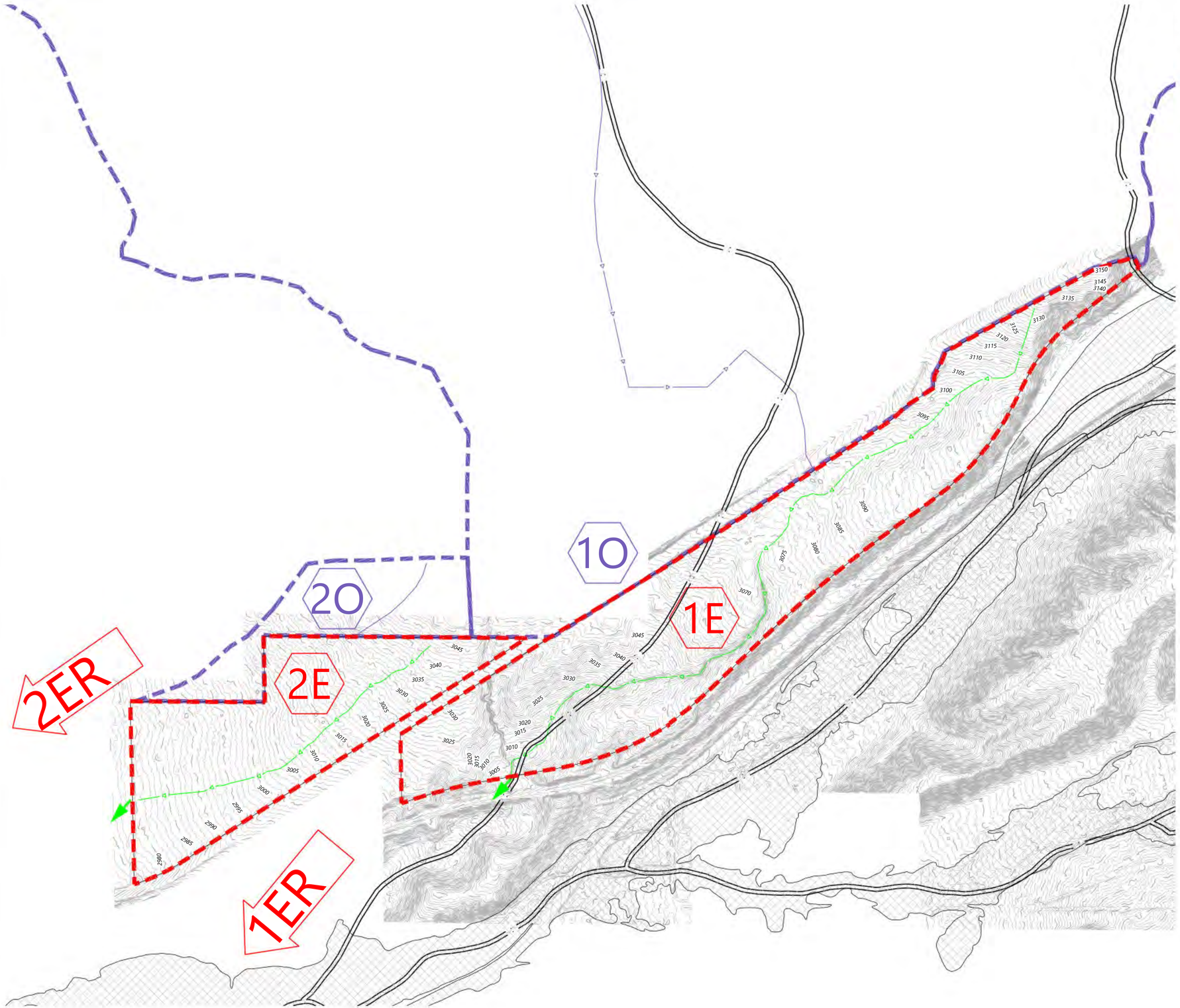

LEGEND:

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- EX. INTERVAL CONTOUR
- EX. WETLAND
- FEMA FLOOD ZONE
- EX. ONSITE DRAINAGE AREA BOUNDARY
- EX. OFFSITE DRAINAGE AREA BOUNDARY
- EX. TIME OF CONCENTRATION LINE
- EX. OFFSITE TIME OF CONCENTRATION LINE
- DISCHARGE LOCATION
- 1 ONSITE DRAINAGE AREA LABEL
- 1O OFFSITE DRAINAGE AREA LABEL
- 1ER DISCHARGE AREA LABEL

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REVISIONS:

#	DATE	COMMENT	BY	CHK	APR

0' 250' 500' 750'

Prairie Song Reliability Project

Los Angeles County, California

Existing Drainage Map

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