*DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT*
*1010 10TH Street, Suite 3400, Modesto, CA 95354*
*Planning Phone: (209) 525-6330 Fax: (209) 525-5911*
*Building Phone: (209) 525-6557 Fax: (209) 525-7759*

# Referral
# Early Consultation

**Date:** **October 21, 2026**

**To:** **Distribution List (See Attachment A)**

**From:** **Kristen Anaya, Senior Planner**
**Planning and Community Development**

**Subject:** **USE PERMIT AND WILLIAMSON ACT CANCELLATION APPLICATION NO. PLN2026-0068 – AMANECE HYBRID SOLAR**

**Respond By:** **November 10, 2026**

******PLEASE REVIEW REFERRAL PROCESS POLICY******

**The Stanislaus County Department of Planning and Community Development is soliciting comments from responsible agencies under the Early Consultation process to determine: a) whether or not the project is subject to CEQA and b) if specific conditions should be placed upon project approval.**

Therefore, please contact this office by the response date if you have any comments pertaining to the proposal. Comments made identifying potential impacts should be as specific as possible and should be based on supporting data (e.g., traffic counts, expected pollutant levels, etc.). Your comments should emphasize potential impacts in areas which your agency has expertise and/or jurisdictional responsibilities.

These comments will assist our Department in preparing a staff report to present to the Planning Commission. Those reports will contain our recommendations for approval or denial. They will also contain recommended conditions to be required should the project be approved. Therefore, please list any conditions that you wish to have included for presentation to the Commission as well as any other comments you may have. Please return all comments and/or conditions as soon as possible or no later than the response date referenced above.

Thank you for your cooperation. Please call (209) 525-6330 if you have any questions.

**Applicant:** **Amanece Hybrid Solar, LLC, a wholly owned subsidiary of Samsung C&T**

**Project Location:** **West of the I-5 and the California Aqueduct, north of Pete Miller Road, in the Newman area.**

**APNs:** **026-024-006, -008, -029; 028-007-001, -002, -033, -038, -051, -052, -054**

**Williamson Act Contracts:** **APNs 026-024-006 & -008: Contract No. 74-1718**
**APNs 026-024-029, 028-007-033 & -038: Contract No. 73-1258**
**APNs 028-007-002, -051, -052, -054: Contract No. 71-101**
**APN 028-007-001: Contract No. 71-232**

**General Plan:** **Agriculture**

**Current Zoning:** **General Agriculture (A-2-40)**

**Project Description:** **Request to establish a 2,170-acre solar energy facility creating an aggregate peak power capacity of 400 megawatts (MW) on ten contiguous parcels totaling 2,998.49± acres in the General Agriculture (A-2-40) zoning district. The project will also consist of an electric collector system with inverters, a 24-acre battery energy storage system (BESS) with a capacity of 400 MWac at four hours of continuous discharge, a 5± acre project substation, a 9± acre Pacific Gas and Electric (PG&E) switching station, a 300 square-foot temporary operations and maintenance (O&M) building, and access roads. An AC-DC electrical collection system will collect and convey the electricity from the proposed single-axis tracker solar panels to the proposed on-site substation. The energy generated by the project would be transported from the collector substation to PG&E's proposed on-site 9± acre switching station yard via underground and overhead 150-foot-tall feeder lines. From the switching station, the facility will interconnect to the existing PG&E Quinto-Fink 230 kV transmission line that currently bisects the project site. Substation equipment is proposed to be up to 55 feet in height. 14-foot-tall security lighting is proposed along the perimeter of the project, and within the BESS, substation, and O&M facilities. The facility is proposed to be decommissioned after 35 years, the estimated life expectancy of the project equipment.**

**Solar panels, up to 10 feet in height, are proposed across all of the project parcels; however, Assessor Parcel Number (APN) 026-024-006 is only proposed as a reserved site for panel development in the event that physical site constraints prevent development on other portions of the project site. The applicant proposes a seven-foot-tall chain link fence with barbed wire strands perimeter of the project site, and landscaped screening comprised of drought tolerant trees and shrubs along the eastern project boundary.**

**The O&M building is proposed to be utilized when operations staff are on-site, with portable restrooms proposed. Water for domestic purposes and panel washing is proposed to be trucked to the site, sourced from a well, or purchased from a water purveyor. Up to 20 personnel may visit the site at any given time for when required seasonally for activities such as panel washing two times per year. A maximum of five personnel are anticipated daily during routine operations. A maximum of 420 trips are anticipated on-site throughout the year for security, maintenance, and panel washing.**

**The project will take access to County-maintained Pete Miller Road via three existing driveways comprised of all-weather aggregate, each approximately 100 feet in width. Throughout the project site, the applicant has proposed 20± foot-wide gravel access roads around the BESS facility. Stormwater drainage will be handled via overland runoff. Three wells currently exist on the property. No on-site well or septic system is proposed as part of this project. APN 028-007-001 contains a single-family dwelling, accessory storage buildings, and water tanks, which are not part of the project.**

**All project parcels are enrolled in Williamson Act Contracts and are proposed to be subject to a cancellation as part of this request.**

**A detailed project description and preliminary hydrology study conducted by the applicant is attached.**

**Full document with attachments available for viewing at:**
**http://www.stancounty.com/planning/pl/act-projects.shtm**

**USE PERMIT AND WILLIAMSON ACT CANCELLATION APPLICATION NO. PLN2026-0068 – AMANECE HYBRID SOLAR**
Attachment A

Distribution List

| | | | |
|---|---|---|---|
| X | CA DEPT OF CONSERVATION Land Resources | | STAN CO ALUC |
| X | CA DEPT OF FISH & WILDLIFE | | STAN CO ANIMAL SERVICES |
| | CA DEPT OF FORESTRY (CAL FIRE) | X | STAN CO BUILDING PERMITS DIVISION |
| X | CA DEPT OF TRANSPORTATION DIST 10 | X | STAN CO CEO |
| X | CA OPR STATE CLEARINGHOUSE | | STAN CO CSA |
| X | CA RWQCB CENTRAL VALLEY REGION | X | STAN CO DER |
| | CA STATE LANDS COMMISSION | X | STAN CO ERC |
| X | CEMETERY DISTRICT: HILLS FERRY | X | STAN CO FARM BUREAU |
| X | CENTRAL VALLEY FLOOD PROTECTION | X | STAN CO HAZARDOUS MATERIALS |
| | CITY OF: | | STAN CO PARKS & RECREATION |
| | COMMUNITY SERVICES DIST: | X | STAN CO PUBLIC WORKS |
| X | COOPERATIVE EXTENSION | | STAN CO PUBLIC WORKS - SURVEY |
| X | COUNTY OF: MERCED | | STAN CO RISK MANAGEMENT |
| X | DER GROUNDWATER RESOURCES DIVISION | X | STAN CO SHERIFF |
| X | DISPOSAL DIST: BERTOLOTTI | X | STAN CO SUPERVISOR DIST 5: C. CONDIT |
| X | FIRE PROTECTION DIST: WEST STANISLAUS FIRE | X | STAN COUNTY COUNSEL |
| X | GSA: NORTHWESTERN DELTA-MENDOTA | X | StanCOG |
| | HOSPITAL DIST: | X | STANISLAUS FIRE PREVENTION BUREAU |
| | IRRIGATION DIST: | X | STANISLAUS LAFCO |
| X | MOSQUITO DIST: TURLOCK | | STATE OF CA SWRCB DIVISION OF DRINKING WATER DIST. 10 |
| X | STANISLAUS COUNTY EMERGENCY MEDICAL SERVICES | X | SURROUNDING LAND OWNERS |
| | MUNICIPAL ADVISORY COUNCIL: | | INTERESTED PARTIES |
| X | PACIFIC GAS & ELECTRIC | X | TELEPHONE COMPANY: AT&T |
| | POSTMASTER: | X | TRIBAL CONTACTS (CA Government Code §65352.3) |

| | | | |
|---|---|---|---|
| | RAILROAD: UNION PACIFIC | | US ARMY CORPS OF ENGINEERS |
| X | SAN JOAQUIN VALLEY APCD | X | US FISH & WILDLIFE |
| X | SCHOOL DIST 1: NEWMAN-CROWS LANDING | | US MILITARY (SB 1462) (7 agencies) |
| | SCHOOL DIST 2: | X | USDA NRCS |
| | WORKFORCE DEVELOPMENT | | WATER DIST: |
| X | STAN CO AG COMMISSIONER | | |

# STANISLAUS COUNTY
# CEQA REFERRAL RESPONSE FORM

**TO:** **Stanislaus County Planning & Community Development**
**1010 10th Street, Suite 3400**
**Modesto, CA 95354**

**FROM:** _____

**SUBJECT:** **USE PERMIT AND WILLIAMSON ACT CANCELLATION APPLICATION NO. PLN2026-0068 – AMANECE HYBRID SOLAR**

Based on this agency's particular field(s) of expertise, it is our position the above described project:

_____ Will not have a significant effect on the environment.
_____ May have a significant effect on the environment.
_____ No Comments.

Listed below are specific impacts which support our determination (e.g., traffic general, carrying capacity, soil types, air quality, etc.) – (attach additional sheet if necessary)

1.
2.
3.
4.

Listed below are possible mitigation measures for the above-listed impacts: *PLEASE BE SURE TO INCLUDE WHEN THE MITIGATION OR CONDITION NEEDS TO BE IMPLEMENTED (PRIOR TO RECORDING A MAP, PRIOR TO ISSUANCE OF A BUILDING PERMIT, ETC.):*

1.
2.
3.
4.

In addition, our agency has the following comments (attach additional sheets if necessary).

_____

_____

Response prepared by:

_____

Name Title Date

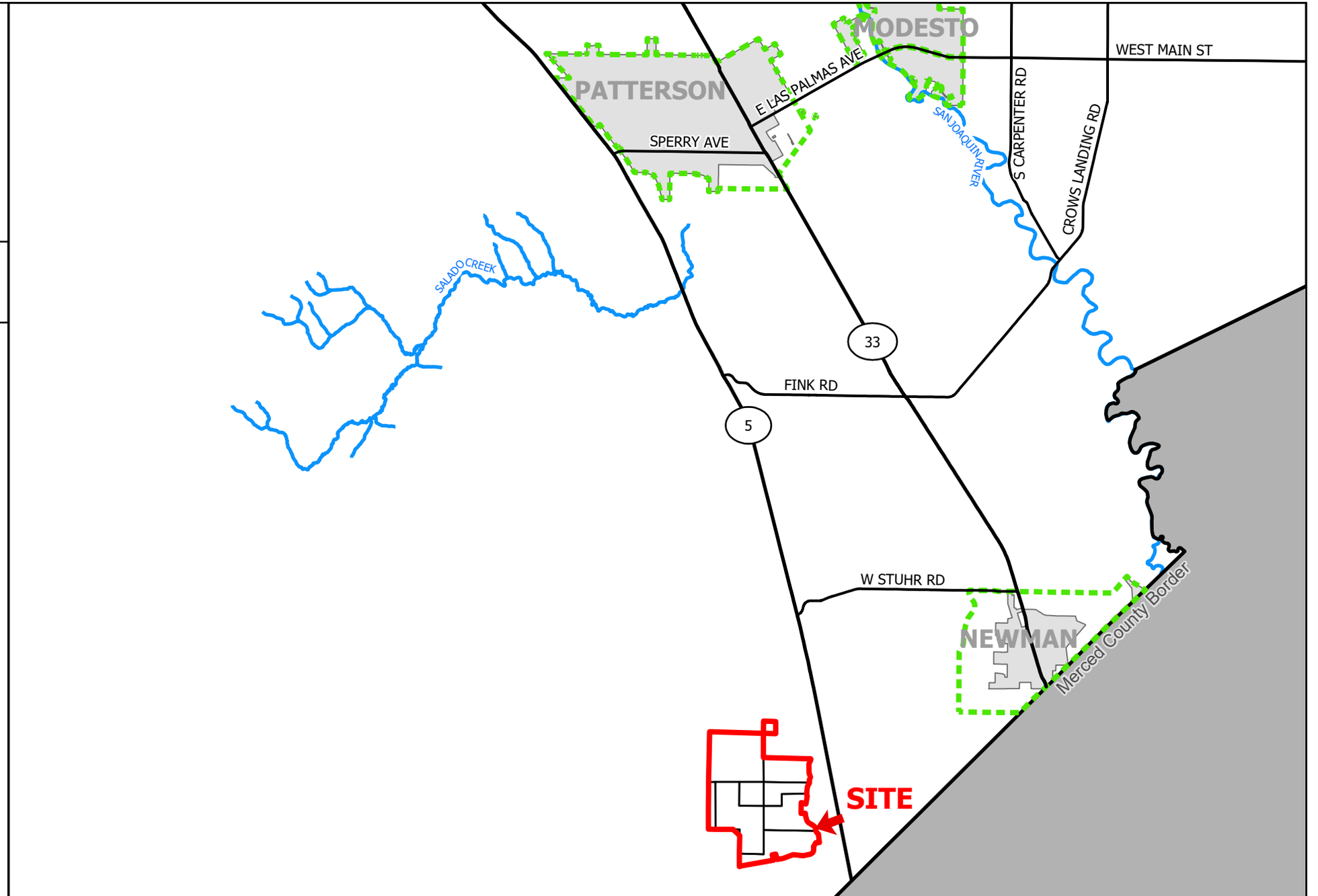
# AMANECE HYBRID SOLAR LLC

## UP / WAC PLN2026-0068

*AREA MAP*

LEGEND

- Project Site
- Highway
- Major Road
- Project Parcels
- Sphere of Influence
- River




N

0 2 5 Miles

0 3 6 Kilometers

Source: Planning Department GIS Date Exported: 8/12/2026

# AMANECE HYBRID SOLAR LLC

# UP / WAC PLN2026-0068

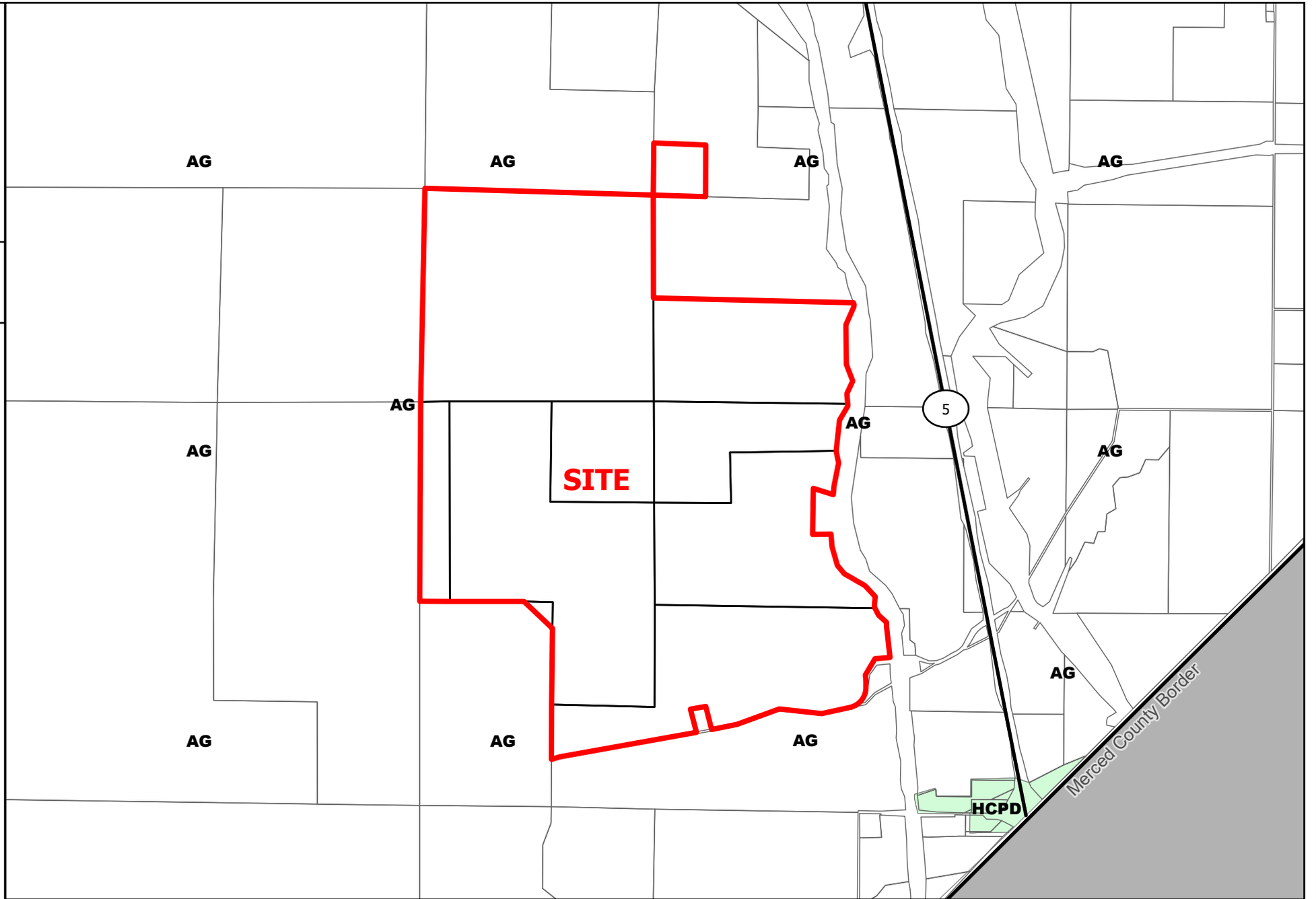
*GENERAL PLAN*

LEGEND

- Project Site
- Highway
- Parcel

General Plan

- Agriculture (AG)
- Highway Commercial/Planned Development (HCPD)




N

0 2,800 5,600 Feet

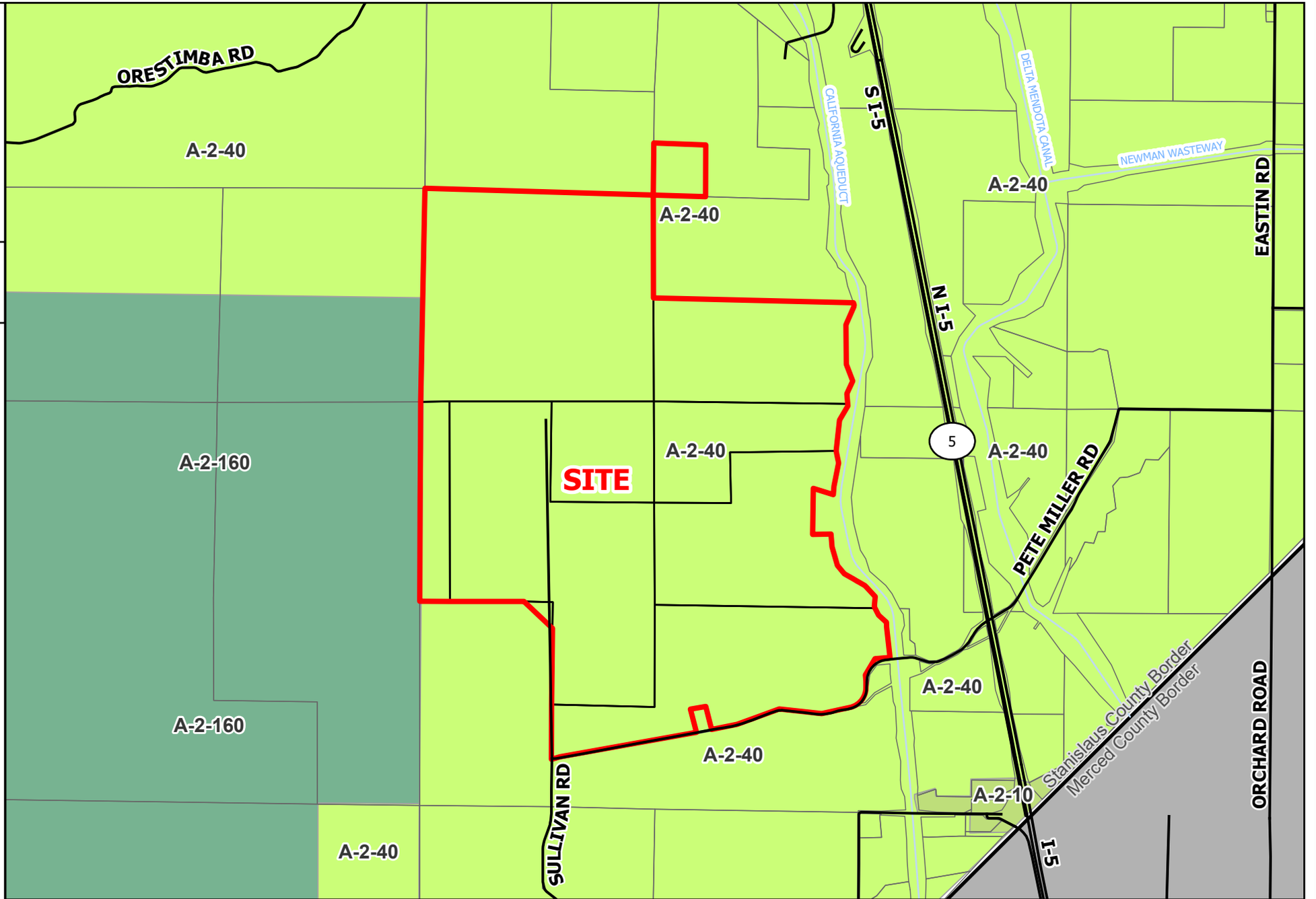
0 700 1,400 Meters

Source: Planning Department GIS Date Exported: 8/12/2026

# AMANECE HYBRID SOLAR LLC

# UP / WAC PLN2026-0068

*ZONING*




LEGEND

- Highway
- Street
- Canal
- Project Site
- Parcel

## Zoning Designation

- General AG 10 Acre (A-2-10)
- General AG 160 Acre (A-2-160)
- General AG 40 Acre (A-2-40)

N

0 2,800 5,600 Feet

0 700 1,400 Meters

Source: Planning Department GIS Date Exported: 8/12/2026

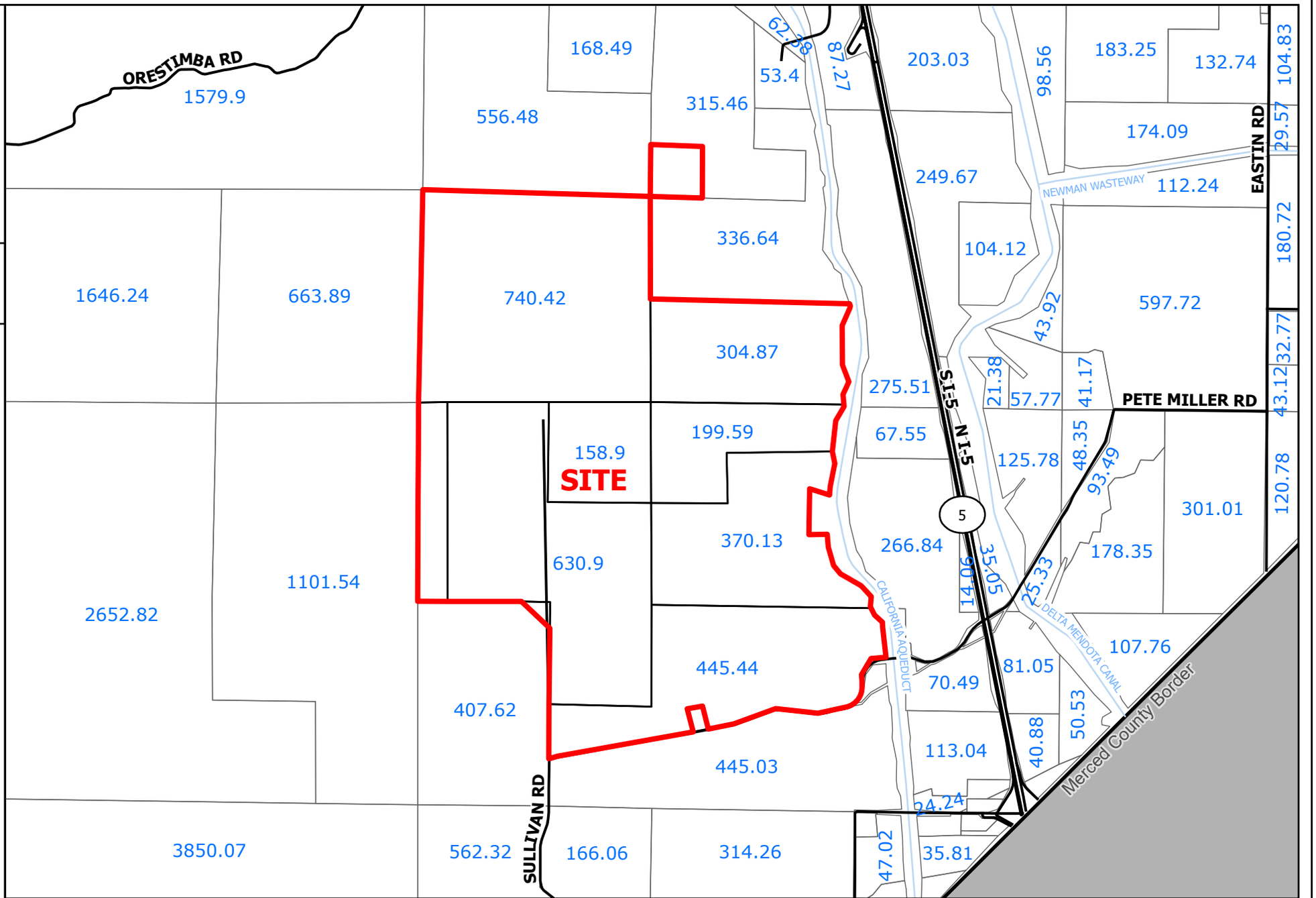
# AMANECE HYBRID SOLAR LLC

# UP / WAC PLN2026-0068

*ACREAGE MAP*

LEGEND

- Project Site
- Highway
- Street
- Canal
- Parcel

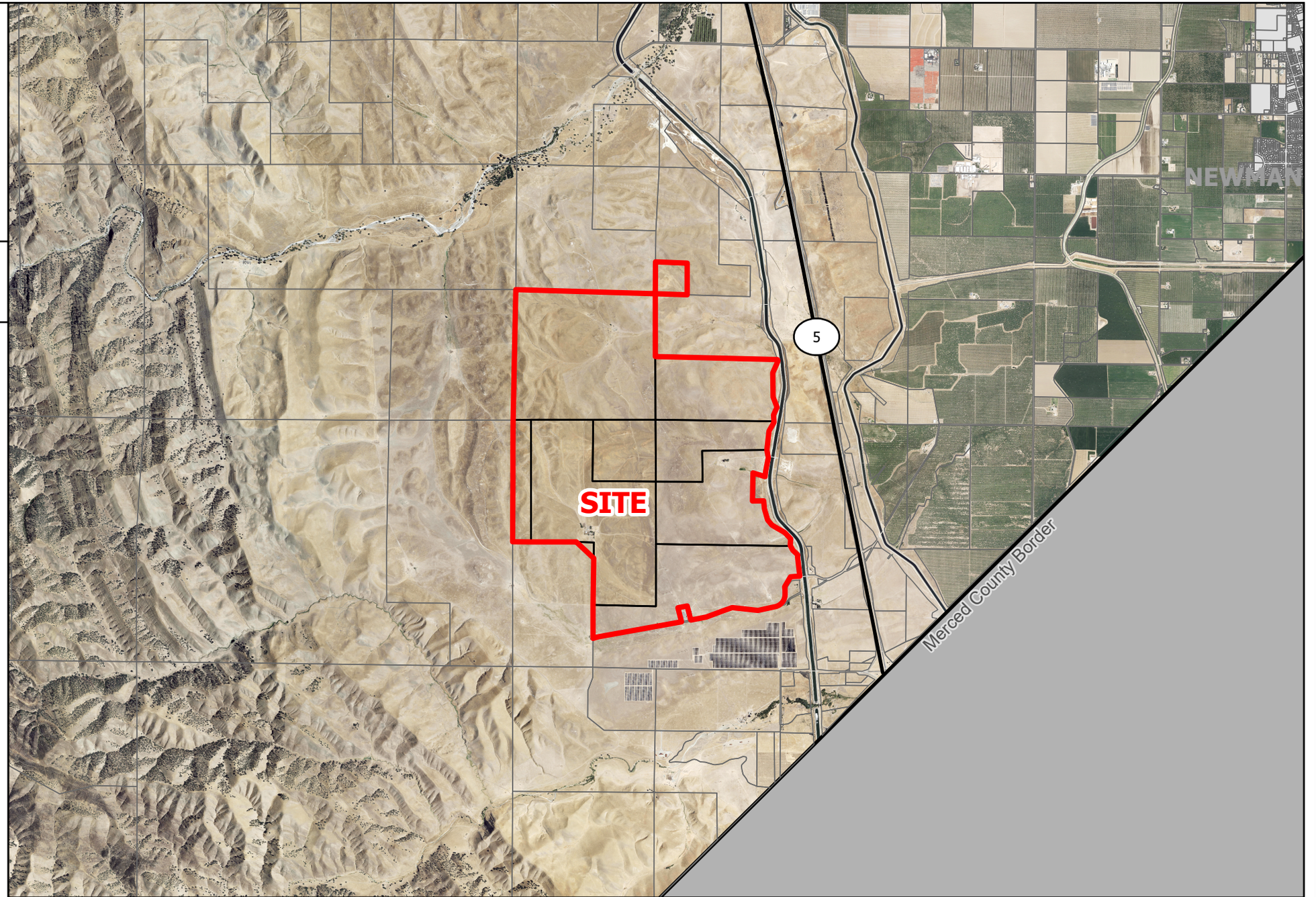



Source: Planning Department GIS  Date Exported: 8/12/2026

# AMANECE HYBRID SOLAR LLC

## UP / WAC PLN2026-0068

*2025 AERIAL AREA MAP*




LEGEND

- Project Site
- Highway
- Parcel

N

0 4,500 9,000 Feet

0 1,250 2,500 Meters

Source: Planning Department GIS

Date Exported: 8/12/2026

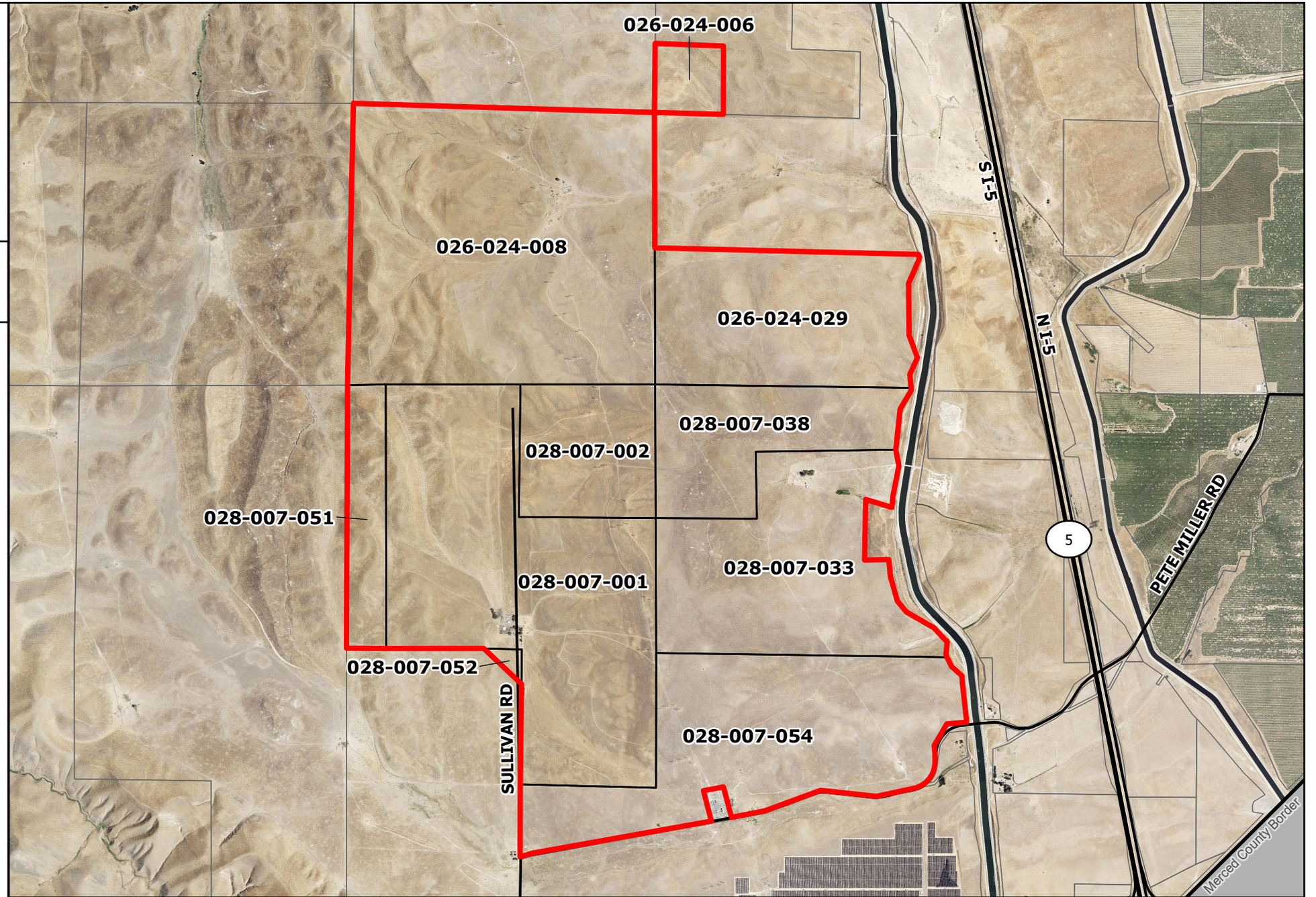
# AMANECE HYBRID SOLAR LLC

# UP / WAC PLN2026-0068

*APN Map*

LEGEND

- Project Site
- Highway
- Street
- Parcel




N

0 2,100 4,200 Feet

0 500 1,000 Meters

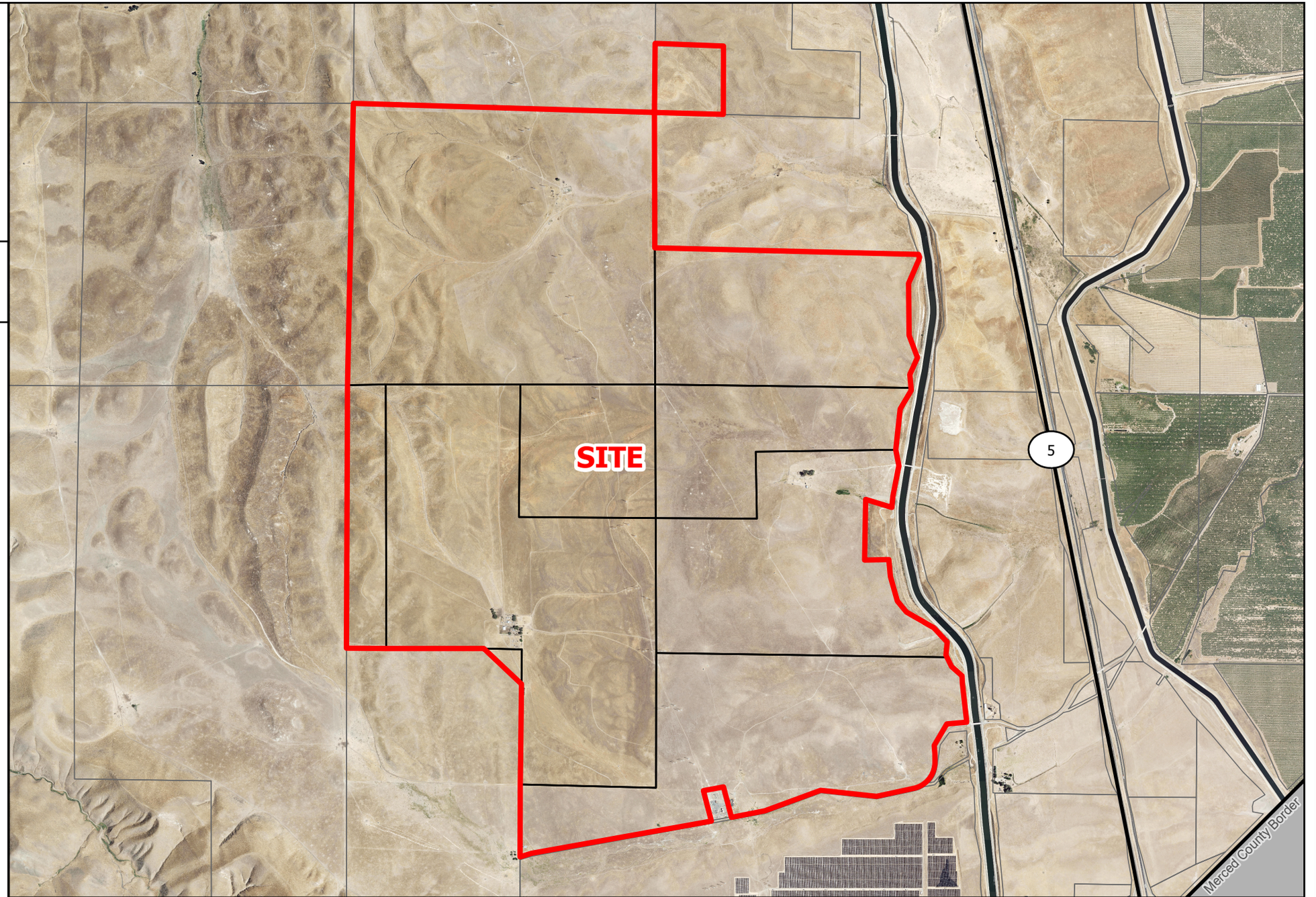
Source: Planning Department GIS

Date Exported: 8/13/2026

# AMANECE HYBRID SOLAR LLC

## UP / WAC PLN2026-0068

*2025 AERIAL SITE MAP*




LEGEND

- Project Site
- Highway
- Parcel

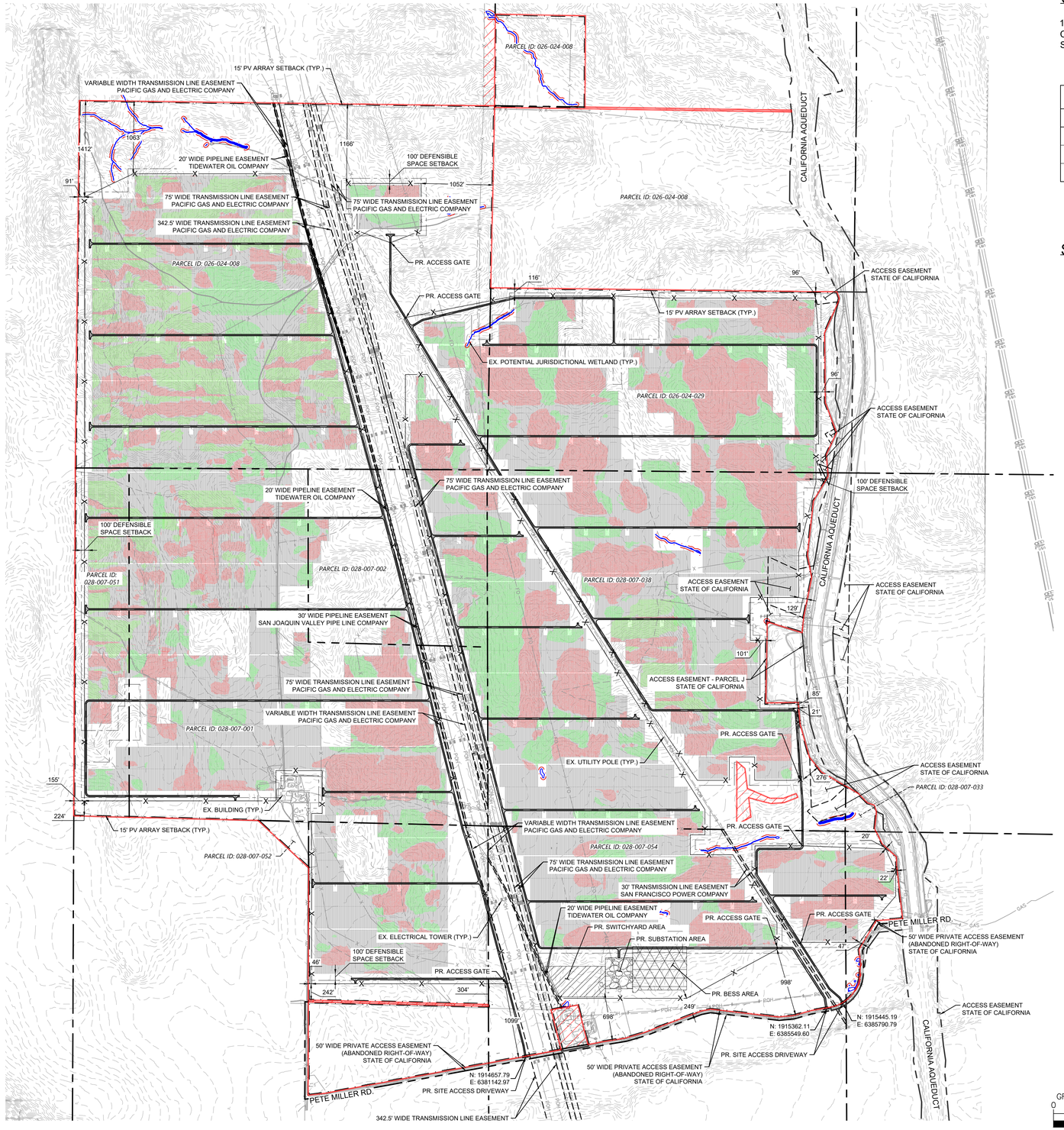
N

0 2,100 4,200 Feet

0 500 1,000 Meters

Source: Planning Department GIS

Date Exported: 8/12/2026




## GENERAL NOTES

1. ALL NORTHING AND EASTING SHOWN ARE IN NSRS 2011 CALIFORNIA STATE PLANES, ZONE III, US FOOT COORDINATE SYSTEM

| EARTHWORK ANALYSIS SUMMARY | |
|---|---|
| | CUYD |
| CUT | 5,765,000 |
| FILL | 5,765,000 |
| NET (BALANACED) | 0 |

## SITE INFORMATION

PROJECT ADDRESS: 6457-6773 Pete Miller Rd, Newman, CA 95360

PROPERTY AREA: 2,998.49 AC

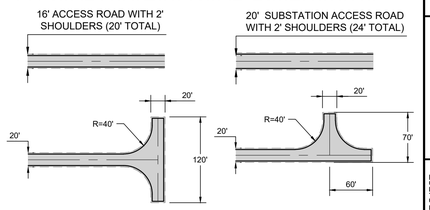
PROPOSED SITE DISTURBANCE: 2,170 AC

FLOOD NOTE: PROPERTY FALLS WITHIN ZONE "X" AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. FEMA FLOOD INSURANCE RATE MAP 06099C0925E, 06099C0940E, EFFECTIVE DATE 09/26/2008

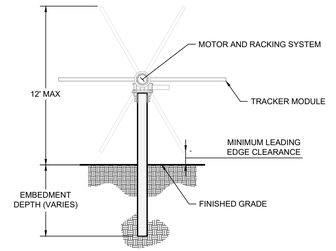
## LEGEND

- BOUNDARY LINE
- PROPERTY EXCEPTION AREA
- RIGHT-OF-WAY LINE
- PARCEL LINE
- EASEMENT LINE
- ZONING SETBACK
- 100' DEFENSIBLE SPACE SETBACK
- ADJACENT PROPERTY LINE
- SECTION LINE
- (XXXX) EXISTING CONTOUR
- XXXX PROPOSED CONTOUR
- // PROPOSED DAYLIGHT LINE
- POTENTIAL JURISDICTIONAL WETLAND
- 25' EXISTING WETLAND BUFFER
- POH EXISTING OVERHEAD POWER LINE
- FO EXISTING FIBER OPTIC LINE
- GAS EXISTING GAS LINE
- OIL EXISTING OIL LINE
- X EXISTING FENCE
- X 6' TALL CHAIN LINK PERIMETER FENCE WITH 1' BARBED WIRE TOP
- PROPOSED ACCESS GATE
- PROPOSED AGGREGATE ACCESS ROAD WITH 2' SHOULDERS
- PROPOSED BESS AREA
- PROPOSED SUBSTATION AREA
- PROPOSED SWITCHYARD AREA
- PROPOSED ARRAY OUTLINE
- PROPOSED INVERTER OUTLINE

## TYPICAL ACCESS ROAD DIMENSIONS




## TYPICAL TRACKER SECTION




NORTH

GRAPHIC SCALE IN FEET
0 400 800 1600
1" = 50'
WHEN PRINTED ON A
24" X 36" SHEET

| NO. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | COUNTY CUP SUBMITTAL | 6/17/26 | SSK |

SAMSUNG C&T

Kimley»Horn
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1100 TOWN AND COUNTRY, SUITE 700,
ORANGE, CA 92868
PHONE: 714.939.1030 FAX: 714.938.9488
WWW.KIMLEY-HORN.COM

NOT FOR CONSTRUCTION

| | |
|---|---|
| KHA PROJECT PROJ.#: 194620002 | SCALE: AS SHOWN |
| DATE 6/30/26 | DESIGNED BY: MHA |
| | DRAWN BY: MHA |
| | CHECKED BY: SSK |

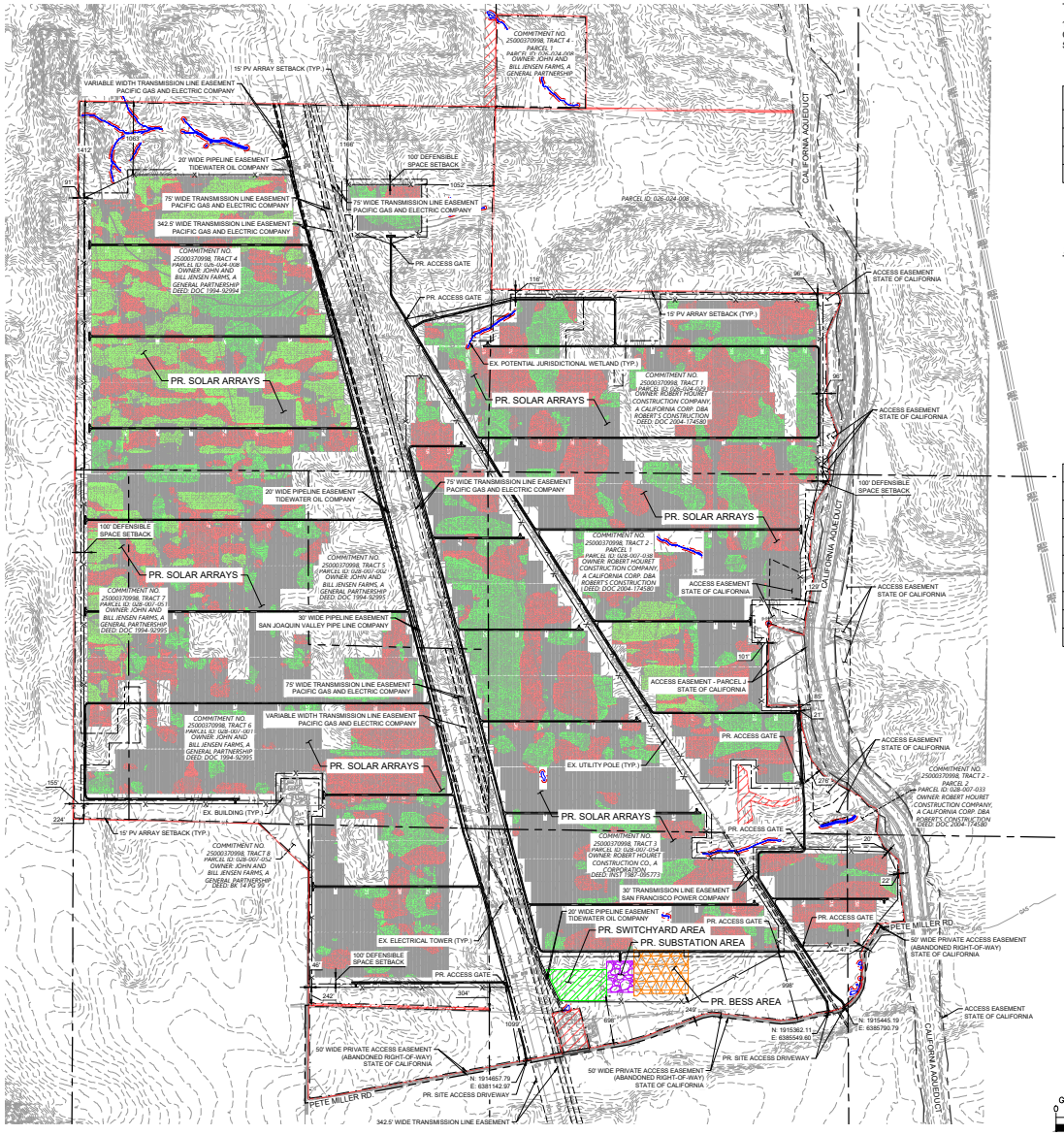
# CONDITIONAL USE PERMIT SITE PLAN

# AMANECE SOLAR

NEWMAN, STANISLAUS COUNTY, CA 95360

SHEET NUMBER
CUP-100

Plotted By:Kim, Samuel Sheet Set:Kha Layout:SITE LAYOUT EXHIBIT June 30, 2026 07:33:25pm K:\OAK_Energy\194620002_Amanece Solar\CAD - Civil\Exhibits\Site Layout Exhibit\Site Layout Exhibit.dwg
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## GENERAL NOTES

1. ALL NORTHING AND EASTING SHOWN ARE IN NSRS 2011 CALIFORNIA STATE PLANES, ZONE III, US FOOT COORDINATE SYSTEM

| EARTHWORK ANALYSIS SUMMARY | |
|---|---|
| | CUYD |
| CUT | 5,765,000 |
| FILL | 5,765,000 |
| NET (BALANACED) | 0 |

## SITE INFORMATION

PROJECT ADDRESS: 6457-6773 Pete Miller Rd, Newman, CA 95360

PROPERTY AREA: 2,998.49 AC

PROPOSED SITE DISTURBANCE: 2,170 AC

FLOOD NOTE: PROPERTY FALLS WITHIN ZONE "X" AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. FEMA FLOOD INSURANCE RATE MAP 06099C0925E, 06099C0940E, EFFECTIVE DATE 09/26/2008

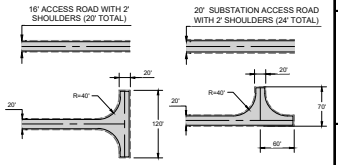
ZONE DESIGNATION: ZONE A-2-40: GENERAL AGRICULTURE DISTRICT

| APN | ACERAGE |
|---|---|
| 026-024-008 | 785.69 |
| 028-007-038 | 555.31 |
| 028-007-033 | 5.22 |
| 028-007-054 | 442.73 |
| 026-024-029 | 303.94 |
| 028-007-002 | 154.50 |
| 028-007-001 | 625.88 |
| 028-007-051 | 93.65 |
| 028-007-052 | 5.77 |

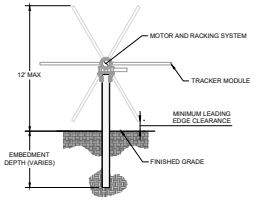
## LEGEND

- BOUNDARY LINE
- PROPERTY EXCEPTION AREA
- RIGHT-OF-WAY LINE
- PARCEL LINE
- EASEMENT LINE
- ZONING SETBACK
- 100' DEFENSIBLE SPACE SETBACK
- ADJACENT PROPERTY LINE
- SECTION LINE
- (XXXX) EXISTING CONTOUR
- XXXX PROPOSED CONTOUR
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- POTENTIAL JURISDICTIONAL WETLAND
- 25' EXISTING WETLAND BUFFER
- POH EXISTING OVERHEAD POWER LINE
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- PROPOSED ACCESS GATE
- PROPOSED AGGREGATE ACCESS ROAD WITH 2' SHOULDERS
- PROPOSED BESS AREA
- PROPOSED SUBSTATION AREA
- PROPOSED SWITCHYARD AREA
- PROPOSED ARRAY OUTLINE
- PROPOSED INVERTER OUTLINE

## TYPICAL ACCESS ROAD DIMENSIONS




## TYPICAL TRACKER SECTION




| NO | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | COUNTY CUP SUBMITTAL | 7/10/26 | SSK |

SAMSUNG C&T

Kimley»Horn
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ORANGE, CA 92868
PHONE: 714.939.1030 FAX: 714.938.9488
WWW.KIMLEY-HORN.COM

NOT FOR CONSTRUCTION

KHA PROJECT 019600002
DATE 7/10/26
SCALE AS SHOWN
DESIGNED BY MHA
DRAWN BY MHA
CHECKED BY SSK

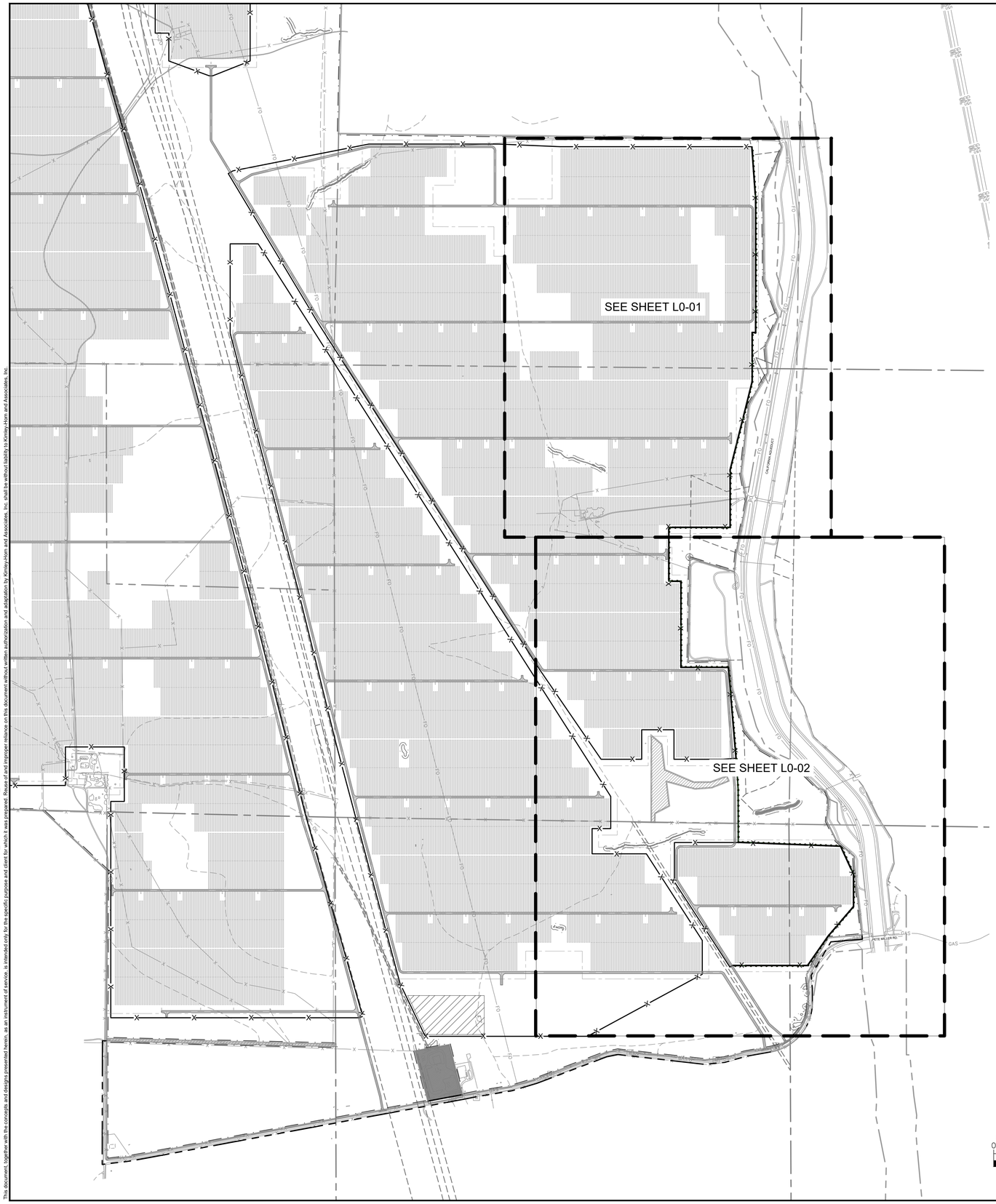
# CONDITIONAL USE PERMIT SITE PLAN

# AMANECE SOLAR

NEWMAN, STANISLAUS COUNTY, CA 95360

SHEET NUMBER
CUP-100

Plotted By: Hala Marcus Shead Sachdeva Layout:SITE LAYOUT EXHIBIT July 10, 2026 12:31:53pm K:\CIVIL_Energy\194920002_Amanece Solar\CAD - Civil\Exhibits\Site Layout Exhibit\Site Layout Exhibit.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.




## CONCEPT PLANT SCHEDULE

**SCREENING EVERGREEN TREE** — 218
ABIES PINSAPO / SPANISH FIR
ACACIA MELANOXYLON / BLACKWOOD
ARBUTUS ANDRACHNE / EASTERN STRAWBERRY TREE
BRACHYCHITON POPULNEUS / KURRAJONG

**SCREENING PLANTING** — 131,129 SF
AGAVE X 'BLUE GLOW' / BLUE GLOW AGAVE
ALOE STRIATA / CORAL ALOE
BACCHARIS X 'STARN' / STARN THOMPSON® COYOTE BRUSH
HESPERALOE PARVIFLORA / RED YUCCA
HETEROMELES ARBUTIFOLIA / TOYON
PENSTEMON X 'FIREBIRD' / FIREBIRD BEARDTONGUE
RHAMNUS CALIFORNICA 'EVE CASE' / EVE CASE COFFEEBERRY
ROMNEYA COULTERI / MATILIJA POPPY

LANDSCAPE NOTE:

THE SELECTION OF PLANT MATERIAL IS BASED ON CLIMATIC, AESTHETIC, AND MAINTENANCE CONSIDERATIONS. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL AMENDMENTS, FERTILIZERS AND APPROPRIATE SUPPLEMENTS BASED UPON A SOILS REPORT FROM AN AGRICULTURAL SUITABILITY SOIL SAMPLE TAKEN FROM THE SITE. DECOMPOSED GRANITE SHALL FILL IN BETWEEN SHRUBS TO SHIELD THE SOIL FROM THE SUN, EVAPOTRANSPIRATION, AND RUN-OFF. ALL SHRUB BEDS SHALL BE MULCHED TO A 3" DEPTH TO HELP CONSERVE WATER, LOWER SOIL TEMPATURE AND REDUCE WEED GROWTH. THE SHRUBS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORMS. ALL LANDSCAPE IMPROVEMENTS SHALL FOLLOW THE GUIDELINES SET FORTH BY THE COUNTY OF STANISLAUS MUNICIPAL CODE.

IRRIGATION NOTE:

AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED TO PROVIDE 100% COVERAGE FOR ALL PLANTING AREAS SHOWN ON THE PLAN. THE WATER SUPPLY FOR THIS SITE IS A POTABLE WATER CONNECTION AND A DEDICATED IRRIGATION METER WILL BE PROVIDED. LOW VOLUME EQUIPMENT SHALL PROVIDE SUFFICIENT WATER FOR PLANT GROWTH WITH NO WATER LOSS DUE TO WATER CONTROLLERS, AND OTHER NECESSARY IRRIGATION EQUIPMENT. ALL POINT SOURCE SYSTEM SHALL BE ADEQUATELY FILTERED AND REGULATED PER THE MANUFACTURER'S RECOMMENDED DESIGN PARAMETERS. ALL IRRIGATION IMPROVEMENTS SHALL FOLLOW THE GUIDELINES SET FORTH BY THE COUNTY OF STANISLAUS MUNICIPAL CODE.

I HAVE COMPLIED WITH THE CRITERIA OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

MICHAEL P. MADSEN, LLA 5798

## LEGEND

- BOUNDARY LINE
- PROPERTY EXCEPTION AREA
- RIGHT-OF-WAY LINE
- PARCEL LINE
- EASEMENT LINE
- ZONING SETBACK
- ADJACENT PROPERTY LINE
- SECTION LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED DAYLIGHT LINE
- POTENTIAL JURISDICTIONAL
- 25' EXISTING WETLAND BUFFER
- EXISTING OVERHEAD POWER LINE
- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE
- EXISTING OIL LINE
- EXISTING FENCE
- 6' TALL CHAIN LINK PERIMETER FENCE WITH 1' BARBED WIRE TOP
- PROPOSED ACCESS GATE
- PROPOSED AGGREGATE ACCESS ROAD WITH 2' SHOULDERS
- PROPOSED BESS AREA
- PROPOSED SUBSTATION AREA
- PROPOSED ARRAY OUTLINE
- PROPOSED INVERTER OUTLINE

NORTH

GRAPHIC SCALE IN FEET
0 300 600 1200
1" = 600'
WHEN PRINTED ON A
24" X 36" SHEET

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| 1 | COUNTY CUP SUBMITTAL | 6/17/26 | SSK |

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NOT FOR CONSTRUCTION

KHA PROJECT PROJ.#: 194620002
DATE 6/29/26
SCALE: AS SHOWN
DESIGNED BY: MHA
DRAWN BY: MHA
CHECKED BY: SSK

# LANDSCAPE KEY MAP

# AMANECE SOLAR

NEWMAN, STANISLAUS COUNTY, CA 95360

SHEET NUMBER
L-00

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## CONCEPT PLANT SCHEDULE

**SCREENING EVERGREEN TREE** — 218
ABIES PINSAPO / SPANISH FIR
ACACIA MELANOXYLON / BLACKWOOD
ARBUTUS ANDRACHNE / EASTERN STRAWBERRY TREE
BRACHYCHITON POPULNEUS / KURRAJONG

**SCREENING PLANTING** — 131,129 SF
AGAVE X 'BLUE GLOW' / BLUE GLOW AGAVE
ALOE STRIATA / CORAL ALOE
BACCHARIS X 'STARN' / STARN THOMPSON® COYOTE BRUSH
HESPERALOE PARVIFLORA / RED YUCCA
HETEROMELES ARBUTIFOLIA / TOYON
PENSTEMON X 'FIREBIRD' / FIREBIRD BEARDTONGUE
RHAMNUS CALIFORNICA 'EVE CASE' / EVE CASE COFFEEBERRY
ROMNEYA COULTERI / MATILIJA POPPY

## LEGEND

- BOUNDARY LINE
- PROPERTY EXCEPTION AREA
- RIGHT-OF-WAY LINE
- PARCEL LINE
- EASEMENT LINE
- ZONING SETBACK
- ADJACENT PROPERTY LINE
- SECTION LINE
- EXISTING CONTOUR
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- PROPOSED AGGREGATE ACCESS ROAD WITH 2' SHOULDERS
- PROPOSED BESS AREA
- PROPOSED SUBSTATION AREA
- PROPOSED ARRAY OUTLINE
- PROPOSED INVERTER OUTLINE

NORTH

GRAPHIC SCALE IN FEET
0 125 250 500
1" = 250'
WHEN PRINTED ON A 24" X 36" SHEET

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# LANDSCAPE PLAN

# AMANECE SOLAR

NEWMAN, STANISLAUS COUNTY, CA 95360

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L-01

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MATCHLINE - SEE SHEET L0-01

ACCESS EASEMENT
STATE OF CALIFORNIA

60' O.C. TYP.

PR. ACCESS GATE

EX. UTILITY POLE (TYP.)

PR. ACCESS GATE

SITE FENCE (TYP)

10' LANDSCAPE BUFFER (TYP)

PR. ACCESS GATE

PR. ACCESS GATE

PETE MILLER RD.

NORTH

GRAPHIC SCALE IN FEET
0 125 250 500
1" = 250'
WHEN PRINTED ON A
24" X 36" SHEET

## CONCEPT PLANT SCHEDULE

| | | |
|---|---|---|
| | SCREENING EVERGREEN TREE<br>ABIES PINSAPO / SPANISH FIR<br>ACACIA MELANOXYLON / BLACKWOOD<br>ARBUTUS ANDRACHNE / EASTERN STRAWBERRY TREE<br>BRACHYCHITON POPULNEUS / KURRAJONG | 218 |
| | SCREENING PLANTING<br>AGAVE X 'BLUE GLOW' / BLUE GLOW AGAVE<br>ALOE STRIATA / CORAL ALOE<br>BACCHARIS X 'STARN' / STARN THOMPSON® COYOTE BRUSH<br>HESPERALOE PARVIFLORA / RED YUCCA<br>HETEROMELES ARBUTIFOLIA / TOYON<br>PENSTEMON X 'FIREBIRD' / FIREBIRD BEARDTONGUE<br>RHAMNUS CALIFORNICA 'EVE CASE' / EVE CASE COFFEEBERRY<br>ROMNEYA COULTERI / MATILIJA POPPY | 131,129 SF |

## LEGEND

- BOUNDARY LINE
- PROPERTY EXCEPTION AREA
- RIGHT-OF-WAY LINE
- PARCEL LINE
- EASEMENT LINE
- ZONING SETBACK
- ADJACENT PROPERTY LINE
- SECTION LINE
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- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE
- EXISTING OIL LINE
- EXISTING FENCE
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- PROPOSED AGGREGATE ACCESS ROAD WITH 2' SHOULDERS
- PROPOSED BESS AREA
- PROPOSED SUBSTATION AREA
- PROPOSED ARRAY OUTLINE
- PROPOSED INVERTER OUTLINE

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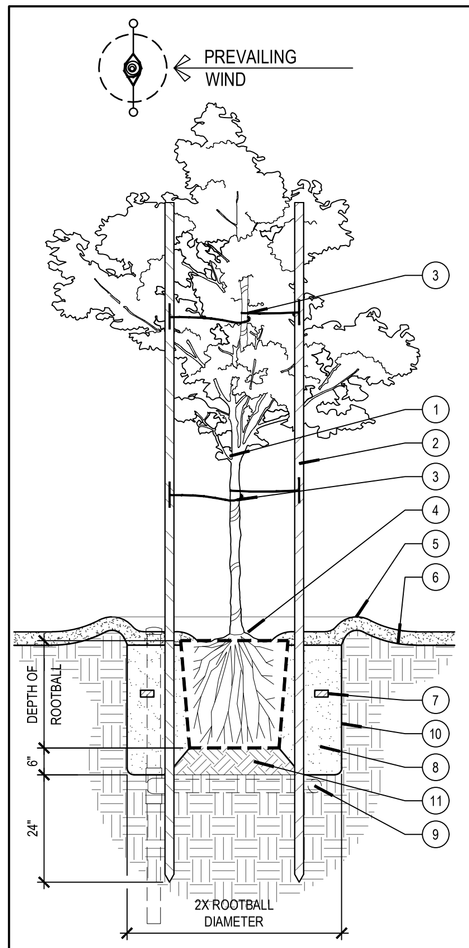
# LANDSCAPE PLAN

# AMANECE SOLAR

NEWMAN, STANISLAUS COUNTY, CA 95360

SHEET NUMBER
L-02

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## LEGEND

1. PROPOSED TREE
2. LODGE POLE PINE STAKES. ONE (1) - 2" DIA. x 8' LONG STAKE FOR 5 GALLON. TWO (2) - 2" DIA. x 10' LONG STAKES FOR 15 GALLON AND 24" BOX TREES. TWO (2) - 3" DIA. x 12' LONG DIAMETER STAKES FOR 36" BOX AND LARGER.
3. TREE TIE, LOOP TREE TIE AROUND TREE BRANCH, TWIST TIE, THEN LOOP AROUND STAKE & DRIVE NAIL THROUGH THE TIE AT THE BACK OF STAKE. PROVIDE TWO (2) TIES FOR 5 GAL. & THREE (3) TIES 15 GAL. & LARGER TREES.
4. TREE ROOTBALL; INSTALL 5 GAL. & 15 GAL., 1" ABOVE GRADE. 24" BOX & LARGER, 3" ABOVE GRADE. TAPER ROOTBALL EDGE TO GRADE.
5. 4" HIGH WATER RETENTION BASIN. FORM FROM PLANT PIT EXCAVATION. BASIN NO LARGER THAN ROOTBALL.
6. FINISHED GRADE WITH APPROVED MULCH; REFER TO NOTES.
7. PLANTING TABLETS; REFER TO NOTES.
8. PREPARED BACKFILL/NATIVE SOIL MIX; GRADUALLY ADD SOIL AND COMPACT LIGHTLY WHEN BACKFILLING; WATER HALFWAY AND ALLOW TO DRAIN PRIOR TO ADDING MORE SOIL
9. SEE SEPARATE ROOTBALL DRAINAGE AND AERATION DETAIL
10. UNDISTURBED SOIL. SCARIFY SIDES OF PLANT PIT. BREAK UP HARD/COMPACTED SOIL AND LOOSEN SOIL.
11. 6" ZONE OF OVER-EXCAVATED AND RECOMMENDED BACKFILL SOIL

## NOTES

A. ALL PLANT AREAS SHALL HAVE A 3" LAYER OF NITROLIZED ORGANIC LANDSCAPE MULCH, TYP. PLACED IN WATER RETENTION BASIN.

B. LIBERALLY DUST SIDES AND BOTTOM OF PITS W/ FINELY GROUND AGRICULTURAL GYPSUM.

C. TREE TIES TO BE "CINCH TIE" BY V.I.T. PRODUCTS OR APPROVED EQUAL.

D. FOR AGENCY MAINTAINED TREES, REFER TO THE GOVERNING AGENCY STANDARD DETAIL FOR TREE TIE REQUIREMENTS.

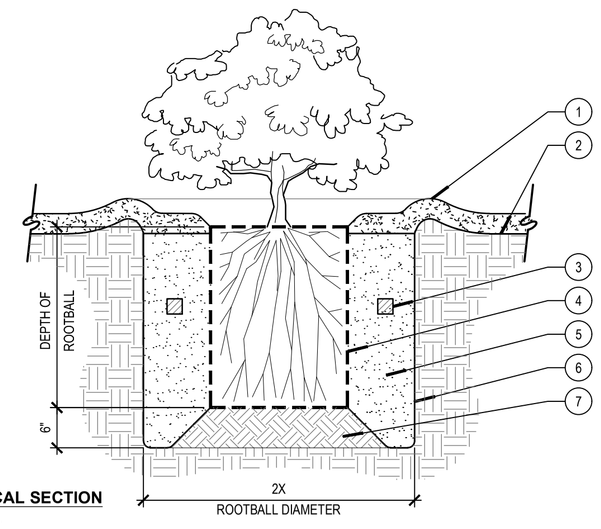
E. REFER TO THE PROJECT HORTICULTURAL SOILS REPORT FOR ALL REQUIRED BACKFILL SOIL AMENDMENTS.

F. PLANT TABS TO BE "SCOTTS-AGRIFORM" OR APPROVED EQUAL AS RECOMMENDED BY THE MANUFACTURER PLANT SIZE TABLET CHART.

G. REFER TO SINGLE STAKE TREE DETAIL FOR LOPHOSTEMON CONFERTUS, CUPRESSUS SEMPERVIRENS AND COLUMNAR TREES.

H. MAINTAIN A MINIMUM 3'-0" RADIUS CLEAR EARTH AREA AROUND TREE TRUNK WHEN PLANTED IN TURF AREAS.

## 1 TREE PLANTING
NOT TO SCALE




**TYPICAL SECTION**
**N.T.S.**

## LEGEND

1. 3" HIGH WATER RETENTION BASIN, FORMED FROM PLANT PIT SPOILS/MULCH; MAINTAIN 2" MIN. MULCH ATOP ROOTBALL.
2. FINISH GRADE WITH APPROVED MULCH. REFER TO NOTES.
3. PLANTING TABLETS. REFER TO NOTES.
4. ROOTBALL. INSTALL CROWN 1" MINIMUM ABOVE FINISHED GRADE.
5. PREPARED BACKFILL/NATIVE SOIL MIX; GRADUALLY ADD SOIL AND COMPACT LIGHTLY WHEN BACKFILLING; WATER HALFWAY AND ALLOW TO DRAIN PRIOR TO ADDING MORE SOIL.
6. SCARIFY SIDES OF PLANT PIT; BREAK UP HARD/COMPACTED SOIL AND LOOSEN SOIL.
7. 6" ZONE OF OVER-EXCAVATED AND RECOMMENDED BACKFILL SOIL.

## NOTES

A. ALL PLANTING AREAS SHALL HAVE A 3" LAYER OF APPROVED NITROLIZED ORGANIC LANDSCAPE MULCH.

B. REFER TO THE PROJECT HORTICULTURAL SOILS REPORT FOR ALL BACKFILL SOIL AMENDMENTS REQUIRED.

C. AVOID PLANT INSTALLATION DIRECTLY IN FRONT OF IRRIGATION SPRAY AND RAKE OUT ALL SOIL EXCAVATION AS REQUIRED.

D. PLANT TABS TO BE "SCOTTS-AGRIFORM" OR APPROVED EQUAL. QUANTITY AS RECOMMENDED BY MANUFACTURER SIZE TABLET CHART.

## 2 SHRUB PLANTING
NOT TO SCALE

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# LANDSCAPE DETAILS

# AMANECE SOLAR
NEWMAN, STANISLAUS COUNTY, CA 95360

SHEET NUMBER
L-03

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Project Description

# Amanece Hybrid Solar Project

**JULY 2026**

*Submitted To:*

**STANISLAUS COUNTY PLANNING AND COMMUNITY DEVELOPMENT**
1010 10th St, Suite 3400
Modesto, California 95354
209.525.6330

*Applicant:*

**AMANECE HYBRID SOLAR, LLC (A WHOLLY OWNED SUBSIDIARY OF SAMSUNG C&T RENEWABLES, LLC)**
611 Gateway Blvd Suite 120
South San Francisco, CA, 94080

*Prepared by:*

DUDEK
1810 13th Street, Suite 110
Sacramento, California 95811
*Contact: Keith Carwana*

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## ATTACHMENTS

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# Acronyms and Abbreviations

| Acronym/Abbreviation | Definition |
|---|---|
| amsl | above mean sea level |
| Applicant | Amanece Hybrid Solar, LLC |
| APN | Assessor's Parcel Number |
| BMP | best management practice |
| BESS | battery energy storage system |
| County | Stanislaus County Planning and Community Development Department |
| EPC | engineering, procurement, and construction |
| Gen-Tie | generation tie |
| HVAC | heating, ventilation, and air conditioning |
| I-5 | Interstate 5 |
| kV | kilovolt |
| MW | megawatt |
| MWhr | megawatt hour |
| O&M | operations and maintenance |
| pV | photovoltaic |
| POI | point of interconnection |
| Project | Amanece Hybrid Solar Project |
| SWPPP | Stormwater Pollution Prevention Plan |

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# 1 Introduction

Amanece Hybrid Solar, LLC (Applicant) proposes to entitle, construct, operate, and maintain the Amanece Solar and Battery Energy Storage Project (Project). The Project would include up to 400-megawatt (MW) photovoltaic solar generation and 400MW Alternating Current (MWac) battery energy storage system (BESS) at 4 hours of continuous discharge on an approximately 3,000-acre site in Stanislaus County, California (see Figure 1, Site Vicinity).

The Applicant is pursuing a Conditional Use Permit (CUP) from the Stanislaus County Planning and Community Development Department (County). Construction of the Project is anticipated to take up to 18 months, beginning in the fourth quarter of 2030 and completed by second quarter of 2032. The anticipated operational life of the proposed Project is anticipated to be 35 years.

The Project would primarily consist of photovoltaic (PV) panels, a single-axis tracker system, inverters and transformers, electrical cabling and communication lines, generation interconnection (gen-tie) line, access roads, security fence, an operations and maintenance (O&M) modular structure, and a supervisory control and data acquisition (SCADA) system. The Project would also include a BESS, Project substation, and a Pacific Gas and Electric (PG&E) switching station that would interconnect with the existing PG&E 230-kilovolt (kV) transmission lines that bisect the Project site.

## 1.1 Project Location

The Project site consists entirely of ten privately-owned undeveloped parcels totaling approximately 3,000 acres in unincorporated Stanislaus County. The land is under an option to lease agreement between the property owners and the Project Applicant. The Project site consists of Assessor Parcel Numbers (APNs) 026-024-006, 026-024-008, 028-007-001, 028-007-002, 028-007-051, 027-007-052, 026-024-029, 028-007-033, 028-007-038, and 028-007-054, as described in Table 1, below. The Project site is located along Pete Miller Road approximately 7 miles west of the City of Gustine.

The proposed Project has direct access from Interstate 5 (I-5), located approximately 0.5 miles to the east of the Project site. The Project is situated within portions of quadrangles Orestimba Peak, Newman, Crevison Peak in the Mt. Diablo meridian. Township, Range, and section are listed in Table 1 below. The Project is bordered by agricultural land on all sides. Please refer to Figure 1, Site Vicinity and Figure 2, Project Boundaries.

**Table 1. Township, Range, Section**

| Assessor's Parcel Number | Township | Range | Section |
|---|---|---|---|
| 026-024-006 | Township 7S | Range 8E | Section 29 |
| 026-024-008 | Township 7S | Range 8E | Section 30 |
| 026-024-029 | Township 7S | Range 8E | Section 31 |
| 028-007-001 | Township 7S | Range 8E | Section 32 |
| 028-007-002 | Township 8S | Range 8E | Section 4 |

| | | | |
|---|---|---|---|
| 028-007-033 | Township 8S | Range 8E | Section 5 |
| 028-007-038 | Township 8S | Range 8E | Section 6 |
| 028-007-051 | Township 8S | Range 8E | Section 7 |
| 028-007-052 | Township 8S | Range 8E | Section 8 |
| 028-007-054 | Township 8S | Range 8E | Section 9 |

## 1.2 Project Setting

The Project site is located entirely within unincorporated Stanislaus County, along Pete Miller Road approximately 7 miles west of the City of Gustine. As currently configured, the site consists of approximately 3,000 acres distributed on 10 parcels owned by two property owners. The Project is inhabited uniformly by a form of non-native grassland community. Terrain is generally rolling hills, becoming hillier on the west side as the landscape transitions from valley floor to the foothills of the Coast Ranges west of the Project site. The south side of the Project follows Pete Miller Road in the Bennett Valley. Soils are a mix of clays and sandy or clay loams. Elevations range from about 65 meters (m) (215 feet [ft]) above mean sea level (amsl) on the south side to about 158 m (520 ft) amsl on the northwest corner as shown in Figure 3, Topography. Developed areas within the Project site are predominantly associated with manmade structures such as the 1890s homestead complex, barns, or cattle watering stations.

## 1.3 General Plan Land Use, Zoning, and Assessor Parcel Numbers

The Project site comprises 10 parcels of land in Stanislaus County, which are listed in Table 2. Table 2 provides APNs, land use designation, existing zoning, acreage of each parcel, and ownership. The parcels with APNs are also shown in Figure 4, APN Map.

**Table 2. Assessor's Parcel Numbers (APNs)**

| Stanislaus County APNs | | | | |
|---|---|---|---|---|
| **Assessor's Parcel Number (APN)** | **General Plan Land Use Designation** | **Existing Zoning** | **Acres** | **Ownership** |
| 026-024-006 | AG-Agriculture | A-2-40 | 40.53 | John & Bill Jensen Farms |
| 026-024-008 | AG-Agriculture | A-2-40 | 744.18 | John & Bill Jensen Farms |
| 028-007-001 | AG-Agriculture | A-2-40 | 635.38 | John & Bill Jensen Farms |
| 028-007-002 | AG-Agriculture | A-2-40 | 158.60 | John & Bill Jensen Farms |
| 028-007-051 | AG-Agriculture | A-2-40/ A-2-160 | 94.79 | John & Bill Jensen Farms |
| 028-007-052 | AG-Agriculture | A-2-40 | 5.77 | John & Bill Jensen Farms |
| 026-024-029 | AG-Agriculture | A-2-40 | 299.92 | Robert Houret Construction Co. |
| 028-007-033 | AG-Agriculture | A-2-40 | 374.16 | Robert Houret Construction Co. |
| 028-007-038 | AG-Agriculture | A-2-40 | 203.00 | Robert Houret Construction Co. |
| 028-007-054 | AG-Agriculture | A-2-40 | 442.16 | Robert Houret Construction Co. |
| **Total** | | | **2,998.49** | |

Each of the Project parcels are zoned A-2 “General Agricultural District” with a land use designation of “Agriculture”, please see Figure 5A, Land Use and Figure 5B, Zoning. The County Zoning Ordinance states “It is the intent of these district regulations to support and enhance agriculture as the predominant land use in the unincorporated areas of the county. These district regulations are also intended to protect open-space lands pursuant to Government Code Section 65910.” Permitted land uses in this type of district fall into categories of agricultural uses, residential uses, and commercial uses. Uses requiring a use permit included in the A-2 Zoning district fall into three tiers; Tier 1 includes uses closely related to agriculture, Tier 2 includes uses that are agriculturally-related commercial and industrial uses, and Tier 3 included uses not directly related to agriculture but may be necessary to serve the A-2 District or may be difficult to locate in an urban area. Tier 3 includes facilities for public utilities and communication towers (Stanislaus County Zoning Ordinance, Section 21.20.030 j). The proposed Project would not constitute a “permanent” conversion of agricultural land, and Project development would not substantially degrade soil conditions within the Project Site. The proposed Project would cease operations upon expiration of the permit (a period estimated at approximately 35 years).

## 1.4 Environmental Setting

The Project site and surrounding properties are primarily undeveloped vacant land. The vegetation communities covering the Project site are primarily Wild Oats and Annual Brome Grasslands as shown in Figure 6, Vegetation. The Farmland Mapping and Monitoring Program classifies the Project site as grazing land as shown on Figure 7, FMMP and Williamson Act Parcels. According to the Department of Conservation, Grazing Land is defined “Land on which the existing vegetation is suited to the grazing of livestock.”

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps. According to the Flood Insurance Rate Maps for the Project area, portions of the Project site are located in Zone X outside the 100-year flood plain.

The Stanislaus County Sherriff’s Department (SCSD) would serve the proposed Project site for law enforcement and public safety services, SCSD serves unincorporated areas of Stanislaus County. The SCSD station, located at 250 E Hackett Rd, Modesto, CA 95358, is the closest office to the Project site, located approximately 27 miles northeast. The West Stanislaus County FPD provides fire protection and emergency medical services to unincorporated areas of Stanislaus County and thus would provide fire protection services to the proposed Project site. Stanislaus County Fire Station 51 is the fire station located closest to the Project site, approximately 18 miles northeast at 344 W Las Palmas Ave, Patterson, CA 95363.

## 1.5 Surrounding Land Uses

Existing land uses surrounding the Project site consists largely of undeveloped vacant pastural land. The Project site is bounded on the east by the California Aqueduct and Interstate Highway 5, by Pete Miller Road and an existing solar photovoltaic facility to the south, with pasturelands similar to those found on the Project site to the north and a mountain range to the west. Orestimba Creek, a tributary of the San Joaquin River, lies approximately 1 mile to the north of the Project. The primary zoning classification in the 2-mile radius surrounding the Project site is A-2 (General Agriculture). The nearest schools are Gustine Elementary School, Gustine High School, and Gustine Middle School located approximately 8 miles east of the Project site. Figures 5A, Land Use and Figure 5B, Zoning shows surrounding land use designations and zoning adjacent to the Project site.

## 1.6 Williamson Act

All Project parcels are currently enrolled under Williamson Act contracts, as shown in Figure 7, *FMMP and Williamson Act Parcels*. The California Land Conservation Act of 1965 (Williamson Act) is intended to preserve agricultural and open space lands by providing property tax incentives for landowners who voluntarily restrict the use of their property to agricultural and compatible uses.

Pursuant to Stanislaus County Zoning Code Section 21.20.045(B)(1), *Uses on Lands Subject to Williamson Act*, "Unless the Planning Commission and/or the Board of Supervisors makes a finding to the contrary, the following uses are hereby determined to be consistent with the principles of compatibility and may be approved on contracted land: The erection, construction, alteration, or maintenance of gas, electric, water, communication facilities." The proposed Project includes renewable energy infrastructure consisting of a solar photovoltaic generation facility and battery energy storage system, which would support the generation, storage, and distribution of electricity.

Although the Project conforms to the provisions above, the Project Applicant proposes to cancel the Williamson Act contracts for the 10 Project parcels, totaling approximately 3,000 acres. The requested contract cancellation would be processed in accordance with California Government Code Section 51282, which requires the Board of Supervisors to make specific findings demonstrating that the proposed cancellation is consistent with the purposes of the Williamson Act and is in the public interest.

Pursuant to Government Code Section 51282, the required findings for determining consistency with the purposes of the Williamson Act include:

- The cancellation is for land on which a Notice of Nonrenewal has been served pursuant to Government Code Section 51245.
- The cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- The cancellation is for an alternative use that is consistent with the applicable provisions of the County General Plan.
- The cancellation will not result in discontiguous patterns of urban development.
- There is no proximate noncontracted land that is both available and suitable for the proposed use, or development of the contracted land would provide a more contiguous pattern of development than development of proximate noncontracted land.

In addition, pursuant to Government Code Section 51282, cancellation may only be determined to be in the public interest if the Board finds that:

- Other public concerns substantially outweigh the objectives of the Williamson Act; and
- There is no proximate noncontracted land that is both available and suitable for the proposed use, or development of the contracted land would provide a more contiguous pattern of development than development of proximate noncontracted land.

The findings supporting the requested Williamson Act contract cancellation are provided in the accompanying document titled *Amanece Williamson Act Findings*.

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# 2 Project Description

The Applicant proposes to construct, operate, and maintain the following components associated with the Project, which are described in greater detail thereafter:

- Photovoltaic solar generation facility with a capacity of up to 400 MW
- Electrical Collector System and Inverters
- Battery Energy Storage System with a capacity of up to 400 MWac at 4 hours of continuous discharge
- Point of Interconnection
- Project Substation
- PG&E Switching Station
- Internal access roads

## 2.1 Photovoltaic Solar Generation Facility

The Project would include up to 400 MW of PV solar energy generation. The approximately 3,000-acre Project area would house structures associated with solar energy generation and collection, including solar panels, tracking/support structures, and inverters. The Project would install single-axis tracker solar panels on the Project site. The layout of the single axis tracker solar panels will be in an east-west direction. The maximum height of the solar panels would be up to 10 feet above grade at the beginning and end of each day as the panels track the sun. Each solar panel would be attached to embedded piers using a support structure. Module layout and spacing is typically optimized to balance energy production versus peak capacity and depends on the sun angles and shading due to the surrounding horizon of the site. The modules would typically be mounted in portrait orientation with the longer side-oriented east to west across the tracker system's north-south axis. Individual arrays of modules would be combined to generate the total plant capacity.

## 2.2 Electrical Collector System and Inverters

The AC-DC electrical collection system includes all cables and combiners that collect electricity from the panels, delivers it to the inverters, collects it from the inverters, and ultimately delivers it to the Project substation. The collection system would be installed along internal access roads to collect power from the rows of modules and deliver it to the switching station. This collection system would likely be installed in subsurface trenches, though in some areas of the site, part or all the collection system may be housed in above-grade raceways mounted on supports approximately 24-36 inches above ground level. The collection system would be rated at between 1,000-2,000 volts DC until it is converted at the inverters to 34.5 kV AC medium voltage system between the inverters and the Project substation. The energy generated by the Project would be transported from the on-site Project collector substation to PG&E's proposed switching station through a gen-tie transmission line. The gen-tie line would extend from the Project's on-site substation to PG&E's proposed on-site switching station.

The DC electricity produced by the solar panels is converted to three-phase alternating current by a series of inverters. The solar facility and BESS would each require up to 120 inverters (total of up to 240 inverters). Alternating current is the type of electricity usable by the electric utility and is the form required to connect to the

transmission system. The inverter pad equipment includes a transformer that steps up the electricity in its new form to an output voltage of 34.5 kV. This electricity is then transmitted via the medium voltage collection system to the Project substation.

The Project would use a typical unmanned field control system. The controls generally include a field supervisory controller in a central location and local microprocessor controllers connected to each tracker, if trackers are to be used. The field control system monitors solar insulation, wind velocity, tracker performance and status, and communicates with all the local microprocessor controllers. When the appropriate conditions exist, the field supervisory controller initiates the trackers' daily tracking of the sun, and at the end of the day stows the trackers in the solar array.

## 2.3 Battery Energy Storage System

The proposed Project includes a BESS that would be located within the Project footprint. The BESS would encompass a maximum of approximately 24 acres.

The BESS would be installed/constructed within the Project site and would have appropriate fire suppression systems built to applicable state and local code requirements. The final design would include appropriate containment features (secondary containment) to prevent the escape of liquids or spills from the BESS site.

The BESS would be contained within an outdoor-rated steel enclosure and electrically connected to the inverters. The modular container stacks would be set on a concrete or steel pile foundation. The proposed BESS would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements, including compliance with the latest National Fire Protection Association (NFPA) fire safety codes and fire rating in conformance with Stanislaus County standards.

The BESS would use one of several commercially available lithium-ion technologies, though alternatives may be considered (such as flow batteries). Due to the rapidly changing technology in the battery industry, it may be more efficient, environmentally conscious, and economical, to use a then-current technology.

As planned, the BESS would consist of self-contained battery storage modules placed in racks, switchboards, inverters, transformers, controls, and integrated heating, ventilation, and air conditioning (HVAC) units, all enclosed in prefabricated metal modular container stacks. Potential hazards associated with BESS include increased potential for electrical shock and chemical release associated with the batteries used. Implementation of established construction controls and safety procedures would reduce the risk of hazardous materials spills and releases. Parking for the BESS is anticipated to be adjacent to the facility, final configuration will be determined during the detailed engineering design.

## 2.4 Point of Interconnection and Interconnection Agreement

The Project's point of interconnection (POI) will be connecting to the existing Quinto-Fink 230 kV transmission line that bisects the Project site through a new switching station to be owned by Pacific Gas and Electric Company (PG&E). The PG&E switching station would be located within the Project boundaries, adjacent to the proposed

Project substation and BESS. The Applicant plans to negotiate and execute a Generator Interconnection Agreement (GIA) with PG&E.

### 2.4.1 Project Substation

The Project substation would be the termination point of the collection system. The output of the entire solar field would be passed through a final interconnection step-up transformer to convert it to the grid tie voltage at 230-kV. Additionally, the Project substation would host the grid interconnection safety equipment and switches required to interconnect to the high-voltage transmission system. The Project substation would consist of components up to 55 feet in height, and feeders would be overhead lines or underground line, with the overhead lines constructed with up to 150-foot poles for the single and double circuits, respectively. The substation would be located internal to the Project site. The exact location of the substation is not known at this time but is anticipated to be located adjacent to the proposed PG&E switching station and BESS within APN 028-007-054.

### 2.4.2 PG&E Switching Station

To deliver electricity from the Project to the existing 230-kV overhead transmission lines that traverse the Project site, a PG&E switching station within the Project footprint would need to be constructed. The PG&E switching station is required by the California Independent System Operator (CAISO) to maintain grid stability with interconnection of solar and BESS facilities to the transmission grid. The unmanned, automated, low-profile PG&E switching station would be engineered, constructed (or caused to be constructed), operated and maintained by PG&E. The PG&E switching station would provide a single location for interconnection of the Project to existing PG&E facilities. The PG&E switching station would also have expansion bays to allow for future projects to interconnect with the switching station.

The PG&E switching station would be comprised of a graded dirt lot with electrical equipment surrounded by a chain link security fence. More specifically, the PG&E switching station would consist of the following components:

- Circuit breakers and mounting hardware.
- Transformers, disconnect switches, dead end structures, and electrical buses.
- A single-story control house structure.
- Access driveway(s), with each driveway
  - The internal access road would be all–weather Class II aggregate base.
  - Within the PG&E switching station all access roads would be asphalt.
- Chain-link fence topped with barbed wire.
- Security lighting controlled by motion detectors.
- Drive aisles within the PG&E switching station fence line.
- Above and/or below ground distribution line to provide back-up service to the PG&E switching station.
- Distribution line poles constructed of wood, steel, or concrete.
- Telecommunication facilities that include fiber-optic telecommunication lines and a telecommunication

structure

- Metering, security, and communication equipment.

The PG&E switching station would generally be located adjacent to the proposed Project substation and BESS within APN 028-007-054.

## 2.5 Operations and Maintenance Temporary Building

It is anticipated that a small temporary Operations & Maintenance modular structure (approximately 10 feet by 30 feet) will be utilized by operations staff when onsite. An onsite septic system would be constructed for operational wastewater usage, if needed. Connection to county sewage systems is not anticipated, drinking water and water for sanitary purposes is anticipated to be trucked to the site or sourced from ground water or purchased from a water purveyor. Once a water supplier has been identified, a will-serve letter or letter of intent will be provided.

## 2.6 Access Roads

The main Project access road is Pete Miller Road, an existing paved County Road providing ingress/egress to the Project site. Internal roads would be constructed to allow fire and maintenance vehicle access. All internal access roads within the Project site would be up to 24 feet wide and cleared, graded, and compacted. Up to a 30-foot-wide perimeter road separating the solar arrays from the perimeter fence would be constructed within the entire perimeter of the Project. The roads would be constructed to allow fire and maintenance vehicle access. Preliminary layout and road design would be based on detailed topographic maps and an on-site walk-through by civil engineers.

# 3 Project Construction

The following plans would be prepared prior to initiating construction activities and implemented during construction.

**Vertebrate Pest and Weed Management Plan:** A Weed and Vertebrate Pest Management Plan would be prepared to provide a management framework for the implementation, monitoring, and review of actions aimed at minimizing adverse impacts from weeds and vertebrate pests on the environment, including adjacent agricultural land.

**Site-Specific Geotechnical Investigation:** Prior to submittal of application for grading plans and building permits, a Site-Specific Geotechnical Investigation would be prepared with specific recommendations to protect the Project from inherent site conditions during construction, including liquefaction, corrosive soils, and erosion.

**Fire Prevention/Safety Plan:** A Fire Prevention/Safety Plan would be prepared for construction. The plan would include measures to safeguard human life, prevent personnel injury, preserve property, and minimize downtime due to fire or explosion. Fire protection measures would include fire prevention methods. Of particular concern are fire-safe construction methods, reduction of ignition sources, control of fuel sources, availability of water, and proper maintenance of fire-fighting systems.

**Health and Safety Plan:** A Health and Safety Plan would be prepared during the construction phase of the Project. The plan would describe measures to be taken by Amanece Hybrid Solar, LLC and its contractors to address implementation and monitoring of health and safety measures in accordance with federal, state, and local regulations during construction.

**Worker Education and Awareness Program:** A Worker Education and Awareness Program (WEAP) would be prepared for construction contractors and all on-site personnel. WEAP training would cover the potential sensitive environmental resources that may be found on site. The WEAP would educate and instruct on-site personnel to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons, as well as to avoid all cultural and paleontological resources. All on-site personnel would be required to attend the WEAP training prior to working at the Project site. Project

**Stormwater Pollution and Prevention Plan:** A Stormwater Pollution and Prevention Plan (SWPPP), or its substantive equivalent, would be prepared by a qualified engineer or erosion control specialist and would be submitted to the County for review and approval before being implemented during construction. The plan would be designed to reduce potential impacts related to erosion and surface water quality during construction activities. It would include Project information and best management practices (BMPs). The BMPs would include dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed.

**Spill Containment and Countermeasures Plan/Hazardous Materials Business Plan**: A Spill Containment and Countermeasures Plan/Hazardous Materials Business Plan would be prepared for construction. The Spill Containment and Countermeasures Plan would identify primary and secondary containment for oil products stored on site as well as training in spill management in the event of an unexpected release. The Hazardous Materials Business Plan would include detailed information about each specific hazardous material at the Project site. The plan would assist emergency responders in identifying hazardous materials and their storage locations in the event of an emergency.

**Dust Control Plan:** A Dust Control Plan would be prepared to address implementation and monitoring of dust control measures in accordance with federal, state, and local regulations during construction. The plan would identify methods to prevent, reduce, or mitigate the amount of fugitive dust in the ambient air resulting from Project-related construction activities.

## 3.1 Construction Activities

The construction activities for the proposed Project fall into three main categories: (1) site grading and earthwork; (2) solar array construction; and (3) electrical interconnection to transmission owner infrastructure. Construction of the Project is anticipated to take up to 18 months, starting in the third quarter of 2028 and completed by the first quarter of 2030. Construction would primarily occur during daylight hours, Monday through Friday. Additional hours/days may be necessary to facilitate the schedule.

The construction workforce would consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The average workforce is expected to be approximately 200 construction, supervisory, support, and construction management personnel on-site during construction. The on-site workforce has been conservatively estimated to peak at approximately 400 individuals for short periods of time.

Beginning work on the Project site would involve preparing the land for installation of arrays, related infrastructure, access driveways, and temporary construction staging areas. Prior to initial construction mobilization, preconstruction biological clearance surveys would be performed, and sediment and erosion controls would be installed in accordance with an approved SWPPP to reduce potential impacts related to erosion and surface water quality. Stabilized construction entrance and exits would be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation would involve the removal and proper disposal of existing vegetation and debris that would unduly interfere with Project construction or the health and safety of onsite personnel. Dust minimizing techniques would be employed, utilizing “mow-and-roll” vegetation clearance strategy, placement of wind control fencing, application of water, and application of dust suppressants. Conventional grading would be minimized to the maximum extent possible to reduce unnecessary soil movement that may result in dust. Land-leveling equipment, such as a smooth steel drum roller, would be used to even the surface of the ground and to compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Trenching would be required for placement of underground electrical and communications lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment and water trucks.

Initial construction water usage would be in support of site preparation and grading activities. During earthwork for grading of access road foundations, equipment pads and Project components, the main use of water would be for compaction and dust control. Smaller quantities of water would be required for preparation of the concrete required for foundations and other minor uses. Subsequent to earthwork activities, water usage would be used for dust suppression and normal construction water requirements that are associated with construction of the building, internal access roads, and solar arrays.

## 3.2 Construction Water Use

At this time, the Project is exploring water sources including on-site sources and/or external water supply. Final water supply source will be selected and approved prior to construction activities. The Project construction is estimated to occur over an 18-month period. Construction water demands are estimated to be approximately 0.735-acre feet per MWac consumed during the 18-month construction period totaling approximately 30-acre feet of water for dust control, site preparation, and miscellaneous construction purposes. Once a water supplier has been identified, a will-serve letter or letter of intent will be provided.

Initial construction water usage would be in support of site preparation and grading activities. During earthwork for grading of access road foundations, equipment pads and Project components, the main use of water would be for compaction and dust control. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. Subsequent to earthwork activities, water usage would be used for dust suppression and normal construction water requirements that are associated with construction of the building, internal access roads, and solar arrays.

## 3.3 Safety and Security

Prudent security measures would be taken to ensure the safety of the public and facility. The proposed Project would be secured by a chain-link fence along all borders with locking gates at the specified points of ingress and egress. As proposed, the fence is anticipated to be a standard 7 feet in height, topped with one or two strands of barbed wire. Off-site security personnel may be dispatched during nighttime hours or be on-site depending on security risks and operating needs. The facility may use security lighting for both normal and emergency conditions. If used, lighting would be designed to provide the minimum illumination needed to achieve safety and security and would be downward-facing and shielded to focus illumination on the desired areas only.

## 3.4 Solid and Non-Hazardous Waste and Recycling

Inert solid wastes would be generated during the construction phase of the proposed Project. Potential inert solid wastes that would result from the construction activities may include recyclable items such as paper, cardboard, solid concrete and block, metals, wire, glass, types 1–4 plastics, drywall, wood, and lubricating oils. Non-recyclable items include insulation, other plastics, food waste, vinyl flooring and base, carpeting, paint containers, packing materials, and other construction wastes. Recycling and disposal of these inert solid wastes would comply with all local, state, and federal regulations.

The Engineering, Procurement, and Construction (EPC) contractor that would be responsible for construction of the Project would carefully disassemble and recycle shipping containers and solar panel packaging to minimize solid waste impacts. The EPC contractor would contract with a waste and recycling service provider to ensure all waste generated from construction of the Project is disposed of in accordance with federal and state regulations. The EPC contractor would store, collect, and dispose of solid waste in such a manner as to prevent fire and health hazards, rodent harborage, insect breeding, accidents, and odor. The EPC contractor would ensure that no littering on the Project site or neighboring properties would occur during construction.

## 3.5 Hazardous Waste

The Project would be designed, constructed, operated and maintained to ensure the safe use and storage of hazardous materials. Storage, handling, and use of all chemicals would be conducted in accordance with applicable laws, ordinances, regulations and standards. Chemicals (if required) would be stored in appropriate chemical storage facilities. Bulk chemicals (if required) would be stored in storage tanks, and other chemicals would be stored in returnable delivery containers. Chemical storage and chemical feed areas would be designed to contain leaks and spills. On-site workers would be trained to handle hazardous waste generated at the site.

State approved personal protective equipment would be used by site personnel during chemical spill containment and cleanup activities. Personnel would be properly trained in the handling of these chemicals and instructed in the procedures to follow in case of a chemical spill or accidental release. Adequate supplies of absorbent material would be stored on-site for spill cleanup. At this time, the Project does not anticipate the need for the use of any hazardous chemicals beyond those found in typical vehicles.

## 3.6 Wastewater and Septic System

An onsite septic system may be constructed for operational wastewater usage. Connection to county sewage systems or drinking water is not anticipated. Disposal of wastewater would meet requirements implemented by Stanislaus County ordinances, regulations, and standards. If an O&M building is not constructed on site, no septic system would be installed.

# 4 Operations and Maintenance

The Project will be primarily remotely monitored by technical staff. The facility's regular maintenance program would be largely conducted on-site during daytime hours. Equipment repairs would typically take place in the early morning or evening when the plant produces the least amount of energy. Key program elements include:

- Responding to plant failures and emergencies in a timely manner.
- Maintaining and managing a pre-qualified group of routine maintenance and repair firms who can address the operational and maintenance needs throughout the life of the facility.
- Creating an optimized cleaning schedule to be more responsive to location and type of installation.
- Maintaining an inventory of spare parts to facilitate timely repairs to maintain plant output.
- Using trouble-ticketing to effectively record, track and escalate all maintenance problems.
- Conducting on-site maintenance as required to clear weeds, grass and ground cover for ground-mount systems.

It is anticipated that a temporary Operations & Maintenance modular building (approximately 10 feet by 30 feet) will be utilized by operations staff when onsite.

The Project site would produce a small amount of waste associated with maintenance activities. PV solar system waste typically includes broken and rusted metal, defective or malfunctioning modules, electrical materials, and empty containers and other miscellaneous solid materials, including typical household refuse generated by workers. Most of these materials would be collected and delivered back to the manufacturer for recycling. The Project estimates up to 420 trips per year for security, maintenance, and panel washing activities.

## 4.1 Water Usage

The PV panel surfaces may be washed seasonally to increase the average optical transmittance of the flat panel surface. Panel washing is expected to take three days to complete per wash, up to two times per year or a total of 6 days per year to complete. Additional staff would be required during panel washing and are expected to be hired from the local community. A water truck with mounted sprayers will drive between the arrays to clean the panels.

It takes approximately one gallon of water to clean each panel. Long-term operational water demand is not expected to be more than 0.33 acre-feet, primarily to support PV panel washing activities, which is anticipated to occur 1 to 2 times a year, as needed. Therefore, a total of approximately 0.66 acre-feet of water is anticipated per year, based on a two times a year maintenance schedule. Water source for the operations and maintenance activities will be determined prior to completion of the Project construction. All necessary approvals will be obtained for the selected water source.

## 4.2 Security and Safety

To ensure the safety of the public and the facility, the Project would comply with the North American Electric Reliability Corporation's (NERC) security and safety standards including the installation of security fencing around the Project with signs posted. The fence is anticipated to be a standard 7 feet in height, topped with one or two strands of barbed wire. Security measures would be installed as necessary to mitigate and/or deter unauthorized access. Access to the site would be controlled and access gates would be installed at specified points of ingress and egress.

According to the NERC Physical Security Guidelines, electrical generating plants and substations are identified as "critical" facilities. Per the NERC definition, a "critical" facility may be defined as any facility or combination of facilities, that, if severely damaged or destroyed, would have a significant impact on the ability to serve large quantities of customers for an extended period of time, would have a detrimental impact on the reliability or operability of the electric grid, or would cause significant risk to public health and safety. In line with the NERC guidelines, robust perimeter security fencing is the first line of defense necessary to the safety of personnel, the public and maintaining the integrity of the electrical grid. The NERC guidelines generally address security fencing standards and recommendations, with an emphasis that security fencing design be appropriate to the unique location characteristics and level of "critical" importance of the electrical facility. In addition, security may be enhanced with facility lighting and cameras in key locations. Care would be taken to prevent undue light pollution from the nighttime security lighting. Nighttime lighting would be limited to areas required for operation, safety, or security, and would be directed or shielded from major roadways or possible outside observers. Lighting at high illumination areas not required on a continuous basis would be controlled by switches, motion detectors, etc. to light the areas only when required. Exterior lights would be hooded, and lights would be directed on site so that light or glare would be minimized.

To reduce off-site lighting impacts, lighting at the facility would be restricted to areas required for safety, security, and operation such as the on-site substation, BESS and O&M facility. Security lighting may be positioned along the fenceline, final locations to be determined as part of the building permit process. The Project would use portable lighting for any emergency work that must occur on panels at night. Security lights would use motion sensor

technology that would be triggered by movement at a human's height. The level and intensity of lighting during operations would be the minimum needed. Portable lighting may be used occasionally and temporarily for maintenance activities during operations.

Safety precautions and emergency systems would be implemented as part of the proposed Project to ensure safe and reliable operation. Administrative controls would include classroom and hands-on training in O&M procedures, general safety items, and a planned maintenance program. These would work with system design and monitoring features to enhance safety and reliability. The Health and Safety Plan prepared during the construction phase of the Project will be updated annually, as needed during O&M to address changes in health and safety regulations and changes in O&M activities and procedures.

## 4.3 Fire Protection and Control

Fire protection and control would be provided to limit risk of personnel injury, property loss, and possible disruption of the electricity generated by the Project. Fire protection and control starts with a lack of flammable materials in the solar field, including vegetation. This is one of the primary reasons that vegetation would be removed from the site where required prior to construction of the solar field. Fire protection also includes appropriate access to all areas of the solar field by fire truck, with turn-around areas. Thus, final plans of the solar facilities would be inspected by the Stanislaus County Consolidated Fire Protection District for sign-off.

The BESS equipment would be enclosed in individual containers installed with fire and safety equipment to segregate and fully mitigate fire and hazardous material risks. Alternating current-coupled BESS design standards typically include lighting, monitoring equipment, cooling units, active exhaust venting, multiple fire detection units including gas/heat/smoke detectors, and fire suppression systems which adequately address fire risk associated with the unit. The BESS would be designed, constructed, and operated in accordance with the applicable best practices and regulatory requirements, including, but not limited to, NFPA 855 (standard for the installation of Stationary Energy 8Storage Systems) and Section 1206 of the California Fire Code and, if applicable, certified UL 9540. The configuration of the system would be determined based on the site-specific environmental factors and associated fire response strategy and would contain a safety system that would be triggered automatically when the system senses imminent fire danger. A fire safety system would be provided within each on-site battery enclosure. Components of the system could include a fire panel, aspirating hazard detection system, smoke/ heat detector, strobes/sirens, and suppression tanks. The BESS would be NFPA 855 Code Compliance and UL certified and would include a built-in fail-safe and cooling system designed to prevent thermal runaway and the spread of fire.

In the unlikely event of a battery cell malfunction, such as a thermal runaway event, a fire could occur. While current systems are designed to contain fires within a single battery module, if a fire does occur, pollutants could be emitted into the atmosphere. Battery system fires are generally considered Class A (plastics fires, from materials such as the separator) and Class B (flammable liquids, from materials such as the electrolyte) but may also have characteristics of Class C (electrical fires) as well. As such, the pollutants generated are not dissimilar from other common residential and commercial fires. In addition, electrolyte added to the cells' during manufacturing is fully absorbed into the cell material and enclosed within the cell casing which eliminates the risk of material leaking from the cell even if water is applied for fire suppression.

Pursuant to manufacturer specifications, the BESS units are fully certified to the most rigorous international safety standards. This includes the following select certifications:

- UL 1642 – Standard for Lithium Batteries (cell level certification).
- UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).
- UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).
- UL 9540A – Standard for Inverters, Controllers, Converters, and Interconnection Equipment for DER.
- IEC 62619 – Standard for Battery Safety in Stationary Applications
- California Public Utilities Commission General Order 167 – Standards for the maintenance and operation of electric generating facilities and power plants.

Fire extinguishers and other portable fire-fighting equipment would be available on site. These fire extinguishers would be maintained for the full construction duration in accordance with local and federal Occupational Safety and Health Administration requirements.

Locations of portable fire extinguishers would include, but not necessarily be limited to office spaces, hot work areas, flammable storage areas, and mobile equipment such as work trucks and other vehicles. Fire-fighting equipment would be marked conspicuously and be accessible at all times. Portable equipment would be routinely inspected, as required by local and federal laws, ordinances, regulations, and standards, and replaced immediately if defective or needing charge.

The Fire Prevention/Safety Plan prepared during the construction phase of the Project will be updated annually, as needed during O&M to address changes in fire and safety regulations and changes in O&M activities and procedures.

## 4.4 Solid and Non-Hazardous Waste

The Project would produce a small amount of solid waste associated with maintenance activities. PV plant wastes may include broken and rusted metal, defective or malfunctioning modules, electrical hardware, empty containers, and other miscellaneous solid wastes, including the typical refuse generated by workers. These materials would be collected and separated for recycling where available. Any defective or broken solar modules would be returned to the manufacturer for recycling.

## 4.5 Hazardous Waste

During operations, the Project would have minimal hazardous waste stored onsite. Some hazardous materials may be used for Project construction; these could include paints, thinners, solvents, sealants, fuels, oils and lubricants, and drilling mud. The quantities and concentrations of these hazardous substances are not expected to reach regulated levels. Fuel tanks and hazardous materials would be stored at staging areas, and wastes, such as empty hazardous materials containers and used oil, spent solvents, and oily rags, would also be accumulated in appropriate containers prior to disposal. The exact manufacturer of PV solar panels has not been selected at this

stage of the Project to allow for the procurement of the most efficient technology solution at the time purchase. If a panel is broken for whatever reason, the pieces would be cleaned up completely and properly disposed of.

Under normal operations, BESS facilities do not store or generate hazardous materials in quantities that would represent a risk to off-site receptors. In addition, the BESS facilities' preventative measures and integrated operational management systems, fire, and safety systems, heating, ventilation, and air conditioning systems, ventilation, gas, heat and smoke detection and alarms, and fire suppression systems, reduce the potential for accident conditions.

Project O&M may require the routine transport, use, and disposal of hazardous materials and hazardous wastes such as diesel fuel, hydraulic fluid, water treatment chemicals, oily rags, and spent batteries. Other hazardous chemicals that may be employed on site may include cleaning agents and other such chemicals that would be standard at a commercial site.

State approved personal protective equipment would be used by site personnel during chemical spill containment and cleanup activities. Personnel would be properly trained in the handling of these chemicals and instructed in the procedures to follow in case of a chemical spill or accidental release. Adequate supplies of absorbent material would be stored on-site for spill cleanup. At this time, the Project does not anticipate the need for the use of any hazardous chemicals beyond those found in typical vehicles.

Other wastes generated on site would include those typical of a commercial building, such as computer and electronic equipment, paper, food scraps, etc. All wastes would be disposed of according to applicable laws, ordinances, regulations, and standards. In addition, no food wastes would be available for wildlife to scavenge.

All hazardous materials and waste will be managed in accordance with the Hazardous Materials Business Plan, prepared during construction, and updated annually to address changes in regulations or in operations.

# 5 Decommissioning

The Project proponent expects to sell the renewable energy produced by the product under the terms of a long-term Power Purchase Agreement (PPA) or directly into the wholesale market. The useful life of the Project facility is anticipated to be up to 35 years If and when a decommissioning event occurs, the Project site would be reverted to its original state and could then be converted to other uses in accordance with applicable land use regulations in effect at that time including support for agricultural uses. This Project is a temporary use and will not interfere with future agricultural opportunities.

It is anticipated that during Project decommissioning Project structures would be removed from the ground on the Project site. Above-ground equipment that would be removed would include module posts and support structures, on-site transmission poles that are not shared with third parties and the underground collection system within the Project site, inverters, transformers, electrical wiring, equipment on the inverter pads, and related equipment and concrete pads. The substation would be removed if it is owned by the Project, however if a public or private utility assumes ownership of the substation, the substation may remain on-site to be used as part of the utility service to supply other applications. Project roads would be restored to their pre-construction condition unless the landowner elects to retain the improved roads for access throughout that landowner's property. The area would be thoroughly cleaned and all debris removed. As discussed above, most materials would be recycled to the extent feasible, with

minimal disposal to occur in landfills in compliance with all applicable laws. A collection and recycling program would be executed in the event system components are manufactured with hazardous materials.

A collection and recycling program would be executed to promote recycling of Project components and minimize disposal of Project components in landfills. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and county regulations. The Project proponent expects a secondary market for PV modules to develop over time. Although energy output may diminish, PV modules are expected to continue to have a productive life and can be decommissioned from a prime location or re-commissioned in another location.

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# Attachment A
Figures

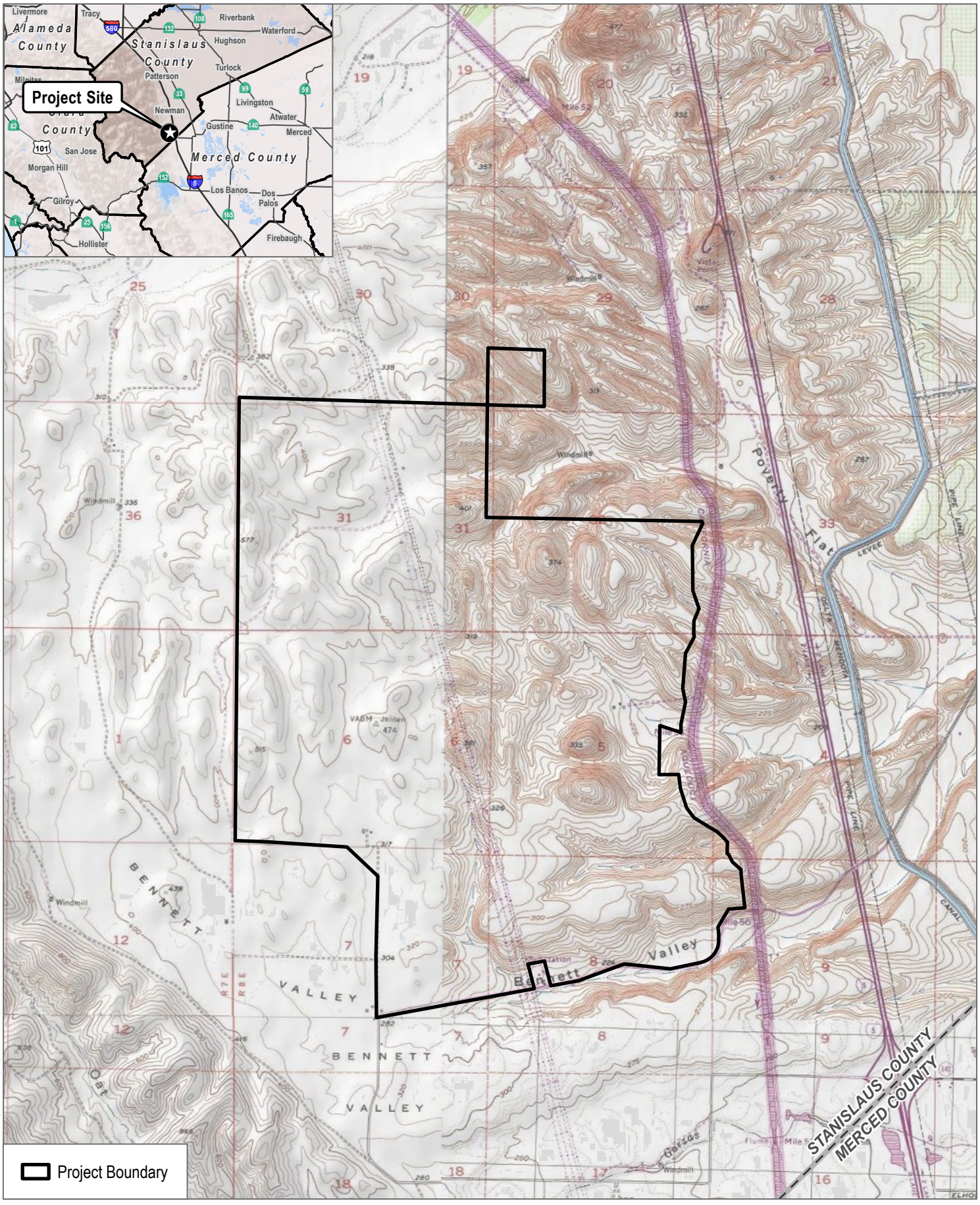
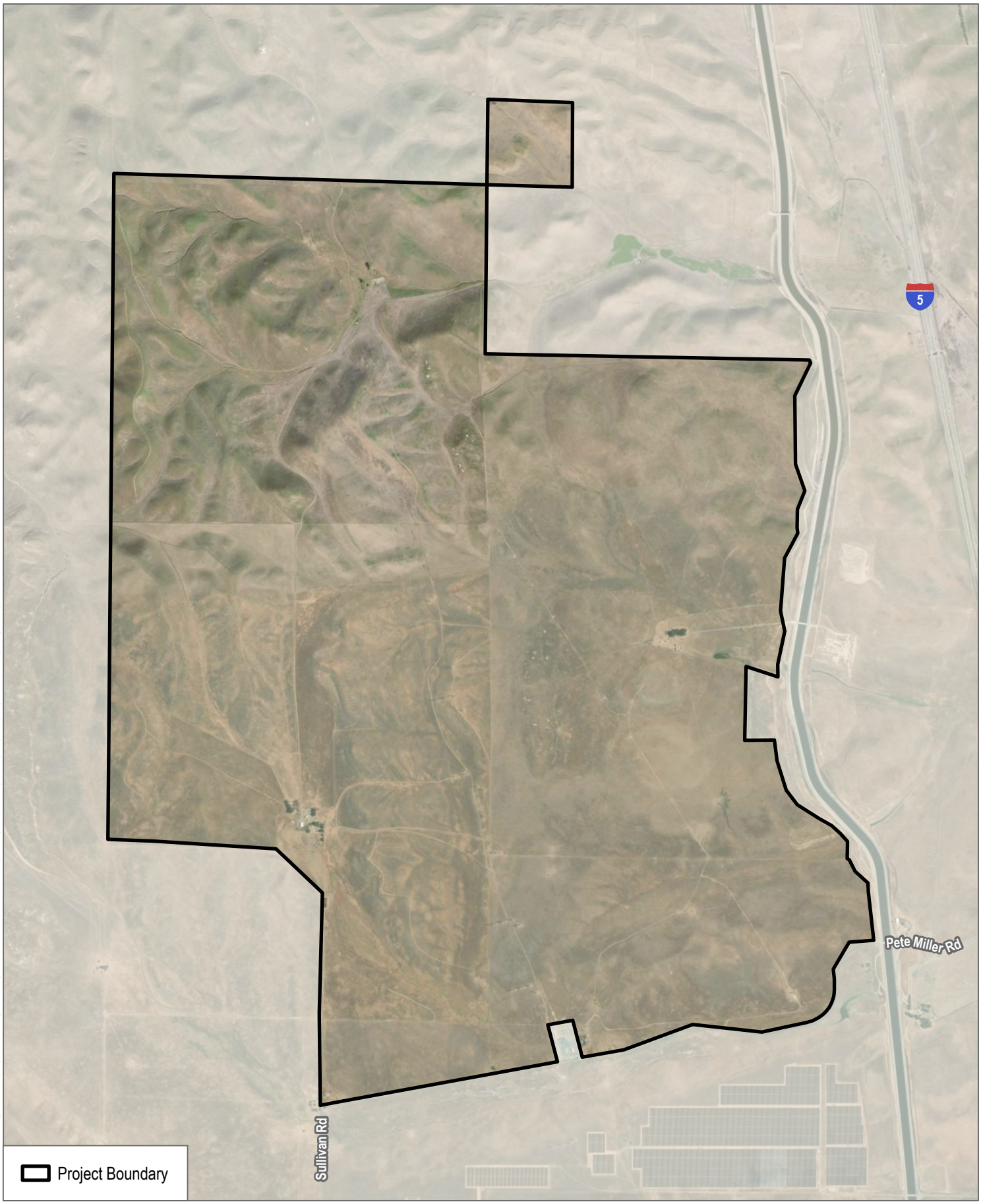



**FIGURE** 1

Site Vicinity

Amanece Energy Storage Project Description

DUDEK




SOURCE: Esri Aerial Imagery, OpenStreetMap

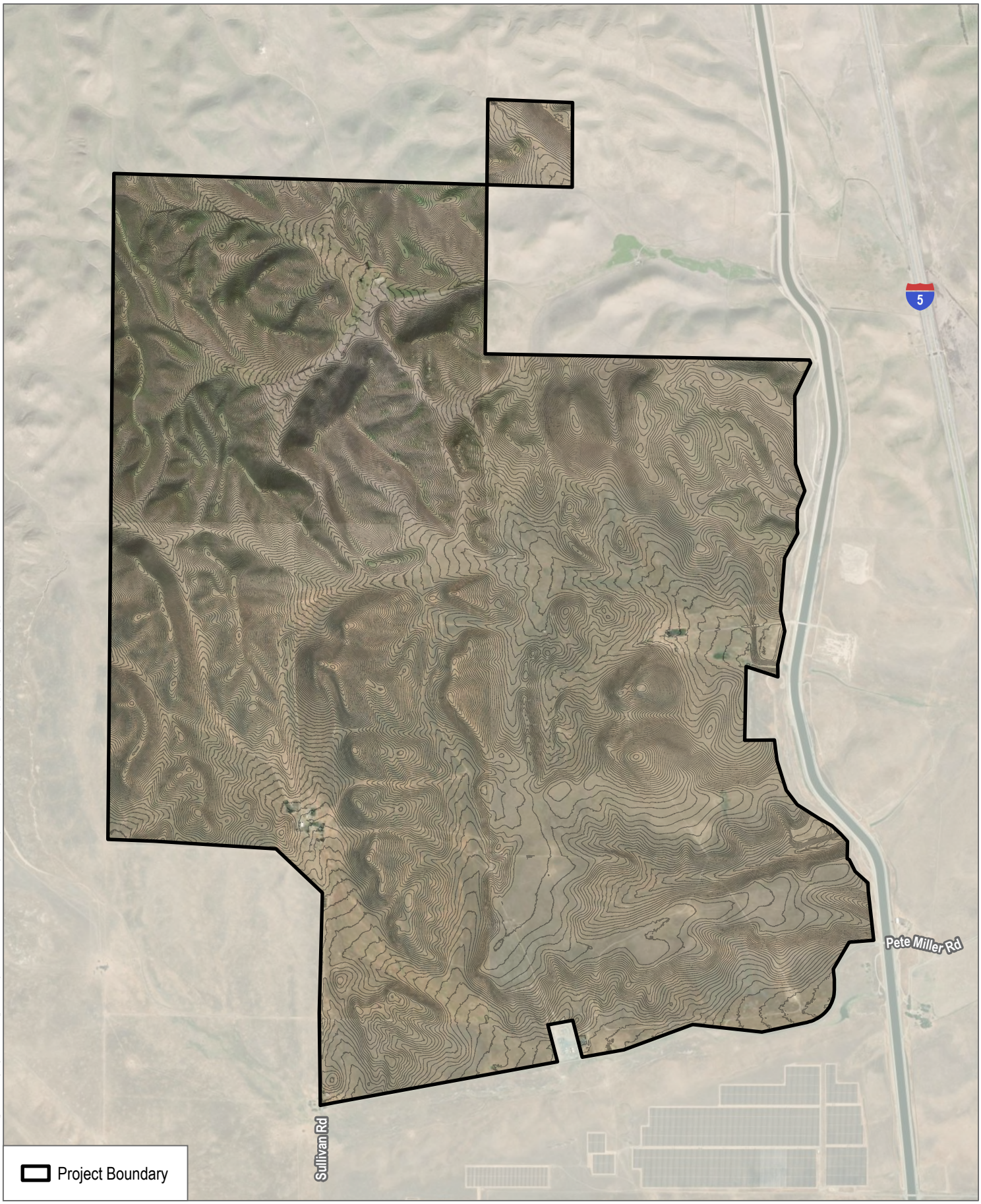
DUDEK

0 1,000 2,000 Feet

**FIGURE** 2

Project Boundaries

Amanece Energy Storage Project Description




SOURCE: Esri Aerial Imagery, OpenStreetMap, USGS

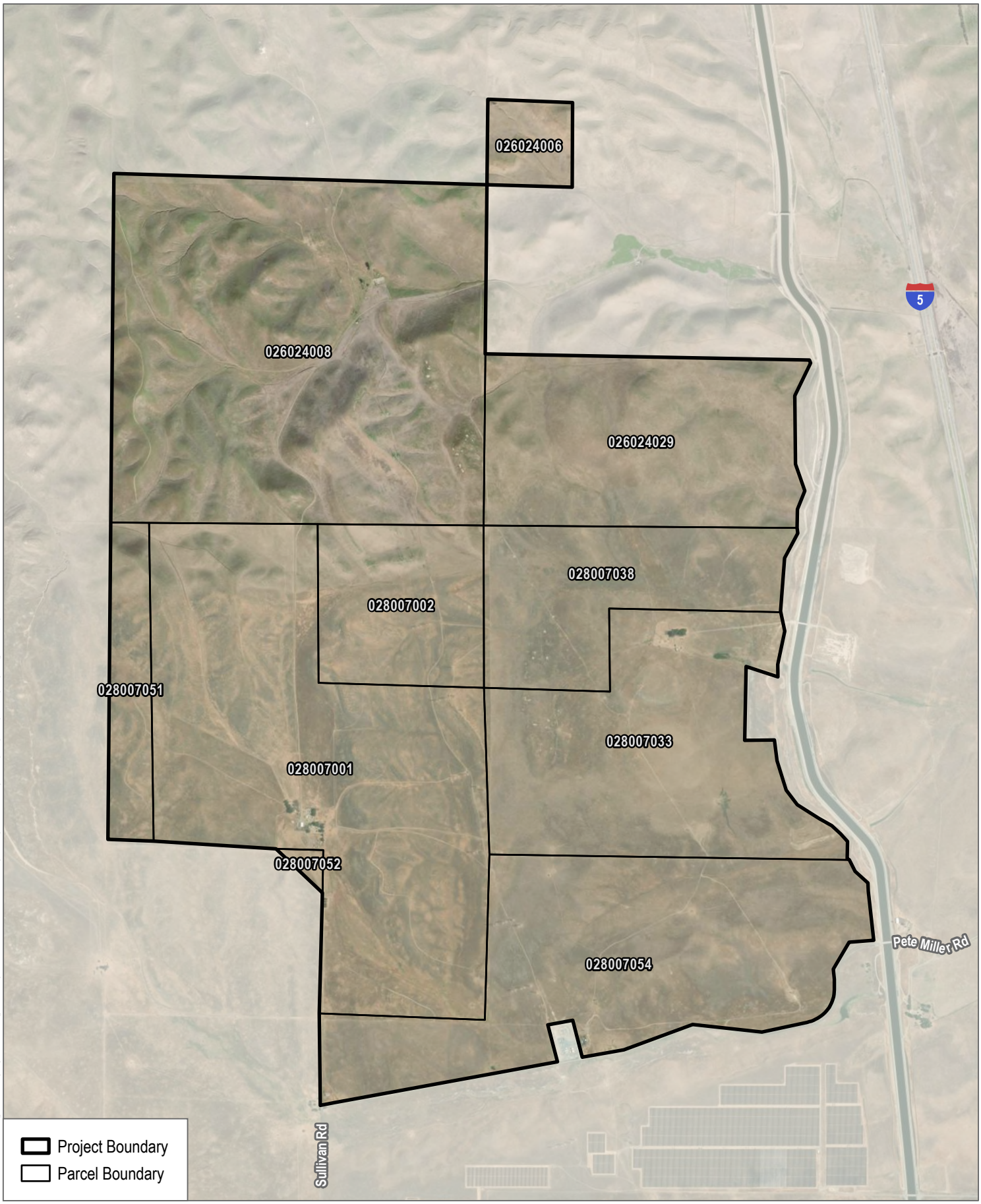
DUDEK

0 1,000 2,000 Feet

**FIGURE** 3

Topography

Amanece Energy Storage Project Description




SOURCE: Esri Aerial Imagery, OpenStreetMap, Stanislaus County

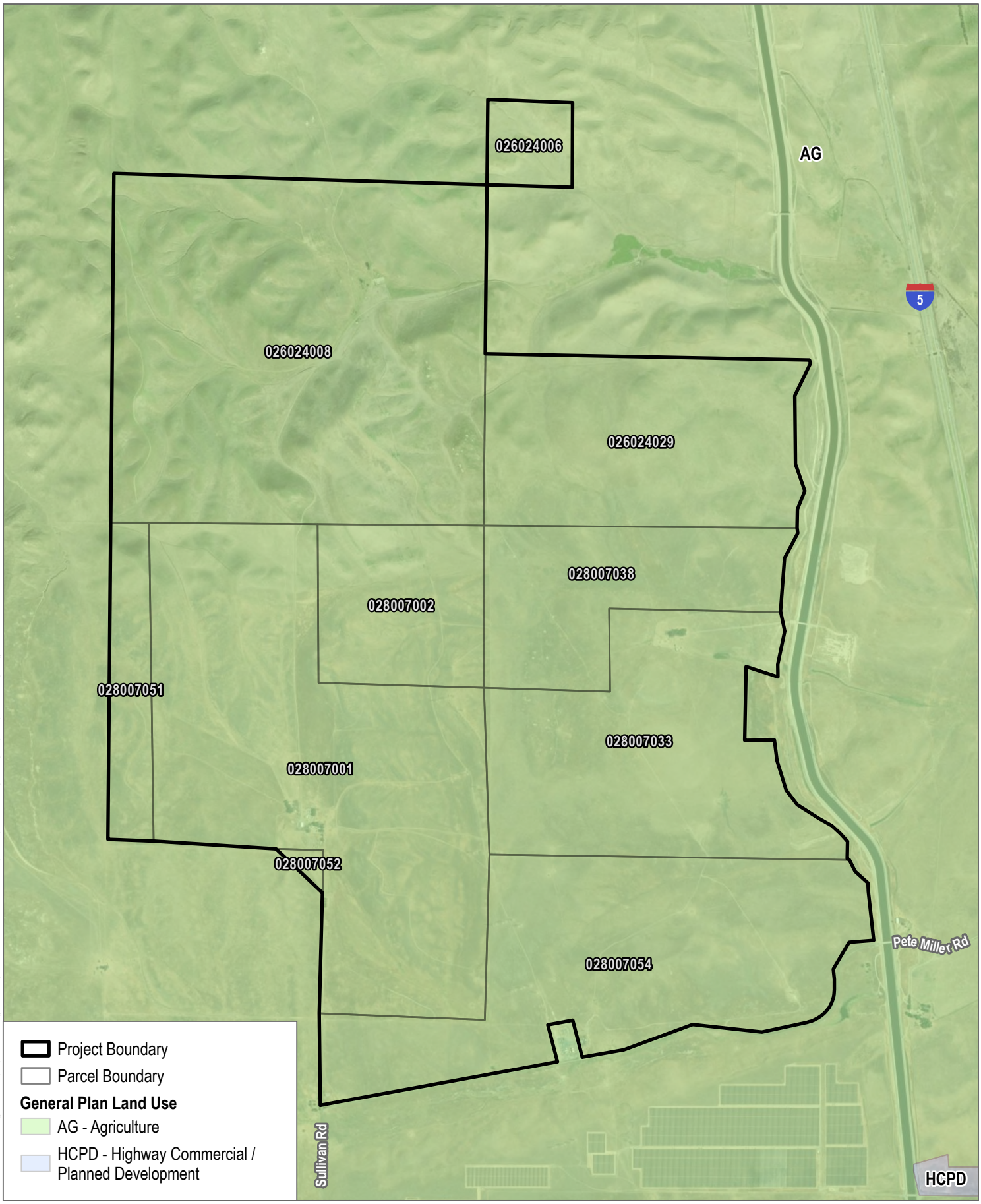
DUDEK

0 1,000 2,000 Feet

**FIGURE** 4

APN Map

Amanece Energy Storage Project Description




SOURCE: Esri Aerial Imagery, OpenStreetMap, Stanislaus County

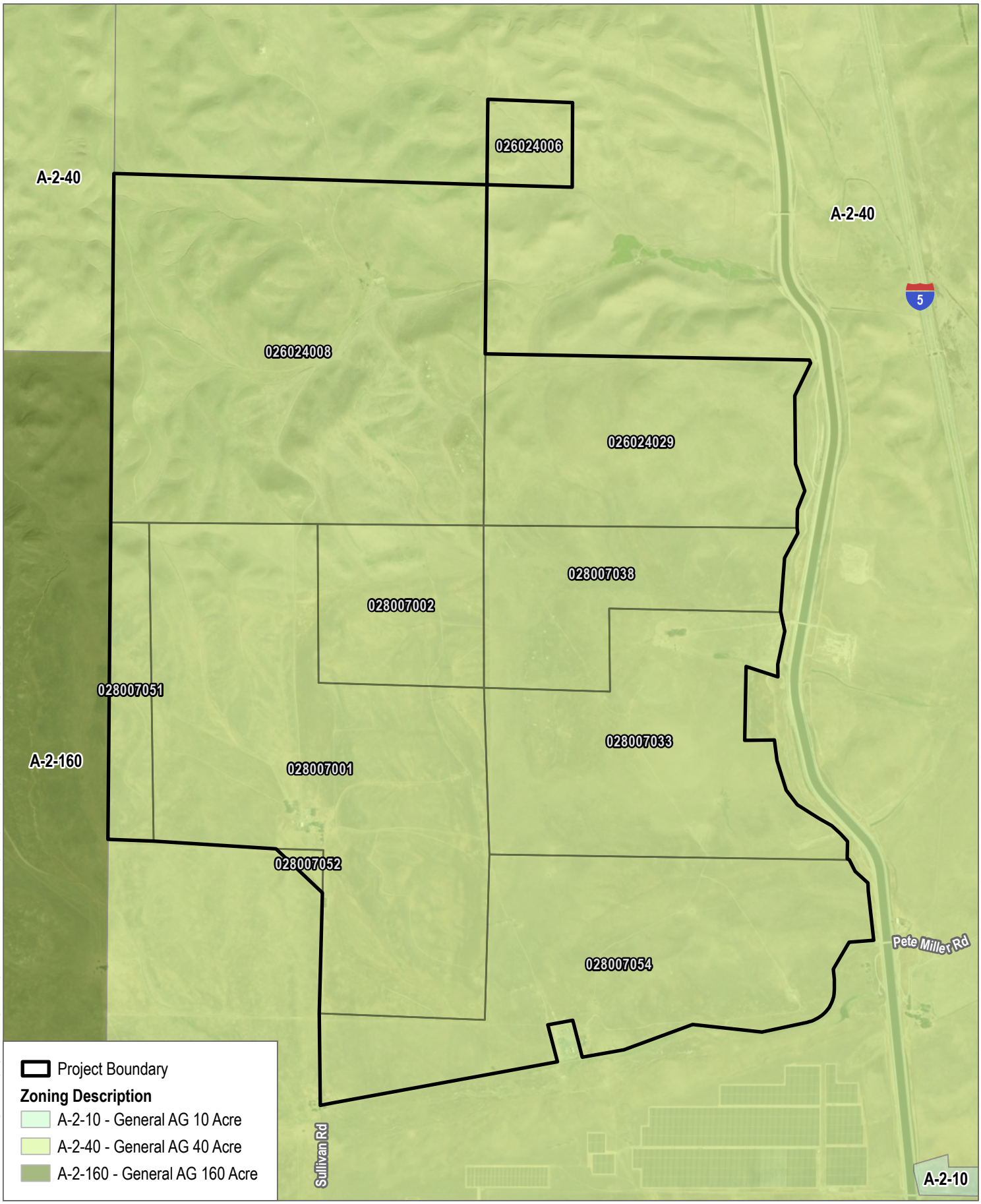
DUDEK

0 1,000 2,000 Feet

**FIGURE 5A**

Land Use

Amanece Energy Storage Project Description




SOURCE: Esri Aerial Imagery, OpenStreetMap, Stanislaus County

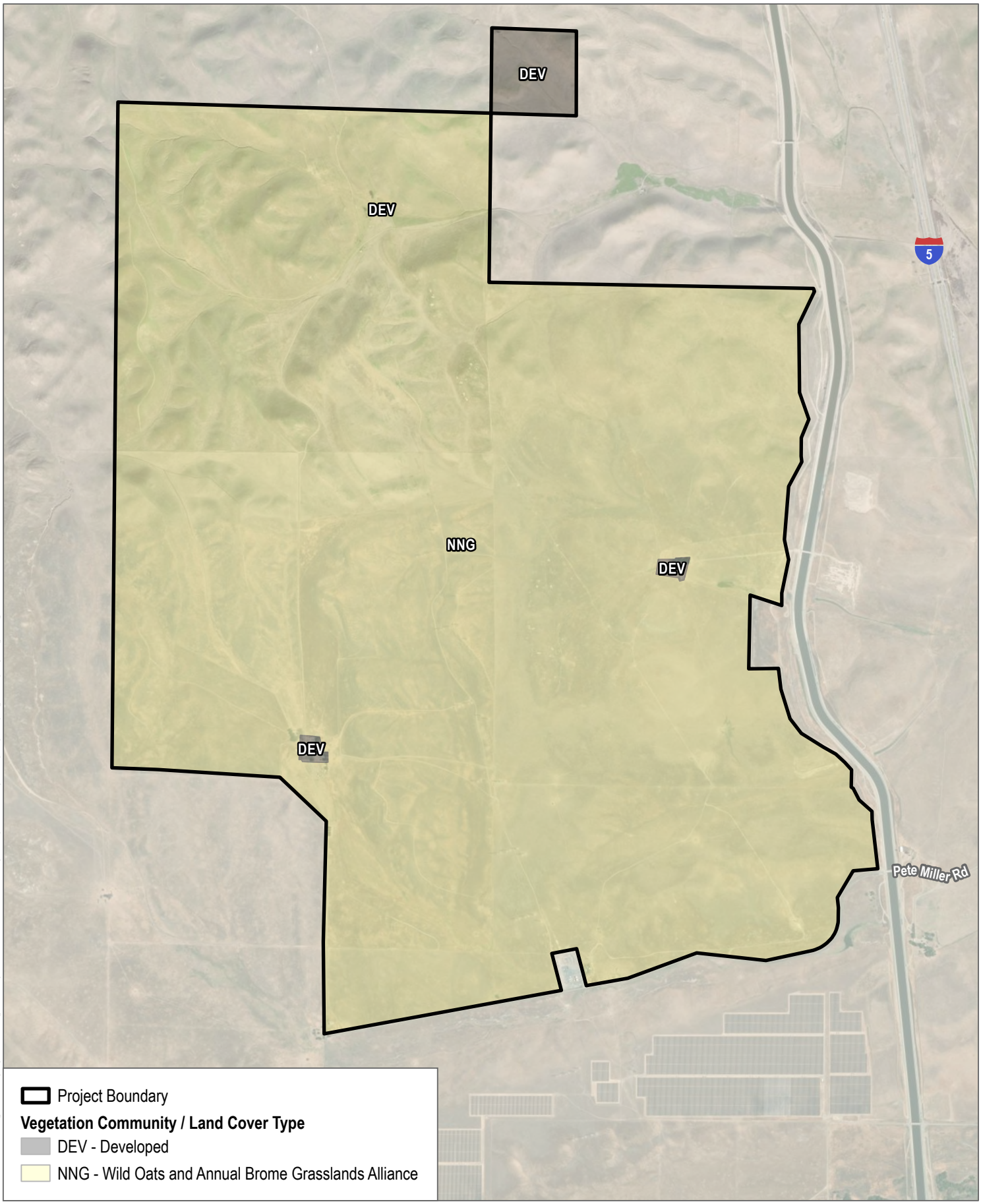
DUDEK

0 1,000 2,000 Feet

**FIGURE 5B**

Zoning

Amanece Energy Storage Project Description




SOURCE: Esri Aerial Imagery, OpenStreetMap

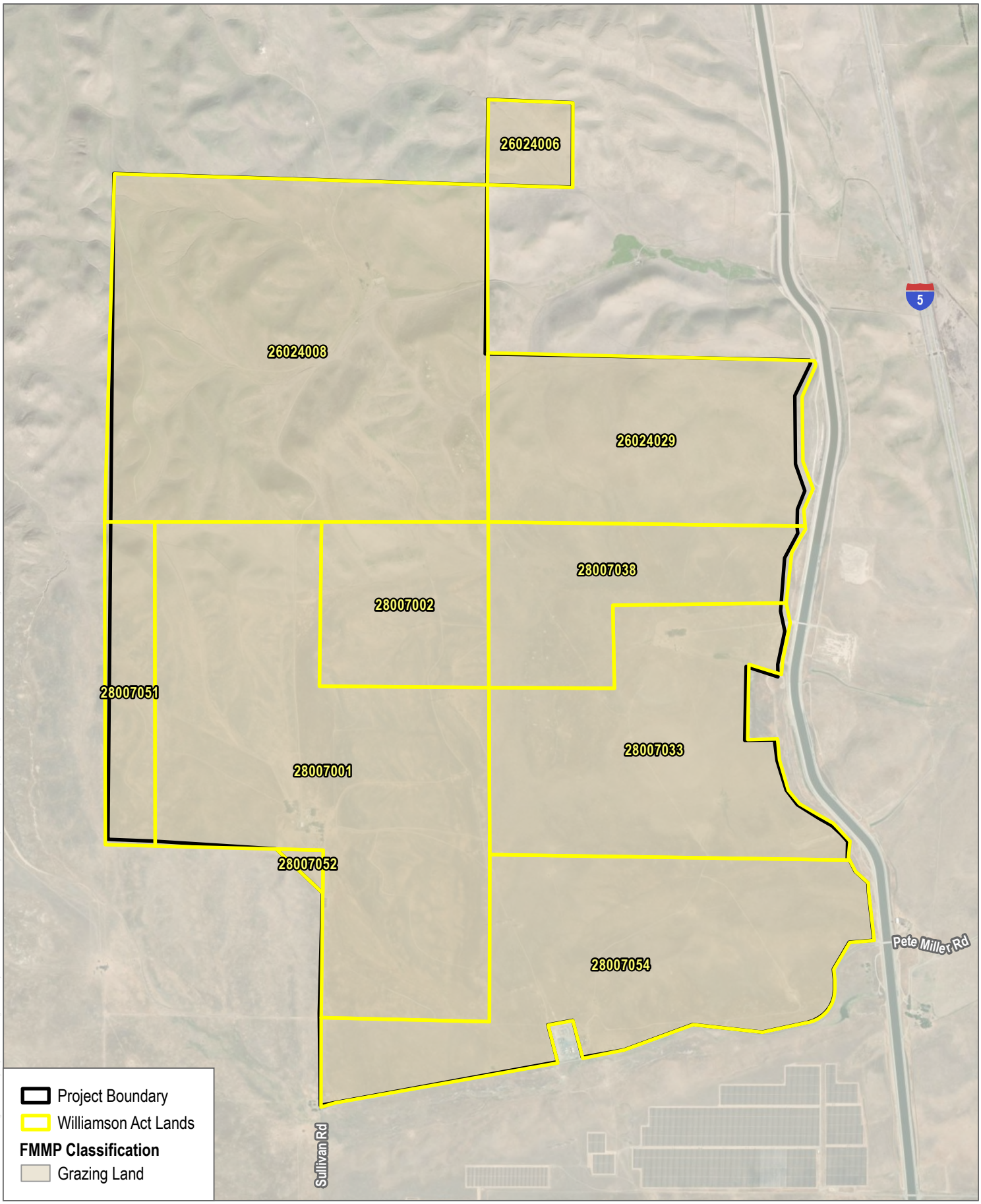
DUDEK

0 1,000 2,000 Feet

**FIGURE** 6

Vegetation Map

Amanece Energy Storage Project Description




SOURCE: Esri Aerial Imagery, OpenStreetMap, Stanislaus County, CA Dept. of Conservation 2020

DUDEK

0 1,000 2,000 Feet

**FIGURE** 7

FMMP and Williamson Act Parcels

Amanece Energy Storage Project Description

# Amanece Solar

## Preliminary Hydrology Study

Stanislaus County, California

**PREPARED FOR**

Samsung C&T Renewables, LLC

**PREPARED BY**

Kimley-Horn and Associates, Inc.
27920 Madison Avenue, Suite 300
Temecula, CA 92590
951-888-8978

PRELIMINARY

FOR REVIEW ONLY

Not For Construction.

Kimley»Horn

Engineer Name Ashley Teani

P.E. No. 90172 Date June 19, 2026

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HEC-RAS v.6.6


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# Executive Summary

Samsung C&T Renewables, LLC is proposing to develop approximately 2,998 acres, across ten (10) parcels under site control of five (5) subject tracts to construct a 400MW PV solar and 400MW BESS development located in Stanislaus County, California. The subject tract is approximately 0.5 miles west of California's Interstate 5 (I-5) and the southern boundary abuts Pete Miller Rd. The Amanece Solar Project is bound by a combination of the California Aqueduct to the east, Sullivan Rd to the southwest, and Pete Miller Rd to the south.

This purpose of this drainage study is to provide the results of the onsite and offsite drainage analysis and to estimate the 100-year flood depths, velocities, and potential scour depths at the Amanece Solar project site under existing conditions. This report describes the methodology used to perform this analysis and determine existing drainage patterns.

The U.S. Army Corps of Engineers HEC-HMS v.4.12 hydrologic modeling program was used to perform the hydrologic analysis, and the U.S. Army Corps of Engineers HEC-RAS 2D v.6.6 modeling program was used to complete the two-dimensional hydraulic analysis.

Expected flooding for the 100-year rainfall event was modeled for the Amanece Solar subject tract. Flooding depths were calculated for existing terrain conditions in the project area using the 2D modeling simulation option in HEC-RAS v.6.6. Most of the project area experienced inundation depths less than 0.5 ft outside of the existing channels, sags, and detention ponds where flooding exceeded up to 5 ft. These areas of deeper inundation were generally confined to the areas of channelized flow. Most of the subject tract's velocities are generally less than 0.5 feet per second (fps) outside of existing channels. Defined channels with deeper inundation also experienced higher velocities, up to 5 fps. Most of the project area experienced potential scour depths less than 0.5 ft outside of the existing channels and bayous associated with deeper inundation, where up to 2 ft of scour was experienced.


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# 1.0 Introduction

## 1.1 AUTHORITY

Samsung C&T Renewables, LLC ("Client") has retained the services of Kimley-Horn and Associates, Inc. ("Kimley-Horn") to perform a hydrology study evaluating the existing condition hydrologic and hydraulic characteristics of the proposed 400MW PV solar and 400MW BESS development.

This report describes Kimley-Horn's development of the two-dimensional hydraulic analysis of the project and the model results for the existing 100-year, 24-hour storm condition. Acting on behalf of the Client, the contacts for the study are as follows:

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Kimley-Horn and Associates, Inc.
1100 W Town and Country Road, Suite #700
Orange, CA 92868
714-939-1030

## 1.2 PURPOSE OF STUDY

The purpose of this drainage study is to identify the existing and proposed 100-year flood inundation depths, velocities, and potential scour depths within the Amanece Solar subject tracts and the surrounding area.

## 1.3 LOCATION

The subject tracts encompass approximately 2,998 acres in Stanislaus County, California. The subject tract is approximately 0.5 miles west of California's Interstate 5 (I-5) and the southern boundary abuts Pete Miller Rd. The Amanece Solar Project is bound by a combination of the California Aqueduct to the east, Sullivan Rd to the southwest, and Pete Miller Rd to the south. The sites and surrounding areas are shown on the *Vicinity Map* included in **Appendix A**.

Existing flood hazard information published by the Federal Emergency Management Agency (FEMA) was considered for this study. The project site is in FEMA Zone X per the site plan; however is not located in the Special Flood Hazard Areas (SFHA).

The surrounding watershed also does not include SFHA. As the watershed is unstudied, no base flood elevations or regulatory flows have been established.

The applicable FEMA Flood Insurance Rate Map (FIRM), Panel 06099C0925E (effective 09/26/2008) is mapped and Panel 06099C0940E (09/26/2008) is not printed on the FEMA National Flood Hazard Layer (NFHL) Viewer. Additional information is available through the FEMA Map Service Center (MSC) website.

## 1.4 GENERAL SITE CHARACTERISTICS

The subject tract is predominantly herbaceous with portions of barren land and cultivated crops. The topography of the subject tract generally slopes southwest to northeast by approximately 1.0% - 2.8%. The California Aqueduct boarders the entire eastern portion of the site.


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## 1.5 METHODOLOGY

### Hydrology

The hydrologic analysis was performed in general accordance with the currently published California Department of Transportation (Caltrans) Highway Design Manual, Chapter 810 – Hydrology. Stanislaus County does not provide its own official hydrology manual; however, it does recommend using the relevant state or Caltrans guidance.

The U.S. Army Corps of Engineers HEC-HMS (Hydrologic Engineering Center Hydrologic Modeling System) v.4.12 hydrologic modeling program was used to perform the hydrologic analysis. Hydrologic calculations were performed using the Natural Resources Conservation Service (NRCS) Curve Number Method and Frequency Storm. The HEC-HMS model was used to generate an incremental precipitation hyetograph that was used as the precipitation hydrograph boundary condition for the HEC-RAS 2D model. The National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server was used to determine the NOAA Atlas 14 rainfall depths for the subject tract.

Additional information regarding hydrologic calculations and model outputs can be found in **Section 3**.

### Hydraulics

Hydraulic modeling was performed using the U.S. Army Corps of Engineers' HEC-RAS (Hydrologic Engineering Center's River Analysis System) 2D version 6.6 hydraulic modeling software. HEC-RAS 2D is a two-dimensional hydrodynamic routing model that performs hydraulic routing using Implicit Finite Volume solution to the 2D unsteady flow equations. This type of model is generally used to estimate flooding limits and velocity distributions for both confined and unconfined flow. Additional information regarding hydraulic model inputs and results can be found in **Section 4**.


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# 2.0 Survey Information

## 2.1 TOPOGRAPHIC INFORMATION

Publicly available 2021 and 2023 1-meter resolution LiDAR was downloaded from the Unites States Geological Service (USGS) database as a digital elevation model (DEM) in May 2026. The vertical datum for the site survey is NAVD88 and the horizontal coordinate system is NAD83 State Plane Zone X.


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# 3.0 Hydrology

## 3.1 METHODOLOGY

A hydrologic model was created for this study using HEC-HMS v. 4.12. This model was used to establish the incremental precipitation hyetograph used as the precipitation input boundary condition in the HEC-RAS 2D models. The incremental precipitation hyetograph for the 100-year event was input into the HEC-RAS 2D model as described in **Section 3.3**. The hydrologic model includes one subbasin for the 2D mesh (Subbasin 2D).

Model inputs are discussed in the following sections. Digital files of the HEC-HMS hydrologic model are provided in **Appendix D**.

## 3.2 RAINFALL

The precipitation is based on the frequency storm rainfall distribution method, where the peak occurs at or around hour 12. Rainfall depth data for the frequency storm was collected from NOAA Atlas 14 Point Precipitation Frequency Estimates depths. **Table 1** shows the NOAA Atlas 14 100-year rainfall depths used for this study. Supporting documents are provided in **Appendix B**.

**Table 1: NOAA Atlas 14 100-Year Rainfall Depths**

| Duration | Depth (in) |
|---|---|
| 5-min | 0.351 |
| 10-min | 0.503 |
| 15-min | 0.609 |
| 30-min | 0.838 |
| 1-hr | 1.16 |
| 2-hr | 1.44 |
| 3-hr | 1.66 |
| 6-hr | 2.06 |
| 12-hr | 2.58 |
| 24-hr | 3.31 |

## 3.3 MODEL INPUTS - EXISTING HYDROLOGY

### Subbasin Delineation

The existing condition hydrologic model consists of one subbasin that encompasses the overall watershed for the Amanece Solar subject tract. The subbasin has an approximate area of 14.9 square miles. The drainage area boundary was delineated using the topographic data described in **Section 2.0**.

### Curve Number

Infiltration losses for the 2D subbasin were calculated using the NRCS Curve Number Method using TR-55 methodology. Curve Numbers (CNs) were based on Hydrologic Soil Group (HSG) and existing land cover. A soil type shapefile was downloaded from the NRCS Web Soil Survey to determine the HSG for the area covered by the hydrologic model subbasins. The area studied contained four Hydrologic Soil Groups, A, B, C, and D. Type D is the majority of the subject tract with Type C in the eastern region of the subject tract and a small portion of Type A in the southern region. The offsite portions of the 2D subbasin are majority Types D and C with a small portion of Type B in the upstream area.


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Existing land use for the modeled subbasin was based on the 2024 National Land Cover Database (NLCD) and was obtained from the Multi-Resolution Land Characteristics Consortium (MRLC). The NLCD land use data was reviewed for accuracy within the 2D subbasin.

The Land Use and HSG spatial data sets were combined into a new Curve Number data set of individual areas that were assigned CNs based on land cover with a certain HSG. CNs were assigned based on the four CN tables provided in TR-55 (Table 2-2a to Table 2-2d). **Table 2** lists the NLCD land use descriptions included within the model subbasins, the correlated TR-55 cover description, and the TR-55 table referenced for each NLCD land use description. The table also includes the respective Curve Numbers based on the four HSGs.

The CN for each subbasin was calculated using a weighted average approach where each individual area with a defined CN was assigned a percentage based on its individual area in relation to the total area of the subbasin. That percentage was then multiplied by the CN for that specific area to find that area's incremental contribution to the overall subbasin CN value. The sum of all the incremental CN values of areas contributing to the overall subbasin resulted in the overall CN. The calculations for CN for each drainage subbasin are included in **Appendix B**, and CNs for all subbasins are listed in **Table 3**.

The areas of development and existing roads throughout the 2D subbasin are encompassed in urban, residential, and impervious land uses listed in Table 2-2a of TR-55. The Curve Numbers assigned to these land uses incorporate impervious cover.

An *Existing Condition Land Cover Map*, *Hydrologic Soil Group Map*, and *Curve Number Map* are attached in **Appendix B**.

**Table 2: NLCD Land Cover Correlation to TR-55 Cover Description and Curve Number**

| NLCD Description | TR-55 Cover Description | TR-55 Table | CN for HSG | | | |
|---|---|---|---|---|---|---|
| | | | A | B | C | D |
| Barren Land | Open Space, Poor Condition | 2-2a | 68 | 79 | 86 | 89 |
| Cultivated Crops | Row Crops, Contoured, Poor Condition | 2-2b | 70 | 79 | 84 | 88 |
| Developed, Low Intensity | Residential, 1/4-acre | 2-2a | 61 | 75 | 83 | 87 |
| Developed, Medium Intensity | Residential, <1/8-acre | 2-2a | 77 | 85 | 90 | 91 |
| Developed, Open Space | Impervious Areas: Streets and Roads: Gravel (including right-of-way) | 2-2a | 39 | 61 | 74 | 80 |
| Hay/Pasture | Pasture, Good Condition | 2-2c | 39 | 61 | 74 | 80 |
| Herbaceous | Meadow | 2-2c | 30 | 58 | 71 | 78 |
| Open Water | Water | N/A | 100 | 100 | 100 | 100 |

## 3.4 RESULTS

The HEC-HMS incremental precipitation hyetograph, generated by the hydrologic model, was used as the 2D flow area's precipitation within the hydraulic model. The incremental precipitation hyetograph was applied uniformly across each cell within the entire 2D model domain as a precipitation boundary condition. The HEC-HMS hydrologic model outputs for the existing conditions are provided in **Appendix B.**


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# 4.0 Hydraulics

## 4.1 INTRODUCTION

Hydraulic modeling of the site was performed using the U.S. Army Corps of Engineers' HEC-RAS 2D v.6.6 hydraulic modeling software. HEC-RAS 2D is a two-dimensional hydrodynamic routing model that performs hydraulic routing using the Implicit Finite Volume solution to the 2D unsteady flow equations. This type of model is generally used to estimate flooding limits and velocity distributions for both confined and unconfined flow.

The existing condition hydraulic 2D model was developed as part of this analysis. Digital files of the HEC-RAS 2D hydraulic models are provided in **Appendix D**.

## 4.2 MODEL INPUTS - EXISTING CONDITIONS

### 2D Mesh

A 2D computational mesh based on USGS 1-meter topography was generated in HEC-RAS to perform hydraulic modeling. The 2D mesh includes the entire watershed that contributes to the subject tracts, approximately 14.9 square miles. A grid size of 50' x 50' was used for the model area. Breaklines were added in areas of topographic relief to align the cells with the direction of flow and capture the detail of underlying topographic high points and low points. Breaklines were added along flow centerlines, embankments, road centerlines, and ridge lines within the model area to further refine the grid. A breakline grid spacing of 20' was used for these areas.

### Terrain

Topographic information for the two-dimensional area was based on publicly available 1-meter resolution USGS LiDAR.

### Boundary Conditions

Eight (8) normal depth outflow boundary conditions were applied along the sides of the 2D mesh where flow exits the model area. The assigned friction slope varied based on the terrain for each boundary condition. One excess precipitation boundary condition was applied as described in **Section 4.1**.

### Structures

Structures were included in the geometry of the 2D model to allow flow to travel between the hydrologic features. A site visit was not performed for the Preliminary Existing Hydrology Study. Locations and sizes of culverts along the model extents of the I-5 and California Aqueduct as well as service roads on the subject tract were modeled based on aerial imagery from Nearmap, Google Earth, and topographic information within the 2D hydraulic model mesh. In areas where adequate information were not provided and/or not found from the above sources for input of hydraulic structures, terrain modifications were added throughout the 2D mesh. These terrain modifications were added where excessive ponding and flow were occurring outside the subject tract (i.e., generally in areas where major roads are present).

Culverts were modeled using the 2D connection function. The terrain of the structure was captured using the LiDAR topography mentioned in **Section 2** and size and material were estimated using satellite imagery and engineering judgment. The overflow computation method for all culvert structures was set to the weir equation.


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### Surface Roughness

The Manning's "n" values for friction losses were based on existing land cover determined from the 2024 National Land Cover Database and engineering judgement based on the observed condition of vegetation using aerial imagery. Manning's "n" values are shown on the *Manning's "n" Map* included in **Appendix C**. **Table 3** lists the NLCD land cover descriptions and the Manning's "n" value assigned to the land use.

**Table 3: Manning's "n" Values**

| Land Use | Manning's "n" Value |
|---|---|
| Barren Land | 0.02 |
| Cultivated Crops | 0.06 |
| Developed, Low Intensity | 0.1 |
| Developed, Medium Intensity | 0.12 |
| Developed, Open Space | 0.06 |
| Hay/Pasture | 0.08 |
| Herbaceous | 0.15 |
| Open Water | 0.02 |

## 4.3 RESULTS

### Inundation Depth

Predicted flooding depths were calculated based on the 2D modeling simulation and were mapped within the 2D model area. Shallower depths were removed from the mapping as is typical for models based on the direct rainfall method, as this method produces depth in every grid cell of the mesh.

Most of the subject tract has a maximum inundation depth less than 0.5 ft in the 100-year storm event. The subject tract experienced depths up to 5 ft in the localized ponding areas and existing flow paths identified as part of the subject tract characteristics.

The results of the analysis are based on the terrain described in **Section 2.0** and Kimley-Horn's best engineering judgement of the hydrology that can be expected in the existing conditions of the watershed. Development in the watershed has the potential to alter runoff volumes and rates.

The existing 100-year inundation depths are shown in the *Existing 100-Year Inundation Maps* included in **Appendix C**.

### Onsite Velocity

Potential maximum flow velocity during the existing 100-year event for the modeled areas are shown in the *Existing 100-Year Velocity Maps* in **Appendix C**. The mapping reflects velocities that are expected to equal or exceed 0.5 ft per second (fps). Most of the subject tract's velocities are generally less than 0.5 feet per second (fps) outside of existing channels. Defined channels with deeper inundation also experienced higher velocities, up to 5 fps.

### Scour Depth

Kimley-Horn calculated anticipated local pier scour depth for the maximum potential flow velocity and flow depth combinations within the subject tract based on the hydraulic model results. Pier scour was calculated using guidance in the FHWA's *HEC-18: Evaluating Scour at Bridges, Fifth Edition* and an assumption of six inches for pier size.


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Potential scour for the 100-year storm event for existing conditions is shown in the *Existing 100-Year Potential Scour Maps* in **Appendix C**. Most of the site will experience scour depths of less than 0.5 ft outside of existing drainage features for all storm events. Areas of the site that experience larger scour depths, up to 2.0 feet, are generally associated with deeper inundation or areas of channelized flow.

Pier scour depths were evaluated using hydraulic outputs from the project-specific two-dimensional hydraulic model. Maximum depth and velocity values were extracted from model results and applied conservatively, recognizing that peak velocity and peak depth may not occur simultaneously.

For this analysis, structural foundations were conservatively assumed to consist of 6-inch-diameter piles. This assumption reflects typical small-diameter pile-supported structures anticipated for the project and provides a reasonable basis for preliminary scour evaluation.

The following HEC-18 pier scour equation was used to estimate potential scour depths:

*HEC-18 Pier Scour Equation:*

$$y_s = 2.0K_1K_2K_3K_4\left(\frac{a}{y_1}\right)^{0.65} Fr^{0.43}y_1$$

Where:

$y_s$ = local pier scour depth (ft)
$K_1$ = correction factor for pier nose shape
$K_2$ = correction factor for angle of attack
$K_3$= correction factor for bed condition
$K_4$ = correction factor for armoring
$a$ = pier width (ft)
$y_1$= flow depth upstream of pier (ft)
$Fr$ = Froude number of approach flow


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# 5.0 Regulatory Compliance and Risk Mitigation

## 5.1 STORMWATER MANAGEMENT

Stormwater detention designs are based on the 2014 Edition Standards and Specifications of the Stanislaus County Department of Public Works. The proposed project would be required to design storm drainage detention facilities using a 100-year, 24-hour storm with a rainfall depth of 2.88 inches. The volume of the basins shall be determined with no allowance for percolation. In addition, the detention basin shall be designed to empty a 100-year, 24-hours storm event within two days by outlet facilities providing positive drainage or through pump systems.

Due to the preliminary planning stage of the project, the proposed condition overall runoff volume was estimated using the proposed condition impervious cover in HEC-HMS v 4.10. The hydrologic model consists of one subbasin encompassing the subject tract. The NOAA Precipitation Frequency Data Server was used to determine the 100-year NOAA Atlas 14 rainfall depths for the proposed subject tract area.

The model uses SCS Curve Number for method for losses and SCS Unit Hydrograph method for peak flow calculations. Soil data was downloaded from the NRCS Web Soil Survey. Existing Land Cover is based on the 2024 National Land Cover Database (NLCD) published by the Multi-Resolution Land Characteristics Consortium (MRLC).

The required storage is 6.3 ac-ft (~274,428 cf). Given the existing terrain across the site and lack of drainage infrastructure, 6 basins were placed throughout the site. The basins were assumed to be 2 feet deep, with 4:1 side slopes. Total surface area shown on the *Conceptual Proposed Drainage Area Map* included a 10% buffer. Detailed hydrologic calculations are attached.

**Table 4: Detention Summary**

| Duration | Subbasin | Existing Volume (ac-ft) | Proposed Volume (ac-ft) | Storage Required (ac-ft) |
|---|---|---|---|---|
| 100-year | Site | 203.1 | 209.4 | 6.3 |

## 5.2 RECOMMENDATIONS

1. It is recommended the project be designed in compliance with the applicable stormwater management, flood control and permitting requirements established by Stanislaus County and follow laws recognized by the State of California, including applicable NPDES Construction General Permit and MS4 Phase II requirements.

2. It is recommended natural drainage features be maintained to the maximum extent practicable.

3. It is recommended that the proposed sensitive electrical equipment associated with the solar development be elevated a minimum of 12-inches above the 100-year water surface elevation.

4. It is recommended that appropriate erosion control BMPs should be placed in areas where flow velocity through the solar array is greater than 2 feet per second during the 100-year storm event.


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5. It is recommended that sensitive electrical equipment be placed outside of areas with potential scour depths exceeding 2 feet during the 100-year storm event. If equipment is to be placed in these areas, it is recommended to implement scour mitigation measures such as: extending posts deeper, erosion control best management practices, and/or grading changes to alleviate high slope areas.

6. Design of culvert crossings may be required to accommodate onsite access road crossings. Cross culvert structures should be designed to freely pass up to the 25-year, 24-hour design storm without roadway damage, and/or overtopping during the 100-year, 24-hour design storm.

7. If detention/retention basins are incorporated into the project's final design, basins should be designed to accommodate the 100-year, 24-hour storm event. Basins should also be designed to drain within AHJ requirements to avoid vector issues.

8. If retention facilities are incorporated into the project's final design, the published 2014 Stanislaus County Standards state a minimum 10-foot vertical separation between the basin bottom and groundwater table should be maintained.

9. If the project is determined to be a regulated project under applicable stormwater requirements, post-construction stormwater treatment measures and Low Impact Development (LID) strategies should be evaluated and incorporated as required.

10. Preparation of an Erosion and Sediment Control Plan and/or Storm Water Pollution Prevention Plan (SWPPP) will be required as the project is disturbing more than 1 acre. Applicable permits and approvals from Stanislaus County and the California State Water Resources Control Board should be obtained prior to construction activities.


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# 6.0 References

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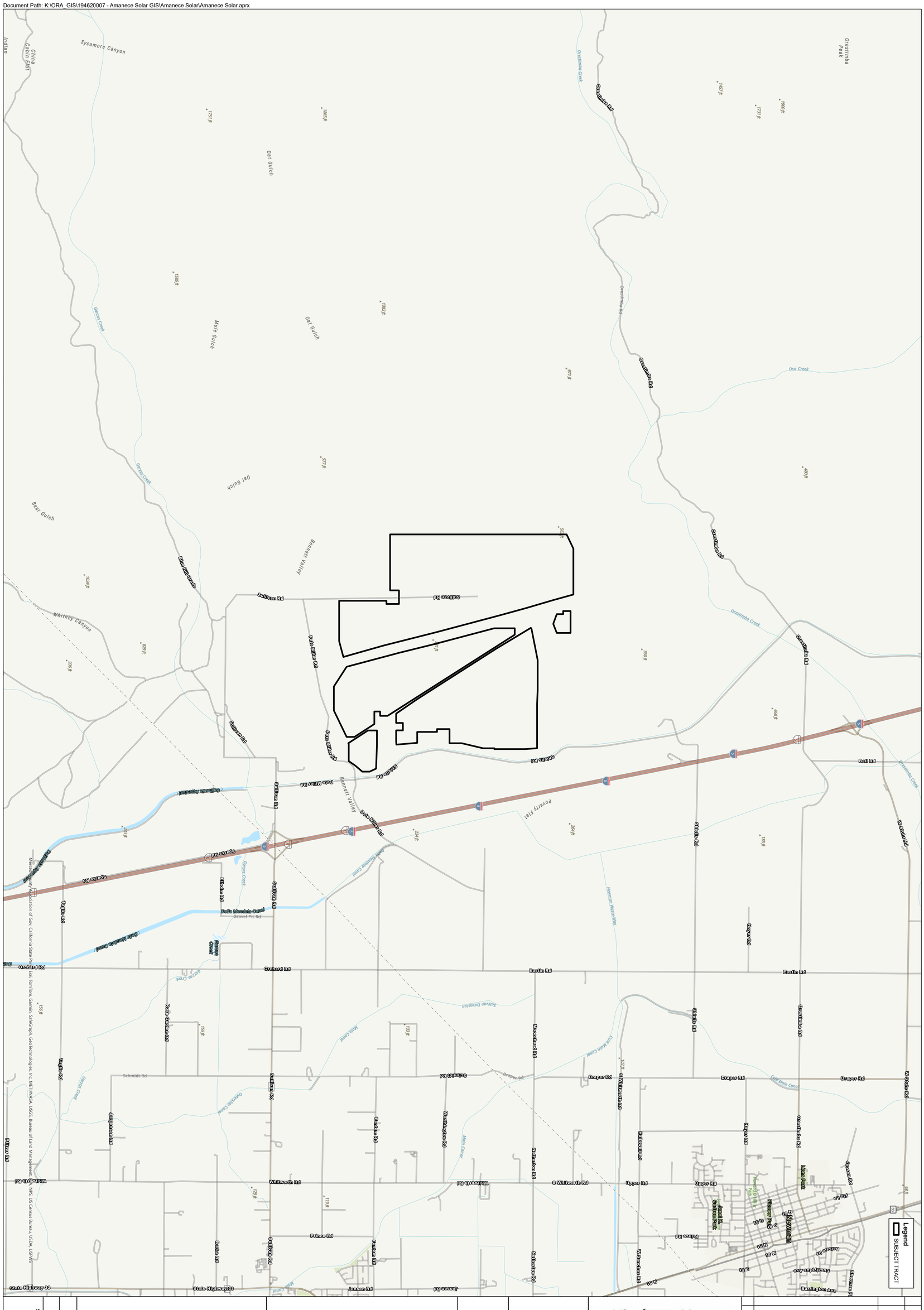

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# Appendix A
# General

**Vicinity Map**


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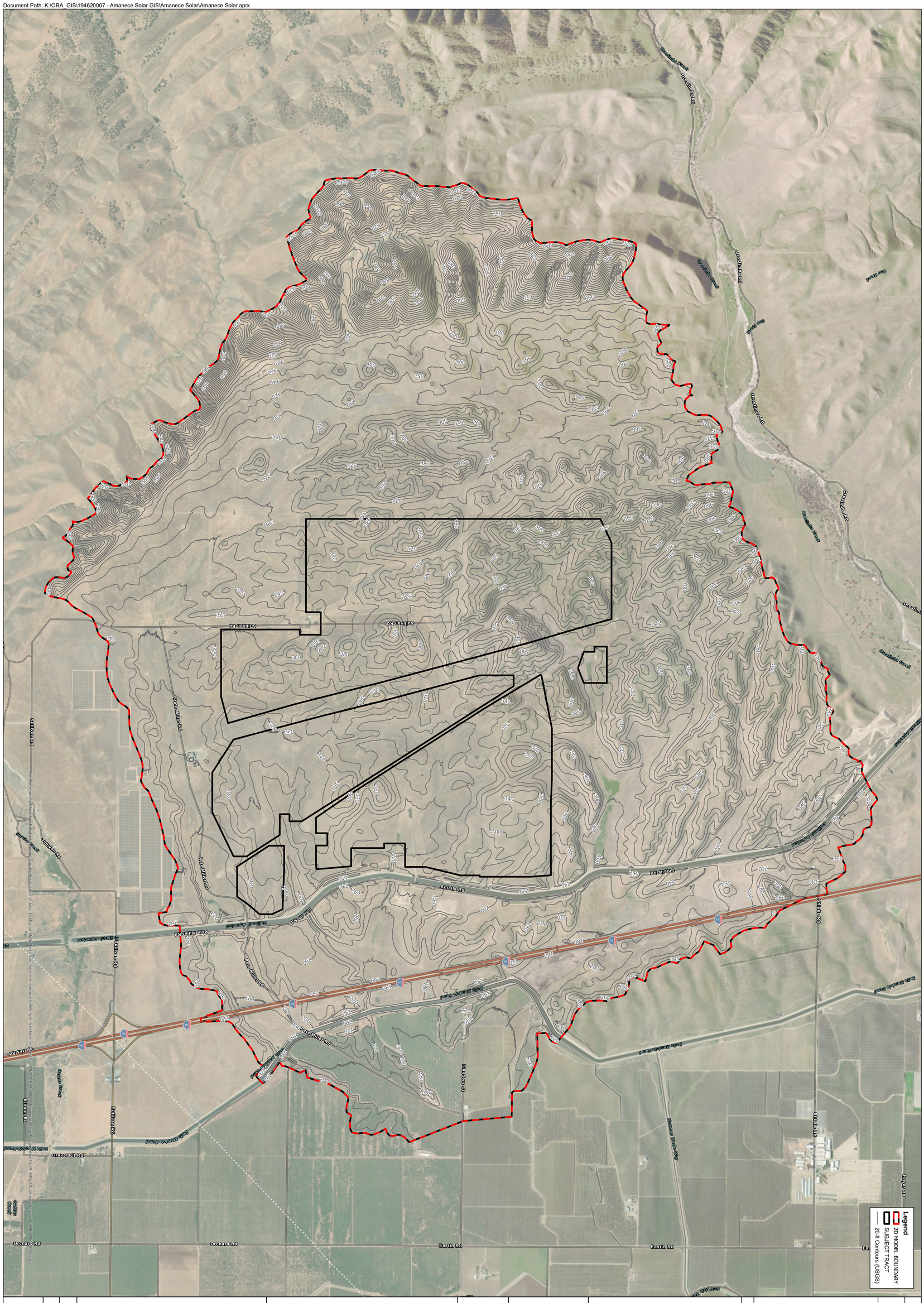

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SHEET NUMBER 1 | PROJECT NO 194620007 | DATE JUNE 2026 | VICINITY MAP | AMANECE SOLAR<br>STANISLAUS COUNTY, CA | 1 inch = 2,000 feet | Kimley»Horn<br>27290 MADISON AVE, SUITE 700<br>TEMECULA, CA 92590<br>PHONE: 951-888-8978 | DESIGN: GFM<br>DRAWN: GFM<br>REVIEW: AAT |

# Appendix B
# Hydrology

**Existing Condition Land Cover Map**
**Proposed Condition Land Cover Map**
**Hydrologic Soil Group Map**
**Curve Number Map**
**NOAA Rainfall Data**
**Hydrologic Calculations**


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| | | | | | | |
|---|---|---|---|---|---|---|
| SHEET NUMBER 2 | PROJECT NO. 194620007 | DATE JUNE 2026 | EXISTING DRAINAGE AREA MAP | AMANECE SOLAR STANISLAUS COUNTY, CA | 1 inch = 1,200 feet | N |


Kimley»Horn
27290 MADISON AVE, SUITE 700
TEMECULA, CA 92590
PHONE: 951-888-8978


| | |
|---|---|
| DESIGN: | GFM |
| DRAWN: | GFM |
| REVIEW: | AAT |

Legend
- 2D MODEL BOUNDARY
- SUBJECT TRACT
- Preliminary Basin
- 20-ft Contours (USGS)

| | |
|---|---|
| DESIGN: | GFM |
| DRAWN: | GFM |
| REVIEW: | AAT |


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27290 MADISON AVE. SUITE 700
TEMECULA, CA 92590
PHONE: 951-888-8978


N

1 inch = 1,200 feet

# AMANECE SOLAR
STANISLAUS COUNTY, CA

# PROPOSED DRAINAGE AREA MAP

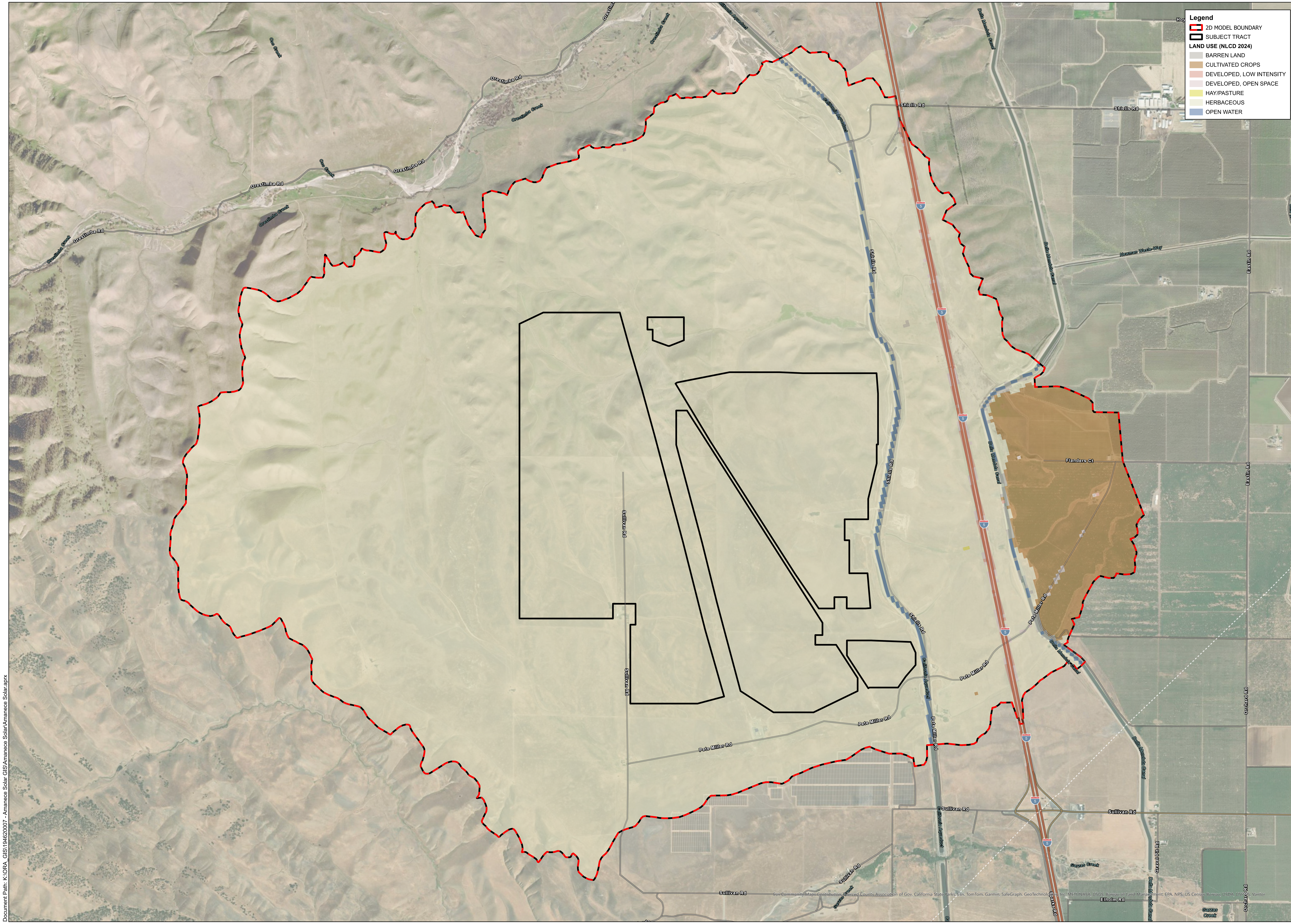
DATE
JUNE 2026

PROJECT NO.
194620007

SHEET NUMBER
3


Esri Community Maps Contributors, Stanislaus County, Association of Gov, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Vantor


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REVIEW: AAT

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TEMECULA, CA 92590
PHONE: 951-888-8978

N
1 inch = 1,200 feet

# AMANECE SOLAR
STANISLAUS COUNTY, CA

# EXISTING LAND COVER MAP

DATE
JUNE 2026

PROJECT NO.
194620007

SHEET NUMBER
4

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Legend

- 2D MODEL BOUNDARY
- SUBJECT TRACT
- PROPOSED ROADS

**LAND USE (NLCD 2024)**

- BARREN LAND
- CULTIVATED CROPS
- DEVELOPED, LOW INTENSITY
- DEVELOPED, OPEN SPACE
- HAY/PASTURE
- HERBACEOUS
- OPEN WATER

| | |
|---|---|
| DESIGN: | GFM |
| DRAWN: | GFM |
| REVIEW: | AAT |


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PHONE: 951-888-8978


N

1 inch = 1,200 feet

# AMANECE SOLAR
STANISLAUS COUNTY, CA

# PROPOSED LAND COVER MAP

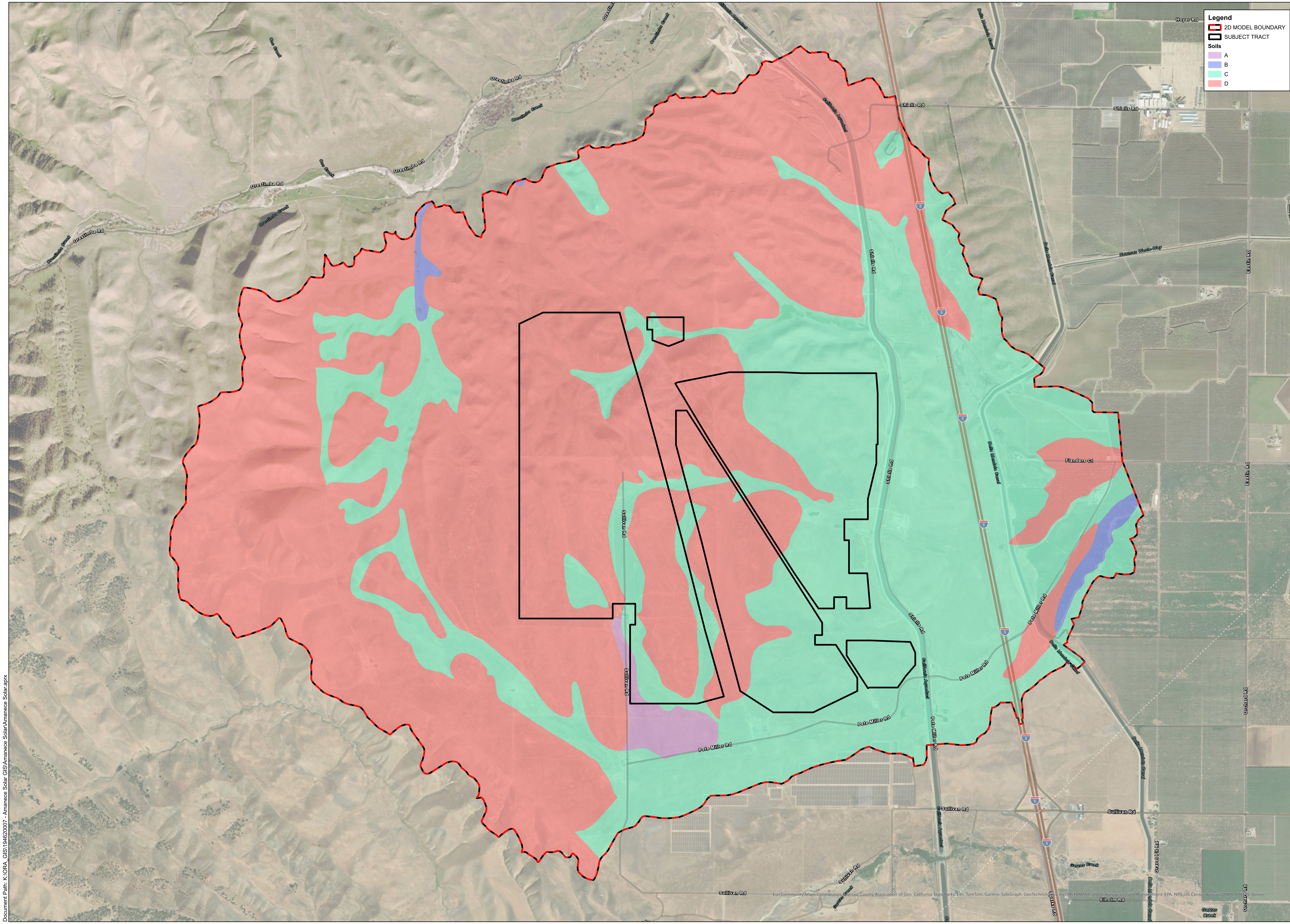
DATE
JUNE 2026

PROJECT NO.
194620007

SHEET NUMBER
5


Esri Community Maps Contributors, Stanislaus County Association of Gov, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USGS, Vantor


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DESIGN: GFM
DRAWN: GFM
REVIEW: AAT

Kimley»Horn
27920 MADISON AVENUE, SUITE #300
TEMECULA, CA 92590
PHONE: 951-888-8978

N

1 inch = 1,200 feet

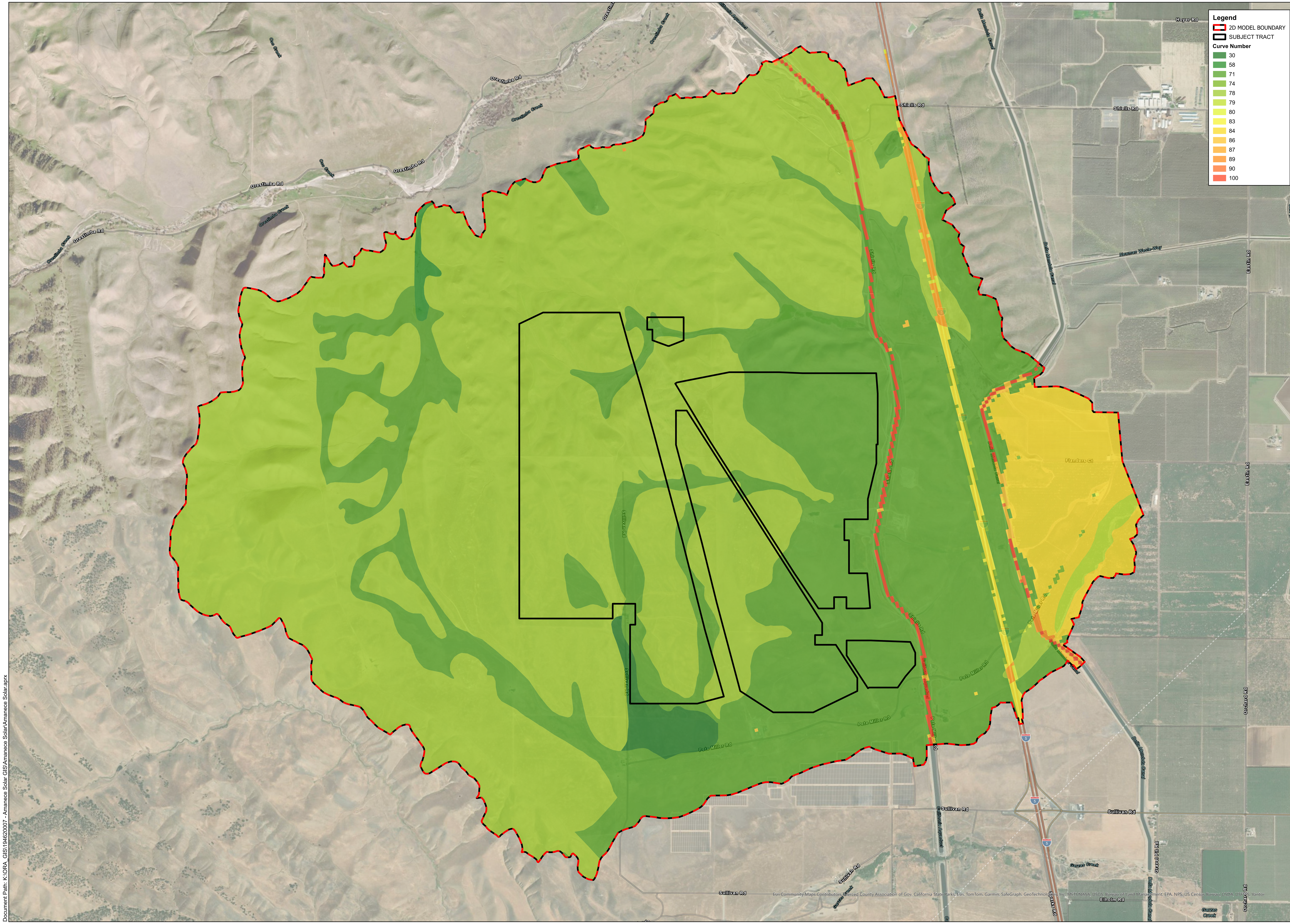
# AMANECE SOLAR
STANISLAUS COUNTY, CA

# HYDROLOGIC SOILS GROUP MAP

DATE
JUNE 2026

PROJECT NO.
194620007

SHEET NUMBER
6




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DRAWN: GFM
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# AMANECE SOLAR
STANISLAUS COUNTY, CA

# CURVE NUMBER MAP

DATE
JUNE 2026

PROJECT NO.
194620007

SHEET NUMBER
7

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# 2D Boundary

**NOAA Atlas 14, Volume 6, Version 2**
**Location name: Newman, California, USA***
**Latitude: 37.2736°, Longitude: -121.1314°**
**Elevation: 369 ft****
* source: ESRI Maps
** source: USGS

**POINT PRECIPITATION FREQUENCY ESTIMATES**

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

## PF tabular

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

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 0.080 (0.069-0.095) | 0.106 (0.091-0.125) | 0.146 (0.124-0.172) | 0.182 (0.154-0.217) | 0.240 (0.195-0.298) | 0.291 (0.231-0.372) | 0.351 (0.270-0.461) | 0.421 (0.313-0.573) | 0.533 (0.377-0.761) | 0.633 (0.430-0.942) |
| 10-min | 0.115 (0.099-0.136) | 0.152 (0.131-0.179) | 0.209 (0.178-0.246) | 0.261 (0.221-0.311) | 0.344 (0.279-0.427) | 0.418 (0.331-0.533) | 0.503 (0.387-0.661) | 0.604 (0.449-0.821) | 0.763 (0.540-1.09) | 0.907 (0.616-1.35) |
| 15-min | 0.139 (0.120-0.164) | 0.184 (0.158-0.217) | 0.252 (0.216-0.298) | 0.316 (0.267-0.376) | 0.416 (0.338-0.517) | 0.505 (0.400-0.644) | 0.609 (0.468-0.800) | 0.731 (0.543-0.993) | 0.923 (0.653-1.32) | 1.10 (0.745-1.63) |
| 30-min | 0.192 (0.165-0.226) | 0.254 (0.218-0.298) | 0.347 (0.297-0.410) | 0.434 (0.368-0.518) | 0.572 (0.465-0.712) | 0.696 (0.551-0.887) | 0.838 (0.645-1.10) | 1.01 (0.748-1.37) | 1.27 (0.899-1.82) | 1.51 (1.02-2.25) |
| 60-min | 0.265 (0.228-0.312) | 0.350 (0.301-0.412) | 0.480 (0.410-0.567) | 0.600 (0.508-0.716) | 0.791 (0.643-0.983) | 0.961 (0.762-1.23) | 1.16 (0.891-1.52) | 1.39 (1.03-1.89) | 1.76 (1.24-2.51) | 2.09 (1.42-3.11) |
| 2-hr | 0.397 (0.341-0.466) | 0.495 (0.425-0.582) | 0.645 (0.551-0.762) | 0.785 (0.665-0.937) | 1.01 (0.820-1.25) | 1.21 (0.958-1.54) | 1.44 (1.11-1.89) | 1.72 (1.28-2.33) | 2.15 (1.52-3.07) | 2.54 (1.72-3.78) |
| 3-hr | 0.492 (0.423-0.578) | 0.603 (0.517-0.710) | 0.772 (0.660-0.912) | 0.930 (0.788-1.11) | 1.18 (0.959-1.47) | 1.40 (1.11-1.79) | 1.66 (1.28-2.18) | 1.96 (1.46-2.67) | 2.44 (1.72-3.48) | 2.87 (1.95-4.27) |
| 6-hr | 0.667 (0.574-0.784) | 0.806 (0.691-0.948) | 1.01 (0.866-1.20) | 1.20 (1.02-1.44) | 1.50 (1.22-1.86) | 1.76 (1.39-2.24) | 2.06 (1.58-2.70) | 2.40 (1.78-3.26) | 2.92 (2.07-4.18) | 3.39 (2.30-5.05) |
| 12-hr | 0.875 (0.752-1.03) | 1.06 (0.913-1.25) | 1.34 (1.14-1.58) | 1.58 (1.34-1.88) | 1.94 (1.58-2.41) | 2.25 (1.78-2.87) | 2.58 (1.99-3.40) | 2.96 (2.20-4.02) | 3.52 (2.49-5.02) | 3.99 (2.71-5.94) |
| 24-hr | 1.14 (1.05-1.25) | 1.40 (1.30-1.55) | 1.77 (1.64-1.96) | 2.09 (1.92-2.33) | 2.54 (2.27-2.92) | 2.92 (2.55-3.40) | 3.31 (2.84-3.94) | 3.74 (3.13-4.55) | 4.34 (3.51-5.49) | 4.84 (3.80-6.30) |
| 2-day | 1.40 (1.30-1.54) | 1.74 (1.61-1.92) | 2.20 (2.03-2.43) | 2.58 (2.37-2.88) | 3.12 (2.78-3.58) | 3.56 (3.11-4.14) | 4.00 (3.43-4.77) | 4.48 (3.75-5.46) | 5.15 (4.16-6.50) | 5.68 (4.45-7.39) |
| 3-day | 1.58 (1.46-1.74) | 1.97 (1.82-2.17) | 2.49 (2.30-2.76) | 2.93 (2.68-3.26) | 3.53 (3.14-4.04) | 4.00 (3.51-4.67) | 4.50 (3.86-5.35) | 5.01 (4.20-6.11) | 5.73 (4.63-7.24) | 6.30 (4.94-8.20) |
| 4-day | 1.71 (1.58-1.88) | 2.13 (1.97-2.35) | 2.70 (2.49-2.99) | 3.17 (2.91-3.53) | 3.82 (3.40-4.38) | 4.33 (3.79-5.05) | 4.86 (4.16-5.78) | 5.40 (4.52-6.59) | 6.16 (4.98-7.78) | 6.76 (5.30-8.79) |
| 7-day | 2.04 (1.88-2.24) | 2.54 (2.35-2.80) | 3.23 (2.98-3.57) | 3.80 (3.49-4.24) | 4.60 (4.10-5.27) | 5.23 (4.58-6.10) | 5.88 (5.04-6.99) | 6.55 (5.48-7.99) | 7.49 (6.05-9.46) | 8.22 (6.45-10.7) |
| 10-day | 2.25 (2.08-2.48) | 2.82 (2.60-3.10) | 3.59 (3.31-3.97) | 4.23 (3.88-4.71) | 5.13 (4.57-5.87) | 5.83 (5.10-6.80) | 6.56 (5.62-7.80) | 7.31 (6.12-8.92) | 8.36 (6.76-10.6) | 9.19 (7.20-12.0) |
| 20-day | 2.86 (2.65-3.16) | 3.63 (3.36-4.01) | 4.66 (4.30-5.15) | 5.50 (5.04-6.12) | 6.65 (5.92-7.61) | 7.53 (6.59-8.78) | 8.42 (7.22-10.0) | 9.34 (7.82-11.4) | 10.6 (8.54-13.3) | 11.5 (9.02-15.0) |
| 30-day | 3.39 (3.14-3.74) | 4.34 (4.01-4.78) | 5.57 (5.14-6.16) | 6.56 (6.02-7.31) | 7.90 (7.04-9.05) | 8.91 (7.80-10.4) | 9.92 (8.50-11.8) | 10.9 (9.15-13.3) | 12.3 (9.91-15.5) | 13.3 (10.4-17.3) |
| 45-day | 4.20 (3.89-4.63) | 5.40 (4.99-5.95) | 6.92 (6.38-7.65) | 8.13 (7.45-9.05) | 9.72 (8.66-11.1) | 10.9 (9.54-12.7) | 12.1 (10.3-14.4) | 13.2 (11.1-16.1) | 14.7 (11.8-18.5) | 15.7 (12.3-20.5) |
| 60-day | 5.00 (4.63-5.51) | 6.42 (5.94-7.08) | 8.20 (7.57-9.07) | 9.59 (8.79-10.7) | 11.4 (10.2-13.0) | 12.7 (11.1-14.8) | 14.0 (12.0-16.6) | 15.2 (12.7-18.5) | 16.8 (13.6-21.2) | 17.9 (14.0-23.3) |

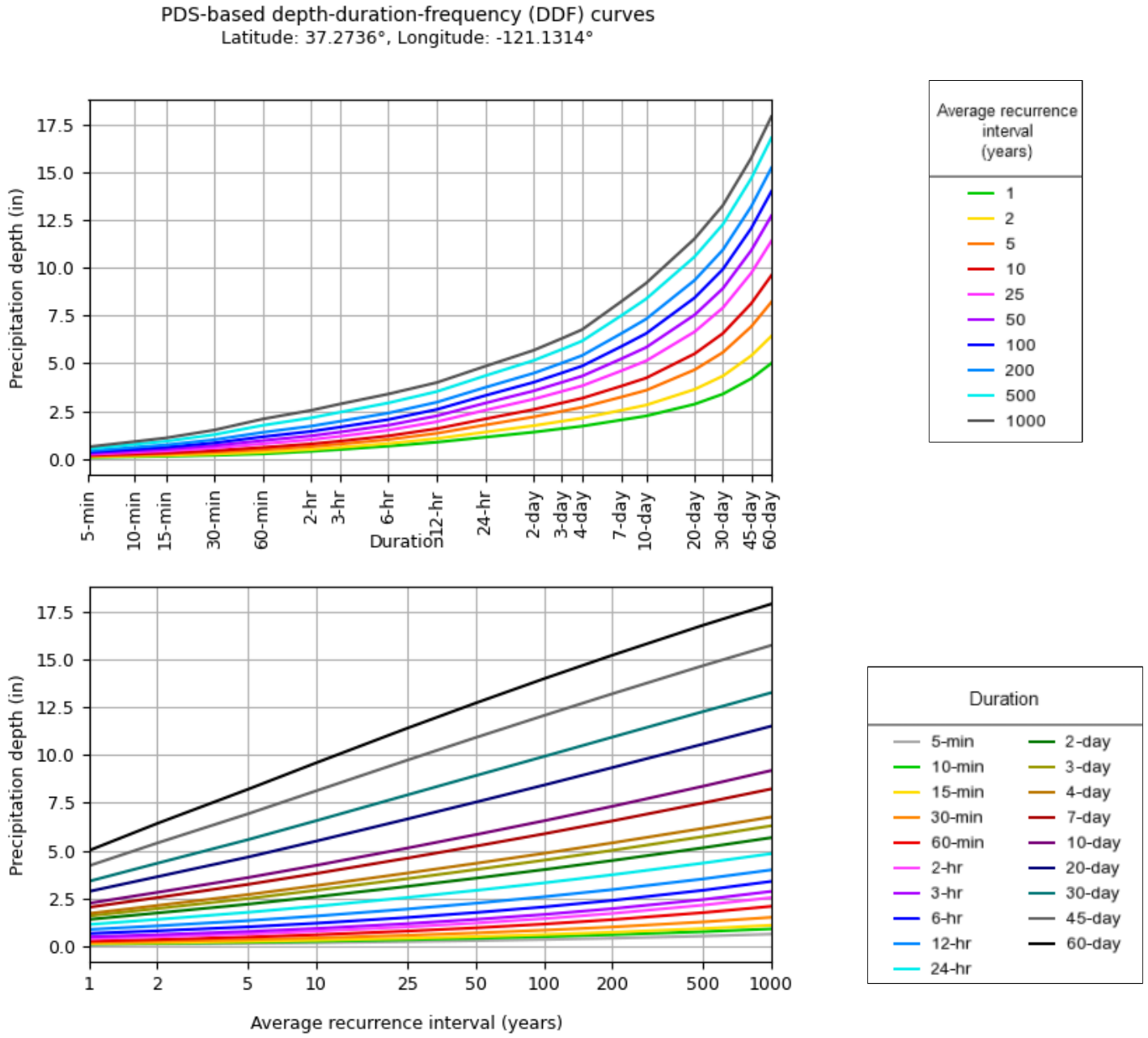
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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

Please refer to NOAA Atlas 14 document for more information.

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## PF graphical



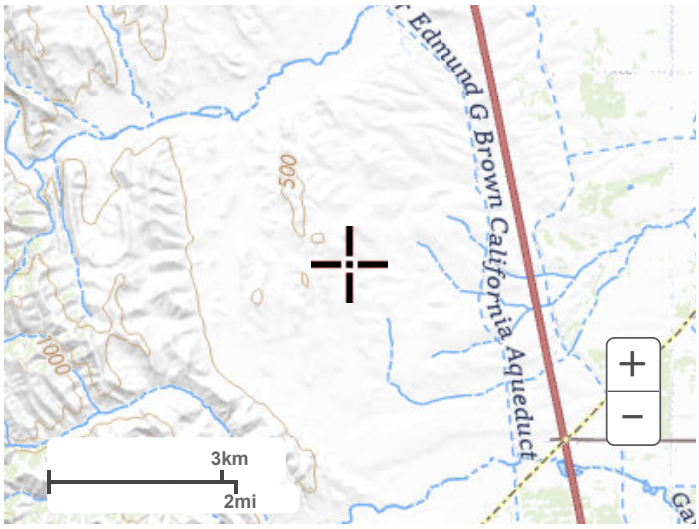

NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Mon May 18 21:34:06 2026

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## Maps & aerials

**Small scale terrain**




Large scale terrain




Large scale map




Large scale aerial




Back to Top

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

Disclaimer

Subject Tract

**NOAA Atlas 14, Volume 6, Version 2**
**Location name: Newman, California, USA***
**Latitude: 37.2689°, Longitude: -121.1179°**
**Elevation: 264 ft****
* source: ESRI Maps
** source: USGS

**POINT PRECIPITATION FREQUENCY ESTIMATES**

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

## PF tabular

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

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | **0.080** (0.068-0.094) | **0.105** (0.090-0.124) | **0.144** (0.123-0.171) | **0.181** (0.153-0.216) | **0.239** (0.194-0.297) | **0.291** (0.231-0.372) | **0.352** (0.271-0.463) | **0.424** (0.315-0.576) | **0.538** (0.380-0.768) | **0.642** (0.436-0.955) |
| 10-min | **0.114** (0.098-0.134) | **0.151** (0.129-0.177) | **0.207** (0.177-0.244) | **0.259** (0.219-0.310) | **0.343** (0.278-0.426) | **0.418** (0.331-0.533) | **0.505** (0.388-0.663) | **0.608** (0.452-0.826) | **0.771** (0.545-1.10) | **0.920** (0.624-1.37) |
| 15-min | **0.138** (0.118-0.162) | **0.182** (0.156-0.215) | **0.250** (0.214-0.296) | **0.313** (0.265-0.374) | **0.414** (0.336-0.515) | **0.505** (0.400-0.644) | **0.610** (0.469-0.802) | **0.735** (0.546-0.999) | **0.932** (0.659-1.33) | **1.11** (0.755-1.66) |
| 30-min | **0.190** (0.163-0.223) | **0.251** (0.215-0.295) | **0.344** (0.294-0.407) | **0.431** (0.365-0.515) | **0.570** (0.463-0.709) | **0.695** (0.550-0.887) | **0.840** (0.646-1.10) | **1.01** (0.751-1.37) | **1.28** (0.907-1.83) | **1.53** (1.04-2.28) |
| 60-min | **0.262** (0.225-0.308) | **0.346** (0.297-0.408) | **0.475** (0.406-0.562) | **0.595** (0.504-0.711) | **0.787** (0.639-0.979) | **0.960** (0.760-1.22) | **1.16** (0.892-1.52) | **1.40** (1.04-1.90) | **1.77** (1.25-2.53) | **2.11** (1.44-3.14) |
| 2-hr | **0.392** (0.337-0.462) | **0.489** (0.419-0.576) | **0.637** (0.544-0.753) | **0.777** (0.657-0.928) | **1.00** (0.812-1.24) | **1.20** (0.951-1.53) | **1.44** (1.10-1.89) | **1.71** (1.27-2.33) | **2.15** (1.52-3.08) | **2.56** (1.74-3.80) |
| 3-hr | **0.487** (0.418-0.573) | **0.596** (0.511-0.702) | **0.763** (0.652-0.902) | **0.920** (0.778-1.10) | **1.17** (0.949-1.45) | **1.39** (1.10-1.78) | **1.65** (1.27-2.17) | **1.96** (1.45-2.66) | **2.44** (1.72-3.48) | **2.87** (1.95-4.28) |
| 6-hr | **0.662** (0.568-0.779) | **0.798** (0.684-0.940) | **1.00** (0.855-1.18) | **1.19** (1.01-1.42) | **1.48** (1.20-1.84) | **1.74** (1.38-2.22) | **2.04** (1.56-2.68) | **2.38** (1.77-3.23) | **2.91** (2.06-4.15) | **3.38** (2.29-5.02) |
| 12-hr | **0.868** (0.746-1.02) | **1.05** (0.903-1.24) | **1.32** (1.13-1.56) | **1.56** (1.32-1.86) | **1.91** (1.56-2.38) | **2.22** (1.75-2.83) | **2.55** (1.96-3.35) | **2.92** (2.17-3.96) | **3.47** (2.45-4.95) | **3.94** (2.67-5.86) |
| 24-hr | **1.13** (1.05-1.24) | **1.39** (1.29-1.53) | **1.75** (1.62-1.94) | **2.06** (1.89-2.30) | **2.51** (2.24-2.87) | **2.87** (2.51-3.34) | **3.26** (2.79-3.87) | **3.67** (3.07-4.47) | **4.26** (3.45-5.38) | **4.75** (3.72-6.17) |
| 2-day | **1.39** (1.29-1.53) | **1.72** (1.59-1.90) | **2.17** (2.01-2.40) | **2.55** (2.34-2.84) | **3.08** (2.74-3.52) | **3.50** (3.06-4.07) | **3.93** (3.37-4.68) | **4.39** (3.68-5.35) | **5.04** (4.07-6.36) | **5.55** (4.35-7.22) |
| 3-day | **1.58** (1.46-1.73) | **1.95** (1.81-2.15) | **2.46** (2.28-2.72) | **2.89** (2.65-3.22) | **3.48** (3.10-3.98) | **3.94** (3.45-4.59) | **4.42** (3.79-5.25) | **4.92** (4.12-5.99) | **5.61** (4.54-7.08) | **6.16** (4.83-8.01) |
| 4-day | **1.70** (1.57-1.87) | **2.11** (1.96-2.33) | **2.67** (2.46-2.95) | **3.13** (2.87-3.48) | **3.76** (3.35-4.30) | **4.26** (3.73-4.96) | **4.77** (4.09-5.67) | **5.30** (4.44-6.45) | **6.03** (4.88-7.61) | **6.60** (5.18-8.59) |
| 7-day | **2.02** (1.87-2.23) | **2.52** (2.33-2.78) | **3.19** (2.95-3.52) | **3.75** (3.44-4.17) | **4.53** (4.04-5.18) | **5.14** (4.50-5.99) | **5.77** (4.95-6.86) | **6.43** (5.38-7.83) | **7.34** (5.93-9.26) | **8.06** (6.32-10.5) |
| 10-day | **2.23** (2.06-2.45) | **2.78** (2.58-3.07) | **3.54** (3.27-3.91) | **4.17** (3.82-4.64) | **5.04** (4.50-5.77) | **5.73** (5.02-6.68) | **6.44** (5.52-7.66) | **7.18** (6.02-8.75) | **8.21** (6.64-10.4) | **9.01** (7.07-11.7) |
| 20-day | **2.84** (2.63-3.13) | **3.59** (3.33-3.96) | **4.60** (4.24-5.08) | **5.42** (4.97-6.03) | **6.54** (5.83-7.48) | **7.40** (6.48-8.62) | **8.27** (7.10-9.84) | **9.17** (7.68-11.2) | **10.4** (8.38-13.1) | **11.3** (8.86-14.7) |
| 30-day | **3.36** (3.12-3.71) | **4.29** (3.97-4.73) | **5.50** (5.08-6.07) | **6.47** (5.93-7.20) | **7.77** (6.93-8.90) | **8.76** (7.67-10.2) | **9.74** (8.36-11.6) | **10.7** (8.99-13.1) | **12.0** (9.73-15.2) | **13.0** (10.2-16.9) |
| 45-day | **4.17** (3.86-4.59) | **5.34** (4.94-5.89) | **6.83** (6.31-7.55) | **8.01** (7.35-8.91) | **9.57** (8.53-10.9) | **10.7** (9.39-12.5) | **11.8** (10.2-14.1) | **13.0** (10.9-15.8) | **14.4** (11.6-18.2) | **15.4** (12.1-20.1) |
| 60-day | **4.96** (4.59-5.46) | **6.36** (5.88-7.01) | **8.10** (7.48-8.95) | **9.46** (8.68-10.5) | **11.2** (10.0-12.8) | **12.5** (11.0-14.6) | **13.7** (11.8-16.3) | **14.9** (12.5-18.2) | **16.5** (13.3-20.8) | **17.6** (13.8-22.8) |

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

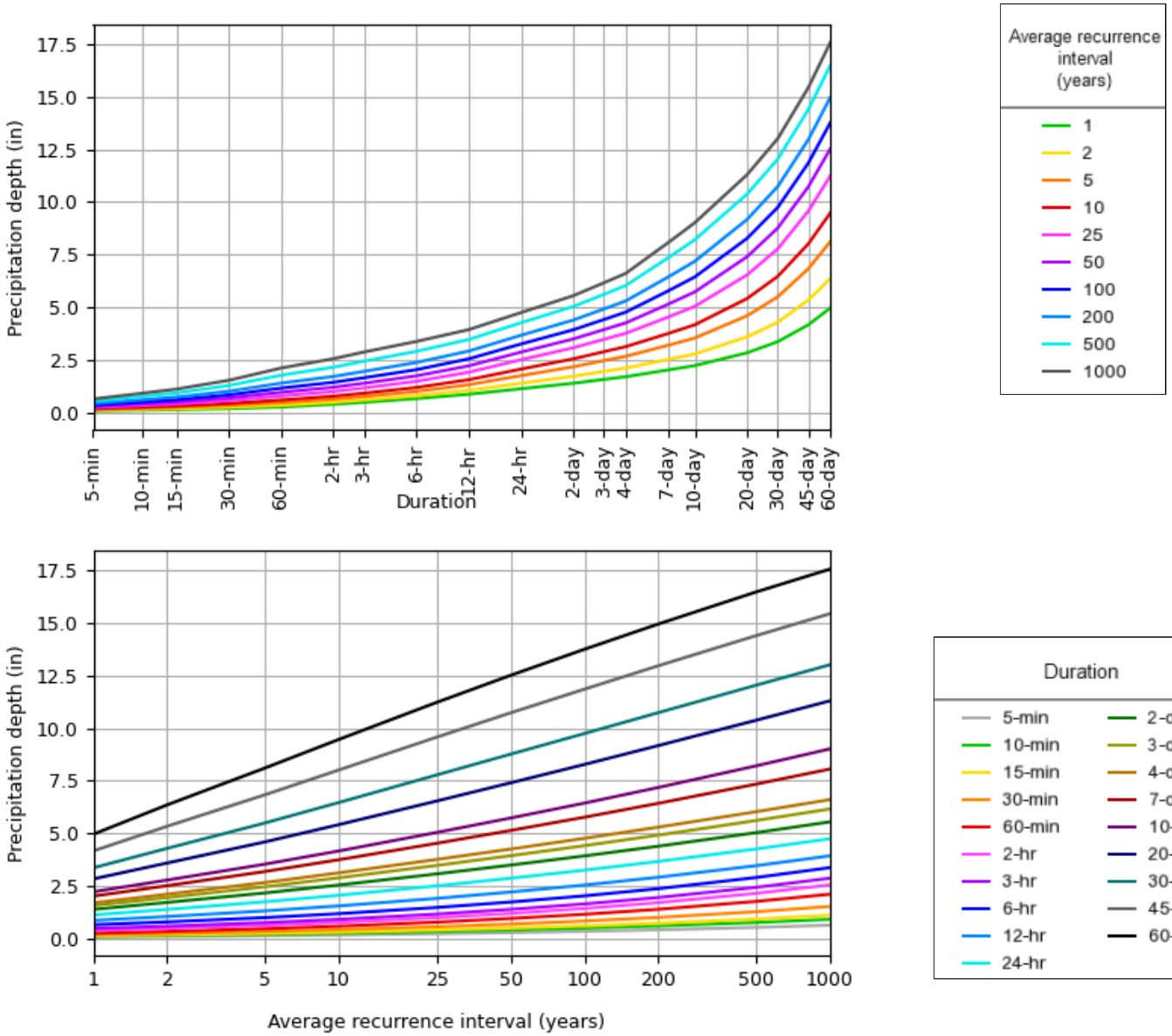
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper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

Please refer to NOAA Atlas 14 document for more information.

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## PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 37.2689°, Longitude: -121.1179°



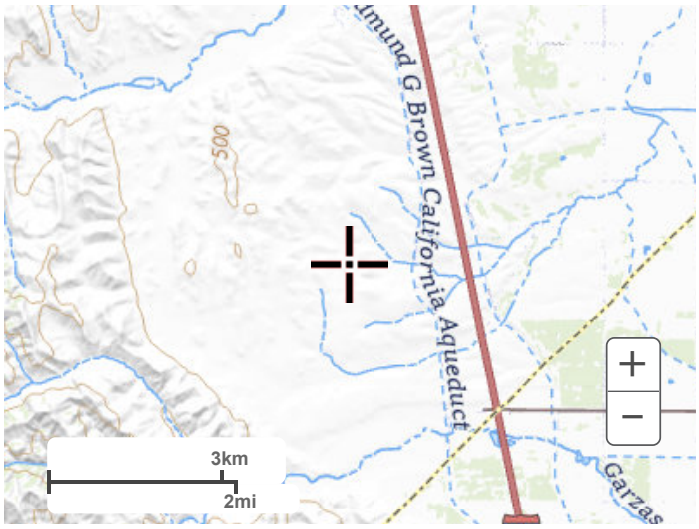

NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Wed Jun 17 17:24:55 2026

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## Maps & aerials

**Small scale terrain**




Large scale terrain




Large scale map




Large scale aerial




Back to Top

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

Disclaimer

**HEC-HMS Parameters**
**Amanece Solar Project**
**Date: June 19th, 2026**
**Prepared by: Kimley-Horn**

## EXISTING CONDITIONS

| DA Name | Land Use Description | HSG | CN | Area Inc (ac) | CN*A |
|---|---|---|---|---|---|
| | **DA1** | | **83.9** | **204.56** | **17157** |
| DA1 | Herbaceous | A | 30 | 8.252989 | 247.5897 |
| DA1 | Herbaceous | C | 71 | 889.181752 | 63131.9 |
| DA1 | Herbaceous | D | 78 | 1261.12648 | 98367.87 |

**Composite CN Value**

| DA-Name | Area (ac) | Area (sq. mi) | CN |
|---|---|---|---|
| DA1 | 2158.6 | 3.3728 | 74.9 |

## PROPOSED CONDITIONS

| DA Name | Land Use Description | HSG | CN | Area Inc (ac) | CN*A |
|---|---|---|---|---|---|
| | **DA1** | | **75.3** | **204.56** | **15413** |
| DA1 | Herbaceous | A | 30 | 8.130746207 | 243.9224 |
| DA1 | Herbaceous | C | 71 | 869.125151 | 61707.89 |
| DA1 | Herbaceous | D | 78 | 1232.755354 | 96154.92 |
| DA1 | Proposed Roads | D | 98 | 48.54996979 | 4757.897 |

**Composite CN Value**

| DA-Name | Area (ac) | Area (sq. mi) | CN |
|---|---|---|---|
| DA1 | 2158.6 | 3.3728 | 75.5 |

# HEC-HMS Outputs

Global Summary Results for Run "EX 100-yr"

Project: Amamece Solar_Basin Sizing  Simulation Run: EX 100-yr

Start of Run: 01Jan2026, 00:00
End of Run: 03Jan2026, 00:00
Compute Time: DATA CHANGED, RECOMPUTE

Basin Model: Exisitng 100-yr
Meteorologic Model: 100-yr
Control Specifications: Control 1

Show Elements: All Elements  Volume Units: IN ACRE-FT  Sorting: Watershed Explorer

| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (ACRE-FT) |
|---|---|---|---|---|
| DA 1 | 3.4 | 2007.5 | 1 January 2026, 1... | 203.1 |

Global Summary Results for Run "PR 100-yr"

Project: Amamece Solar_Basin Sizing  Simulation Run: PR 100-yr

Start of Run: 01Jan2026, 00:00
End of Run: 03Jan2026, 00:00
Compute Time: DATA CHANGED, RECOMPUTE

Basin Model: Proposed 100-yr
Meteorologic Model: 100-yr
Control Specifications: Control 1

Show Elements: All Elements  Volume Units: IN ACRE-FT  Sorting: Watershed Explorer

| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (ACRE-FT) |
|---|---|---|---|---|
| DA1 | 3.4 | 2082.1 | 1 January 2026, 1... | 209.4 |

# Appendix C
# Hydraulics

**Manning's "n" Value Map**
**Existing 100-Year Inundation Map**
**Existing 100-Year Velocity Map**
**Existing 100-Year Scour Potential Map**


Kimley»Horn
K:\ORA_HYDRO\194620007 – Amanece Solar\Docs
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**Legend**

- 2D MODEL BOUNDARY
- SUBJECT TRACT

**MANNING'S 'n' VALUES**

- BARREN LAND, n=0.02
- CULTIVATED CROPS, n=0.06
- DEVELOPED, LOW INTENSITY, n=0.16
- DEVELOPED, OPEN SPACE, n=0.06
- HAY/PASTURE, n=0.08
- HERBACEOUS, n=0.08
- OPEN WATER, n=0.02

DESIGN: GFM
DRAWN: GFM
REVIEW: AAT

Kimley»Horn
27280 MADISON AVE, SUITE 700
TEMECULA, CA 92590
PHONE: 951-888-8978

N
1 inch = 1,200 feet

# AMANECE SOLAR
STANISLAUS COUNTY, CA

# MANNING'S 'n' VALUE MAP

DATE
JUNE 2026

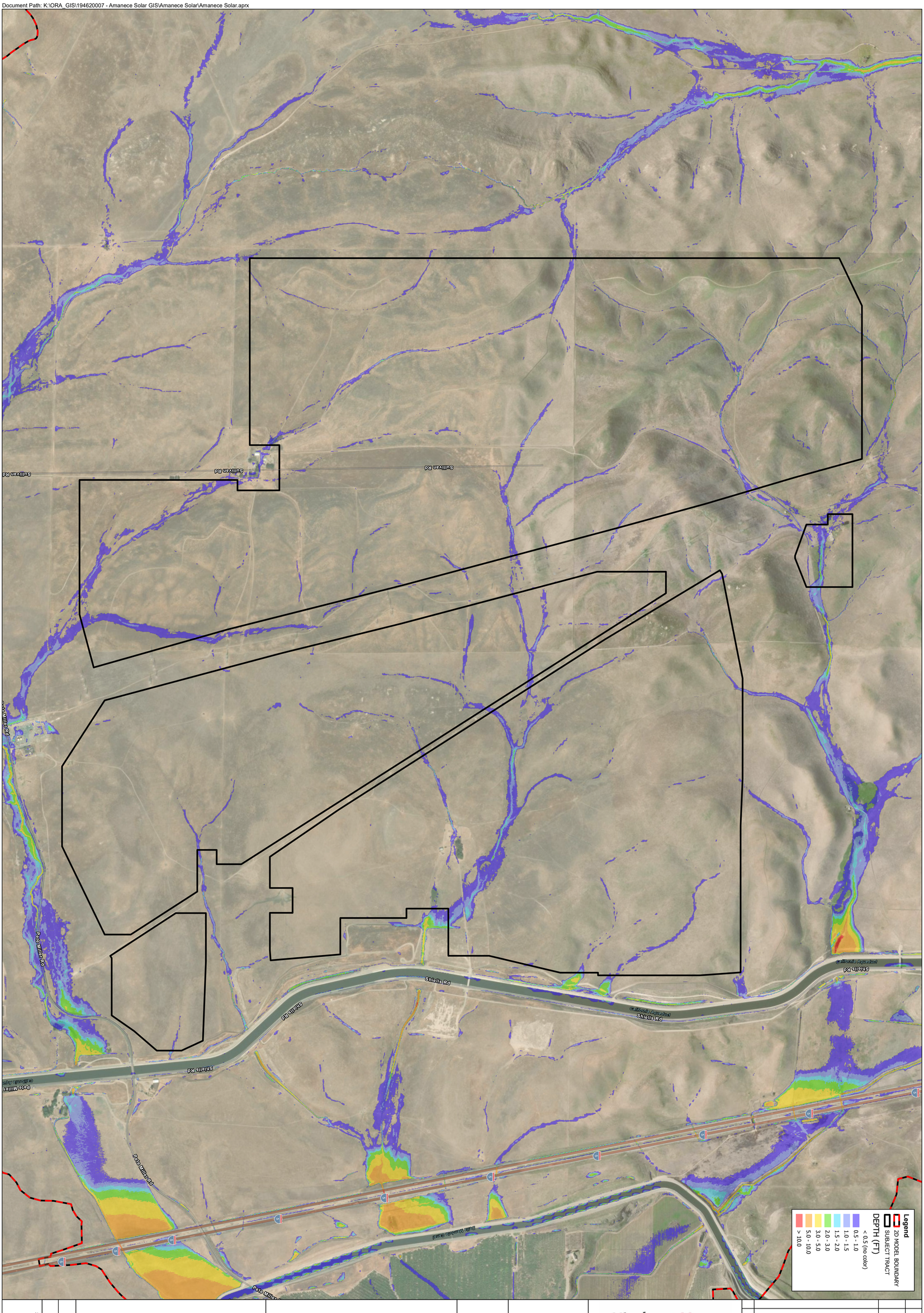
PROJECT NO.
194620007

SHEET NUMBER
8

Esri Community Maps Contributors, Merced County Association of Gov, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USGS, Vantor

Document Path: K:\ORA_GIS\194620007 - Amanece Solar GIS\Amanece Solar\Amanece Solar.aprx

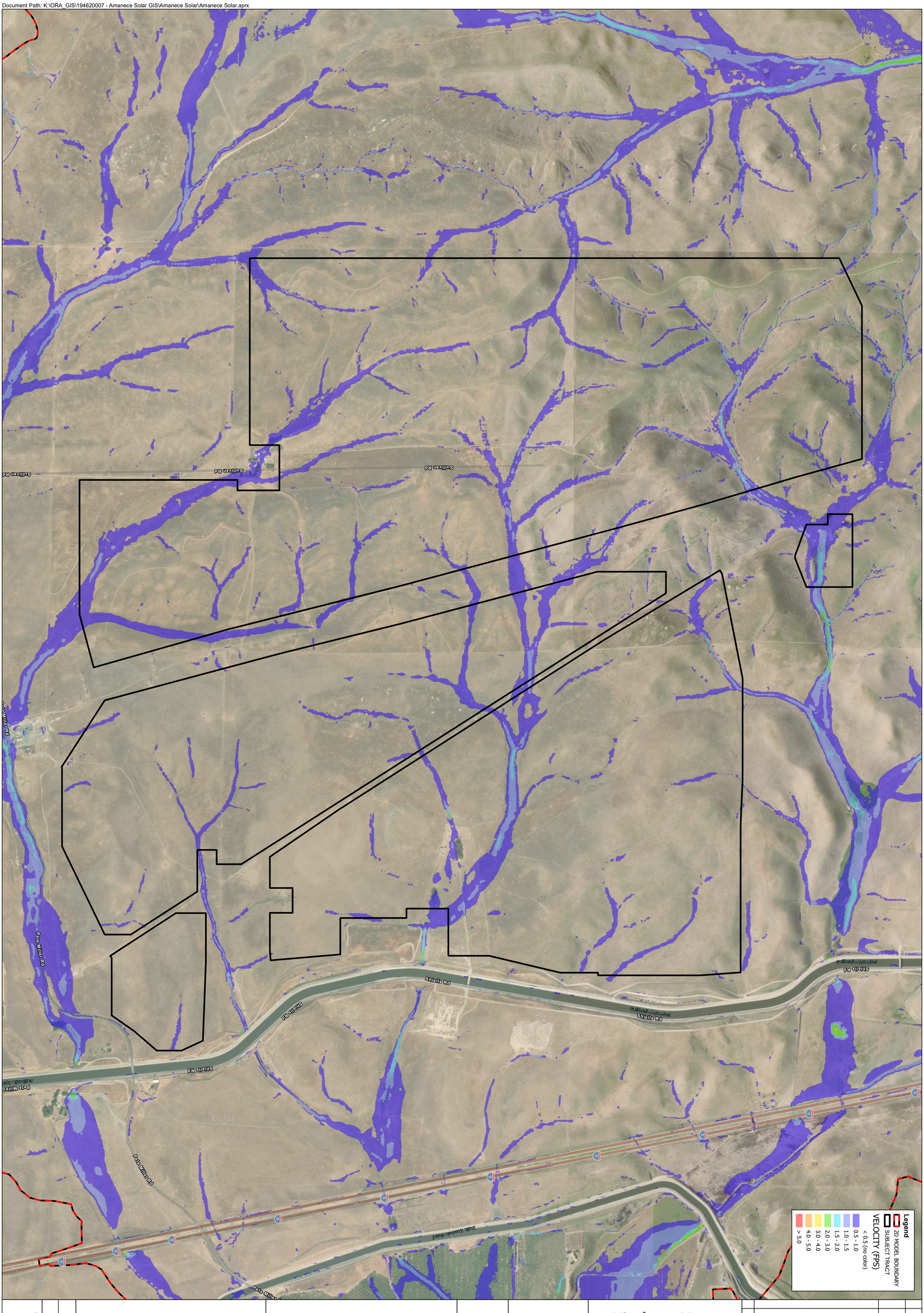
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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SHEET NUMBER 9 | PROJECT NO 194620007 | DATE JUNE 2026 | EXISTING 100-YEAR INUNDATION MAP | AMANECE SOLAR STANISLAUS COUNTY, CA | 1 inch = 600 feet | N | Kimley»Horn 27290 MADISON AVE #300 TEMECULA, CA 92590 PHONE: 951-888-8978 |

| | |
|---|---|
| DESIGN: | GFM |
| DRAWN: | GFM |
| REVIEW: | AAT |

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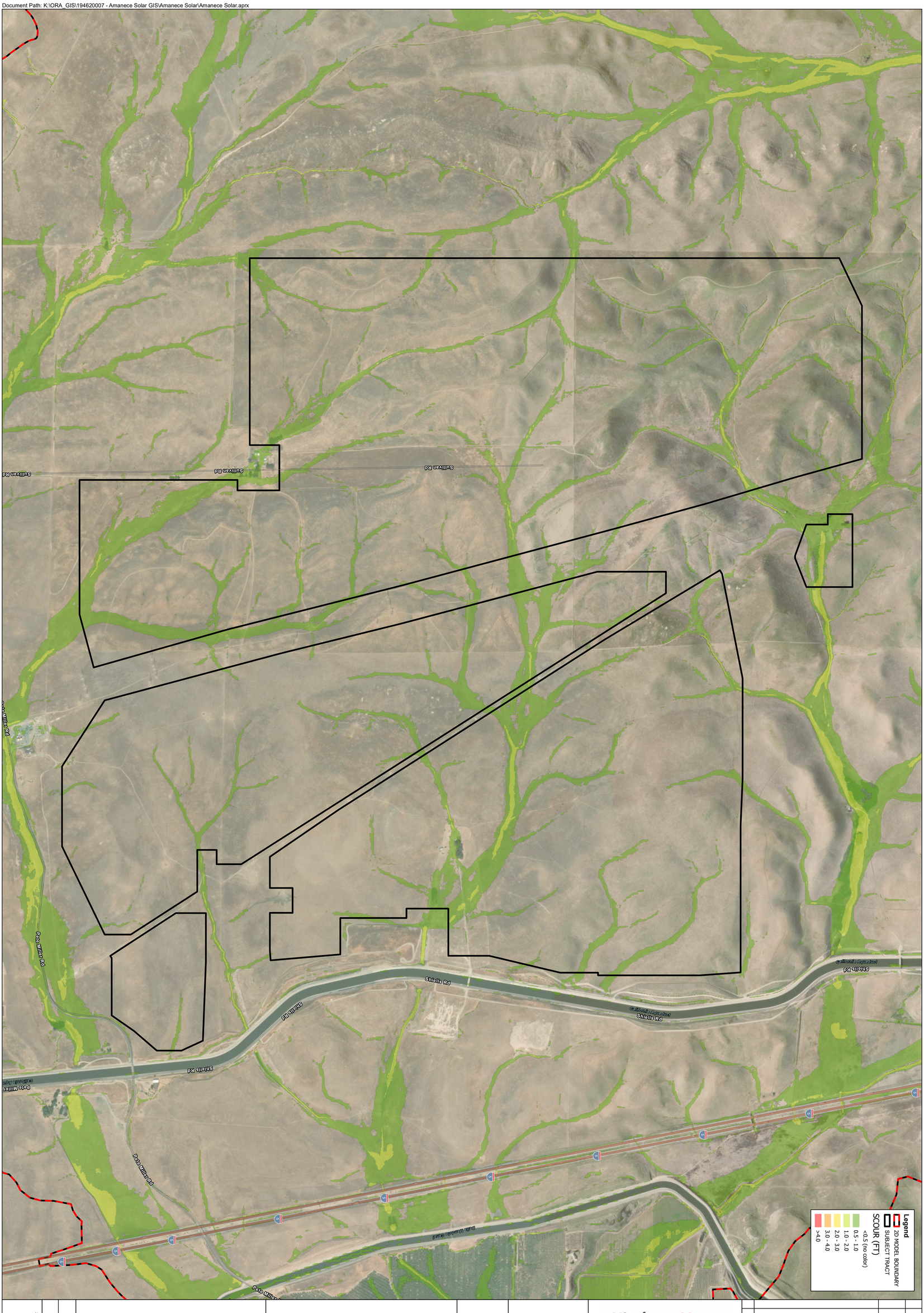



| | | | | | |
|---|---|---|---|---|---|
| SHEET NUMBER 10 | PROJECT NO 194620007 | DATE JUNE 2026 | EXISTING 100-YEAR VELOCITY MAP | AMANECE SOLAR STANISLAUS COUNTY, CA | 1 inch = 600 feet |


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27290 MADISON AVE #300
TEMECULA, CA 92590
PHONE: 951-888-8978


| | |
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| REVIEW: | AAT |

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| | | | | | |
|---|---|---|---|---|---|
| SHEET NUMBER 11 | PROJECT NO 194620007 | DATE JUNE 2026 | EXISTING 100-YEAR SCOUR POTENTIAL MAP | AMANECE SOLAR STANISLAUS COUNTY, CA | 1 inch = 600 feet |


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TEMECULA, CA 92590
PHONE: 951-888-8978


| | |
|---|---|
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| DRAWN: | GFM |
| REVIEW: | AAT |

# Appendix D
# Digital Files

**HEC-HMS v.4.12**
**HEC-RAS v.6.6**


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FULL EARLY CONSULTATION INCLUDING THE APPLICATION

ON FILE WITH THE DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT

AND ARE AVAILABLE AT THE FOLLOWING LINK

https://www.stancounty.com/planning/pl/act-proj/PLN2026-0068_EC.pdf