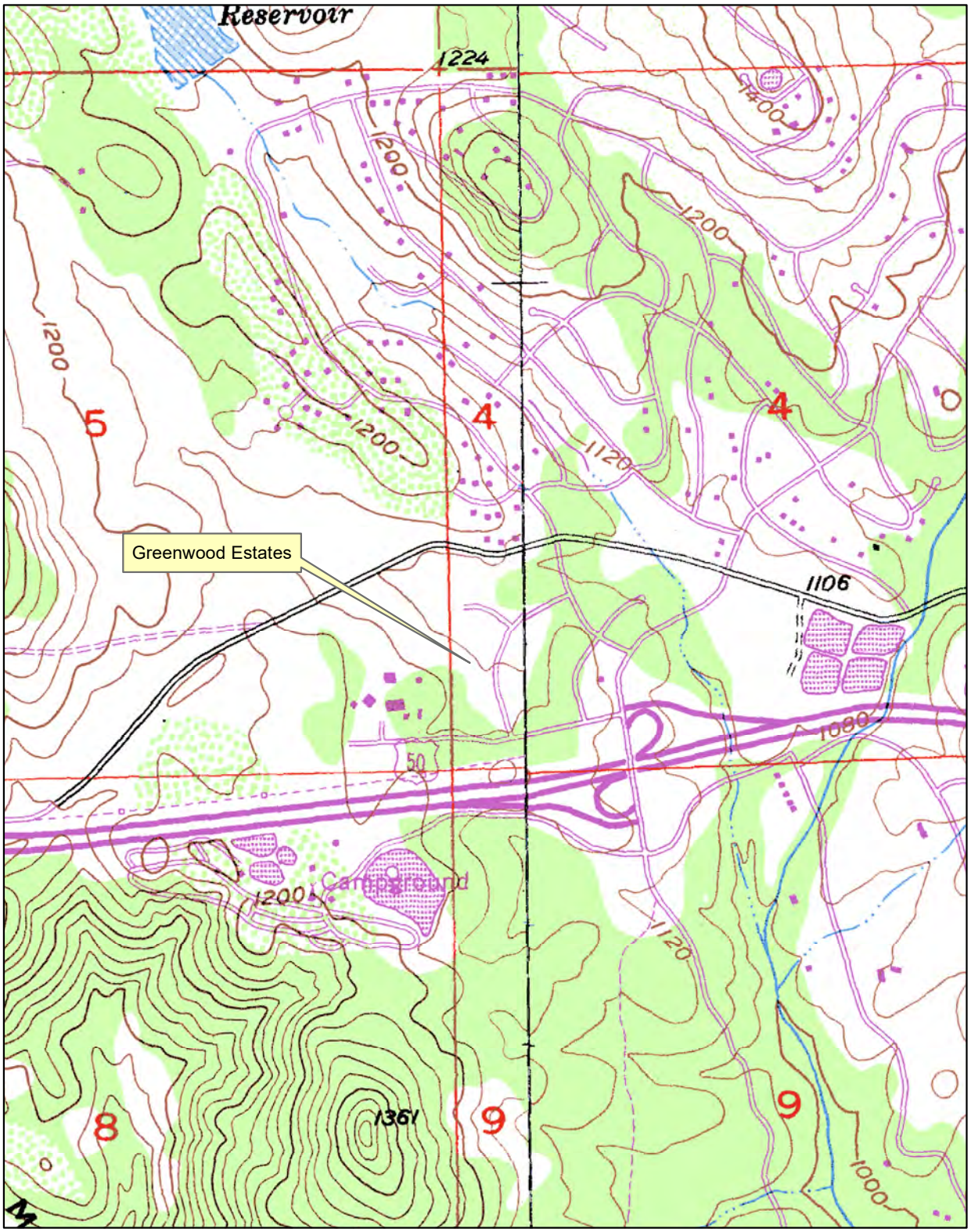
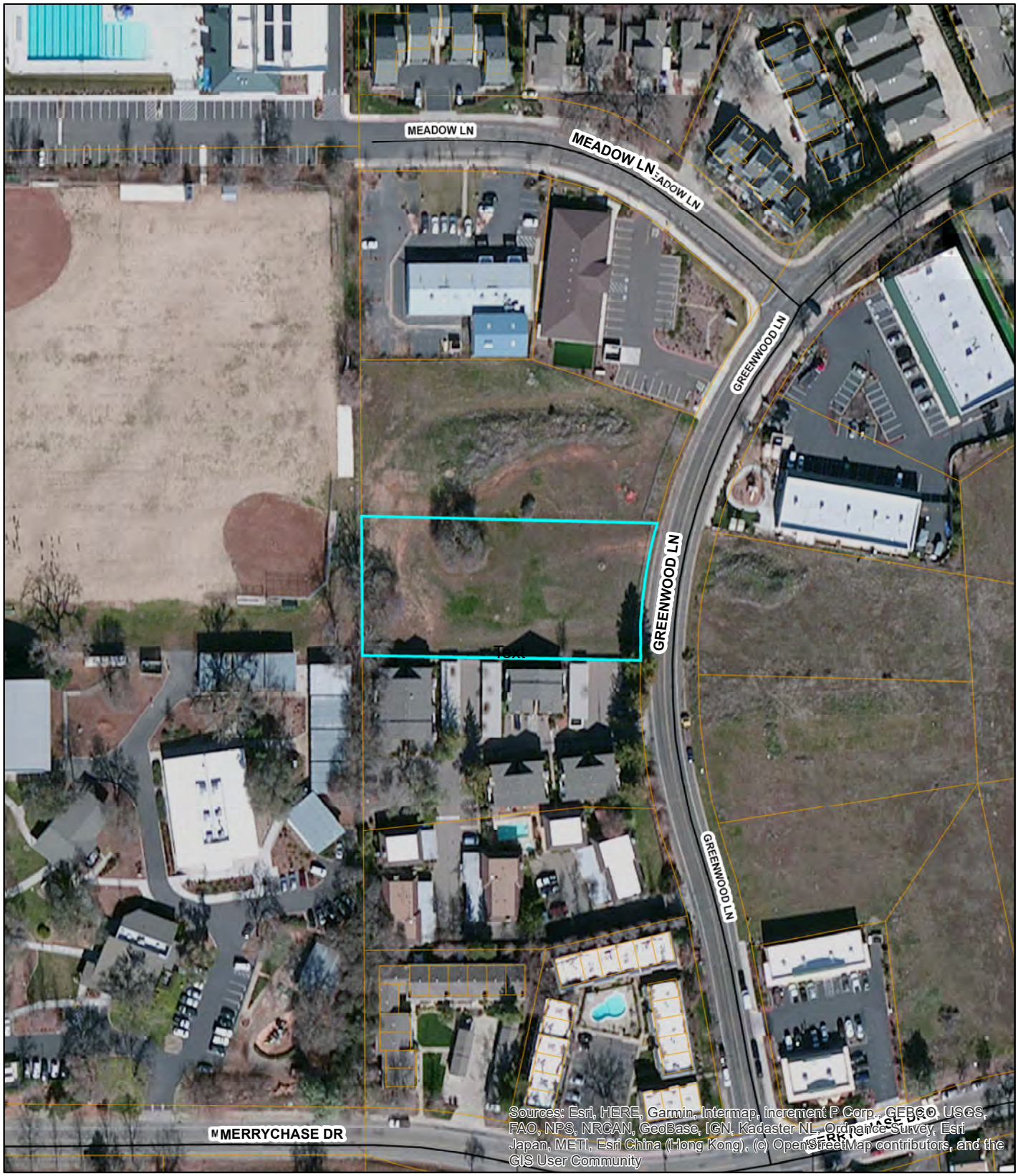


TM21-0001/PD21-0003/Z21-0012/Greenwood Estates
Exhibit A - Location Map



June 22, 2023

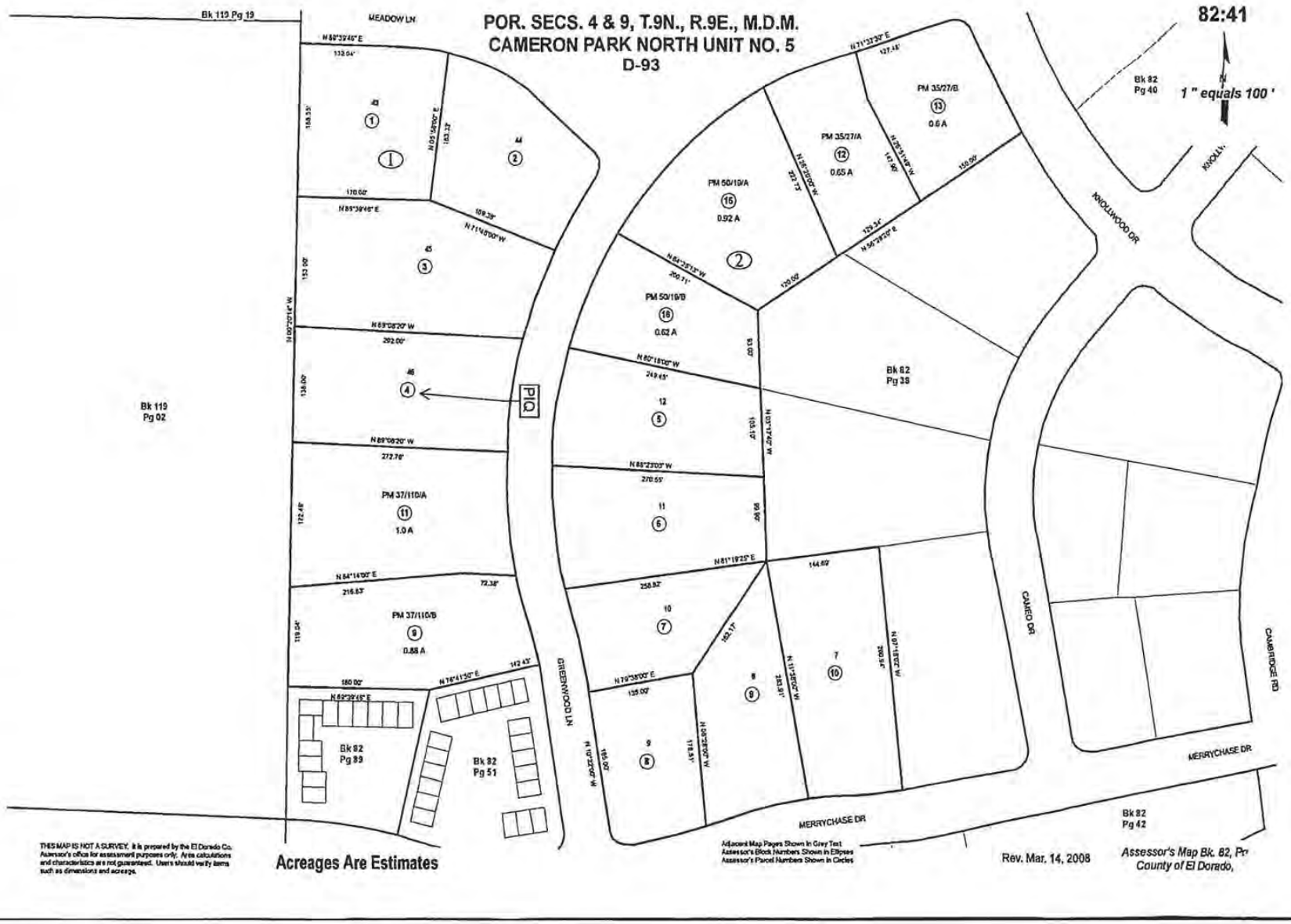
Site Aerial Photo

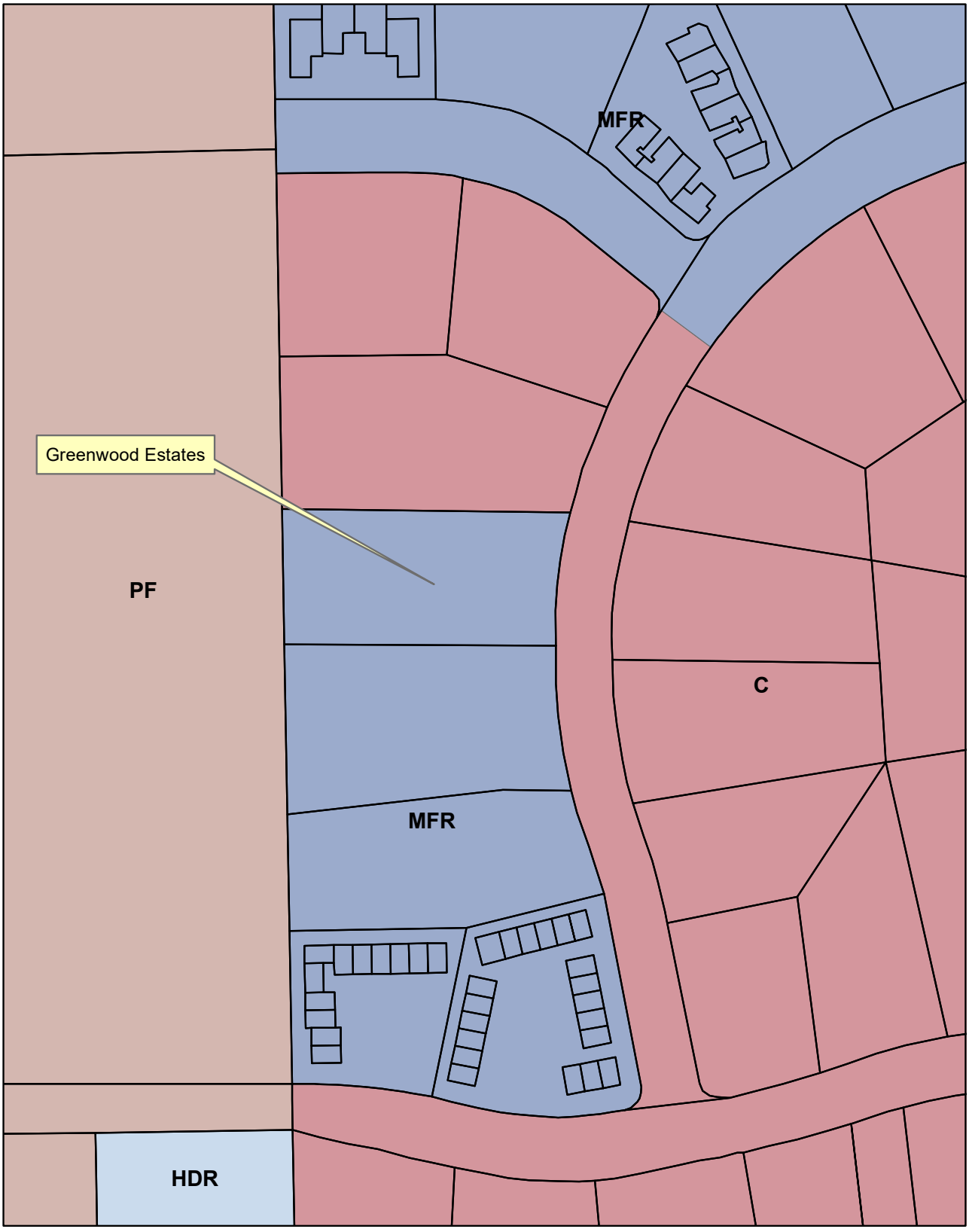
Search Results: Parcels — Highways

Disclaimer: Parcel boundaries in this map are illustrative only and not considered the legal boundary.

N
W
E
S

0 40 80 120 160 Feet





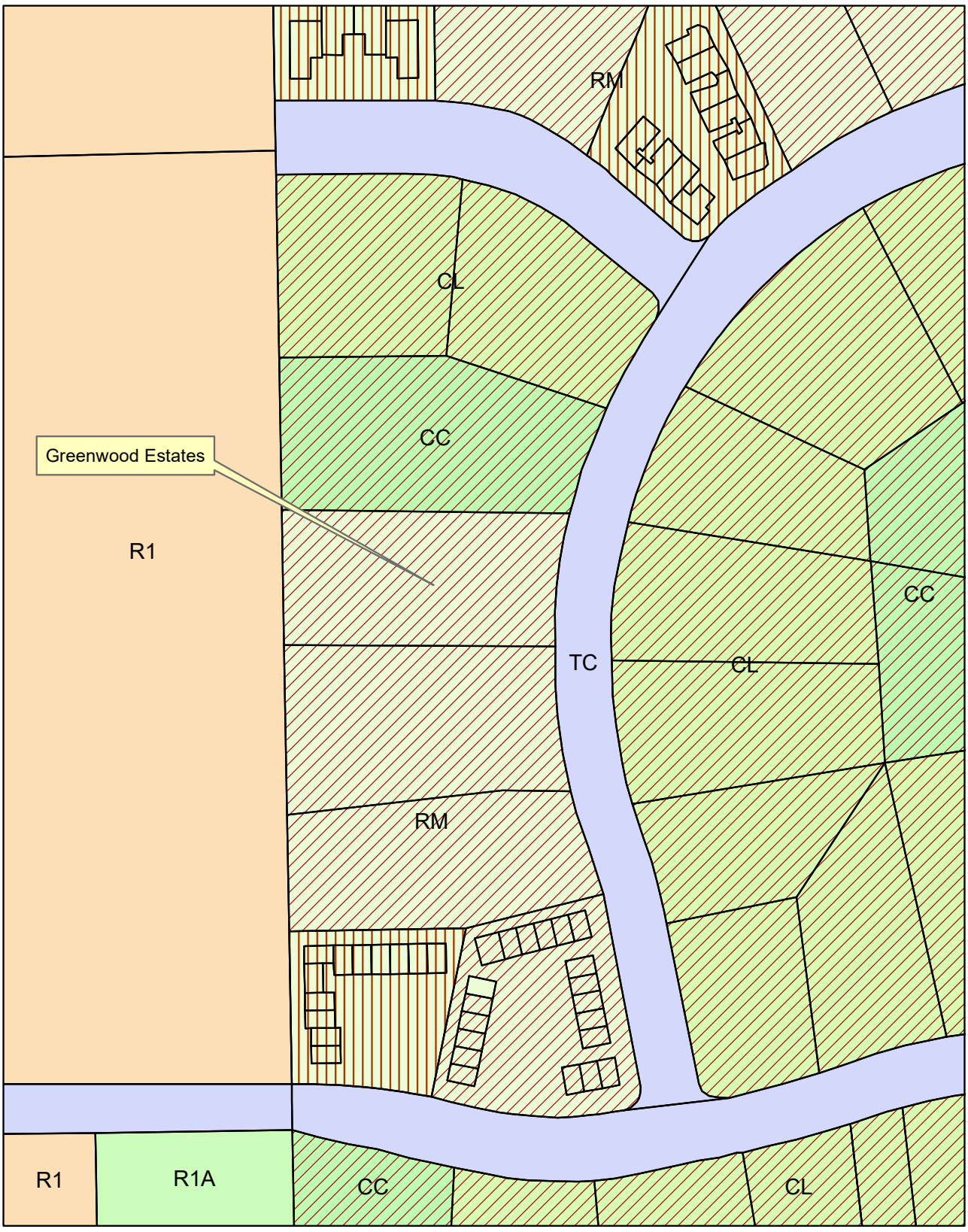
C
HDR
MFR
PF

TM21-0001/PD21-0003/Z21-0012/Greenwood Estates

Exhibit D - General Plan Land Use Map

N

0 0.0125 0.025 0.05 Miles



PD
DC
CC
CL
R1
R1A
RM
TC

TM21-0001/PD21-0003/Z21-0012/Greenwood Estates
Exhibit E - Zoning Map

N

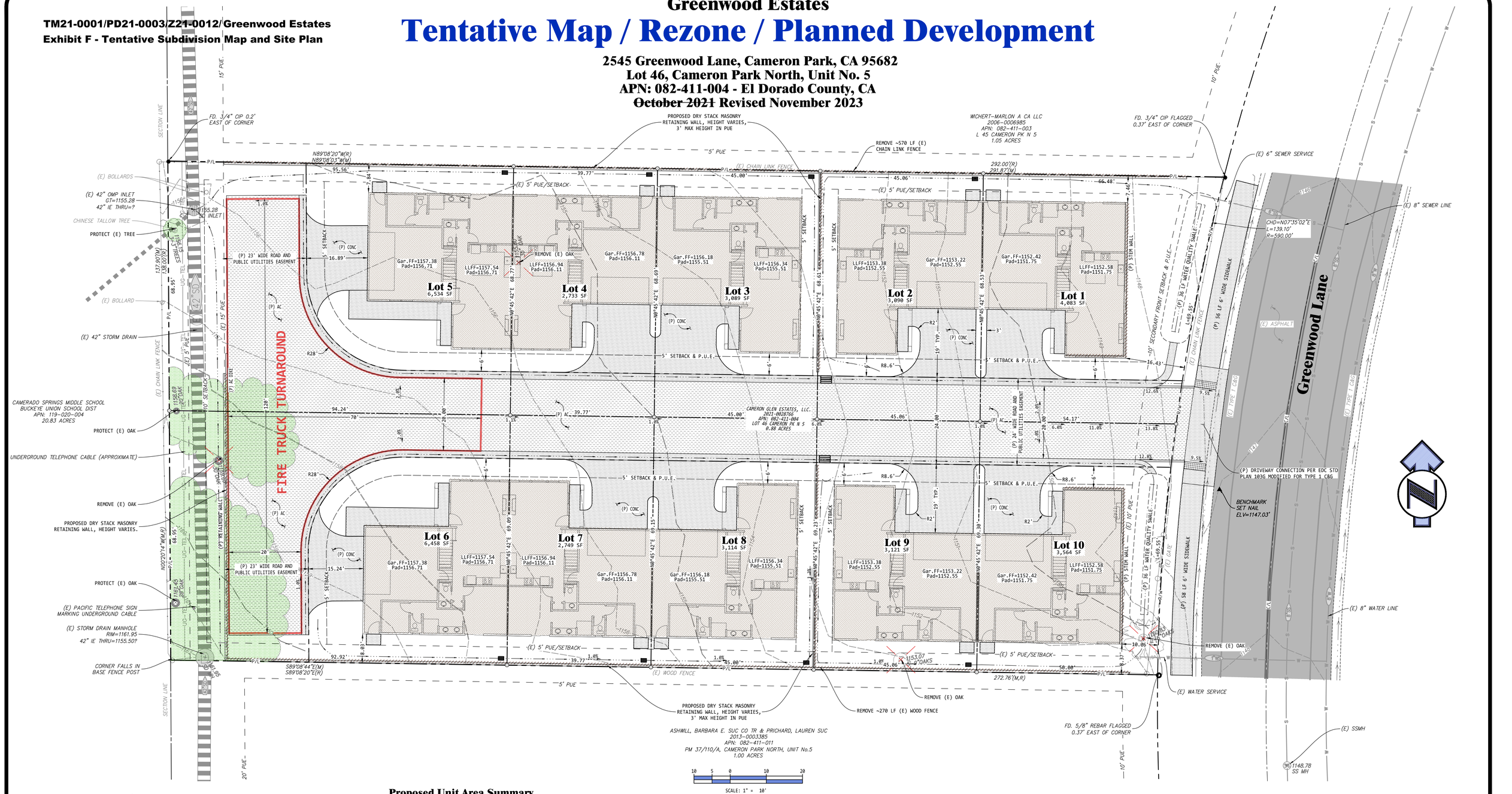
0 0.0125 0.025 0.05 Miles

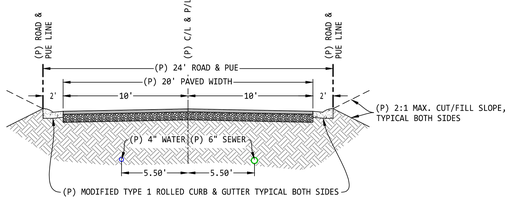
TM21-0001/PD21-0003/Z21-0012/ Greenwood Estates
Exhibit F - Tentative Subdivision Map and Site Plan

Greenwood Estates

Tentative Map / Rezone / Planned Development

2545 Greenwood Lane, Cameron Park, CA 95682
Lot 46, Cameron Park North, Unit No. 5
APN: 082-411-004 - El Dorado County, CA
~~October 2021~~ Revised November 2023





Typical Modified 101B Road & R/W Section
NOT TO SCALE

Proposed Design Waivers

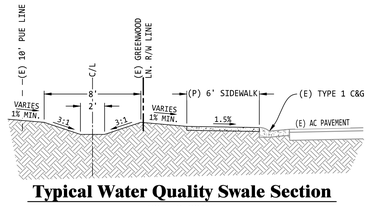
Modified Std Plan 101B Road & Right of Way Section
Modified Std Plan 104 Type 1 Curb & Gutter

Proposed Unit Area Summary

Ground Floor Plan (per unit)
959 sf Ground Floor Conditioned Space
740 sf 2nd Floor Conditioned Space
1,699 sf (total conditioned space per unit)

{ 459 sf Garage
{ 48 sf Porch
{ 35 sf 2nd Floor Deck

Building totals / Project totals / 10 units
3,398 sf Duplex 1 - conditioned space
3,398 sf Duplex 2 - conditioned space
5,097 sf Triplex 1 - conditioned space
5,097 sf Triplex 2 - conditioned space
16,990 sf Four Building total conditioned space

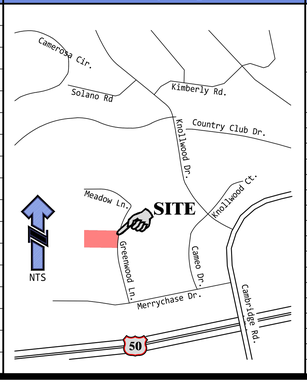


Typical Water Quality Swale Section
NOT TO SCALE

Abbreviations

AC	ASPHALTIC CONCRETE	GB	GRADE BREAK
AB	AGGREGATE BASE	LOC	LIMITS OF CONSTRUCTION
BFP	BACKFLOW PREVENTER	(M)	MEASURED BEARING OR DISTANCE
BW	BOTTOM OF WALL AT FG	(P)	PROPOSED
CMP	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CN	CONCRETE	POC	POINT OF CONNECTION
CV	CHECK VALVE	PUE	PUBLIC UTILITIES EASEMENT
DCV	DOUBLE CHECK VALVE	R	RADIUS
DWY	DRIVEWAY	(R)	RECORD BEARING OR DISTANCE
(E)	EXISTING	RPDA	REDUCED PRESSURE DETECTOR ASSY
EL	ELEVATION	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SS	SANITARY SEWER
FDC	FIRE DEPT. CONNECTION	TC	TOP OF CURB ELEVATION
FF	FINISHED FLOOR	TW	TOP OF WALL
FG	FINISHED GRADE	UP	UTILITY POLE
FH	FIRE HYDRANT	W	WATER
FL	FLOWLINE	WM	WATER METER

Vicinity Map



Project Data

OWNER/APPLICANT:	Cameron Glen Estates, LLC c/o Joe Jaoudi 2216 Via Subria Vista, CA 92084 760-664-7196 josjoudi@aol.com
PREPARED BY:	LEBECK ENGINEERING, INC. 3430 ROBIN LANE, BLDG. #2 CAMERON PARK, CA 95682 Ph. 530-677-4080
SCALE:	1" = 10'
CONTOUR INTERVAL:	1 FOOT
SOURCE OF TOPOGRAPHY:	FIELD TOPOGRAPHY BY A.R. DIVERS PLS (1/27/2021)
SECTION, TOWNSHIP & RANGE:	POR. OF SW 1/4, SECTION 4, T.9N., R.9E., M.D.M.
ASSESSOR'S PARCEL NUMBER:	082-411-004
PRESENT LAND USE DESIGNATION	MFR
PROPOSED LAND USE DESIGNATION	MFR
PRESENT ZONING:	RM-DC
PROPOSED ZONING:	RM-PD
TOTAL AREA:	38,535.79 SF (0.88 ACRES)
TOTAL NUMBER OF PARCELS:	1 EXISTING, 10 PROPOSED
MINUMUM PARCEL AREA:	3,393.58 SF
WATER SUPPLY:	EID
SEWAGE DISPOSAL:	EID
FIRE PROTECTION:	CAMERON PARK CSD FIRE
DATE OF PREPARATION:	~~OCTOBER 2021~~ REVISED NOVEMBER 2023
PROJECT #:	20-133

Lot Data

Lot #	Gross Area
(E) LOT 46 CAMERON PARK NORTH UNIT #5	38,535.79 SF (0.88 Ac)
(P) Lot 1	4,083 SF
(P) Lot 2	3,090 SF
(P) Lot 3	3,089 SF
(P) Lot 4	2,733 SF
(P) Lot 5	6,534 SF
(P) Lot 6	6,458 SF
(P) Lot 7	2,749 SF
(P) Lot 8	3,114 SF
(P) Lot 9	3,121 SF
(P) Lot 10	3,564 SF

Approvals

ZONING ADMINISTRATOR: _____
APPROVAL/DENIAL DATE: _____
BOARD OF SUPERVISORS: _____
APPROVAL/DENIAL DATE: _____

Greenwood Estates
Tentative Map

TM
Plot Date: Dec 04, 2023

Ground Floor Plan (per unit)

959 s.f. Ground floor Conditioned Space
740 s.f. 2nd floor Conditioned Space
1,699 s.f. (total conditioned space per unit)

459 s.f. Garage
48 s.f. Porch
35 s.f. 2nd floor deck

Building totals / Project totals / 10 units

3,398 s.f. Duplex 1 - conditioned space
3,398 s.f. Duplex 2 - conditioned space
5,097 s.f. Triplex 1 - conditioned space
5,097 s.f. Triplex 2 - conditioned space
16,990 s.f. 4 Building total conditioned space

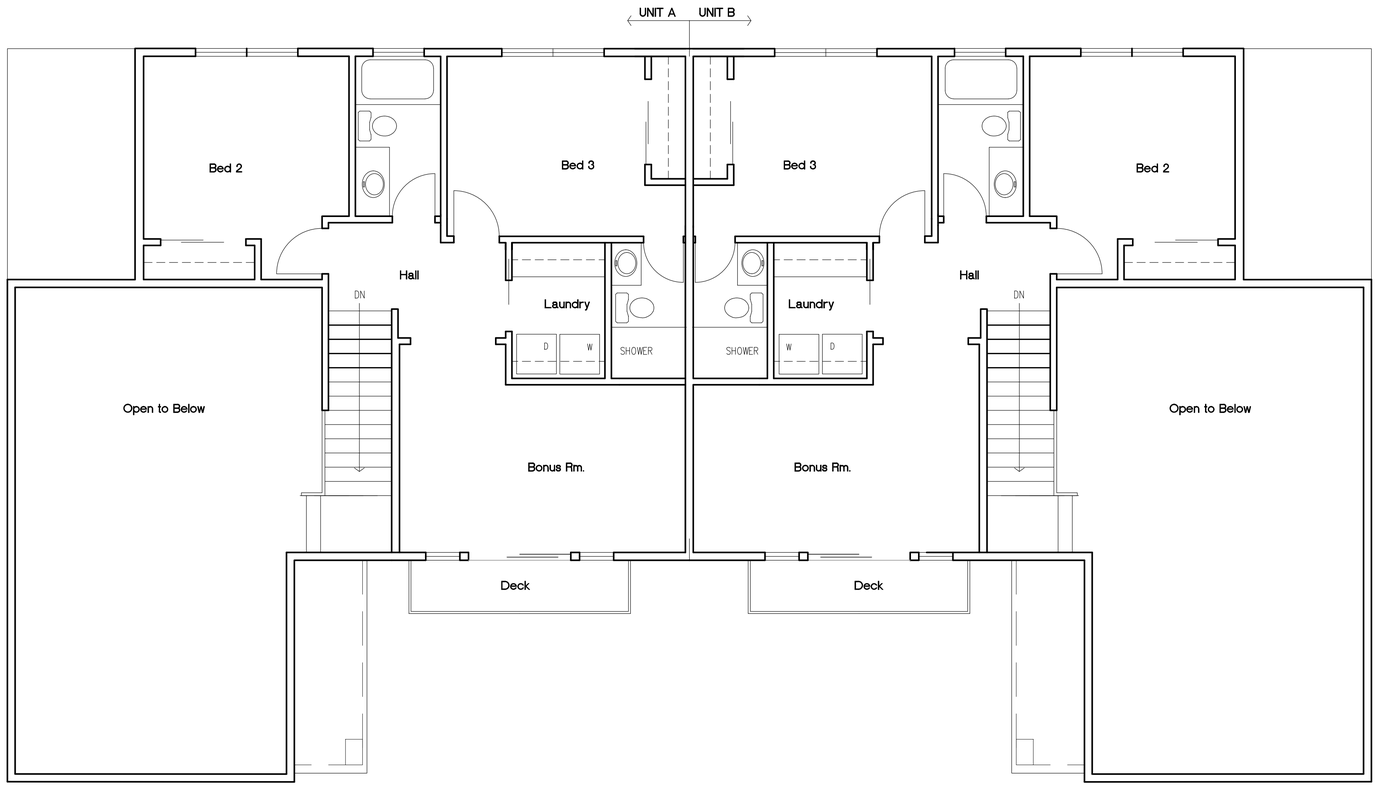
BRIAN WICKERT
ARCHITECT
P.O. BOX 2106
SHINGLE SPRINGS CA 95682
530-401-3390

GreenWood
Cameron Park

DUPLEX

NORTH

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING GROUND FLOOR PLANS
SHEET A2-D



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530-401-3390

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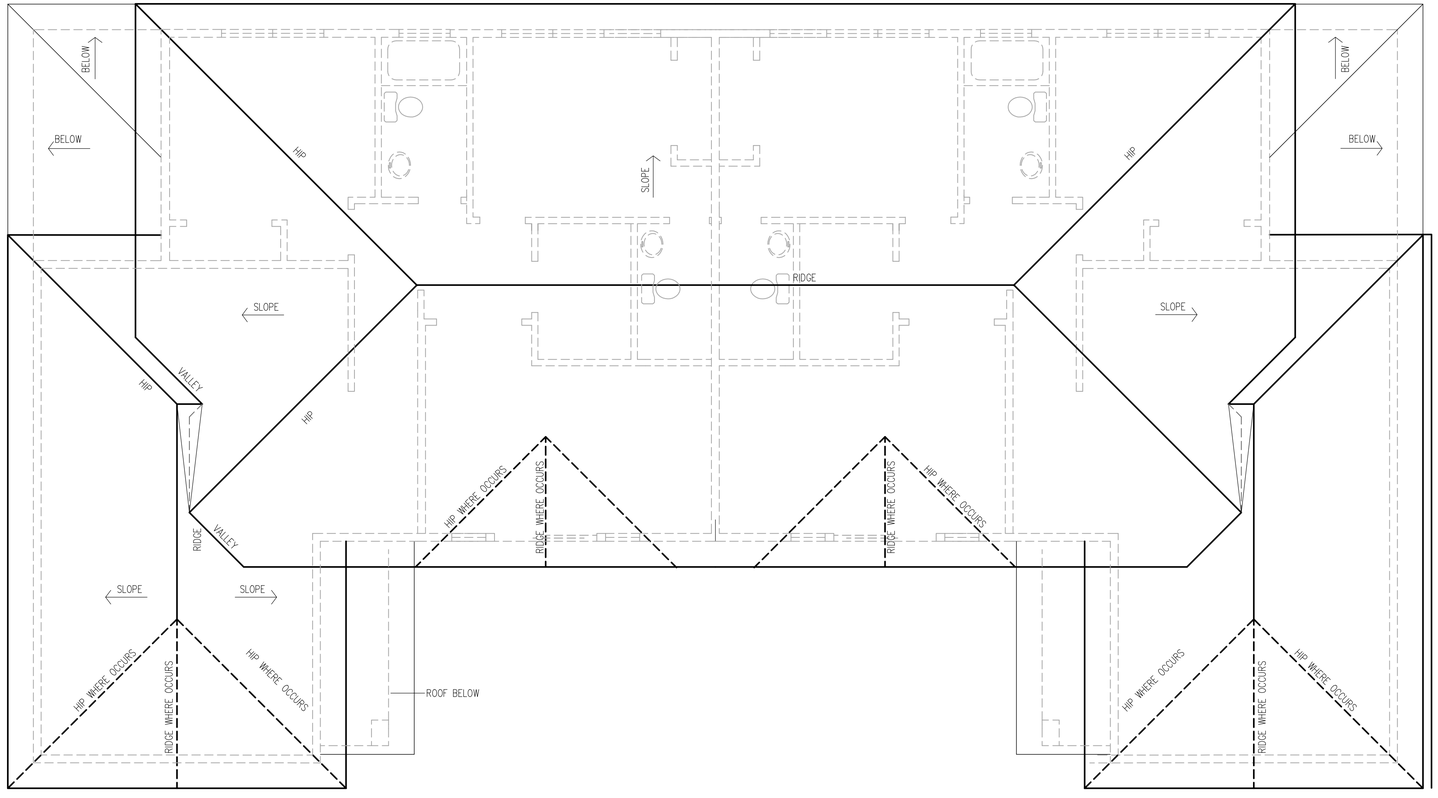
Cameron Park

DUPLEX

NORTH

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING SECOND FLOOR PLAN
SHEET A3-D



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GreenWood
Cameron Park

DUPLEX

NORTH

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING ROOF PLAN
SHEET A4-D

ELEVATION UNIT 1-2

ELEVATION OPT 1

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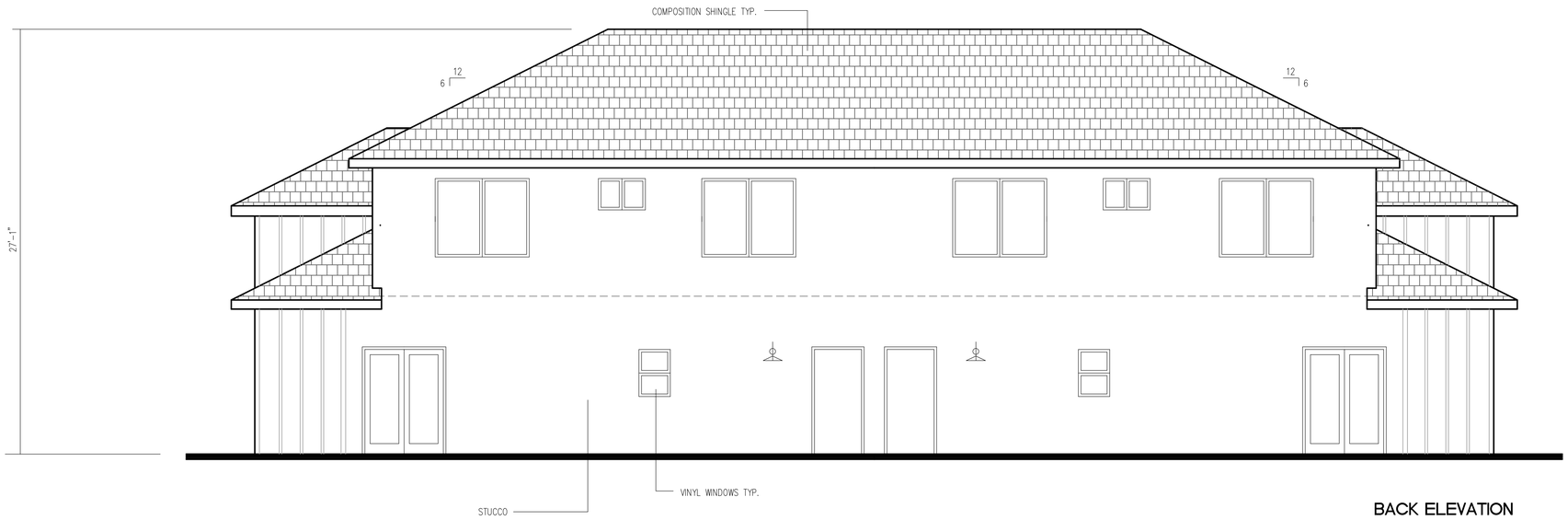
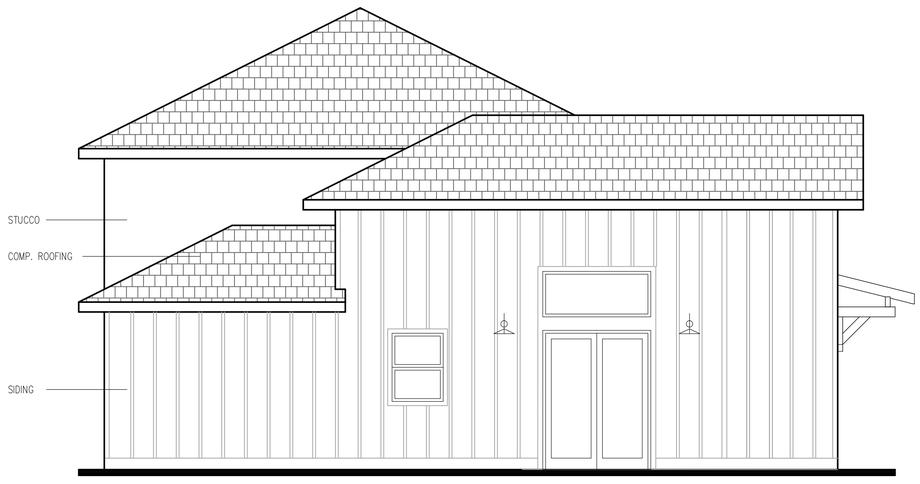
Cameron Park

DUPLEX

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING FRONT ELEVATIONS
SHEET A5-D



BACK ELEVATION



SIDE ELEVATION TYP.

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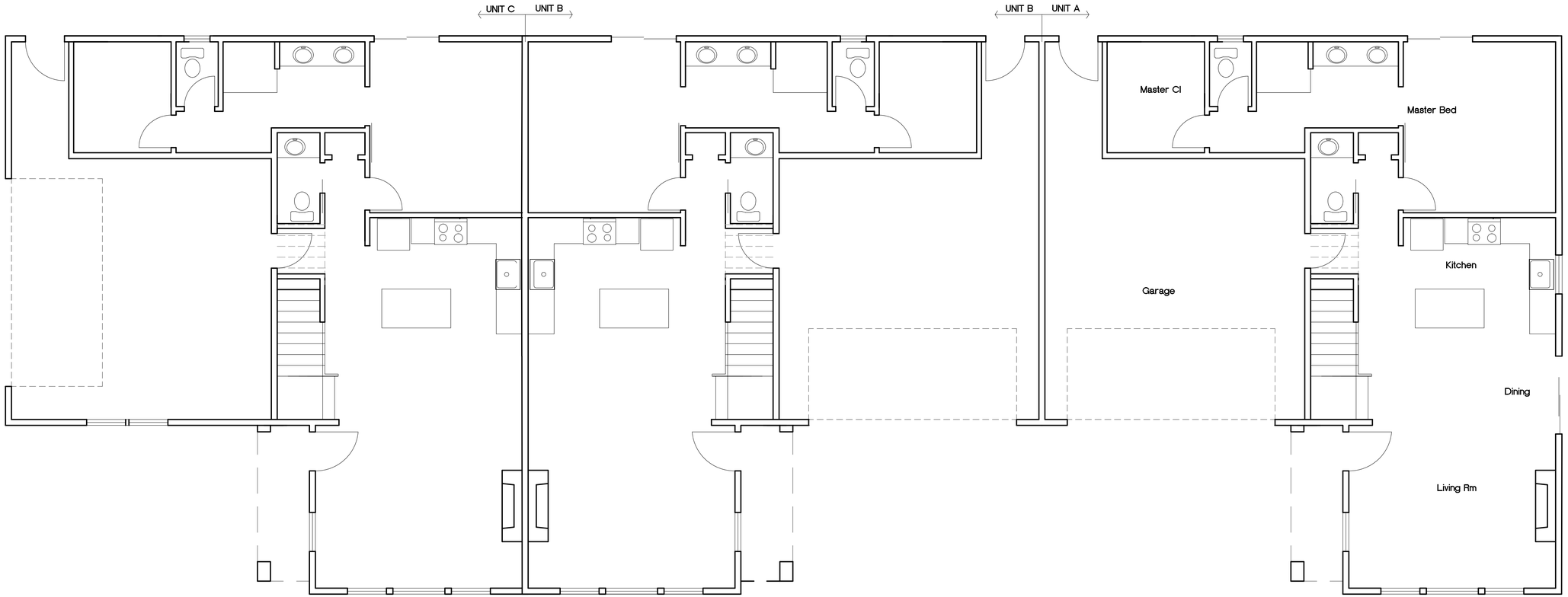
530-401-3390

GreenWood
Cameron Park

DUPLEX

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING ELEVATIONS
SHEET

A6-D



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BRIAN WICKERT
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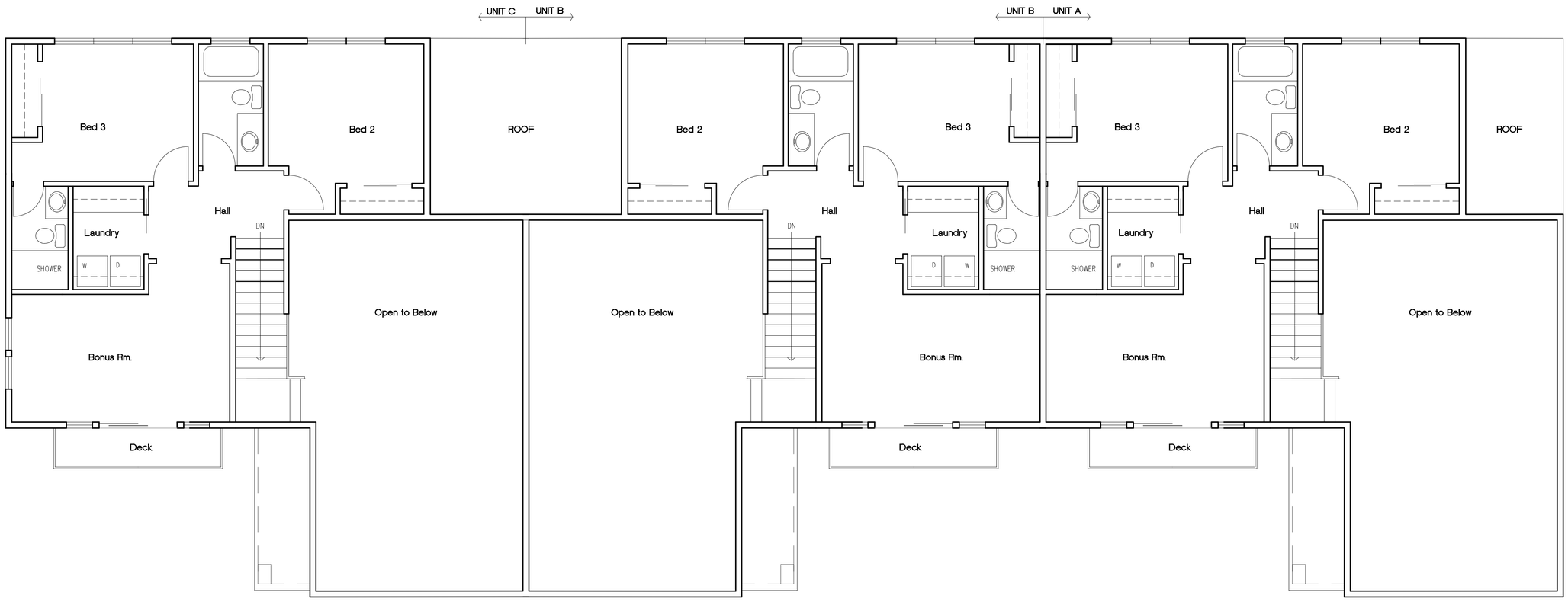
GreenWood
Cameron Park

TRIPLEX

NORTH

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING GROUND FLOOR PLANS
SHEET A2-T



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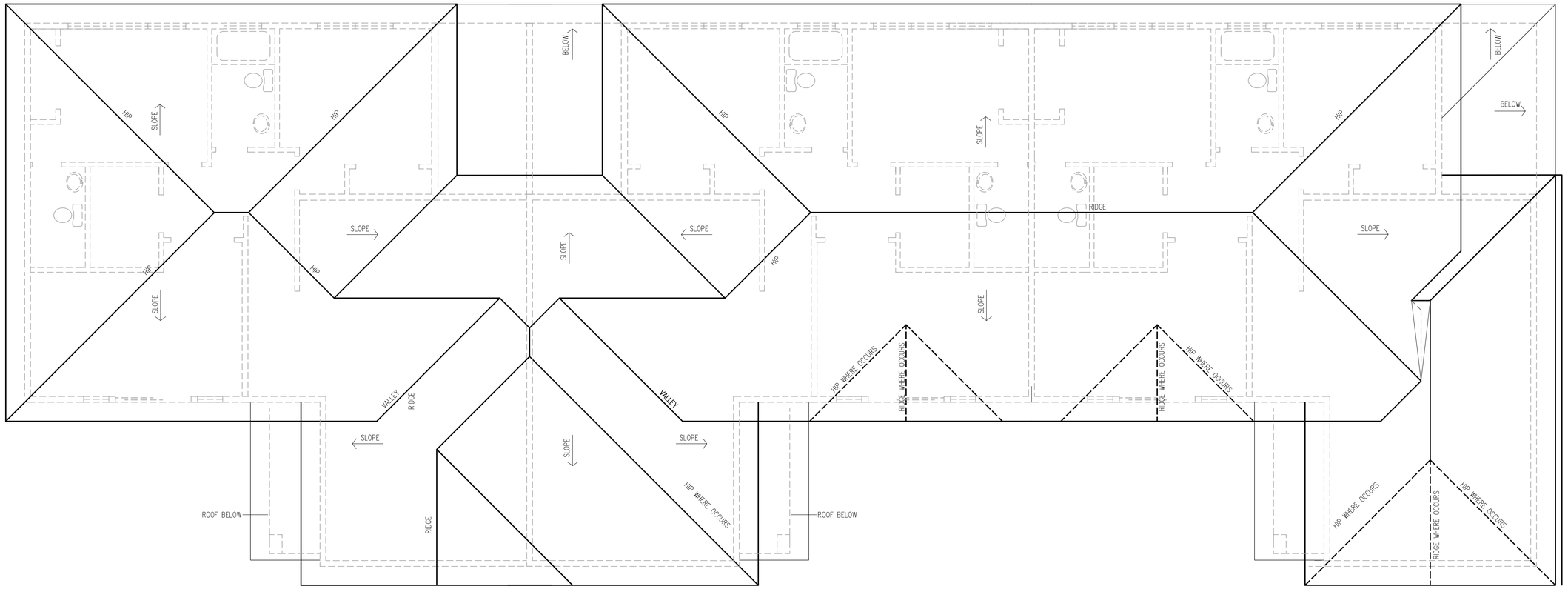
530-401-3390

GreenWood
Cameron Park

TRIPLEX

NORTH

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING SECOND FLOOR PLAN
SHEET A3-T



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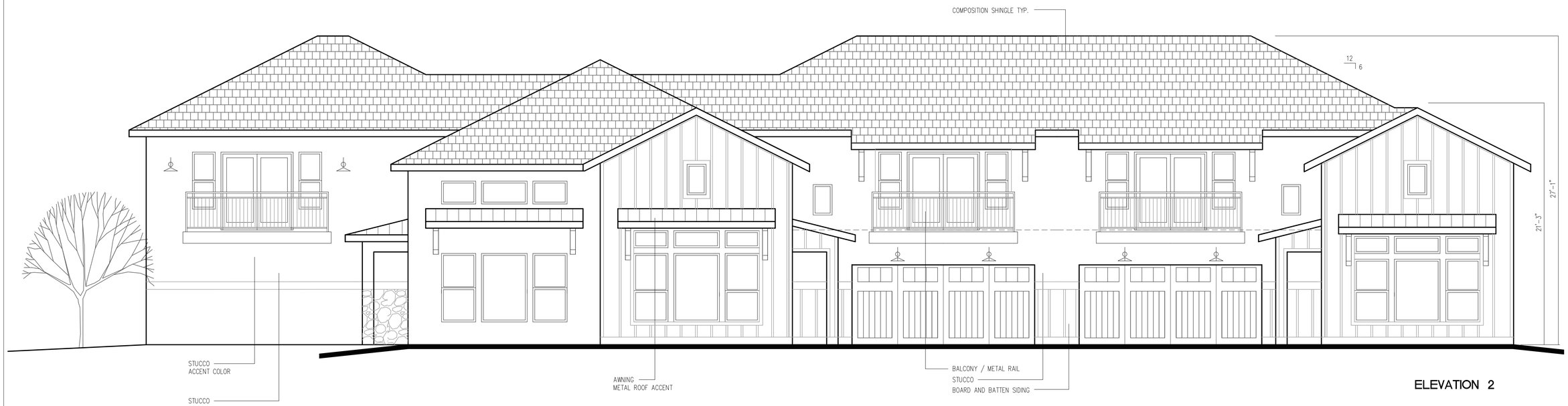
530-401-3390

GreenWood
Cameron Park

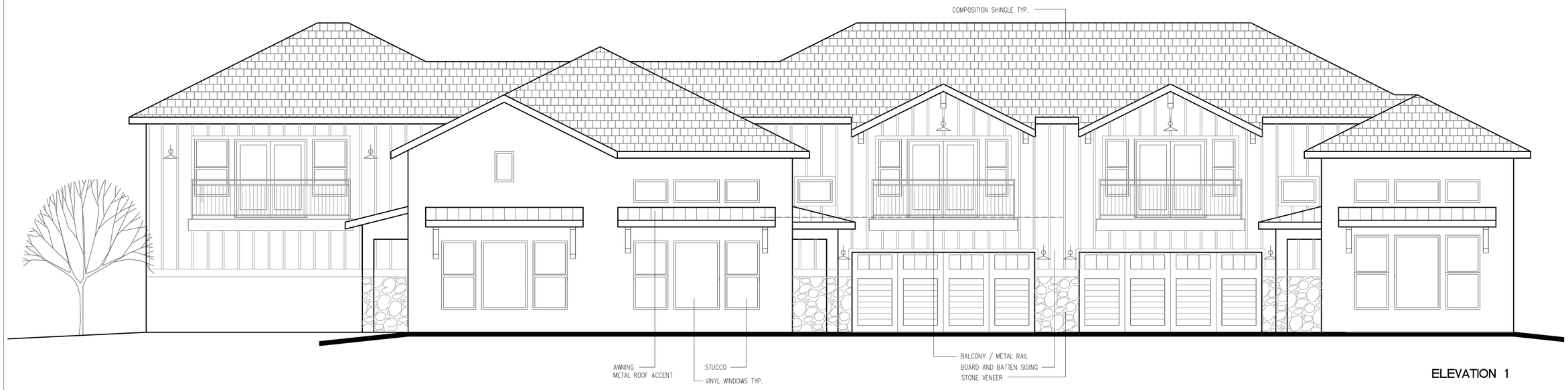
TRIPLEX

NORTH

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING ROOF PLAN
SHEET A4-T



ELEVATION 2



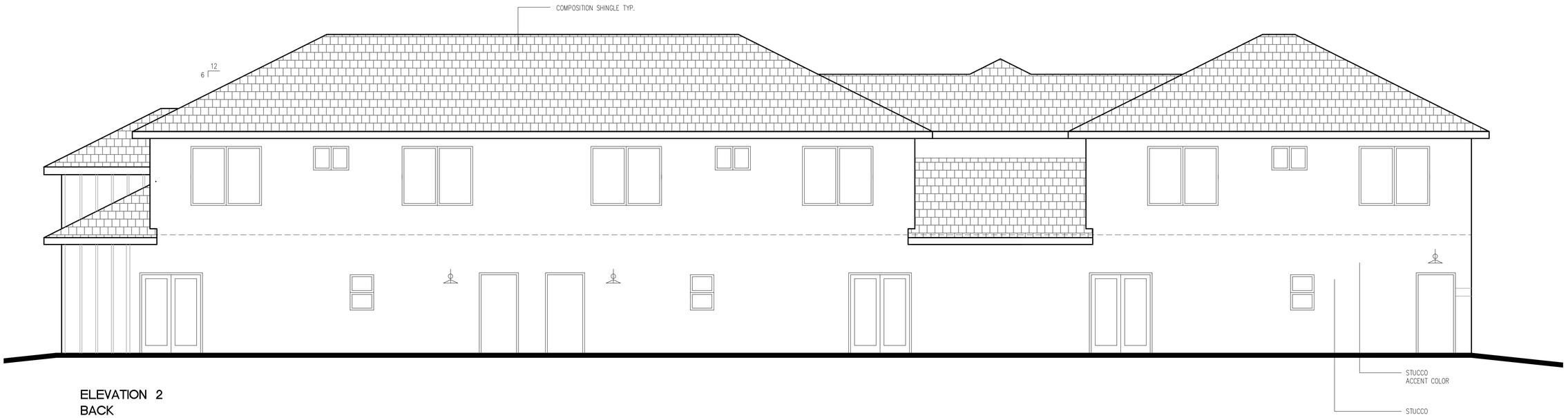
ELEVATION 1

BRIAN WICKERT
ARCHITECT
P.O. BOX 2106
SHINGLE SPRINGS CA 95682
530-401-3390

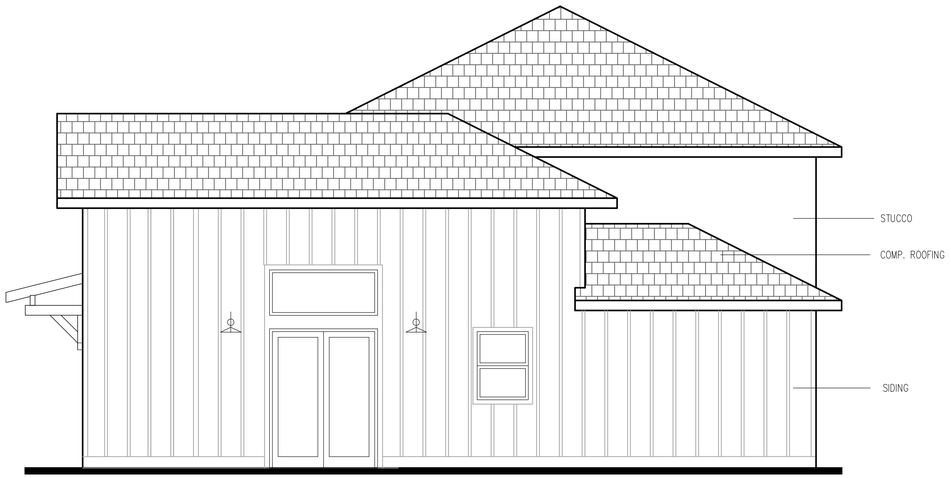
GreenWood TRIPLEX

Cameron Park

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING FRONT ELEVATIONS
SHEET A5-T



ELEVATION 2
BACK



RIGHT SIDE ELEVATION 2

LEFT SIDE ELEVATION 2

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P.O. BOX 2106
SHINGLE SPRINGS CA 95682
530-401-3390

GreenWood
Cameron Park

TRIPLEX

SCALE 1/4" = 1'-0"
DATE 11-29-23
DRAWING ELEVATIONS
SHEET

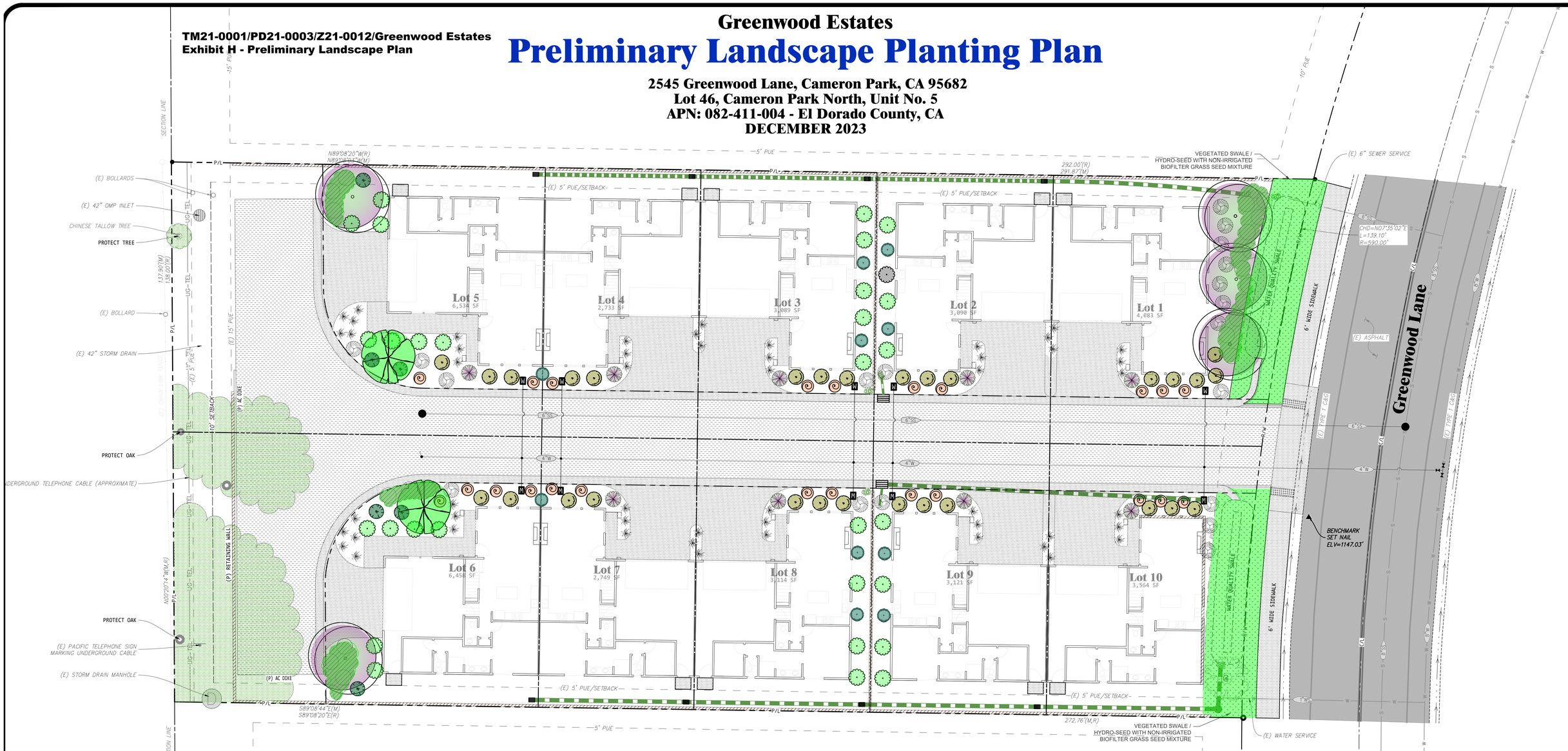
A6-T

TM21-0001/PD21-0003/Z21-0012/Greenwood Estates
Exhibit H - Preliminary Landscape Plan

Greenwood Estates

Preliminary Landscape Planting Plan

2545 Greenwood Lane, Cameron Park, CA 95682
Lot 46, Cameron Park North, Unit No. 5
APN: 082-411-004 - El Dorado County, CA
DECEMBER 2023

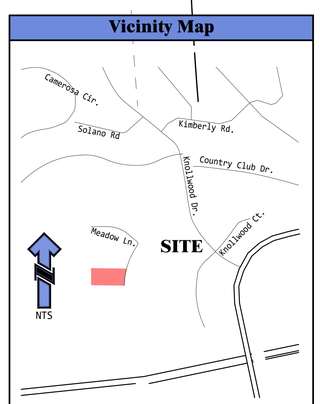


	Planting Plan Notes:
1)	Recirculating water systems shall be used for water features.
2)	4,857 sq. ft. of landscape area.
3)	A minimum 3-inch layer of organic mulch shall be applied on all exposed soil surfaces of planting areas except turf areas,
	creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated
4)	For soils less than 6% organic matter in the top 6 inches of soil, compost at a rate of
	a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth
	of six inches into the soil except within the TPZ of protected trees, which shall receive 4 - 6" of hardwood chip mulch.
5)	Water Quality Swale to be planted with hydro-seed with non-irrigated biofilter grass seed mixture.
6)	Need enough seed needed to cover 1,556 sq. ft. of swale on both sides of entrance.

PLANT LEGEND

BOTANICAL NAME	COMMON NAME	QTY	SIZE	WATER USE	REMARKS
TREES					
Lagerstroemia indica 'Dynamite'	Dynamite Crape Myrtle	5	15 Gallon	Low	
Cercis canadensis 'Oklahoma'	Oklahoma Redbud	2	15 Gallon	Low	
SHRUBS AND PERENNIALS					
Arctostaphylos 'Sunset'	Sunset Manzanita	30	5 Gallon	Low	
Buxus microphylla j. 'Green Beauty'	Green Beauty Boxwood	28	5 Gallon	Low	
Callistemon citrinus 'Little John"	Little John Dwarf Bottlebrush	6	1 Gallon	LOW	
Juniperus scopulorum 'Skyrocket'	Skyrocket Juniper	10	5 Gallon	Low	
Lagerstroemia indica 'Petite Embers'	Petite Embers Crape Myrtle	5	5 Gallon	Low	
Nandina domestica 'Firepower'	Firepower Heavenly Bamboo	23	1 Gallon	Low	
GROUND COVER AND GRASSES					
Arctostaphylos 'Emerald Carpet'	Manzanita Emerald Carpet	19	1 Gallon	Low	
Lomandra 'Lime Tuff'	Lime Tuff Lomandra	57	1 Gallon	Low	
Muhlenbergia rigens	Deer Grass	12	1 Gallon	Low	

Vicinity Map



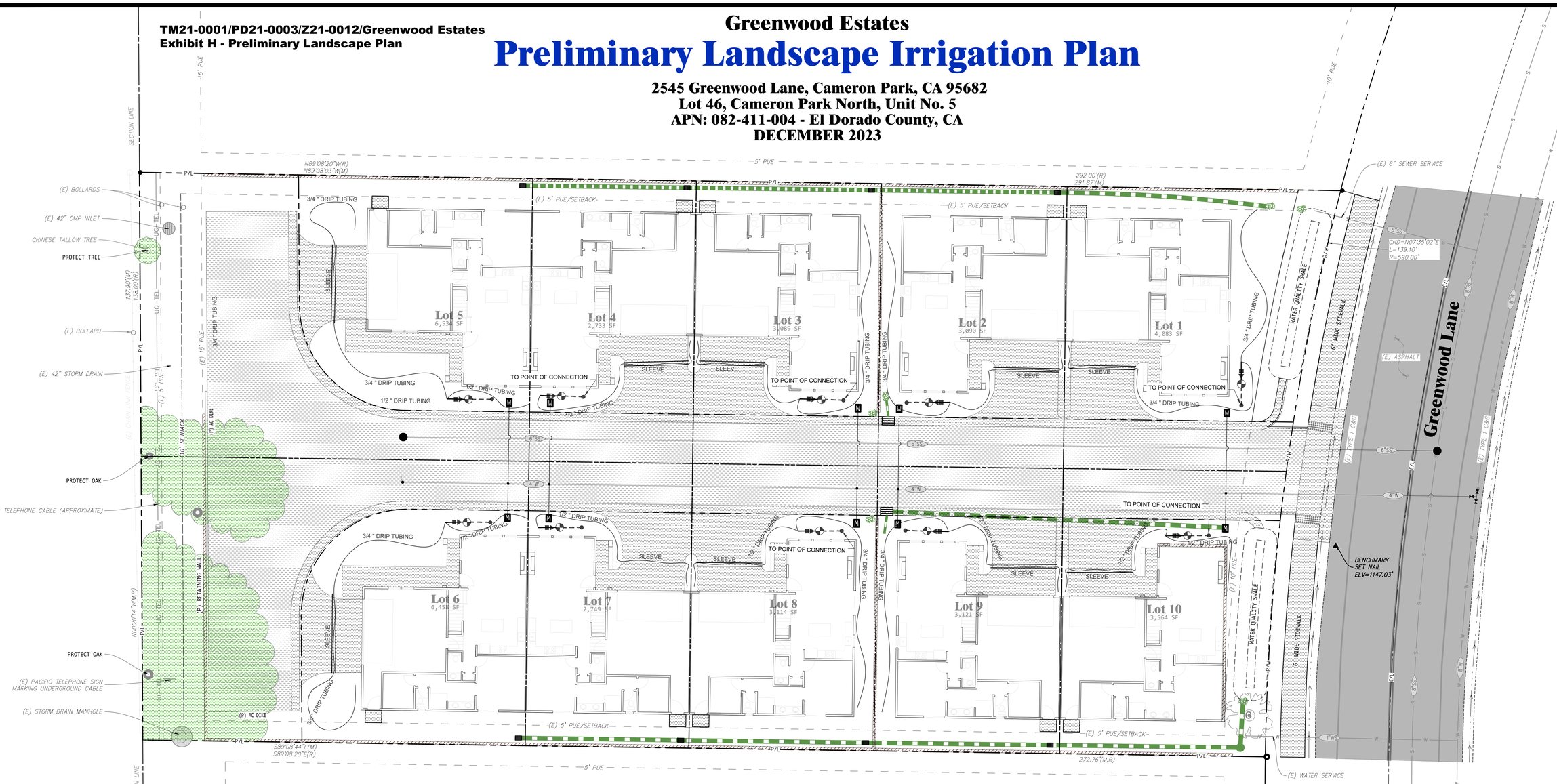
Greenwood Estates
Preliminary Landscape Planting Plan
LS1

TM21-0001/PD21-0003/Z21-0012/Greenwood Estates
Exhibit H - Preliminary Landscape Plan

Greenwood Estates

Preliminary Landscape Irrigation Plan

2545 Greenwood Lane, Cameron Park, CA 95682
Lot 46, Cameron Park North, Unit No. 5
APN: 082-411-004 - El Dorado County, CA
DECEMBER 2023

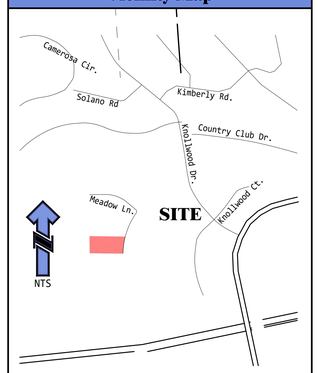


	NOTES:
1.	110 power source for irrigation controller.
2.	Mainline and control wire shall be 18" below grade.
3.	One extra control wire to all valve manifolds.
4.	Lateral lines shall be 12" below grade.
5.	Bury 3/4" tubing just under soil surface, not emitters.
6.	Place emitters on stakes for easier maintenance.
7.	1/4" tubing to be used to extend all source point emitters
8	1/4" tubing not to exceed 19' in length for lateral tubing.
9.	Use staples to hold drip tubing.
10.	3" Layer of Shredded Bark to cover all drip lines.
11.	3" to 4" Sleeves
12.	These drawings are diagrammatic, various parts of the system may be relocated for economy and ease.
13.	Landscape contractor is responsible for all coverage.
14.	30 PSI Recommended water pressure for each drip station.
15.	Pressure regulating devices are required if water pressure is below or exceeds
	the recommended pressure of the specified irrigation devices.
16.	Irrigation should be avoided during windy or freezing weather or during rain.
17.	A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.
18.	A Certificate of Completion shall be filled out and certified by either the designer of the landscape plans, irrigation plans, or the licensed landscape contractor for the project.
19.	An irrigation audit report by a disinterested third party shall be completed at the time of final inspection (certified by U.S. EPA water sense http://www.epa.gov/watersense/outdoor/cert__programs.html) .

IRRIGATION LEGEND

ITEM	DESCRIPTION	QTY.
DRIP TUBING	3/4" POLYTUBING DRIP TUBING	
FORMULA FOR EMITTERS	1 GAL. PLANTS / 2 - 1 GPH EMITTER PER PLANT	
	5 GAL. PLANTS / 2-2 EMITTER GPH PER PLANT	
	15 GAL. PLANTS / 3-2 GPH EMITTERS PER TREE	
PGV-75-ASV	HUNTER 3/4" ANTI SIPHON ELECTRIC VALVE WITH FLOW CONTROL	10
RAIN SENSOR	HUNTER RAIN-CLK	10
CONTROLLER	HUNTER X CORE- INDOOR -2 STATION	10
MAINLINE	1" SCH. 40 PVC PIPE / 12" BELOW SUBGRADE	
LATERAL PIPE 3/4" AND 1" SIZE	CLASS 200 PVC PIPE	
SLEEVING	3" to 4" SCHEDULE 40 PVC	
DRIP WYE FILTER	3/4" DRIP WYE FILTER	10
DRIP IN-LINE PRESSURE REDUCER	3/4" DRIP IN-LINE PRESSURE 30 PSI IN BOX	10
BALL VALVE	SHUT OFF VALVE	10

Vicinity Map



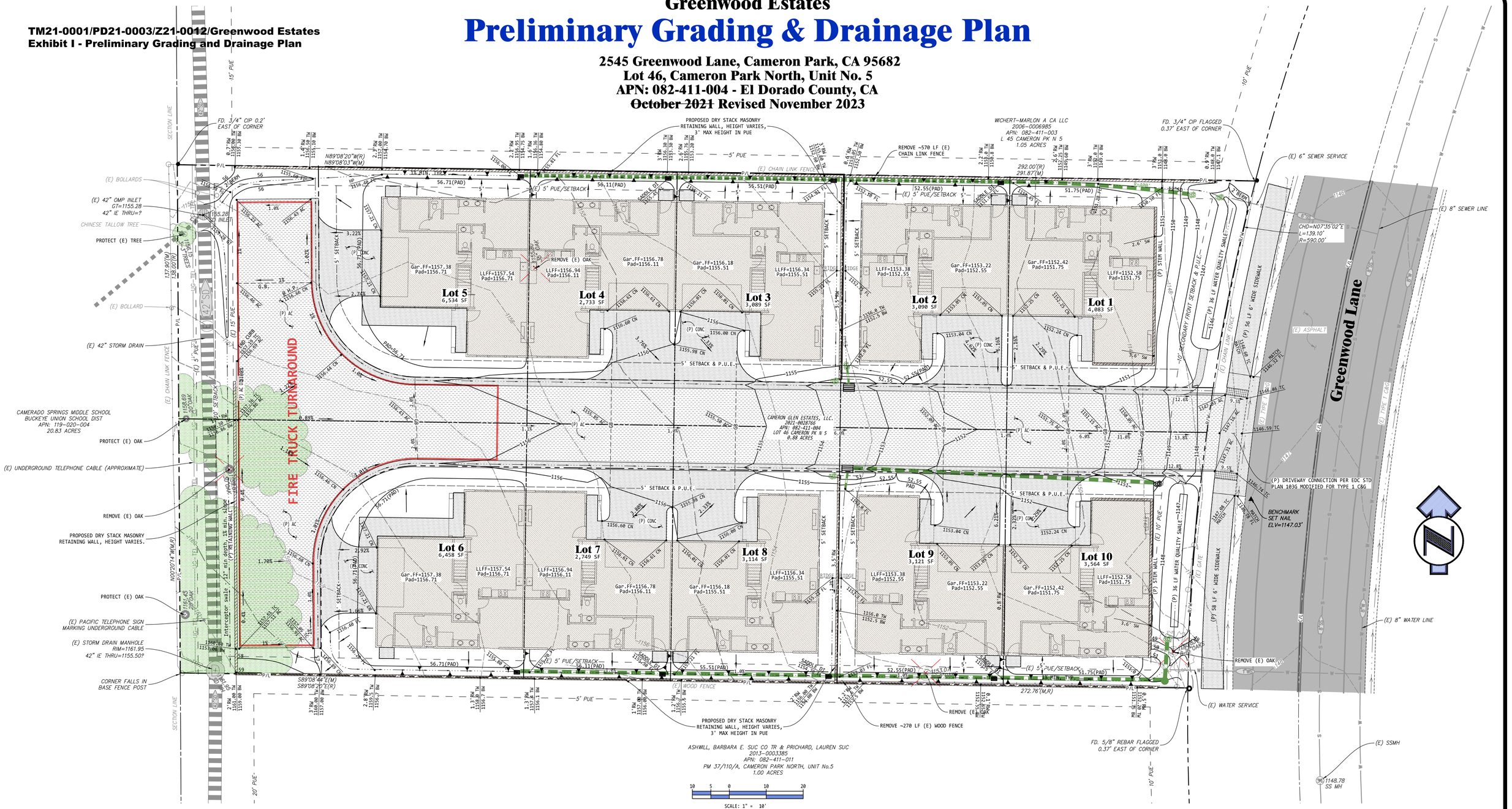
Greenwood Estates
Preliminary Landscape Irrigation Plan
LS2

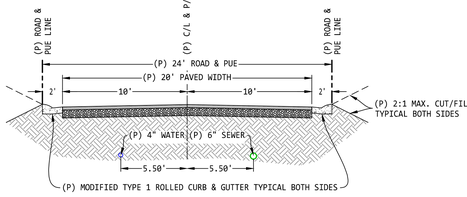
TM21-0001/PD21-0003/Z21-0012/Greenwood Estates
Exhibit I - Preliminary Grading and Drainage Plan

Greenwood Estates

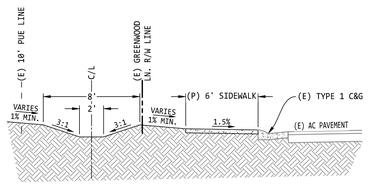
Preliminary Grading & Drainage Plan

2545 Greenwood Lane, Cameron Park, CA 95682
Lot 46, Cameron Park North, Unit No. 5
APN: 082-411-004 - El Dorado County, CA
~~October 2021~~ Revised November 2023





Typical Modified 101B Road & R/W Section
NOT TO SCALE

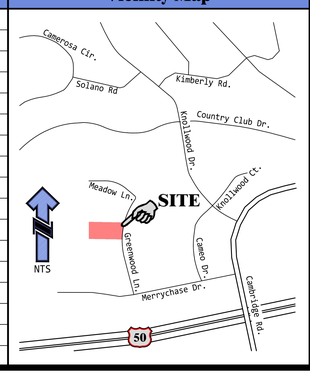


Typical Water Quality Swale Section
NOT TO SCALE

Abbreviations

AC	ASPHALTIC CONCRETE	GB	GRADE BREAK
AB	AGGREGATE BASE	LOC	LIMITS OF CONSTRUCTION
BFP	BACKFLOW PREVENTER	(M)	MEASURED BEARING OR DISTANCE
BW	FG AT BOTTOM OF WALL	(P)	PROPOSED
CMP	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CN	CONCRETE	POC	POINT OF CONNECTION
CV	CHECK VALVE	PUE	PUBLIC UTILITIES EASEMENT
DCV	DOUBLE CHECK VALVE	R	RADIUS
DWY	DRIVEWAY	(R)	RECORD BEARING OR DISTANCE
(E)	EXISTING	RPDA	REDUCED PRESSURE DETECTOR ASSY
EL	ELEVATION	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SS	SANITARY SEWER
FDC	FIRE DEPT. CONNECTION	TC	TOP OF CURB ELEVATION
FF	FINISHED FLOOR	TW	TOP OF WALL
FG	FINISHED GRADE	UP	UTILITY POLE
FH	FIRE HYDRANT	W	WATER
FL	FLOWLINE	WM	WATER METER

Vicinity Map



Project Data

OWNER/APPLICANT:	Joe Jaoudi 2216 Via Subria Vista, CA 92084 760-664-7196 josjoudi@aol.com
PREPARED BY:	LEBECK ENGINEERING, INC. 3420 HORN LANE, STE. B CAMERON PARK, CA 95682 Ph. 530-677-4800
SCALE:	1" = 10'
CONTOUR INTERVAL:	1 FOOT
SOURCE OF TOPOGRAPHY:	FIELD TOPOGRAPHY BY A.R. DIVERS PLS
SECTION, TOWNSHIP & RANGE:	POR. OF SW 1/4, SECTION 4, T.9N., R.9E., M.D.M.
ASSESSOR'S PARCEL NUMBER:	082-411-004
PRESENT LAND USE DESIGNATION	MFR
PROPOSED LAND USE DESIGNATION	MFR
PRESENT ZONING:	RM-DC
PROPOSED ZONING:	RM-DC
TOTAL AREA:	38,535.79 SF (0.88 ACRES)
TOTAL NUMBER OF PARCELS:	1 EXISTING, 10 PROPOSED
MINUMUM PARCEL AREA:	2929.45 SF
WATER SUPPLY:	EID
SEWAGE DISPOSAL:	EID
FIRE PROTECTION:	CAMERON PARK CSD FIRE
DATE OF PREPARATION:	~~OCTOBER 2021~~ REVISED NOVEMBER 2023
PROJECT #:	20-133

Lot Data

Lot #	Gross Area
(E) LOT 46 CAMERON PARK NORTH UNIT #5	38,535.79 SF (0.88 Ac)
(P) Lot 1	4,083 SF
(P) Lot 2	3,090 SF
(P) Lot 3	3,089 SF
(P) Lot 4	2,733 SF
(P) Lot 5	6,534 SF
(P) Lot 6	6,458 SF
(P) Lot 7	2,749 SF
(P) Lot 8	3,114 SF
(P) Lot 9	3,121 SF
(P) Lot 10	3,564 SF

Approvals

ZONING ADMINISTRATOR: _____

APPROVAL/DENIAL DATE: _____

BOARD OF SUPERVISORS: _____

APPROVAL/DENIAL DATE: _____

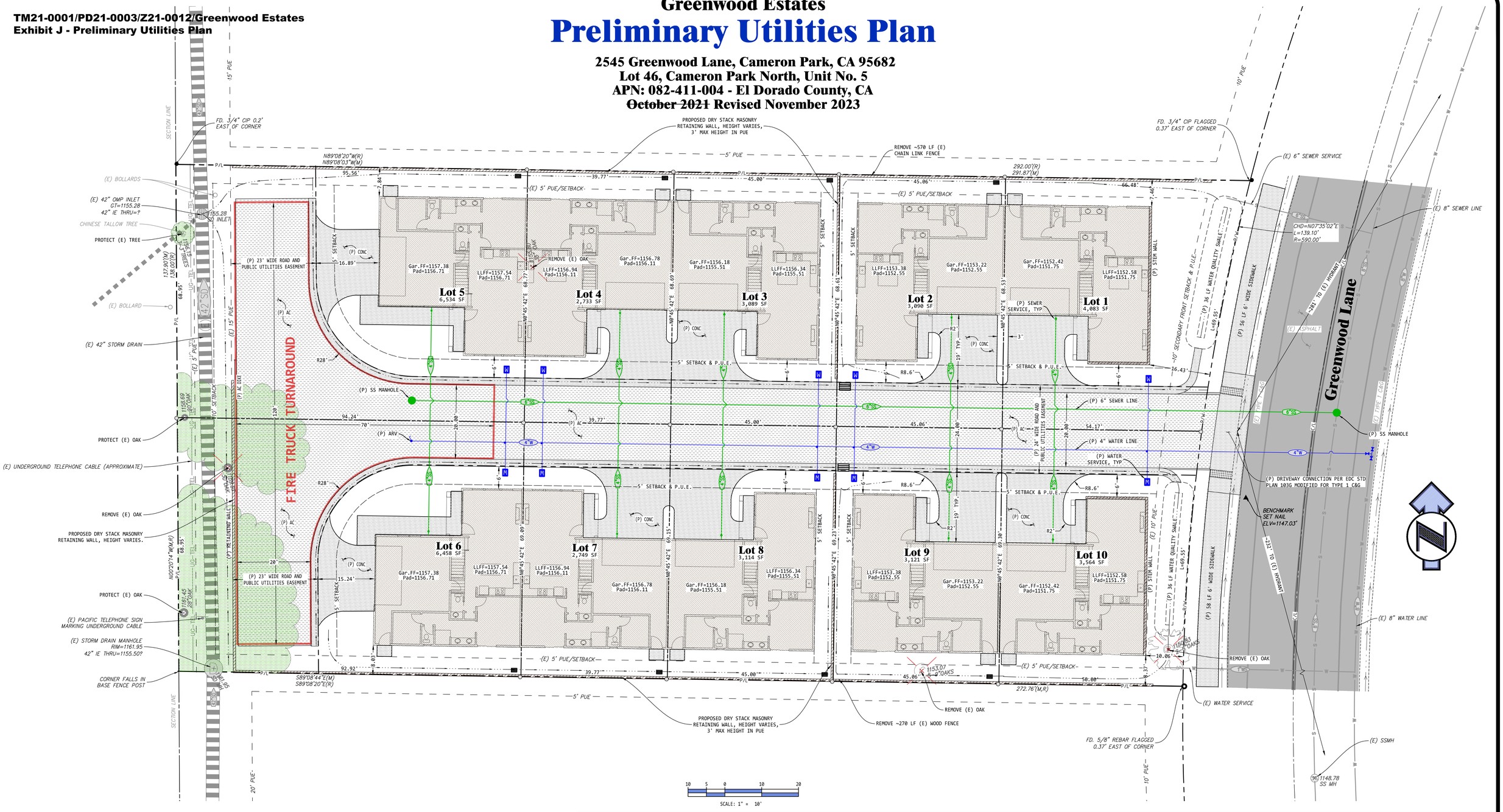
Greenwood Estates
Preliminary Grading & Drainage Plan

G1
Plot Date: Dec. 04, 2023

TM21-0001/PD21-0003/Z21-0012/Greenwood Estates
Exhibit J - Preliminary Utilities Plan

Greenwood Estates
Preliminary Utilities Plan

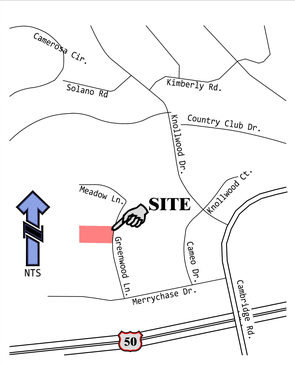
2545 Greenwood Lane, Cameron Park, CA 95682
Lot 46, Cameron Park North, Unit No. 5
APN: 082-411-004 - El Dorado County, CA
~~October 2021~~ Revised November 2023



Abbreviations

AC	ASPHALTIC CONCRETE	GB	GRADE BREAK
AB	AGGREGATE BASE	LOC	LIMITS OF CONSTRUCTION
BFP	BACKFLOW PREVENTER	(M)	MEASURED BEARING OR DISTANCE
BW	FG AT BOTTOM OF WALL	(P)	PROPOSED
CMP	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CN	CONCRETE	POC	POINT OF CONNECTION
CV	CHECK VALVE	PUE	PUBLIC UTILITIES EASEMENT
DCV	DOUBLE CHECK VALVE	R	RADIUS
DWY	DRIVEWAY	(R)	RECORD BEARING OR DISTANCE
(E)	EXISTING	RPDA	REDUCED PRESSURE DETECTOR ASSY
EL	ELEVATION	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SS	SANITARY SEWER
FDC	FIRE DEPT. CONNECTION	TC	TOP OF CURB ELEVATION
FF	FINISHED FLOOR	TW	TOP OF WALL
FG	FINISHED GRADE	UP	UTILITY POLE
FH	FIRE HYDRANT	W	WATER
FL	FLOWLINE	WM	WATER METER

Vicinity Map



Project Data

OWNER/APPLICANT:	Cameron Glen Estates, LLC c/o Joe Jaoudi 2216 Via Subria Vista, CA 92084 760-664-7196 josjoudi@aol.com
PREPARED BY:	LEBECK ENGINEERING, INC. 3430 ROBIN LANE, BLDG. #1 CAMERON PARK, CA 95682 Ph. 530-677-4080
SCALE:	1" = 10'
CONTOUR INTERVAL:	1 FOOT
SOURCE OF TOPOGRAPHY:	FIELD TOPOGRAPHY BY A.R. DIVERS PLS (1/27/2021)
SECTION, TOWNSHIP & RANGE:	POR. OF SW 1/4, SECTION 4, T.9N., R.9E., M.D.M.
ASSESSOR'S PARCEL NUMBER:	082-411-004
PRESENT LAND USE DESIGNATION	MFR
PROPOSED LAND USE DESIGNATION	MFR
PRESENT ZONING:	RM-DC
PROPOSED ZONING:	RM-PD
TOTAL AREA:	38,535.79 SF (0.88 ACRES)
TOTAL NUMBER OF PARCELS:	1 EXISTING, 10 PROPOSED
MINUMUM PARCEL AREA:	3,393.58 SF
WATER SUPPLY:	EID
SEWAGE DISPOSAL:	EID
FIRE PROTECTION:	CAMERON PARK CSD FIRE
DATE OF PREPARATION:	~~OCTOBER 2021~~ REVISED NOVEMBER 2023
PROJECT #:	20-133

Lot Data

Lot #	Gross Area
(E) LOT 46 CAMERON PARK NORTH UNIT #5	38,535.79 SF (0.88 Ac)
(P) Lot 1	4,083 SF
(P) Lot 2	3,090 SF
(P) Lot 3	3,089 SF
(P) Lot 4	2,733 SF
(P) Lot 5	6,534 SF
(P) Lot 6	6,458 SF
(P) Lot 7	2,749 SF
(P) Lot 8	3,114 SF
(P) Lot 9	3,121 SF
(P) Lot 10	3,564 SF

Approvals

ZONING ADMINISTRATOR: _____

APPROVAL/DENIAL DATE: _____

BOARD OF SUPERVISORS: _____

APPROVAL/DENIAL DATE: _____

Greenwood Estates
Preliminary Utilities Plan

U1
Plot Date: Dec 04, 2023

PRELIMINARY DRAINAGE REPORT

For

GREENWOOD ESTATES
TM, PD & REZONE

CAMERON PARK, CA

B. Barbara A. Lebeck

REGISTERED PROFESSIONAL ENGINEER
BARBARA A. LEBECK
No. 47045
exp. 12-31-21
CIVIL
STATE OF CALIFORNIA

Digitally signed by B. Lebeck
DN: cn=B. Lebeck, o=Lebeck Engineering, Inc., ou, email=bobbie@lebeckeng.com, c=US
Date: 2021.09.15 16:02:23 -07'00'

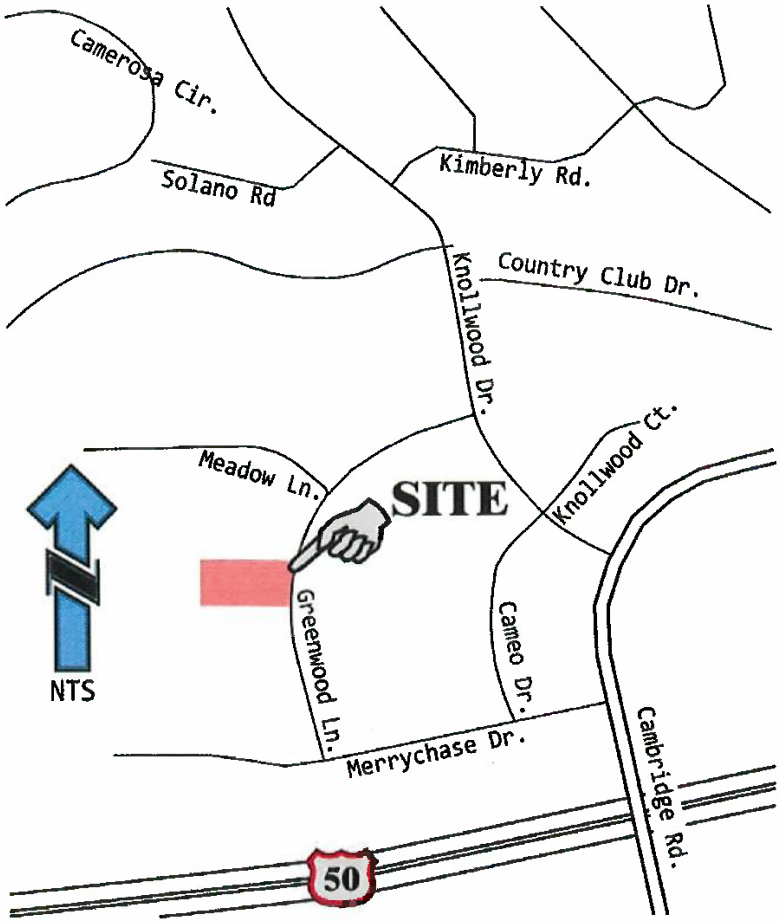
LEBECK
ENGINEERING, INC.

3430 Robin Lane, Bldg.#2, Cameron Park, CA 95682
(530) 677-4080
e-mail: bobbie@lebeckeng.com

By: B. Lebeck, P.E.
September 2021

Vicinity Map

2545 Greenwood Lane, Cameron Park, CA 95682
Lot 46, Cameron Park North, Unit No. 5
APN: 082-411-004 - El Dorado County, CA
August 2021



NOT TO SCALE

NAME OF APPLICANT:
Cameron Glen Estates, LLC
c/o Joe Jaoudi
2216 Via Subria
Vista, CA 92084
760-664-7196
josjoudi@aol.com

OWNER OF RECORD:
Cameron Glen Estates, LLC
c/o Joe Jaoudi
2216 Via Subria
Vista, CA 92084
760-664-7196
josjoudi@aol.com

LEBECK
ENGINEERING, INC.
3430 ROBIN LANE, BLDG. #2
CAMERON PARK, CA 95682
Ph. (530) 677-4080

s

Preliminary Drainage Report for Greenwood Estates – TM, PD, & Rezone Greenwood Drive, Cameron Park, CA:

INTRODUCTION AND BACKGROUND

This property is located on the westerly side of Greenwood Lane in Cameron Park, California, approximately 1/3 mile northwest of Highway 50 at the Cambridge Road Exit. The property is an existing 0.88 acre lot that is currently vacant. The site is covered with grasses and has a gentle, up-slope from east to west. The site lies to the east and adjacent to Camerado Springs Middle School's ballfield. To the north is another vacant parcel. To the south is an existing apartment project, called Camerado Gardens. Across the street are several vacant parcels and some existing commercial lies to the northeast.

The site and surrounding areas were analyzed in 2 existing drainage reports: Cameron Park Watershed Area Study – July 1985 prepared by the Soil Conservation Service; and the more recent "Cameron Park Drainage Study – June 1995 prepared by Psomas & Associates. For the purposes of this report, we will be referring to the later as the more recent report covering the area. Applicable portions of the Cameron Park Drainage Study are included in the Appendix. Since this project area is part of the previous drainage report, our Off-site Watershed Exhibit Map , W1 and Watershed Aerial Exhibit Map, W2 show the locations of Watersheds CA-31 and CA-32. It should be noted that due to the more focused analysis of Watershed CA-32 in this report, there are some variations from the 1995 report. However, we feel that our watershed is the more accurate watershed area.

The site and the surrounding areas are covered with grasses, some oaks, and developed properties. The drainage in the area flows from Bass Lake Road to the southeast. The upstream drainage swale is referred to in the Cameron Park Drainage Study as the "Chelsea Reach" and consists of Watersheds CA-26 through CA-32. The project site lies in Watershed CA-32. Watersheds CA-31 and CA-32 combine then flow into combined Watershed CA-26 through CA-30. The resulting intermittent stream then flows south where it crosses Highway 50 and then drains into Deer Creek. The drainage for the site was analyzed using methodology as discussed in the El Dorado County Drainage Manual, adopted March 15, 1995.

HYDROLOGY

- **Methods**

The site was analyzed using peak runoff rates and volumes as determined by the U.S. Army Corp of Engineers Hydraulic Engineering Circular, HEC-HMS program. The HEC-HMS program was used in coordination with the Soil Conservation Service (SCS) Dimensionless Unit Hydrograph Method and the El Dorado County Drainage Manual, adopted March 15, 1995, in order to determine the peak runoff rates for both pre-development and post-development scenarios. The HEC-HMS program is the up-dated program from HEC-1.

The input data for the HEC-HMS program consists of watershed areas, curve numbers, lag time, channel dimensions, and detention pond data (where applicable). Watershed areas were determined by USGS data in combination with ACAD to determine off-site watershed areas. See Figures W1 and W2 in this report for off-site watershed areas CA-31 and CA-32.

Curve numbers were developed using hydrological soil group data obtained from the 1974 USDA Soils Conservation Service and Forest Service "Soil Survey of El Dorado Area, California" and Exhibit A-1 of the TR-55 manual. Soils are rated as Type A, having high infiltration rates, through Type D, having the lowest infiltration rate. The Soil Survey Map (in the Appendix) was overlaid onto the watershed maps in order to determine the amounts of each soil type present within each watershed area. Curve numbers were then determined using the SCS Worksheet 2 and Tables 2-2a and 2-2c. See Composite Curve Numbers – Pre-Development and Composite Curve Numbers – Post-Development in the Appendix.

Lag time is estimated to be 0.6 times the time of concentration for each sub-basin. The time of concentration for each sub-basin was determined using the SCS method of sheet flow, shallow concentrated flow, and channel flow.

Per Section 2.4 of the EDC Drainage Manual:

- Sheet Flow (L < 300 ft.):

$$T_t = \frac{0.007\,(nL)^{0.8}}{(P2)^{0.5}\,S^{0.4}}$$

; L = length of longest watercourse (ft)
P_2 = 2-yr, 24-hour rainfall depth (in-in)
S = land slope (ft/ft)
Tt = sheet flow travel time (hrs)
n = overland roughness coefficient (per Table 2.4.3 See Appendix)

- Shallow Concentrated Flow:

  V = 16.1345 So^0.5 (unpaved); V = shallow-concentrated flow velocity (ft./s)

  So = slope (ft/ft)

  V = 20.3283So^0.5 (paved);

  Tt = L/V ; Travel time is the flow path length divided by the velocity.

- Channel Flow:

  Velocity is estimated by Manning's Equation, assuming discharge equal the average annual value (2-yr event). The channel flow travel time is the channel length divided by the velocity.

See attached Drainage Calculations Chart for Tt of each drainage area. A minimum time of concentration of 5 minutes was used. The lag time used for each sub-basin along with the determination of the composite curve number used is shown on the Drainage Calculations Chart.

The HEC1 program varies from the SCS TR55 program in that it can be used for larger watersheds and it has a channel routing feature. SCS TR55 is recommended for use on smaller watersheds with a maximum of 10 sub-basins. The channel routing feature of the HEC1 utilized in this analysis was the Muskingum-Cunge routing. With this, a theoretical cross-section of the channel is utilized. Routing schematics for each HEC1 run are located in the Appendix, if applicable.

- **Precipitation**

  The mean annual precipitation for the area is 30 inches. The 10-year and 100-year 24-hour precipitation input for the HEC-HMS was determined from page 2-37 and 2-40 of the El Dorado County Drainage Manual.

The project area lies within SCS Type I rainfall distribution. Cumulative precipitation distribution data from TR-20 for a 24-hour SCS Type I storm was used and is shown in the Appendix.

SUMMARY AND CONCLUSIONS:

The HEC-HMS results are as follows:

Watershed	Peak Discharge, Q 10-year (cfs)		Peak Discharge, Q 100-year (cfs)	
	Existing	Developed	Existing	Developed
CA-32	104.1	104.1	165.1	165.1

The results show that there is no increase in the peak discharge for this watershed basin due to the development of this small project. The reason is two-fold. First, the proposed project is less than 1 acre of the 114-acre watershed area (0.8%). Thus the increase in impervious area is small. Second, the soil type of the project site is AwD which is a Type D soil, thus the undeveloped site has a higher curve number than say a type B soil would provide. Therefore, the increased runoff from the developed site is not as great as it would be if the undeveloped site had a more pervious soil type.

Lastly, the site lies at the southerly portion of the overall Chelsea Reach which includes 1,331 acres of tributary area as it crosses Cambridge Road. The peak discharge for this small 0.88-acre site would pass by into Deer Creek long before the entire watershed's peak flows into Deer Creek.

DRAINAGE CALCULATION CHART

Water Shed No.	Area (Ac.)	Area (sq.mi.)	Curve No.	Sheet Flow L (ft)	Sheet Flow H2-H1 (ft)	Sheet Flow S (ft/ft)	Sheet Flow n	Sheet Flow P2 (in in)	Sheet Flow Tt (min)	Shallow Conc. Flow L (ft)	Shallow Conc. Flow H2-H1 (ft)	Shallow Conc. Flow S (ft/ft)	Shallow Conc. Flow V (ft/s)	Shallow Conc. Flow Tt (min)	Channel Flow L (ft)	Channel Flow H2-H1 (ft)	Channel Flow S (ft/ft)	Channel Flow V (ft/s)	Channel Flow Tt (min)	Total Tt (min)	T (lag) Tt * 0.6 (min)	I (in/hr)	C	Q (cfs)
Mean Annual Precipitation = 30"																								
Pre-development																								
CA-32	114	0.178	88	300	20	0.07	0.15	2.44	17	2825	50	0.02	2.1	22	1891	27	0.014	1.9	16	55	33	See Hec-HMS Runs		
Post-Development																								
CA-32	114	0.178	88	300	20	0.07	0.15	2.44	17	2825	50	0.02	2.1	22	1891	27	0.014	1.9	16	55	33	See Hec-HMS Runs		

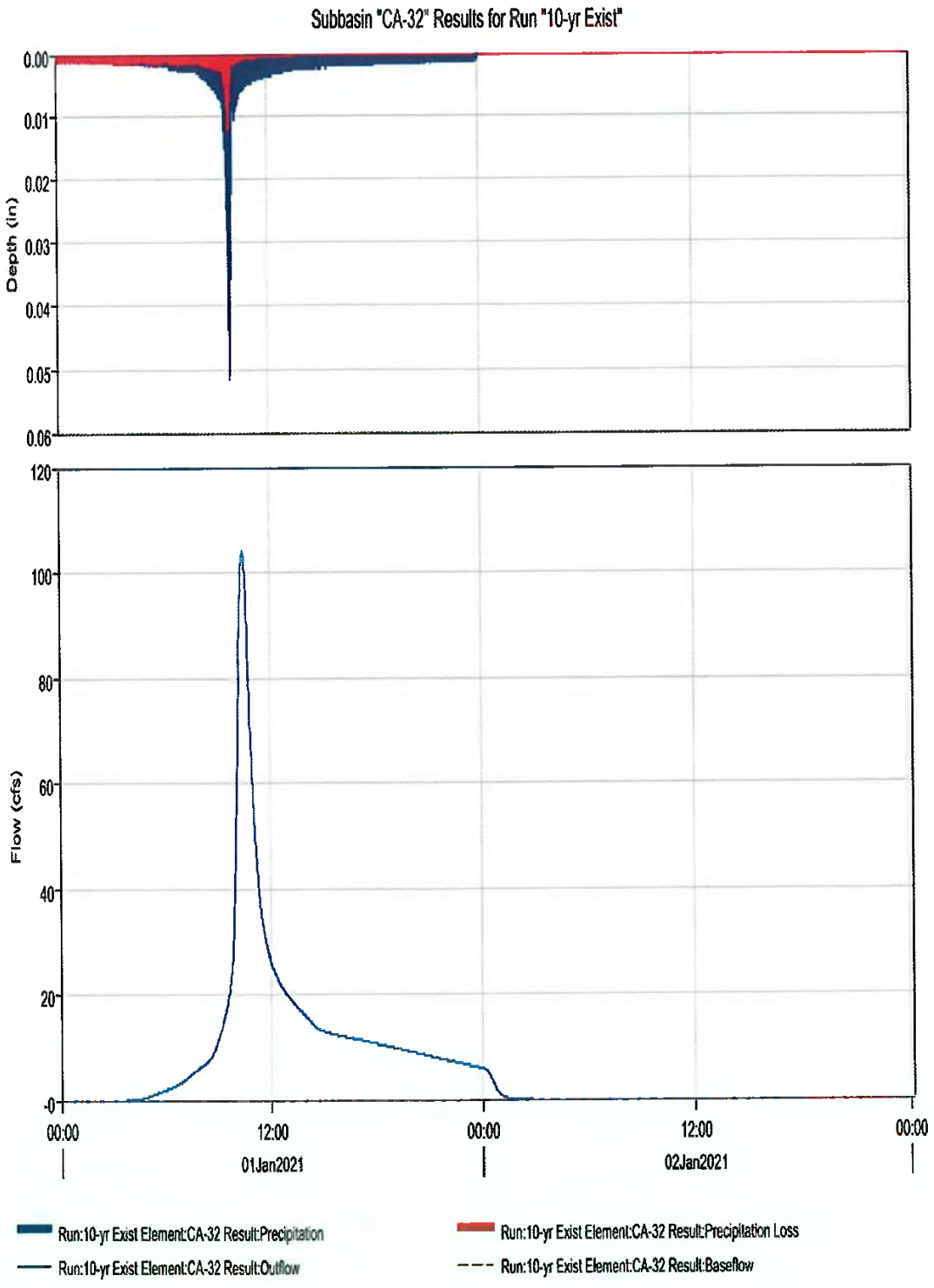
HEC-HMS RESULTS

Project: Jaoudi - Greenwood Simulation Run: 10-yr Exist

Start of Run: 01Jan2021, 00:00
End of Run: 03Jan2021, 00:10
Compute Time: 15Sep2021, 15:19:44

Basin Model: CA-32
Meteorologic Model: 10-yr
Control Specifications: 10-yr

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
CA-32	0.1781	104.1	01Jan2021, 10:26	2.62


Subbasin "CA-32" Results for Run "10-yr Exist"
Depth (in)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
Flow (cfs)
120
100
80
60
40
20
-0
00:00
12:00
00:00
12:00
00:00
01Jan2021
02Jan2021
Run:10-yr Exist Element:CA-32 Result:Precipitation
Run:10-yr Exist Element:CA-32 Result:Precipitation Loss
Run:10-yr Exist Element:CA-32 Result:Outflow
Run:10-yr Exist Element:CA-32 Result:Baseflow

Project: Jaoudi - Greenwood Simulation Run: 10-yr Devel

Start of Run: 01Jan2021, 00:00
End of Run: 03Jan2021, 00:10
Compute Time: 15Sep2021, 15:19:36

Basin Model: CA-32
Meteorologic Model: 10-yr
Control Specifications: 10-yr

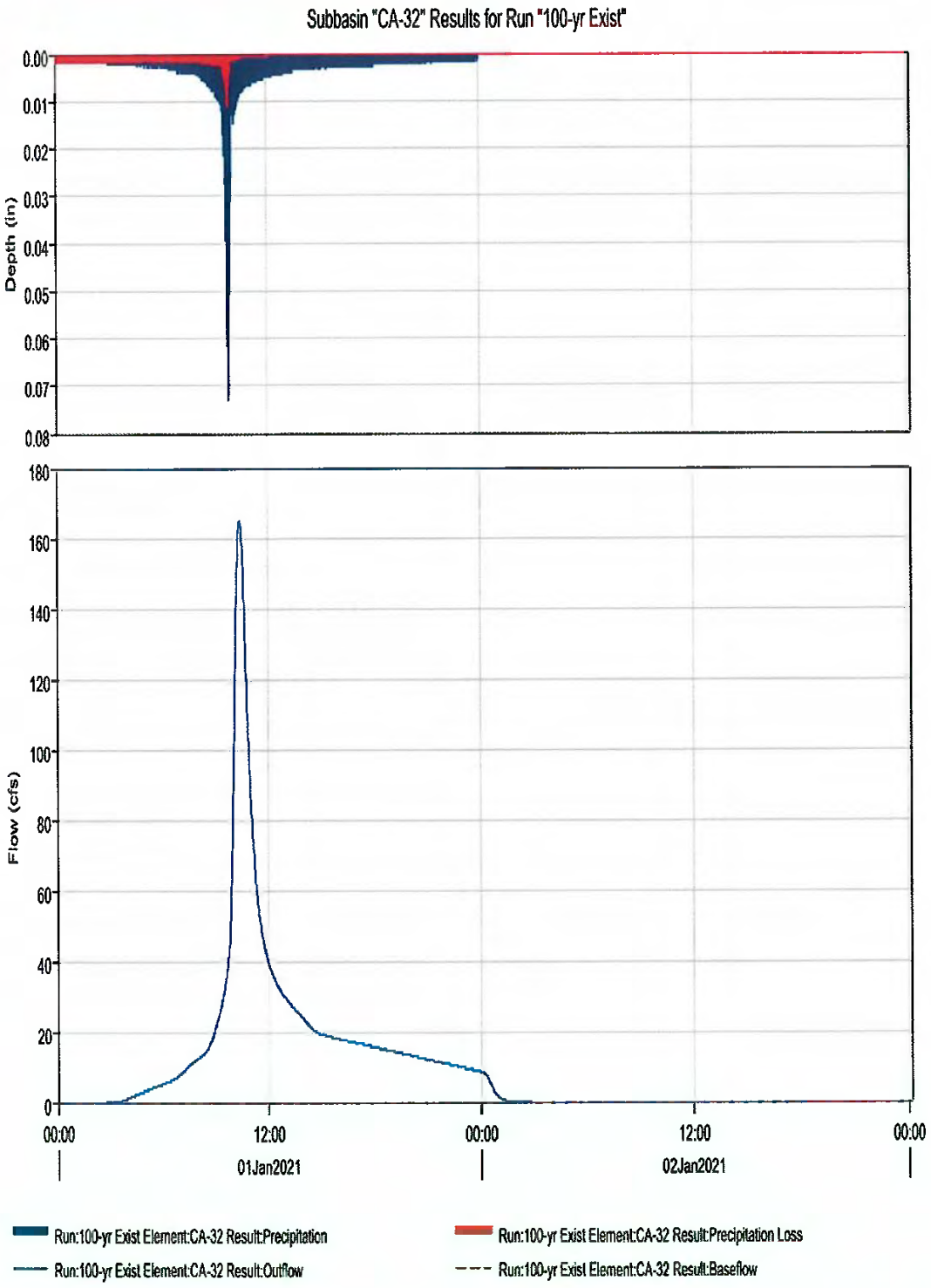
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
CA-32	0.1781	104.1	01Jan2021, 10:26	2.62

Project: Jaoudi - Greenwood Simulation Run: 100-yr Exist

Start of Run: 01Jan2021, 00:00
End of Run: 03Jan2021, 00:10
Compute Time: 15Sep2021, 15:20:01

Basin Model: CA-32
Meteorologic Model: 100-yr
Control Specifications: 100-yr

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
CA-32	0.1781	165.1	01Jan2021, 10:26	4.13

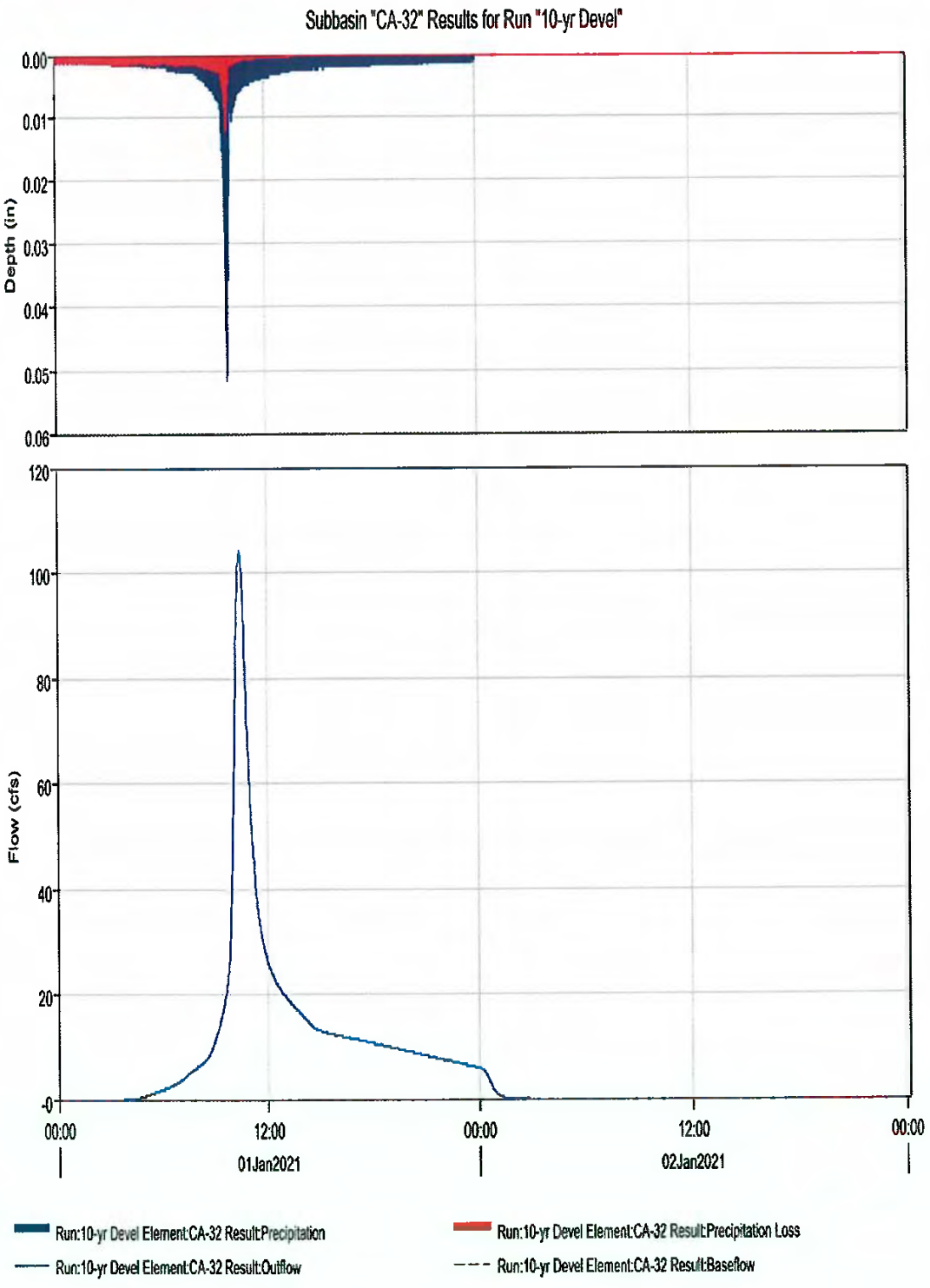

Subbasin "CA-32" Results for Run "100-yr Exist"
Depth (in)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
Flow (cfs)
180
160
140
120
100
80
60
40
20
0
00:00
12:00
00:00
12:00
00:00
01Jan2021
02Jan2021
Run:100-yr Exist Element:CA-32 Result:Precipitation
Run:100-yr Exist Element:CA-32 Result:Precipitation Loss
Run:100-yr Exist Element:CA-32 Result:Outflow
Run:100-yr Exist Element:CA-32 Result:Baseflow

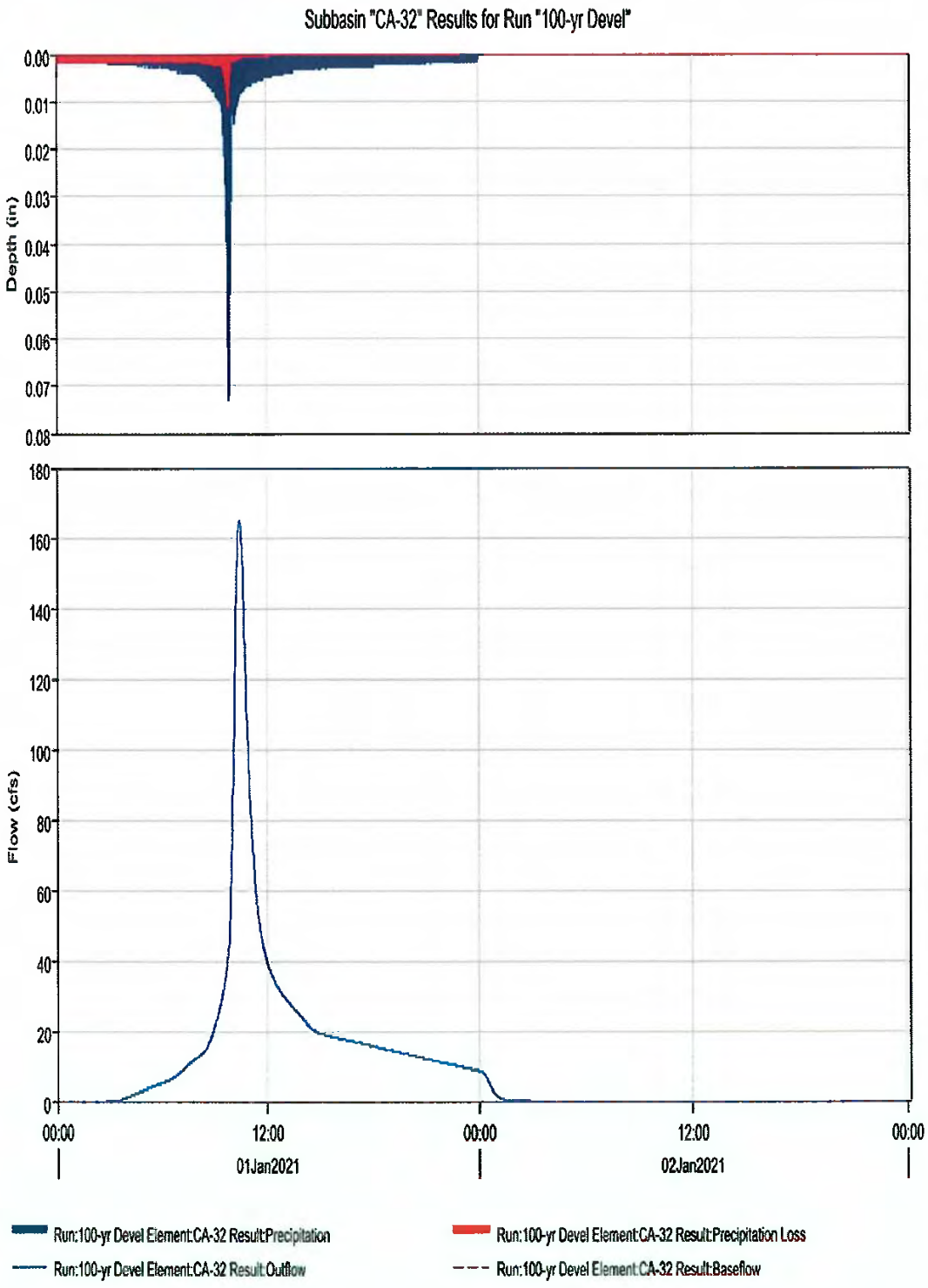
Project: Jaoudi - Greenwood Simulation Run: 100-yr Devel

Start of Run: 01Jan2021, 00:00
End of Run: 03Jan2021, 00:10
Compute Time: 15Sep2021, 15:19:52

Basin Model: CA-32
Meteorologic Model: 100-yr
Control Specifications: 100-yr

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
CA-32	0.1781	165.1	01Jan2021, 10:26	4.13


Subbasin "CA-32" Results for Run "10-yr Devel"
Depth (in)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
Flow (cfs)
120
100
80
60
40
20
-0
00:00
12:00
01Jan2021
00:00
12:00
02Jan2021
00:00
Run:10-yr Devel Element:CA-32 Result:Precipitation
Run:10-yr Devel Element:CA-32 Result:Precipitation Loss
Run:10-yr Devel Element:CA-32 Result:Outflow
Run:10-yr Devel Element:CA-32 Result:Baseflow


Subbasin "CA-32" Results for Run "100-yr Devel"
Depth (in)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
Flow (cfs)
180
160
140
120
100
80
60
40
20
0
00:00
12:00
00:00
12:00
00:00
01Jan2021
02Jan2021
Run:100-yr Devel Element:CA-32 Result:Precipitation
Run:100-yr Devel Element:CA-32 Result:Precipitation Loss
Run:100-yr Devel Element:CA-32 Result:Outflow
Run:100-yr Devel Element:CA-32 Result:Baseflow

APPENDIX

Existing Uses in Watershed CA-32

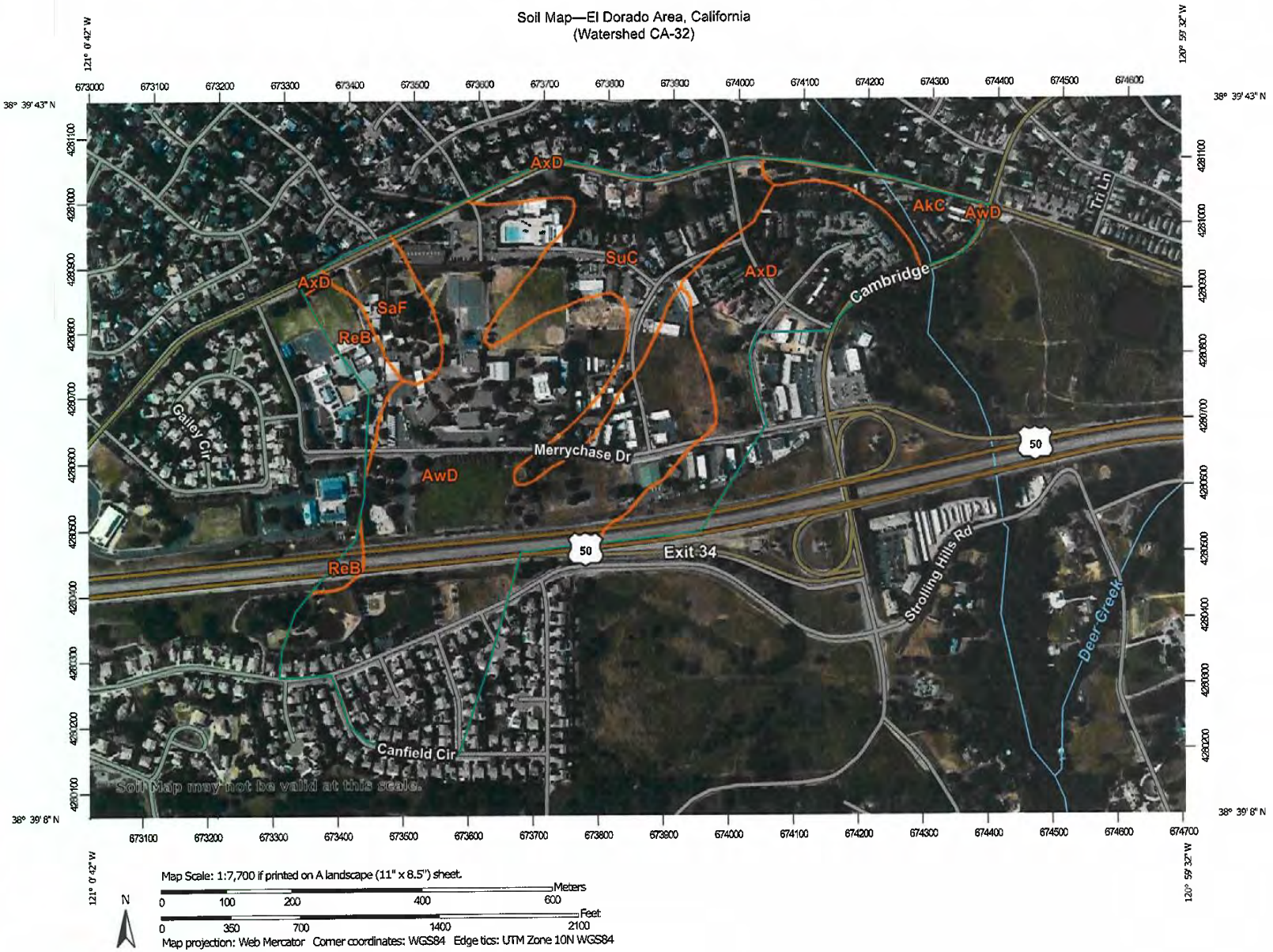
Watershed CA-32	Existing Uses	Acres	
1	Vacant	14.3	
2	SFR	14	
3	MFR	21.1	
4	Comm'l	14.8	
5	Fields	12.4	
6	Paved/Roads	7.3	
7	Site	0.9	
8	Parks & O.S.	17.4	
9	Schools-Comm'l	11.8	
	Total	114	Acres
Legend:			
SFR	Single Family Residential		
MFR	Multi-Family Residential		
Comm'l	Commercial		
O.S.	Open Space & Drainageways		

1.) COMPOSITE CURVE NUMBERS - PRE-DEVELOPMENT:					
1	Total Watershed Area	114.0	Acres	Hydrological Soil Group	
	AkC, Argonaut gravelly loam	4.6	Acres	D	4%
	AwD, Auburn silt loam	61.4	Acres	D	54%
	AxD, Auburn, very rocky silt loam	20.5	Acres	D	18%
	ReB, Rescue sandy loam	3.9	Acres	B	3%
	SaF, Serpentine rock land	5.1	Acres	-	4%
	SuC, Sobrante silt loam	18.5	Acres	C	16%
	Subtotal	114.0	Acres		
	Land Uses:		Area (Ac)	CN	CN * A
	Vacant	13%	14.3	77	1101.1
	SFR	12%	14.0	86	1204
	MFR	19%	21.1	91	1920.1
	Commercial	13%	14.8	95	1406
	Fields	11%	12.4	83	1029.2
	Paved/Roads	6%	7.3	98	715.4
	Project Site - Existing - grasses	1%	0.9	77	69.3
	Parks & Open Space	15%	17.4	83	1444.2
	Schools - comm'l	10%	11.8	94	1109.2
	Subtotal		114.0		9998.5
	Composite CN =	88			

2.) COMPOSITE CURVE NUMBERS - POST-DEVELOPMENT WATERSHEDS:					
1	Total Watershed Area	114.0	Acres	Hydrological Soil Group	
	AkC, Argonaut gravelly loam	4.6	Acres	D	4%
	AwD, Auburn silt loam	61.4	Acres	D	54%
	AxD, Auburn, very rocky silt loam	20.5	Acres	D	18%
	ReB, Rescue sandy loam	3.9	Acres	B	3%
	SaF, Serpentine rock land	5.1	Acres	-	4%
	SuC, Sobrante silt loam	18.5	Acres	C	16%
	Subtotal	114.0	Acres		
	Land Uses:		Area (Ac)	CN	CN * A
	Vacant	13%	14.3	77	1101.1
	SFR	12%	14.0	86	1204
	MFR	19%	21.1	91	1920.1
	Commercial	13%	14.8	95	1406
	Fields	11%	12.4	83	1029.2
	Paved/Roads	6%	7.3	98	715.4
	Project Site - Developed, MFR	1%	0.9	91	81.9
	Parks & Open Space	15%	17.4	83	1444.2
	Schools - comm'l	10%	11.8	94	1109.2
	Subtotal		114.0		10011.1
	Composite CN =	88			

SOIL DATA

Soil Map—El Dorado Area, California
(Watershed CA-32)



Map Scale: 1:7,700 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

9/14/2021
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 12, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—May 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI		Percent of AOI
AkC	Argonaut gravelly loam, 2 to 15 percent slopes	4.6 Ac	4.8	4.1%
AwD	Auburn silt loam, 2 to 30 percent slopes	61.4 Ac	64.3	53.8%
AxD	Auburn very rocky silt loam, 2 to 30 percent slopes	20.5 Ac.	21.5	18.0%
ReB	Rescue sandy loam, 2 to 9 percent slopes	3.9 Ac.	4.1	3.4%
SaF	Serpentine rock land	5.1 Ac.	5.3	4.5%
SuC	Sobrante silt loam, 3 to 15 percent slopes	18.5 Ac.	19.4	16.2%
Totals for Area of Interest		114 Ac.	**119.5**	**100.0%**

In either case, the travel time is the flow path length divided by the velocity.

Channel flow: The velocity of flow in a clearly-defined channel is estimated with Manning's equation, assuming discharge equal the average annual value (2-yr event). If this discharge is unknown, the regression equation presented in Appendix 2.5 can be used to provide an estimate. The channel-flow travel time is the channel length divided by the velocity.

Table 2.4.3 Overland-flow Roughness Coefficients (Source: SCS, 1986)

Surface description (1)	Overland flow n (2)
Smooth surfaces (concrete, asphalt, gravel, or bare soil	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover < 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grasses	0.24
Bermuda	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.40
Dense underbrush	0.80

When the various travel times are determined, t_c can be computed as the sum. The UH lag is estimated as 60% t_c , and Eq. 2.4.5 is solved to find the UH peak. In the solution of Eq. 2.4.6, it is convenient to select ΔD equal the computation time step. Then the resulting UH can be used directly with rainfall excess, which is computed with this same time step, to estimate the runoff hydrograph.

Fig. 2.4.2 shows the 10-min UH developed for an example 5-sq mi catchment in which t_c = 1 hr. In that case, lag = 0.60 hr. Solving Eq. 2.4.6 yields T_p = 0.68 hr. Eq. 2.4.5 yields q_p = 3541.5 cfs/in. of excess rainfall. To develop the UH, values in cols. 1 and 3 of Table 2.4.2 are multiplied by T_p , and the values in cols. 2 and 4 are multiplied by q_p . To compute storm runoff, Eq. 2.4.4 is solved with the UH and excess.

Urban Hydrology for Small Watersheds, US Department of Agriculture, Natural Resources Conservation Service – Technical Release 55

Table 2-2c – Runoff curve numbers for other agricultural lands[1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range-continuous forage for grazing.[2]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay.	--	30	58	71	78
Brush--brush-weed-grass mixture with brush the major element.[3]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	[4]30	48	65	73
Woods--grass combination (orchard or tree farm).[5]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods.[6]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	[4]30	55	70	77
Farmsteads–buildings, lanes, driveways, and surrounding lots.	--	59	74	82	86

[1]Average runoff condition, and $I_a = 0.2S$.

[2]*Poor:* <50% ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: >75% ground cover and lightly or only occasionally grazed.

[3]*Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

[4]Actual curve number is less that 30: use CN = 30 for runoff computations.

[5]CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

[6]*Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Urban Hydrology for Small Watersheds, US Department of Agriculture, Natural Resources Conservation Service – Technical Release 55

Table 2-2a. – Runoff curve numbers for urban areas[1]

Cover description		Curve numbers for hydrologic soil group -			
Cover type and hydrologic condition	Average percent impervious area[2]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.)[3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right of way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only)[4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation)[5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

[1]Average runoff condition, and $I_a = 0.2S$.
[2]The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.
[3]CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.
[4]Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.
[5]Composite CN's to use for the design of temporary measures during grading and construction should be computed using figures 2-3 or 2-4, based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

El Dorado County Design Rainfall
Precipitation Intensity (inches per hour) Duration Frequency
Return Period 10 Years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day
8	0.76	0.53	0.43	0.31	0.22	0.15	0.12	0.09	0.06	0.04
10	0.95	0.67	0.54	0.38	0.27	0.19	0.15	0.11	0.08	0.05
12	1.133	0.80	0.65	0.46	0.32	0.23	0.19	0.13	0.09	0.06
14	1.32	0.93	0.76	0.53	0.38	0.27	0.22	0.15	0.11	0.08
16	1.51	1.06	0.87	0.61	0.43	0.30	0.25	0.17	0.12	0.09
18	1.70	1.20	0.98	0.69	0.48	0.34	0.28	0.20	0.14	0.10
20	1.89	1.33	1.08	0.76	0.54	0.38	0.31	0.22	0.15	0.11
22	2.08	1.46	1.19	0.84	0.59	0.42	0.34	0.24	0.17	0.12
24	2.27	1.60	1.30	0.92	0.65	0.45	0.37	0.26	0.18	0.13
26	2.46	1.73	1.41	0.99	0.70	0.49	0.40	0.28	0.20	0.14
28	2.65	1.86	1.52	1.07	0.75	0.53	0.43	0.30	0.21	0.15
30	2.84	2.0	1.63	1.15	0.81	0.57	0.46	0.33	0.23	0.16
35	3.31	2.33	1.90	1.34	0.94	0.66	0.54	0.38	0.27	0.19
40	3.78	2.66	2.17	1.53	1.08	0.76	0.62	0.43	0.31	0.22
45	4.25	3.00	2.44	1.72	1.21	0.85	0.69	0.49	0.34	0.24
50	4.73	3.33	2.71	1.91	1.34	0.95	0.77	0.54	0.38	0.27
55	5.2	3.66	2.98	2.10	1.48	1.04	0.85	0.60	0.42	0.30
60	5.67	3.99	3.25	2.29	1.61	1.14	0.93	0.65	0.46	0.32
65	6.14	4.33	3.52	2.48	1.75	1.23	1.00	0.71	0.50	0.35
70	6.62	4.66	3.80	2.67	1.88	1.33	1.08	0.76	0.54	0.38

Source: Design Rainfall Tables for El Dorado County prepared by Jim Goodridge, August 30, 2008

El Dorado County Design Rainfall
Precipitation Intensity (inches per hour) Duration Frequency
Return Period 100 Years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day
8	1.07	0.75	0.61	0.43	0.3	0.21	0.17	0.12	0.09	0.06
10	1.34	0.94	0.77	0.54	0.38	0.27	0.22	0.15	0.11	0.08
12	1.60	1.13	0.92	0.65	0.46	0.32	0.26	0.18	0.13	0.09
14	1.87	1.32	1.07	0.76	0.53	0.37	0.31	0.21	0.15	0.11
16	2.14	1.51	1.23	0.86	0.61	0.43	0.35	0.50	0.17	0.12
18	2.41	1.69	1.38	0.97	0.68	0.48	0.39	0.28	0.19	0.14
20	2.67	1.88	1.53	1.08	0.76	0.54	0.44	0.31	0.22	0.15
22	2.94	2.07	1.69	1.19	0.84	0.59	0.48	0.34	0.24	0.17
24	3.21	2.26	1.84	1.30	0.91	0.64	0.52	0.37	0.26	0.18
26	3.47	2.45	1.99	1.40	0.99	0.70	0.57	0.40	0.28	0.20
28	3.74	2.63	2.15	1.51	1.06	0.75	0.61	0.43	0.30	0.21
30	4.01	2.82	2.30	1.62	1.14	0.80	0.65	0.46	0.32	0.23
35	4.68	3.29	2.68	1.89	1.33	0.94	0.76	0.54	0.38	0.27
40	5.34	3.76	3.07	2.16	1.52	1.07	0.87	0.61	0.43	0.30
45	6.01	4.23	3.45	2.43	1.71	1.20	0.98	0.69	0.49	0.34
50	6.68	4.70	3.83	2.70	1.9	1.34	1.09	0.77	0.54	0.38
55	7.35	5.17	4.22	2.97	2.09	1.47	1.20	0.84	0.59	0.42
60	8.02	5.65	4.60	3.24	2.28	1.61	1.31	0.92	0.65	0.46
65	8.69	6.12	4.98	3.51	2.47	1.74	1.42	1.00	0.70	0.49
70	9.35	6.59	5.36	3.78	2.66	1.87	1.53	1.07	0.76	0.53

Source: Design Rainfall Tables for El Dorado County prepared by Jim Goodridge, August 30, 2008

El Dorado County Design Rainfall
Precipitation Depth (inches) Duration Frequency
Return Period 2 Years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day
8	0.04	0.06	0.07	0.10	0.14	0.19	0.23	0.33	0.46	0.65
10	0.05	0.07	0.09	0.12	0.17	0.24	0.29	0.41	0.58	0.81
12	0.06	0.08	0.10	0.14	0.20	0.29	0.35	0.49	0.69	0.98
14	0.07	0.10	0.12	0.17	0.24	0.33	0.41	0.57	0.81	1.14
16	0.08	0.11	0.14	0.19	0.27	0.38	0.47	0.66	0.93	1.30
18	0.09	0.13	0.15	0.22	0.31	0.43	0.52	0.74	1.04	1.47
20	0.10	0.14	0.17	0.24	0.34	0.48	0.58	0.82	1.16	1.63
22	0.11	0.15	0.19	0.26	0.37	0.53	0.64	0.90	1.27	1.79
24	0.12	0.17	0.21	0.29	0.41	0.57	0.70	0.99	1.39	1.95
26	0.13	0.18	0.22	0.31	0.44	0.62	0.76	1.07	1.50	2.12
28	0.14	0.2	0.24	0.34	0.47	0.67	0.82	1.15	1.62	2.28
30	0.15	0.21	0.26	0.36	0.51	0.72	0.87	1.23	1.74	2.44
35	0.17	0.24	0.30	0.42	0.59	0.84	1.02	1.44	2.02	2.85
40	0.20	0.28	0.34	0.48	0.68	0.95	1.17	1.64	2.31	3.26
45	0.22	0.31	0.38	0.54	0.76	1.07	1.31	1.85	2.60	3.67
50	0.25	0.35	0.43	0.60	0.85	1.19	1.46	2.05	2.89	4.07
55	0.27	0.38	0.47	0.66	0.93	1.31	1.60	2.26	3.18	4.48
60	0.30	0.42	0.51	0.72	1.02	1.43	1.75	2.46	3.47	4.89
65	0.32	0.45	0.56	0.78	1.10	1.55	1.90	2.67	3.76	5.29
70	0.35	0.49	0.6	0.84	1.19	1.67	2.04	2.87	4.05	5.70

Source: Design Rainfall Tables for El Dorado County prepared by Jim Goodridge, August 30, 2008

El Dorado County Design Rainfall
Precipitation Depth (inches) Duration Frequency
Return Period 10 Years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day
8	0.06	0.09	0.11	0.15	0.22	0.30	0.37	0.52	0.73	1.03
10	0.08	0.11	0.14	0.19	0.27	0.38	0.46	0.65	0.92	1.29
12	0.09	0.13	0.16	0.23	0.32	0.45	0.56	0.78	1.10	1.55
14	0.11	0.16	0.19	0.27	0.38	0.53	0.65	0.91	1.28	1.81
16	0.13	0.18	0.22	0.31	0.43	0.61	0.74	1.04	1.47	2.07
18	0.14	0.20	0.24	0.34	0.48	0.68	0.83	1.17	1.65	2.33
20	0.16	0.22	0.27	0.38	0.54	0.76	0.93	1.30	1.83	2.58
22	0.17	0.24	0.30	0.42	0.59	0.83	1.02	1.43	2.02	2.84
24	0.19	0.27	0.33	0.46	0.65	0.91	1.11	1.56	2.20	3.10
26	0.20	0.29	0.35	0.50	0.70	0.98	1.20	1.69	2.39	3.36
28	0.22	0.31	0.38	0.53	0.75	1.06	1.30	1.82	2.57	3.62
30	0.24	0.33	0.41	0.57	0.81	1.14	1.39	1.95	2.75	3.88
35	0.28	0.39	0.47	0.67	0.94	1.33	1.62	2.28	3.21	4.52
40	0.32	0.44	0.54	0.76	1.08	1.51	1.85	2.61	3.67	5.17
45	0.35	0.50	0.61	0.86	1.21	1.70	2.08	2.93	4.13	5.81
50	0.39	0.55	0.68	0.95	1.34	1.89	2.31	3.26	4.59	6.46
55	0.43	0.61	0.75	1.05	1.48	2.08	2.54	3.58	5.05	7.11
60	0.47	0.67	0.81	1.15	1.61	2.27	2.78	3.91	5.50	7.75
65	0.51	0.72	0.88	1.24	1.75	2.46	3.01	4.23	5.96	8.40
70	0.55	0.78	0.95	1.34	1.88	2.65	3.24	4.56	6.42	9.04

Source: Design Rainfall Tables for El Dorado County prepared by Jim Goodridge, August 30, 2008

El Dorado County Design Rainfall

Precipitation Depth (inches) Duration Frequency

Return Period 100 Years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day
8	0.09	0.13	0.15	0.22	0.30	0.43	0.52	0.74	1.04	1.46
10	0.11	0.16	0.19	0.27	0.38	0.54	0.65	0.92	1.30	1.83
12	0.13	0.19	0.23	0.32	0.46	0.64	0.78	1.11	1.56	2.19
14	0.16	0.22	0.27	0.38	0.53	0.75	0.92	1.29	1.82	2.56
16	0.18	0.25	0.31	0.43	0.61	0.86	1.05	1.47	2.08	2.92
18	0.20	0.28	0.34	0.49	0.68	0.96	1.18	1.66	2.33	3.29
20	0.22	0.31	0.38	0.54	0.76	1.07	1.31	1.84	2.59	3.65
22	2.24	0.34	0.42	0.59	0.84	1.18	1.44	2.03	2.85	4.02
24	0.27	0.38	0.46	0.65	0.91	1.28	1.57	2.21	3.11	4.38
26	0.29	0.41	0.50	0.70	0.99	1.39	1.70	2.39	3.37	4.75
28	0.31	0.44	0.54	0.76	1.06	1.50	1.83	2.58	3.63	5.11
30	0.33	0.47	0.57	0.81	1.14	1.61	1.96	2.76	3.89	5.48
35	0.39	0.55	0.67	0.94	1.33	1.87	2.29	3.22	4.54	6.39
40	0.45	0.63	0.77	1.08	1.52	2.14	2.62	3.68	5.19	7.31
45	0.50	0.71	0.86	1.21	1.71	2.41	2.94	4.14	5.84	8.22
50	0.56	0.78	0.96	1.35	1.90	2.68	3.27	4.60	6.48	9.13
55	0.61	0.86	1.05	1.48	2.09	2.94	3.60	5.06	7.13	10.05
60	0.67	0.94	1.15	1.62	2.28	3.21	3.92	5.53	7.78	10.96
65	0.72	1.02	1.25	1.75	2.47	3.48	4.25	5.99	8.43	11.87
70	0.78	1.10	1.34	1.89	2.66	3.75	4.58	6.45	9.08	12.78

Source: Design Rainfall Tables for El Dorado County prepared by Jim Goodridge, August 30, 2008

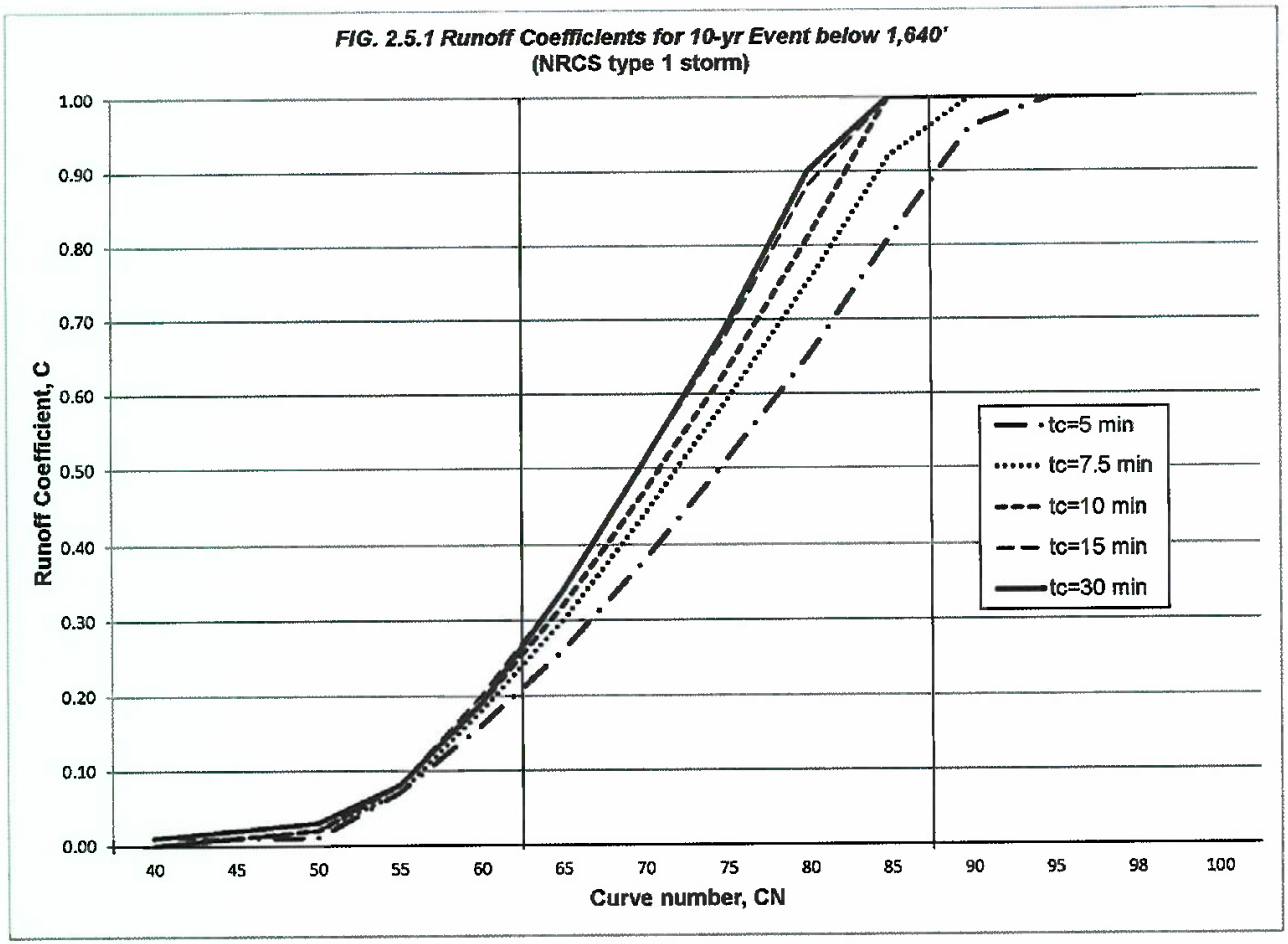


FIG. 2.5.1 Runoff Coefficients for 10-yr Event below 1,640'

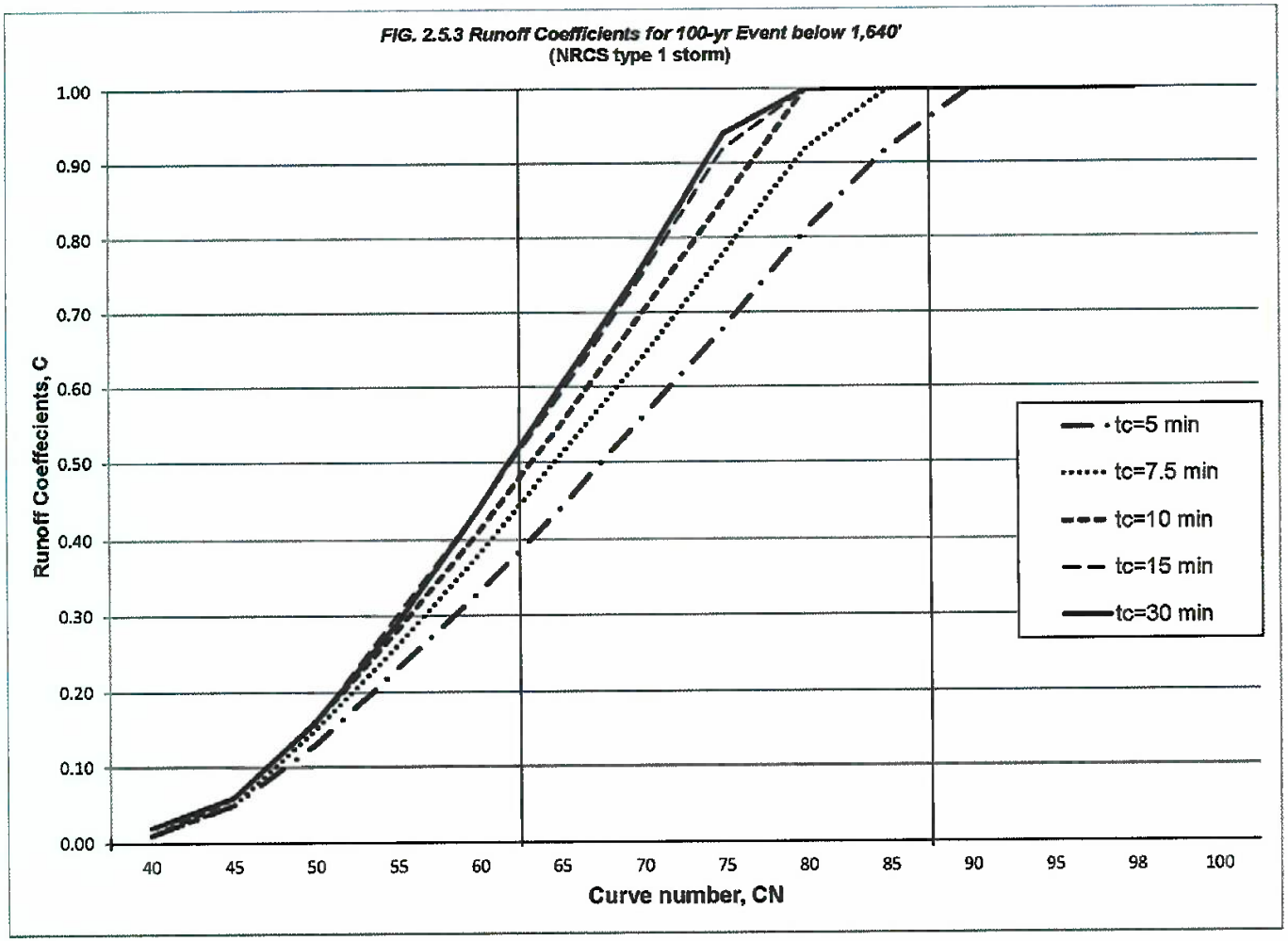
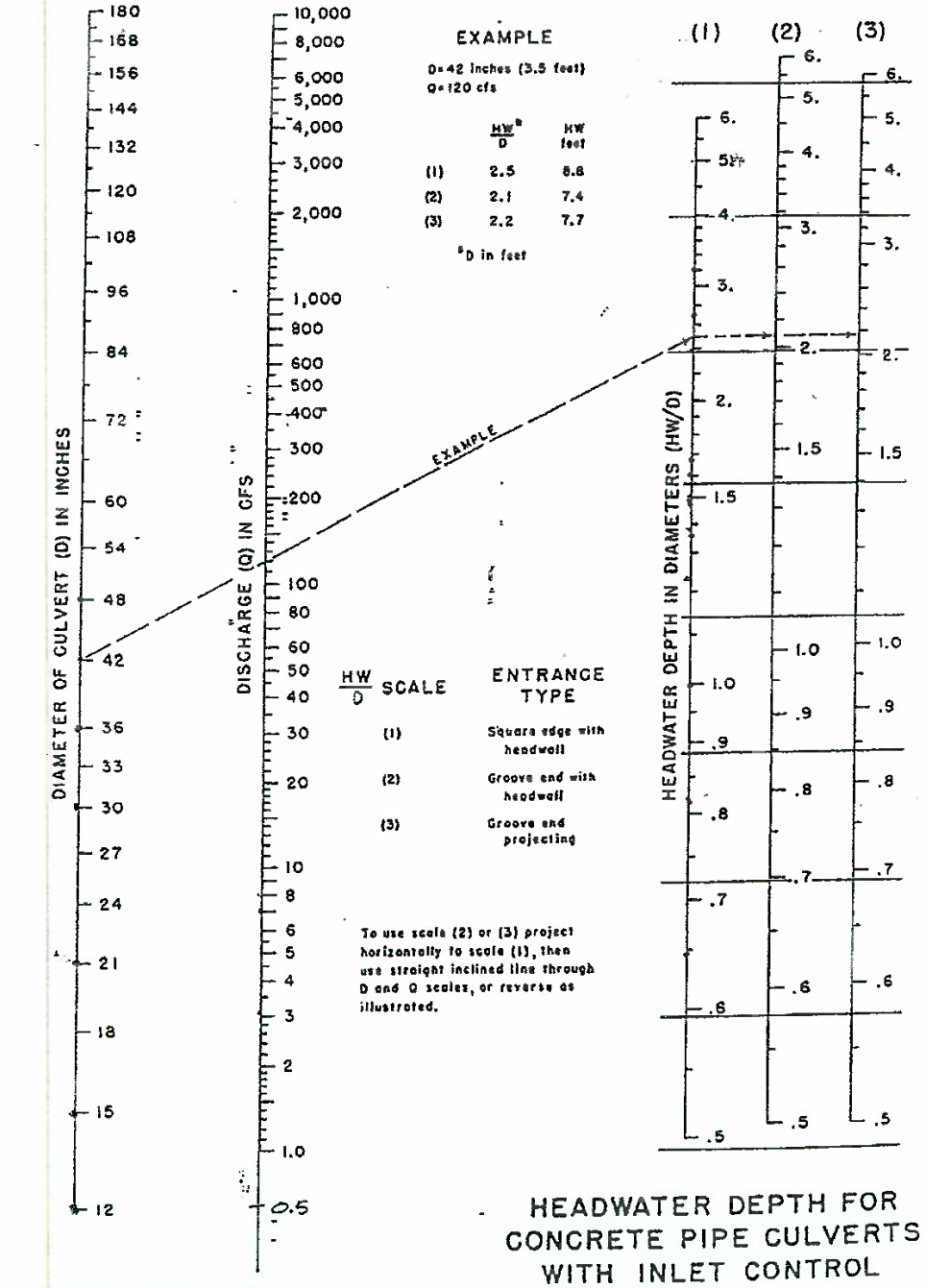


FIG. 2.5.3 Runoff Coefficients for 100-yr Event below 1,640'



BUREAU OF PUBLIC ROADS JAN. 1963

HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

CAMERON PARK
DRAINAGE STUDY

PREPARED FOR:

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

JUNE, 1995

PREPARED BY:

PSOMAS AND ASSOCIATES
2485 NATOMAS PARK DRIVE
SUITE 250
SACRAMENTO, CA 95833

TABLE 1-1
BASIN AREAS

Sub Basin No.	Sub Basin Area (square miles)	Sub Basin No.	Sub Basin Area (square miles)	Sub Basin No.	Sub Basin Area (square miles)
CA1	0.31	CA11	0.32	CA23	0.32
CA2	0.51	CA12	0.7	CA24	5.58
CA3	0.81	CA13	1.03	CA25	5.64
CA4	1.01	CA14	0.31	CA26	0.32
CA5	1.07	CA15	1.66	CA27	0.37
CA6	1.23	CA16	3.33	CA28	0.83
CA7	0.32	CA17	3.78	CA29	0.92
CA8	0.38	CA18	3.89	CA30	1.16
CA9	0.63	CA19	0.47	CA31	0.69
CA10	0.21	CA20	0.24	CA32	0.92
CA11	0.32	CA21	0.97	CA33	0.99

Dotted match line

- Sterling Way Reach - Adjacent to Sterling Way upstream from Cameron Lake
- Mira Loma Reach - Runs east to west from Cameron Road, across the Cameron Park Airport to Deer Creek just downstream from Cameron Lake
- Deer Creek North - The Deer Creek main channel extending from Cameron Lake downstream to the Cameron Park Golf Course
- Deer Creek South - The Deer Creek main channel extending from the golf course (golf course not included) to the end of the study area just south of Highway 50
- Chelsea Reach - Adjacent to Chelsea Road, beginning at Bass Lake and extending downstream to the confluence of Deer Creek just south of Highway 50

These six channel reaches are the major conveyance systems in the study area. Facilities along these reaches are the subject of this study. The crossings are identified in Table 1-2.

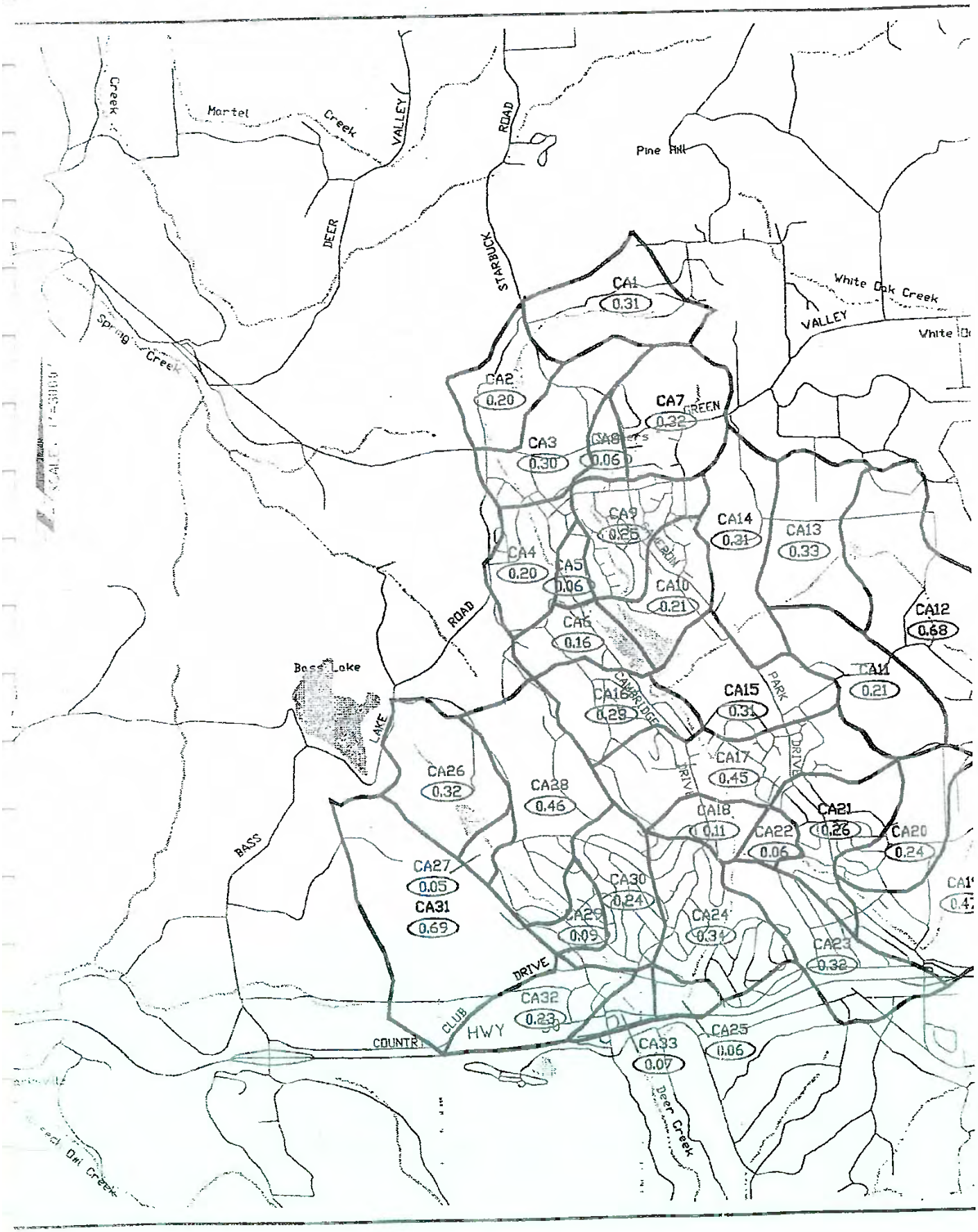

Martel
Creek
VALLEY
ROAD
DEER
STARBUCK
Pine Hill
White Oak Creek
VALLEY
Spring Creek
CA1
0.31
CA2
0.20
CA7
0.32
GREEN
CA3
0.30
CA8
0.06
CA9
0.25
CA14
0.31
CA13
0.33
CA4
0.20
CA5
0.06
CA10
0.21
CA12
0.68
CA6
0.16
ROAD
Bass Lake
LAKE
CA16
0.29
CA15
0.31
PARK
CA11
0.21
CA17
0.45
DRIVE
CA26
0.32
CA28
0.46
CA18
0.11
CA21
0.26
CA22
0.06
CA20
0.24
BASS
CA27
0.05
CA31
0.69
CA30
0.24
CA29
0.09
CA24
0.34
CA23
0.32
DRIVE
CA32
0.23
CLUB
HWY
COUNTR
CA33
0.07
CA25
0.06
Deer Creek

TABLE 1-2
STEAM CROSSING LOCATIONS

Reach	Cross Section and Street Crossing	Size and Type of Culvert
Mira Loma	ML6 - Boeing Road ML9 - Cameron Park Airport Runway ML14 - Cameron Park Drive	7' x 10' CMPA 6' x 10' CMPA 7' x 12' CMPA
Royal Park	RP13 - Royal Park Drive RP21 - Canada Drive RP26 - Cimmaron Road RP31 - Cameron Park Drive	Double 60" CMP 78" CMP 5' x 7' CMPA 4' x 8' CMPA
Sterling Way	SW3 - Recreation Park SW7 - Royal Park Drive SW12 - Cambridge Road SW19 - Gateway Drive SW26 - Green Valley Road	4' x 6' CMPA 90" CMP Triple 54" CMP 7' x 11' CMPA 84" CMP
Deer Creek South	DS6 - Cameron Road DS10 - Highway 50 DS14 - Country Club Drive	Double 8' x 8' RCB 12' x 16' RCA Double 6.5' x 24' RCB
Deer Creek North	DN4 - Oxford Drive	Triple 8' x 8' RCB
Chelsea	CH3 - Cameron Road CH5 - Highway 50 CH11 - Cambridge Road CH16 - Country Club Drive CH21 - Kimberley Road CH28 - Wentworth Road CH40 - Knollwood Drive	96" CMP 6' x 6' RCB Triple 60" CMP 4.24' x 6' RCB Double 60" CMP Double 60" CMP Triple 3' x 5' CMPA

Drainage sheds tributary to all reaches are at least partially developed with the upper shed of the Mira Loma reach containing the least development and all other reaches with over 50% developed sheds. Surface conditions will be discussed in further detail in Chapter 2, Hydrologic Characteristics.

GENERAL APPROACH

In this study, three major steps were necessary to achieve our goal of identifying necessary drainage improvements for Cameron Park. The first step was to identify the existing conditions with regard to hydrologic parameters and hydraulic facilities. Once the existing conditions were established, the second step of hydrologic and hydraulic modeling of these conditions was performed and calibrated to the extent possible. With the existing condition models in place, a third step to identify alternative, proposed improvements was carried out.

CHAPTER 2
HYDROLOGIC CHARACTERISTICS

RAINFALL

Rainfall data for the Cameron Park area has been developed from tables provided in the Draft El Dorado County Drainage Manual[5] and is based on a statistical analysis of local rain gauges. Table 2-1 shows the rainfall data used in this study. The design storm used in the hydrologic modeling is a balanced, 24 hour storm. The 100 year return frequency storm is used for sizing channel facilities and mapping of flood plains. The 10 year rainfall is also modeled to provide the resulting channel profiles under the 10 year storm conditions.

TABLE 2-1
CAMERON PARK RAINFALL (INCHES)

	5 min	15 min	1 hr	2 hrs	3 hrs	6 hrs	12 hrs	24 hrs
100 year	0.41	0.72	1.41	2.01	2.45	3.33	5.11	7.12
10 year	0.25	0.45	0.92	1.32	1.61	2.28	3.43	4.77

SOILS

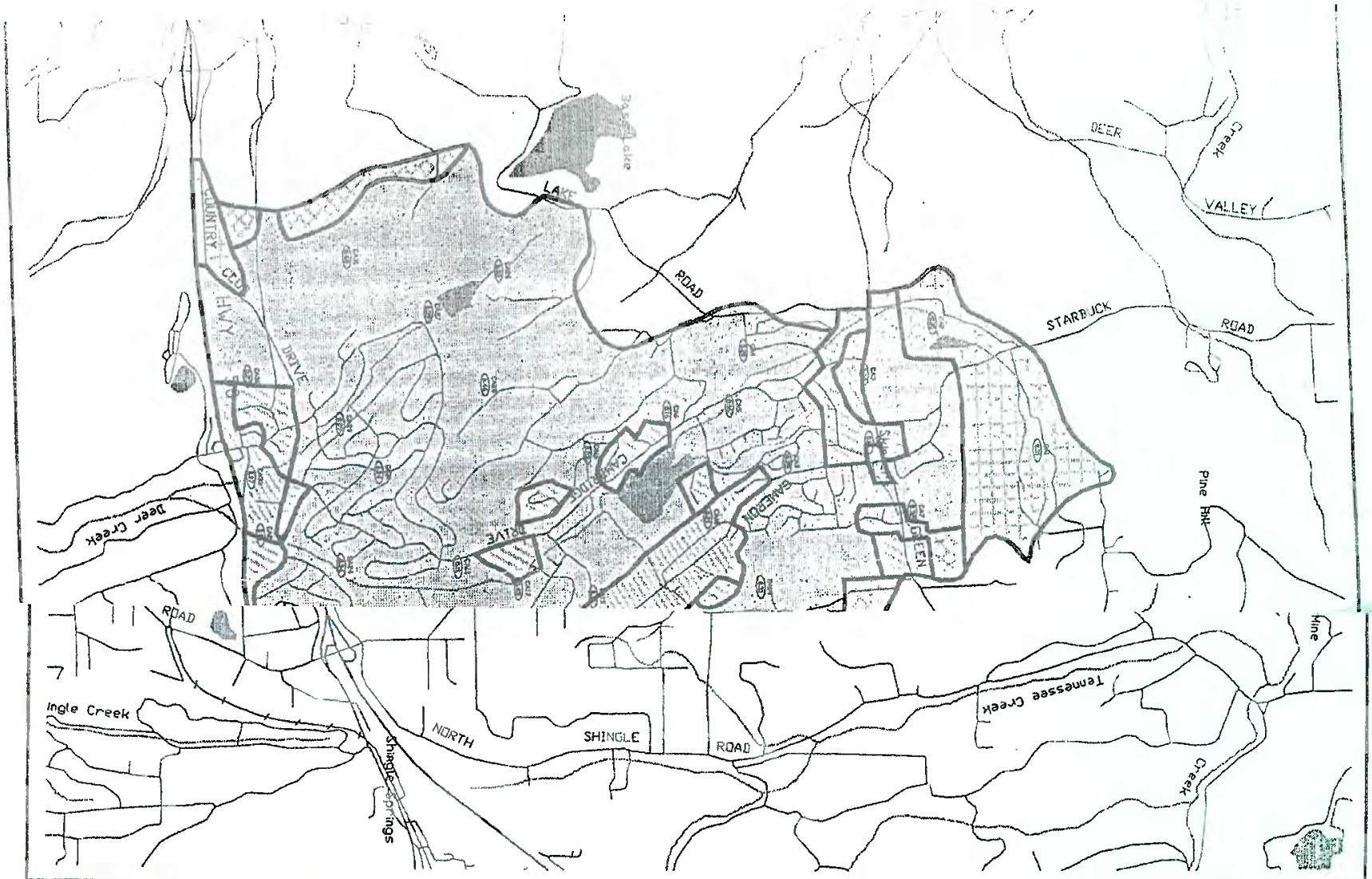
An important characteristic of the watershed in storm runoff modeling is the hydrologic soil classifications. The Soil Conservation Service has classified soils in four major categories from A, most pervious, to D, least pervious soils.

Figure 2-1, Soil Types, shows the various hydrologic soils types found in the Cameron Park study area. Tables 2-2 and 2-3 show hydrologic data for the Cameron Park watershed which includes the percentage of each soil type in each sub-basin, which is essential in the determination of runoff.

LAND USE

Existing land uses in Cameron Park consist mainly of single family residential with the following exceptions: (1) highway commercial adjacent to Highway 50; (2) Cameron Park Golf Course; (3) Cameron Park Airport; and (4) scattered undeveloped areas of open space. Table 2-2 shows the sub-basin development amounts (in terms of total area) under current conditions.

Build-out of the current General Plan land use was used to determine future runoff. Table 2-3 shows the sub-basin development amounts (in terms of total area) under future, build-out conditions. Figure 2-2, Cameron Park Study Land Use, shows the future land uses which the future conditions runoff models were based. The designated uses generally follow current development trends with a majority of single family residential uses throughout the study area with the exception of the highway commercial and other existing uses mentioned previously.



PSOMAS

Psomas & Associates-Sacramento
2485 Natomas Park Dr. Ste. 250
Sacramento, California 95833
916/929-7100

Engineers
Surveyors
Planners

FIGURE 2-2
CAMERON PARK
STUDY
LAND USE

TABLE 4-1 (continued)
CULVERT AND CHANNEL DEFICIENCIES

Reach	Cross Section and Street Crossing	Size and Type of Culvert	Top of Road Elev.	Capacity of Culvert (1)	100 Year Flow (CFS)		W.S. Elevation (ft)		Comments
					Existing (2)	Future (3)	Existing (2)	Future (3)	
Royal Park	RP21 - Canada Drive	78" CMP	1321.8	320	226	317	1320.1	1321.5	Both existing and future are acceptable.
	RP26 - Cimmaron Road	5' x 7' CMPA	1332.0	290	226	325	1330.9	1332.6	Existing is acceptable. Future overtopping is marginal.
	RP31 - Cimmaron Road	4' x 8' CMPA	1351.3	265	198	287	1351.1	1352.0	Existing is acceptable. Future overtopping is marginal.
Sterling Way	SW7 - Royal Park Drive	90" CMP	1267.5	265	483	661	1270.4	1270.4	Severe overtopping under both existing and future conditions.
	SW12 - Cambridge Road	Triple 54" CMP's	1275.5	500	464	614	1275.4	1275.9	Existing is acceptable. Future overtopping is marginal.
	SW19 - Gateway Drive	7' x 11' CMPA	1309.0	700	346	460	1302.5	1303.4	Both existing and future are acceptable.
	SW26 - Green Valley Road	84" CMP	1322.0	360	210	275	1319.0	1320.1	Both existing and future are acceptable.
Deer Creek South	DS6 - Cameron Road	Double 8' by 8' RCB	1072.0	775	2680	3695	1076.2	1076.1	High tailwater problem. Severe flooding under existing and future conditions.
	DS10 - Highway 50	12' by 16' RCA	1092.0	2175	2680	3695	1093.1	1094.4	Culvert capacity problem. Severe flooding under existing and future conditions.
	DS14 - Country Club Drive	Double 6.5' by 24' RCB	1097.6	3590	2674	3775	1097.4	1098.9	Existing is acceptable. Future overtopping is severe.
Deer Creek North	DN4 - Oxford Drive	Triple 8' x 8' RCB	1218.4	2200	1464	2093	1215.8	1216.6	Existing is acceptable. Future overtopping is marginal.
Chelsea	CH3 - Cameron Road	96" CMP	1069.0	315	648	1017	1070.8	1070.3	High tailwater problem. Severe flooding under existing and future conditions.

(1) Capacity based on zero freeboard and tailwater elevation of existing 100 year flows.
(2) Existing conditions based on no improvements.
(3) Future conditions based on future buildout, no improvements.

TABLE 4-1 continued next page

TABLE 4-1 (continued)
CULVERT AND CHANNEL DEFICIENCIES

Reach	Cross Section and Street Crossing	Size and Type of Culvert	Top of Road Elev.	Capacity of Culvert (1)	100-Year Flow (CFS)		W.S. Elevation (ft)		Comments
					Existing (2)	Future (3)	Existing (2)	Future (3)	
Chelsea	CH5 - Highway 50	6' x 6' RCB	1088.0	715	648	1017	1084.7	1089.7	Existing is acceptable. Future overtopping is severe.
	CH11 - Cambridge Road	Triple 60" CMP	1095.5	800	1035	1588	1094.2	1096.5	Culvert capacity problem. Severe flooding under future conditions.
	CH16 - Country Club Drive	4.25' x 6' RCB	1098.0	0	521	735	1100.2	1100.0	High tailwater problem. Severe flooding under existing and future conditions.
	CH21 - Kimberley Road	Double 60" CMP's	1108.0	330	395	614	1108.4	1109.2	High tailwater problem. Severe flooding under existing and future conditions.
	CH23 - Wentworth Road	Double 60" CMP's	1119.7	435	382	657	1118.1	1119.9	Existing is acceptable. Future overtopping is severe.
	CH40 - Knollwood Drive	Triple 9' x 5' CMPA	1165.0	290	232	391	1161.9	1162.4	Both existing and future are acceptable.

(1) Capacity based on zero freeboard and tailwater elevation of existing 100 year flows.
(2) Existing conditions based on no improvements.
(3) Future conditions based on future buildout, no improvements.

Table 4-2, Recommended Improvements, shows the recommended replacement culverts and channel sections.

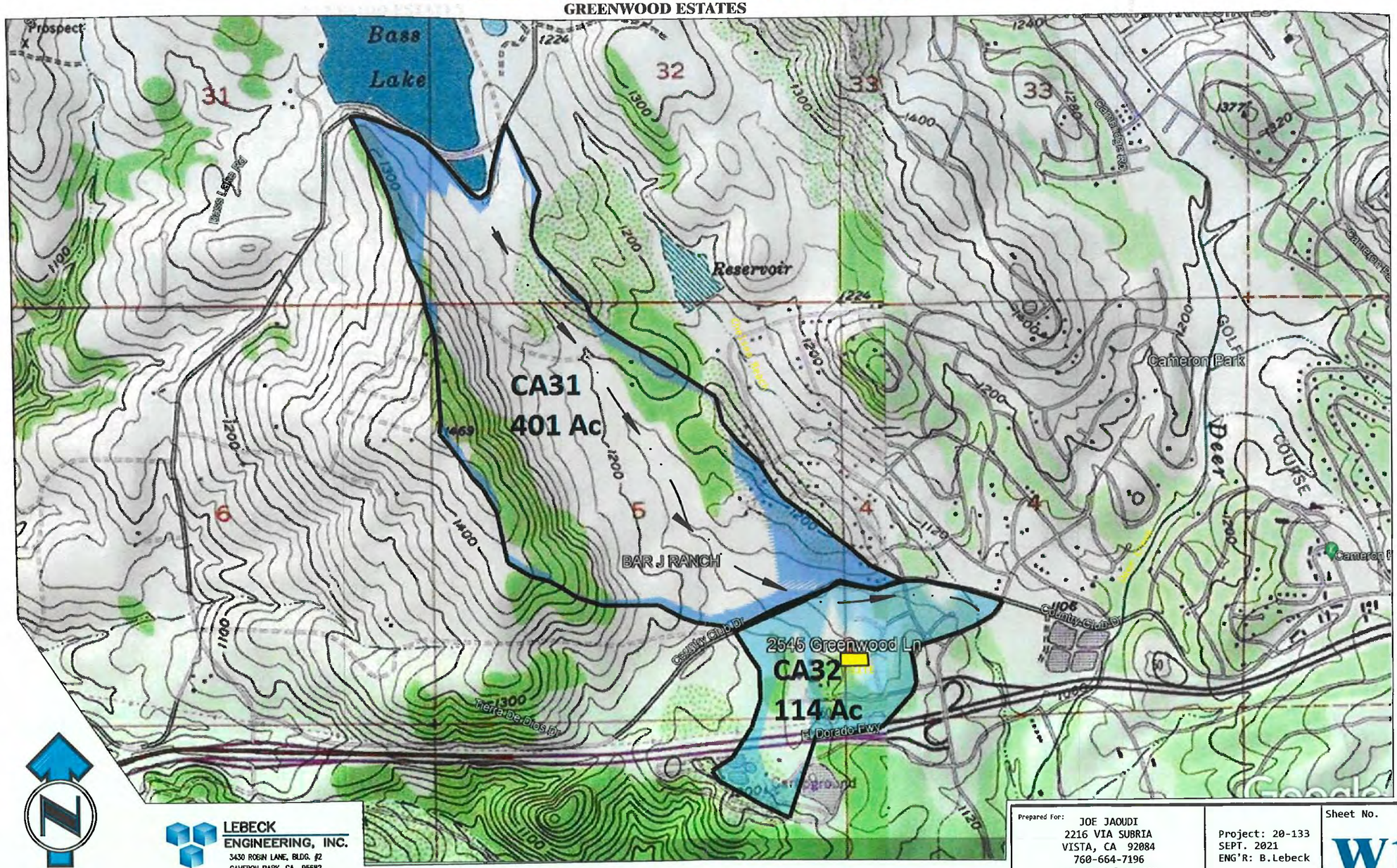
TABLE 4-2
RECOMMENDED IMPROVEMENTS

CROSS SECTION AND STREET CROSSING	SIZE AND TYPE OF EXISTING CULVERT	RECOMMENDED IMPROVEMENT	W.S. ELEVATIONS			
			100 YEAR EVENT			10 YEAR EVENT
			EXISTING COND. WITHOUT IMPROVEMENTS	FUTURE COND. WITHOUT IMPROVEMENTS	FUTURE COND. WITH IMPROVEMENTS	FUTURE COND. WITH IMPROVEMENTS
ML14 - Cameron Park Drive	7' x 12' CMPA	Replace with double 8' x 8' RCB's	1260.0	1261.0	1258.3	1252.8
RP13 - Royal Park Drive	Double 60" CMP	Replace with double 5' x 8' RCB's; lower channel u/s and d/s	1263.8	1263.8	1260.5	1259.1

TABLE 4-2 continued next page

OFF-SITE WATERSHED EXHIBIT MAP

GREENWOOD ESTATES



LEBECK ENGINEERING, INC.
3430 ROBIN LANE, BLDG. #2
CAMERON PARK, CA 95682
Ph. (530) 677-4080

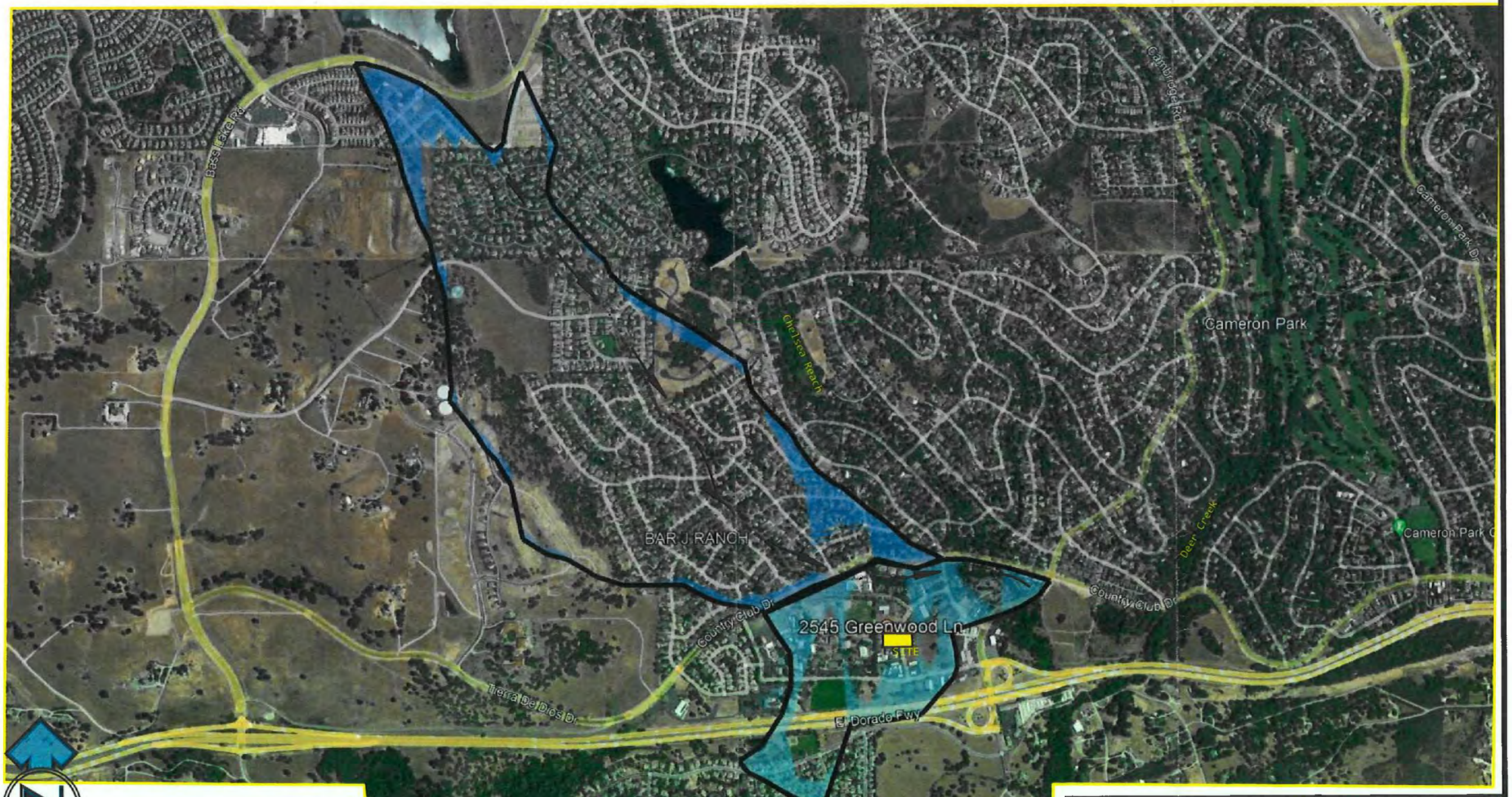
Prepared For:
JOE JAOUDI
2216 VIA SUBRIA
VISTA, CA 92084
760-664-7196
JOSJAOUDI@AOL.COM

Project: 20-133
SEPT. 2021
ENG'R: B.Lebeck

Sheet No.
W1

WATERSHED AERIAL EXHIBIT MAP

GREENWOOD ESTATES



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VISTA, CA 92084
760-664-7196
JOSJAOUDI@AOL.COM

Project: 20-133
SEPT. 2021
ENG'R: B.Lebeck

Sheet No.
W2

121°0'0"W

120°30'0"W

120°0'0"W

38°30'0"N

SITE Use
Pptn=30"

0 6 12 24 Miles

Units are inches per year

Mean annual precipitation for El Dorado County, CA

County boundary

Note:

Source: Report on El Dorado County design rainfall.
Prepared by Jim Goodridge, August 2008.

El Dorado County drainage manual

Task: MAP mapping

Datum: NAD 83

Date: September 2008

2-33


The Sargiotto Cellar
Castaneda Dr
Country Club Dr
Cameron Park Community Services
SFR - 3.8 Ac.
VAC-1.4 Ac.
MFR
4.4. Ac.
0.S. 3.2 Ac.
Cambridge Garden
COMM'L - LIBRARY & COMM CTR - 5.2 Ac.
MFR - 12.8 Ac.
Knollwood Dr
Meadow Ln
Tumble Time Gymnastics
Comm'l - 3.7 Ac.
Cambridge Rd
POR. OF FIELDS
12.4 Ac FIELDS
VAC.-1.0 Ac
COMM'L 1.9 Ac.
SITE - 0.9 Ac.
Yummy Dumplings
VACANT - 7.4 ACRES
Merrychase Dr
Blue Oak Elementary School
Camerado Springs Middle School
11.8 AC. - SCHOOLS
MFR 3.9 ACRES
Churchill's Hardware
Joe's Coffee & Deli
ARCO
COMM'L 4.8 AC.
Christa McAuliffe Park
PARK & PLAYGROUND
6.4 ACRES
VACANT 4.5 AC.
PAVED 2.1 AC
Foothills Church
ROAD = 5.2 ACRES
50
La Mae Salon & Spa
Cambridge Flooring Design
PARKS & OPEN SPACE - 7.8 AC.
Cynthia Howlett, CMT
Crazy Horse Rd
Dave West Field
SPR - 10.2 Acres
Voltaire Dr
Thoreau Dr
Canfield Cir
ems in the 3D viewer
1291 ft
EXISTING USES IN WATERSHED CA-32
Imagery Date: 6/3/2021
38°39'27.24"

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

https://www.edcgov.us/Government/DOT

PLACERVILLE OFFICES:
MAIN OFFICE:
2850 Fairlane Court, Placerville, CA 95667
(530) 621-5900 / (530) 626-0387 Fax

CONSTRUCTION & MAINTENANCE:
2441 Headington Road, Placerville, CA 95667
(530) 642-4909 / (530) 642-0508 Fax

LAKE TAHOE OFFICES:
ENGINEERING:
924 B Emerald Bay Road, South Lake Tahoe, CA 96150 (530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
1121 Shakori Drive, South Lake Tahoe, CA 96150
(530) 573-3180 / (530) 577-8402 Fax

Date: 07/06/22

To: Evan Mattes, Project Planner

From: Dave Spiegelberg, Transportation Division

Subject: **TM21-0001, PD21-0003, Z21-0012**
Project Name: **Greenwood Estates**
Project Location: **West side of Greenwood Lane approximately 500 feet north of Merrychase Drive in the Cameron Park Area**
APN: **082-411-004**

Project Description: A proposed Tentative Subdivision Map to create 5 Duplexes on 10 single family lots ranging in size from approximately 3393 square feet to approximately 4389 square feet, res.

Site Plans: The following conditions are based on Transportation Division (TD) review of the Tentative Map and Supporting documentation dated October 2021.

Traffic: A Traffic Impact Study (TIS) was not required as the project is projected to generate 6 trips in the PM peak hour, 5 trips in the AM peak hour and result in 79 daily trips. These levels are below the General Plan levels of 10 trips in the peak hour and 100 daily trips (General Plan Policy TC-Xe).

Access: A private driveway access is proposed from Greenwood Lane, 20.67 feet in width, plus gutters on each side.

Grading: Grading associated with the private driveway construction and construction of the proposed dwelling units.

Stormwater: The project is subject to the provisions of the County Storm Water Ordinance regarding drainage and water quality.

The County Stormwater Ordinance (Ord. No. 5022) [or other regulation] requires the project to construct on-site detention to reduce post-development peak runoff to pre-development levels. This mitigation measure will be implemented with the project improvement plans.

Design Waivers: the following Design Waiver was requested:

1. Allow a 24' wide road & public utilities easement with a paved roadway width of 20.67' and a substitution of 20" wide concrete v-gutters for the standard Type 2 curb, gutter & sidewalk.

DOT takes no exceptions to this Design Waiver Request.

PROJECT-SPECIFIC TD CONDITIONS:

1. **Encroachment Permit(s):** Obtain an encroachment permit from DOT and construct the roadway encroachment from the project access road onto Greenwood Lane to the provisions of County *Standard Plan* ***103G*** modified to fit the existing curb and gutter, and to comply with accessibility standards for a public sidewalk.
2. Construct a 6-foot wide sidewalk across the project frontage on Greenwood Lane.
3. The proposed access road shall be private, except that emergency access shall be public. A Homeowners Association (or other mechanism approved by County) shall be formed for the purpose of maintaining the private road and drainage facilities.

DOT STANDARD CONDITIONS

4. **Maintenance Entity**: Prior to filing a final map, form and entity, or join an existing entity, for the maintenance of public and private roads and drainage facilities. When joining an existing entity, amend and modify (as necessary) the existing entity to equitably incorporate maintenance of the Project improvements.
5. **Common Fence/Wall Maintenance:** Responsibility and access rights for maintenance of any fences and walls constructed on property lines shall be included in the Covenants Codes and Restrictions (CC&Rs).
6. **Consistency with County Codes and Standards:** Obtain approval of project improvement plans and cost estimates consistent with the Subdivision Design and Improvement Standards Manual (as may be modified by these Conditions of Approval or by approved Design Waivers) from DOT and pay all applicable fees prior to filing of the final map.

Ensure the project improvement plans and grading plans conform to the County *Grading, Erosion and Sediment Control Ordinance, Grading Design Manual, the Drainage Manual, Storm Water Ordinance (Ord. No. 5022), Off-Street Parking and Loading Ordinance, all applicable State of California Water Quality Orders, the State of California Handicapped Accessibility Standards, and the California Manual on Uniform Traffic Control Devices* (MUTCD).

7. **Stormwater Management:** Construct post construction storm water mitigation measures to capture and treat the 85th percentile 24 hour storm event as outlined in the CA Phase II MS4 Permit and the County's West Slope Development and Redevelopment Standards and Post Construction Storm Water Plan. Show detention and/or retention facilities on the project improvement plans to fully mitigate any increased runoff peak flows and volumes in accordance with the County Drainage Manual. As an alternative to treating the entire project with a regional treatment system, the project may propose distributed source control measures to be constructed for the roadways, any other impervious surfaces and on each lot with the individual lot building permits to achieve the same effect. In which case, a deed restriction shall be recorded with the final map to ensure construction of individual lot source control measures.

8. **Geotechnical Report:** Prepare and submit a Geotechnical Report with the Project Grading or Improvement plans for review by the County Engineer. Incorporate the findings of the Report into Grading and Improvement Plans. The El Dorado County Grading Design Manual contains standards for content and scope of Geotechnical Reports, however, the County Engineer may require additional or specialized information.

9. **Water Quality Stamp:** Include a storm water quality message stamped into the concrete on new or reconstructed drainage inlets, conforming to the Storm Water Quality Design Manual for the Sacramento and South Placer Regions, Chapter 4, Fact Sheet SD-1. Obtain approval of proposed message from County Engineer prior to construction.

10. **Drainage (Cross-Lot):** Avoid cross lot drainage. Contain any concentrated cross lot drainage, or natural sheet flow drainage increased by the Project, within dedicated drainage easements. Convey concentrated flows via closed conduit or open channel, to natural drainage courses or storm drain system. Show drainage easements for on-site drainage facilities on the Project Grading and Improvement plans.

11. **Regulatory Permits and Documents:** Incorporate all regulatory permits and agreements between the project and any State or Federal Agency into the Project Grading and Improvement Plans prior to the start of construction of improvements.

    Grading or Improvement plans for any phase may be approved prior to obtaining regulatory permits or agreements for that phase, but grading/construction of improvements may not proceed until the appropriate permits or agreements are obtained and the grading/improvement plans reflect any necessary changes or modifications to reflect such permits or agreements.

Project conditions of approval shall be incorporated into the Project Improvement Plans when submitted for review.

12. **Electronic Documentation:** Upon completion of the required improvements, provide As-Built Plans to the County Engineer in PDF or TIFF format, and provide final Drainage and Geotechnical reports, and structural wall calculations to the County Engineer in PDF format.

COMMUNITY DEVELOPMENT SERVICES
LONG RANGE PLANNING

2850 Fairlane Court, Placerville, CA 95667
Phone (530) 621-4650, Fax (530) 642-0508

Transportation Impact Study (TIS) – Initial Determination

The information provided with this form will be used by County staff to determine if the proposed project will be required to complete a Transportation Impact Study (TIS) or an On-Site Transportation Review (OSTR). If one or both are required, County staff will contact the applicant with more information about the required studies. Both studies are described in the TIS Guidelines, which can be found on the County's website. ***An OSTR is typically required for all projects.***

Complete and submit this form along with a detailed project description and a site plan by mail, fax or email.

Mail: CDS, Long Range Planning
Attn: Natalie Porter/Katie Jackson
2850 Fairlane Court
Placerville, CA 95667

Fax: (530) 642-0508
Phone: (530) 621-5442/(530) 621-6624
Email: natalie.porter@edcgov.us
katie.jackson@edcgov.us

Applicant Information:

Name: Cameron Glen Estates, LLC (Joe Jaoudi)
Phone #: 760-644-7196
Address: 2216 Via Subria, Vista Ca 92084
Email: josjoudi@aol.com

Project Information:

Name of Project: Greenwood Estates
Planning Number:
Project Location: 2545 Greenwood Lane
Bldg Size: 3,700 sf, 5 each
APN(s): 082-411-004
Project Planner: Mel Pabalinas
Number of units: 10 each

Description of Project: (Use, Number of Units, Building Size, etc.)

Subdivide an existing lot to create an additional 9 lots for a total of 10. The developer proposes constructing 5 duplexes on ten lots with each individual unit occupying a single lot. Each duplex shall be approximately 3,700 sf (1,850 sf per unit).

Please attach a project site plan

If an OSTR is required, the following information shall be evaluated and the findings signed and stamped by a registered Traffic Engineer or Civil Engineer, and shall be included with the project submittal:

1. Existence of any current traffic problems in the local area such as a high-accident location, non-standard intersection or roadway, or an intersection in need of a traffic signal
2. Proximity of proposed site driveway(s) to other driveways or intersections
3. Adequacy of vehicle parking relative to both the anticipated demand and zoning code requirements
4. Adequacy of the project site design to fully satisfy truck circulation and loading demand on-site, when the anticipated number of deliveries and service calls may exceed 10 per day
5. Adequacy of the project site design to provide at least a 25 foot minimum required throat depth (MRTD) at project driveways, include calculation of the MRTD
6. Adequacy of the project site design to convey all vehicle types
7. Adequacy of sight distance on-site
8. Queuing analysis of "drive-through" facilities

Z21-0012/PD21-0003/TM21-0001

Rev 10/16/17

COMMUNITY DEVELOPMENT SERVICES
LONG RANGE PLANNING

2850 Fairlane Court, Placerville, CA 95667
Phone (530) 621-4650, Fax (530) 642-0508

Transportation Impact Study (TIS) – Initial Determination (Page 2)

TO BE COMPLETED BY COUNTY STAFF:

The following project uses are typically exempt from the preparation of a TIS:

- ☐ 4 or less single family homes
- ☐ 4 or less multi-family units
- ☐ 2,300 square feet or less for shopping center
- ☐ 8,600 square feet or less for general office
- ☐ 10,000 square feet or less for industrial
- ☐ 28,000 square feet or less for warehouse
- ☐ 38,000 square feet or less for mini-storage
- ☐ 20,000 square feet or less for churches
- ☐ 20 or less sites for campgrounds
- ☐ 20 or less rooms for hotel/motel/B&B

☐ **None apply – a TIS is required with applicable fee.**

County Staff Determination:

The TIS or OSTR may be waived if no additional vehicle trips will be generated by the proposed change, no up-zoning is requested, or no intensification of use is requested. Long Range Planning staff may waive the TIS requirement. The Transportation Director or his/her designee may waive the OSTR requirement.

- ☒ TIS and OSTR are both waived. No further transportation studies are required.
- ☐ On-Site Transportation Review is required. A TIS is not required. The OSTR shall address all items listed, unless otherwise noted.
- ☐ The TIS and OSTR are required. An initial deposit for TIS scoping and review is required by CDS Long Range Planning staff. See Attached TIS Initial Fund Request letter.

TIS waiver approved by:

CDS Long Range Planning Signature — Aug 10 2021 Date — ADH TS

OSTR waiver approved by:

Department of Transportation Director or Designee — 8-10-21 Date

PRINT

Rev 10/16/17

Greenwood Estates

ITE 220 Multifamily Low Rise

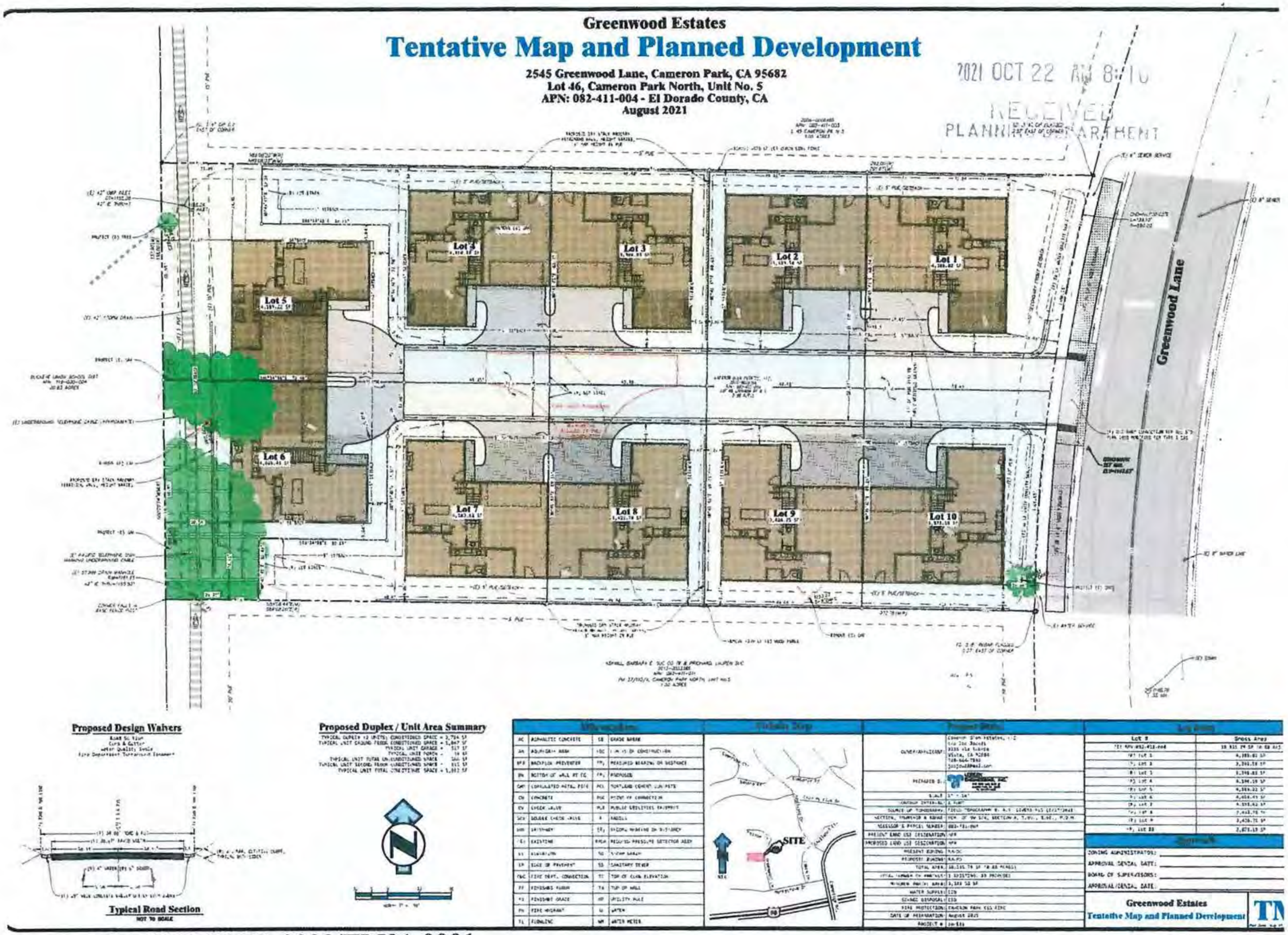
Per Dwelling Unit

ITE Trip Generation Manual Trip Generation Period	ITE Trip Generation Rate per DU	DU	Trips Generated by Facility
daily	7.32	10	73
a.m. peak hour	0.46	10	5
p.m. peak hour	0.56	10	6

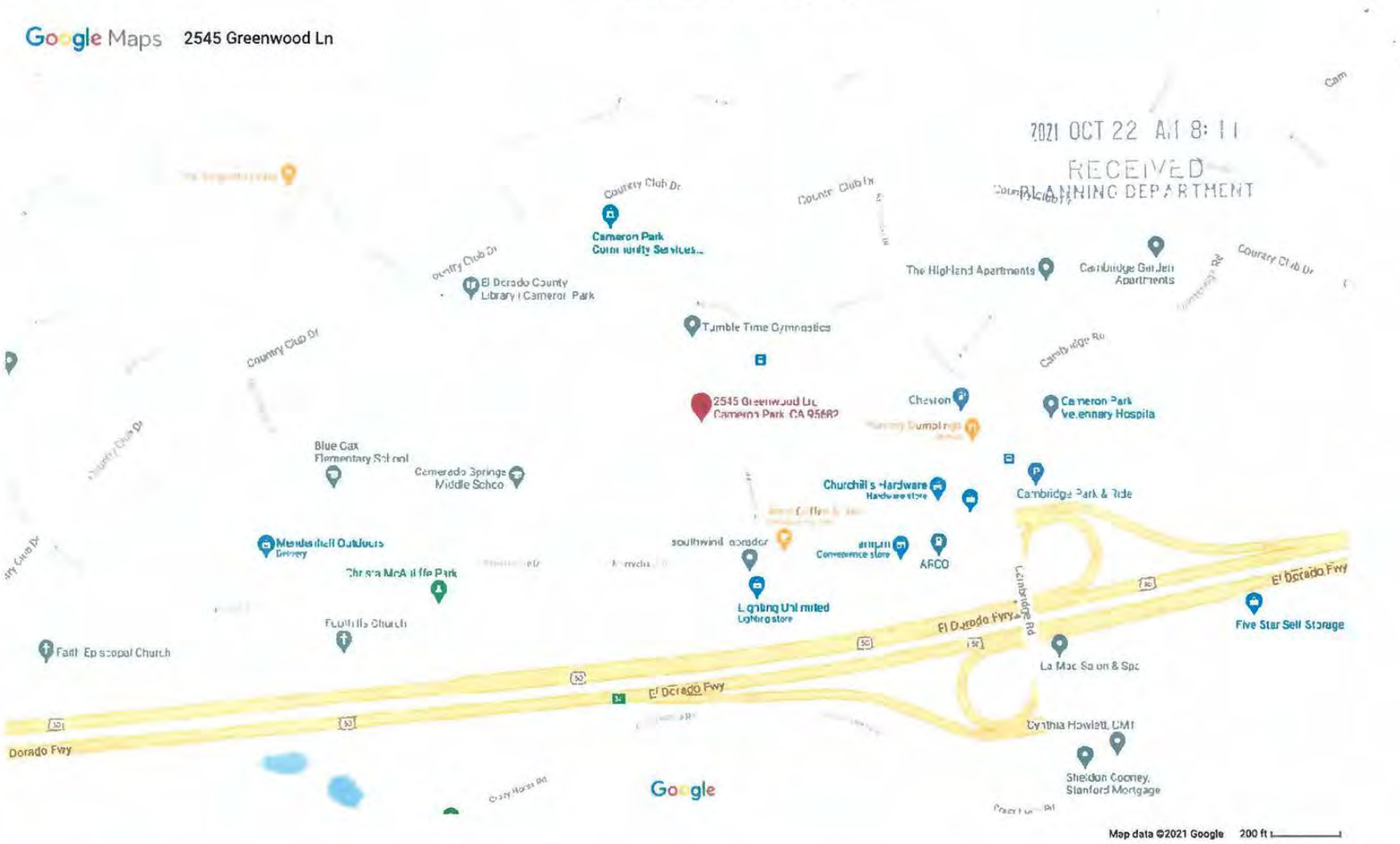
Policy TC- Xe (El Dorado County General Plan)

Policy TC-Xe
For the purposes of this Transportation and Circulation Element, "worsen" is defined as any of the following number of project trips using a road facility at the time of issuance of a use and occupancy permit for the development project:

A. A 2 percent increase in traffic during the a.m. peak hour, p.m. peak hour, or daily, or
B. The addition of 100 or more daily trips, or
C. The addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour.



Z21-0012/PD21-0003/TM21-0001



Z21-0012/PD21-0003/TM21-0001

2545 Greenwood Ln

Directions Save Nearby Send to your phone Share

2545 Greenwood Ln, Cameron Park, CA 95682

MX5W+FW Cameron Park, California

Photos

ENVIRONMENTAL MANAGEMENT DEPARTMENT

http://www.edcgov.us/EMD/

PLACERVILLE OFFICE:
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5300
(530) 626-7130 Fax

LAKE TAHOE OFFICE:
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-3450
(530) 542-3364 Fax

INTEROFFICE MEMORANDUM

TO: **EVAN MATTES** Project Planner
EDC Development Services Division

FROM: Environmental Management

SUBJECT: TM21-0001 GREENWOOD ESTATES

DATE: 7/2/2022

CC:

Environmental Management Department staff has reviewed the subject application. The following reflects our concerns and requirements:

Environmental Health (Bryan Vyverberg x5924):

This project proposes public water and sewer for utilities, and the project coordinator has consulted with the El Dorado Irrigation District to confirm service availability. No other comments or concerns.

Hazardous Materials (Mark Moss x6665):

Solid Waste Division (Timothy Engle x6587):

Construction and Demolition (C&D) Debris Recycling
State Law mandates that a minimum of 65% of the waste materials generated from covered Construction and Demolition projects must be diverted from being landfilled by being recycled or reused on site. Please visit the following website to view El Dorado County's Construction & Demolition Debris Recycling Ordinance Program information and requirements. If after reviewing this information you still have questions, you're welcome to call Environmental Management at (530) 621-5300.

El Dorado Irrigation District

2021 OCT 22 AM 8:15
RECEIVED
PLANNING DEPARTMENT

Letter No.: DS0921-246

September 20, 2021

VIA EMAIL

Ron Personius
Cameron Glen Estates, LLC
2216 Via Subria
Vista, CA 92084
Via email: ron@lebeckeng.com

Subject: Facility Improvement Letter (FIL) 3552FIL, Greenwood Estates
Assessor's Parcel No. 082-411-004 (Cameron Park)

Dear Mr. Personius:

This letter is in response to your request dated August 31, 2021 and is valid for a period of three years. If facility improvement plans for your project are not submitted to El Dorado Irrigation District (EID or District) within three years of the date of this letter, a new Facility Improvement Letter will be required.

Design drawings for your project must be in conformance with the District's *Water, Sewer and Recycled Water Design and Construction Standards*.

This proposed project is a 10-lot residential subdivision on 0.88 acres. Water and sewer services are requested. The property is within the District boundary.

This letter is not a commitment to serve, but does address the location and approximate capacity of existing facilities that may be available to serve your project.

Water Supply
As of January 1, 2020, there were 21,598 equivalent dwelling units (EDUs) of water supply available in the Western/Eastern Water Supply Region. Your project as proposed on this date would require 9 additional EDUs of water supply.

Water Facilities
An 8-inch water line exists in Greenwood Lane (see enclosed System Map). The Cameron Park Fire Department has determined that the minimum fire flow for this project is 1,500 GPM for a 2-hour duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver the required fire flow. In order to receive

2890 Mosquito Road, Placerville CA, 95667 (530) 622-4513

service you must construct a water line extension connecting to the 8-inch water line previously identified. The hydraulic grade line for the existing water distribution facilities is 1,470 feet above mean sea level at static conditions and 1,445 feet above mean sea level during fire flow and maximum day demands.

The flow predicted above was developed using a computer model and is not an actual field flow test.

Sewer Facilities

There is an 8-inch gravity sewer line located in Greenwood Lane. This sewer line has adequate capacity at this time. A service stub is located near the northeast parcel corner. In order to receive service from this line, an extension of facilities of adequate size must be constructed. If the existing service stub is not to be utilized it will need to be property abandoned as part of this project. Your project as proposed on this date would require 9 additional EDUs of sewer service.

Easement Requirements

Proposed water lines, sewer lines, and related facilities must be located within an easement accessible by conventional maintenance vehicles. When the water lines or sewer lines are within streets, they shall be located within the paved section of the roadway. No structures will be permitted within the easements of any existing or proposed facilities. The District must have unobstructed access to these easements at all times, and generally does not allow water or sewer facilities along lot lines.

Easements for any new District facilities constructed by this project must be granted to the District prior to District approval of water and/or sewer improvement plans, whether onsite or offsite. In addition, due to either nonexistent or prescriptive easements for some older facilities, any existing onsite District facilities that will remain in place after the development of this property must also have an easement granted to the District.

Environmental

The County is the lead agency for environmental review of this project per Section 15051 of the California Environmental Quality Act Guidelines (CEQA). The County's environmental document should include a review of <u>both</u> offsite and onsite water and sewer facilities that may be constructed by this project. You may be requested to submit a copy of the County's environmental document to the District if your project involves significant off-site facilities. If the County's environmental document does not address all water and sewer facilities and they are not exempt from environmental review, a supplemental environmental document will be required. This document would be prepared by a consultant. It could require several months to prepare and you would be responsible for its cost.

Summary

Service to this proposed development is contingent upon the following:

- The availability of uncommitted water supplies at the time service is requested;
- Approval of the County's environmental document by the District (if requested);
- Executed grant documents for all required easements;
- Approval of an extension of facilities application by the District;
- Approval of facility improvement plans by the District;
- Construction by the developer of all onsite and offsite proposed water and sewer facilities
- Acceptance of these facilities by the District; and
- Payment of all District connection costs.

Services shall be provided in accordance with El Dorado Irrigation District Board Policies and Administrative Regulations, as amended from time-to-time. As they relate to conditions of and fees for extension of service, District Administrative Regulations will apply as of the date of a fully executed Extension of Facilities Agreement.

If you have any questions, please contact Marc Mackay at (530) 642-4135.

Sincerely,

Michael J. Brink, P.E.
Supervising Civil Engineer

MB/MM:kh

Enclosures: System Map

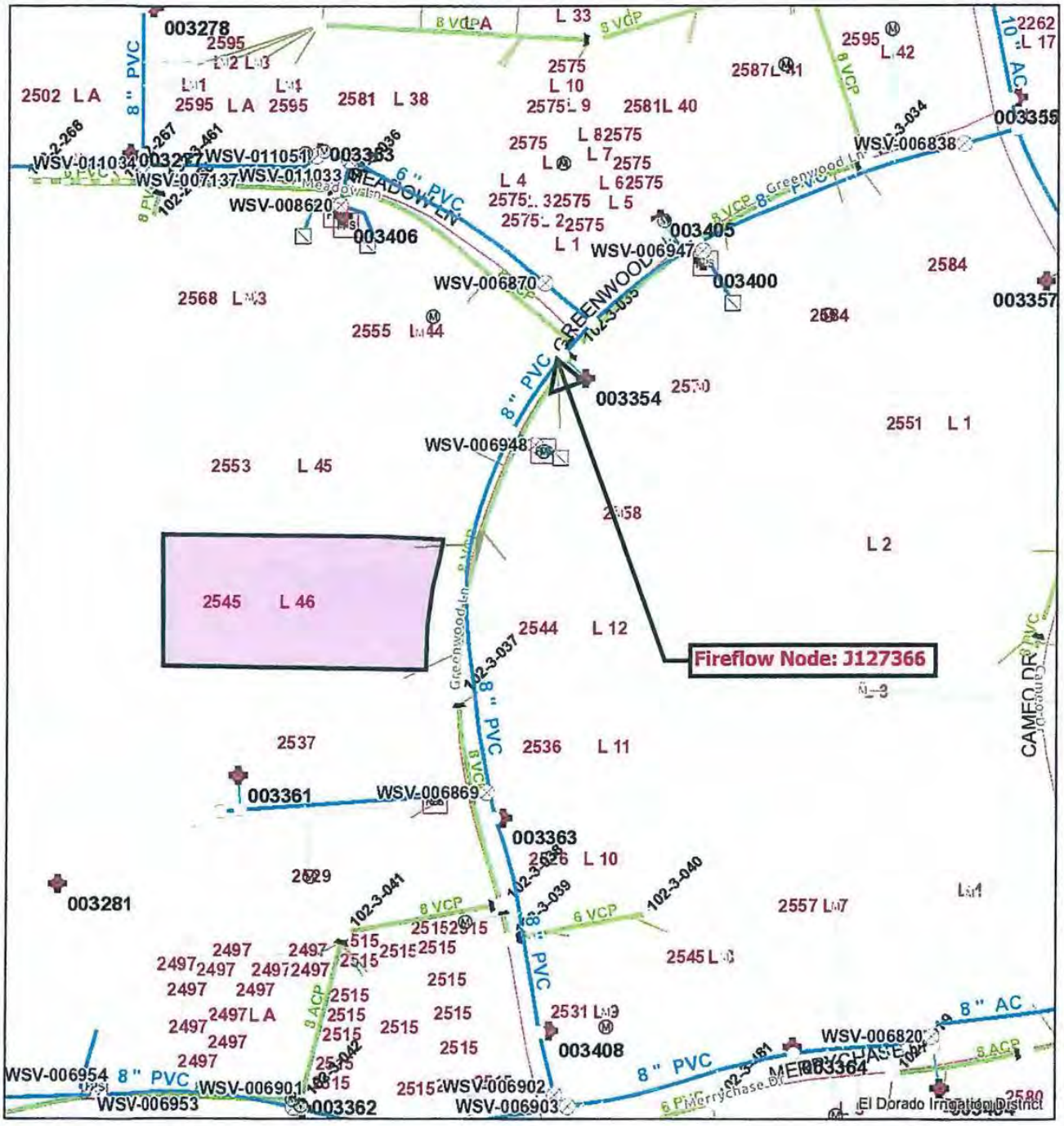
cc w/ System Map:

Rommel Pabalinas - Principal Planner
El Dorado County Development Services Department
Via email - rommel.pabalinas@edcgov.us

Tiffany Schmid - Director
El Dorado County Development Services Department
Via email - tiffany.schmid@edcgov.us

Kalan Richards - Battalion Chief/ Fire Marshal
Cameron Park Fire Department
Via email - Kalan.Richards@fire.ca.gov

Greenwood Estates



Date: *September 20, 2021*

Project: *Greenwood Estates*

APN: 082-411-004

Author: Web AppBuilder for ArcGIS
Print date: September 20, 2021

WARNING: No accuracy of map implied until field checked by EID. Exact pipe locations must be field verified.

Scale: NTS

Web AppBuilder for ArcGIS

unity Maps Contributors, Esri, HERE, Garmin, © OpenStreetMap contributors, Microsoft, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA |

Cameron Park Fire Department

In cooperation with the

California Department of Forestry and Fire Protection

CAL FIRE

Fire Station 89
3200 Country Club Drive
Cameron Park, CA 95682

(530) 677-6190
(530) 672-2248 FAX

Fire Station 88
2961 Alhambra Drive
Cameron Park, CA 95682

(530) 672-7350
(530) 672-7352 FAX

Date: 11-30-2022

To: Evan Mattes
Project Planner
El Dorado Planning Department
2850 Fairlane Court
Placerville, Ca. 95667

Re: **TM21-0001 – Greenwood Estates – Subdivision**

The Cameron Park Fire Department has reviewed the above-referenced project and submits the following comments regarding the ability to provide this site with fire and emergency medical services consistent with the El Dorado County General Plan, State Fire Safe Regulations, as adopted by El Dorado County and the California Fire Code as amended locally. The proposed project is to subdivide an existing lot to create an additional 9 lots for a total of 10. The developer proposes constructing 5 duplexes on ten lots with each individual unit occupying a single lot. Each duplex shall be approximately 3,700 sf (1,850 sf per unit). The property, identified by Assessor's Parcel Number 082-411-004, consists of 5 acres located on Greenwood lane.

1. The water system with the purpose of fire protection for this project, fire flows must comply with the 2019 CA Fire Code appendix B
2. All buildings shall be fire sprinklered in accordance with NFPA 13 for R2 occupancy and NFPA 13D for R3 occupancy.
3. Provide documentation from EID to the fire department to show that the system will meet required fire flow for this project.
4. Additional hydrant(s) will be required for this project. The hydrant manufacturer and type shall be approved by EID and the Fire Department. The location of the hydrant(s) shall be approved by the Fire Department during Civil Plan Review. Fire hydrant spacing shall be in accordance with Section 507 and Appendix C of California Fire Code.
5. In order to enhance nighttime visibility, each hydrant shall be painted safety red enamel and marked in the roadway with a blue reflective marker as specified by the Fire Department and State Fire Safe Regulations.

Cameron Park Fire Department

In cooperation with the

California Department of Forestry and Fire Protection

CAL FIRE

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3200 Country Club Drive
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(530) 672-7350
(530) 672-7352 FAX

6. All fire apparatus access roads shall be made of asphalt, concrete, or other approved driving surface capable of supporting the imposed load of fire apparatus.
7. Fire apparatus access roads, 20 to 29 feet wide, shall be posted on both sides as a fire lane, with no parking allowed on either side of the roadway.
8. Fire apparatus access roads, 30 to 35 feet wide, shall be posted on one side as No Parking, Fire Lane, with parking allowed only on the opposite side of the roadway.
9. Fire apparatus access roads, 36 feet and greater in width, may allow parking on both sides of the roadway.
10. Dead-end roads and driveways over 150' shall be equipped with sufficient fire apparatus turnarounds. These turnarounds must comply with the requirements outlined in chapter 5 and appendix D of the CA Fire Code.
11. Fire apparatus turnarounds must be within designated fire lanes. Private driveways in front of the individual residences will not be considered portions of fire lanes or fire apparatus turnarounds.
12. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 shall be maintained at all times.
13. This development shall be prohibited from installing any type of traffic calming device that utilizes a raised bump/dip section of roadway.
14. Fire Apparatus Access Road Gates shall meet the standards identified in the Fire Department's Gate Standard.
15. If any fencing is used that backs up to wildland open space, it shall be required to use non-combustible type fencing.
16. The fire code official shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.

Thank you for your cooperation and for keeping Cameron Park "Fire Safe".

Sincerely,

KALAN RICHARDS

Kalan Richards
Battalion Chief/ Fire Marshal
Office: (530) 672-7336
Kalan.Richards@fire.ca.gov

MEETING DATE: **June 27, 2022**
FILE NO.: **Z21-0012,PD21-0003,TM21-0001**
PROJECT: **GREENWOOD ESTATES**
APPLICANT: **Cameron Glen Estates, LLC, Joe Jaoudi/Lebeck Engineering, Inc.**

DESIGN REVIEW COMMITTEE COMMENTS

__X__ Cameron Park _____ Pollock Pines _____ Staff Review

Setbacks:

The applicant / applicant's engineer and / or architect stated that the only setbacks were for PUEs on either side of the property, as they are applying for a PD overlay.

Landscaping And Existing Growth:

All existing landscaping will be wiped out by this development, including a couple of large existing trees. Street fronting landscaping appears good on the north side of the property. However, there is none to speak of south of the driveway entrance, due to the proximity of the units to the ROW. Landscaping in the development appears sparse. Backyards are basically non-existent.

Fencing:

There did not appear to be any fencing shown in the application documents.

Mail Boxes:

Mailboxes were not found, but it is assumed that there will be a common mailbox location for a single point of delivery for the postal service.

Signs:

No signs were shown. None should be needed for this small infill development.

Lighting:

Lighting strategy was not shown beyond building mounted lighting shown in exterior elevations. Driveways shall have building-mounted lighting to the greatest extent possible.

Parking:

Applicant should consider reducing the amount of on-site paving. One strategy may be to reduce the size of the driveways at each unit, effectively reducing them to one-car driveways, not two-car. Applicant stated that one of the units actually will not allow for driveway parking due to fire department turnaround requirements.

Trash Areas:

Trash will be stored in the garage or side yard at each unit. If stored in the side yard, it shall be adequately screened from view. Trash will then be pulled out to the street on trash day.

Vehicular Access:

Vehicular access is via a single double loaded driveway from Greenwood Lane.

Siding Or Exterior:

The exterior design is attractive and the variation in unit types is appreciated. Applicant should consider that this project really has three fronts – the driveway side, the street side, and the back sides, which will be visible from many angles.

Colors:

Colors were not provided.

Roofing Materials:

Composition shingle roofing shall be a high quality dimensional shingle, or better.

Air Conditioning:

Air conditioning strategy was not demonstrated.

Roof-Mounted Items:

Due to the nature of this project, roof-mounted items other than vent pipe penetrations, attic vents, etc. should not be accepted.

General Comments:

Side and rear yards are very small (5'). The design is nice, but could benefit from a little shoulder room.
Back yards are essentially unusable and the only access is through the garage.
Consider reducing the size or the number of units.
It would be nice if there were a pedestrian zone that is not shared with vehicles.
Units at the west end of the development will have a difficult time turning cars around.
Applicant did state that there would be fences. However, none were shown in the application documents provided to the committee.

Recommendation:

Recommend that this project be brought back to the committee with color and materials boards.
These should be provided for all projects submitted to the committee.
Recommend that this project be reduced in number or units, or size of units to allow for some usable outdoor space for the units. Providing very tall patio doors to 5' side yards seems counterintuitive.

County of El Dorado
Air Quality Management District

330 Fair Lane, Placerville Ca 95667
Phone: 530.621.7501 Email: AQMD@edcgov.us
www.edcgov.us/airqualitymanagement

Dave Johnston
Air Pollution Control Officer

July 1, 2022

Evan Mattes, County Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

RE: Z21-0012, PD21-0003, TM21-0001 – Greenwood Estates – APN 082-411-004 – AQMD Comments

Dear Mr. Mattes:

The El Dorado County Air Quality Management District (AQMD) has reviewed the proposed Rezone, Planned Development and Tentative Subdivision Map Permit request to subdivide a 0.88-acre parcel into ten multifamily residential parcels, and has the following comments.

As stated in the AQ Waiver sent to Ron Personius Sept. 17, 2021, since the project is well below the size of projects identified in Table 5.2 “Projects with Potentially Significant ROG and NOx Operation Emission” (EDC AQMD Guide to Air Quality Assessment), the AQMD has determined this project is not expected to cause a significant air quality impact so an Air Quality Analysis is not required.

Regarding potential air quality impacts at the time of development, grubbing, burning or grading; the following standard conditions would apply:

1. Asbestos Dust: Current county records indicate the subject property is entirely located within the Asbestos Review Area. An Asbestos Dust Mitigation Plan (ADMP) Application with applicable fees shall be submitted to and approved by the AQMD prior to project construction if the project moves more than 20 cubic yards of soil, pursuant to AQMD Rule 223.2, Fugitive Dust – Asbestos Hazard Mitigation. Mitigation measures for the control of fugitive dust shall comply with the requirements of Rule 223, Fugitive Dust – General Requirements, and Rule 223.2 Fugitive Dust – Asbestos Hazard Mitigation.

2. Paving: Project construction and related paving shall adhere to AQMD Rule 224, Cutback and Emulsified Asphalt Paving Materials if applicable.

3. Painting/Coating: The project construction may involve the application of architectural coatings, which shall adhere to AQMD Rule 215, Architectural Coatings.

4. Open Burning: Burning of waste vegetation that results from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

5. Construction Emissions: During construction, all self-propelled diesel-fueled engines greater than 25 horsepower shall be in compliance with the California Air Resources Board (CARB) Regulation for In-Use Off-Road Diesel Fueled Fleets (§ 2449 et al, title 13, article 4.8, chapter 9, California Code of Regulations (CCR)). The full text of the regulation can be found at ARB's website here: https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-equipment Questions on applicability should be directed to CARB at 1.866.634.3735. CARB is responsible for enforcement of this regulation.

6. Portable Equipment: All portable combustion engine equipment with a rating of 50 horsepower or greater shall be registered with CARB. A copy of the current portable equipment registration shall be with said equipment. The applicant shall provide a complete list of heavy-duty diesel-fueled equipment to be used on this project, which includes the make, model, year of equipment, and daily hours of operations of each piece of equipment.

7. Electric Vehicle Charging – Residential: The residential portion of the project shall comply with the Residential Mandatory Measures identified in the 2019 Cal Green Building Code §4.106.4.1 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter) and shall comply with all requirements listed in this subsection[1]. Please refer to https://www.edcgov.us/Government/building/pages/california_building_standards_in_effect.aspx

AQMD Rules and Regulations are available at the following internet address: https://ww2.arb.ca.gov/current-air-district-rules.

AQMD thanks you for the opportunity to comment on this proposed project. If you have any questions regarding this letter, please contact our office at 530.621.7501.

Respectfully,

Lisa Petersen
Air Quality Engineer
Air Quality Management District

\\AQData\AQ-Shared\CEQA or AQMD COMMENTS\AQMD Comments\2022\PD21-0003 Greenwood Estates - AQMD Comments.docx

[1] https://codes.iccsafe.org/content/CAGBSC2019/chapter-4-residential-mandatory-measures

Fremont Environmental Consulting

Biological Resources Evaluation Memorandum for the Greenwood Estates Project, Cameron Park, El Dorado County, CA

Prepared by: FEC, Inc.

Introduction

FEC, Inc. (FEC) has prepared this Biological Resources Evaluation (BRE) for the Greenwood Estates project (proposed project) located in the community of Cameron Park in unincorporated El Dorado County, CA. The purpose of this BRE is to document baseline biological resources in the project site and to assess the potential for sensitive biological resources including special-status species, sensitive natural communities, or other protected biological resources such as wetlands or other waters of the U.S. or State or protected trees to occur in the project site and/or be impacted by the proposed project. This BRE also proposes mitigation to avoid or reduce any such impacts. This report is intended to support project planning and entitlements including California Environmental Quality Act (CEQA) documentation.

Project Location and Description

The site of the proposed project is a 0.88-acre parcel located at 2545 Greenwood Lane (APN 082-411-004) just north of Highway 50 in the community of Cameron Park (Attachment A; Figure 1). The project site is located at Township 09N, Range 09E, Section 5 of the "Clarksville, CA" U.S. Geological Survey 7.5 minute topographic quadrangle (quad) (Attachment A; Figure 2) with the center of the site located at latitude 38°39'31.44''N and longitude 121°00'09.51'' W, North American Datum (NAD) 83.

The proposed project consists of subdividing the parcel and developing ten (10) single-family residential lots on the parcel.

Methods:

Biological Studies

Biological studies conducted in support of this report included a special-status species evaluation and a biological reconnaissance survey. The special-status species evaluation was conducted in order to assemble a list of regionally-occurring special-status species with the potential to be impacted by proposed projects in the region. The biological reconnaissance survey was then conducted to determine regionally-occurring special-status species with the potential to occur on the project site and/or be impacted by the proposed project.

Special-Status Species Evaluation

The special-status species evaluation included obtaining lists of special-status species with the potential to occur in the project region from the following sources: the U.S. Fish and Wildlife Service (USFWS) online list of federally-listed special-status species with the potential to occur in, or be affected by projects in the project site, the list of reported occurrences of special-status species in the California Natural Diversity Database (CNDDB) for the "Clarksville, California" and "Shingle Springs, California" USGS quads, and the list of reported occurrences of special-status plant species in the California Native Plant Society (CNPS) database for the "Clarksville, California" and "Shingle Springs, California" USGS quads. Results of these queries are included in Attachment B. Special status species with the potential to occur in the project vicinity were compared with the habitats on site and other factor such as soil types on the project site and elevational and geographic ranges of the special-status species to determine if a species has the potential to occur within the project site.

Biological Reconnaissance Survey

An FEC biologist conducted a biological reconnaissance survey on August 26, 2021 to characterize and map the biological habitats within the proposed project site. The biological reconnaissance survey area consisted of the entire 0.88-acre parcel (APN: 082-411-004). The entire site was walked and searched for the presence of special-status species or sensitive natural communities, including the potential presence of wetlands or other waters of the U.S. and State. Plant and animal species observed on the project site that were identifiable at the time of the biological reconnaissance were documented. Attachment C is a list of species observed on the site during the survey.

Regulatory Background

Special-Status Species and Nesting Birds

For the purpose of this technical memorandum, special-status species are defined as: species listed under the Federal Endangered Species Act of 1973 (hereafter, "FESA," 16 USC Section 1531 et seq.) as Threatened or Endangered, as well as Candidate species and species proposed

for listing; species listed under the California Endangered Species Act (CESA) of 1970 (CDFG Code Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) as Threatened or Endangered; species of special concern or watch list species as designated by the CDFG; species that are not currently protected by statute or regulation, but would be considered rare, threatened, or endangered under these criteria, or by the scientific community [CEQA Guidelines subsection 15380(b) and (d)]; and plant species considered rare according to the California Native Plant Society (CNPS); specifically plants on Lists 1A, 1B, 2, and 3 are considered special-status species under CEQA. While not technically considered special-status species, migratory bird species listed on the federal list (50 CFR Section 10.13) are protected under the Migratory Bird Treaty Act of 1918 (16 USC Subsection 703-712). Migratory bird species and their nests and eggs are protected from injury or death. California Fish and Game Code Subsections 3503, 3503.5, and 3800 also prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. Therefore, potential impacts to migratory birds and nesting birds are discussed.

Jurisdictional Waters

Any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 USC 1344) or Section 10 of the Rivers and Harbors Act. The Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Within non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM), which is defined as:

"A line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris."

Wetlands are defined in 33 CFR Part 328 as:

"Areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification for impacts to "Waters of the State", which are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Impacts to "Waters of the State" may also require a Lake or Streambed Alteration Agreement under Section 1600 et seq. of the California Fish and Game Code. A Lake or Streambed Alteration Agreement is required if a proposed project will

"substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of streambeds.

Protected Trees

El Dorado County General Plan Amendment approved in October 2017 and the County's Oak Resources Management Plan and the Oak Resources Conservation Ordinance protect individual native oak trees and oak woodland canopy. Project proponents are required to inventory all native oak trees in the woodland area 24 inches in diameter and greater, identify all Heritage Trees 36 inches in diameter and greater, and any individual oak trees 6 inches in diameter and greater located outside of the woodland area. A permit is required from El Dorado County for non-exempt impacts to oak resources including oak canopy, individual native oaks and Heritage trees and mitigation is required to replace lost oak resources.

Determination of Potential Impacts

The following thresholds of impact significance are based on California Environmental Quality Act (CEQA) guidelines. Based on the CEQA guidelines, the Project would have a significant impact on biological resources if it would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or the USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Results: Environmental Setting

Existing Conditions

The project site is located within a commercial/light industrial area in the south side of Cameron Park just north of Highway 50. The surrounding area is a mix of retail, light industrial, commercial and residential housing. The project site is an empty lot with no structures and no apparent uses. The project site had been mowed prior to the biological reconnaissance survey, likely in late spring or early summer. Figure 3 in Attachment A is an aerial map of the project site.

Topography and Soils

The project site is primarily flat and gently sloping from east to west with an elevation of approximately 1,150 to 1,165 feet amsl.

Two soils types are mapped on the project site, including Auburn silt loam, 2 to 30 percent slopes, and Sobrante silt loam, 3 to 15 percent slopes (Attachment A; Figure 4). Auburn silt loam is the primary soil type on the site and encompasses the majority of the site, with Sobrante silt loam occurring in a small strip along the southeast corner of the site (NRCS 2021). These soil types are discussed below.

Auburn silt loam, 2 to 30 percent slopes, occurs on hills between 120 to 3,000 feet above mean sea level and consists of residuum weathered from basic igneous rock and/or basic residuum weathered from metamorphic rock. A typical profile is silt loam from 0 to 14 inches and unweathered bedrock from 14 to 18 inches. Lithic bedrock occurs at a depth of 14 to 18 inches. This soil series is well drained with a frequency of flooding of "none" and ponding of "none" and a depth to water table of more than 80 inches (NRCS 2021).

Sobrante silt loam, 3 to 15 percent slopes, occurs on hillslopes between 120 and 3,500 feet above mean sea level and consists of residuum weathered from metamorphic rock. A typical profile is silt loam from 0 to 11 inches, clay loam from 11 to 24 inches, weathered bedrock from 24 to 30 inches, and unweathered bedrock from 30 to 34 inches. This soil series is well drained with a frequency of flooding of "none" and ponding of "none" and a depth to water table of more than 80 inches, with paralithic bedrock located at a depth of 24 to 30 inches and lithic bedrock at a depth of 30 to 34 inches (NRCS 2021).

Habitat Types in the Project Area

The project site contains one habitat type: non-native annual grassland (Attachment A; Figure 5). The site is vegetated primarily with non-native grasses and forbs typical of disturbed sites within largely developed areas. The dominant species within the non-native annual grassland are non-native grasses including wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), barley

(*Hordeum marinum*), medusa head (*Elymus caput-medusae*), ripgut brome (*Bromus diandrus*), fescue (*Vulpia microstachys*), and silver European hairgrass (*Aira caryophyllea*). Common forbs included doveweed (*Croton setiger*), rose clover (*Trifolium hirtum*), prickly lettuce (*Lactuca serriola*), and tarweed (*Holocarpha virgata*). Some large blue oaks (*Quercus douglassii*) occur along the western side of the parcel and there are some scattered small coyote bush (*Baccharis pilularis*). Otherwise, the site is primarily vegetated with ruderal herbaceous species. Representative photos of the site are included as Figure 6 in Attachment A.

General Wildlife Use of the Site

The project site is located within an urban area and is surrounded by development. Wildlife use of the site would be expected to be limited to common species adapted to disturbed areas. No wildlife was observed on the project site during the biological reconnaissance; however, there were several ground squirrel (*Otospermophilus beecheyi*) burrows in the project site.

Results: Special-Status Species and Other Protected Biological Resources

Special-Status Species

Based on the results of the background review and database searches, there are a total of 11 plant species and 21 animal species meeting the criterial for a special-status species as defined in this report that are documented within the "Clarksville, CA" and "Shingle Springs, CA" USGS quads. All 11 special-status plants and 21 special-status animals were evaluated for the potential to occur within the project site and/or be impacted by the proposed project. The evaluation was based on factors such as habitat requirements, elevational and geographic ranges, and soil requirements. This evaluation is documented in Attachment D. Species that were determined to have no potential to occur in the project site or be impacted by the proposed project are not discussed further in this document.

Special-Status Plants

No special-status plant species were observed in the project site during the biological reconnaissance survey. Based on the evaluation of the potential for special-status plant species to occur in the project site that is described above and documented in Attachment D, there are no special-status plant species with the potential to occur in the project site. Regionally-occurring special-status plant species primarily occur on serpentinite, gabbroic, or volcanic soils within chaparral, oak woodland, or cismontane forest habitats. The project site is comprised of non-native grassland and is primarily vegetated with non-native grasses and forbs typical of disturbed areas. The project site does not provide suitable soils or habitat for special-status

plant species. No impacts to special-status plant species would be expected to occur as a result of project implementation.

Special-Status Animals

No special-status animal species were observed in the project site during the biological reconnaissance survey. Based on the evaluation of the potential for special-status animal species to occur in the project site that is described above and documented in Attachment D, there are no special-status animal species with the potential to occur in the project site. The majority of the regionally-occurring special-status animal species require aquatic habitats such as vernal pools, seasonal wetlands, ponds, marshes, and riverine habitats. The remaining species occur in large tracts of undeveloped lands such as open grasslands or forested habitats. There are no aquatic habitats in or adjacent to the project site and the site is small and surrounded by development. No impacts to special-status animal species would be expected to occur as a result of project implementation.

Raptors, Migratory Birds, and Other Nesting Birds

No bird nests were observed in the project site during the biological reconnaissance survey. However, nesting habitat for common raptors, migratory birds and other nesting birds is present in the oak trees in and adjacent to the project site. Common raptor species such as red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*) could nest in oak trees in or adjacent to the site. Common bird species could also nest in herbaceous vegetation or on the ground such as mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferous*), or a variety of other songbirds. If project activities were to commence during the typical bird nesting season (February 1 to August 31), project activities in the vicinity of bird nests could lead to abandonment of eggs or young or forced fledging, which would be a violation of Fish and Game Code and a significant impact.

Riparian Habitats or Other Sensitive Natural Communities

Riparian habitats are often considered sensitive natural communities and are also regulated under Section 1600 of the Fish and Game Code. Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, and/or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. CNDDB vegetation alliances are ranked 1 through 5, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Some alliances with the rank of 4 and 5 have also been included in the 2020 sensitive natural communities list under CDFW's revised ranking methodology (CDFW 2021).

There are no riparian habitats or sensitive natural communities on the site and there are no reported occurrences of sensitive natural communities in the CNDDB for the "Clarksville, CA" or

"Shingle Springs, CA" USGS quads. The only habitat type present in the project site is non-native annual grassland, which is not considered a sensitive natural community. Therefore, no impacts to sensitive natural communities would occur as a result of the proposed project.

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are connections between patches of habitat, generally native vegetation, which join two or more larger areas of similar wildlife habitat and allows for physical and genetic exchange between animal populations that could otherwise be isolated. Habitat linkages are typically contiguous strips of natural areas such as riparian corridors, oak woodlands, or drainages. Wildlife movement corridors are critical for the maintenance of ecological processes including facilitating the movement of animals and the continuation of viable populations. Movement corridors may serve to provide a more local linkage such as between foraging and denning areas, or they may be regional in nature providing larger scale migration corridors such as between wintering and summering habitat. Habitat linkages may also serve to allow animals to periodically move away from an area and then subsequently return. Other corridors may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The project site is not included in any wildlife movement or connectivity corridors mapped by the California Essential Habitat Connectivity project (CDFW 2021) and does not provide any unique movement or dispersal habitat relative to surrounding lands. The project site is also not located within a Natural Landscape Block (defined as relatively natural habitat blocks that support native biodiversity). Therefore, the project will not impact any wildlife movement corridors.

Jurisdictional Waters

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) online database was reviewed to determine if there are any wetlands or other waters of the U.S. mapped by the USFWS in the Study Area (USFWS 2021b). A review of Google Earth historic aerial imagery was also conducted to search for any evidence of wetlands on the site.

During the biological reconnaissance survey, the project site was searched for areas that could potentially qualify as wetlands by containing a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology according to the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). No potential wetlands or other aquatic resources were observed on the site during the biological reconnaissance survey and no evidence of potential wetlands or other aquatic resources was identified in the project site

during a search of the NWI database or the review of historic aerial imagery. Therefore, no impacts to wetlands or other aquatic resources would occur as a result of the proposed project.

Protected Trees

An arborist report for oak woodland resources was prepared in compliance with the El Dorado County General Plan Amendment approved in October 2017 and the County's Oak Resources Management Plan and the Oak Resources Conservation Ordinance. The purpose of the arborist report was to determine the oak woodland area on the site, identify all native oak trees in the woodland area 24 inches in diameter and greater, identify all Heritage Trees 36 inches in diameter and greater, and any individual oak trees 6 inches in diameter and greater located outside of the woodland area designated for removal (CalTLC 2021).

The site contains a total of eight trees including four blue oak (*Quercus douglasii*) and four valley oak (*Quercus lobata*). In addition, there is one Blue Oak on the adjacent property to the west extending into the site. The oaks on the site were considered to be a remnant oak woodland with no individual trees. There were a total of two trees 24 inches in diameter and greater on the subject property, one tree 24 inches or greater in diameter on the adjacent property to the west, and no heritage trees 36 inches in diameter or greater on or adjacent to the site. Oak woodland was determined to comprise 0.512 acres in the Study Area.

Implementation of the proposed project would impact 0.468 acres of the oak woodland.

Habitat Conservation Plans, Natural Community Conservation Plans, and Local Conservation Plans

There are no Habitat Conservation Plans or Natural Community Conservation Plans that cover the project site and the proposed project will have no impact on any such plans. The project site is located with El Dorado Rare Plant Mitigation Area 2, which requires mitigation for impacts to lands within western El Dorado County that are within the range of rare plants endemic to western El Dorado County, often referred to as the Pine Hill Plants. The project will be subject to payment of rare plant mitigation fees as applicable to Rare Plant Mitigation Area 2 as required by El Dorado County.

Summary of Potential Biological Impacts and Recommended Mitigation Measures

The proposed project could potentially result in impacts to nesting raptors and migratory birds and/or other nesting birds and would result in impacts to protected trees. The project site is also located within El Dorado County Rare Plant Mitigation Area 2. Recommended measures are included below to reduce potential impacts to less than significant.

Recommended Mitigation Measures

Nesting Birds

- Any vegetation clearing or ground disturbing activities within the Study Area should take place outside of the typical avian nesting season (e.g., February 15 through August 31), if feasible. If construction needs to commence between February 15 and August 31, a pre-construction survey for nesting birds should be conducted within 500 feet of active construction areas within 14 days prior to commencement of construction. If a lapse in Project activity occurs for 14 days or more during the bird nesting season then the nesting bird surveys should be re-conducted. If no nesting birds are observed no further mitigation is required.
- If active bird nests are observed during the pre-construction survey, a buffer zone should be established around the nest tree(s) until the young have fledged or are no longer dependent on the nest, as determined by a qualified biologist. The radius of the required buffer zone can vary depending on the species, (i.e., 25-100 feet for passerines and 200-300 feet for common raptors), with the dimensions of any required buffer zones to be determined by a qualified biologist. Buffer zones could be reduced if the nest is monitored by a qualified biologist.
- The buffer zone around a nesting tree should be demarcated with high visibility orange construction fencing (or similar highly visible material) and no construction activities or personnel should be allowed within the buffer zone.

Protected Trees

Mitigation for impacts to oak resources should be implemented in accordance with the County's ORMP at a 2:1 ratio, for a total acre mitigation amount of 0.936 acres at the current fee. At the time of report preparation, the fee for oak woodland impacts is $8,285 per acre, for a total mitigation of $7,638.77.

Rare Plant Mitigation

Payment of fees for development within El Dorado County Rare Plant Mitigation Area 2 should be implemented. The current fee for development of single-family residential in Mitigation Area 2 is $386.00 per dwelling for a total mitigation of $3,860.00.

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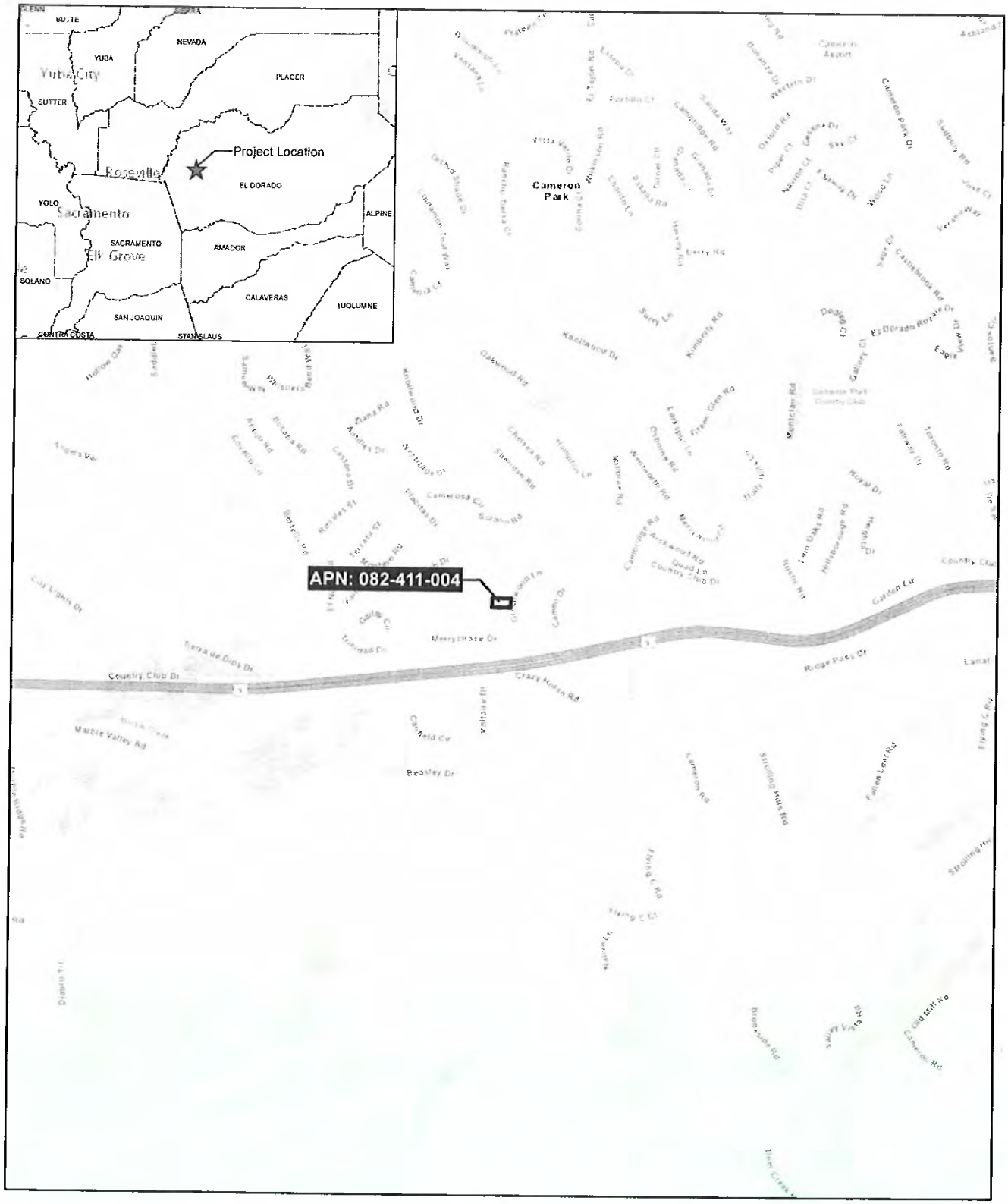
Attachment A: Figures



N

0 1,000 2,000

Feet

fremont environmental consulting

Map Date: 09/01/2021
Source: ESRI (2021)

Figure 1

Regional Location and Vicinity

APN 082-411-004
2545 Greenwood Lane, Cameron Park, El Dorado County, CA

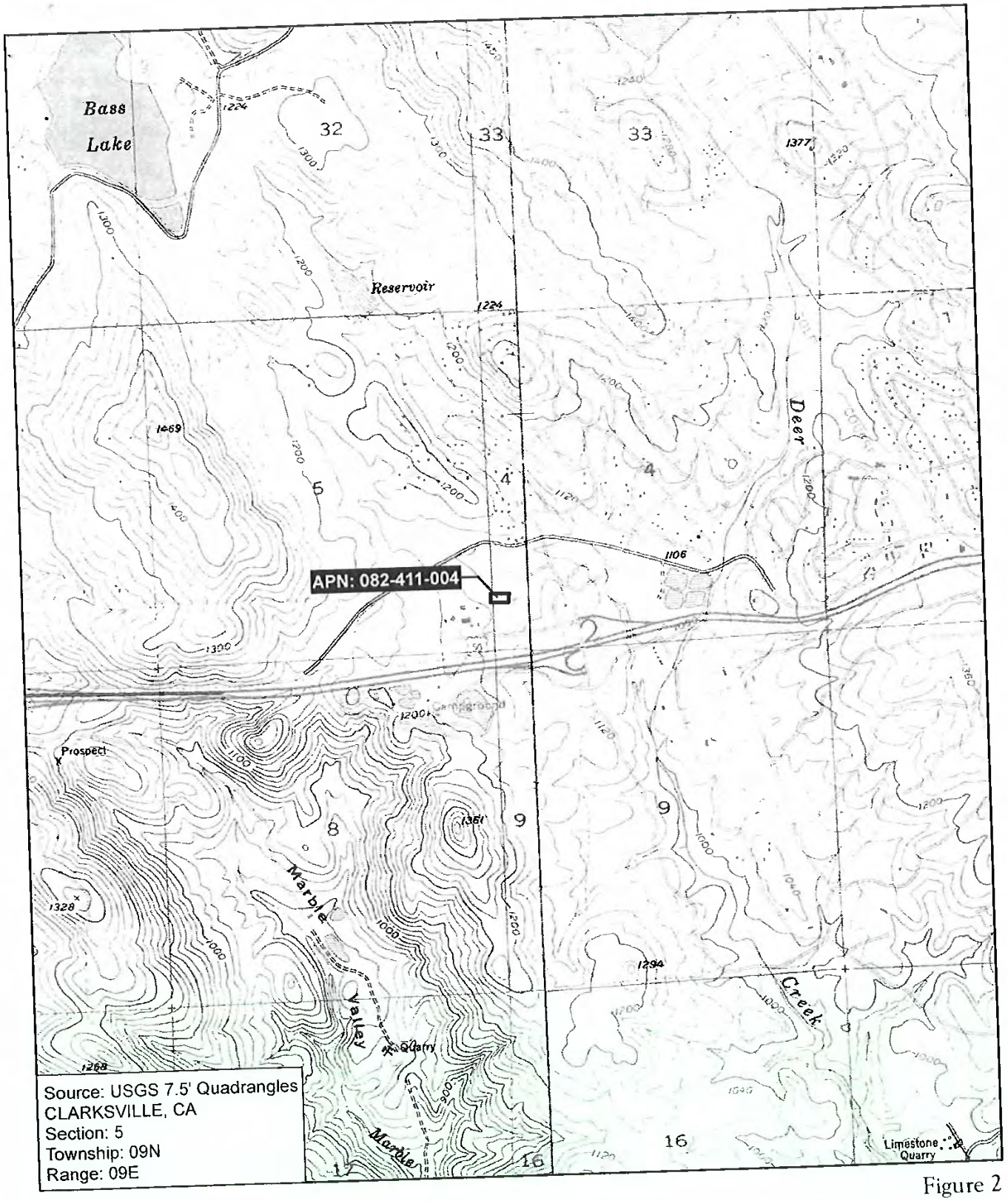


Figure 2

USGS

APN 082-411-004

2545 Greenwood Lane, Cameron Park, El Dorado County, CA

Map Date: 09/01/2021

Source: USGS (2020)

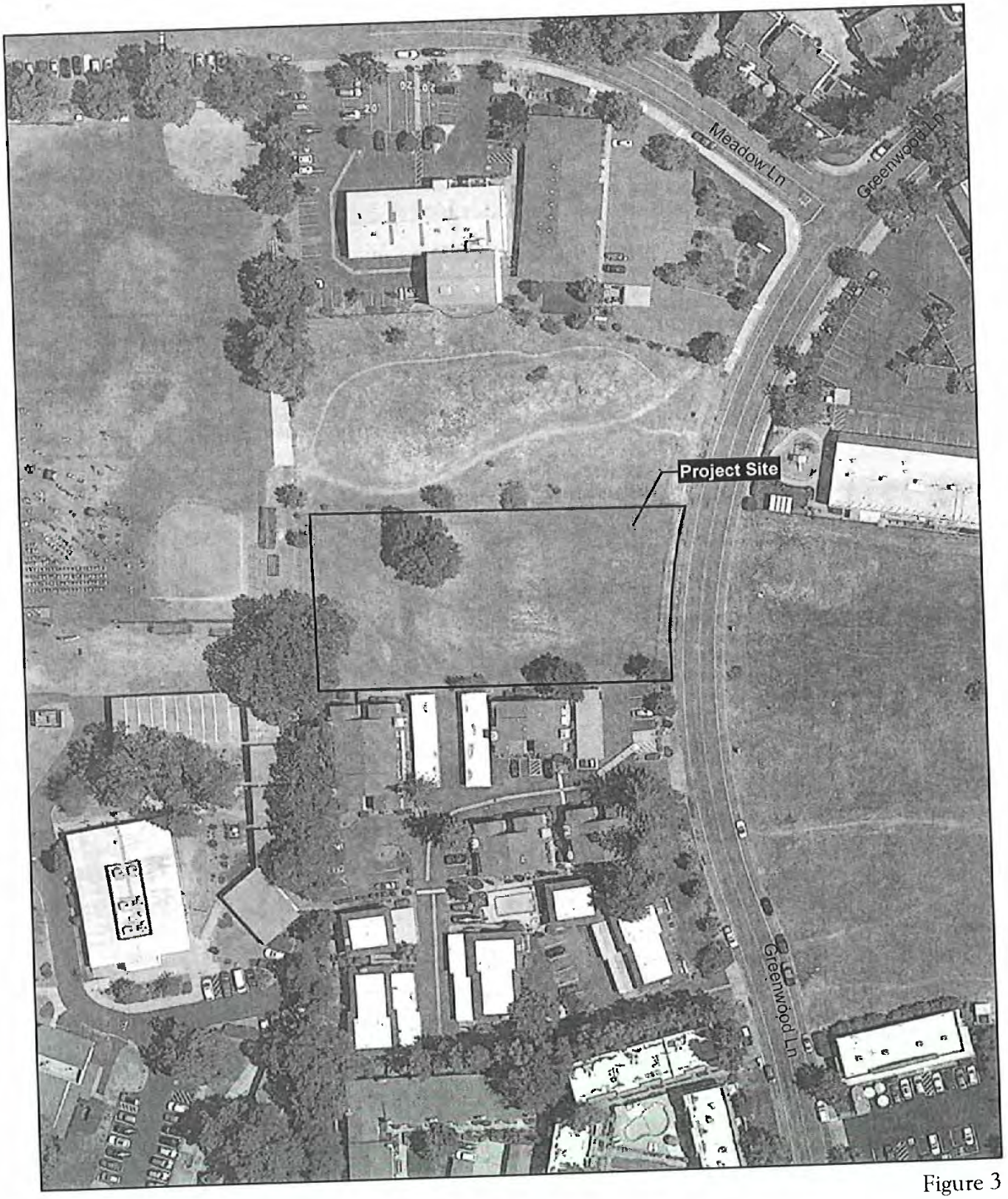


Figure 3

AERIAL

APN 082-411-004

2545 Greenwood Lane, Cameron Park, El Dorado County, CA

Fremont Environmental Consulting

Map Date: 09/01/2021

Aerial Source: Google Earth (06/2021)

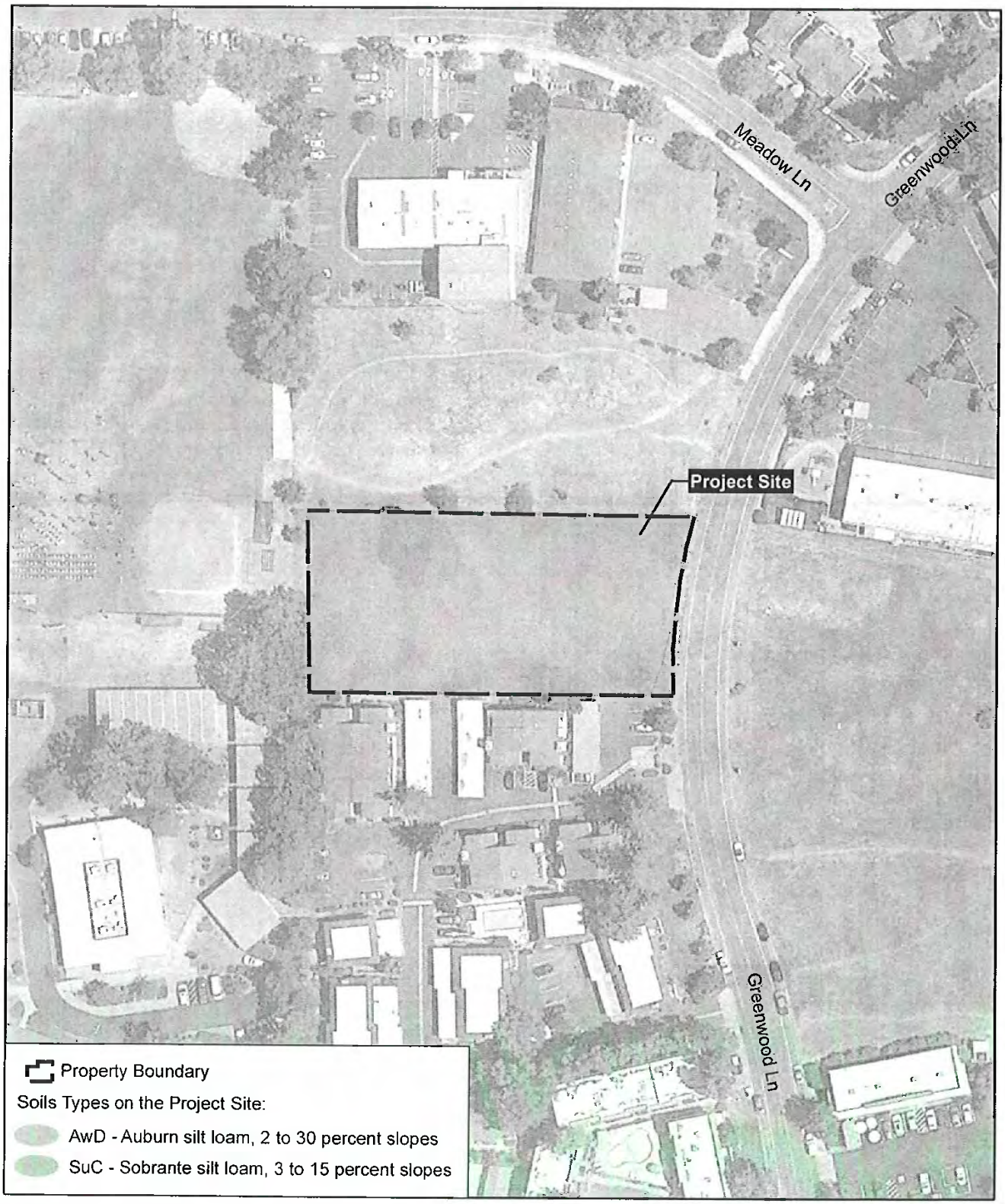


Figure 4

SOILS

APN 082-411-004

2545 Greenwood Lane, Cameron Park, El Dorado County, CA

Fremont Environmental Consulting

Map Date: 09/01/2021

Data Sources: Natural Resources Conservation Service (NRCS) (2021); Google Earth (06/2021)

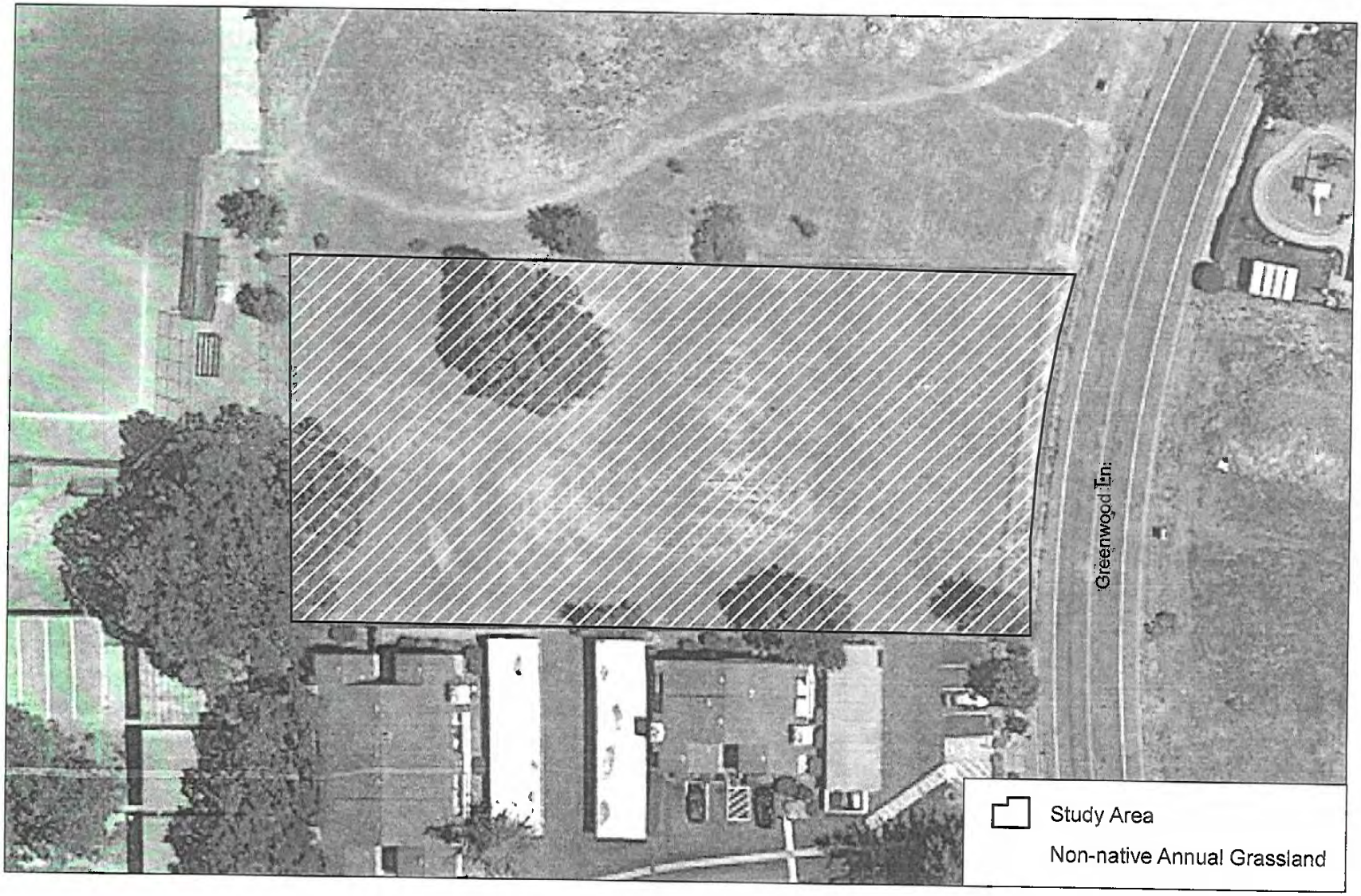


Figure 5

Habitat Map

APN 082-411-004

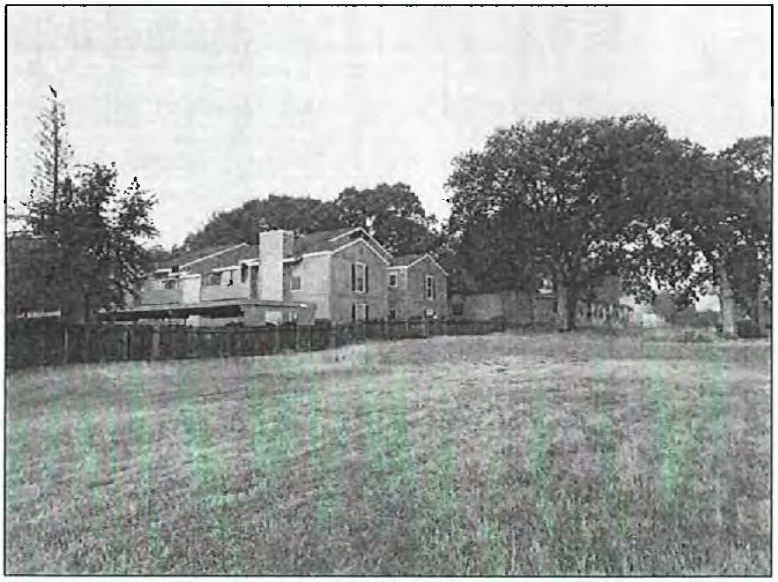
2545 Greenwood Lane, Cameron Park, El Dorado County, CA

Fremont Environmental Consulting

Map Date: 09/09/2021

Aerial Source: Google Earth (06/2021)

Viewpoint of the site to the west and to the south. Habitat consists of non-native annual grassland and a few scattered, non-heritage native oaks.



Photograph Date: 08/26/2021

Figure 6

Site Photographs

APN 082-411-004

2545 Greenwood Lane, Cameron Park, El Dorado County, CA

Fremont Environmental Consulting

Attachment B: Special-Status Species Queries

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Clarksville (3812161) OR Shingle Springs (3812068))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
Bisbee Peak rush-rose *Crocanthemum suffrutescens*	PDCIS020F0	None	None	G2?Q	S2?	3.2
Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	IIHYM35030	None	None	G2	S2	
Brandegee's clarkia *Clarkia biloba ssp. brandegeeae*	PDONA05053	None	None	G4G5T4	S4	4.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3G4T1	S1	FP
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
chaparral sedge *Carex xerophila*	PMCYP03M60	None	None	G2	S2	1B.2
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G3G4	S3S4	SSC
El Dorado bedstraw *Galium californicum ssp. sierrae*	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
El Dorado County mule ears *Wyethia reticulata*	PDAST9X0D0	None	None	G2	S2	1B.2
Fisher *Pekania pennanti*	AMAJF01020	None	None	G5	S2S3	SSC
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
great egret *Ardea alba*	ABNGA04040	None	None	G5	S4	
Jepson's onion *Allium jepsonii*	PMLIL022V0	None	None	G2	S2	1B.2
Layne's ragwort *Packera layneae*	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	

Commercial Version -- Dated August, 1 2021 -- Biogeographic Data Branch

Report Printed on Monday, September 06, 2021

Information Expires 2/1/2022

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Pine Hill ceanothus *Ceanothus roderickii*	PDRHA04190	Endangered	Rare	G1	S1	1B.1
Pine Hill flannelbush *Fremontodendron decumbens*	PDSTE03030	Endangered	Rare	G1	S1	1B.2
Red Hills soaproot *Chlorogalum grandiflorum*	PMLIL0G020	None	None	G3	S3	1B.2
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	IICOL5V010	None	None	G2?	S2?	
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
Stebbins' morning-glory *Calystegia stebbinsii*	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3	SSC
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP

Record Count: 32

lts

ort Results

nd. Click on scientific name for details

Quad is one of [3812161,3812068]

Common Name | Family | Lifeform | Blooming Period | Fed List | State List | Global Rank | State Rank

ank | General Habitats | Micro Habitats | Lowest Elevation | Highest Elevation | CA Endemic | Date Added | Photo

NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RAR PLANT RANK
ii	Jepson's onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	None	None	G2	S2	1B.2
reweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	None	None	G4	S4	4.2
bbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	FE	CE	G1	S1	1B.1

dron	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	FE	CR	G1	S1	1B.2
rnicum	El Dorado bedstraw	Rubiaceae	perennial herb	May-Jun	FE	CR	G5T1	S1	1B.2
chella icola	serpentine bluecup	Campanulaceae	annual herb	May-Jun	None	None	G4T3	S3	4.3
a	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	G3	S3	4.2
eae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	FT	CR	G2	S2	1B.2
iflora	beautiful shootingstar	Primulaceae	perennial herb	Apr-Jun	None	None	G5	S3	4.2
fordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous	May-Oct(Nov)	None	None	G3	S3	1B.2

IPaC U.S. Fish & Wildlife Service

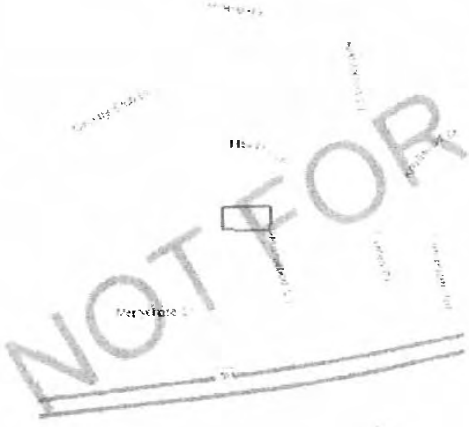
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

El Dorado County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME — STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME — STATUS

Delta Smelt Hypomesus transpacificus — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/321

Insects

NAME — STATUS

Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME — STATUS

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi — Endangered
Wherever found
There is final critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2246

Flowering Plants

NAME — STATUS

El Dorado Bedstraw Galium californicum ssp. sierrae — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5209

Layne's Butterweed Senecio layneae — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4062

Pine Hill Ceanothus Ceanothus roderickii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3293

Pine Hill Flannelbush Fremontodendron californicum ssp. decumbens — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4818

Stebbins' Morning-glory Calystegia stebbinsii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3991

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES

THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626
Breeds Jan 1 to Aug 31

Black Tern Chlidonias niger
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3093
Breeds May 15 to Aug 20

California Thrasher Toxostoma redivivum
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
Breeds Jan 1 to Jul 31

Cassin's Finch Carpodacus cassinii
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9462
Breeds May 15 to Jul 15

Golden Eagle Aquila chrysaetos
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680
Breeds Jan 1 to Aug 31

Lawrence's Goldfinch Carduelis lawrencei
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464
Breeds Mar 20 to Sep 20

Nuttall's Woodpecker Picoides nuttallii
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410
Breeds Apr 1 to Jul 20

Oak Titmouse Baeolophus inornatus
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656
Breeds Mar 15 to Jul 15

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )

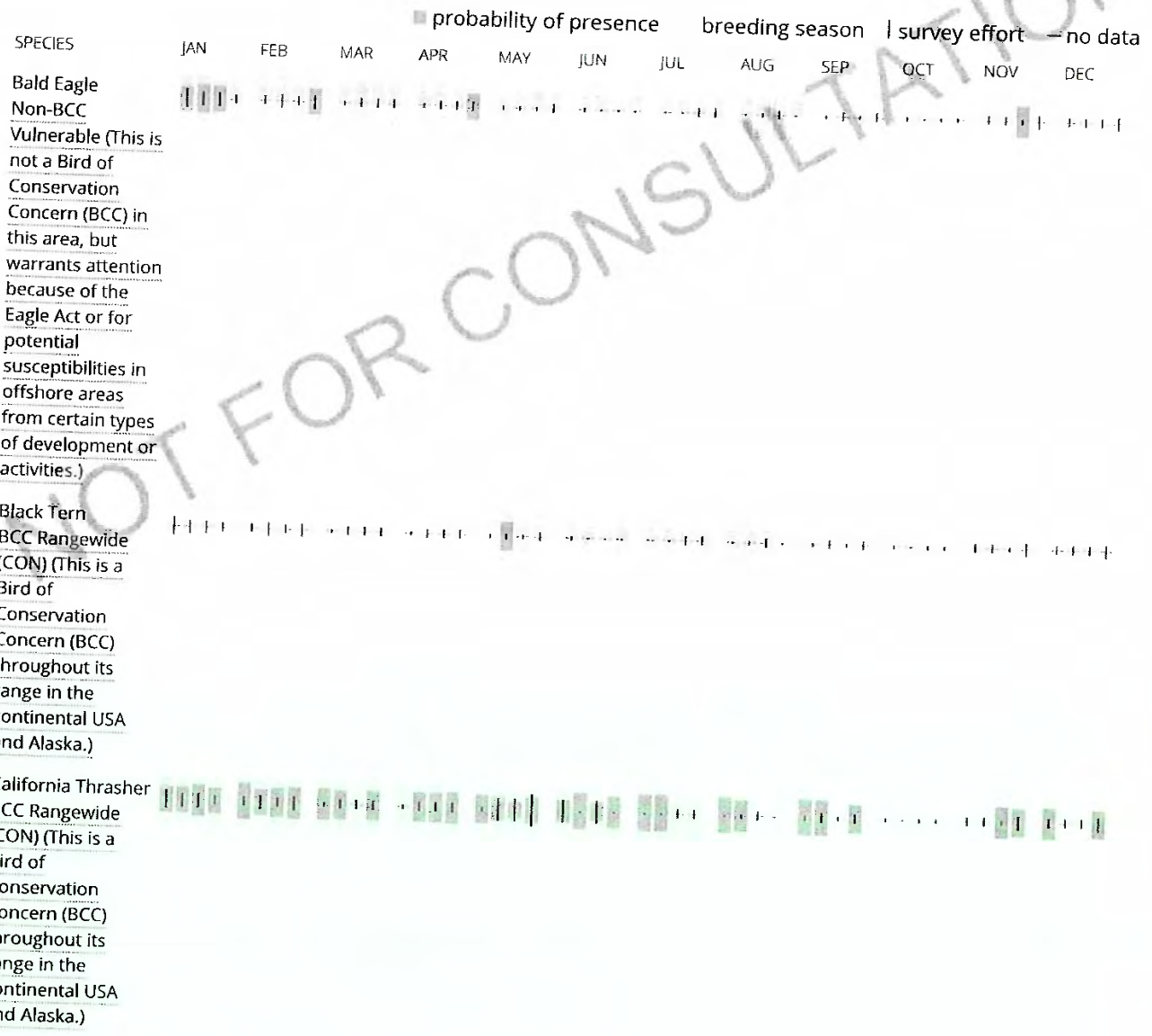
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Cassin's Finch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Olive-sided Flycatcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Attachment C
Species Observed in the Study Area

Table C-1. Plant Species Observed in the Study Area

Family	Scientific Name	Common Name
Native		
Asteraceae		
	Baccharis pilularis	Coyote brush
	Centromadia fitchii	Common spikeweed
	Madia elegans	Common madia
Fagaceae	*Quercus douglassii*	Blue oak
	Quercus wislizenii	Interior live oak
Hypericaceae	*Hypericum perforatum*	St. John's wort
Onagraceae	*Epilobium brachycarpum*	Annual fireweed
Rubiaceae	*Galium aparine*	Common bedstraw
Non-native		
Apiaceae	*Torilis arvensis*	Common hedge-parsley
Asteraceae	*Carduus pycnocephalis*	Italian thistle
	Centaurea solsticialis	Yellow star-thistle
	Cichorium intybus	Chicory
	Holocarpha virgata	Narrow tarplant
	Lactuca serriola	Prickly lettuce
Convolvulaceae	*Convolvulus arvensis*	Field bindweed
Euphorbiaceae	Croton setiger	dove weed
	Triadica sebifera	Chinese tallow tree
Fabaceae	*Trifolium hirtum*	Rose clover
	Vicia sativa	Common vetch
Geraniaceae	*Erodium botrys*	Broad leaf filaree
Plantaginaceae	*Plantago lanceolata*	English plantain
Poaceae	*Avenua fatua*	Wild oat
	Aira caryophyllea	Silver European hairgrass
	Briza minor	Little quakinggrass
	Bromus diandrus	Ripgut brome
	Bromus hordeaceus	Soft chess
	Elymus caput-medusae	Medusahead
	Festuca perennis	Italian rye grass
	Hordeum marinum	Barley
	Vulpia microstachys	Vulpia

Table C-2. Wildlife Species Observed in the Study Area

Family	Scientific Name	Common Name
Birds		
Columbidae	*Zanaida macroura*	Mourning dove
Corvidae	*Aphelocoma californica*	California scrub jay
Mimidae	*Mimus polyglottos*	Northern mockingbird
Mammals		
Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
PLANTS				
Allium jepsonii Jepson's onion	--/--/1B.2	A perennial bulbiferous herb found on serpentinite or volcanic soils within chaparral, cismontane woodland, and lower montane coniferous forest from an elevation of 985 - 4330 feet. Blooms April to August (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Calystegia stebbinsii Stebbins' morning glory	FE/CE/1B.1	A perennial rhizomatous herb found in chaparral openings and cismontane woodland, sometimes on gabbroic soils or in seeps, from an elevation of 605 – 3,575 feet. Blooms April to July (CNPS 2021).	Will not occur	There are no suitable habitats on the project site to support this species.
Carex xerophila Chaparral sedge	--/--/1B.2	A perennial herb found on gabbroic or serpentinite soils within chaparral, cismontane woodland, or lower montane coniferous forest at an elevation of 1445 - 2525 feet. Blooms March to June (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Ceanothus roderickii Pine Hill ceanothus	FE/CR/1B.1	A perennial evergreen shrub found in chaparral and cismontane woodland on nutrient-deficient forms of gabbro-derived soils characterized by low concentrations of available K, P, S, Fe, and Zn, sometimes on gabbroic or serpentinite soils from 805 – 3,575 feet in elevation. Blooms April to June (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Chlorogalum grandiflorum Red Hills soaproot	--/--/1B.2	A perennial bulbiferous herb found on gabbroic or serpentinite soils within chaparral, cismontane woodland, and lower montane coniferous forest from an elevation of 805 – 5,545 feet. Blooms May to June (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Crocanthemum suffrutescens Bisbee Peak rush-rose	--/--/3.2	A perennial evergreen shrub found in chaparral on gabbroic or soils in burned or disturbed areas from an elevation of 245 - 2200 feet. Blooms April to August (CNPS	Will not occur	There are no suitable soils or habitats on the project site to support this species.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
		2021)		
Fremontodendron decumbens Pine Hill flannelbush	FE/CR/1B .2	A perennial evergreen shrub found on gabbroic or serpentinite rocky soils within chaparral and cismontane woodland from an elevation of 1395 - 2495 feet. Blooms April to July (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Galium californicum ssp. Sierra El Dorado bedstraw	FE/CR/1B .2	A perennial herb found on gabbroic soil within chaparral, cismontane woodland, and lower montane coniferous forest from an elevation of 330 to 1,920 feet in elevation. Blooms May to June (CNPS 2021)	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Packera layneae Layne's butterweed	FT/CR/1B. 2	A perennial herb found on serpentinite or gabbroic rocky soils within chaparral and cismontane woodland from 655 – 3,560 feet in elevation. Blooms April to August (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	An emergent perennial rhizomatous herb found in shallow freshwater marshes and swamps from 0 – 2,135 feet in elevation. Blooms May – October (sometimes November) (CNPS 2021).	Will not occur	There are no suitable habitats on the project site to support this species.
Wyethia reticulata El Dorado County mule ears	--/--/1B.2	A perennial herb found on clay or gabbroic soil within chaparral, cismontane woodland, and lower montane coniferous forest from an elevation of 605 – 2,065 feet. Blooms April to August (CNPS 2021).	Will not occur	There are no suitable soils or habitats on the project site to support this species.
ANIMALS				
Invertebrates				
Branchinecta lynchi vernal pool fairy shrimp	FT/--/--	Vernal pool fairy shrimp is found in vernal pools, seasonal wetlands, and other aquatic habitats such as ditches and artificial lakes and ponds. Vernal pools where this species is found range from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor	Will not occur	There are no suitable aquatic habitats on the project site to support this species.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
		pools. Typical aquatic habitats where this species is found measure less than 0.05 acre, although this species has been collected from vernal pools and other water bodies exceeding 25 acres (USFWS 2005).		
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/--/--	Valley elderberry longhorn beetle is endemic to elderberry shrubs (*Sambucus* spp.) and primarily occupies elderberry shrubs occurring in or within close proximity to riparian habitat. This species occurs throughout the Sacramento and San Joaquin Valleys from Redding to Fresno County typically below 152 meters in elevation (USFWS 2017a).	Will not occur	There are no elderberry shrubs on the project site.
Lepidurus packardi vernal pool tadpole shrimp	FE/--/--	Vernal pool tadpole shrimp is found in vernal pools ranging from 54 square feet to 89 acres, containing clear- to highly-turbid water. This species is also found in other fishless water bodies such as ponds, ditches and seasonal wetlands that fill up in the winter/spring and dry up by late summer. Its known range is within the Central Valley of California and in the San Francisco Bay area (USFWS 2005).	Will not occur	There are no suitable aquatic habitats on the project site to support this species.
Fishes				
Hypomesus transpacifcus delta smelt	FT/--/SSC	Delta smelt is found in the upper Sacramento-San Joaquin Estuary of California where it mainly inhabits the freshwater-saltwater mixing zone, except during its spawning season, when it migrates upstream to fresh water following winter "first flush" flow events (around March to May) (Moyle 2002).	Will not occur	There are no suitable aquatic habitats on the project site to support this species.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
Amphibians				
Ambystoma californiense California tiger salamander (central Valley *DPS*)	FT/ST/--	California tiger salamanders are generally restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet in central California. This species breeds in suitable aquatic habitats but spends the majority of its life in upland areas in the vicinity of suitable breeding ponds, where it inhabits rodent burrows (USFWS 2017b).	Will not occur	There are no suitable aquatic breeding habitats on or in close proximity to the project site to support this species.
Rana boylii Foothill yellow-legged frog	--/SE/SSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools (California Herps 2021).	Will not occur	There are no suitable aquatic habitats on the project site to support this species.
Rana draytonii California red-legged frog	FT/--/SSC	California red-legged frogs require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow-moving water to support breeding. During periods of aestivation, California red-legged frogs use small mammal burrows and moist leaf litter in proximity to suitable breeding habitat and can migrate up to 1.2 miles overland to find suitable breeding habitat or upland refugia (USFWS 2002).	Will not occur	There are no suitable aquatic habitats on the project site to support this species.
Spea hammondii western spadefoot	--/--/SSC	Western spadefoot breeds in vernal pools and seasonal ponds or slow portions of streams in grasslands and woodlands and the adults spend most of their time in underground burrows in grasslands surrounding the aquatic breeding habitat (Jennings and Hayes 1994).	Will not occur	There are no suitable aquatic habitats on the project site to support this species.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
Reptiles				
Emys marmorata western pond turtle	--/--/SSC	This species inhabits a variety of aquatic habitats including slow-moving water with dense submerged vegetation, ponds, and fast moving streams. Requires abundant basking sites, gently sloping banks, and dry clay or silt soils in nearby uplands. Turtles will lay eggs up to 0.25-mile from water, but typically go no more than 600 feet (Jennings and Hayes 1994).	Will not occur	There are no suitable aquatic habitats on the project site to support this species.
Phyrnosoma blainvillii Coast horned lizard	--/--/SSC	This species inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads. Often found near ant hills feeding on ants (California Herps 2021).	Will not occur	There is no suitable habitat on the project site to support this species. The project site is surrounded by development and roadways.
Thamnophis gigas giant garter snake	FT/ST/--	Giant garter snake inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the San Joaquin and Sacramento Valley floors. This species requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Giant garter snake seek refuge in ground squirrel	Will not occur	The project site is outside of this species geographic range and lacks suitable aquatic habitat.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
		burrows and other small mammal burrows as well as other crevices such as openings in riprap along banks with sunny exposure that are above the typical limits of flooding during the inactive season (USFWS 2017c).		
Birds				
Agelaius tricolor tricolored blackbird	--/ST/SSC	Tricolored blackbird nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*) as well as cattails (*Typha* spp.), willows (*Salix* spp.), and tules. The nesting habitat must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Forages on ground in croplands, grassy fields, flooded land, and edges of ponds for insects (Shuford and Gardali 2008).	Will not occur	There is no suitable nesting or foraging habitat on the project site for this species.
Aquila chrysaetos golden eagle	--/--/FP	Golden eagles typically occur in rolling foothills, mountain areas, deserts and other open habitats and nest on cliff ledges or large trees in open areas in canyons. This species will occasionally use other tall structures for nesting, such as electrical transmission towers. Golden eagles prey primarily on rodents, carrion, birds, reptiles and occasionally small livestock (Zeiner et al. 1990).	Will not occur	There is no suitable nesting or foraging habitat on the project site for this species and the project site is a small parcel surrounded by development and roadways.
Ardea alba great egret	--/--/--	This species inhabits freshwater, brackish, and marine wetlands. Rookeries are located on lakes, ponds, marshes, estuaries, impoundments, and islands. Great egrets forage in a variety of aquatic and terrestrial habitats including marshes, swamps, streams, rivers, ponds, lakes, impoundments, lagoons, tidal flats, canals,	Will not occur	There is no suitable nesting or foraging habitat for this species in the project site.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
		ditches, fish-rearing ponds, flooded farm fields, and grain fields (Cornell Lab 2021).		
Ardea herodias Great blue heron	--/--/--	Great Blue Herons live in both freshwater and saltwater habitats. This species forages in grasslands and agricultural fields. Breeding colonies are typically located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests. This species typically eats frogs and small mammals (Cornell Lab 2021).	Will not occur	There is no suitable nesting or foraging habitat for this species in the project site.
Athene cunicularia burrowing owl	--/--/SSC	Burrowing owl nests and forages in grasslands, agricultural fields, and disturbed places where burrowing mammals are abundant. This species does not dig its own burrows, but nests in abandoned burrows dug by fossorial mammals, especially those of California ground squirrel (*Otospermophilus beecheyi*; CDFW 2012). This species also nests in artificial structures such as small culverts and pipes.	Will not occur	The project site is too small to provide suitable habitat for this species and is surrounded by development and roadways. No sign of burrowing owl was observed on the project site during the biological survey.
Elanus leucurus white-tailed kite	--/--/FP	White-tailed kite typically inhabit open habitats such as rolling foothills and valley margins with scattered oaks, as well as river bottomlands or marshes next to deciduous woodland. They typically nest in isolated, dense-topped trees in open areas and forages in a variety of habitats adjacent to the nesting habitat including grassland, marshes, and agricultural fields (Zeiner *et al.* 1990).	Will not occur	There is no suitable nesting or foraging habitat for this species in the project site.
Haliaeetus leucocephalus Bald eagle	FD/SE/FP	Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes,	Will not occur	There is no suitable nesting or foraging habitat for this species in the project site.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
		reservoirs, rivers, and some seacoasts. Bald eagles generally nest near coastlines, rivers, and large lakes where there is an adequate food supply. They nest in mature or old-growth trees, snags (dead trees), cliffs, and rock promontories. In treeless regions, they may also nest in cliffs or on the ground. Recently, and with increasing frequency, bald eagles are nesting on artificial structures such as power poles and communication towers, and away from large water bodies. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh 1,000 pounds or more. Nest sites typically include at least one perch with a clear view of the water, where they forage (USFWS 2019).		
Laterallus jamaicensis California black rail	--/ST/FP	California black rail inhabits brackish marsh, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail, and rush (*Juncus*); prefers lower salinity environments. This species forages on the ground, under cover of dense vegetation (USFWS 2013).	Will not occur	There is no suitable aquatic habitat for this species in the project site.
Riparia riparia bank swallow	--/ST/--	Bank swallow primarily inhabits riparian and other lowland habitats west of the deserts during the spring-fall period. In summer, this species is restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils where it digs holes for nesting. In California, bank swallow primarily nests from Siskiyou, Shasta and Lassen Counties south along the Sacramento River to Yolo County.	Will not occur	There is no suitable nesting habitat for this species in the project site.

Attachment D
Potential for Regionally-Occurring Special-Status Species to Occur in the Project Site

Scientific Name/ Common Name[1]	Status[2]	Habitat Requirements	Potential to Occur	Rationale
Mammals				
Pekania pennanti Fisher	--/--/SSC	Fishers are associated with areas of high cover and structural complexity in large tracts of mature and old-growth forests. Other site characteristics that can be important include presence of nearby water, slope, elevation, and snow characteristics (USFS 2021).	Will not occur	There is no suitable habitat for this species in the project site.

[1] Sensitive species reported in CNDDB or CNPS on the "Clarksville and Shingle Springs, CA" USGS 7.5 Minute topographic quads, or in the USFWS list for the project site.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; FP=Fully Protected; SSC=Species of Special Concern; WL=Watch List.

[3] Status in the Project site is assessed as follows. **Will Not Occur**: Species is either sessile (*i.e.* plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the project site; **Not Expected**: Species moves freely and might disperse through or across the project site, but suitable habitat for residence or breeding does not occur on the project site, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100% certainty; **Presumed Absent:** Habitat suitable for residence and breeding occurs on the project site; however, focused surveys conducted for the current project were negative; **May Occur**: Species was not observed on the site and breeding habitat is not present but the species has the potential to utilize the site for dispersal, **High**: Habitat suitable for residence and breeding occurs on the project site and the species has been recorded recently on or near the project site, but was not observed during surveys for the current project; **Present**: The species was observed during biological surveys for the current project and is assumed to occupy the project site or utilize the project site during some portion of its life cycle.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered.

California Tree and Landscape Consulting, Inc.

Arborist Report

August 28, 2021

Mr. Joe Jaoudi
Cameron Glen Estates, LLC
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Vista, CA 92084
Email: josjoudi@aol.com
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Work location
2545 Greenwood Lane
Cameron Park, CA 95682

Arborist Report for Oak Woodland Resources

APN:
082-411-004-000

Prepared by:
Gordon Mann, Consulting Arborist

359 Nevada Street, Suite 201, Auburn, CA 95603 www.caltlc.com office: (530) 745-4086 Direct: (650) 740-3461

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Summary

The property is 0.88 acres vacant parcel located at 2545 Greenwood Lane, Cameron Park. There is a proposed development with 10 lots on the parcel. The site is a parcel with remnant oak woodland that is connected to remaining remnant oak woodland trees on adjacent parcels consisting of a school and commercial properties. The woodland is 0.512 acres of the 0.88 acre site, or 58.2%. The proposed oak impact is to remove 0.468 acres or 91.4% of the oak woodland.

The oaks on the site are considered a remnant oak woodland with no individual trees. There were 2 trees 24 inches in diameter and greater on the subject property, 1 tree 24 inches and greater diameter on the adjacent property to the west, and no heritage trees 36 inches in diameter or greater.

Mitigation is based on the removal of 0.468 acres of oak woodland at a 2:1 ratio, for a total acre mitigation amount of 0.936 acres at the cost of $8,285 per acre, for a total mitigation of $7,638.77.

Assignment

The subject property is an approximately 0.88 acres undeveloped parcel adjacent to a school and commercial properties. The site is on the west side of the street. 10 units are proposed to be constructed on the property.

The client contacted our office on July 30, 2021, provided a site plan, and requested we provide the inspection and report required to satisfy the County of El Dorado's Oak Woodland Resources, determining the oak woodland area, identifying all native oak trees in the woodland area 24 inches in diameter and greater, all Heritage Trees 36 inches in diameter and greater, and any individual oak

trees 6 inches and greater located outside of the woodland designation for tree removal and will need mitigation based on the County ORMP Oak Resources requirements and Ordinance No. 5061. This report is the result of onsite inspections performed on August 2, 2021, and the use of aerial imagery.

Assignment limits

The canopy cover was calculated based on recent aerial imagery. All the trees were observed and verified while standing on the ground. Data collected is limited to a visual ground inspection. Ground inspections and measurements were used to ensure the accuracy of the inspection data.

Current Existing Tree Status (general)

The site is a rectangular shaped lot, approximately 0.88 acres in size. The development is required to comply with the El Dorado County ORMP Oak Resources requirements and Ordinance No. 5061.

The site contains 8 trees 4 Blue Oak (*Quercus douglasii*), and 4 Valley Oak (*Quercus lobata*) on the site. There is one Blue Oak on the adjacent property to the west extending into the site. There is approximately 16% oak canopy on the site, which meets the definition of an oak woodland with at least 48.2% oak coverage under Sec. 130.39.030 - Definitions. Oak Woodland(s): An oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover (California Fish and Game Code Section 1361). Following this definition, there are no individual oak trees on the site. There are two native oak trees 24 inches diameter and greater, and no heritage trees. There is one native oak tree 24 inches diameter and greater on the adjacent property to the west that extends into the subject property.

The proposed oak woodland impact will be 90% of the existing oak woodland, retaining 3 trees, 2 trees along the west side and one tree along the street.

Technical Recommendations

It is recommended that all tree care follow specifications written in accordance with ANSI A-300 standards. Pruning of the trees should be performed in the outer portion of the canopy to reduce leverage and end weights and allow the center of the canopies to grow and fill in with foliage. It is also recommended that when root pruning, the smallest size roots as possible be pruned, cuts be performed with handsaws, loppers, or chainsaws appropriate for the size of the root being cut. The roots should be exposed by excavating prior to cutting. Roots should be pruned prior to root removal within the tree protection area to limit the damage and tearing of roots back towards the tree. Root pruning should be overseen by a qualified arborist.

Tree protection for the three trees alongside the proposed structures can be achieved by installing a fence along the property as far from the trunks of the trees to the edge of the construction area before any clearing, grubbing, or construction is started. If any approved work is to be performed in the tree protection fencing, 4 inches of wood chip mulch will be placed over the soil to avoid compaction. The tree protection shall be written on the construction plans so the workers are aware of the tree protection zone.

A landscape plan was not provided at the time of the inspection. If landscaping is included as part of the project, tree planting should follow the specifications included in Appendix A.

General Tree Care and Maintenance

The appendix information is given so that an onsite landscape manager can properly take care of the retained trees, and newly planted trees. Established native oak trees do not like to have the base of the trunk or their roots and the surrounding soil disturbed or tampered with. Applying or having unintentional landscape water on the trunk flare can cause catastrophic and negative affects to most species of native oak trees. Newly planted oak trees do need their root balls watered until established and then may need supplemental watering during extended periods of dry or hot weather. The landscape be designed using drought tolerant plants that will require little to no watering after establishment. Irrigation should be delivered using an on-surface drip type system that does not require trenching around the oak trees to install. The plants should be spaced at least 6 feet away from the trunk of native oak trees, and the drainage from irrigation should be managed so water does not flow to the trunks of the oak trees. Existing trees that are growing in high use areas should be inspected by a qualified arborist for tree risk on a routine basis, the frequency depending on site use and tree condition.

Observations

The site was inspected on August 2, 2021 by ISA Certified Arborist Dave Mercado, #WE-7311A, to inspect the trees and verify the canopy and tag and measure the trees on the property with proposed development. There were 3 trees 24 inches in diameter or greater and no Heritage Trees, 36 inches in diameter and greater, growing on the site.

Each tree was tagged, measured for diameter and canopy radius, assessed for condition, the number of stems present, and notes explaining the tree characteristics affecting condition were recorded. The tree data is shown on the attached 2545 Greenwood Lane Tree List.

The tree condition rating is a combination of vigor, structure, trunk, branches, trunk flare, live tissue, and defects and decay or pests. It is described in % and range term. The rating scale is:

Range	# Rating	Description
Excellent	81-100	Found to have none to few defects or decay, and high vigor
Good	61-80	Found to have few defects or decay, and above average vigor
Fair	41-60	Found to have mitigatable defects, limited decay, and average vigor
Poor	21-40	Found to have significant defects, decay, and lower vigor
Very poor	120	Found to have significant defects, decay, and low declining vigor
Dead	0	Found to be dead

Diameter at Breast Height (DBH) is the industry standard for measuring trunk diameter. For trees with straight trunks and normal taper, the measurement is taken at 4.5 feet above grade. When a swollen area, flare from branching, multiple stems, or other abnormal growth is present, the diameter at 4.5 feet would not be characteristic of the subject tree. The measurement is taken at the most appropriate location for determining the reasonable trunk diameter, and the height the measurement was taken is listed. The trees found 24 inches or greater were recorded and confirmed if any trees were found to be 36" diameter or greater, a Heritage Tree.

Other testing or examination:

No additional testing or examination was requested at the time of the inspection or found necessary.

Discussion:

The project site is approximately 0.88 acres and was found to be an oak woodland. The site adjacent to a school and commercial properties. The oak trees are the remnants of an oak woodland, and there adjacent properties with oak trees extending remnants into adjacent properties.

The oak trees on the property were inspected, and the site plan was reviewed to identify those trees that will be impacted by the proposed development. None of the impacted oak trees were considered individual oak trees. All oak woodland canopy area was evaluated for mitigation requirements. There were no Heritage Trees on the site to include in the mitigation calculations.

The El Dorado County Oak Resource Mitigation calculation is based on the area of oak woodland impacted, the percent of oak woodland being impacted, the individual oak trees growing outside of oak woodland being impacted, and Heritage Trees both in oak woodlands and individual trees being impacted. The total property area is approximately 38,333 square feet or 0.88 acres. The total oak woodland on the property is 22,303 square feet or 0.512 acres. The oak woodland is 58.2% of the total site area.

There will be 3 trees retained on the site, with some encroachment for a total of 222 square feet or 0.051 ac. The total oak woodland proposed for removal and impact for the project is 20,386 or 0.468 acres. The total amount of oak woodland impacted by the development is 90%. The Oak Woodland Mitigation Ratio is determined by the amount of existing Oak Woodland canopy being impacted.

The mitigation ratio chart for El Dorado County ORMP is:

Percent of Oak Woodland Impact	Oak Woodland Mitigation Ratio
0-50%	1:1
50.1 – 75%	1.5:1
75.1-100%	2:1

The proposed oak woodland impact of 90% falls into the Oak Woodland Impact range of 75.1-100%. The proposed oak woodland impact requires a 2:1 mitigation ratio.

The proposed 0.468 acres of total impacted oak woodland will require mitigation at the 2:1 mitigation ratio rate, at the cost of $8,285.00 per acre for a total acreage of 0.936 acres and a total mitigation fee of $7,754.76.

There were no impacted individual oak trees and no required individual oak tree mitigation.
There were no impacted Heritage Trees and no required Heritage Tree mitigation.

The total mitigation fee for the proposed project will be $7,754.76.

The oak woodland mitigation requirements for the project was calculated based on the following information:

Total area of the project area: 38,333 square feet, or 0.88 acres

Total area of oak woodland: 22,303 square feet, or 0.512 acres
Total percent of existing oak woodland: 58.2%
Total area of total oak woodland to be removed: 20,386 square feet, or 0.468 acres
Total percent of oak woodland to be removed: 91.4%
Oak Woodland Mitigation Ratio: 2:1
Oak woodland area of sick/dying trees exempt from mitigation 0 square feet or 0 acres
Total area of Oak Woodland to be mitigated: 40,772 square feet, or 0.936 acres
Total number and diameter inches of individual oak trees to be removed: 0 trees, 0 diameter inches
Total number and diameter inches of Heritage Trees to be removed: 0 trees, 0 diameter inches
Total area of pre-mitigated oak canopy to be removed: 0 sq. ft.
Total area of oak canopy required to be mitigated: 40,772 square feet, or 0.936 acres
Total Oak Woodland Area Impacted Mitigation: 0.936 acres @ $8,285 per acre = $7,754.76
Individual Oak tree Impacted Mitigation: 0 trees, 0 inches, $153 per inch: $0
Heritage Tree Impacted Mitigation: 0 trees, 0 inches, $459 per inch: $0
Total Amount of Oak Resource Mitigation: $7,754.76

With the proposed mitigation, the proposed project is in compliance with the Ordinance 5061, Oak Resources Conservation.

The project is in compliance with General Plan Policy 7.4.5.2 by preserving native oaks wherever possible on the site. There are not large expanses of oak woodland or oak corridors in this development, as existing development has left small groves of oak woodland. This report also provides information how trees in the vicinity of the project or construction site will be protected and by following approved preservation methods specified in the County's required mitigation measures.

It has been determined that the proposed project would result in less than significant impacts to oak woodland resources with incorporation of mitigation measures listed below.

For long term maintenance and the changes in site use, some pruning should be performed to larger trees close to the proposed structure, and rear yard areas. The pruning should be performed to remove large dead branches, shorten and reduce end weights, and reduce the risk of branch failure.

Conclusion:

The proposed single-family home project will impact the existing oak woodland. Per the El Dorado County Oak Resources Conservation Ordinance mitigation will be required for 1 of the three potential 3 impacts:

1. Oak woodland is proposed to be impacted. There are 0.461acres of Oak Woodland proposed to be impacted, and this is 91.4% of the total oak woodland area. The mitigation ratio is 2:1 times the acreage impacted, equaling 0.936 acres of oak woodland mitigation required. The cost of the 0.936 acres at $8,285 per acre amounts to $7,754.76 in mitigation fees.
2. There are 0 individual oak trees proposed to be impacted with 0 total inches of diameter. The cost for mitigation is $153 per inch. The cost of the 0 trees is $0 in mitigation fees.

3. There are 0 Heritage Trees, trees with a single, or multiple combined, trunk diameter of 36 inches or greater, in fair and better condition, proposed to be impacted. The cost for mitigation is $459 per inch. The cost of the 0 trees is $0.

The total mitigation cost of proposed oak impacts is $7,754.76.

The mitigation proposed will meet the required mitigation based on the El Dorado County ORMP Oak Resources requirements and Ordinance No. 5061.

Please contact Gordon Mann of California Tree and Landscape Consulting, Inc., if there are any questions about this report.

Disclaimer: Gordon Mann, has analyzed the situation, applied the proper method(s) utilized within the profession, and performed a reasonableness test to support the project tree related decisions. I, nor the employees or subcontractors of California Tree and Landscape Consulting, Inc., may be held liable for the misuse or misinterpretation of this report. As the author of this report, I do hereby certify that all the statements of fact in this report are true, complete, and correct to the best of my knowledge and belief, and that they are made in good faith.

Respectfully submitted,

Gordon Mann
ASCA Registered Consulting Arborist #480
ISA Certified Arborist WE- 0151AM
ISA TRAQ Qualified Tree Risk Assessor
California Tree and Landscape Consulting, Inc.
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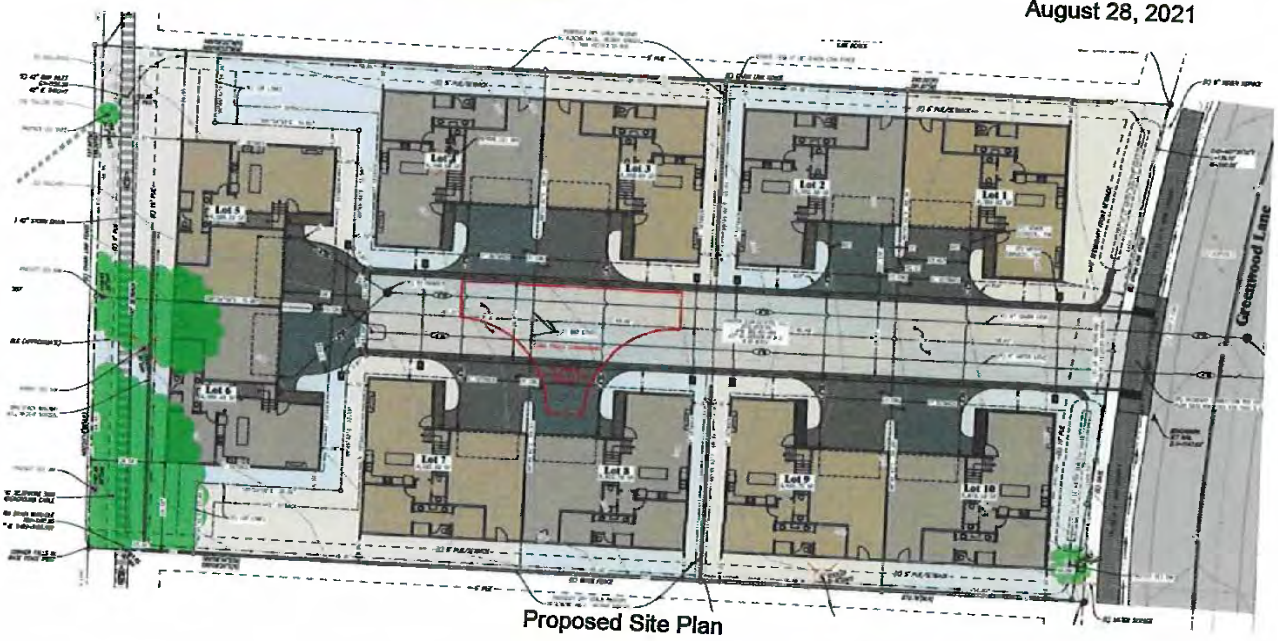
Appendix A Images
Appendix B Tree Protection
Appendix C Long Term Landscape Maintenance Plan and Specifications
Appendix D Avoiding Damage During Construction
Resume for Gordon Mann

Appendix A Images

Aerial image with trees in approximate locations

Property Outline and Oak Woodland (brown) and proposed retention (green)



Proposed Site Plan

2545 Greenwood Ln
Tree List

Tree #	Common Name	Latin Name	DBH (in)	Ht Dia Meas at (ft)	Crown Radius (ft)	Condition	Condition Rating (%)	Observation Comments	Development status
5252	Chinese Tallow Tree	Triadica sebifera	4	4.5				undersized; non-native	retain and protect
5251	Blue Oak	Quercus douglasii	34	3	30	Fair	45	Several old mid branch failures, central top removed, vigor good,	remove
5250	Blue Oak	Quercus douglasii	28	4.5	21	Poor	30	Cavity at 4 feet above grade, poor vigor understory with bow,	remove
5249	Blue Oak	Quercus douglasii	29	3	36	Fair	50	Offsite, one foot from property line, (tpz) co dom at 5 feet,	retain and protect
5248	Blue Oak	Quercus douglasii	28	4.5	21	Fair	50	Moderate lean with bow, understory, reaction wood with rib on tension side. Vigor good	retain and protect
5247	Blue Oak	Quercus douglasii	21	4.5	27	Fair	45	Slightly thinning central crown, fare good vigor fair	retain and protect
5246	Valley oak	Quercus lobata	7	4.5	9	Fair	45	Absent fare north side, vigor fair	remove
5245	Valley oak	Quercus lobata	7	4.5	18	Poor	30	Inclusion at 12 inches above grade, poor branch angles and poor structure, vigor good	remove
5244	Valley oak	Quercus lobata	16	1	21	Poor	30	Slightly buried fare, co dom with inclusion at 18 inches above grade, poor structure vigor fair	remove
5243	Valley oak	Quercus lobata	10	2	12	Good	70	Slightly buried fare, co dom with inclusion at 36 inches above grade,	remove

8 trees on property, 1 tree on adjacent property, 3 trees 24"+; 1 tree undersized non-native; remove 6, retain 2 on site

Tree List, 3 Trees Found to be 24" Diameter and Greater; 5 trees to be removed; 3 trees retained

Appendix B
Tree Protection

The edge of the tree canopy outside of the construction area shall be fenced off with construction fencing, either temporary orange fence or chain link fence. The fence shall be placed as far from the trees as possible, targeting outside the dripline. If the fence cannot be placed outside of the dripline, the project arborist shall determine if the distance is acceptable or some other soil protection is necessary. A certified arborist must approve the placement of the tree fence. The fence will be marked with weather appropriate signage clearly stating the area as "Protected! Do not enter! Tree preservation zone." Sign(s) will be placed on every face or direction of fence line.

When excavating or trenching adjacent to trees, roots 2 inches and greater encountered in the trench shall be cleanly severed at the trench side closest to the tree, and then excavated, so the roots are not torn back towards the tree. Cut exposed roots ends or exposed roots shall be covered with moist soil or moist burlap and kept moist until the soil is backfilled.

No storage of supplies or materials, parking, or other construction activity shall occur within the fenced area. If a construction activity is required within the construction area, specific specifications and mitigation shall be written to cover the work, and the fencing may be entered during the necessary construction activity, then the fencing shall be replaced after the activity is completed for the day.

The construction protection shall remain in place until the project is completed, including landscape activities. Landscape activities shall have specifications that protect the trees during the landscape activities.

Any bare soil around protected trees should be covered with a 4-inch layer of mulch consisting of ground-up tree parts.

If the protected trees appear to show signs of yellowing leaves, dead leaves, or other abnormal appearance, contact the project arborist for inspection and mitigation.

Appendix C
Long Term Landscape Maintenance Plan and Specifications

General
This plan and specifications are intended to promote the optimum landscape growth and lifespan. These trees shall be pruned to remove dead branches, provide clearance, and reduce the risk of branch failure by reducing end weight leverage on branches.

Pruning Small Trees
Branches are to be pruned by either reduction, thinning, or raising cuts to achieve the appropriate clearance over the area. The smallest diameter branches should be removed, working from the branch tips towards the center, removing none to minimal interior foliage inside the final outward branch cut. Trees shall be cleaned to remove dead branches, weakly attached branches, and branches where significant damage has occurred by rubbing, animals, insects, or critical disease. All pruning cuts shall be made in accordance with American National Standards Institute (ANSI) A300 Part 1 Pruning Standards and International Society of Arboriculture (ISA) Best Management Practices for Pruning.

On trees up to six inches in diameter, all dead branches greater than one-half inch diameter shall be removed. All weakly attached branches and potential co-dominant branches shall either be reduced by at least 20% or be removed, as most appropriate for the long term structure of the tree. The weakest or most damaged branch of a pair or group of rubbing branches shall be shortened to avoid rubbing, or removed. All temporary branches along the trunk should be retained and shortened to obtain necessary clearance. When either temporary branches exceed one-inch diameter, or the trunk forms mature bark, the temporary branches should be removed.

Depending on the location and site needs, clearance should be performed by pruning the smallest branches inward from the branch tips until the permanent branches are in place. Clearance minimums should be set, for example: 7.5' over sidewalks, 10 feet over parking spaces, and 14.5 feet over truck traffic streets. Clearance pruning shall be carefully performed until the permanent branches are identified. Up to 25% of the total foliage on any tree should be the maximum removed during any planned pruning cycle. Follow-up pruning for structure or clearance on young trees can be performed at any time if pruning small amounts of foliage (up to 10%) and retaining the central leader and branch size relationships.

Pruning Large Trees
Branches are to be pruned by either reduction, thinning, or raising cuts to achieve the appropriate clearance over the area. The smallest diameter branches should be removed, working from the branch tips towards the center, removing none to minimal interior foliage inside the final outward branch cut. Trees shall be cleaned to remove dead branches, weakly attached branches, and branches where significant damage has occurred by rubbing, animals, insects, or critical disease. All pruning cuts shall be made in accordance with American National Standards Institute (ANSI) A300 Part 1 Pruning Standards and International Society of Arboriculture (ISA) Best Management Practices for Pruning.

The trees to be pruned are the trees retained on the site. The objective is to remove dead branches, obtain necessary clearance, and reduce the risk of branch failure. The system is Natural. Dead branches can be removed anywhere in the crown. The location of live branches is in the outer third of the crown. The pruning cuts are reduction cuts and branch removal cuts. The smallest diameter branches are to be pruned to accomplish the objective. A largest diameter branch to be removed shall be stated for each tree.

Appendix D

Avoiding Tree Damage During Construction

Edited from the ISA's tree protection guidelines

As cities and suburbs expand, wooded lands are being developed into commercial and residential sites. Homes are constructed in the midst of trees to take advantage of the aesthetic and environmental value of the wooded lots. Wooded properties can be worth as much as 20 percent more than those without trees, and people value the opportunity to live among trees.

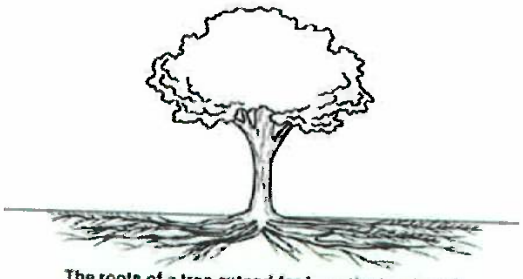
Unfortunately, the processes involved with construction can be deadly to nearby trees. Unless the damage is extreme, the trees may not die immediately but could decline over several years. With this delay in symptom development, you may not associate the loss of the tree with the construction.

It is possible to preserve trees on building sites if the right measures are taken. The most important step is to hire a professional arborist during the planning stage. An arborist can help you decide which trees can be saved and can work with the builder to protect the trees throughout each construction phase.

How Trees Are Damaged During Construction

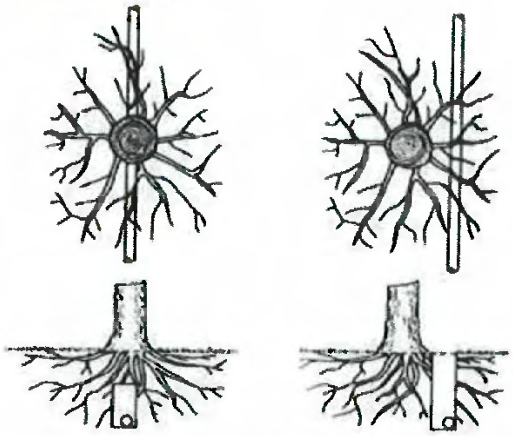
Physical Injury to Trunk and Crown. Construction equipment can injure the aboveground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.

Cutting of Roots. The digging and trenching that are necessary to construct a house and install underground utilities will likely sever a portion of the roots of many trees in the area. It is easy to appreciate the potential for damage if you understand where roots grow. The roots of a tree are found mostly in the upper 6 to 24 inches of the soil. In a mature tree, the roots extend far from the trunk. In fact, roots typically are found growing a distance of one to three times the height of the tree. The amount of damage a tree can suffer from root loss depends, in part, on how close to the tree the cut is made. Severing one major root can cause the loss of 5 to 20 percent of the root system.



The roots of a tree extend far from the trunk and are found mostly in the upper 6 to 12 inches of soil.

Another problem that may result from root loss caused by digging and trenching is that the potential for the trees to fall over is increased. The roots play a critical role in anchoring a tree. If the major support roots are cut on one side of a tree, the tree may fall or blow over.



Less damage is done to tree roots if utilities are tunneled under a tree (right, top and bottom) rather than across the roots (left, top and bottom).

Less damage is done to tree roots if utilities are tunneled under a tree rather than across the roots.

Soil Compaction. An ideal soil for root growth and development is about 50 percent pore space. These pores—the spaces between soil particles—are filled with water and air. The heavy equipment used in construction compacts the soil and can dramatically reduce the amount of pore space. This compaction not only inhibits root growth and penetration but also decreases oxygen in the soil that is essential to the growth and function of the roots, and water infiltration.

Smothering Roots by Adding Soil. Most people are surprised to learn that 90 percent of the fine roots that absorb water and minerals are in the upper 6 to 12 inches of soil. Roots require space, air, and water. Roots grow best where these requirements are met, which is usually near the soil surface. Piling soil over the root system or increasing the grade smothers the roots. It takes only a few inches of added soil to kill a sensitive mature tree.

Exposure to the Elements. Trees in a forest grow as a community, protecting each other from the elements. The trees grow tall, with long, straight trunks and high canopies. Removing neighboring trees or opening the shared canopies of trees during construction exposes the remaining trees to sunlight and wind. The higher levels of sunlight may cause sunscald on the trunks and branches. Also, the remaining trees are more prone to breaking from wind or ice loading.

Getting Advice

Hire a professional arborist in the early planning stage. Many of the trees on your property may be saved if the proper steps are taken. Allow the arborist to meet with you and your building contractor. Your arborist can assess the trees on your property, determine which are healthy and structurally sound, and suggest measures to preserve and protect them.

One of the first decisions is determining which trees are to be preserved and which should be removed. You must consider the species, size, maturity, location, and condition of each tree. The largest, most mature trees are not always the best choices to preserve. Younger, more vigorous trees usually can survive and adapt to the stresses of construction better. Try to maintain diversity of

species and ages. Your arborist can advise you about which trees are more sensitive to compaction, grade changes, and root damage.

Planning

Your arborist and builder should work together in planning the construction. The builder may need to be educated regarding the value of the trees on your property and the importance of saving them. Few builders are aware of the way trees' roots grow and what must be done to protect them.

Sometimes small changes in the placement or design of your house can make a great difference in whether a critical tree will survive. An alternative plan may be more friendly to the root system. For example, bridging over the roots may substitute for a conventional walkway. Because trenching near a tree for utility installation can be damaging, tunneling under the root system may be a good option.

Erecting Barriers

Because our ability to repair construction damage to trees is limited, it is vital that trees be protected from injury. The single most important action you can take is to set up construction fences around all of the trees that are to remain. The fences should be placed as far out from the trunks of the trees as possible. As a general guideline, allow 1 foot of space from the trunk for each inch of trunk diameter. The intent is not merely to protect the aboveground portions of the trees but also the root systems. Remember that the root systems extend much farther than the drip lines of the trees.

Instruct construction personnel to keep the fenced area clear of building materials, waste, excess soil, and equipment. No digging, trenching, or other soil disturbance such as driving vehicles and equipment over the soil should be allowed in the fenced area.

Protective fences should be erected as far out from the trunks as possible in order to protect the root system prior to the commencement of any site work, including grading, demolition, and grubbing.

Limiting Access

If at all possible, it is best to allow only one access route on and off the property. All contractors must be instructed where they are permitted to drive and park their vehicles. The construction access drive should be the route for utility wires; underground water, sewer, or storm drain lines; roadways; or the driveway.

Protective fences should be erected as far out from the trunks as possible in order to protect the root systems.

Specify storage areas for equipment, soil, and construction materials. Limit areas for burning (if permitted), cement wash-out pits, and construction work zones. These areas should be away from protected trees.

Specifications

Specifications are to be put in writing. All of the measures intended to protect your trees must be written into the construction specifications. The written specifications should detail exactly what can and cannot be done to and around the trees. Each subcontractor must be made aware of the barriers, limitations, and specified work zones. It is a good idea to post signs as a reminder.

Fines and penalties for violations should be built into the specifications. Not too surprisingly, subcontractors are much more likely to adhere to the tree preservation clauses if their profit is at stake. The severity of the fines should be proportional to the potential damage to the trees and should increase for multiple infractions.

Maintaining Good Communications

It is important to work together as a team. You may share clear objectives with your arborist and your builder, but one subcontractor can destroy your prudent efforts. Construction damage to trees is often irreversible.

Visit the site at least once a day if possible. Your vigilance will pay off as workers learn to take your wishes seriously. Take photos at every stage of construction. If any infraction of the specifications does occur, it will be important to prove liability.

Final Stages

It is not unusual to go to great lengths to preserve trees during construction, only to have them injured during landscaping. Installing irrigation systems and roto-tilling planting beds are two ways the root systems of trees can be damaged. Remember also that small increases in grade (as little as 2 to 6 inches) that place additional soil over the roots can be devastating to your trees. ANSI A300 Standards Part 5 states that tree protection shall be in place for the landscape phase of the site development. Landscape tree protection may be different than other construction process tree protection, and a conference with the landscape contractor should be held prior to the commencement of the landscape work. Careful planning and communicating with landscape designers and contractors is just as important as avoiding tree damage during construction.

Post-Construction Tree Maintenance

Your trees may require several years to adjust to the injury and environmental changes that occur during construction. The better construction impacts are avoided, the less construction stress the trees will experience. Stressed trees are more prone to health problems such as disease and insect infestations. Talk to your arborist about continued maintenance for your trees. Continue to monitor your trees, and have them periodically evaluated for declining health or safety hazards.

Despite the best intentions and most stringent tree preservation measures, your trees still might be injured from the construction process. Your arborist can suggest remedial treatments to help reduce stress and improve the growing conditions around your trees. In addition, the International Society of

Arboriculture offers a companion to this brochure titled "Treatment of Trees Damaged by Construction".

California Tree and Landscape Consulting, Inc.

GORDON MANN

EDUCATION AND QUALIFICATIONS

1977	Bachelor of Science, Forestry, University of Illinois, Champaign.
1982 - 1985	Horticulture Courses, College of San Mateo, San Mateo.
1984	Certified as an Arborist, WE-0151A, by the International Society of Arboriculture (ISA).
2004	Certified as a Municipal Specialist, WE-0151AM, by the ISA.
2011	Registered Consulting Arborist, #480, by the American Society of Consulting Arborists (ASCA).
2003	Graduate of the ASCA Consulting Academy.
2006	Certified as an Urban Forester, #127, by the California Urban Forests Council (CaUFC).
2011	TRACE Tree Risk Assessment Certified, continued as an ISA Qualified Tree Risk Assessor (T.R.A.Q.).

PROFESSIONAL EXPERIENCE

2016 – Present	CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC (CalTLC). President and Consulting Arborist. Auburn. Mr. Mann provides consultation to private and public clients in health and structure analysis, inventories, management planning for the care of trees, tree appraisal, risk assessment and management, and urban forest management plans.
1986 - Present	MANN MADE RESOURCES. Owner and Consulting Arborist. Auburn. Mr. Mann provides consultation in municipal tree and risk management, public administration, and developing and marketing tree conservation products.
2015 – 2017	CITY OF RANCHO CORDOVA, CA. Contract City Arborist. Mr. Mann serves as the City's first arborist, developing the tree planting and tree maintenance programs, performing tree inspections, updating ordinances, providing public education, and creating a management plan,
1984 – 2007	CITY OF REDWOOD CITY, CA. City Arborist, Arborist, and Public Works Superintendent. Mr. Mann developed the Tree Preservation and Sidewalk Repair Program, supervised and managed the tree maintenance program, performed inspections and administered the Tree Preservation Ordinance. Additionally, he oversaw the following Public Works programs: Streets, Sidewalk, Traffic Signals and Streetlights, Parking Meters, Signs and Markings, and Trees.
1982 – 1984	CITY OF SAN MATEO, CA. Tree Maintenance Supervisor. For the City of San Mateo, Mr. Mann provided supervision and management of the tree maintenance program, and inspection and administration of the Heritage Tree Ordinance.
1977 – 1982	VILLAGE OF BROOKFIELD, IL. Village Forester. Mr. Mann provided inspection of tree contractors, tree inspections, managed the response to Dutch Elm Disease. He developed an in-house urban forestry program with leadworker, supervision, and management duties to complement the contract program.
1979 - Present	INTERNATIONAL SOCIETY OF ARBORICULTURE. Member.

- Board of Directors (2015 - Present)

- True Professional of Arboriculture Award (2011); In recognition of material and substantial contribution to the progress of arboriculture and having given unselfishly to support arboriculture.

1982 - Present WESTERN CHAPTER ISA (WCISA). Member.

- Chairman of the Student Committee (2014 - 2017)
- Member of the Certification Committee (2007 - Present)
- Chairman of the Municipal Committee (2009 - 2014) • Award of Merit (2016) In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
- Annual Conference Chair (2012)
- Certification Proctor (2010 – Present)
- President (1992 - 1993)
- Award of Achievement and President's Award (1990)

1985 - Present CALIFORNIA URBAN FORESTS COUNCIL (CaUFC). Member; Board Member (2010 - Present)

1985 - Present SOCIETY OF MUNICIPAL ARBORISTS (SMA). Member. e Legacy Project of the Year (2015) o In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.

- Board Member (2005 - 2007)

2001 - Present AMERICAN SOCIETY OF CONSULTING ARBORISTS.
Member. e Board of Directors (2006 - 2013)
• President (2012)

2001 - Present CAL FIRE. Advisory Position.
• Chairman of the California Urban Forestry Advisory Committee (2014 - 2017)

2007 – Present AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A300 TREE MAINTENANCE STANDARDS
COMMITTEE. SMA Representative and Alternate.

- Alternative Representative for SMA (2004 - 2007; 2012 - Present)
- Representative for SMA (2007 - 2012)

2007 - Present SACRAMENTO TREE FOUNDATION. Member and Employee.

- Co-chair/member of the Technical Advisory Committee (2012 - Present)
- Urban Forest Services Director (2007 - 2009) e Facilitator of the Regional Ordinance Committee (2007 - 2009)
- 1988 - 1994 TREE CLIMBING COMPETITION.
  - Chairman for Northern California (1988 - 1992)
  - Chairperson for International (1991 - 1994)

PUBLICA TIONS AND LECTURES

Mr. Mann has authored numerous articles in newsletters and magazines such as Western Arborist, Arborist News, City Trees, Tree Care Industry Association, Utility Arborists Association, CityTrees, and Arborists Online, covering a range of topics on Urban Forestry, Tree Care, and Tree Management. He has developed and led the training for several programs with the California Arborist Association. Additionally, Mr. Mann regularly presents at numerous professional association meetings on urban tree management topics.

Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Certificate of Performance

I, Gordon Mann, certify that:

The trees were inspected by an ISA Certified Arborist. I have personally reviewed the trees and site referred to in this report and have stated my findings accurately. The extent of the inspection is stated in the attached report under Assignment;

I have no current or prospective interest in the vegetation, or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts;

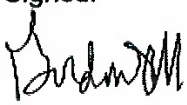
My analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices;

No one provided significant professional assistance to me, except as indicated within the report;

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client, or any other party, nor upon the results of the assignment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the International Society of Arboriculture (ISA) and an ISA Certified Arborist and Municipal Specialist. I am also a Registered Consulting Arborist member in good standing of the American Society of Consulting Arborists. I have been involved in the practice of arboriculture and the care and study of trees for over 43 years.

Signed:



Gordon Mann
Date: August 28, 2021

August 23, 2023

Cameron Welch
County of El Dorado
2850 Fairlane Ct
Placerville, CA 95667

Ref: Gas and Electric Transmission and Distribution

Dear Cameron Welch,

Thank you for submitting the Greenwood Estates plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 24 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 24 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 24 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 10 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

From: PGE Plan Review
To: Cameron W. Welch
Subject: RE: PUBLIC NOTICE-TM21-0001,PD21-0003,Z21-0012_Greenwood Estates-Notice of Intent to Adopt a Mitigated Negative Declaration
Date: Wednesday, August 23, 2023 10:04:58 AM
Attachments: image001.png
Initial_Response_Letter_8-23-2023.pdf

Classification: Public

Dear Cameron Welch,

Thank you for submitting the TM21-0001, PD21-0003 and Z21-0012 plans. The PG&E Plan Review Team is currently reviewing the information provided. Should this project have the potential to interfere with PG&E's facilities, we intend to respond to you with project specific comments. Attached is some general information when working near PG&E facilities that must be adhered to when working near PG&E's facilities and land rights.

This email and attachment does not constitute PG&E's consent to use any portion of PG&E's land rights for any purpose not previously conveyed. If there are subsequent modifications made to your design, we ask that you resubmit the plans to the email address listed below.

If you have any questions regarding our response, please contact the PG&E Plan Review Team at pgeplanreview@pge.com.

Thank you,

Pacific Gas and Electric Company
Plan Review Team
Email: pgeplanreview@pge.com

From: Planning Department <planning@edcgov.us>
Sent: Wednesday, August 23, 2023 8:55 AM
Subject: PUBLIC NOTICE-TM21-0001,PD21-0003,Z21-0012_Greenwood Estates-Notice of Intent to Adopt a Mitigated Negative Declaration

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

NOTICE IS HEREBY GIVEN that the County of El Dorado, as lead agency, has prepared a

Mitigated Negative Declaration (MND) for the below referenced Project. The Draft MND analyzes the potential environmental effects associated with the proposed Project in accordance with the California Environmental Quality Act (CEQA). This Notice of Intent (NOI) is to provide responsible agencies and other interested parties with notice of the availability of the Draft MND and solicit comments and concerns regarding the environmental issues associated with the proposed Project.

LEAD AGENCY: County of El Dorado, 2850 Fairlane Court, Placerville, CA 95667

CONTACT: County Planner: Cameron Welch, 530-621-5816

PROJECT: TM21-0001/PD21-0003/Z21-0012/Greenwood Estates

PROJECT LOCATION: The property, identified by Assessor's Parcel Number 082-411-004, consists of a 0.88-acre parcel, located on the west side of Greenwood Lane between Meadow Lane and Merrychase Drive, in the Cameron Park area, Supervisorial District 2.

PROJECT DESCRIPTION: A Tentative Subdivision Map, Planned Development Permit, and Rezone to subdivide an existing 0.88-acre parcel to create ten parcels ranging in size from 3,394 square feet to 4,389 square feet. The project site is currently vacant. Five duplexes (ten housing units) would be constructed on ten lots. The proposed duplexes would be 3,838 square feet per duplex building or 1,919 square feet per unit. Each unit would have its own garage for parking. Design waivers are requested for the proposed roadway section and driveway connection. In addition, 5-foot front and rear setbacks and zero-foot side setbacks are requested. The requested rezone would change the existing zoning Multi-Unit Residential within a Design Review Combining Zone (RM-DC) to Multi-Unit Residential within a Planned Development Combining Zone (RM-PD). Access would be provided from Greenwood Lane. Each parcel will be connected to public sewer and water by expansion of the existing utilities on-site, located along Greenwood Lane, by extending the sewer force main and waterline. Electric/utility services would be provided by connecting to PG&E.

PUBLIC REVIEW PERIOD: The public review period for the Draft MND set forth in CEQA for this project is **30** days, beginning **August 24, 2023**, and ending **September 22, 2023**. Any written comments must be received within the public review period. Copies of the Draft MND for this project may be reviewed and/or obtained in the County of El Dorado Planning and Building Department, 2850 Fairlane Court, Placerville, CA 95667, during normal business hours or online at https://edc-trk.aspgov.com/etrakit/. In order to view attachments, please login or create an E-Trakit account and search the project name or application file number in the search box.

Please direct your comments to: County of El Dorado, Planning and Building Department, County Planner: Cameron Welch, 2850 Fairlane Court, Placerville, CA 95667 or EMAIL: planning@edcgov.us

PUBLIC HEARING: A public hearing before the Planning Commission has not been scheduled. Once that date has been determined, a public notice will be issued.

COUNTY OF EL DORADO
PLANNING AND BUILDING DEPARTMENT
KAREN L. GARNER, Director
August 23, 2023

County of El Dorado
Planning and Building Department (Planning Services)
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5355

From:	Planning Department
To:	Cameron W. Welch
Subject:	Fw: PUBLIC NOTICE-TM21-0001,PD21-0003,Z21-0012_Greenwood Estates-Notice of Intent to Adopt a Mitigated Negative Declaration
Date:	Wednesday, August 23, 2023 11:39:36 AM

County of El Dorado
Planning and Building Department (Planning Services)
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5355

From: Steven Schofield <SchofieS@edso.org>
Sent: Wednesday, August 23, 2023 11:36 AM
To: Planning Department <planning@edcgov.us>
Subject: Re: PUBLIC NOTICE-TM21-0001,PD21-0003,Z21-0012_Greenwood Estates-Notice of Intent to Adopt a Mitigated Negative Declaration

The Sheriff's Office has no requests for this phase of the project.

Sergeant Steve Schofield
Coroner / Civil Division
El Dorado County Sheriff's Office
530-621-5383
200 Industrial Drive Placerville CA, 95682

From: Planning Department <planning@edcgov.us>
Sent: Wednesday, August 23, 2023 8:55 AM
Subject: PUBLIC NOTICE-TM21-0001,PD21-0003,Z21-0012_Greenwood Estates-Notice of Intent to Adopt a Mitigated Negative Declaration

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

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CONTACT: County Planner: Cameron Welch, 530-621-5816

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Please direct your comments to: County of El Dorado, Planning and Building Department, County Planner: Cameron Welch, 2850 Fairlane Court, Placerville, CA 95667 or EMAIL: planning@edcgov.us

PUBLIC HEARING: A public hearing before the Planning Commission has not been scheduled. Once that date has been determined, a public notice will be issued.

COUNTY OF EL DORADO
PLANNING AND BUILDING DEPARTMENT
KAREN L. GARNER, Director
August 23, 2023

County of El Dorado
Planning and Building Department (Planning Services)
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5355

WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

2502 Country Club Drive, Cameron Park, CA 95682
telephone (530) 677-2231 • *fax* (530) 677-2201 •
www.cameronpark.org

September 13, 2023

Cameron Welch, Planner
El Dorado County, Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667

RE: Project TM21-0001/PD21-0003/Z21-0012/Greenwood Estates

Dear Mr. Welch,

Cameron Park Community Services District (CSD) operates the Cameron Park Community Center, a large campus comprised of a swimming pool, assembly hall, gymnasium, and four classrooms. The Community Center hosts a variety of recreation and community events, such as swim meets, town hall meetings and fundraising banquets that draws several hundred to a thousand people to the campus at one time. The Community Center shares the parking lot with El Dorado County - Cameron Park Library. Camerado Middle School activities overflow into the Community Center parking lot during school events, sports groups use of ball fields, and student drop-off/pick-up.

When El Dorado County issued Special Use Permit S05-0032, the permit identified adjacent street parking to accommodate parking needs of the Community Center. The CSD requests parking for all Greenwood Estates guests and residents be accommodated on-site only. Residents rely on public street parking when attending events at the Community Center.

Thank you for your consideration.

Sincerely,

Jill Ritzman
Interim General Manager

September 14, 2023

Cameron Welch
County of El Dorado
2850 Fairlane Court
Placerville, CA 95667

Re: TM21-0001 PD21-0003 Z21-0012
Greenwood Estates

Dear Cameron Welch,

Thank you for providing PG&E the opportunity to review the proposed plans for Greenwood Estates dated 8/22/2023. Our review indicates the proposed improvements do not appear to directly interfere with existing PG&E facilities or impact our easement rights.

Please note this is our preliminary review and PG&E reserves the right for additional future review as needed. This letter shall not in any way alter, modify, or terminate any provision of any existing easement rights. If there are subsequent modifications made to the design, we ask that you resubmit the plans to the email address listed below.

If the project requires PG&E gas or electrical service in the future, please continue to work with PG&E's Service Planning department: https://www.pge.com/cco/.

As a reminder, before any digging or excavation occurs, please contact Underground Service Alert (USA) by dialing 811 a minimum of 2 working days prior to commencing any work. This free and independent service will ensure that all existing underground utilities are identified and marked on-site.

If you have any questions regarding our response, please contact the PG&E Plan Review Team at pgeplanreview@pge.com.

Sincerely,

PG&E Plan Review Team
Land Management

21 September 2023

Cameron Welch
El Dorado County –
Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667
cameron.welch@edcgov.us

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, GREENWOOD ESTATES PROJECT, SCH#2023080541, EL DORADO COUNTY

Pursuant to the State Clearinghouse's 22 August 2023 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Greenwood Estates Project, located in El Dorado County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification
If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter Minkel

Peter Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento