DOCKETED	
Docket Number:	23-OPT-02
Project Title:	Darden Clean Energy Project
TN #:	253038-3
Document Title:	Appendix Q Biological Resources Assessment_Volume 3_Darden Clean Energy
Description:	Includes a Biological Resources Assessment which analyzes the potential impacts of the proposed Darden Green Energy Project and evaluates short and long term impacts of the Project to biological resources. Appendix Q-1 Regulatory Framework Appendix Q-2 Special-Status Species Evaluation Tables Appendix Q-3 Field Forms Appendix Q-4 Site Photographs Appendix Q-5 Species Compendia Appendix Q-6 San Joaquin Kit Fox Habitat Assessment Appendix Q-7 Swainson's Hawk Nesting Survey Report Appendix Q-8 Analysis of Project Impacts to Swainson's Hawk Foraging Habitat Appendix Q-9 Aquatic Resources Delineation Appendix Q-10 Aquatic Resources Representative Photographs Appendix Q-11 Delineation Data Sheets
Filer:	Evelyn Langsdale
Organization:	Rincon Consultants
Submitter Role:	Applicant Consultant
Submission Date:	11/7/2023 2:34:45 PM
Docketed Date:	11/7/2023

Appendix Q - Volume 3

Biological Resources Assessment

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Solar Facility

0 100 200 N

Feet

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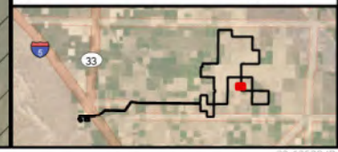

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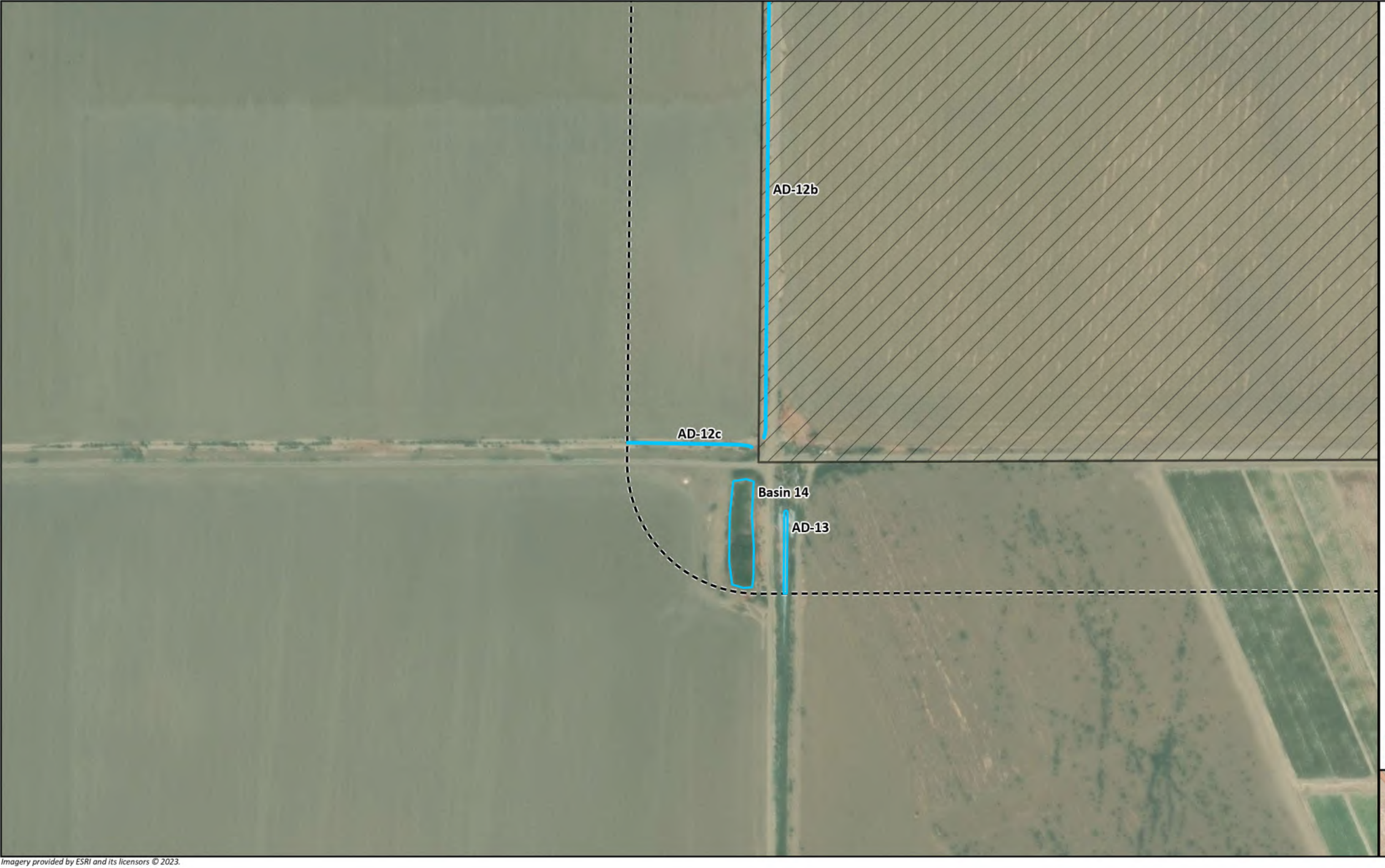

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

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Feet

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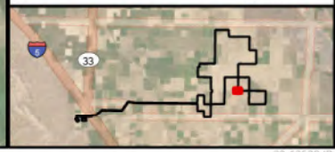

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Darden Clean Energy Project

Fresno County, California

- Jurisdictional Study Area (250-Foot Buffer)
- CDFW - Streambed
- RWQCB - Non-Wetland Waters of the State

Project Components

- Utility Switchyard
- Utility Switchyard Parcel
- Gen-Tie Line ROW

0 100 200 N

Feet

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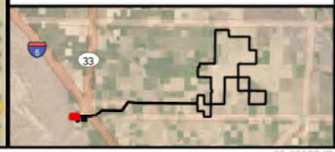

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Darden Clean Energy Project

Fresno County, California

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- RWQCB - Non-Wetland Waters of the State

Project Components

- Utility Switchyard
- Utility Switchyard Parcel

0 100 200 N

Feet

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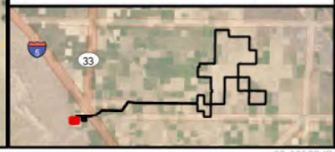

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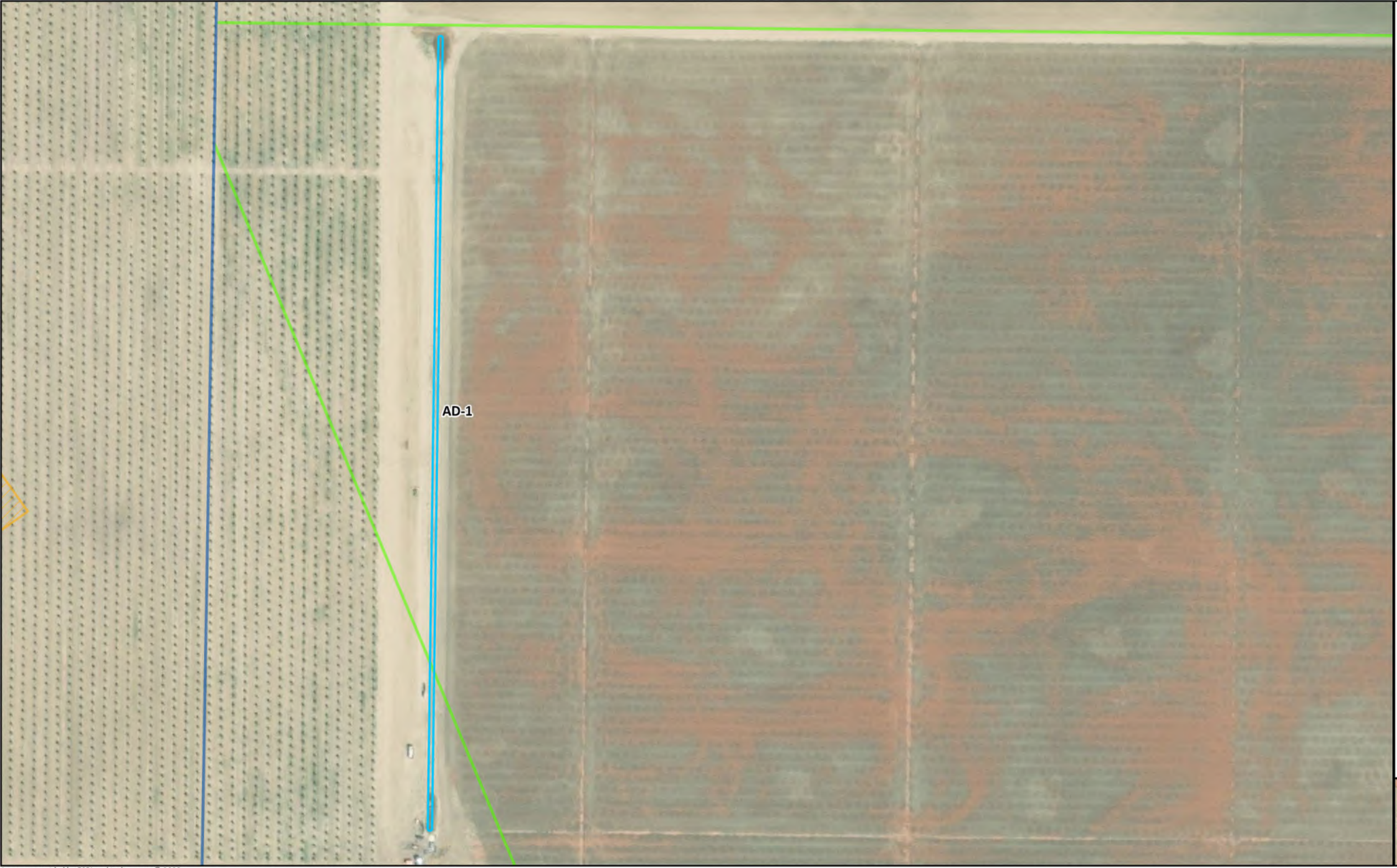

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Utility Switchyard

Utility Switchyard Parcel

Alternate Green Hydrogen Site

Green Hydrogen Facility

Green Hydrogen Parcels

0 100 200 N

Feet

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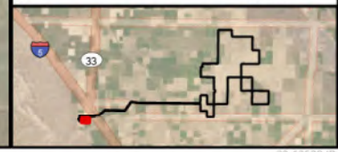

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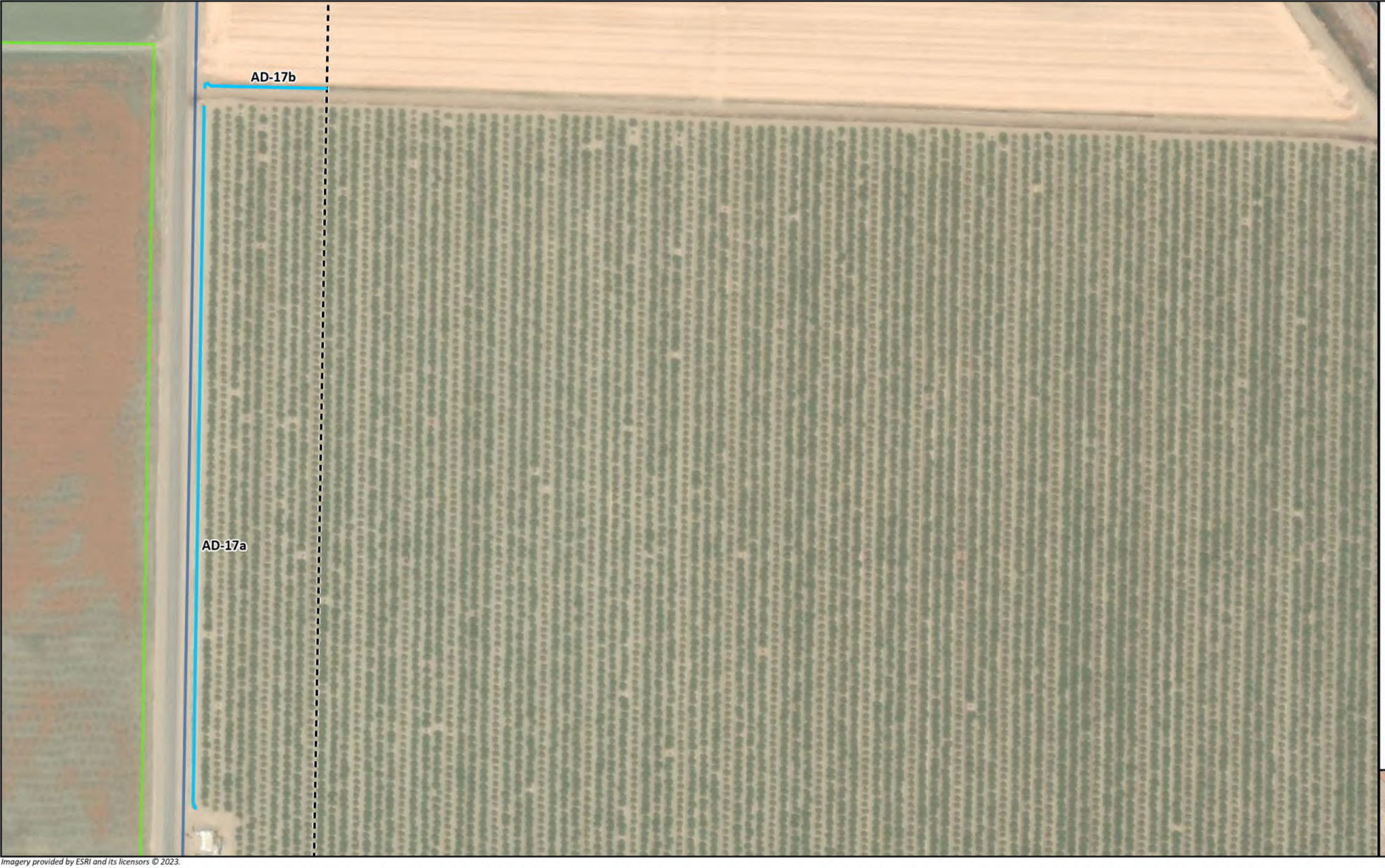

Darden Clean Energy Project

Fresno County, California

- Jurisdictional Study Area (250-Foot Buffer)
- Non-Jurisdictional Feature

Alternate Green Hydrogen Site

- Green Hydrogen Facility
- Green Hydrogen Parcels

0 100 200 N

Feet

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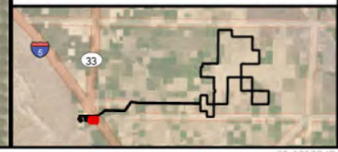

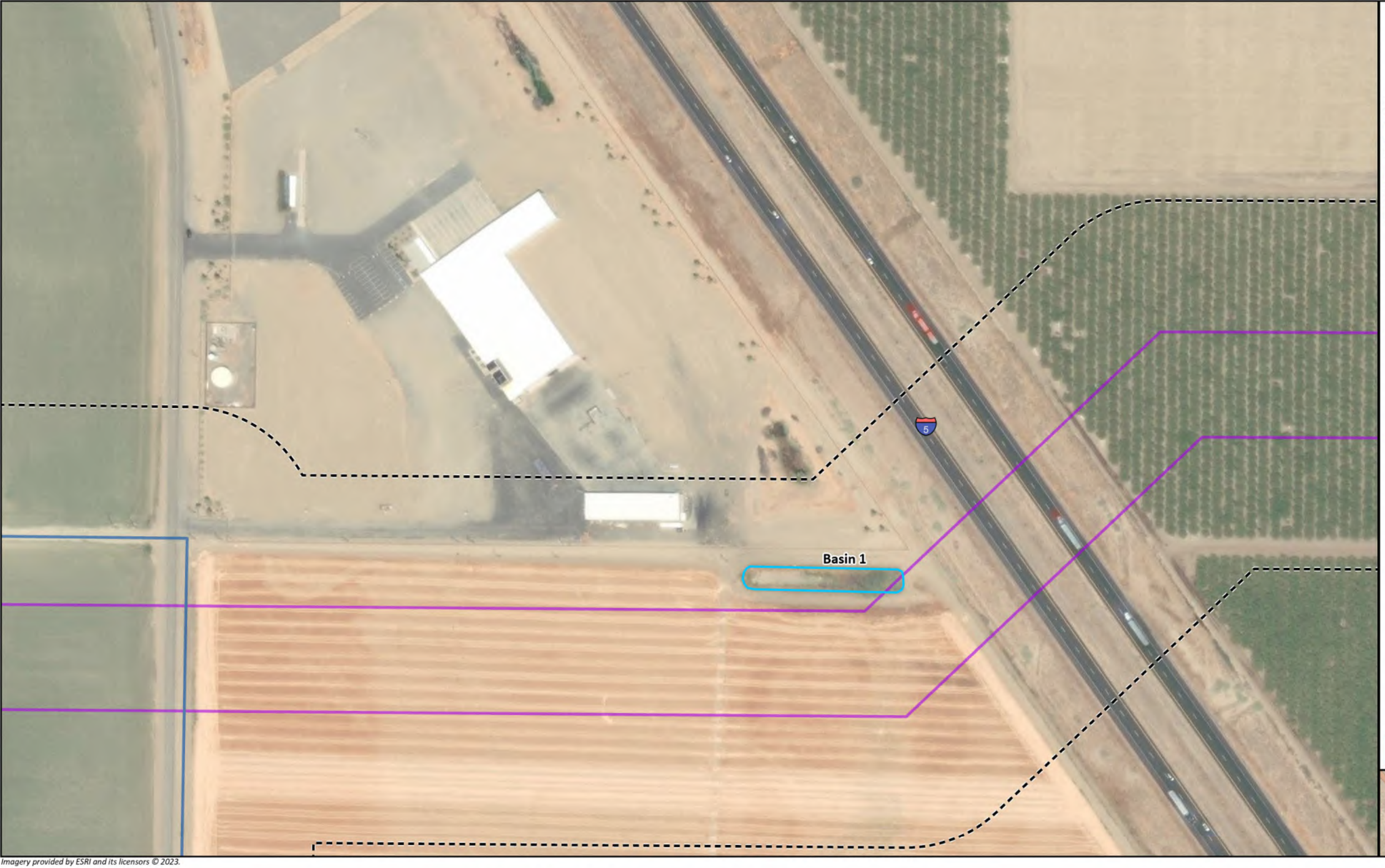

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

Alternate Green Hydrogen Site

Green Hydrogen Parcels

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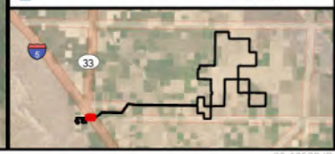

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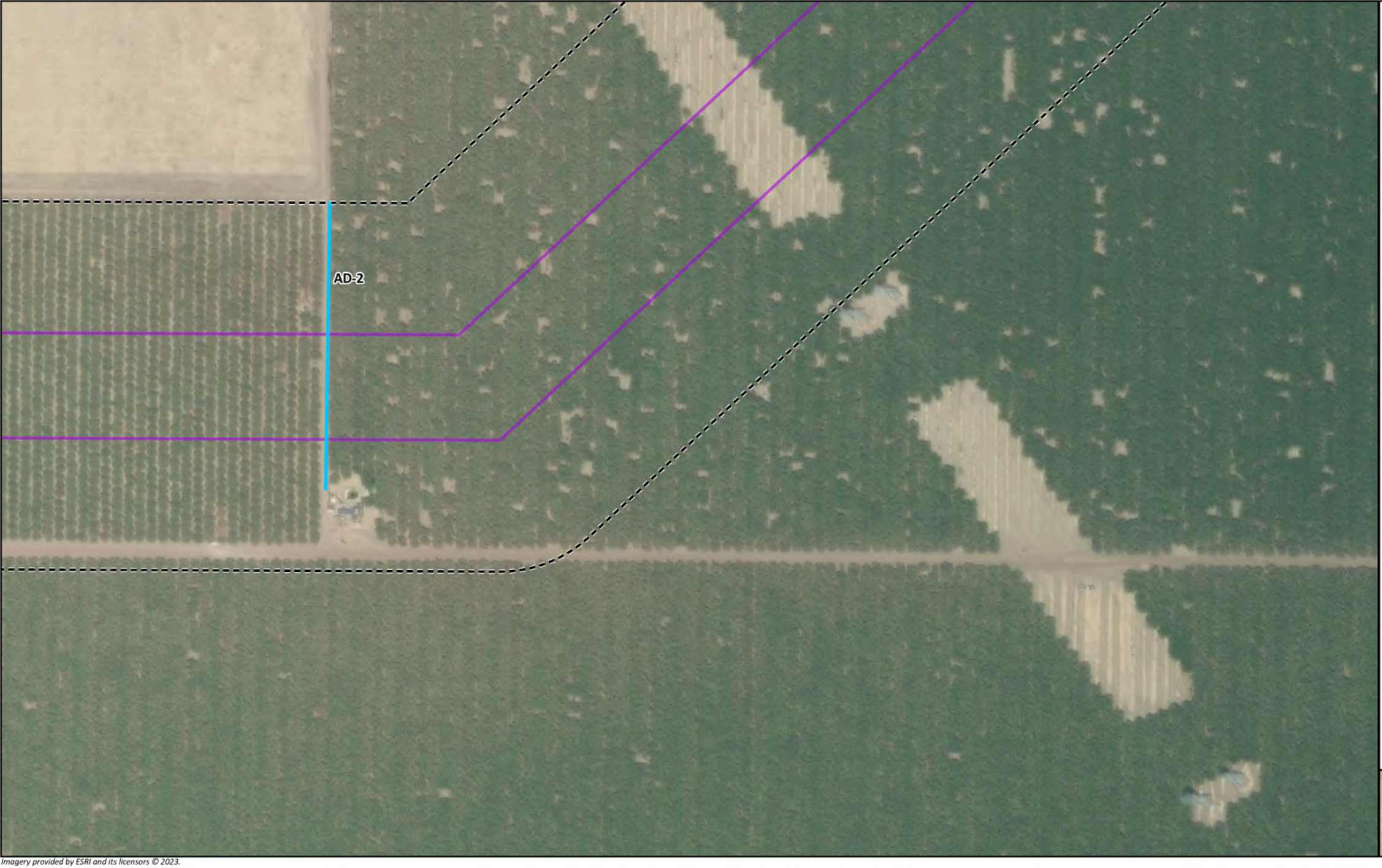

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Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

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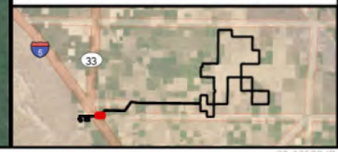

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Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

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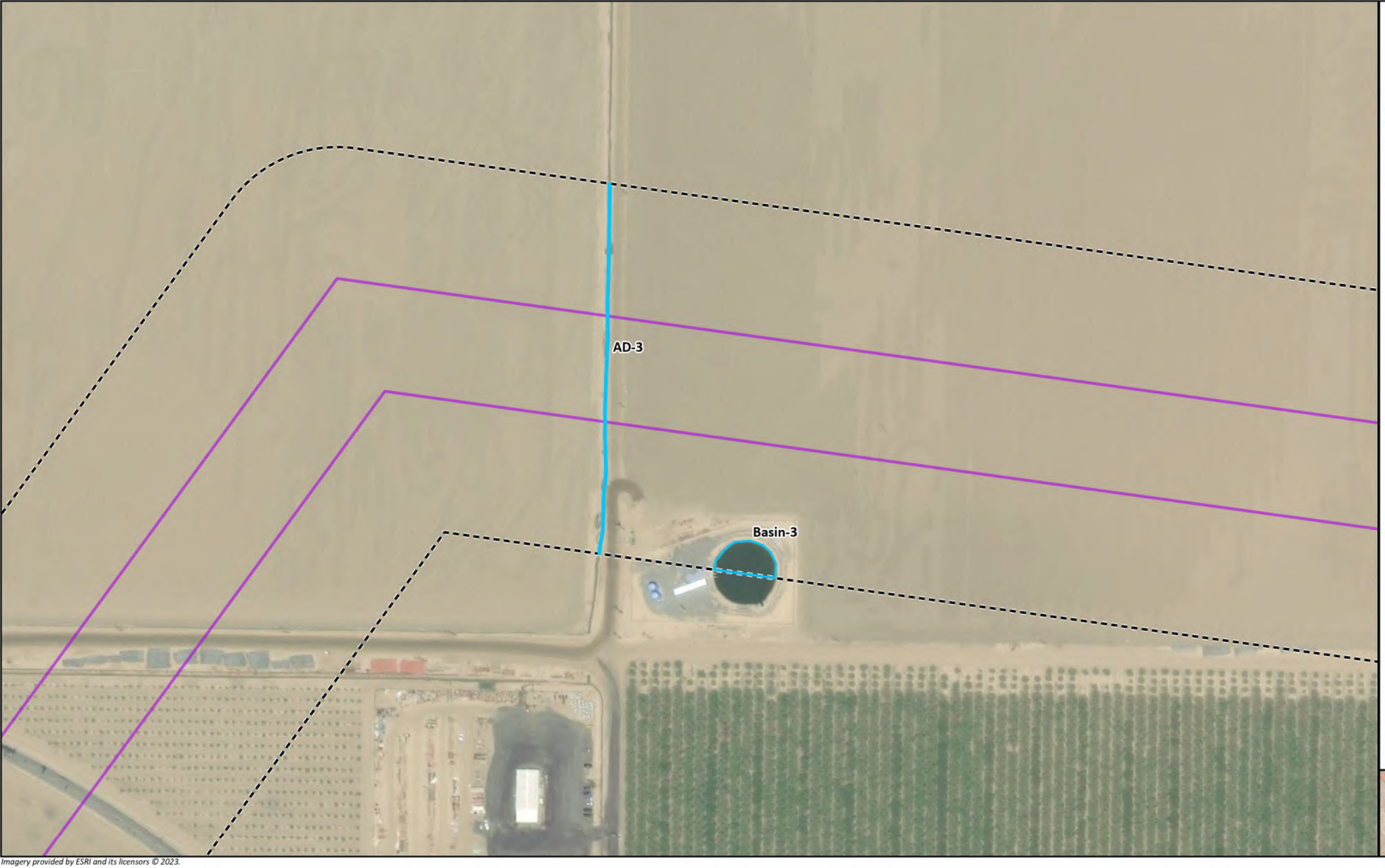

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Fresno County, California

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Non-Jurisdictional Feature

Project Components

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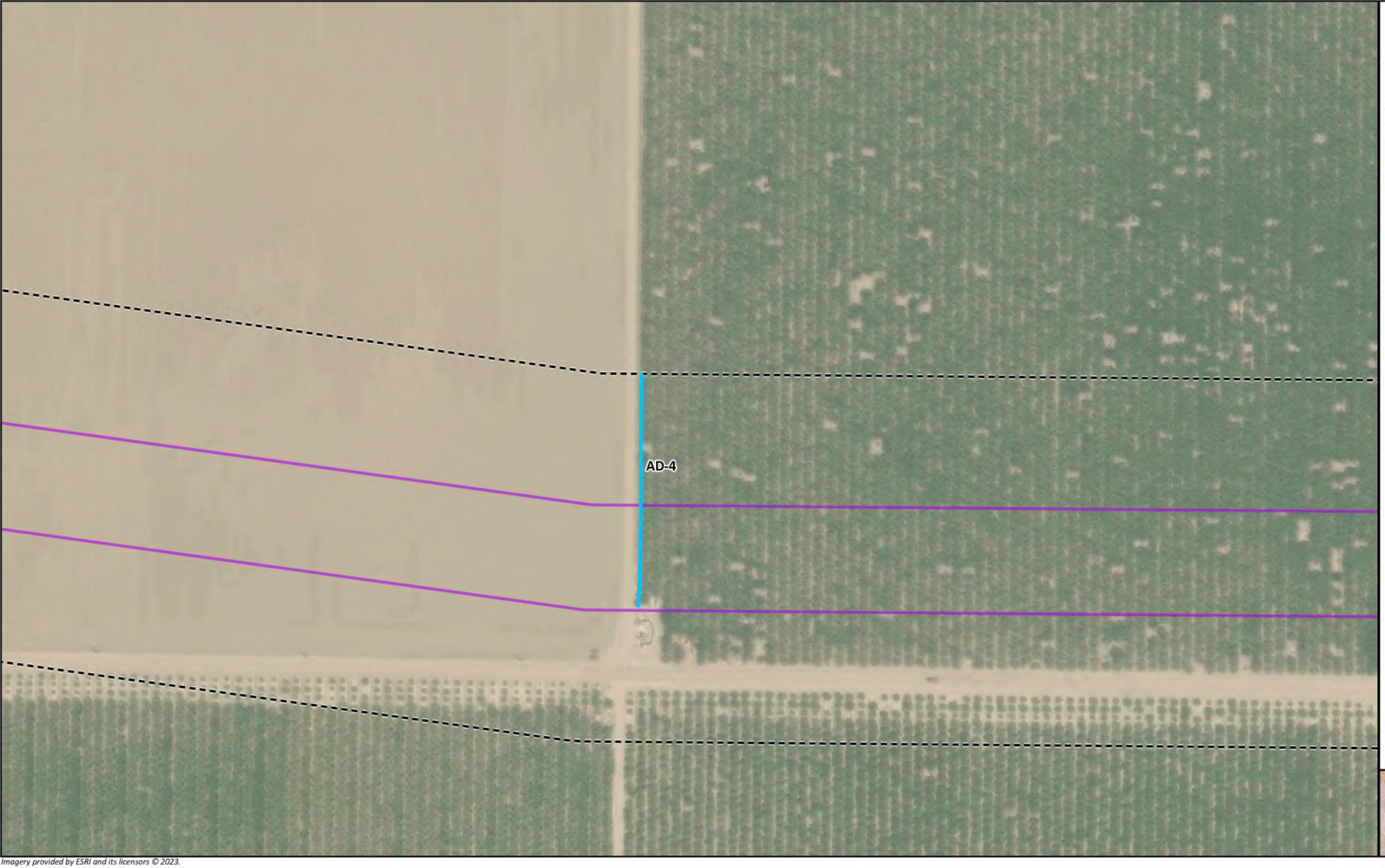

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Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

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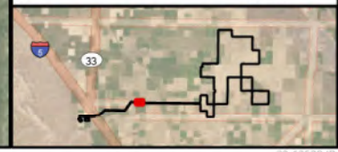

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Darden Clean Energy Project

Fresno County, California

- Jurisdictional Study Area (250-Foot Buffer)
- CDFW - Streambed
- RWQCB - Non-Wetland Waters of the State

Project Components

- Gen-Tie Line ROW

0 100 200 N

Feet

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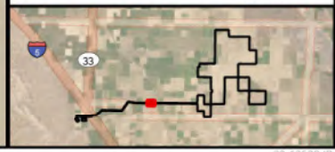

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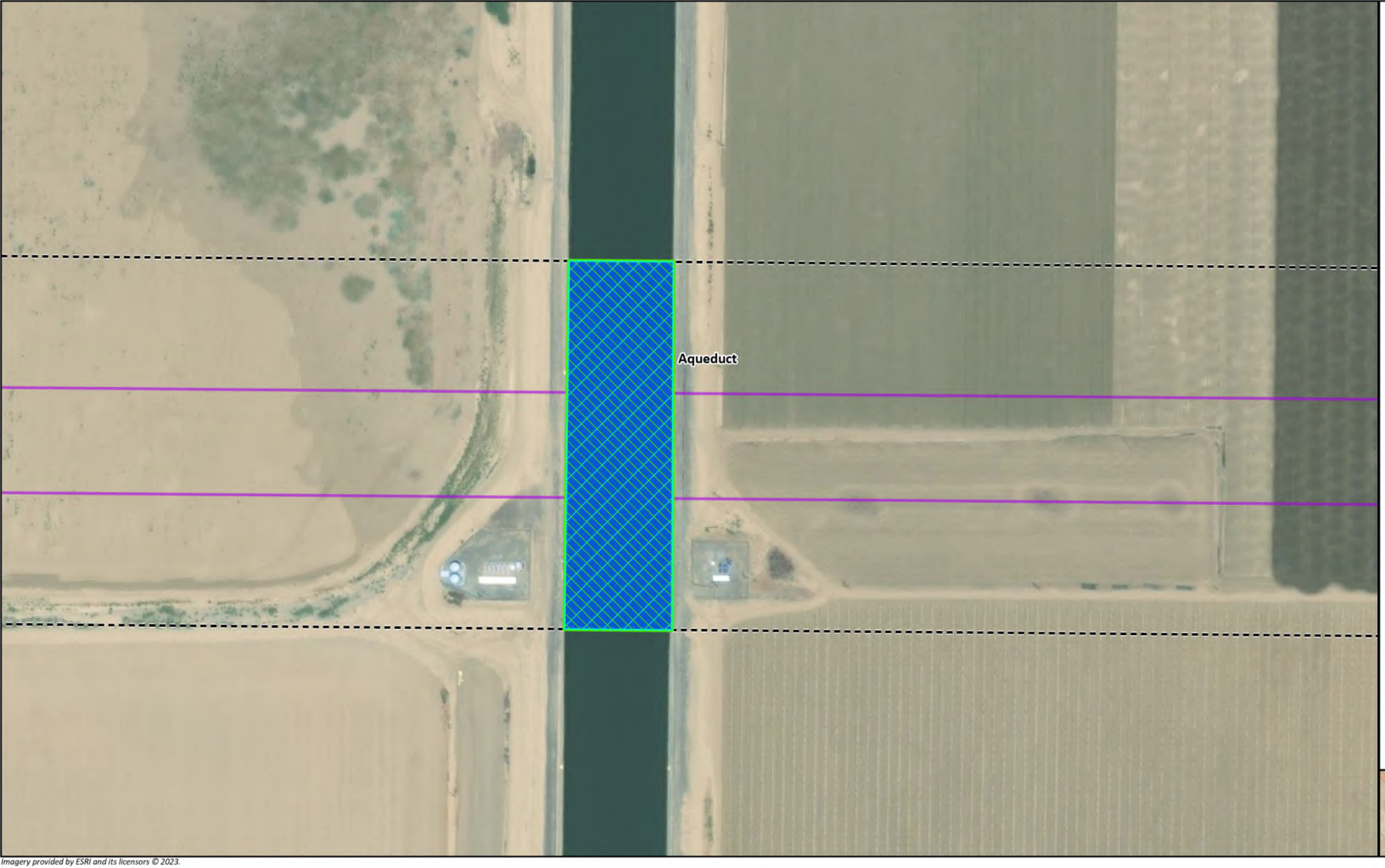

Darden Clean Energy Project

Fresno County, California

- Jurisdictional Study Area (250-Foot Buffer)
- USACE - Non-Wetland Waters of the U.S.
- CDFW - Streambed
- RWQCB - Non-Wetland Waters of the State

Project Components

- Gen-Tie Line ROW

0 100 200 N

Feet

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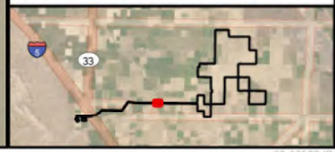

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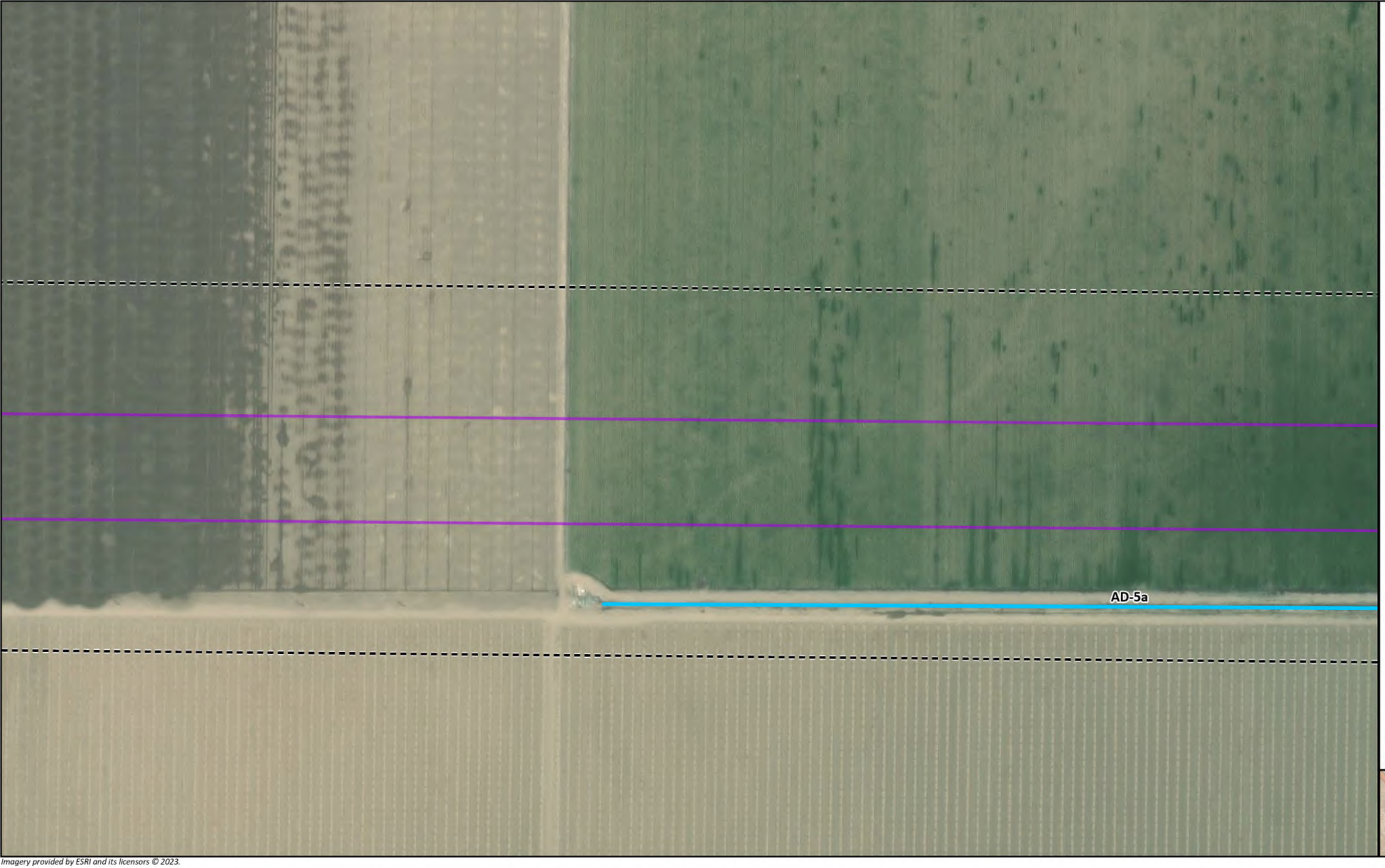

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Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

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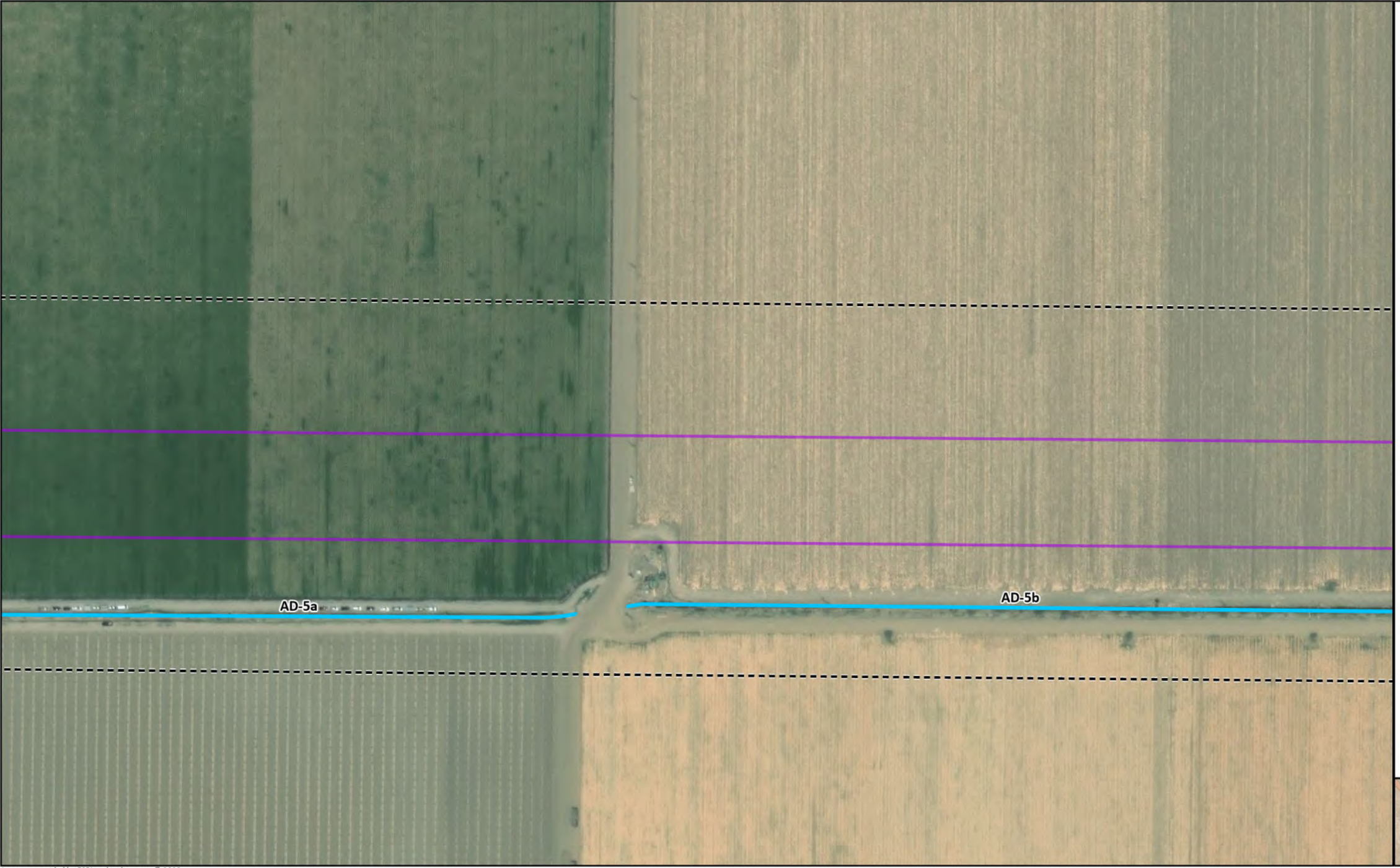

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Fresno County, California

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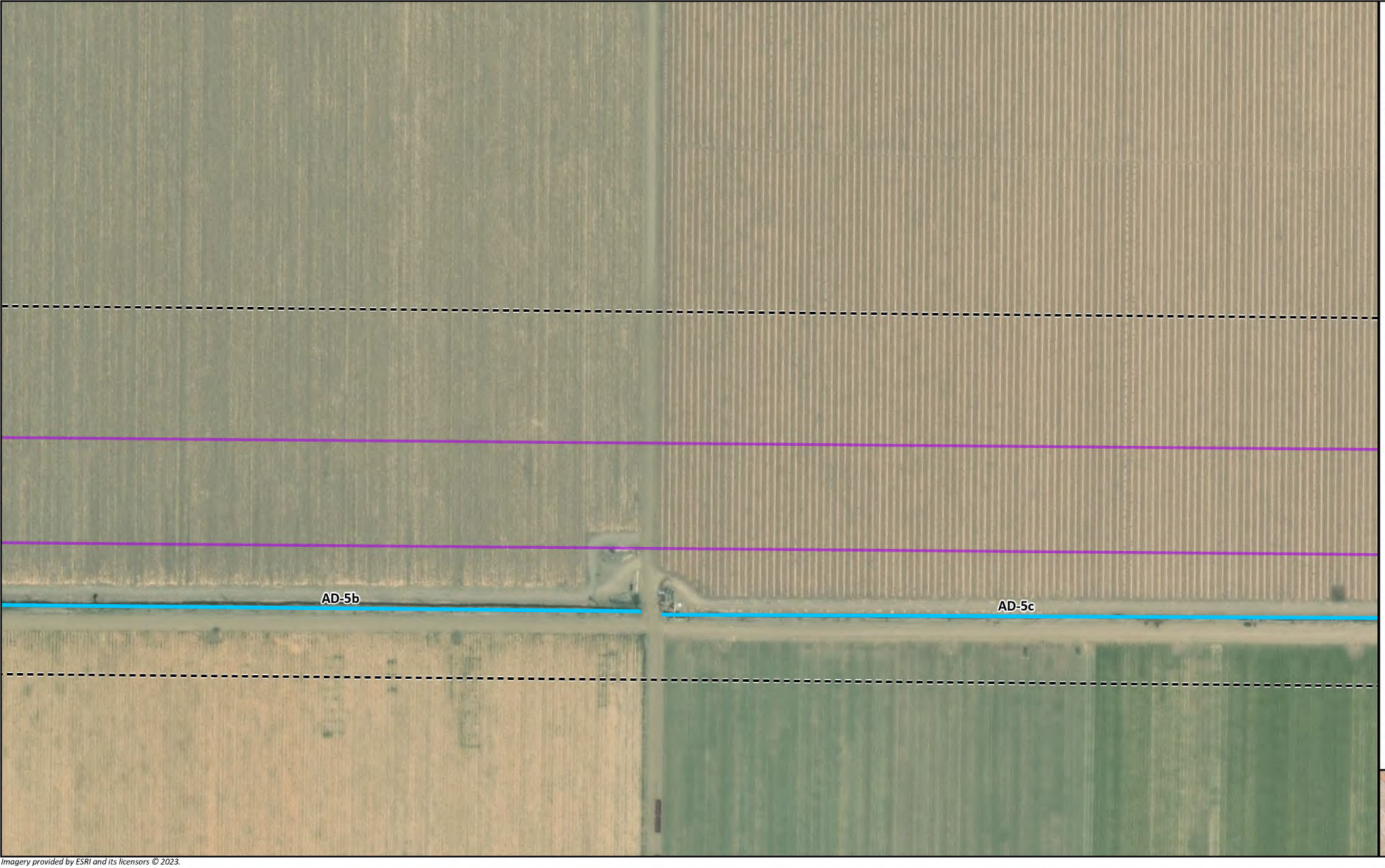

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

0 100 200 N

Feet

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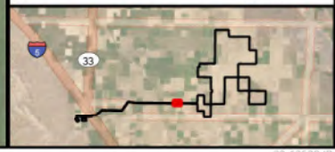

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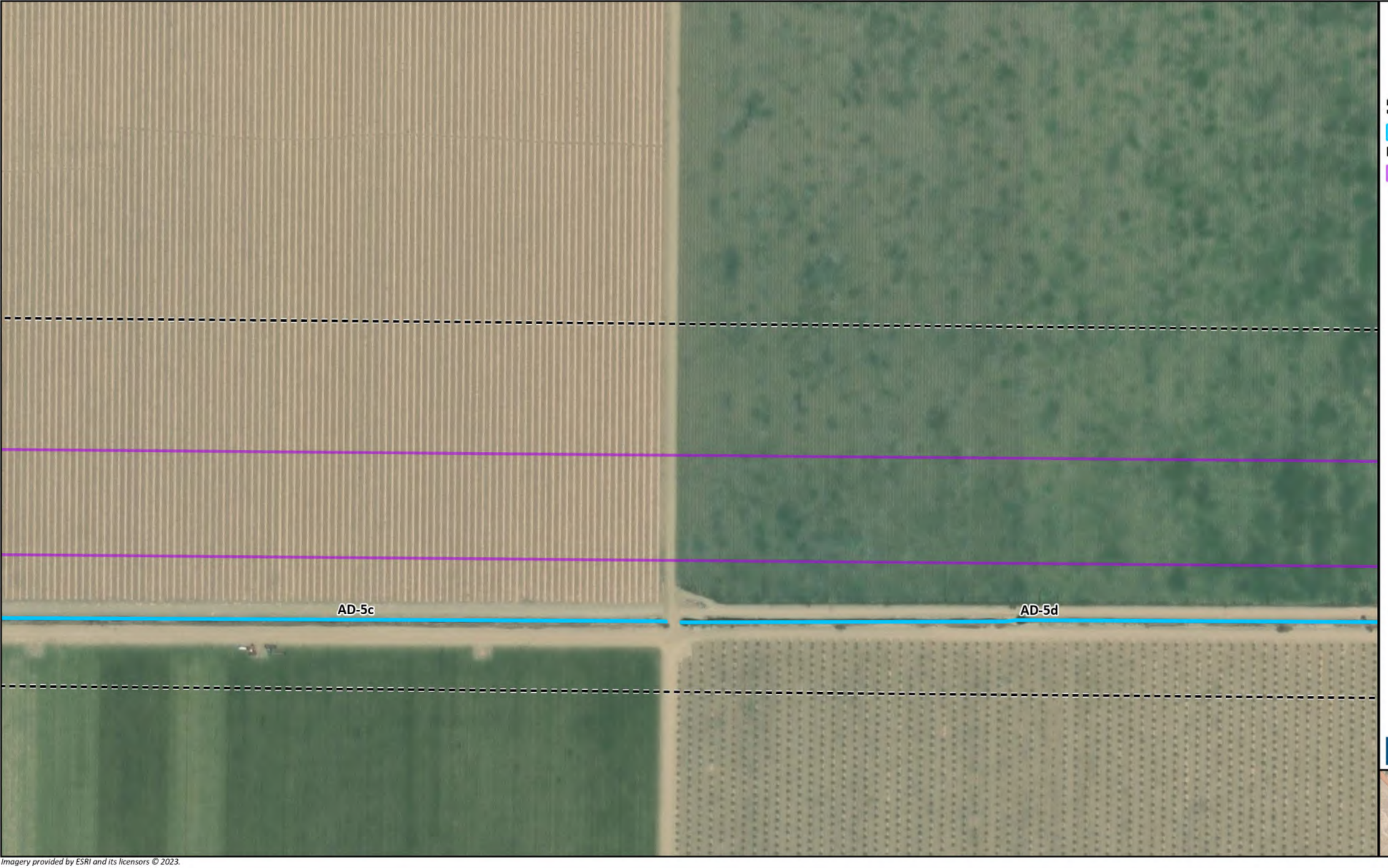

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Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Gen-Tie Line ROW

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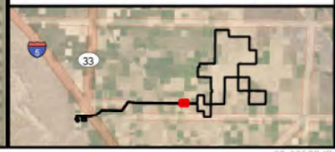

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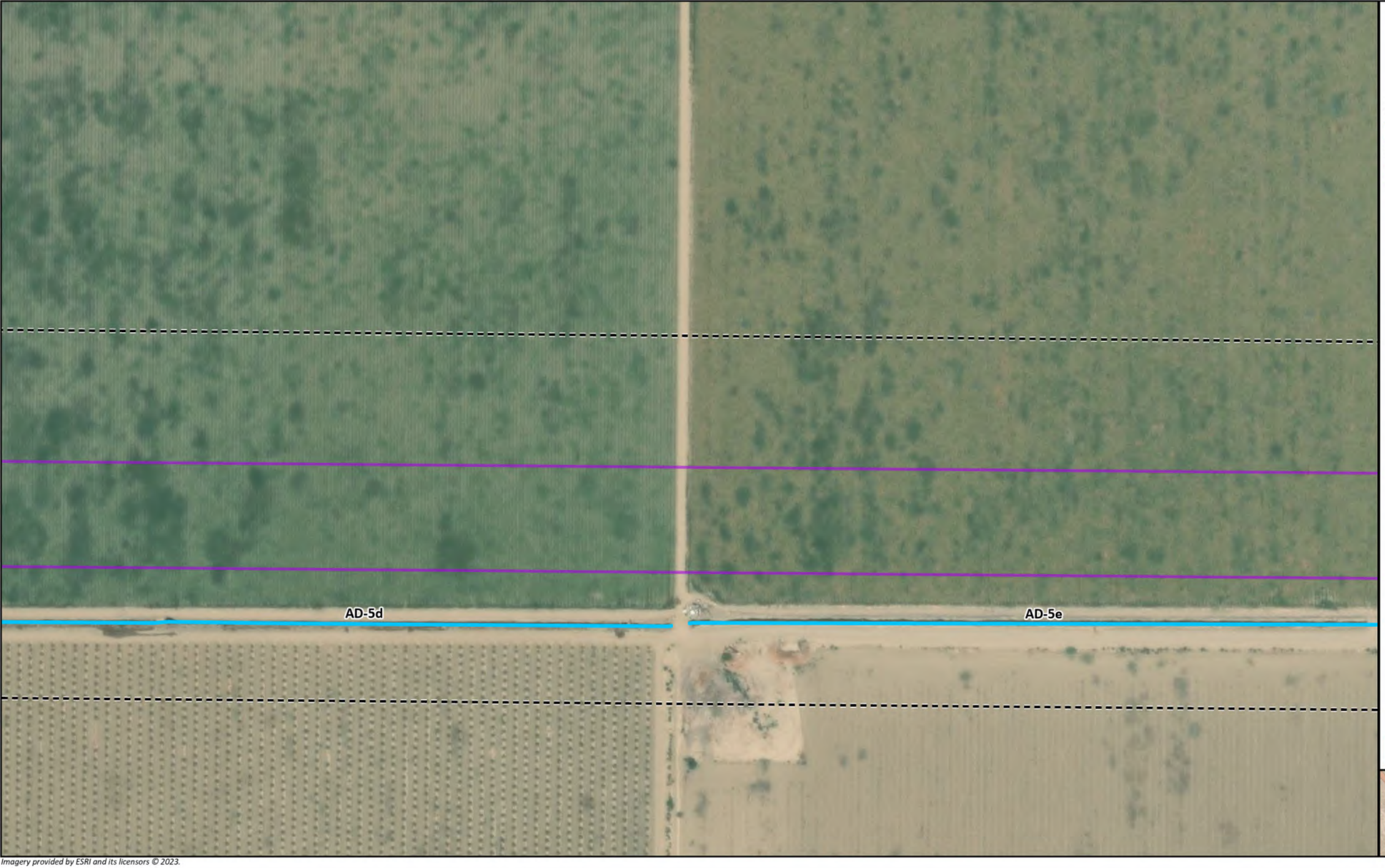

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Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

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Project Components

Gen-Tie Line ROW

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Feet

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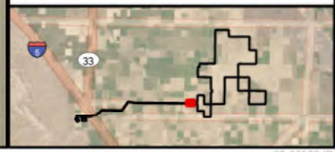

22-12530 JD
Fig X JD

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Solar Facility

Gen-Tie Line ROW

Option 1

Gen-Tie Line ROW Extension

Option 2

BESS

Green Hydrogen Facility

Step-Up Substation

0 100 200 N

Feet

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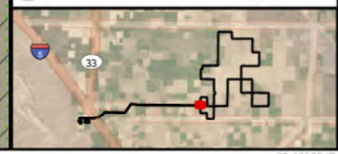

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Solar Facility

Option 2

BESS

0 100 200 Feet N

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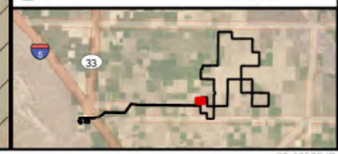

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Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

Non-Jurisdictional Feature

Project Components

Solar Facility

0 100 200 N

Feet

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22-12530 JD
Fig X JD

Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

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Project Components

Solar Facility

Option 2

Green Hydrogen Facility

0 100 200 N

Feet

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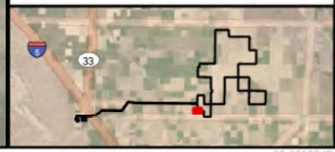

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Darden Clean Energy Project

Fresno County, California

Jurisdictional Study Area (250-Foot Buffer)

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Project Components

Solar Facility

Option 2

Green Hydrogen Facility

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Feet

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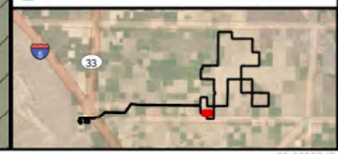

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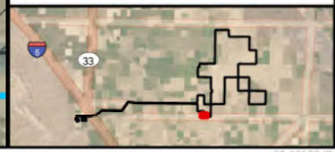

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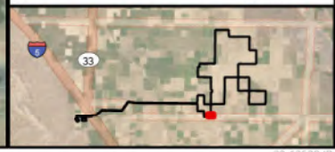

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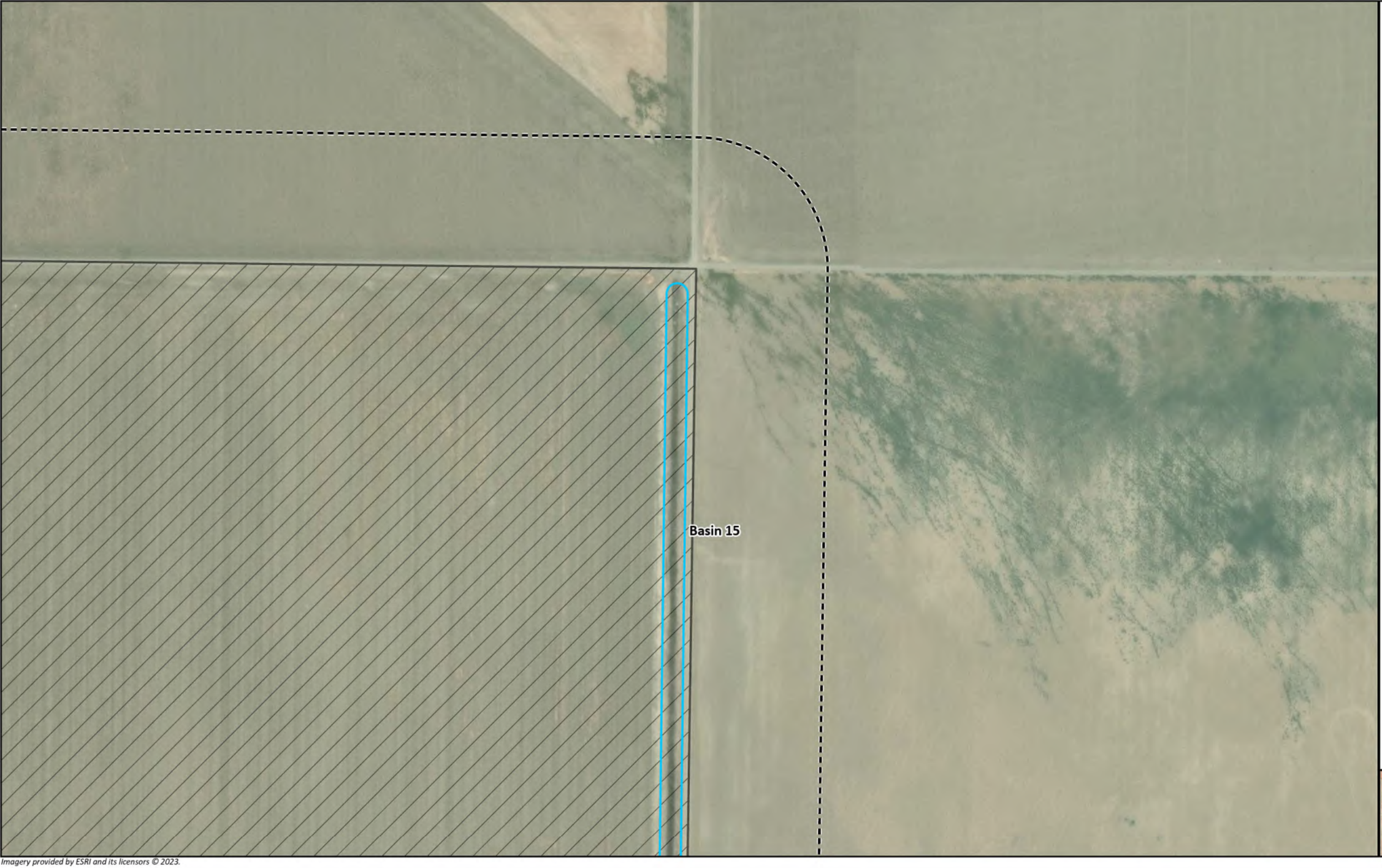

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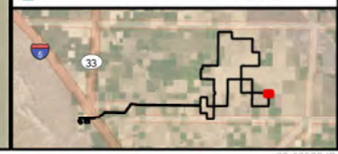

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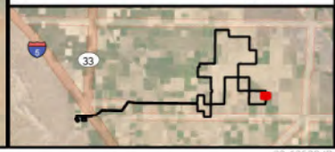

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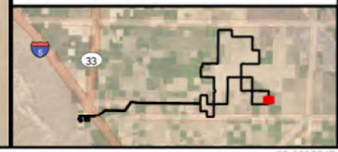

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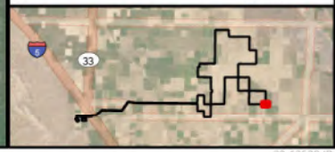
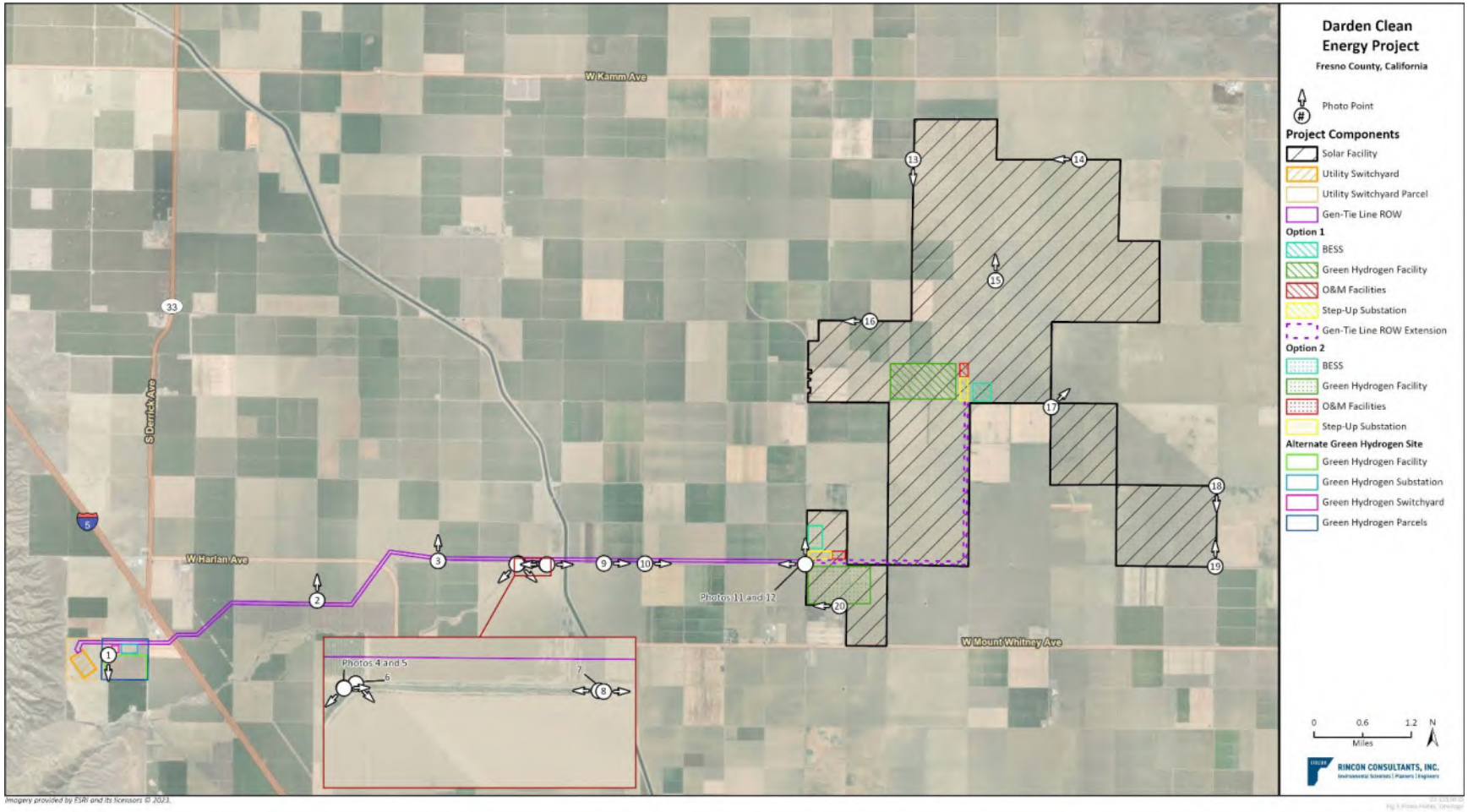
Environmental Scientists | Planners | Engineers



Appendix Q-10

Aquatic Resources Representative Photographs

Figure I-1 Photo Point Locations



Photograph 1. View southwest, Cantua Creek, Photo Point 6. The creek here is channelized between levees as it enters the gen-tie line ROW buffer area. Dominant hydrophytic vegetation in the channel is sandbar willow (*Salix exigua*) (FACW). Other vegetation on the banks includes annual sunflower (*Helianthus annuus*) (FACU), big saltbush (*Atriplex lentiformis*) (FACU), Russian thistle (*Salsola tragus*) (FACU), and tree tobacco (*Nicotiana glauca*) (FAC).

Photograph 2. View east of Cantua Creek, on the south edge of the gen-tie line ROW buffer, Photo Point 4. The tree is a Fremont cottonwood (*Populus fremontii subsp*. *fremontii*) (FAC). An OHWM data sheet was prepared for Cantua Creek in the approximate location of this photograph and is attached in Appendix J.

Photograph 3. View south, Cantua Creek, Photo Point 5. Evidence of shelving indicating the OHWM. Other indicators include break in slope, scour, and sediment sorting.

Photograph 4. View west near the terminus of Cantua Creek, Photo Point 7. Here the creek bed meets the level of both adjacent fields, flow sinks into the ground, and the levees abruptly end.

Photograph 5. View east near the terminus of Cantua Creek, Photo Point 8. The line of vegetation in the center is primarily annual sunflower and Russian thistle and indicators of an OHWM as seen in Photos 1-3 are absent. The levee of the California Aqueduct is visible in the distance.

Photograph 6. View northeast, Basin 12, Photo Point 17. This basin is dominated by tule and cattails, with Goodding's willow (*Salix gooddingii*) (FACW) on the banks. Paired Wetland Sample Point Data Sheets SP1 (wetland) and SP2 (upland) were completed to characterize the vegetation at this basin and are attached in Appendix J. Soil pits were not dug due to inaccessible steep slopes; standing water and an abrupt change from hydrophytic to non-hydrophytic vegetation was observed. Adjacent to the west and connected via an under-road culvert is Basin 13, with a long and narrow L-shape and containing much the same vegetation. Both basins meet the three-parameter definition of a wetland with hydrophytic vegetation, presumed hydric soils, and hydrology. However, the basins are excavated in uplands and used and maintained for agricultural operations. Therefore, these basins are considered non-jurisdictional as isolated, manmade excavated features used for agriculture.

Photograph 7. View south, from north end of Basin 15, Photo Point 18. At this end, the basin was dry during the August survey and contained evidence of non-hydrophytic vegetation, though progressing south there appears to be a gradient of decreasing elevation where water remains longer, with evidence of dried hydrophytic vegetation such as curly dock (*Rumex crispus*) (FAC), small areas that were still saturated or had standing water with live curly dock and (Polygonum sp.), and a pool of standing water at the far end with several large Goodding's willows, seen in the distance in the photo. Evidence of a culvert connecting to Basin 16 to the south was not detectable and the basins show no evidence of flow. The NWI shows this basin, Basin 16, and Basin 17 (at the south end of Basin 16 and running east-west) as part of an extensive system to the east of the JSA and has these features mapped as R4SBc. However, there is no evidence these are channelized historically natural streams, no evidence they are connected, and no evidence of flow. While fallow at the time of the delineation site visit in August 2023, at the time of the reconnaissance site visit in December of 2022, the ditch and field seen on the right in the photo were barren dirt, with the exception of the Goodding's willows. As part of agricultural operations, these basins are considered non-jurisdictional.

Photograph 8. View north, from south end of Basin 16, Photo Point 19. Water was still present over a greater distance of this basin than Basin 16 with standing water in much of the south end. There is a small group of Goodding's willow near the center. This basin is in line with Basin 15 in Photograph 7; however, no culvert was detected and no connection could be established. As noted above, these basins were barren of vegetation in December of 2022, with the exception of the Goodding's willows. Basins 15, 16, and 17 are considered non-jurisdictional as they are for agricultural purposes.

Photograph 9. View south, AD-1, Photo Point 1. Typical of larger, primarily u-shape agricultural ditches with natural line on bank and slight erosion creating slope break where water enters the ditch. Average OHWM width is 8 feet. Ditch is non-jurisdictional as it is for agricultural purposes. An OHWM data sheet was prepared for this feature in the approximate location of center of this photograph and is attached in Appendix J.

Photograph 10. View North, AD-4, Photo Point 3. Top left of photo shows typical of v-ditch created to hold irrigation pipes. Average width at top is 3 feet. Many additional ditches of this type were not mapped as they are not intended to convey or hold water directly. They are frequently created and destroyed, do not meet the definition of waters, and would be non-jurisdictional as they are used for agricultural purposes.

Photograph 11. View east, AD-5, Photo Point 9. AD-5 is typical of trapezoidal ditches throughout the Project site. The average OHWM width is 3 feet, often widening somewhat at culverted crossings. By design the ditch has a bed and banks, other indicators include break in slope and natural line on bank. In some reaches the ditch is vegetated, here with Russian thistle and further west includes bearded sprangletop (*Leptochloa fusca* subsp. *fascicularis*) (NL) and other non-hydrophytic vegetation. This ditch was being actively maintained during the survey by a crew removing vegetation further to the east.

Photograph 12. View east, AD-5, Photo Point 10. AD-5 is on the left in the photo, parallel on the right is a pipe v-ditch with Russian thistle that has been removed to lay the pipe.

Photograph 13. View west, AD-5, Photo Point 12. View of typical culvert crossing of ditch AD-5. Average size of culverts is 30-inches.

Photograph 14. View north, AD-6, Photo Point 11. View at the intersection of West Harlan Avenue and South Sonoma Avenue. AD-6 has an average width of 5 feet and is connected to AD-5 through the culvert seen on the left. This section is also generally trapezoidal in shape, and a slope break can be seen on the bank near the center of the photo. Vegetation is Russian thistle and bearded sprangletop. AD-6 continues north along South Sonoma Avenue, within the 250 foot buffer of the Project site. AD-6 flows through a culvert into canal AC-1 approximately 0.5 miles north. AC-1 averages 40 feet in width and is connected on the north to AC-2, averaging 65 feet in width, which runs offsite. While supporting vegetation occasionally, these ditches and canals are maintained regularly and generally kept free of vegetation. An OHWM data sheet was prepared for this feature in the approximate location of the upper right of this photograph and is attached in Appendix J.

Photograph 15. View west, AD-8, Photo Point 16. Typical of small u-shaped ditches throughout the site. Average OHWM width is 2 feet. Non-jurisdictional as it is used for agricultural purposes.

Photograph 16. View east, AD-17, Photo Point 20. Ditch not currently in use for agriculture. The average width is 5 feet, approximately 80% vegetated though much of it is dead; All vegetation present is upland, primarily telegraph weed (*Heterotheca grandiflora*) (NL), annual sunflower, prickly lettuce (*Lactuca seriola*) (FACU), and big saltbush. No current hydrology and does not meet the definition of a wetland; non-jurisdictional. An OHWM data sheet was prepared for this feature in the approximate location of the upper center of this photograph and is attached in Appendix J.

Photograph 17. View north, AD-10, Photo Point 15. Large ditch not currently in use. Average width is 15 feet, dominated by annual sunflower and prickly lettuce. No current hydrology and does not meet the definition of a wetland; non-jurisdictional.

Photograph 18. View northwest, Basin 2, Photo Point 2. Typical small basin for agriculture, non-jurisdictional. Vegetation surrounding the basin is nonnative annual grass.

Photograph 19. View south, Basin 8, Photo Point 13. Typical larger basin in active use, average OHWM width is 45 feet, generally unvegetated.

Photograph 20. View south, Basin 9, Photo Point 14. Typical large basin not currently in use for agriculture. Average width is 30 ft, covered by nonnative annual grasses; this basin was unvegetated during the December 2022 reconnaissance survey. Other vegetation in similar basins include prickly lettuce and annual sunflower. No current hydrology and does not meet the definition of a wetland; non-jurisdictional.

Appendix Q-11

Delineation Data Sheet

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Darden Solar
Project Number: 22-12530
Stream: Cantua Creek
Investigator(s): K. Asmus O. Rout

Date: 8/21/23
Town:
Photo begin file#:

Time:
State:
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details:

Projection: **Datum:**
Coordinates:

Potential anthropogenic influences on the channel system:

Farming, berms

Brief site description:

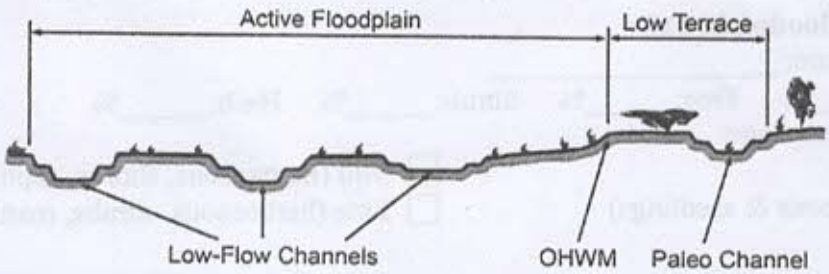
Channel runs southwest to northeast, then east across orchard and row crop fields, eventually dissapating at the California Aqueduct

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☒ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

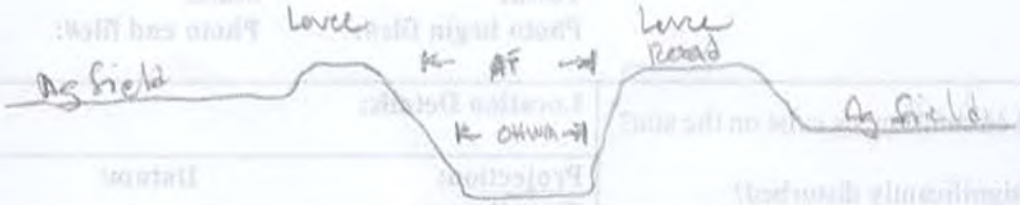


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☒ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** 1 **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☒ Other: shelving
- ☐ Other: _____

Comments:

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: silt and sand

Total veg cover: 5 % Tree: 0 % Shrub: 1 % Herb: 5 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☒ Surface relief
- ☒ Other: Sediment sorting
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: **Cross section ID:** 1 **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: silt and sand occasional cobble Some concrete slabs near top of bank/levee

Total veg cover: 58 % Tree: 8 % Shrub: 15 % Herb: 25 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☒ Surface relief
- ☒ Other: Erosion & scour
- ☒ Other: Bank slough/undercut
- ☒ Other: Bank cut

Comments:

Cantua Creek is mapped in NWI as intermittent. Here on the site it is channelized between levees. Natural course appears to have been north into what is now an ag field. Sink is indicated in NHD and it does disappear into valley floor at east end of levees

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Darden Solar City/County: Fresno County Sampling Date: 08/22/2023

Applicant/Owner: Intersect Power State: CA Sampling Point: SP1

Investigator(s): Kristin Asmus and Owen Routt Section, Township, Range: S12, T16S, R16E

Landform (hillslope, terrace, etc.): Valley floor Local relief (concave, convex, none): Flat Slope (%): 0

Subregion (LRR): C Lat: 36.472507° Long: -120.192999° Datum: WGS 1984

Soil Map Unit Name: Tranquility, clay, saline-sodic, wet, 0 to 1 percent slopes NWI classification: PUBFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10x10ft)			
1. Typha lattifolia	65	Y	OBL
2. Schoenoplectus actus	15	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	80 = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Feature is an approx. 2 acre agricultural basin with well-developed freshwater marsh with a narrow fringe of upland vegetation. Edge of wetland is visible by abrupt change in vegetation from OBL to UPL species.

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

No soil pit was dug, basin sides were steep with dense growth of vegetation. Hydric soils are assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Basin was full of water at the time of the survey in August.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Darden Solar City/County: Fresno County Sampling Date: 08/22/2023

Applicant/Owner: Intersect Power State: CA Sampling Point: SP2

Investigator(s): Kristin Asmus and Owen Routt Section, Township, Range: S12, T16S, R16E

Landform (hillslope, terrace, etc.): Valley floor Local relief (concave, convex, none): Flat Slope (%): 0

Subregion (LRR): C Lat: 36.472512° Long: -120.192899° Datum: WGS 1984

Soil Map Unit Name: Tranquility, clay, saline-sodic, wet, 0 to 1 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix parviflora	5	Y	FAC
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 10x10ft)			
1. Atriplex lentiformis	30	Y	FACU
2. Helianthus annuus	35	Y	FACU
3. Salsola tragus	25	Y	FACU
4. Lactuca seriola	15	N	FACU
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	105 = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland paired point with SP1. Feature is an approx. 2 acre agricultural basin with well-developed freshwater marsh with a narrow fringe of upland vegetation. Edge of wetland is visible by abrupt change in vegetation from OBL to FACU species.

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No soil pit was dug, basin sides were steep with dense growth of vegetation and vegetation break was very distinct.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

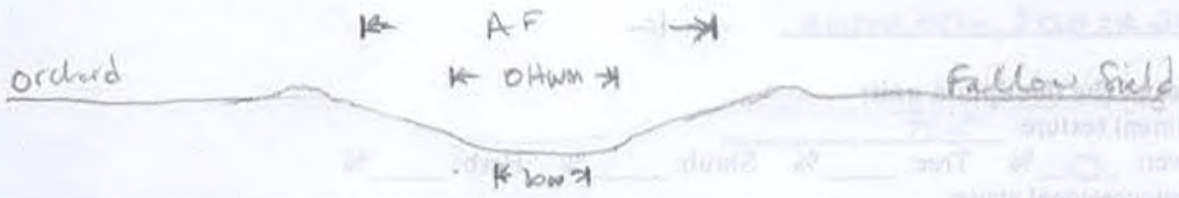
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is paired upland to SP1, near top of basin sides.

Project ID: **Cross section ID:** 3 **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: 36.425018, -120.402135

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☒ Other: Natural line on bank
- ☐ Other: _____

Comments:

Active agricultural ditch, wide U-shape, unvegetated

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 36.425019, -120.402127

Characteristics of the floodplain unit:

Average sediment texture: silt

Total veg cover: 0 % Tree: ____% Shrub: ____% Herb: ____%

Community successional stage:

- ☒ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☒ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Darden Solar
Project Number: 22-12530
Stream: N/A
Investigator(s): K. ASMUS

Date: 8/21/2023 **Time:**
Town: N/A Fresno **State:** CA
Photo begin file#: county/ **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates:

Potential anthropogenic influences on the channel system:

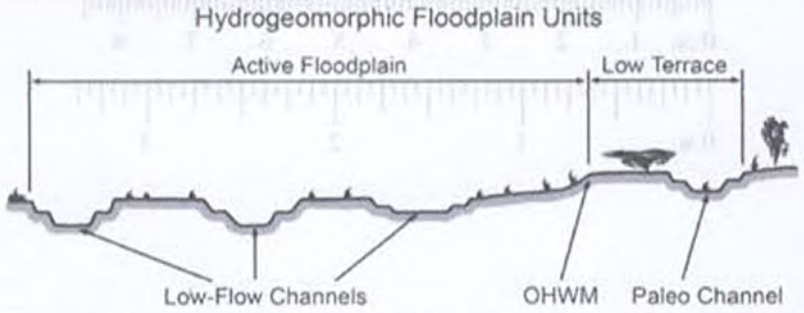
Active agriculture

Brief site description:

Active agriculture, orchard to west, fallow field to east

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: many, Google Earth
- ☒ Topographic maps
- ☒ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☐ GPS
   - ☐ Other:

Project ID: **Cross section ID:** 3 **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: 36.425028, -120.402146

Characteristics of the floodplain unit:

Average sediment texture: silt

Total veg cover: 0 % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

☒ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks ☐ Soil development

☐ Ripples ☐ Surface relief

☐ Drift and/or debris ☒ Other: top of small berm

☐ Presence of bed and bank ☐ Other: ____

☐ Benches ☐ Other: ____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: ____

Characteristics of the floodplain unit:

Average sediment texture: ____

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks ☐ Soil development

☐ Ripples ☐ Surface relief

☐ Drift and/or debris ☐ Other: ____

☐ Presence of bed and bank ☐ Other: ____

☐ Benches ☐ Other: ____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Darden Solar
Project Number: 22-12530
Stream: N/A
Investigator(s): K. Asmus

Date: 8/22/23
Town: N/A
Photo begin file#:

Time:
State: CA
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details:

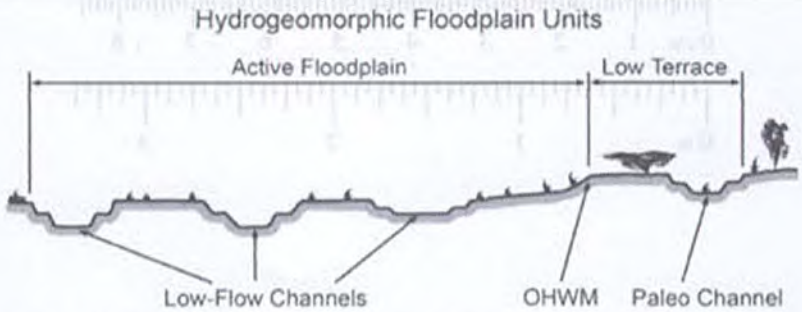
Projection: WGS **Datum:** 1984
Coordinates:

Potential anthropogenic influences on the channel system:
Active agriculture

Brief site description:
Active agricutural fields and dirt roads adjacent, paved road on other side (S. Sonoma Blvd)

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: various Google Earth
- ☒ Topographic maps
- ☒ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

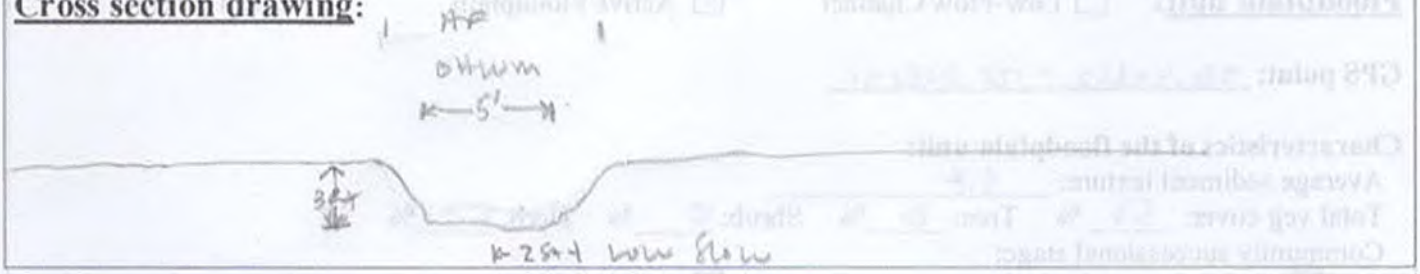


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☐ GPS
   - ☐ Other:

Project ID: Darden **Cross section ID:** 2 **Date:** 8/22/23 **Time:**

Cross section drawing:



OHWM

GPS point: 36.443649, -120.248021

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Sediment texture is silt. Actively ag ditch w/ some veg, trapezoidal shape
Veg is Leptochloa fusca below, Salsola tragus above OHWM
30% cover 40% cover

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 36.443649, -120.248011

Characteristics of the floodplain unit:

Average sediment texture: silt

Total veg cover: 50 % Tree: 0 % Shrub: 0 % Herb: 50 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☒ Other: wetted channel, flowing water
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: **Cross section ID:** 2 **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: 36.44852, -120.248031

Characteristics of the floodplain unit:

Average sediment texture: silt

Total veg cover: 50 % Tree: 0 % Shrub: 0 % Herb: 50 %

Community successional stage:

- ☒ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☒ Other: Ditch TOB in active agriculture
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Dayton Solar
Project Number: 22-12530
Stream:
Investigator(s): K. Asmus

Date: 8/22/2023 **Time:**
Town: Fresno County **State:** CA
Photo begin file#: **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates:

Potential anthropogenic influences on the channel system:

Active agriculture

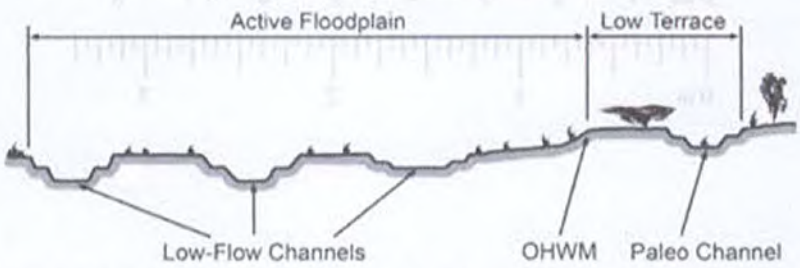
Brief site description:

Overgrown ditch in fallow fields, dirt road to north

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☒ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

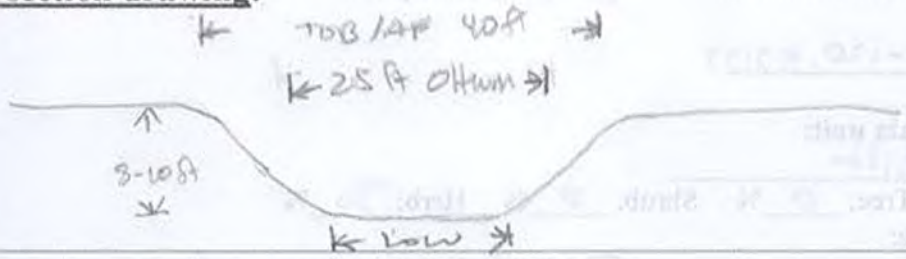


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☐ GPS
   - ☐ Other:

Project ID: 22-12530 **Cross section ID:** 4 **Date:** 08/22/23 **Time:**

Cross section drawing:



OHWM

GPS point: 36.458333, -120.157145

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Basin covered in non native annual grasses, same as adjacent field to west. Grapes in field on east

Floodplain unit:

☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 36.458352, -120.157114

Characteristics of the floodplain unit:

Average sediment texture: Silt

Total veg cover: 80 % Tree: 0 % Shrub: 0 % Herb: 80 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☒ Surface relief
- ☒ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: 22-12530 **Cross section ID:** 4 **Date:** 08/22/23 **Time:**

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: 36.458339, -120.152127

Characteristics of the floodplain unit:

Average sediment texture: Silt

Total veg cover: 70 % Tree: 0 % Shrub: 0 % Herb: 70 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☒ Other: Top of bank of basin
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments: