DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

CESPK-RDC-S **10 June 2024**

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1] [SPK-2024-00177].

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[2] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[3]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[4] the 2023 Rule as amended, as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

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[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] 33 CFR 331.2.
[3] Regulatory Guidance Letter 05-02.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

1. SUMMARY OF CONCLUSIONS.

a. The following table lists each individual feature within the review area and the jurisdictional status of each one (i.e., identifies whether each feature is/is not a water of the United States and/or a navigable water of the United States). None of the features within the review area are waters of the U.S. or navigable waters of the U.S.

Name of Aquatic Resource	Cowardin	Description	Waters of the U.S.	Navigable Waters of the U.S.
E1	R6	Ephemeral Riverine	No	No
E2	R6	Ephemeral Riverine	No	No
E3	R6	Ephemeral Riverine	No	No
E4	R6	Ephemeral Riverine	No	No
E5	R6	Ephemeral Riverine	No	No
E6	R6	Ephemeral Riverine	No	No
NC-1	R6	Ephemeral Riverine	No	No
NC-2	R6	Ephemeral Riverine	No	No
NC-3	R6	Ephemeral Riverine	No	No
NC-4	R6	Ephemeral Riverine	No	No

2. REFERENCES.

a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. The approximately 1,200-acre project area is located in Section 3, Township 19 North, Range 22 East, MDB&B, Latitude 39.543283°, Longitude - 119.503010°, near the unincorporated community of Clark, Storey County, Nevada (AJD MFR Enclosure 1). The review area is in the Sierra Nevada Influenced Semiarid Hills and Basins terrain of the Central Basin and Range region. Elevations in the project area range from 4,500' to 5,400'. The project site vegetation community is predominantly semiarid shrub consisting of rubber rabbitbrush, cheatgrass, and tumble mustard.

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. The nearest TNW, the Truckee River, is located approximately 1.5-miles straight-line

distance to the north of the review area from estimation using the Corps Navigable Waters layer in Google Earth.[5]

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. Six of the streams, E1-6, flow to the nearest section of the Truckee River (TNW) via channels just northeast of the project area. The flow path of the other four streams in the project area, NC1-4, appear to be severed by roads. These crossings lack culverts or bridges.

6. SECTION 10 JURISDICTIONAL WATERS[6]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[7] N/A.

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

a. Traditional Navigable Waters (TNWs) (a)(1)(i): N/A.

b. The Territorial Seas (a)(1)(ii): N/A.

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[5] This MFR should not be used to complete a new stand-alone TNW determination. A stand-alone TNW determination for a water that is not subject to Section 9 or 10 of the Rivers and Harbors Act of 1899 (RHA) is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established.

[6] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

[7] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

c. Interstate Waters (a)(1)(iii): N/A.

d. Impoundments (a)(2): N/A.

e. Tributaries (a)(3): N/A.

f. Adjacent Wetlands (a)(4): N/A.

g. Additional Waters (a)(5): N/A.

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[8] N/A.

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water). The streams (i.e., E1-6, NC1-4) are features that do not meet the relatively permanent waters standard as (a)(3) tributaries. The flow regime of these features is characterized as ephemeral because their flow derives from direct precipitation within the project vicinity. The E1-6 features total 1.1 acres and the NC1-4 features total 1.73 acres. These streams flow downhill, where there is no upstream water and seasonal snowpack does not persist.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

a. Desk evaluation was conducted through March and May 2024.

b. Maps, plans, plots or plat submitted by or on behalf of the applicant - Aquatic Resources Delineation Report [redacted] dated January 2024 (Enclosure 1).

[8] 88 FR 3004 (January 18, 2023)

c. National Wetlands Inventory map- Retrieved 29 March 2024 (Enclosure 2).

d. USACE Google Earth Layers accessed March 29, 2024 (Enclosure 3).

e. NRCS Soil Map- Retrieved April 8, 2024 (Enclosure 4).

f. USACE ERDC Antecedent Precipitation Tool- Retrieved May 17, 2024 (Enclosure 5).

g. USGS National Map Viewer National Hydrography Dataset, 3DEP LiDAR and Flow Path Layers, accessed March 28, 2024 (Enclosure 6).

h. Digital Globe Aerial Photographs, Archive Dated May 8, 2020; May 8, 2021; January 21, 2022; October 8, 2023 (Enclosure 7).

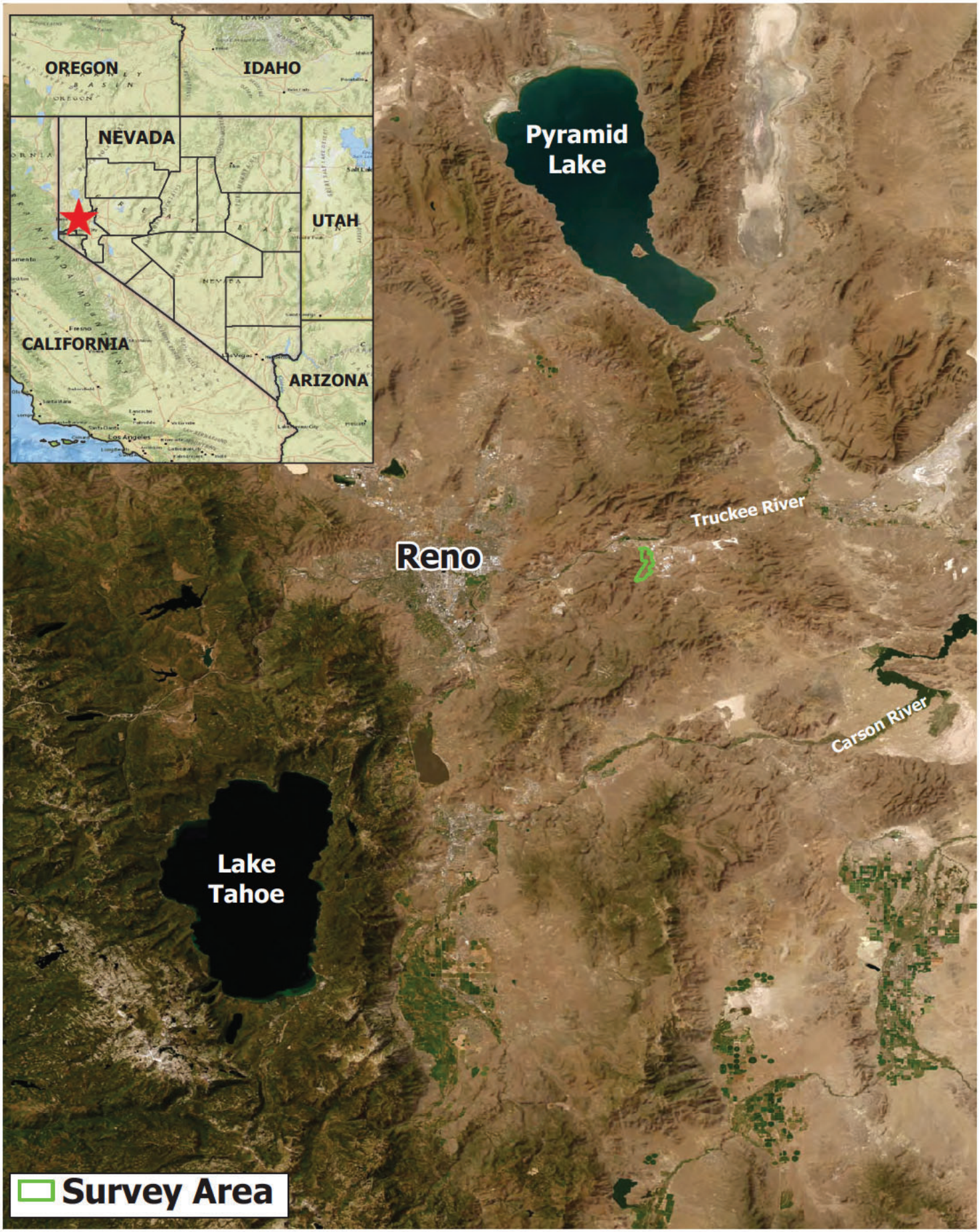
i. Other photographs- Aquatic Resources Delineation Report [redacted] dated January 2024 (Enclosure 1).

10. OTHER SUPPORTING INFORMATION. Aquatic Resources Delineation Report [redacted] dated January 2024 (Enclosure 1).

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

[redacted]

7 Encls
Enclosure 1 Location Map
Enclosure 2 National Wetlands Inventory
Enclosure 3 USACE Google Earth
Enclosure 4 NRCS Soil Map
Enclosure 5 Antecedent Precipitation Tool Reports
Enclosure 6 USGS National Map
Enclosure 7 Digital Globe Imagery



N

0 10 20 30 km

0 5 10 15 20 mi

Scale: 1:400,000

Base Imagery: Google Earth

CRS: EPSG:4326 - WGS 84

[redacted]

Survey Area Location

Enclosure 1

[redacted]

N

0 1 2 km

0 0.5 1 mi

Scale:
1:24,000

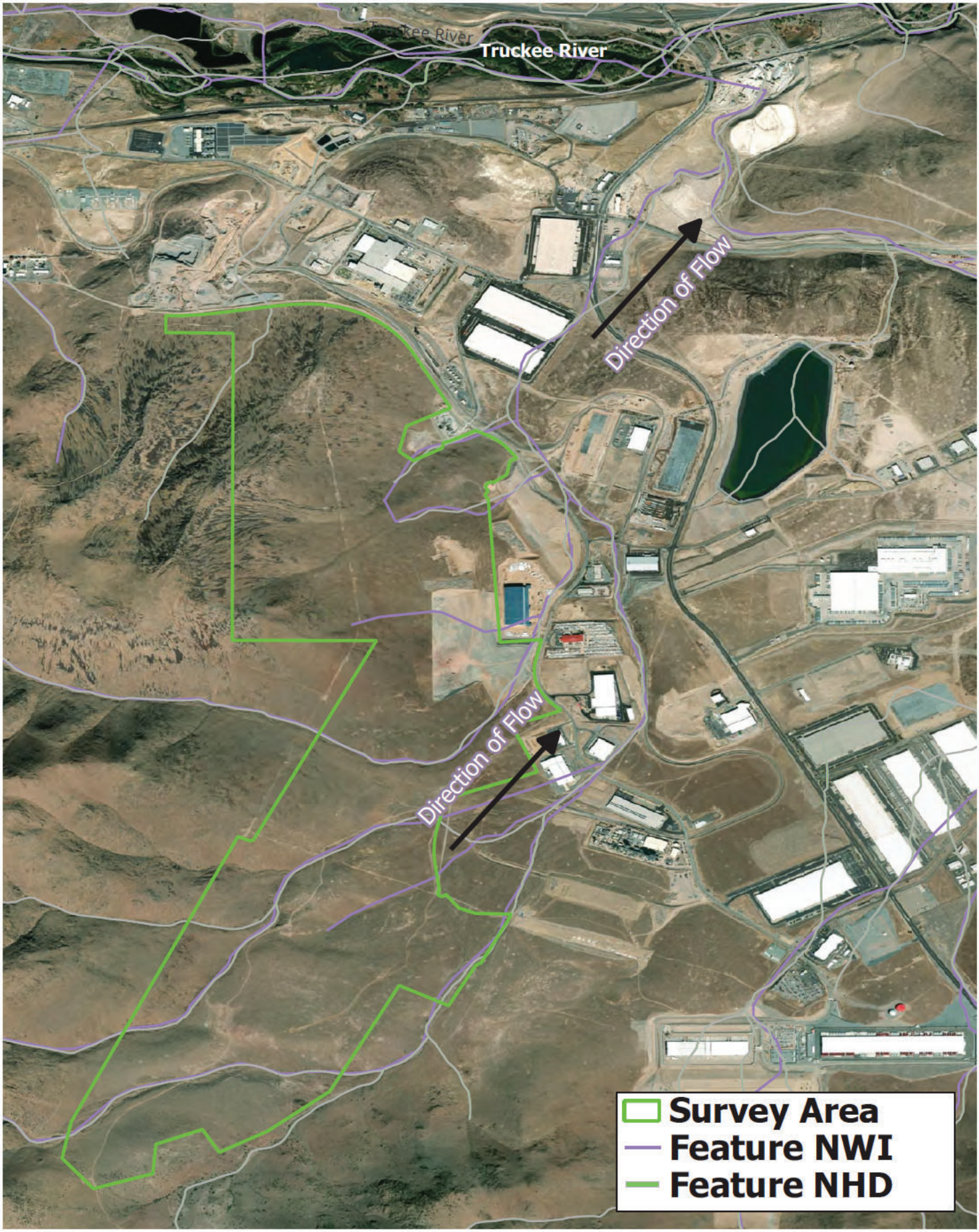
Base Imagery: ESRI Satellite
CRS: EPSG:4326 - WGS 84

[redacted]

Survey Area

[redacted]

Enclosure 1



N

0 250 500 750 1,000 m

0 1,000 2,000 3,000 ft

Scale: 1:15,000

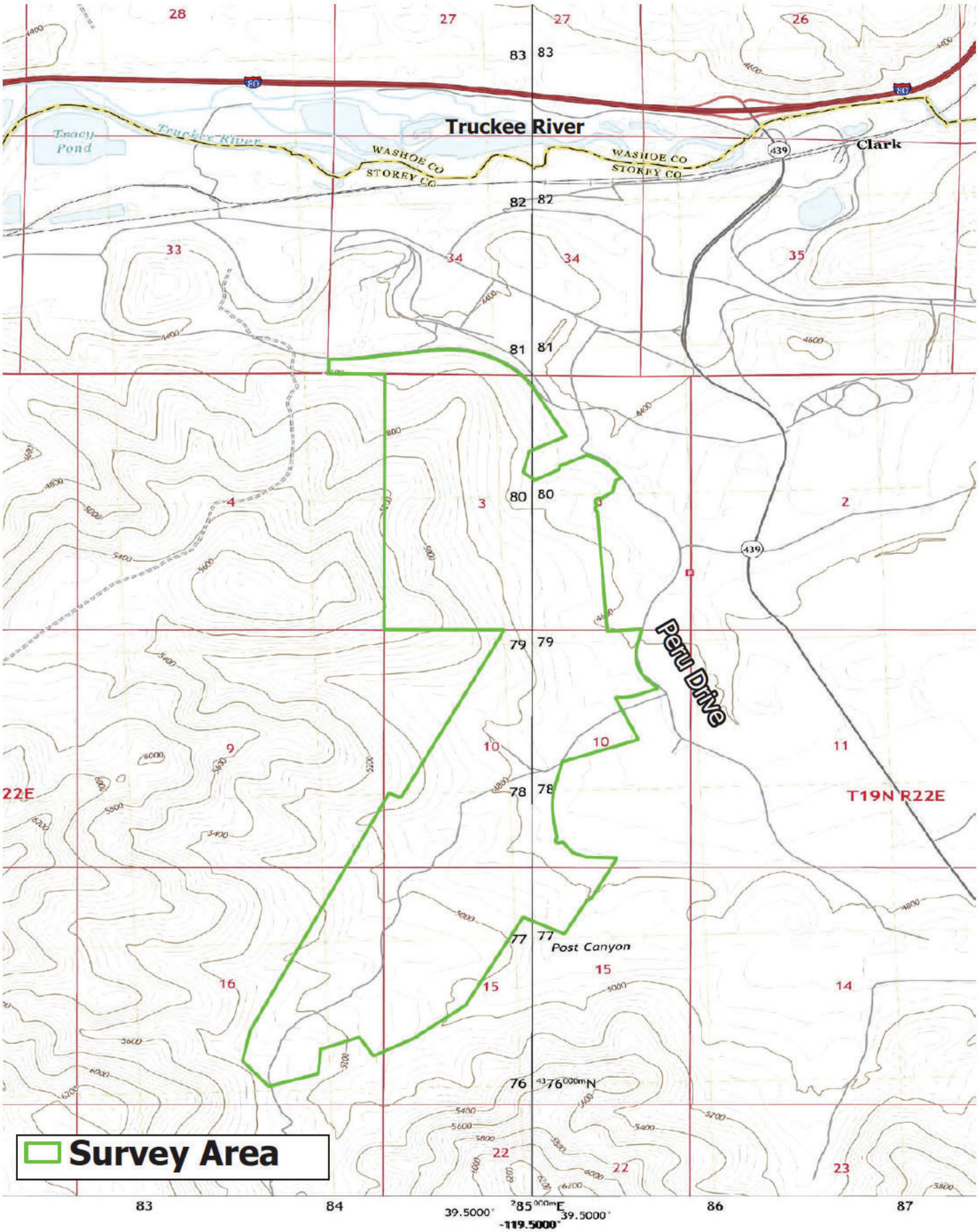
Base Imagery: ESRI Satellite
CRS: EPSG:4326 - WGS 84

[redacted]

NHD and NWI Features

Enclosure 1

[redacted]



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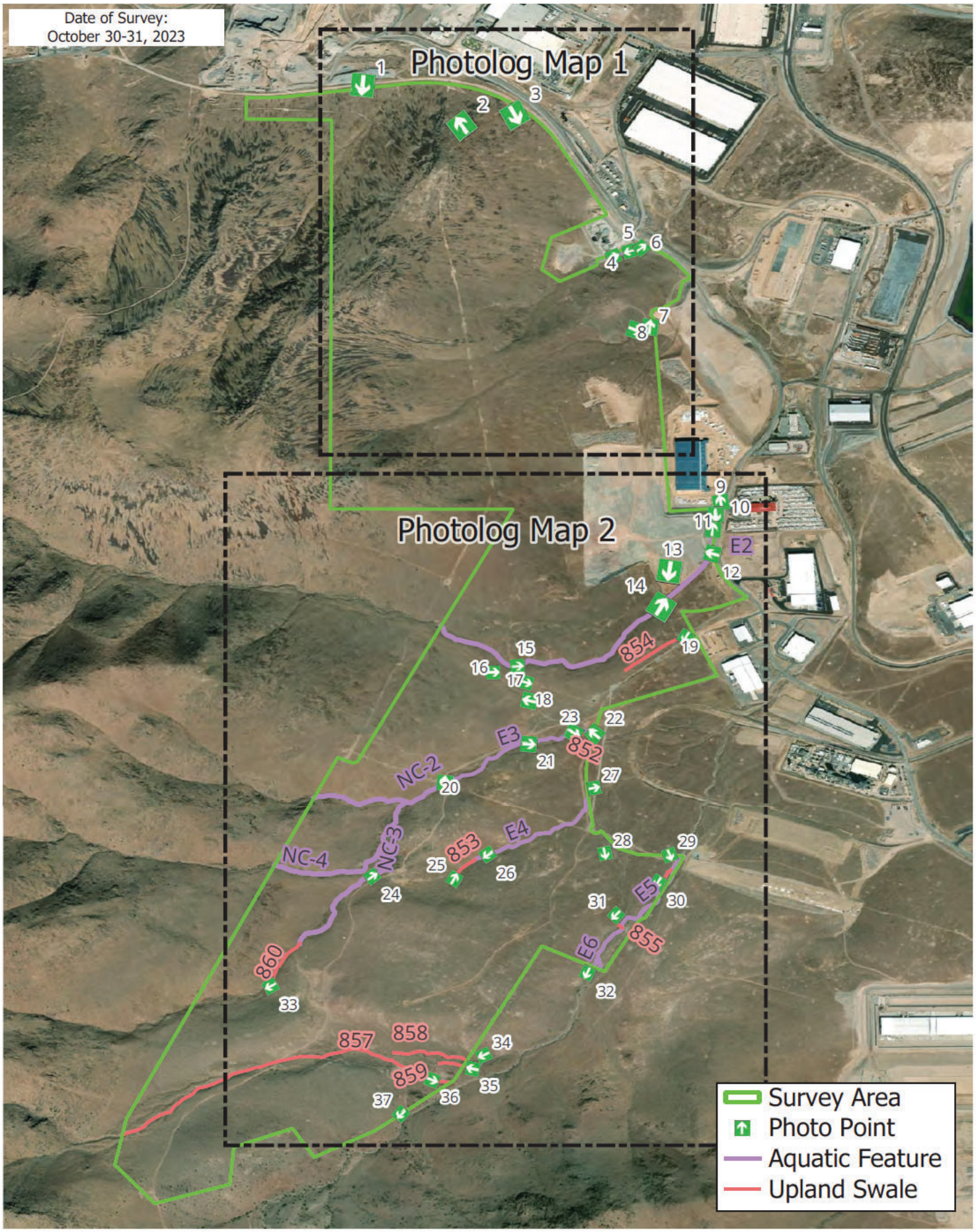
Survey Area Topo Map

Enclosure 1

[redacted]



N

Scale:
1:12,000

0 500 1,000 m

0 1,000 2,000 3,000 ft

Base Imagery: ESRI Satellite
CRS: EPSG:4326 - WGS 84

Enclosure 1

[redacted]

Photolog - Map Overview

[redacted]

Photo 1. Showing a disturbed upland area with no OHWM characteristics. NWI Data displayed a feature in this area.

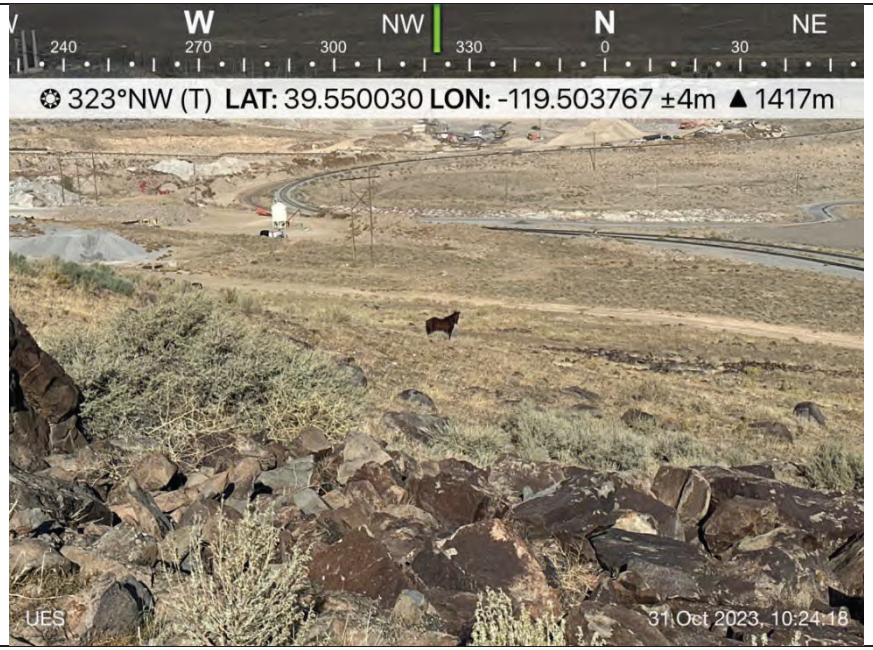


Photo 2. A representative photo of a hillside with no features.

Photo 3. A dirt road.

Photo 4. Looking downstream at E1.

Enclosure 1

Photo 5. Looking upstream at E1.

Photo 6. Looking downstream at E1.

Photo 7. A view of a graded and disturbed area. No aquatic resources are in the area.

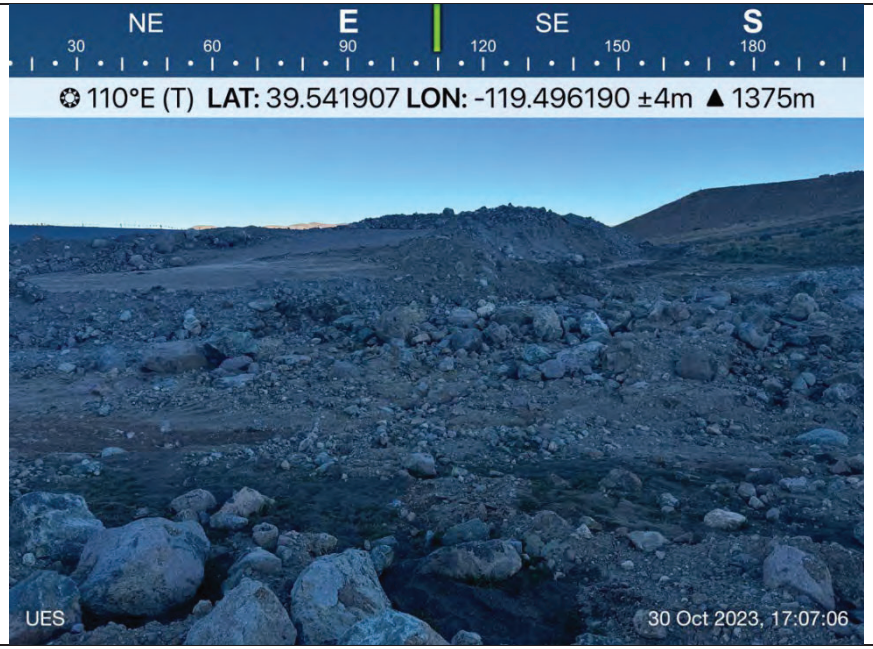


Photo 8. A view of a graded and disturbed area. No aquatic resources are in the area.

Enclosure 1

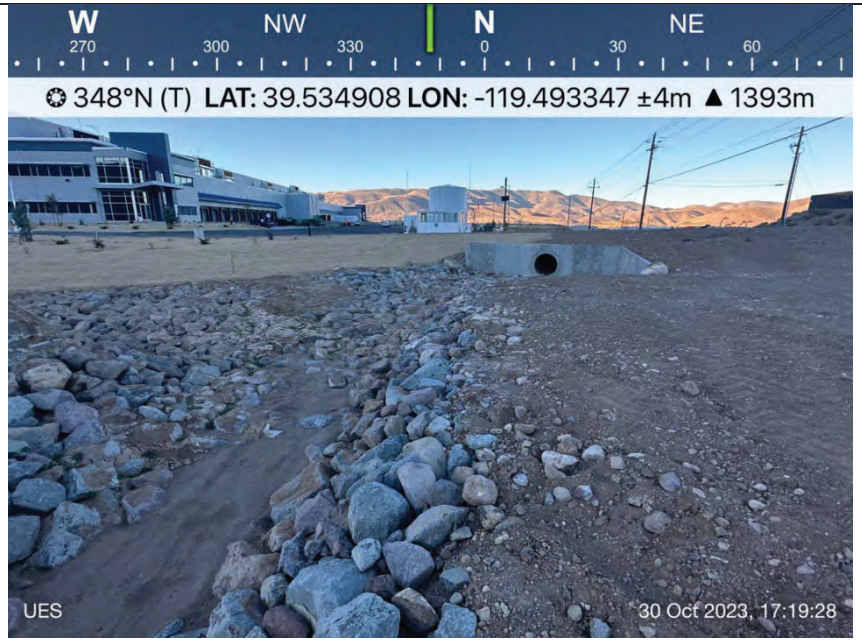


Photo 9. A view of the culvert downstream of E2.

Photo 10. Looking upstream near E2.

Photo 11. Looking downstream at E2.

Photo 12. View of the severed connection of (NC-1).

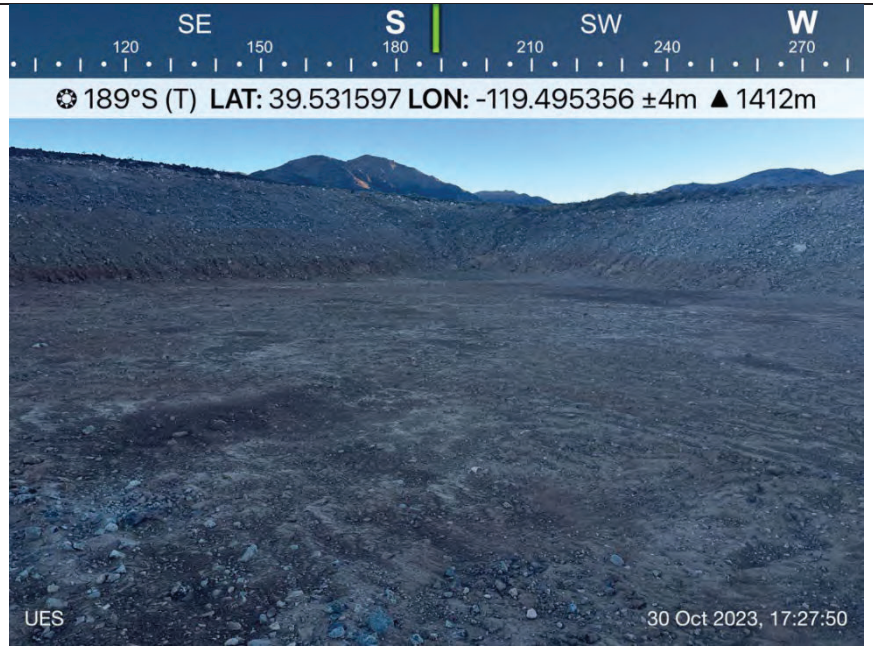


Photo 13. Looking at the area located near NC-1. The area is flat and graded with no evidence of OHWM or aquatic features.

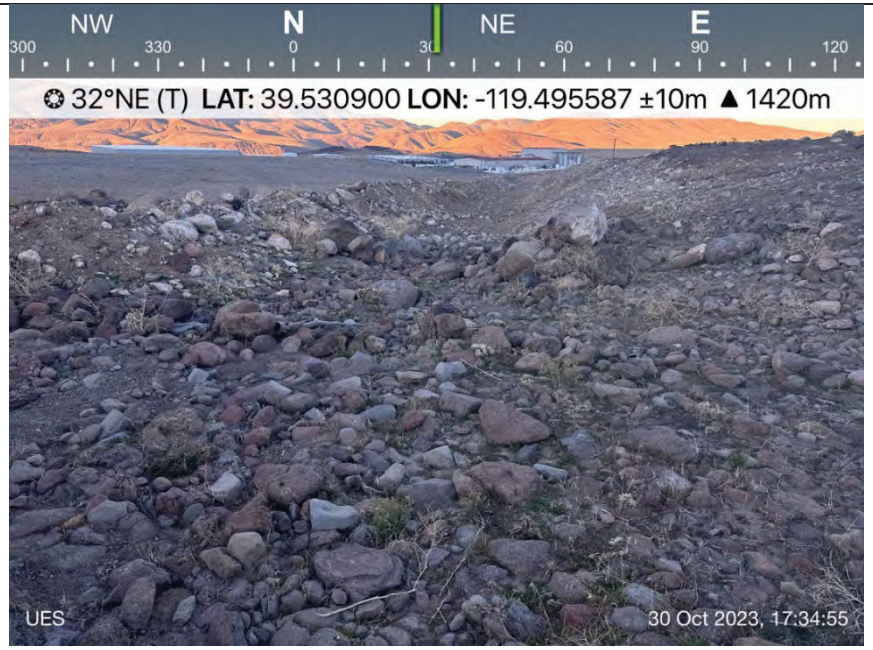


Photo 14. Looking downstream at NC-1, a constructed channel with no downstream connection.

Photo 15. A view downstream showing an aquatic feature with no downstream connection (NC-1).

Photo 16. A road with a guzzler feature.

Enclosure 1

Photo 17. An old, graded road is shown in this photo.

Photo 18. A picture showing a worn dirt road.

Photo 19. View of an old swale (859) with no downstream connection, a gravel road, and roadside erosion.

Photo 20. A view of a no connection feature (NC-2) severed by a road and the beginning of an ephemeral channel (E3) *(NC-2 left, E3 right)*.

Enclosure 1

Photo 21. Downstream view of an ephemeral channel (E3) with abundant vegetation on the banks.

Photo 22. Upstream photo of an ephemeral channel (E3) draining into a culvert.

Photo 23. Downstream view of a swale (858) that runs adjacent to an ephemeral channel (E3).

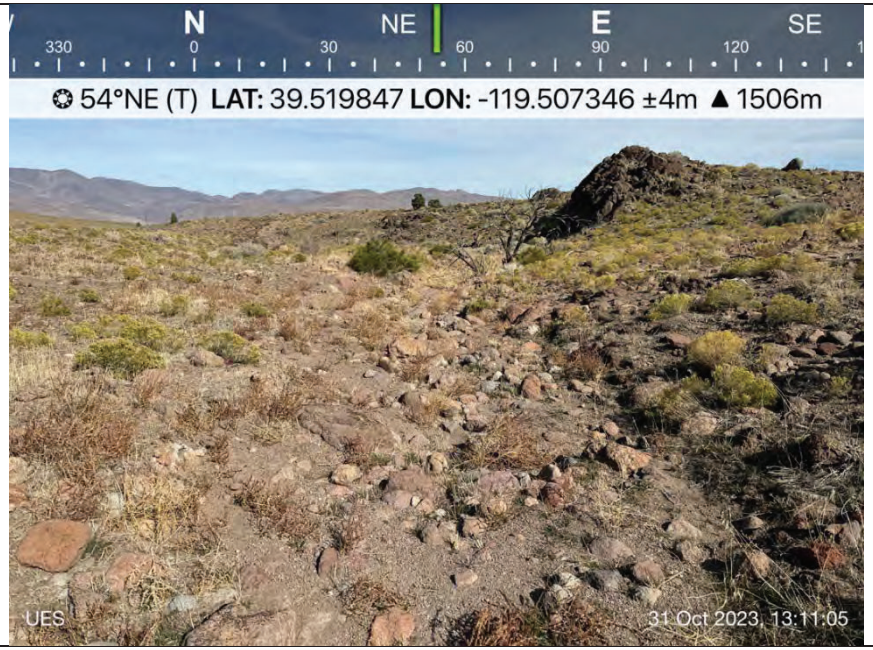


Photo 24. A downstream photo of a feature (NC-3). This feature feeds into to NC-2 (Photo #4).

Enclosure 1

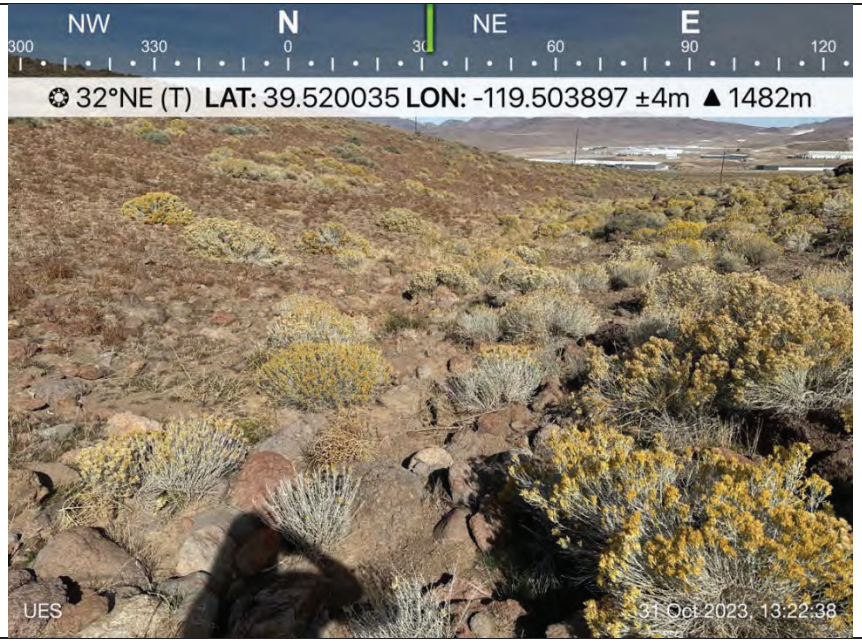


Photo 25. A photo showing the start of a swale (853).

Photo 26. An upstream view of an ephemeral channel (E4).

Photo 27. A photo of an ephemeral channel (E4). Inundation characteristics are present around road disturbances.

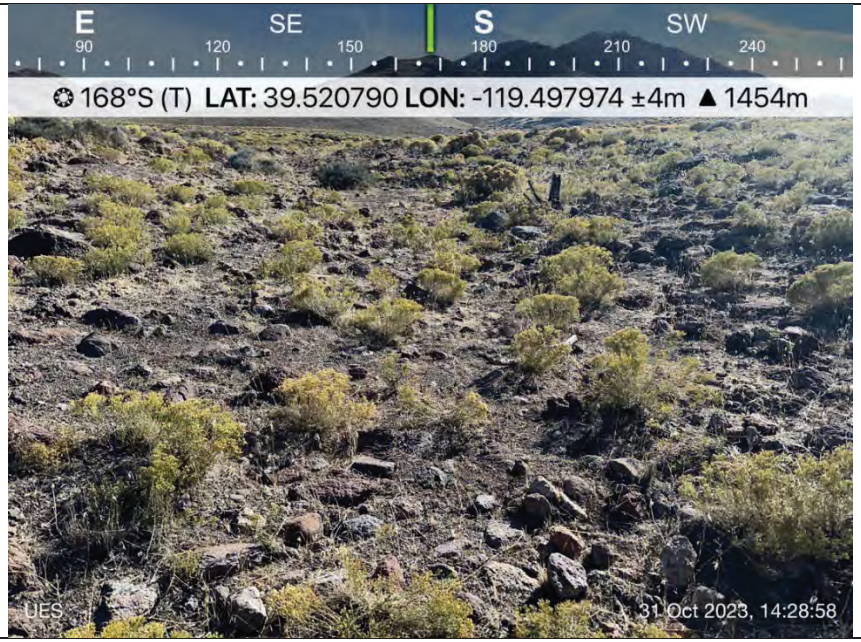


Photo 28. A photo showing an upland swale.

Enclosure 1

Photo 29. An upstream view of an ephemeral channel (E5).

Photo 30. Upstream photo of an upland swale (856).

Photo 31. A photo of an upland swale (855).

Photo 32. An upstream photo taken of an ephemeral feature (E6). E6 flows downstream into a larger ephemeral channel (E5) shown in Photo 11.

Enclosure 1

Photo 33. A view of an upland area.

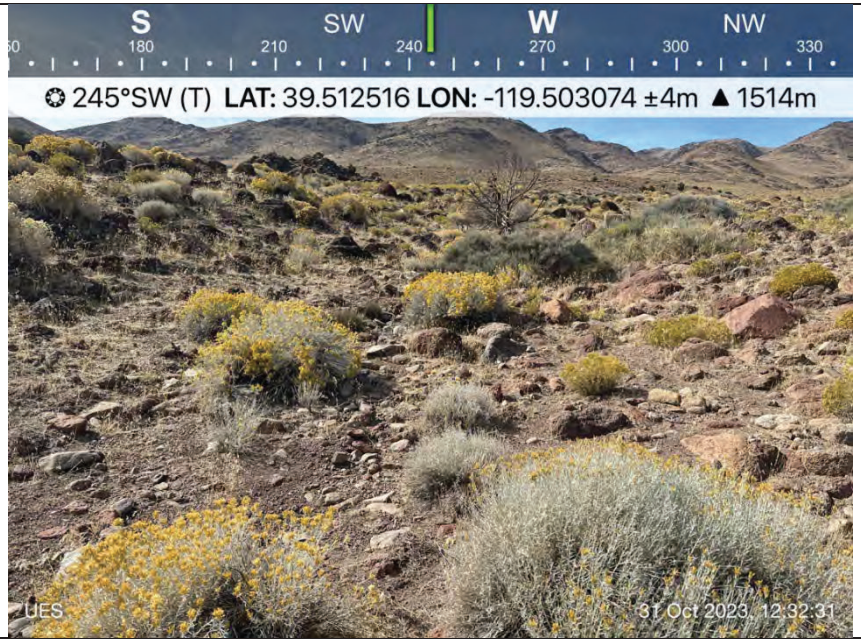


Photo 34. An upstream view of a swale (858).

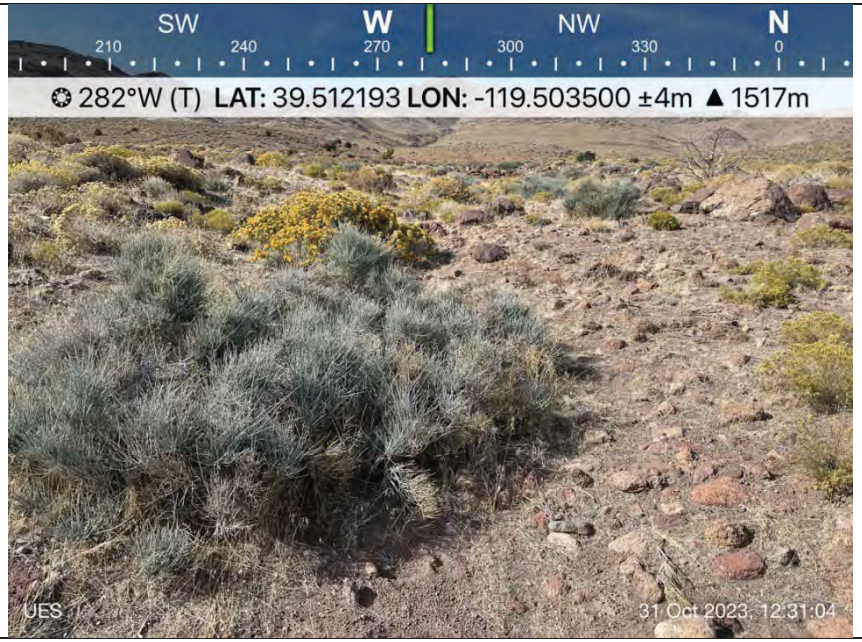


Photo 35. A photo showing the upstream characteristics of a swale (859).

Photo 36. A photo displaying a downstream view of a swale (857).

Enclosure 1

Photo 37. An upland area.

Enclosure 1

U.S. Fish and Wildlife Service

National Wetlands Inventory

SPK-2024-00177

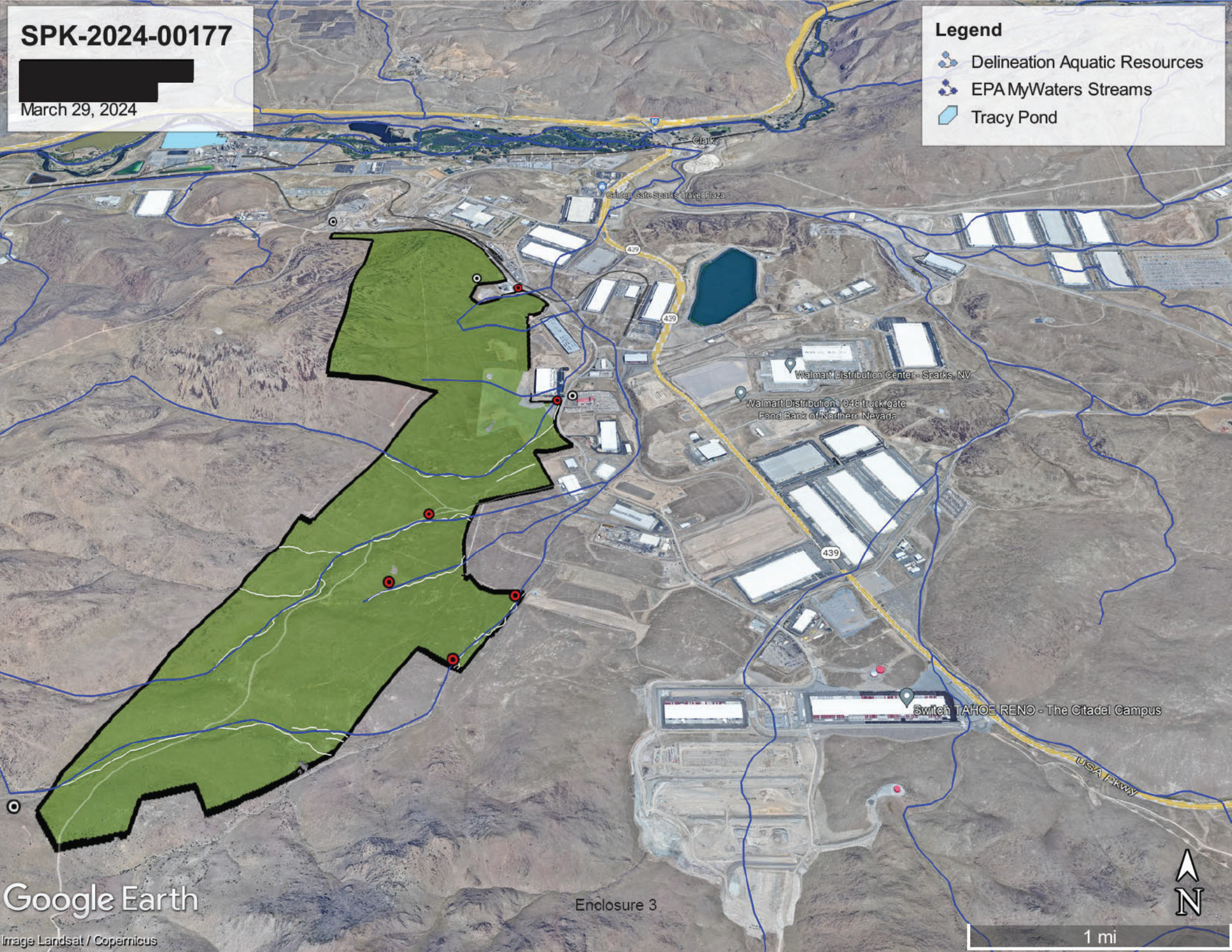
March 29, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

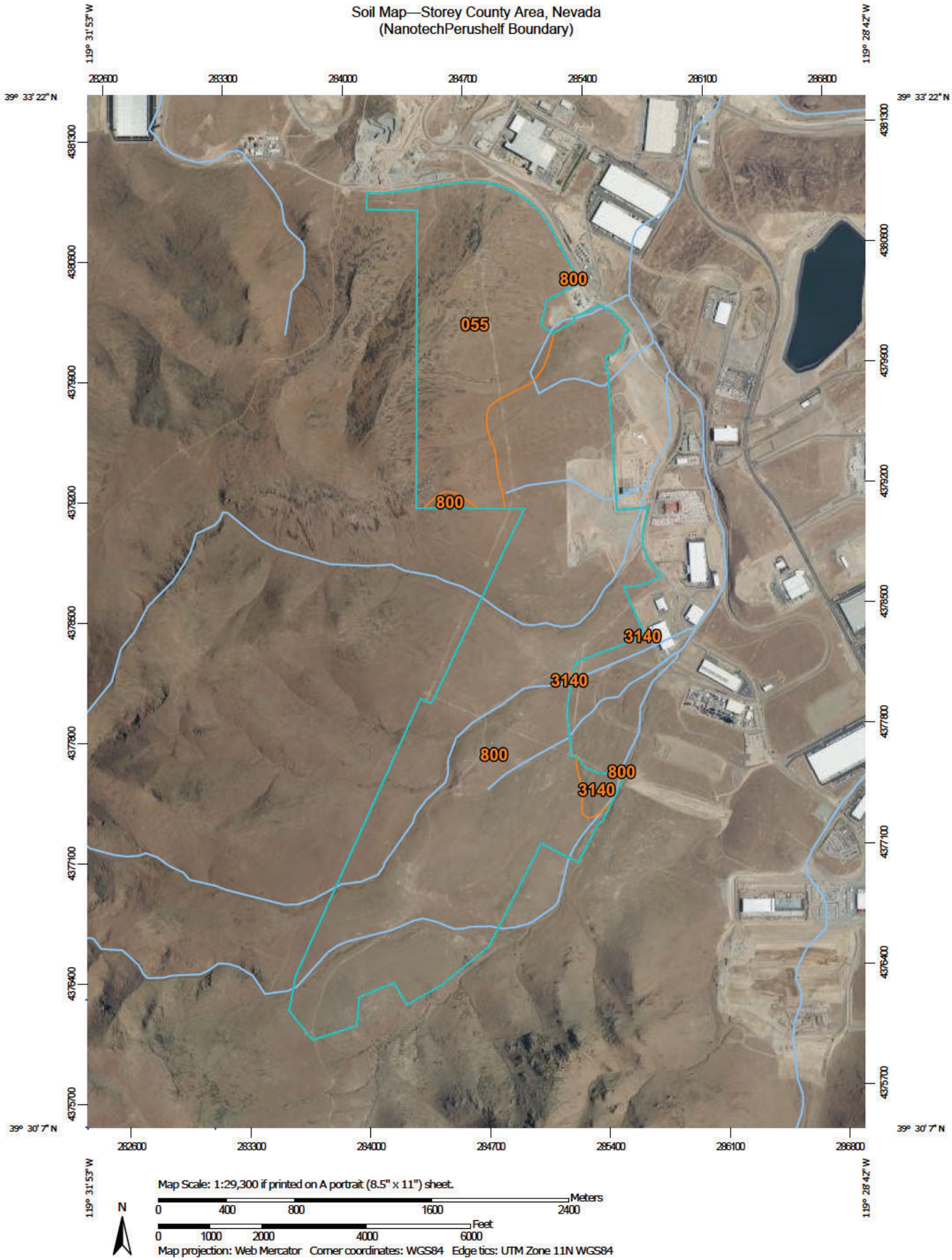
Enclosure 2

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.


SPK-2024-00177
[redacted]
March 29, 2024
Legend
Delineation Aquatic Resources
EPA MyWaters Streams
Tracy Pond
Clark
Golden Gate Sparks Travel Plaza
439
Walmart Distribution Center - Sparks, NV
Walmart Distribution 7048 truck gate
Food Bank of Northern Nevada
Switch TAHOE RENO - The Citadel Campus
USA Pkwy
Google Earth
Image Landsat / Copernicus
N
1 mi

Enclosure 3

Soil Map—Storey County Area, Nevada
(NanotechPerushelf Boundary)



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

Soil Survey Area: Storey County Area, Nevada
Survey Area Data: Version 22, Sep 11, 2023

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

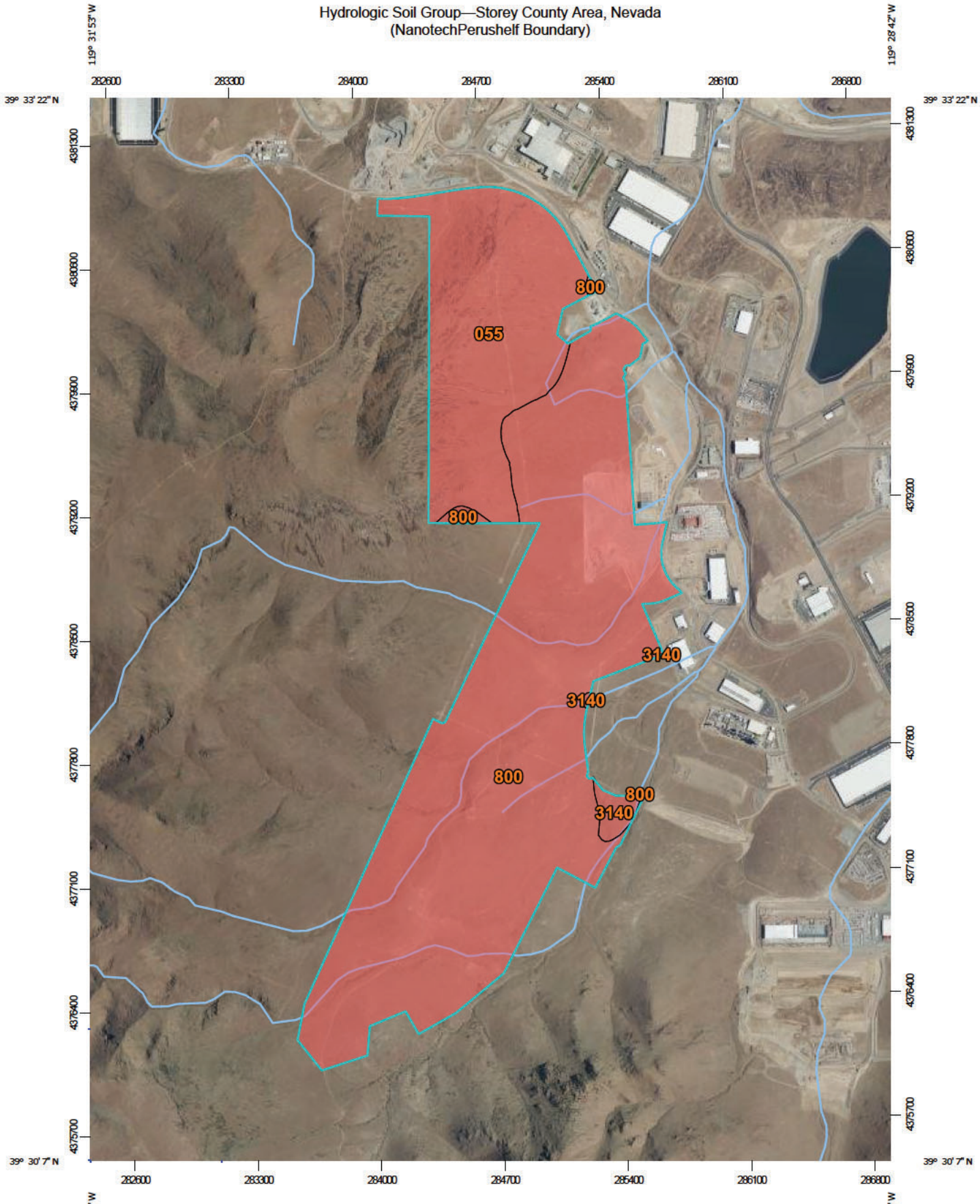
Date(s) aerial images were photographed: Jun 10, 2022—Jun 14, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
055	Old Camp-Aldax-Rock outcrop association	309.4	25.8%
800	Grumblen-Ceejay Dorkiss association	878.7	73.1%
3140	Fulstone-Reno complex, 2 to 30 percent slopes	13.4	1.1%
Totals for Area of Interest		**1,201.5**	**100.0%**

Hydrologic Soil Group—Storey County Area, Nevada
(NanotechPerushelf Boundary)



MAP LEGEND

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

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

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Web Soil Survey URL:
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Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
055	Old Camp-Aldax-Rock outcrop association	D	309.4	25.8%
800	Grumblen-Ceejay Dorkiss association	D	878.7	73.1%
3140	Fulstone-Reno complex, 2 to 30 percent slopes	D	13.4	1.1%
Totals for Area of Interest			**1,201.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

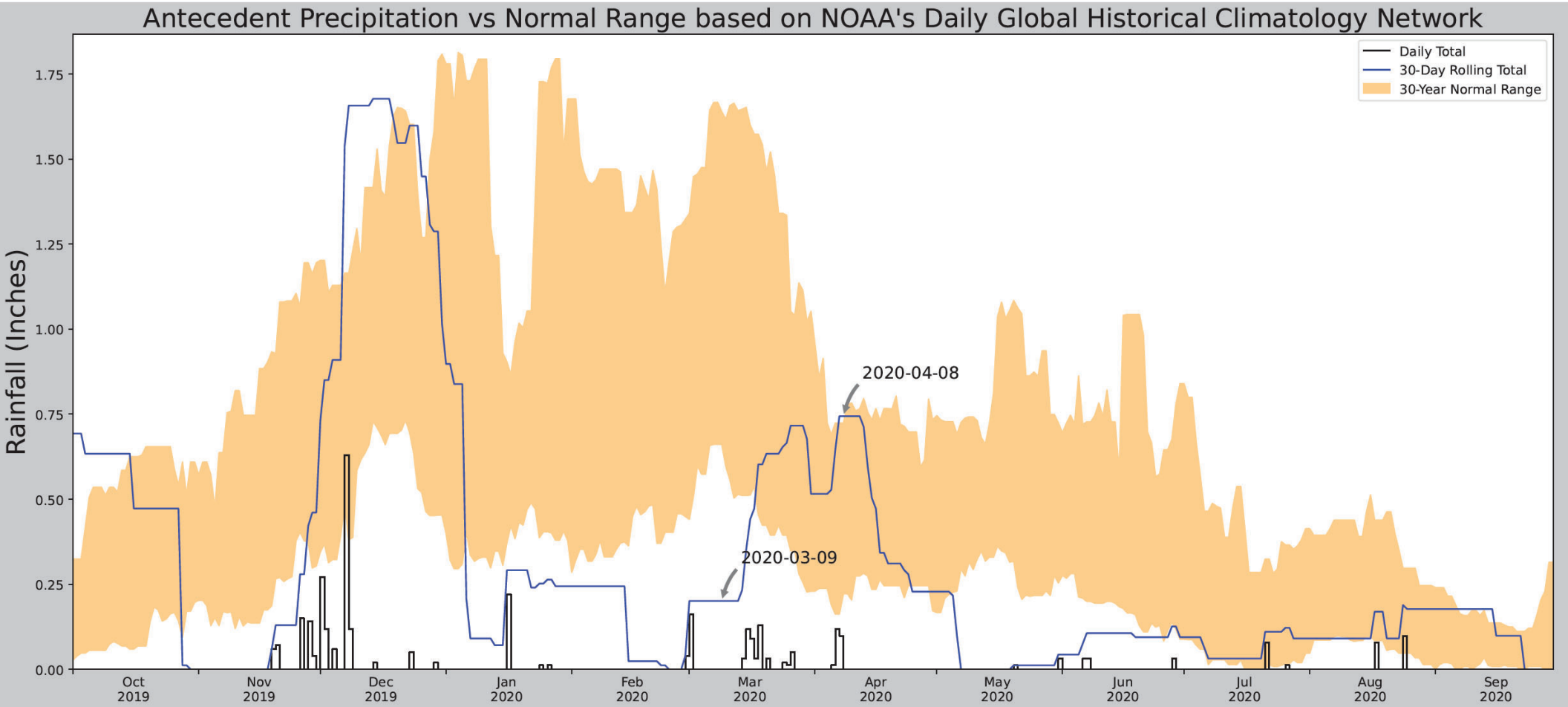
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Coordinates	39.537271, -119.503755
Observation Date	2020-05-08
Elevation (ft)	4893.303
Drought Index (PDSI)	Moderate drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-05-08	0.274409	0.738583	0.0	Dry	1	3	3
2020-04-08	0.222441	0.724016	0.744095	Wet	3	2	6
2020-03-09	0.661417	1.638976	0.200787	Dry	1	1	1
Result							Normal Conditions - 10

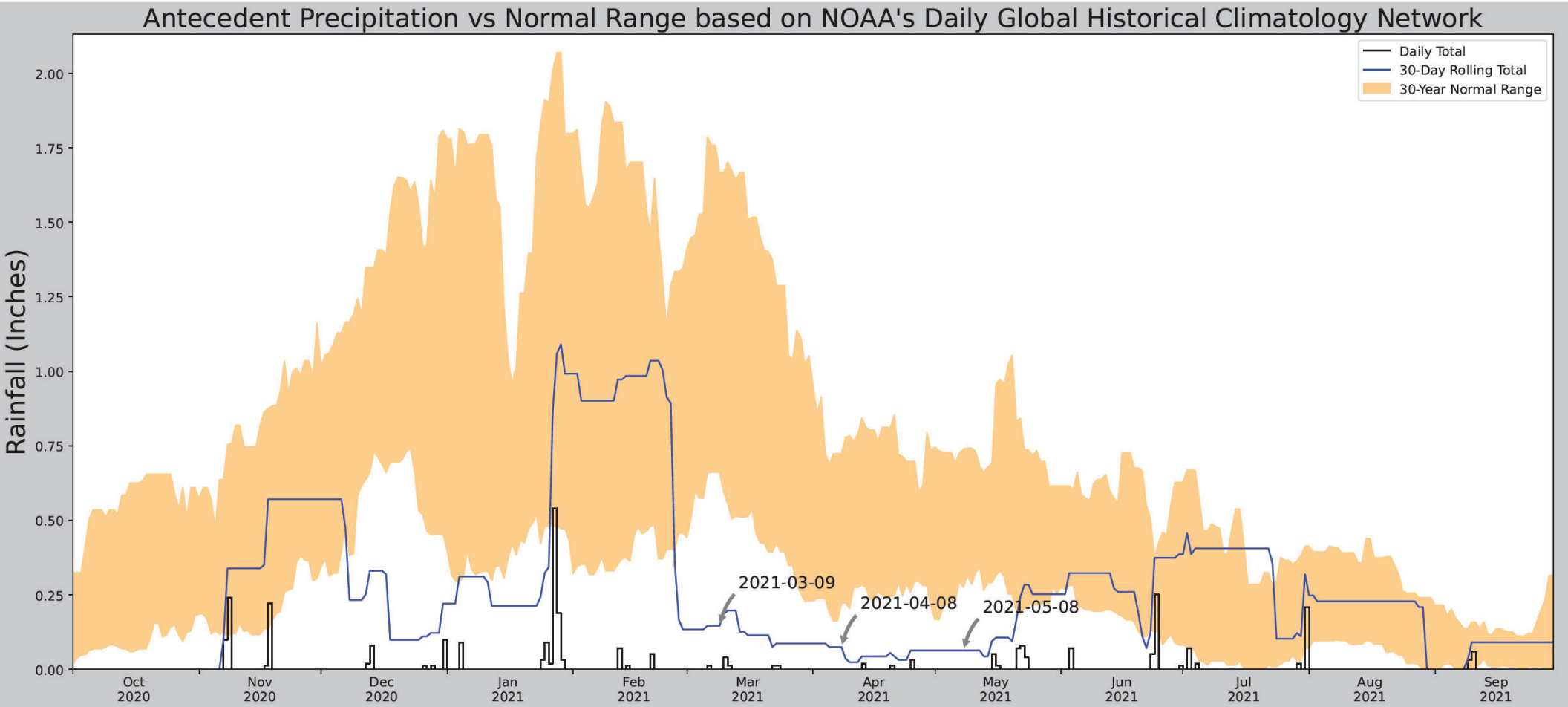
US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
RENO WFO	39.5683, -119.7956	4986.877	15.695	93.574	8.531	8551	90
RENO 1.4 NNE	39.5573, -119.8144	4901.903	1.257	84.974	0.672	1	0
STEAD	39.6253, -119.8836	5101.05	6.121	114.173	3.453	2683	0
SPARKS	39.5558, -119.7333	4356.956	3.429	629.921	3.703	86	0
RENO AP	39.5078, -119.7683	4404.856	4.426	582.021	4.568	31	0



Coordinates	39.537271, -119.503755
Observation Date	2021-05-08
Elevation (ft)	4893.303
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-05-08	0.274409	0.738583	0.062992	Dry	1	3	3
2021-04-08	0.222441	0.724016	0.074803	Dry	1	2	2
2021-03-09	0.661417	1.666535	0.145669	Dry	1	1	1
Result							Drier than Normal - 6

US Army Corps of Engineers

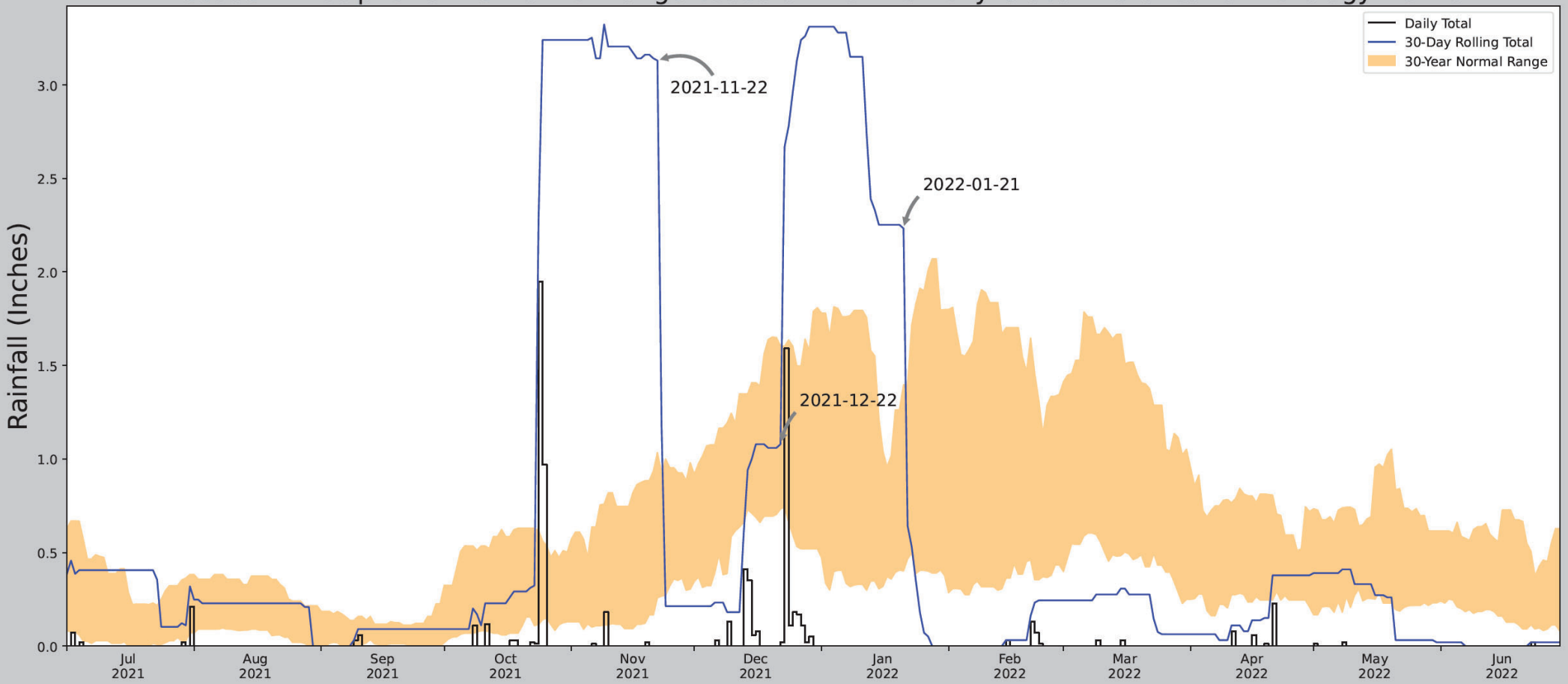
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
RENO WFO	39.5683, -119.7956	4986.877	15.695	93.574	8.531	8917	90
RENO 1.4 NNE	39.5573, -119.8144	4901.903	1.257	84.974	0.672	1	0
STEAD	39.6253, -119.8836	5101.05	6.121	114.173	3.453	2381	0
SPARKS	39.5558, -119.7333	4356.956	3.429	629.921	3.703	53	0
RENO AP	39.5078, -119.7683	4404.856	4.426	582.021	4.568	1	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	39.537271, -119.503755
Observation Date	2022-01-21
Elevation (ft)	4893.303
Drought Index (PDSI)	Mild drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-01-21	0.401181	1.396063	2.232284	Wet	3	3	9
2021-12-22	0.732677	1.605118	1.07874	Normal	2	2	4
2021-11-22	0.258268	1.034252	3.129921	Wet	3	1	3
Result							Wetter than Normal - 16

US Army Corps of Engineers

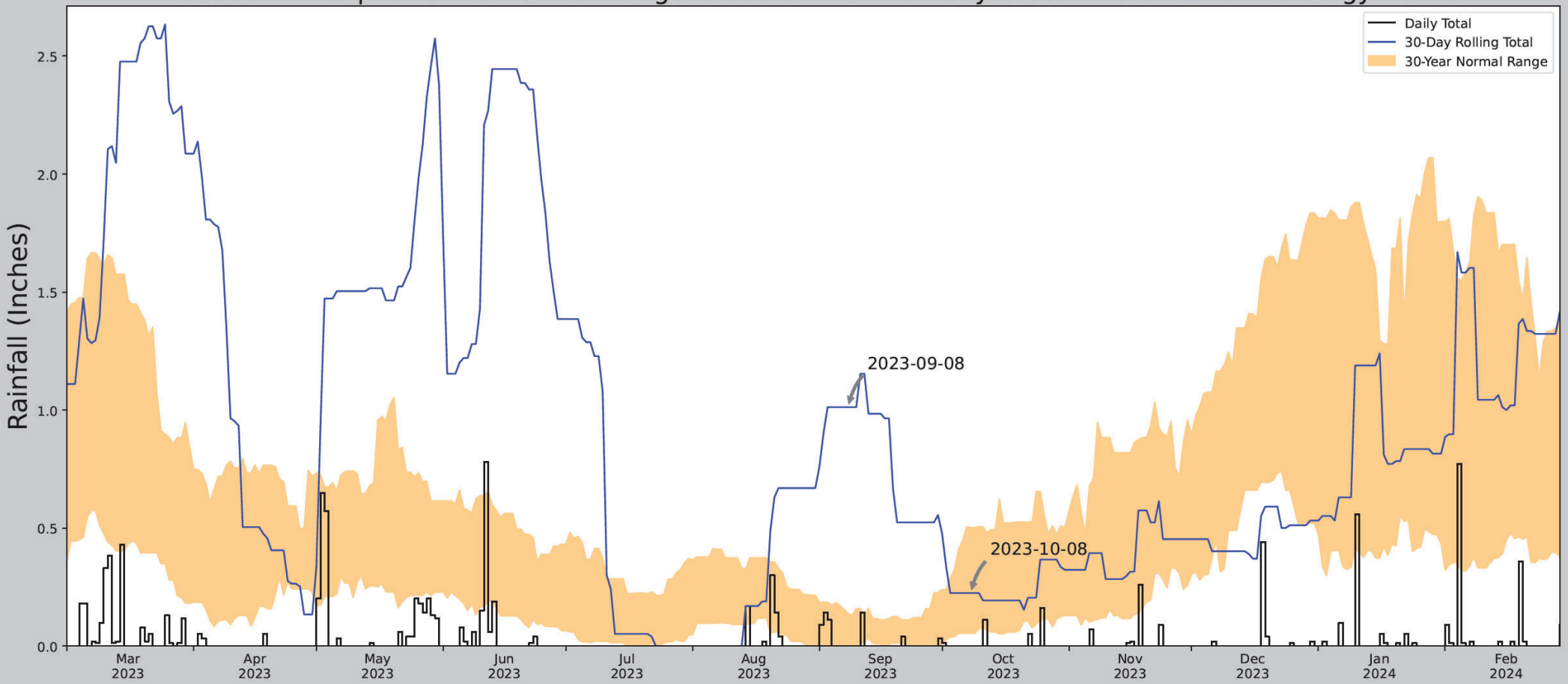
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
RENO WFO	39.5683, -119.7956	4986.877	15.695	93.574	8.531	9282	90
RENO 1.4 NNE	39.5573, -119.8144	4901.903	1.257	84.974	0.672	1	0
STEAD	39.6253, -119.8836	5101.05	6.121	114.173	3.453	2020	0
SPARKS	39.5558, -119.7333	4356.956	3.429	629.921	3.703	49	0
RENO AP	39.5078, -119.7683	4404.856	4.426	582.021	4.568	1	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	39.537271, -119.503755
Observation Date	2023-10-08
Elevation (ft)	4893.303
Drought Index (PDSI)	Extreme wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-10-08	0.053543	0.502362	0.224409	Normal	2	3	6
2023-09-08	0.0	0.137008	1.011811	Wet	3	2	6
2023-08-09	0.096063	0.374016	0.0	Dry	1	1	1
Result							Normal Conditions - 13

US Army Corps of Engineers

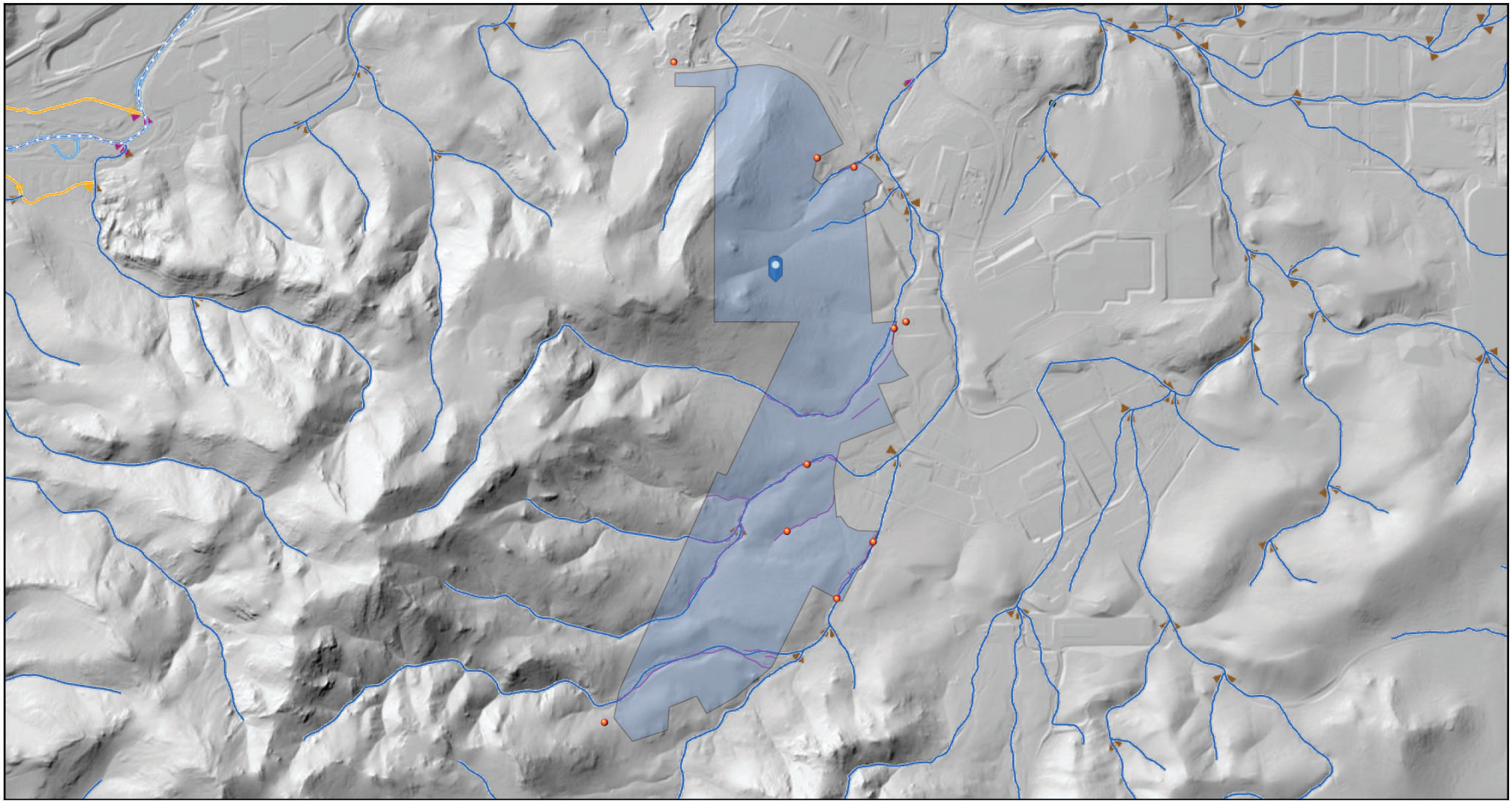
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
RENO WFO	39.5683, -119.7956	4986.877	15.695	93.574	8.531	10012	90
RENO 1.4 NNE	39.5573, -119.8144	4901.903	1.257	84.974	0.672	1	0
STEAD	39.6253, -119.8836	5101.05	6.121	114.173	3.453	1290	0
SPARKS	39.5558, -119.7333	4356.956	3.429	629.921	3.703	48	0
RENO AP	39.5078, -119.7683	4404.856	4.426	582.021	4.568	1	0

SPK-2024-00177 [redacted] (3DEP)



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0 0.35 0.7 1.4 mi

0 0.5 1 2 km

2024 - NTPS x3 Page JD Sample Location
2024 - NanotechPerushelf CTRLpts
2024 - NanotechPerushelf Boundary
2024 - NanotechPerushelf AR Features

Flowline
Canal
River
Waterbody Connector

Waterbody - Large Scale
Estuary
Ice Mass
Lake Pond
Playa
Reservoir
Swamp Marsh

Area - Large Scale
Area of Complex Channels
Area to be Submerged

BayInlet
Bridge
CanalDitch
DamWeir
Flume
Foreshore
Hazard Zone
Inundation Area
Lock Chamber

Rapids
SeaOcean
Special Use Zone
Spillway
StreamRiver
Submerged Stream
Wash
Water IntakeOutflow

Flowline - Large Scale
Perennial

Intermittent
Ephemeral
Artificial Path
Canal Ditch
Coastline
Connector
Pipeline
Underground Conduit

Flow Direction
Connector

CanalDitch
Underground Conduit
StreamRiver
StreamRiver - Perennial
StreamRiver - Intermittent
StreamRiver - Ephemeral
Pipeline
Artificial Path

Line - Large Scale
Line

Tunnel
Point Event

Point
Dam/Weir
Other

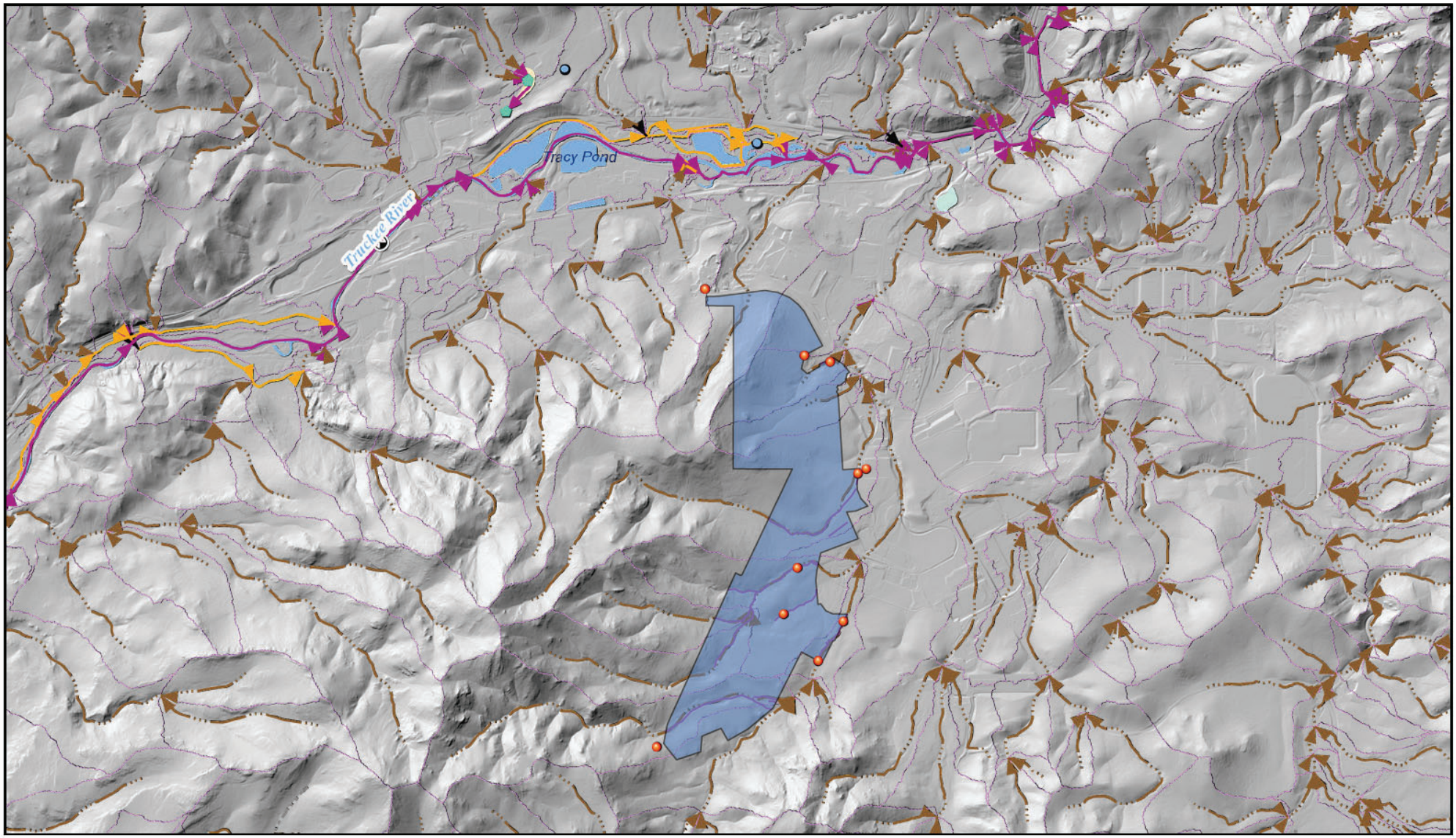
3DEP Elevation - Hillshade
255
0

Enclosure 6

USGS TNM / NGTOC – 3D National Hydrographic Program (3DHP.) Data refreshed March 2024., USGS National Map 3D Elevation Program (3DEP). February 29, 2024., USGS TNM – National Hydrography Dataset. Data Refreshed January, 2024., USGS The National

[redacted] 2021 USGS

SPK-2024-00177



5/15/2024, 4:24:30 PM

2024 - NTPS x3 Page JD Sample Location
2024 - NanotechPerushelf CTRLpts
2024 - NanotechPerushelf Boundary
2024 - NanotechPerushelf AR Features
NHDPlusCatchment
NHDWaterbody
Estuary
Ice Mass
LakePond
Playa
Reservoir
SwampMarsh
NHDArea
Area of Complex Channels
Area to be Submerged
BayInlet
Bridge
CanalDitch
DamWeir
Flume
Foreshore
Hazard Zone
Inundation Area
Lock Chamber
Rapids
SeaOcean
Special Use Zone
Spillway
StreamRiver
Submerged Stream
Wash
Water IntakeOutflow
NHDLine
<all other values>
Bridge
DamWeir
Flume
Gate
Levee
Lock Chamber
Nonearthen Shore
Rapids
Reef
SinkRise
Sounding Datum Line
Tunnel
Wall
Waterfall
FlowDirection
StreamRiver
StreamRiver - Perennial
StreamRiver - Intermittent
StreamRiver - Ephemeral
Artificial Path
Drainageway
CanalDitch
Connector
Pipeline
Underground Conduit
NonNetworkNHDFlowline
NetworkNHDFlowline

1:72,224

0 0.5 1 2 mi

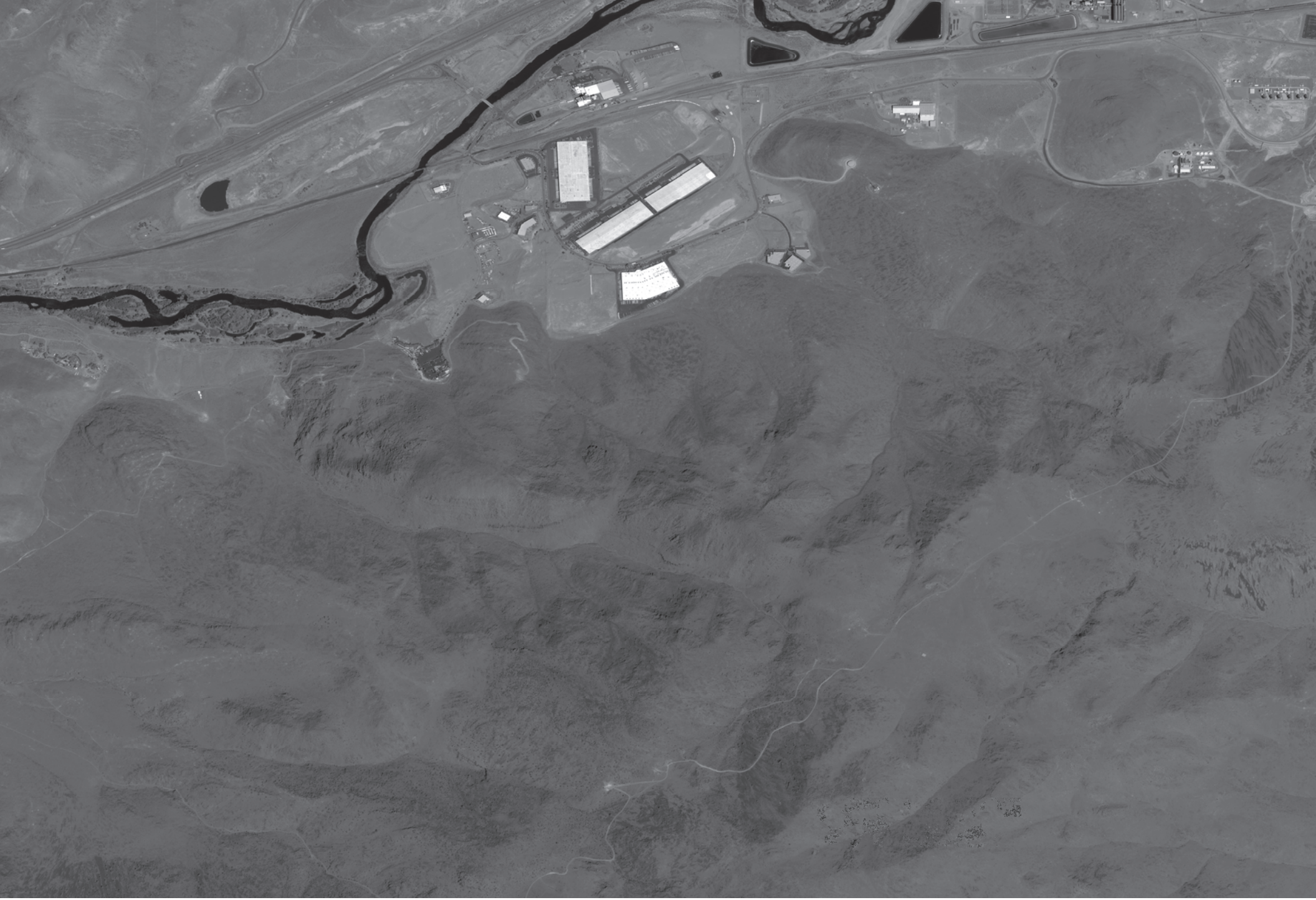
0 0.75 1.5 3 km

USGS TNM – National Hydrography Dataset Plus High Resolution (NHDPlus HR). Data refreshed October, 2022., USGS National Map 3D Elevation Program (3DEP). April 15, 2024., USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National

Enclosure 6

Enclosure 7

20MAY08



Enclosure 7

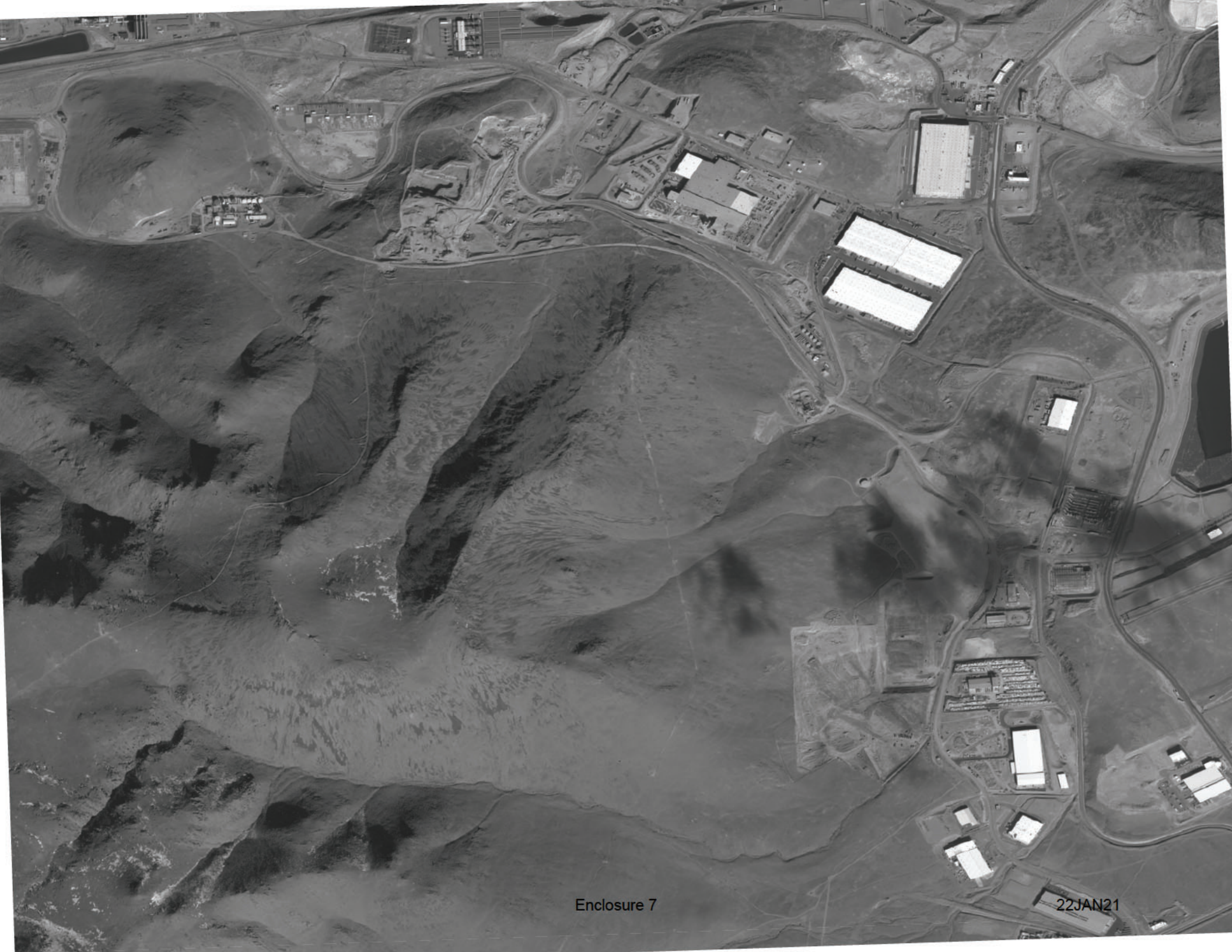
21MAY08

Enclosure 7

21MAY08

Enclosure 7

22JAN21

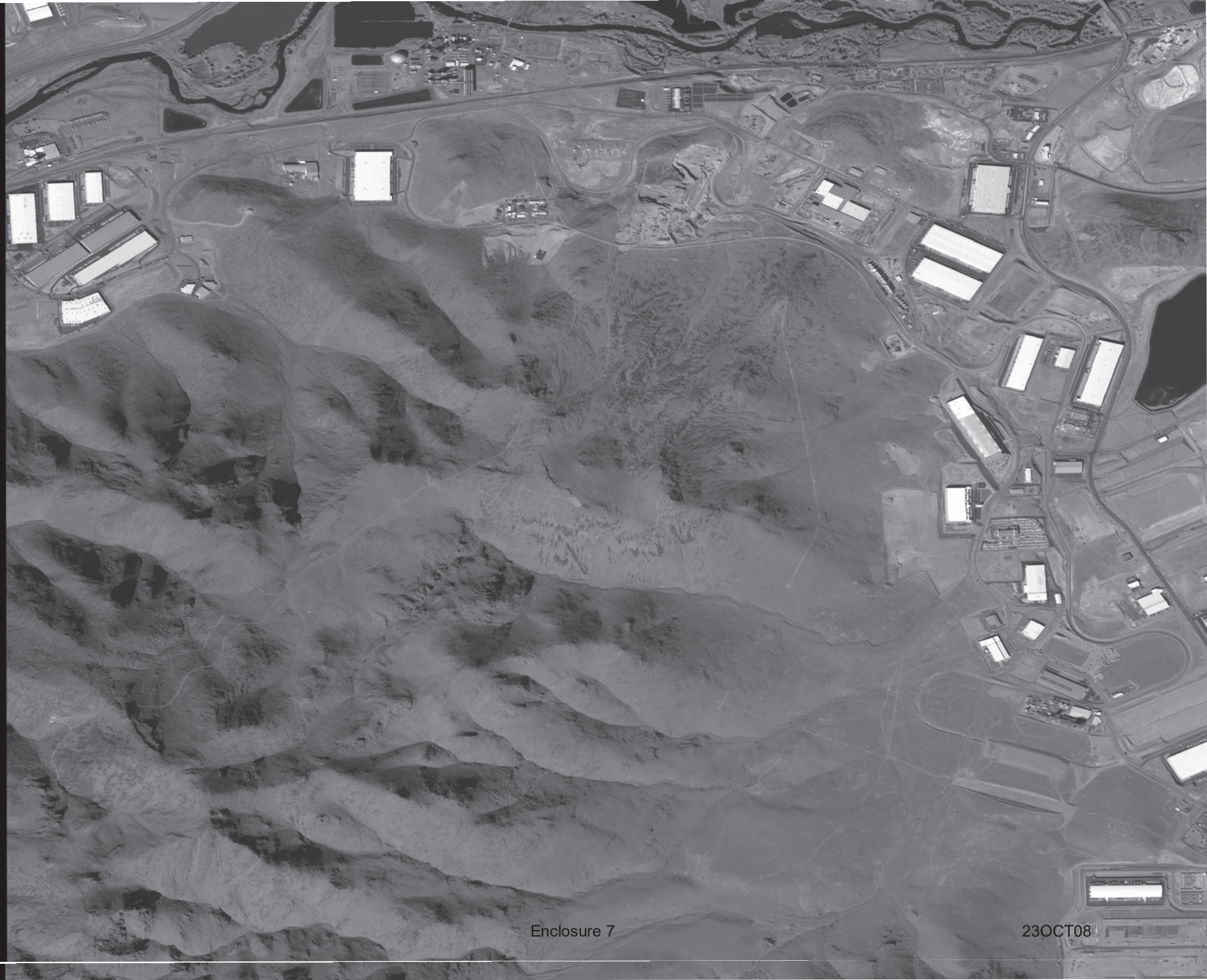


Enclosure 7

22JAN21

Enclosure 7

22JAN21



Enclosure 7

23OCT08


Enclosure 7
23OCT08