

DOCKETED	
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TN #:	261932
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Lahontan Regional Water Quality Control Board

February 19, 2025

Willow Rock Energy Storage Center
Kern County

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Lahontan Regional Water Quality Control Board Comments on Applicant's Response to Willow Rock California Energy Commission Data Request Set 6 Attachment DR121-1, Docket No. 21-AFC-02, Kern County

Lahontan Regional Water Quality Control Board (Water Board) staff provided the California Energy Commission (CEC) with a request for information for the Willow Rock Energy Storage Center (Project) on December 20, 2024. CEC then submitted our information request to Hydrostor, Inc. (Applicant) on January 13, 2025, under CEC Data Request Set 6 (Enclosure 1). WSP USA Inc., on behalf of the Applicant, prepared the Willow Rock CEC Data Request Set 6 Attachment DR121-1 (Information Request Response) and submitted that response to CEC on January 31, 2025 (Enclosure 2). Water Board staff reviewed the Information Request Response and determined that the response is incomplete or insufficient, as detailed below. The information Water Board staff requested on December 20, 2024, is pertinent to understanding and evaluating the potential impacts the Project may pose to water quality and in identifying appropriate waste discharge and monitoring requirements.

Evaporation Pond, California Code of Regulations, Title 27 – Water Board Comments on Applicant Responses

1. Applicant Response 1 – Water Board staff requested complete information on the geology, hydrogeology, and groundwater quality of the Project site. Incomplete and unsupported hydrogeology and groundwater quality information was provided for the Project. For example, in the Supplemental Application for Certification, Volume 1, Part B, Table 5.15.1, a water quality summary is provided for grab groundwater samples from borings completed during site

geotechnical investigations. However, a figure depicting the boring locations, information on how depth discrete samples were collected from the various boring depths, and laboratory analytical methods and reports were not provided, resulting in incomplete and unsupported water quality information. Another example, the Information Request Response references two monitoring wells 23E-05 and 23E-11, information provided for these wells is inconsistent. The well construction log for monitoring well 23E-05 does not reference first encountered groundwater, and the well construction log for 23E-11 does not reference that groundwater was encountered. Yet, the Information Requests Response provided tabulated water quality data in Table DR121-1, Table 1 with column headings 23E-05A, 23E-05B, 23E-11A, and 23-E-11B. It's unclear what the A and B monitoring well column headings are references to. Additionally, Water Board staff notes that these wells were constructed with 40- and 50-foot screen intervals, respectively, a longer screen interval in comparison to standard monitoring well construction specifications possibly resulting in biased low constituent concentrations. The possible inaccuracy of unsupported data means that the water quality impacts cannot be fully assessed, nor can requirements be properly structured to mitigate or prevent impacts. Complete, consistent, and supported information on hydrogeology and groundwater quality needs to be provided for review.

2. Applicant Response 2 – Water Board staff requested the characterization of waste. Volume information was provided on the waste streams, however, the characterization and classification information provided is incomplete. The Information Request Response provided waste constituent concentration data for maintenance activities water, reverse osmosis permeate and reject water, and reservoir water sourced from Antelope Valley Eastern Kern Water Agency. The characterization or constituent concentration data provided does not include sample dates or when the data was generated, laboratory analytical methods and reports, or full constituent analysis. Also, several chemical additives for the closed loop system are proposed, yet manufactured specifications for the chemical additives were not provided. Complete waste characterization is needed to properly classify waste to support the identification of an appropriately designed and constructed waste management unit (WMU) and to ensure compliance with state laws regarding the design, construction, and operation of the water management units.
3. Applicant Response 3a – Water Board staff requested a detailed surface impoundment (WMU) design plan (engineered drawings). The Information Request Response provided a general description of the proposed surface impoundment design. California Code of Regulations (CCR), title 27 requires the submittal of a design plan for approval, to be designed, constructed (supervised), and certified (signed and sealed) by a licensed civil engineer or certified engineering geologist. A design plan was not provided.

4. Applicant Response 3ai – A proposed surface impoundment liner system is described insufficiently. The high-density polyethylene (HDPE) liner thicknesses, minimum compaction specification for the subgrade liner, and the hydraulic conductivity of each liner component are not specified. This information is needed to ensure the surface impoundment/WMU will be constructed to prevent migration of waste from the WMU to adjacent geologic materials, groundwater, or surface waters.
5. Applicant Response 3aii – With the detailed WMU design, Water Board staff requested an Action Leakage Rate (ALR), the minimal and maximum amount the primary WMU liner may leak. As described above, a design plan was not submitted. An adequate design plan would include details regarding the leachate collection and removal system design, capacity, and operation that would justify and establish the ALR. An ALR is needed to establish requirements regarding when liners must be inspected and when discharges should cease to minimize the impacts to water quality and repair the liner. An ALR was not provided.
6. Applicant Response 3b – Water Board staff requested in conjunction with the WMU design plan the construction quality assurance (CQA) plan. CCR, title 27, requires the submittal and approval of the CQA plan, to ensure proper construction of the WMU. The CQA Plan is to be prepared and certified (signed and sealed) by a licensed civil engineer or certified engineering geologist. The CQA Plan is to be reviewed and accepted concurrently by the overseeing regulatory agency. The CQA plan was not provided.
7. Applicant Response 4a – Water Board staff requested information on a detection monitoring program (DMP). Key components of the DMP include the installation of water quality monitoring systems (unsaturated zone monitoring, e.g., pan lysimeter and monitoring wells), appropriate for detecting at the earliest possible time, a release from the WMU; record keeping, the establishment of background water quality values, identification of monitoring parameters (constituents), monitoring frequency, and data analysis (non-statistical and statistical). Information on a DMP was not provided.
8. Applicant Response 4b – The Information Request Response states a detection monitoring network will be established and is anticipated to include one upgradient background well at a least one downgradient detection monitoring well. The installation of one downgradient monitoring well is insufficient. The number of downgradient monitoring wells needed for a DMP is based on site specific conditions. A work plan considering site specific conditions, proposing the installation of unsaturated zone and groundwater monitoring well points, a site map identifying the locations of monitoring points, drilling and well development methods, proposed monitoring well depths and well construction specifications, and sampling and analysis procedures and methodologies is needed.

9. Applicant Response 4bi – The DMP should include a proposal for the establishment of Water Quality Protection Standards (WQPS) or background water quality values. WQPS proposals typically include the identification of the groundwater monitoring wells that will be used to collect groundwater samples for laboratory analysis, including the site upgradient of background monitoring well, and data analysis methodologies. Methodologies such as statistics that will be used to calculate background water quality values, then used to compare future groundwater laboratory analytical results against. A proposal for the establishment of WQPS was not provided.
10. Applicant Response 5 – The Information Response Request states the operations and maintenance plan will include operation levels and waste input quantities permitted each month based on anticipated precipitation and past precipitation conditions for the year. Operation levels and waste input quantities permitted each month based on anticipated precipitation and past precipitation conditions for the year are factors that should be considered in the design capacity of the WMU. An operations and maintenance plan should include but is not limited to, a description of day-to-day operations in relation to the WMU, routine visual observations of the WMU and associated infrastructure, WMU non-operable notifying procedures, procedures for system shutdowns and repairs, and frequency and procedures for sludge removal (WMU cleanout) activities. An operations and maintenance plan was not provided.
11. Applicant Response 6 – Water Board staff requested a closure/post- closure plan. The Information Request Response states that clean closure of the WMU is anticipated. The proposed clean closure is described; however, the clean closure description does not address the disposal of the liner system material. Additionally, no closure cost were provided. The information provided for the closure/post-closure plan is incomplete.
12. Applicant Response 7 – Water Board staff requested a known or reasonably foreseeable release plan (KRFRP). CCR, title 27, requires WMU owners/operators to demonstrate financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from the WMU. A KRFRP is developed to identify and determine the cost of cleanup of the most likely release scenario. A KRFRP was not provided.

Dredge and Fill within Waters of the State – Water Board Comments on Applicant's Response

1. Response Attachments – Water Board staff have reviewed the Willow Rock CEC Data Request 6 Attachments (TN #s: 261500, 261511, 261515, and 261516). These attachments did not address Waters of the State but instead addressed vegetation impacts (Enclosure 2). Based on the maps that were provided in Attachment DR125-1, Water Board staff cannot determine if Waters of the State

are present. There were several areas that were mapped as "Disturbed." However, disturbed areas can still be or contain waters of the State. Additionally, many of the "Disturbed" areas have ephemeral washes at either end of the section that was mapped. A delineation report of surface water to evaluate the Project's potential impacts to Waters of the State was not provided. Please provide a complete and thorough delineation report that documents the presence of surface water features (ephemeral, intermittent, and/or perennial) in and adjacent to the Project area.

If you have any questions regarding this matter, please contact me at (760) 241-7376 or email at (jan.zimmerman@waterboards.ca.gov) or Christina Guerra, Senior Engineering Geologist at (760) 241-7333 or email at (christina.guerra@waterboards.ca.gov). Please send all correspondence regarding Willow Rock Energy Storage Center to the Water Board's email address at Lahontan@waterboards.ca.gov.



Jan Zimmerman, PG
Supervising Engineering Geologist
South Lahontan Basin Division Manager

Enclosure: 1) Water Board Information Data Request - TN #s: 261072
2) Willow Rock CEC Data Request Set 6 Attachment DR121-1 - TN #s:
261500, 261511, 261515, and 261516

cc: Erika Giorgi, CEC (erika.giorgi@energy.ca.gov)
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DOCKETED	
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Project Title:	Willow Rock Energy Storage Center
TN #:	261072
Document Title:	Willow Rock Data Requests Set 6
Description:	Willow Rock Data Requests Set 6 - biological and water resources
Filer:	Kaycee Chang
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	1/13/2025 4:55:12 PM
Docketed Date:	1/13/2025



January 13, 2025

Curt Hildebrand
Hydrostor, Inc.
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Sacramento, CA 95814-4497

Data Requests Set 6 for Willow Rock Energy Storage Center (21-AFC-02)

Dear Curt:

Pursuant to California Code of Regulations, title 20, section 1716, California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests Set 6, which is necessary for a complete staff analysis of the Willow Rock Energy Storage Center (WRESC) under the Warren-Alquist Act and California Environmental Quality Act (CEQA).

Responses to the data requests are due to staff by January 27, 2025. If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send written notice to me and the Committee within 10 days of receipt of this letter. Such written notification must contain the reasons for not providing the information, the need for additional time, or the grounds for any objections (see California Code of Regulations, title 20, section 1716 subd. (f)).

If you have any questions, please email me at Kaycee.Chang@energy.ca.gov.

_____/S/_____

Kaycee Chang
Supervisor, CEQA Project Management Unit

Enclosure: Data Requests Set 6

WILLOW ROCK ENERGY STORAGE CENTER DATA REQUESTS SET 6

BIOLOGICAL AND WATER RESOURCES

BACKGROUND

As a follow up to Data Request 69 (Data Requests Set 3; TN 259256), the Lahontan Regional Water Quality Control Board (RWQCB) has requested information required to permit the proposed evaporation pond under California Code of Regulations (CCR), Title 27. This information was not previously provided in the report of waste discharge (ROWD), although the applicant did supply some information in their data request response.

DATA REQUEST

121. Please provide the following information so the RWQCB may prepare waste discharge requirements (WDRs) for the proposed evaporation pond under CCR Title 27:

- 1) Geology / Hydrogeology / Groundwater Quality
- 2) Waste Characterization / Waste Classification
- 3) Waste Management Unit
 - a) Detailed Surface Impoundment Design Plan
 - i) Specified liner components
 - ii) Action Leakage Rate
 - b) Construction Quality Assurance Plan for the Surface Impoundment
- 4) Detection Monitoring Program (Water Quality Monitoring)
 - a) Unsaturated zone monitoring (e.g., pan lysimeter)
 - b) Groundwater monitoring downgradient of the pond
 - i) Establishment of Water Quality Protection Standards (background water quality)
- 5) Operations and Maintenance Plan
- 6) Closure/Post-Closure Plan
- 7) Known or Reasonably Foreseeable Release Plan

BACKGROUND

If the berm around the compensation reservoir is or will be in excess of 6 feet in height, measured from the original grade, and would be storing more than 50 acre-feet of water, it would meet the definition of a jurisdictional dam pursuant to Water Code sections 6002 and 6003, which would require approval by the Division of Safety of Dams (DSOD) of California Department of Water Resources (DWR). However, the issuance of a certificate by CEC shall be in lieu of any permit, certificate or similar

WILLOW ROCK ENERGY STORAGE CENTER DATA REQUESTS SET 6

document required by any state, local or regional agency under the Warren Alquist Act, including approval for jurisdictional dams. CEC Staff are coordinating with DSOD on whether the compensation reservoir meets applicable requirements for a jurisdictional dam. The applicant indicated in a previous communication that the berm would be outside the jurisdiction of the DSOD. Staff hereby requests information to resolve this discrepancy or all details about the berm and the compensation reservoir necessary for DSOD approval as a jurisdictional dam.

DATA REQUESTS

122. Provide confirmation that the dam does not meet the definition of a jurisdictional dam in Water Code sections 6002 and 6003 or provide all information required by the DSOD to complete their review of the dam as a jurisdictional dam.

BACKGROUND

The applicant provided a delineation of State waters in the Willow Rock Jurisdictional Waters Delineation Report (TN 258308). During the review of the report, staff, the California Department of Fish and Wildlife (CDFW), and the RWQCB, noted that there appeared to be numerous drainages that were not mapped or evaluated in the report. Most of these drainages appeared to be capable of conveying flow during storm events and therefore are likely to be considered jurisdictional by the CDFW and RWQCB. These areas were visible on aerial maps and were field verified by staff in the field. Staff requests the following data be provided. The RWQCB will use this data to prepare dredge and filling permit requirements.

DATA REQUESTS

123. Update the Willow Rock Jurisdictional Waters Delineation Report to include the unmapped drainages.

124. Provide an assessment in tabular form of the expected temporary and permanent impacts to these features for all alignments and alternatives from the placement of the transmission line poles, access roads, and any other project feature. Include a description of the vegetation impacted and clarify if drive and crush, grading, or other methods would be required.

125. Provide a consolidated series of updated maps that identify drainage types, project features, vegetation communities, and temporary/permanent impacts.

BACKGROUND

During a site visit on November 27, 2024, with staff and the applicant, the applicant indicated that they would be refining the Western Joshua tree (*Yucca brevifolia*) data to

WILLOW ROCK ENERGY STORAGE CENTER DATA REQUESTS SET 6

be consistent with requirements of the Western Joshua tree mitigation program. In addition, the applicant noted they would be consolidating data collected over different periods of time.

DATA REQUESTS

126. Provide the refined Western Joshua tree census data for the project in a single report.

DOCKETED

Docket Number:	21-AFC-02
Project Title:	Willow Rock Energy Storage Center
TN #:	261500
Document Title:	Willow Rock CEC Data Request Set 6 Attachment DR121-1
Description:	N/A
Filer:	Kathryn Stevens
Organization:	WSP USA Inc.
Submitter Role:	Applicant Consultant
Submission Date:	1/31/2025 3:24:17 PM
Docketed Date:	1/31/2025

ATTACHMENT DR121-1

DR121 Request Outline Number	Item	Regulation	Response
1	Geology / Hydrogeology / Groundwater Quality	§20240. SWRCB - Classification and Siting Criteria.	<p>The evaporation pond will be constructed using approximately 10 feet of excavated material from the site during the construction of the compensation reservoir. This fill will consist of crushed weathered rock. Groundwater has been observed at a depth of 40 feet below existing grade. The anticipated depth of the evaporation pond is approximately 5 to 10 feet below existing grade, ensuring a 5-foot separation between the highest anticipated groundwater level and the base of waste within the impoundment.</p> <p>There are no known Holocene faults in the vicinity.</p> <p>Two monitoring wells, 23E-05 and 23E-11, were sampled in August 2024. Groundwater data from the August 2024 sampling event is attached (DR121-1 Table 1).</p>
2	Waste Characterization / Waste Classification	§20240. SWRCB - Classification and Siting Criteria.	<p>The evaporation pond will receive discharge from up to three waste streams:</p> <ol style="list-style-type: none"> 1: Maintenance Activities: estimated 250,000 gallons per year 2: Water Treatment RO Reject: 15,000 gallons per year (not typically in use) 3: Reservoir Level Management: 1,400,000 gallons per year (not typically in use) <p>It is anticipated that the combined monthly flow to the pond will be approximately 140,000 gallons.</p> <p>The anticipated water quality from the three sources is as noted:</p> <ul style="list-style-type: none"> - Maintenance Activities: a) water from floor drains from routine equipment washing. The water will pass through an oil/water separator prior to being discharged to the evaporation pond; and b) water from the closed-loop thermal system which may need to be collected during maintenance activities. The water from the closed loop system will consist of RO treated permeate for the initial charging plus potential chemical additives as needed during site operations. These include: ChemTreat BL 1280 (Diemethyl-hydroxidylamine and hydroquinone), ChemTreat BL 1559 (Cyclohexylamine, Methoxypropylamine), ChemTreat CL 2900 (Sodium Molybdate), and ChemTreat CL 2150 (5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one). The permeate water is expected to exhibit the following water quality characteristics: <ul style="list-style-type: none"> • TDS max: <1 ppm • Hardness: <0.01 dH

DR121 Request Outline Number	Item	Regulation	Response
			<ul style="list-style-type: none"> • Oil and grease free • Conductivity: -25 °C < 0.5 µS/cm • Chloride: 0.5 ppm • Iron: <0.005 ppm • Copper: <0.01 ppm <ul style="list-style-type: none"> - Reject water from the treated AVEK source water. Anticipated reject water quality is shown on DR121-1 Table 2. - Reservoir Water: Anticipated reservoir water quality is shown in DR121-1 Table 3.
3a	Waste Management Unit Detailed Surface Impoundment Design Plan	<p>§20250. SWRCB - Class II: Waste Management Units for Designated Waste.</p> <p>§20330. SWRCB – Liners</p> <p>§20365. SWRCB - Precipitation and Drainage Controls.</p> <p>§20370. SWRCB - Seismic Design.</p>	<p>The proposed surface impoundment will consist of a double lined evaporation pond used for disposal of process wastewater described above. The liner system will be designed to be sufficient to contain the liquid wastes during active life of the surface impoundment and comply with Title 27.</p> <p>The surface impoundment will provide an evaporation surface of approximately 1.5 acre. Its operating capacity would be designed to accommodate an approximate discharge rate of 140,000 gallons per month. The surface impoundment will not receive stormwater, only direct precipitation. The evaporation pond parameters could be modified later based on the final flow defined during detailed engineering. If the final design flow rate is smaller, the area of the evaporation pond will be reduced accordingly.</p> <p>The surface impoundment, including containment structures, will have a foundation or base capable of providing support for the structures, and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift and all effects of ground motions resulting from the maximum probable earthquake; and it will be designed to contain a 1,000-year, 24-hour precipitation storm event while maintaining the mandatory 2-foot freeboard requirement.</p>
3ai	Waste Management Unit Specified liner components	<p>§20250. SWRCB - Class II: Waste Management Units for Designated Waste.</p> <p>§20330. SWRCB - Liners</p>	<p>The proposed design of the surface impoundment, from the surface downwards, is anticipated to consist of the following:</p> <ul style="list-style-type: none"> - A primary high-density polyethylene (HDPE) liner; - An interstitial leak detection and removal system (LDRS) comprising a geomembrane geonet and collection piping; - A secondary HDPE liner; and

DR121 Request Outline Number	Item	Regulation	Response
			<ul style="list-style-type: none"> - A base layer consisting of 2 foot of onsite re-worked and re-compacted soil below the lower liner, to provide a firm compacted surface to receive liner system. - A leak detection system consisting of continuous carrier pipes installed at the sides and low point of each surface impoundment below the secondary liner.
3aii	Waste Management Unit Action Leakage Rate		<p>The ALRs will be based on the design dimensions and design specifications of the surface impoundment and on a 1992 United States Environmental Protection Agency (USEPA) guidance document, <i>Action Leakage Rates for Leak Detection Systems, Supplemental Background Document for the Final Double Liners and Leak Detections Systems Rule for Hazardous Waste Landfills, Waste Piles, and Surface Impoundments</i>. The numerical ALRs will include requirements for monitoring and reporting leakage rates from the LCRS and the type of response actions the that are required should applicable ALRs are exceeded.</p> <p>The details and design of the Action Leakage Rate (ALR) for the surface impoundment will be developed during detailed design.</p>
3b	Construction Quality Assurance (CQA) Plan for the Surface Impoundment	§20323. SWRCB CQA Plan	A CQA plan certified by an appropriately registered professional will be prepared to ensure proper construction of the surface impoundment to satisfy the requirements of §20324 (CQA Requirements) and assure the structure is constructed in accordance with the design specifications approved by the RWQCB.
4a	Detection Monitoring Program (Water Quality Monitoring) Unsaturated zone monitoring (e.g., pan lysimeter)	§20385 SWRCB - Required Programs §20400. SWRCB - Concentration Limits	The Dischargers must maintain a DMP as required in CCR, title 27, section 20420. The Dischargers must continue to conduct a DMP, as necessary, to provide the best assurance of the detection of a release from the surface impoundment.
4b	Groundwater monitoring downgradient of the pond	§20385 SWRCB - Required Programs	A detection monitoring network will be established to monitor the surface impoundment. The network is anticipated to include one upgradient background well and at least one downgradient detection monitoring well. The contaminants of concern (COC) list will be established upon a review of the waste streams reporting to the surface impoundment.

DR121 Request Outline Number	Item	Regulation	Response
4bi	Establishment of Water Quality Protection Standards (background water quality)	§20390 through 20410. SWRCB	A Water Quality Protection Standard (WQPS) is required to assure the earliest possible detection of a release from a waste management unit to the underlying soil and/or groundwater. The WQPS will consist of COCs, concentration limits, monitoring points, and the point of compliance for groundwater and the unsaturated zone. The monitoring program will be developed during detailed design.
5	Operations and Maintenance Plan	§20375. Special Requirements for Surface Impoundments.	An operation plan will be submitted to the RWQCB which will provide operation levels and waste input quantities permitted each month based on anticipated precipitation and on past precipitation conditions for the year.
6	Closure/Post-Closure Plan	§20950. SWRCB - General Closure and Post-Closure Maintenance Standards	A closure/post-closure plan will be prepared during detailed design. It is anticipated that the surface impoundments will be clean-closed, in accordance with CCR, title 27, sections 20950 and 21090 (f). All residual waste materials in the surface impoundments will be removed and disposed of in an approved offsite waste disposal facility. Liner system material and underlying soil will be tested for contamination. Any material not classified as inert will be removed and disposed of at an approved disposal location.
7	Known or Reasonably Foreseeable Release Plan	§20380, subdivision b	A known or reasonably foreseeable release plan will be prepared during detailed design.

DR121-1 Table 1: August 2024 Groundwater Results from Onsite Monitoring Wells

		Sample ID	23E-05A	23E-05B	23E-11A	23E-11B
Analyte	RL	Units	8/21/2024	8/21/2024	8/21/2024	8/21/2024
Bromide	0.40	mg/L	1.8	1.8	0.83	0.84
Chloride	0.40	mg/L	550	550	260	270
Fluoride	0.40	mg/L	0.45	0.49	1.0	1.1
Nitrate as N	0.40	mg/L	6.2	8.2	9.8	7.6
Nitrite as N	0.40	mg/L	ND	ND	ND	ND
Sulfate	0.40	mg/L	310	330	150	170
Mercury	0.00020	mg/L	ND	ND	ND	ND
Aluminum	0.20	mg/L	3.5	2.8	0.58	0.66
Antimony	0.050	mg/L	ND	ND	ND	ND
Arsenic	0.040	mg/L	ND	ND	ND	ND
Barium	0.080	mg/L	0.11	0.11	0.11	0.11
Beryllium	0.010	mg/L	ND	ND	ND	ND
Boron	0.16	mg/L	0.17	0.17	0.59	0.57
Cadmium	0.0050	mg/L	ND	ND	ND	ND
Calcium	0.40	mg/L	270	270	110	100
Chromium	0.010	mg/L	ND	ND	ND	ND
Cobalt	0.010	mg/L	ND	ND	ND	ND
Copper	0.020	mg/L	ND	ND	ND	ND
Iron	0.40	mg/L	3.7	3.7	0.59	0.64
Lead	0.010	mg/L	0.014	0.015	0.012	0.015
Magnesium	0.050	mg/L	54	53	28	27
Manganese	0.010	mg/L	0.18	0.25	0.11	0.12
Molybdenum	0.010	mg/L	ND	ND	ND	ND
Nickel	0.010	mg/L	ND	ND	ND	ND
Potassium	0.50	mg/L	9.3	9.4	3.4	3.2
Selenium	0.050	mg/L	ND	ND	ND	ND
Silica (SiO ₂)	0.80	mg/L	40	36	46	44
Silver	0.010	mg/L	ND	ND	ND	ND
Sodium	1.2	mg/L	93	93	100	99
Strontium	0.010	mg/L	2.2	2.2	0.83	0.80

		Sample ID	23E-05A	23E-05B	23E-11A	23E-11B
Analyte	RL	Units	8/21/2024	8/21/2024	8/21/2024	8/21/2024
Thallium	0.020	mg/L	ND	ND	ND	ND
Vanadium	0.050	mg/L	ND	ND	ND	ND
Zinc	0.050	mg/L	ND	ND	ND	ND
Hardness as CaCO ₃	0.21	mg/L	900	900	390	370
pH @ 25 C	0.10	pH Units	7.74	7.64	7.91	7.64
Specific Conductance (EC) @ 25 C	2.0	uhmhos/cm	2300	2300	1300	1300
Total Alkalinity, CaCO ₃	20	mg/L	75	73	83	80
Bicarbonate, CaCO ₃	20	mg/L	75	73	83	80
Carbonate, CaCO ₃	20	mg/L	ND	ND	ND	ND
Hydroxide, CaCO ₃	20	mg/L	ND	ND	ND	ND
Ammonia as N	0.14	mg/L	ND	ND	ND	ND
Chemical Oxygen Demand	20	mg/L	140	150	29	31
Ferrous Iron	50.0	ug/L	149	ND	ND	117
Total Organic Carbon	0.50	mg/L	ND	ND	ND	ND
Orthophosphate as P	0.025	mg/L	0.84	0.92	0.24	0.30
Phosphorus-Total as P	0.025	mg/L	ND	ND	0.29	0.34
Turbidity	0.10	NTU	450	550	75	60
Total Dissolved Solids	10	mg/L	1800	1800	900	800
Total Suspended Solids	10	mg/L	1000	380	120	87
Notes: RL = reporting limit; mg/L = milligrams per Liter						

DR121-1 Table 2: Anticipate Reject Water Quality based on AVEK Source Water

STREAM DESCRIPTION				AVEK PIPELINE		RO PERMEATE		RO REJECT	
CONSTITUENT		CONVERT	UNITS	AS SUCH	AS CaCO3	AS SUCH	AS CaCO3	AS SUCH	AS CaCO3
CATIONS	CALCIUM, Ca	2.50	ppm	63.0	157.3	0.6	1.6	231.4	577.9
	MAGNESIUM, Mg	4.12	ppm	9.7	39.9	0.1	0.4	35.6	146.7
	SODIUM, Na	2.18	ppm	46.0	100.1	0.5	1.0	169.0	367.8
	POTASSIUM, K	1.28	ppm						
	TOTAL		ppm	297.4		3.0		1,092.4	
ANIONS	M-ALKALINITY, M-ALK		ppm		114.8		1.1		421.7
	BICARBONATE, HCO3	0.82	ppm	140.0	114.8	1.4	1.1	514.2	421.7
	CARBONATE, CO3	1.67	ppm						
	HYDROXIDE, OH	2.94	ppm						
	P-ALK		ppm						
	SULFATES, SO4	1.04	ppm	60.0	62.5	0.6	0.6	220.4	229.6
	CHLORIDES, Cl	1.41	ppm	78.2	110.4	0.8	1.1	287.3	405.5
	NITRATES, NO3	0.81	ppm	11.1	8.9	0.1	0.1	40.7	32.8
	PHOSPHATE, PO4	1.58	ppm						
	FLUORIDE, F	2.63	ppm	0.3	0.7	0.0	0.0	1.0	2.7
	TOTAL		ppm	297.4		3.0		1,092.4	
	CARBON DIOXIDE, CO2	1.14	ppm						
	SILICA, SiO2	0.83	ppm						
	TOTAL HARDNESS		ppm		197.3		2.0		724.6
	Mg (ppm) x SiO2 (ppm)								
	pH			7.6		4.2		8.6	
	SPECIFIC CONDUCTIVITY		µS/cm	518.7		5.2		1,905.2	
	TOTAL DISSOLVED SOLIDS, TDS		ppm	337.2		3.4		1,238.4	
	OIL / GREASE		ppm						
	TOTAL SUSPENDED SOLIDS, TSS		ppm						
	TURBIDITY		NTU	0.1		0.0		0.2	
	AMMONIA, NH3		ppm						
	NITRITE, NO2		ppm						
	TOTAL KJELDAHL NITROGEN, N		ppm						
	PHOSPHORUS, P		ppm						
	CYANIDE, CN		ppm						
	SULFIDE, S		ppm						
	MBAS		ppm						
	TOTAL ORGANIC CARBON, TOC		ppm						
	BIOLOGICAL OXYGEN DEMAND, BOD		ppm						
	CHEMICAL OXYGEN DEMAND, COD		ppm						

STREAM DESCRIPTION			AVEK PIPELINE		RO PERMEATE		RO REJECT	
CONSTITUENT	CONVERT	UNITS	AS SUCH	AS CaCO3	AS SUCH	AS CaCO3	AS SUCH	AS CaCO3
FAT / OIL / GREASE, FOG		ppm						
ALUMINUM, Al		ppb	140.0		1.4		514.2	
ANTINOMY, Sb		ppb						
ARSENIC, As		ppb	3.6		0.0		13.2	
BARIUM, Ba		ppb	58.0		0.6		213.0	
BERYLLIUM, Be		ppb						
BORON, B		ppb						
CADMIUM, Cd		ppb						
CHROMIUM, Cr		ppb	5.1		0.1		18.7	
CHROMIUM (HEX), Cr(+6)		ppb	5.8		0.1		21.3	
COBALT, Co		ppb						
COPPER, Cu		ppb						
IRON, Fe		ppb						
LEAD, Pb		ppb						
LITHIUM, Li		ppb						
MANGANESE, Mn		ppb						
MERCURY, Hg		ppb						
MOLYBDENUM, Mo		ppb						
NICKEL, Ni		ppb						
SELENIUM, Se		ppb						
SILVER, Ag		ppb						
STRONTIUM, Sr		ppb						
THALLIUM, Tl		ppb						
TIN, Sn		ppb						
TITANIUM, Ti		ppb						
VANADIUM, V		ppb						
ZINC, Zn		ppb	450.0		4.5		1,652.9	
AVAILABLE CHLORINE, FREE		ppm						
RESIDUAL CHLORINE, TOTAL		ppm						
LANGELIER-SATURATION INDEX (LSI)								
RYZNER STABILITY INDEX (RSI)								
PUCKORIUS SCALING INDEX (PSI)								

NOTES

1. WATER QUALITY IS SUBJECT TO CHANGE BASED ON ADDITIONAL SOURCE WATER QUALITY ANALYSES.
2. CHEMICAL ADDITIONS MAY IMPACT THE CONSTITUENT CONCENTRATIONS BUT THIS HAS NOT BEEN FACTORED IN.
3. ION BALANCE FOR AVEK PIPELINE IS ACHIEVED BY ADDING 24.2 PPM CHLORIDE (AS SUCH) AND FOR THE RESERVOIR BY ADDING 31.5 PPM SODIUM (AS SUCH).
4. RO REJECT QUALITY ASSUMES AVEK PIPELINE FLOW RATE OF 500 GPM FOR INITIAL FILL.

DR121-1 Table 3: Estimated Reservoir Water Quality based on AVEK Source Water

Constituent	Result (ND = Not Detected)
General Chemistry	
Calcium	26 mg/L
Magnesium	3600 ug/L
Sodium	87 mg/L
Bicarbonate Alkalinity as CaCO ₃	170 mg/L
Carbonate Alkalinity as CaCO ₃	21 mg/L
Chlorides	55 mg/L
Flouride	0.51 mg/L
Nitrate	ND
Sulfate	65 mg/L
pH	8.9
TDS @180 C	410 mg/L
MBAS	0.16 mg/L
Total Cyanide	0.0017 mg/L
Nitrite as N	0.0079 mg/L
Perchlorate	ND
Metals	
Hexavalent Chromium	0.00026 mg/L
Total Recoverable Aluminum	130 ug/L
Total Recoverable Antimony	ND
Total Recoverable Arsenic	ND
Total Recoverable Beryllium	ND
Total Recoverable Boron	150 ug/L
Total Recoverable Cadmium	ND
Total Recoverable Chromium	17 ug/L
Total Recoverable Copper	6.0 ug/L
Total Recoverable Iron	3800 ug/L
Total Recoverable Manganese	190 ug/L
Total Recoverable Mercury	ND
Total Recoverable Nickel	5.9 ug/L
Total Recoverable Selenium	ND
Total Recoverable Silver	ND
Total Recoverable Thallium	ND
Total Recoverable Zinc	1400 ug/L

DOCKETED	
Docket Number:	21-AFC-02
Project Title:	Willow Rock Energy Storage Center
TN #:	261511
Document Title:	Willow Rock CEC Data Request Set 6 Attachment DR123-1 Cover Sheet
Description:	N/A
Filer:	Kathryn Stevens
Organization:	WSP USA Inc.
Submitter Role:	Applicant Consultant
Submission Date:	1/31/2025 4:20:00 PM
Docketed Date:	1/31/2025

ATTACHMENT DR123-1

**Supplemental Preliminary
Delineation of Jurisdictional Waters
Report (submitted via Kiteworks)**

DOCKETED

Docket Number:	21-AFC-02
Project Title:	Willow Rock Energy Storage Center
TN #:	261515
Document Title:	Willow Rock CEC Data Request Set 6 Attachment DR124-1
Description:	N/A
Filer:	Kathryn Stevens
Organization:	WSP USA Inc.
Submitter Role:	Applicant Consultant
Submission Date:	1/31/2025 4:23:41 PM
Docketed Date:	1/31/2025

ATTACHMENT DR124-1

Permanent and Temporary Impact Tables

Table DR124-1: Summary of Estimated Permanent and Temporary Disturbance With and Without Onsite Rock Re-use

Project Element	Disturbed Acreage Without Berm (Rock Hauled Offsite)	Disturbed Acreage With Berm (Onsite Rock Re-use)	Permanent or Temporary¹
Architectural Berm	0.0	74.6	Permanent
Main Facility	88.6	88.6	Permanent
New Access Roads	3.7	2.1	Temporary
Pull and Tensioning Sites ²	21.5	21.5	Temporary
Site Construction Laydown and Parking ³	72.6	69.8 ⁶	Temporary
Transmission Pole Construction Sites ⁴	23.6	23.3 ⁶	Temporary
Transmission Line Undergrounding	0.7	0.7	Temporary
Transmission Pole Foundation	0.2	0.2	Permanent
Total Permanent	88.8	163.5	Permanent
Total Temporary⁵	122.2	117.3	Temporary

¹ Temporary impacts that occur within a permanent impact area were classified as permanent impacts.

² Some Pull and Tensioning Sites overlap with Site Construction Laydown and Parking. The overlapping areas have been measured as Pull and Tensioning Sites.

³ Temporary impacts within pole construction sites, pull and tensioning sites, and access roads that occur within site construction laydown and parking area were subtracted from the site construction laydown and parking area total to avoid double counting of temporary disturbance.

⁴ Some Pull and Tensioning Sites overlap with Site Construction Laydown and Parking. The overlapping areas have been measured as Pull and Tensioning Sites.

⁵ Temporary impacts within pole construction sites, pull and tensioning sites, and access roads that occur within site construction laydown and parking area were subtracted from the site construction laydown and parking area total to avoid double counting of temporary disturbance.

⁶ "With berm" acreage reduced marginally from "Without berm" acreage because a portion of this project element lies within the architectural berm boundary

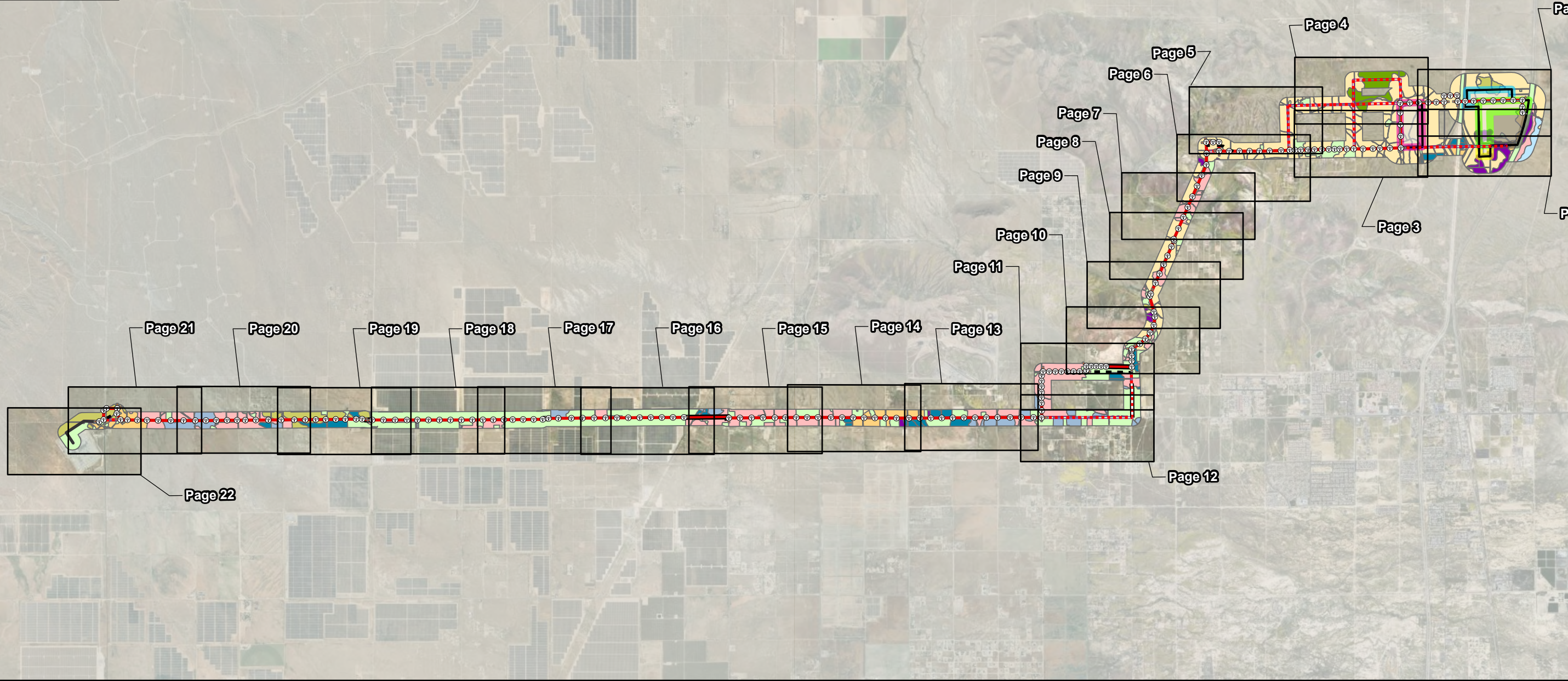
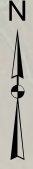
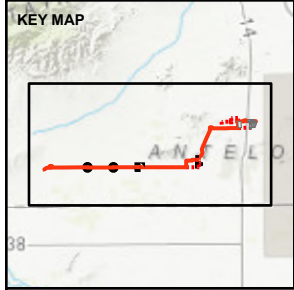
Table DR124-2: Permanent and Temporary Acreages of Each Vegetation Community/Land Use Impact

Vegetation Community/Land Use	Disturbed Acreage			
	Permanent Impacts Without Berm (Rock Hauled Offsite)	Temporary Impacts Without Berm (Rock Hauled Offsite)	Permanent Impacts With Berm (Onsite Rock Re-use)	Temporary Impacts With Berm (Onsite Rock Re-use)
Allscale scrub	0.0	5.8	0.2	5.6
Cheesebush Scrub	13.2	3.1	14.3	2.0
Creosote bush - white bursage scrub	63.8	76.3	125.8	73.4
Creosote bush scrub	0.0	2.1	0.0	6.6
Disturbed/Developed	6.6	23.6	8.9	26.5
Non-Native Grassland and Forbes	0.0	1.0	0.0	1.0
Rubber rabbitbrush scrub	0.0	1.1	0.0	1.1
Tamarisk Thickets	0.0	0.1	0.0	0.1
White Bursage Scrub	5.2	9.1	14.3	0.9
Total	88.8	122.2	163.5	117.3

DOCKETED	
Docket Number:	21-AFC-02
Project Title:	Willow Rock Energy Storage Center
TN #:	261516
Document Title:	Willow Rock CEC Data Request Set 6 Attachment DR125-1
Description:	N/A
Filer:	Kathryn Stevens
Organization:	WSP USA Inc.
Submitter Role:	Applicant Consultant
Submission Date:	1/31/2025 4:25:56 PM
Docketed Date:	1/31/2025

ATTACHMENT DR125-1

Vegetation Impacts Mapbook



LEGEND

- Map Book Page Extent

Vegetation Class

 - Allscale scrub (ASSC)
 - Cheesebush Scrub (CHBS)
 - Creosote bush - white bursage scrub (CBWS)
 - Creosote bush scrub (CBS)
 - Disturbed/Developed (DH-DEV)
 - Joshua tree woodland (JTW)
 - Needleleaf rabbitbrush scrub (NRS)
 - Non-Native (NNGF)
 - Non-Native Grassland and Forbes (NNGF)
 - Rubber rabbitbrush scrub (RRS)
 - Tamarisk Thickets (TTH)
- Project Features**

 - Proposed Transmission Line Pole Locations
 - Proposed Transmission Pole Construction Sites
 - Proposed Pull and Tensioning Sites
 - Existing Unimproved Roads
 - Proposed Access Roads
 - Potential Temporary Access Roads**
 - Existing Unimproved Roads
 - Proposed Access Roads
 - Proposed Transmission Line**
 - Preferred Route, Aboveground
 - Preferred Route, Underground
 - Preferred Route Option, Aboveground
- Project Components**

 - WRESC Site
 - P1
 - P2 North
 - P2 South
 - Villa Haines
 - Project Boundary
 - Preferred Route Option, Underground
 - Superseeded Preferred Route, Aboveground
 - Superseeded Preferred Route, Underground
 - SCE Whirlwind Substation Segment, Aboveground
 - Project ROW
- White Bursage Scrub (WBS)**



NOTE(S)
1. PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)
1. CADFW - VEGETATION CLASSES
2. WSP - SUPPLEMENTAL VEGETATION CLASSES
3. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
4. MAP SERVICE LAYER CREDITS: WORLD IMAGERY; EARTHSTAR GEOGRAPHICS
WORLD TOPOGRAPHIC MAP; ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

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GEM A-CAES LLC

CONSULTANT



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REVIEWED	NN
APPROVED	JP

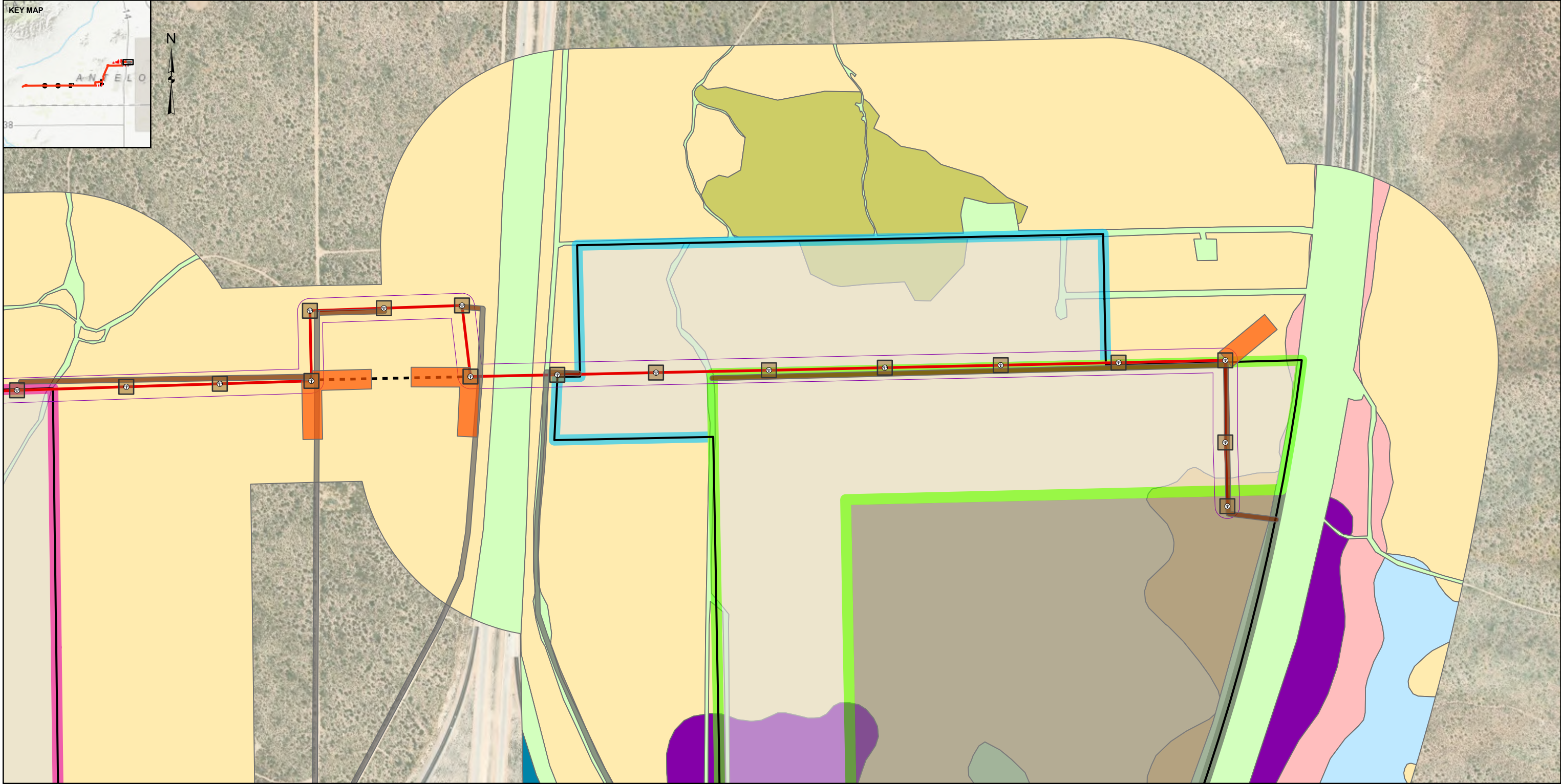
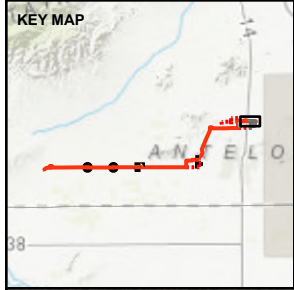
PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DR6

TITLE
**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK OVERVIEW**

PROJECT NO. US0029687.8167	PHASE 200	REV. 1	FIGURE DR125
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PATH: G:\Hydro\Aerial\08_PROJECTS\US0029687_8167\US-CEC\A-CAES_Discovery_Phase1\01_Data_Adaptasy\02_PRODUCTION\XDFIGURES\CEC_DR6\RevA\CEC_DR124.apr PRINTED: 1/31/2025 at 1:08 PM BY: USKO\27098

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LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Creosote bush - white bursage scrub (CBWS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Needleleaf rabbitbrush scrub (NRS)
- Rubber rabbitbrush scrub (RRS)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites
- Potential Temporary Access Roads
- Existing Unimproved Roads
- Proposed Access Roads
- Proposed Transmission Line
- Preferred Route, Aboveground

Project Components

- WRESC Site
- P1
- P2 North
- Villa Haines
- Project Boundary

Superseded Preferred Route, Aboveground

- Project ROW



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PREPARED	KO
REVIEWED	NN
APPROVED	JP

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

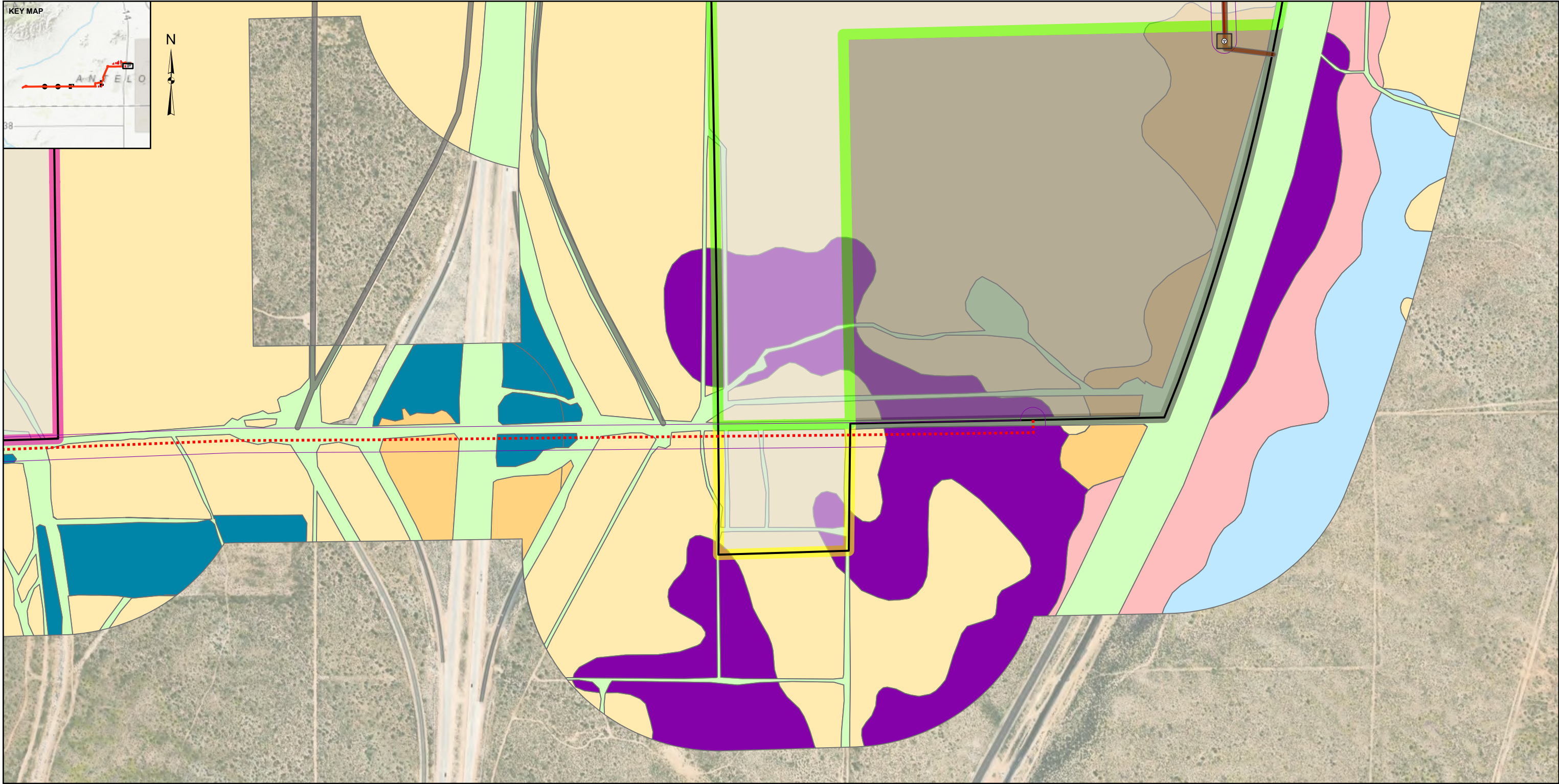
VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 1 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -1

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LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- Needleleaf rabbitbrush scrub (NRS)
- Rubber rabbitbrush scrub (RRS)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Potential Temporary Access Roads
- Existing Unimproved Roads
- Proposed Access Roads
- Proposed Transmission Line
- Preferred Route, Aboveground

- Preferred Route Option, Aboveground

- Project ROW

Project Components

- WRESC Site
- P1
- P2 South
- Villa Haines
- Project Boundary



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REVIEWED	NN
APPROVED	JP

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

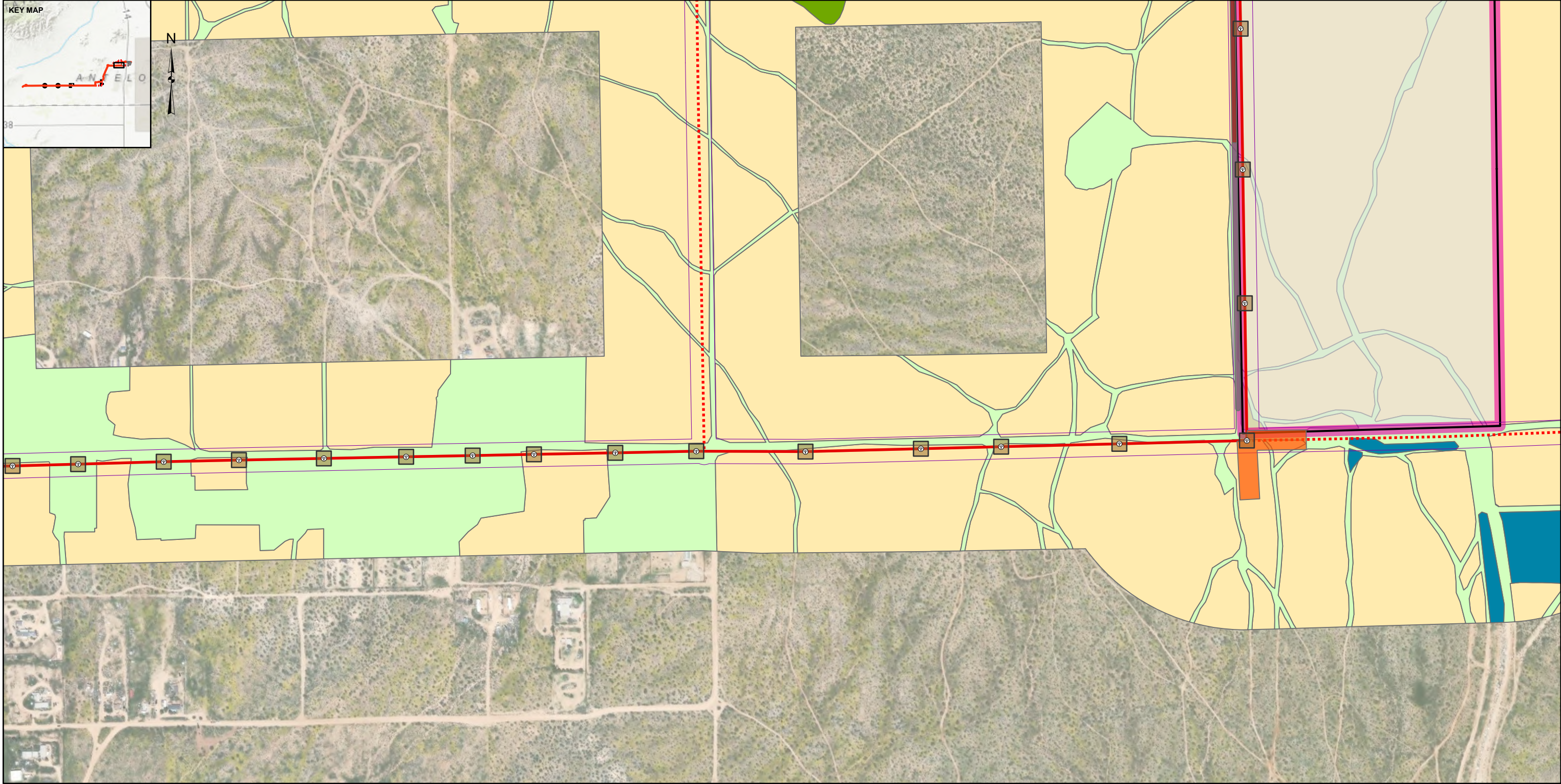
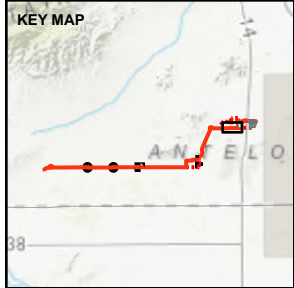
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- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, NGA, EPA, NPS

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE
VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 2 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -2

1 in
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

Vegetation Class

- Creosote bush - white bursage scrub (CBWS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Joshua tree woodland (JTW)
- Rubber rabbitbrush scrub (RRS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites

Potential Temporary Access Roads

- Existing Unimproved Roads
- Proposed Access Roads

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route Option, Aboveground

Project ROW

Project Components

- Villa Haines
- Project Boundary

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 3 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -3

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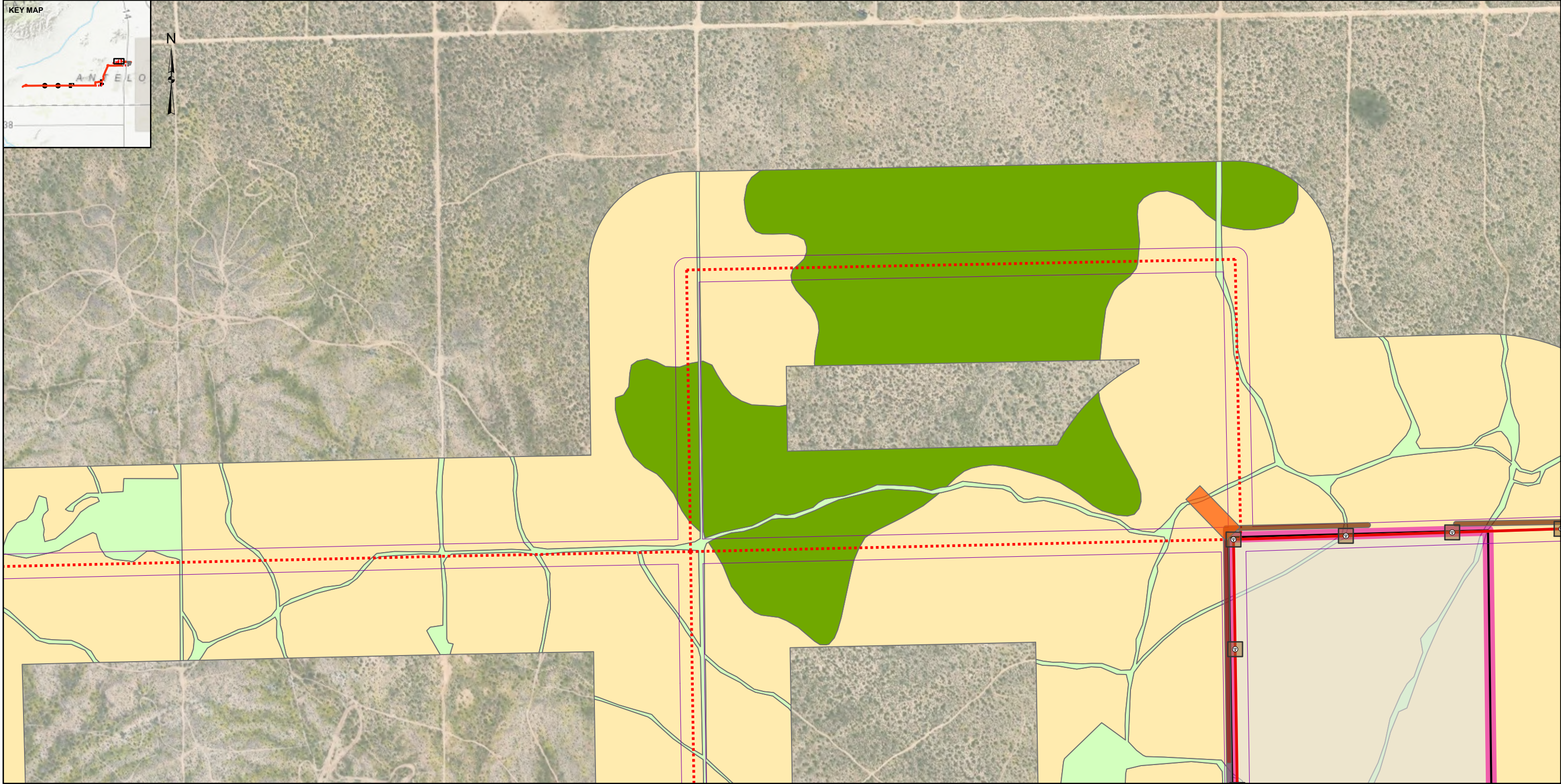
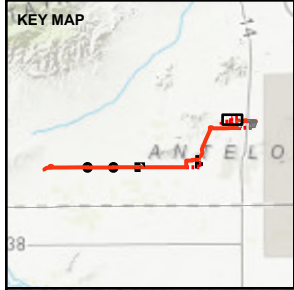
CONSULTANT



YYYY-MM-DD	2025-01-31
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APPROVED	JP

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

Vegetation Class

- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- Joshua tree woodland (JTW)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites

Potential Temporary Access Roads

- Existing Unimproved Roads

Proposed Access Roads

- Proposed Access Roads

Proposed Transmission Line

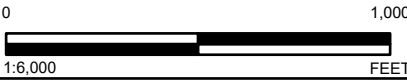
- Preferred Route, Aboveground
- Preferred Route Option, Aboveground

Project Components

- Project ROW
- Villa Haines
- Project Boundary

NOTE(S)

1. PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.



CLIENT
GEM A-CAES LLC



YYYY-MM-DD	2025-01-31
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PREPARED	KO
REVIEWED	NN
APPROVED	JP

REFERENCE(S)

1. CADFW - VEGETATION CLASSES
2. WSP - SUPPLEMENTAL VEGETATION CLASSES
3. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
4. MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

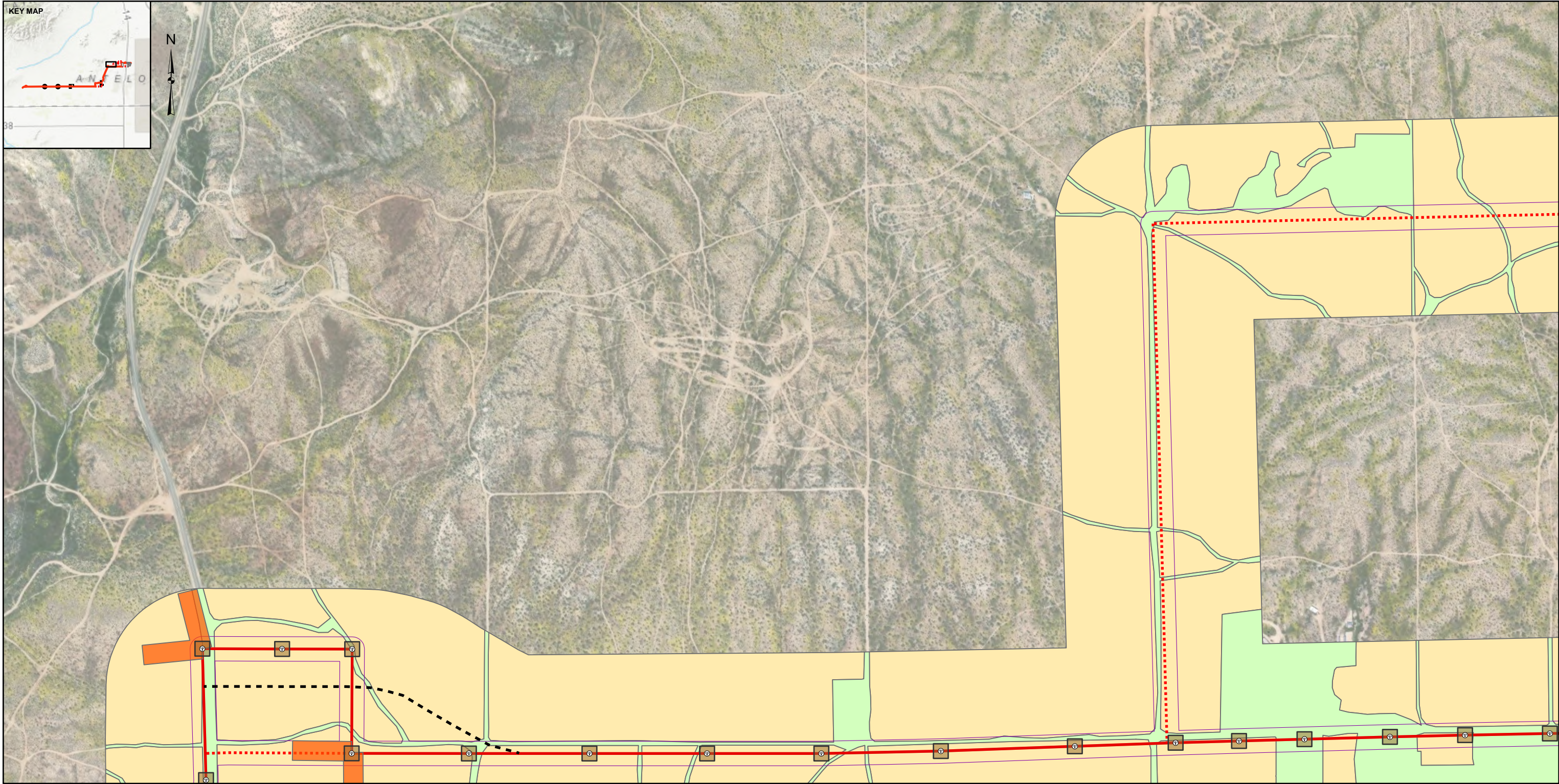
TITLE

**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 4 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -4

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LEGEND

Vegetation Class

- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)

Project Features

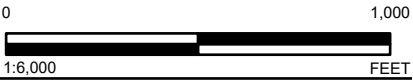
- ⊕ Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites

Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route Option, Aboveground
- Superseded Preferred Route, Aboveground
- Project ROW

NOTE(S)
1. PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.



CLIENT
GEM A-CAES LLC

CONSULTANT



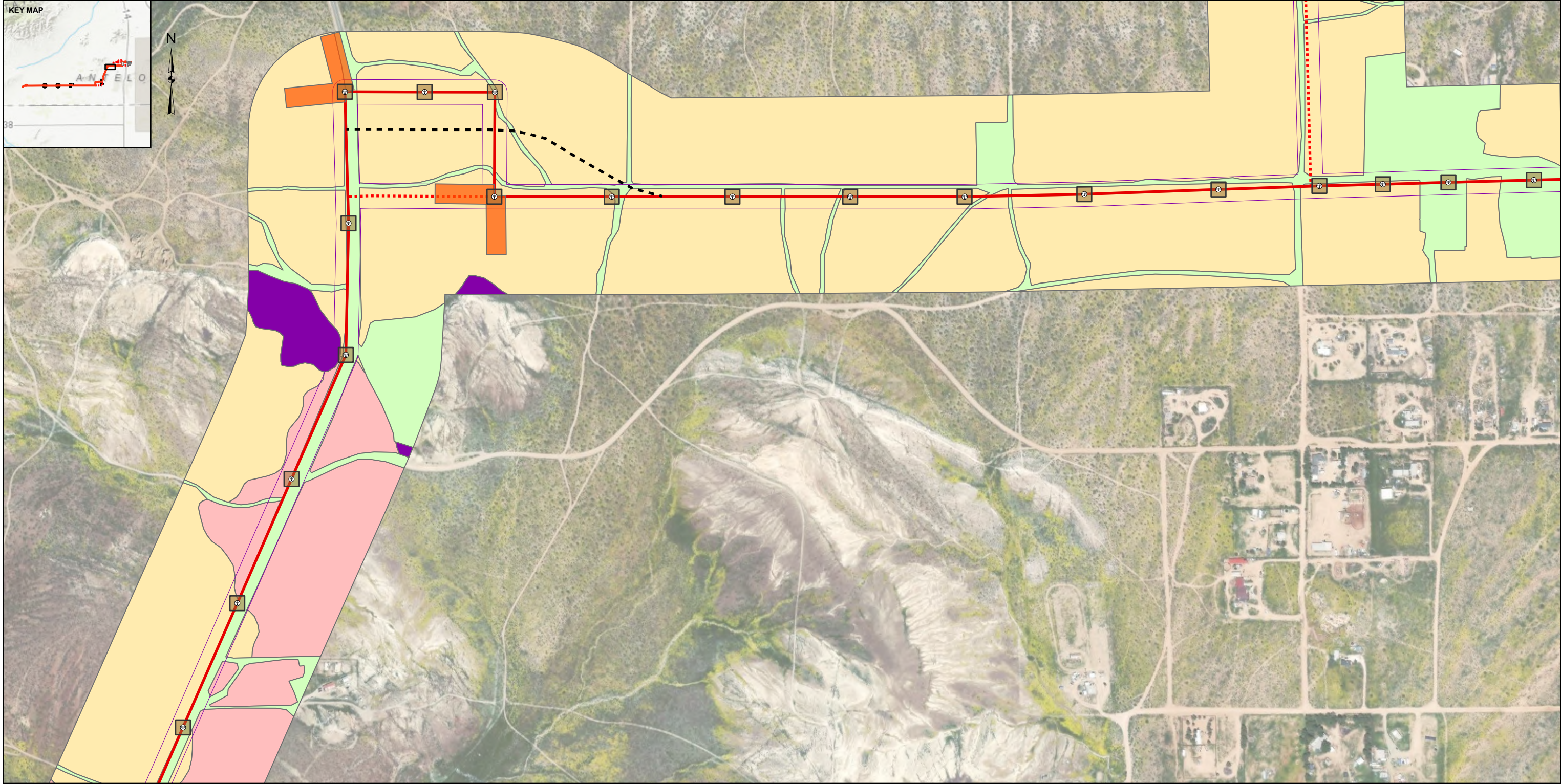
YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP

REFERENCE(S)
1. CADFW - VEGETATION CLASSES
2. WSP - SUPPLEMENTAL VEGETATION CLASSES
3. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
4. MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
WORLD IMAGERY: MAXAR

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE
**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 5 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -5



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites

- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route Option, Aboveground
- Superseeded Preferred Route, Aboveground

- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
- WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 6 OF 22

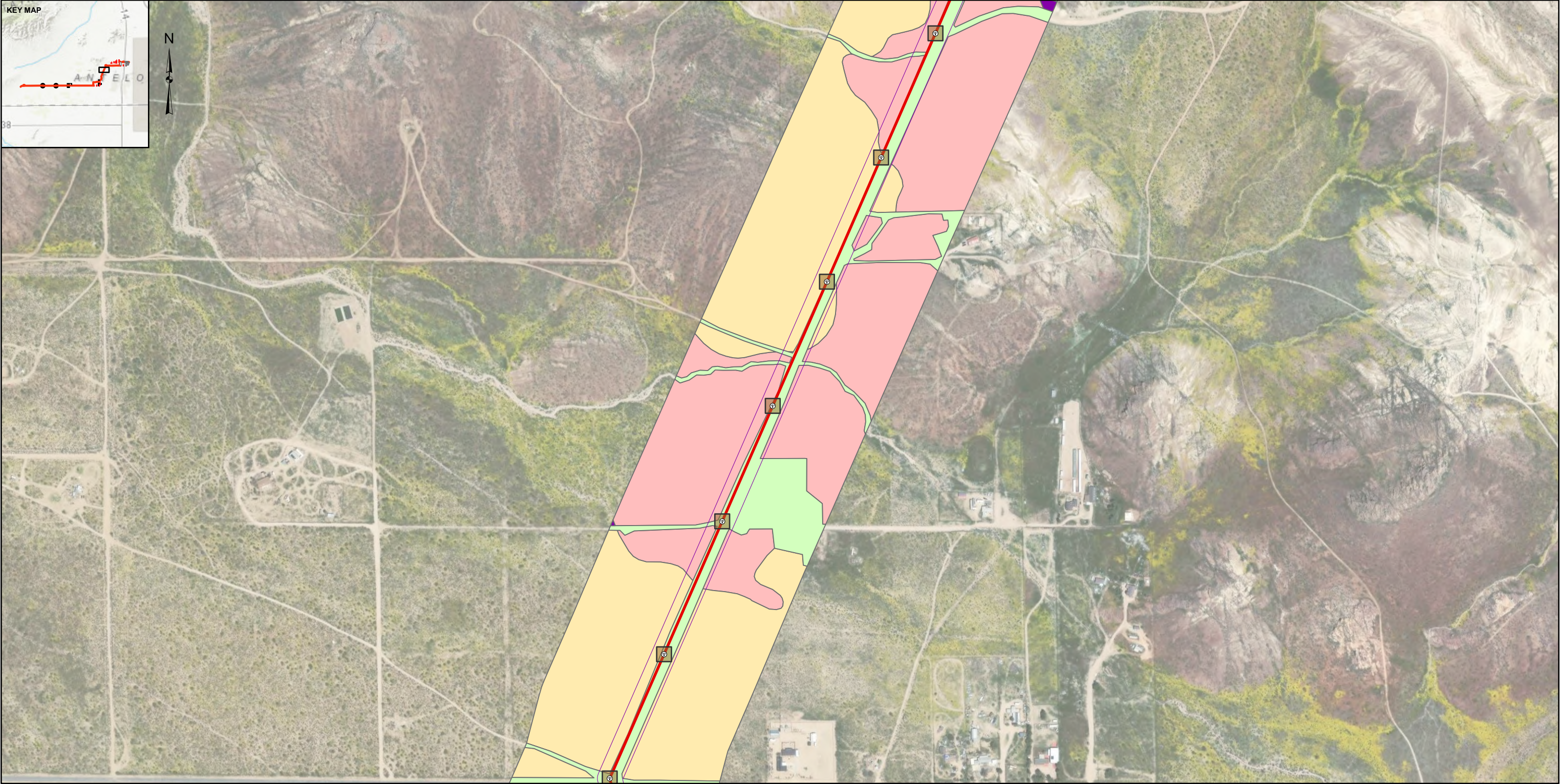
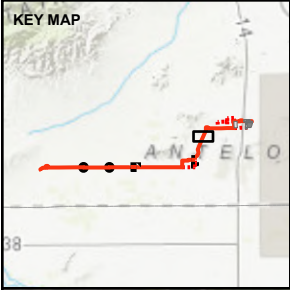
PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -6

CLIENT
GEM A-CAES LLC

CONSULTANT



YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Transmission Line**
- Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

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GEM A-CAES LLC

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DESIGNED MK

PREPARED KO

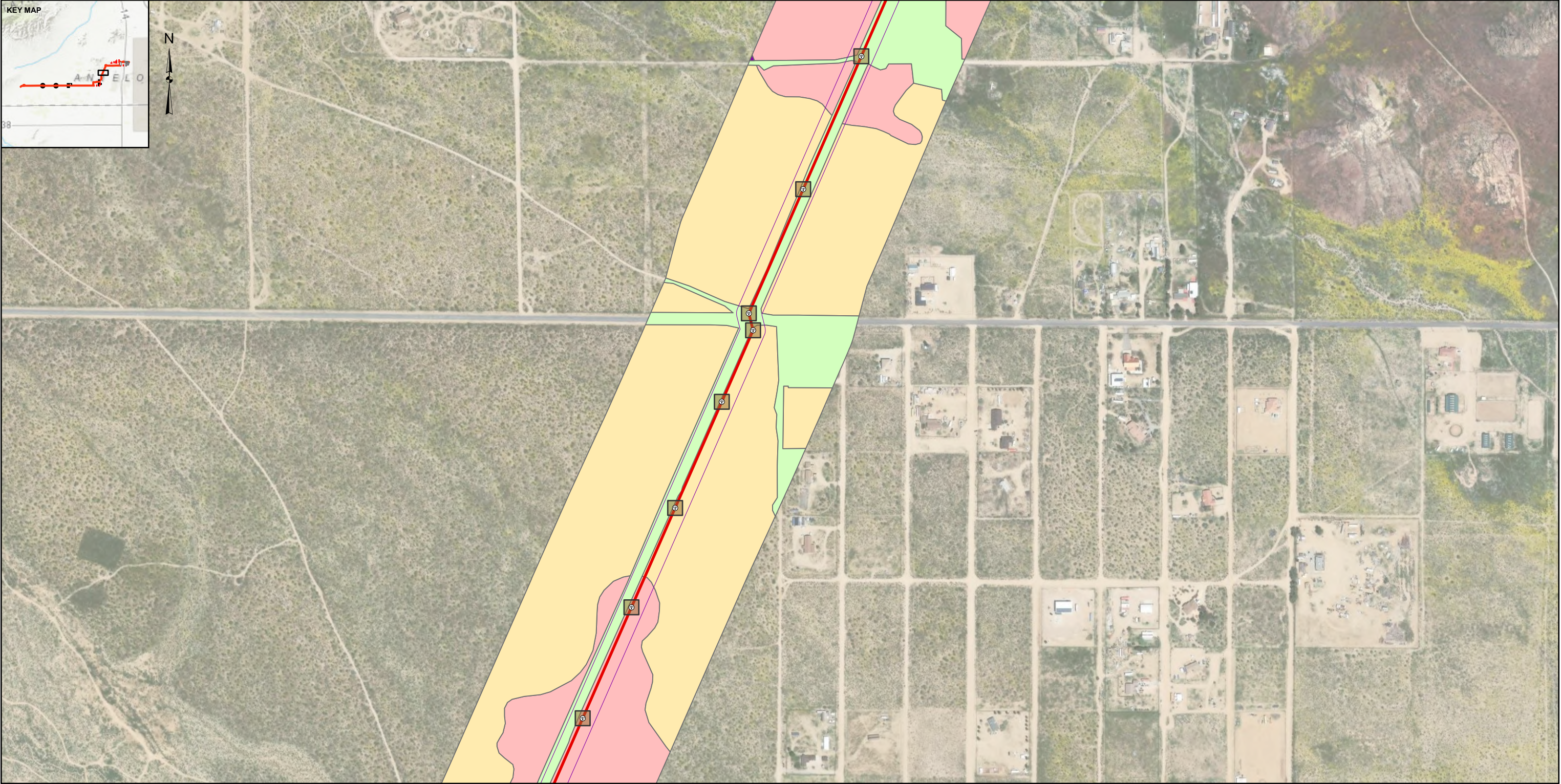
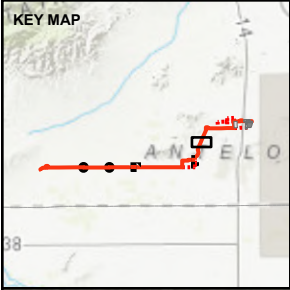
REVIEWED NN

APPROVED JP

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE
**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 7 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -7



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Transmission Line**
- Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

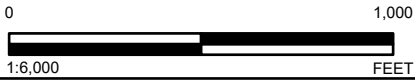
PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 8 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
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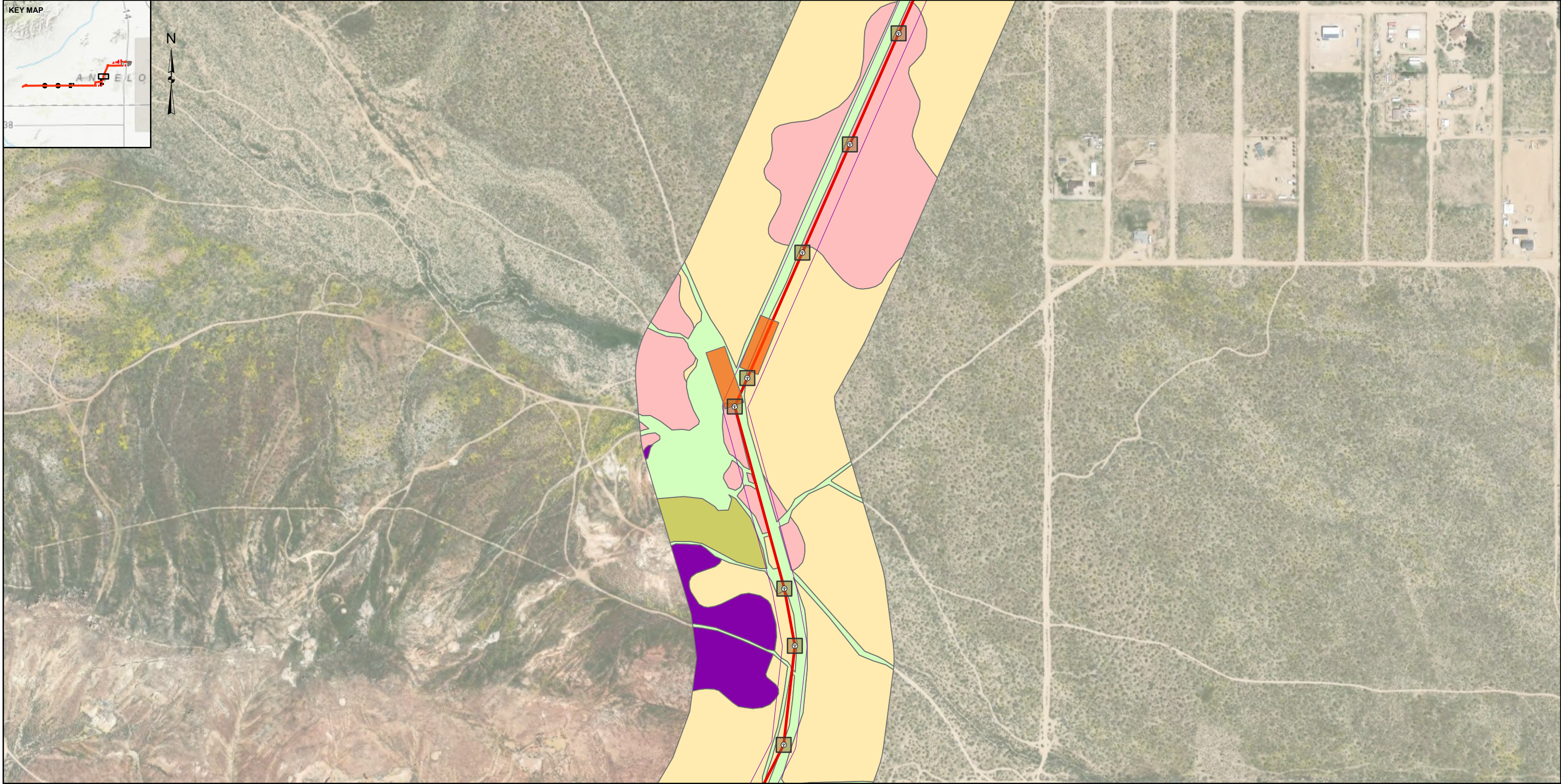
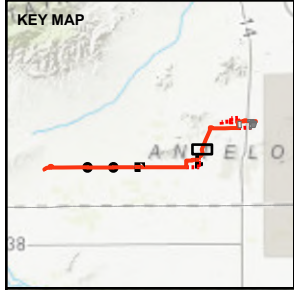


CLIENT
GEM A-CAES LLC

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DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush - white bursage scrub (CBWS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites
- Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 9 OF 22

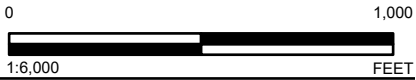
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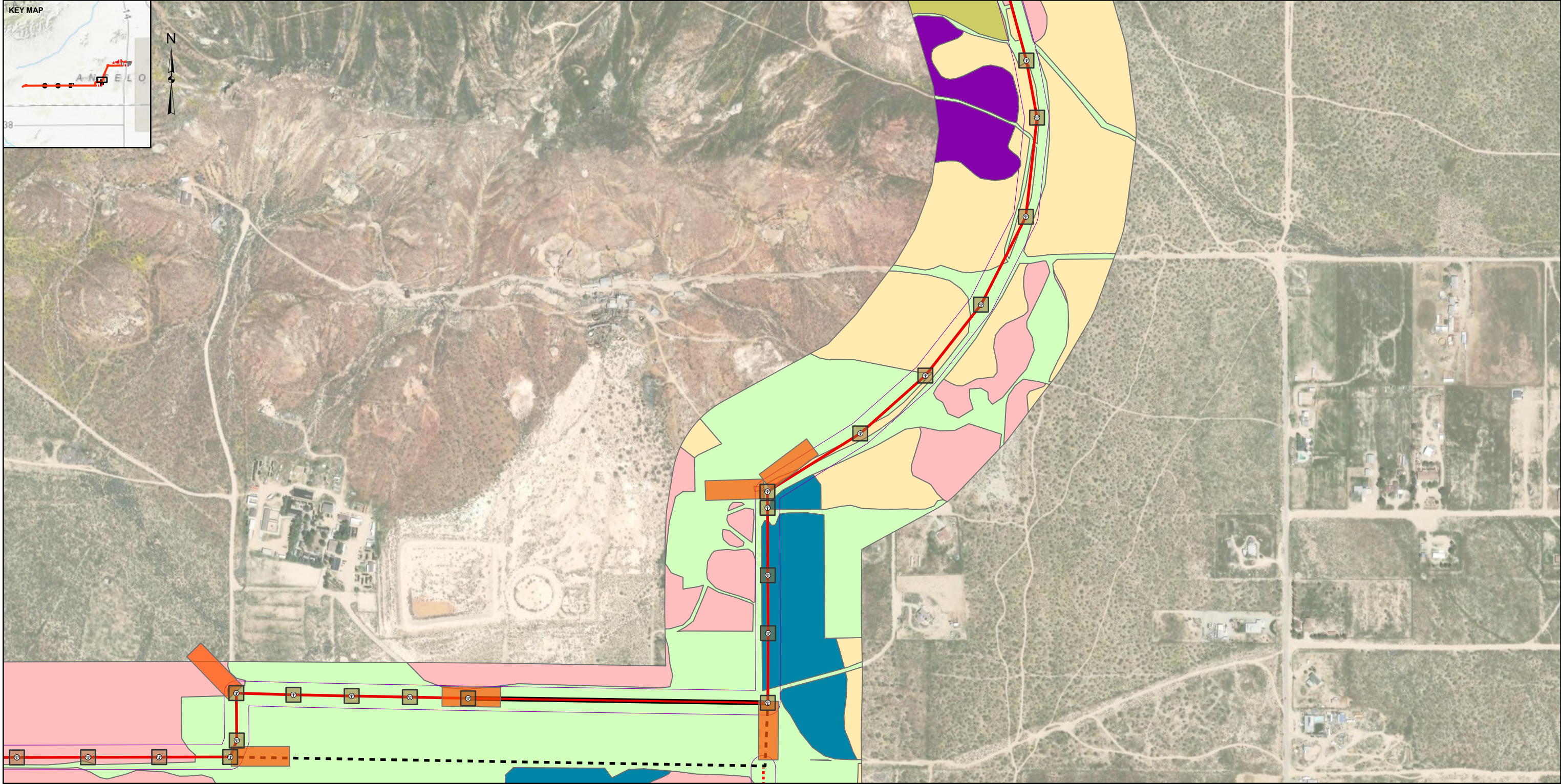
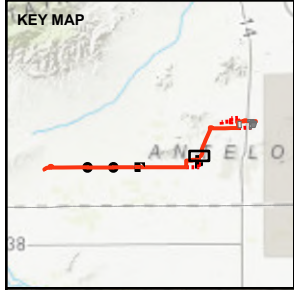
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GEM A-CAES LLC

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YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP





LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush - white bursage scrub (CBWS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Rubber rabbitbrush scrub (RRS)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites

- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Preferred Route Option, Aboveground
- Superseeded Preferred Route, Aboveground

- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
- WORLD IMAGERY: MAXAR

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GEM A-CAES LLC

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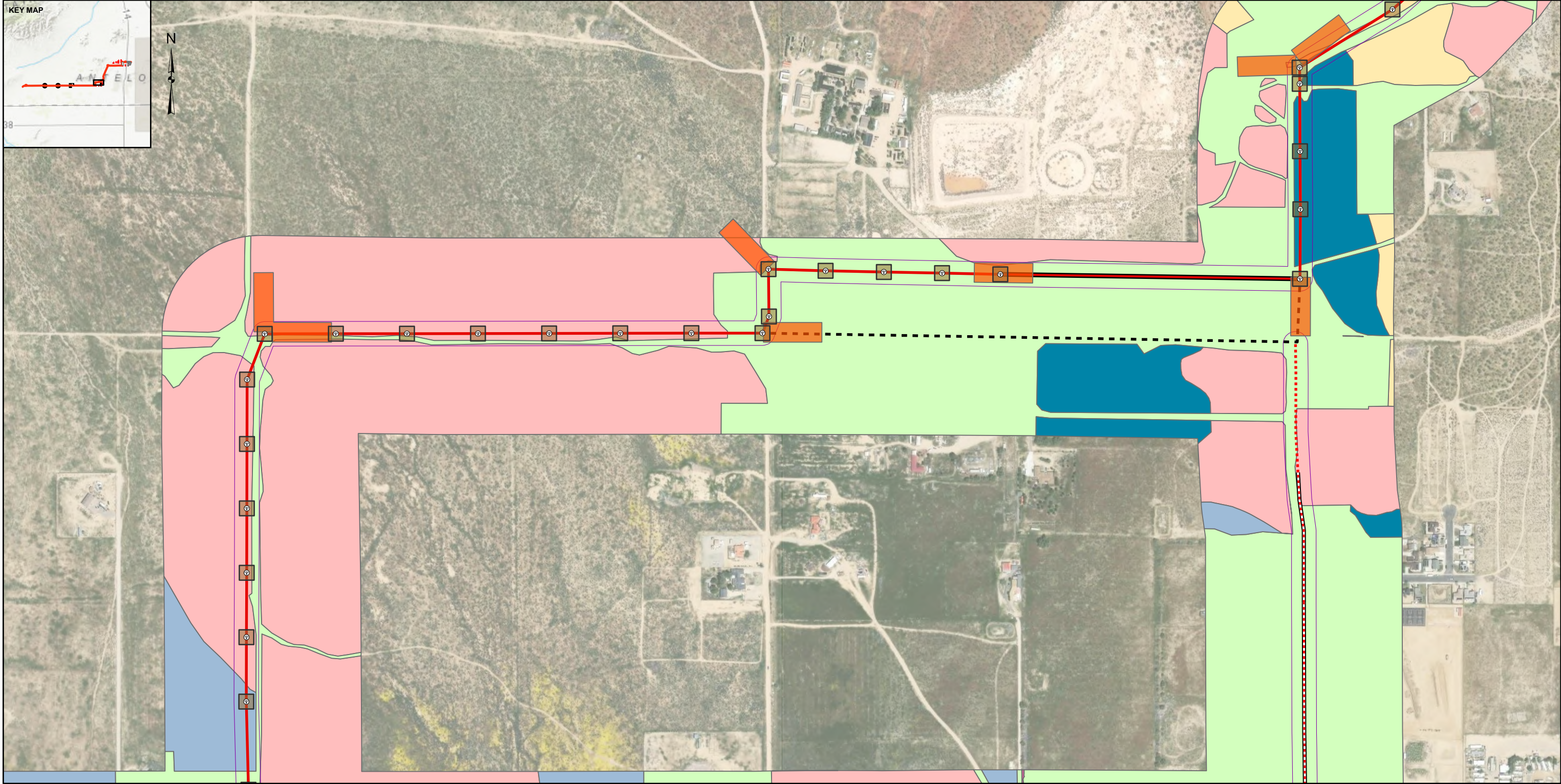
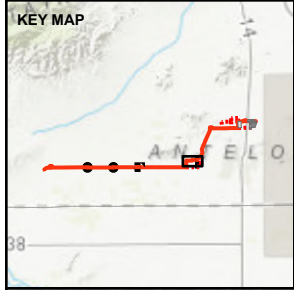


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DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE
VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 10 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -10



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)
- Tamarisk Thickets (TTH)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites

- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Preferred Route Option, Aboveground
- Preferred Route Option, Underground
- Superseeded Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 11 OF 22

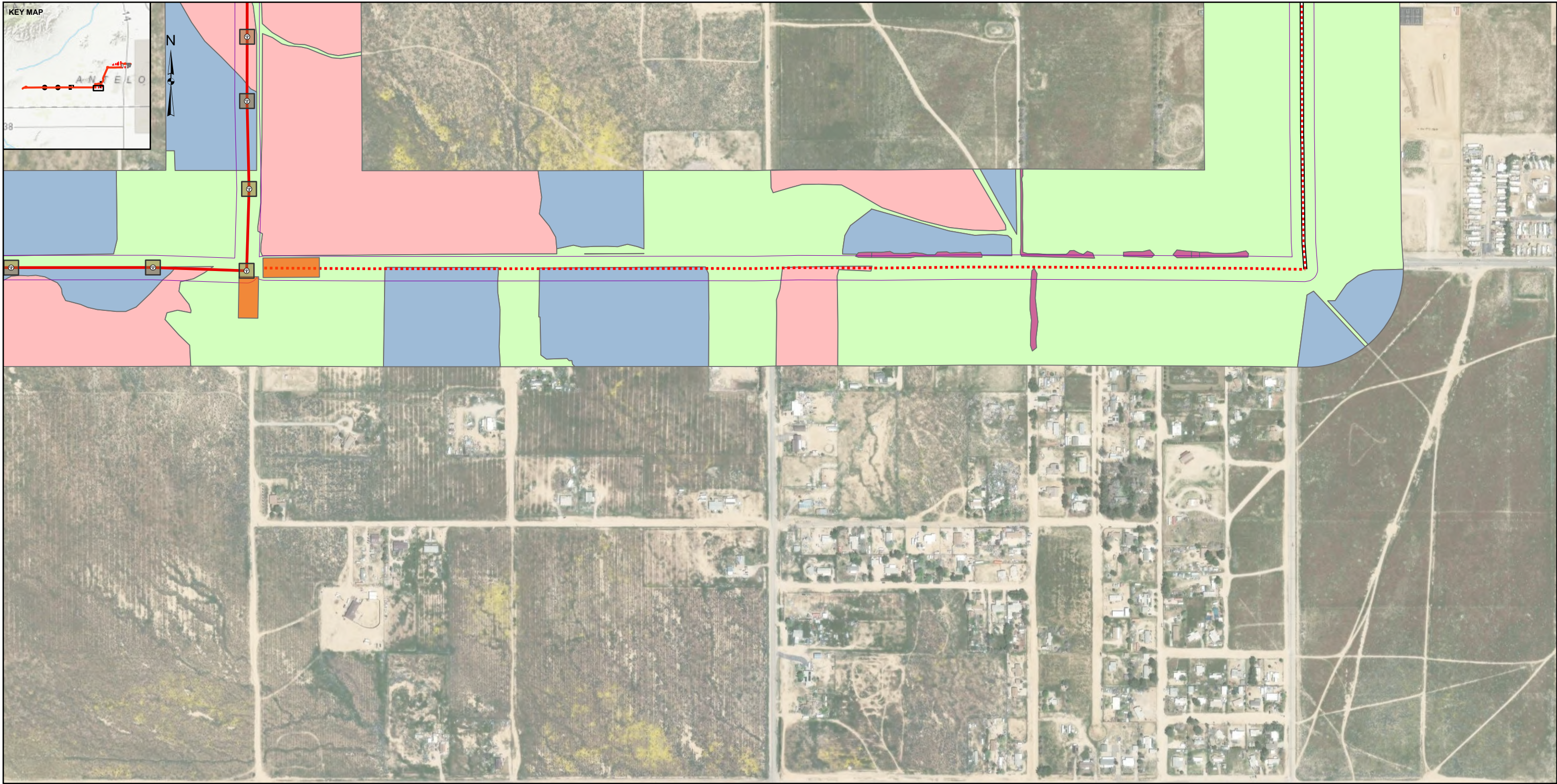
PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -11

CLIENT
GEM A-CAES LLC

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YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Disturbed/Developed (DH-DEV)
- Non-Native (NNGF)
- Non-Native Grassland and Forbes (NNGF)
- Tamarisk Thickets (TTH)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route Option, Aboveground
- Preferred Route Option, Underground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
- WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 12 OF 22

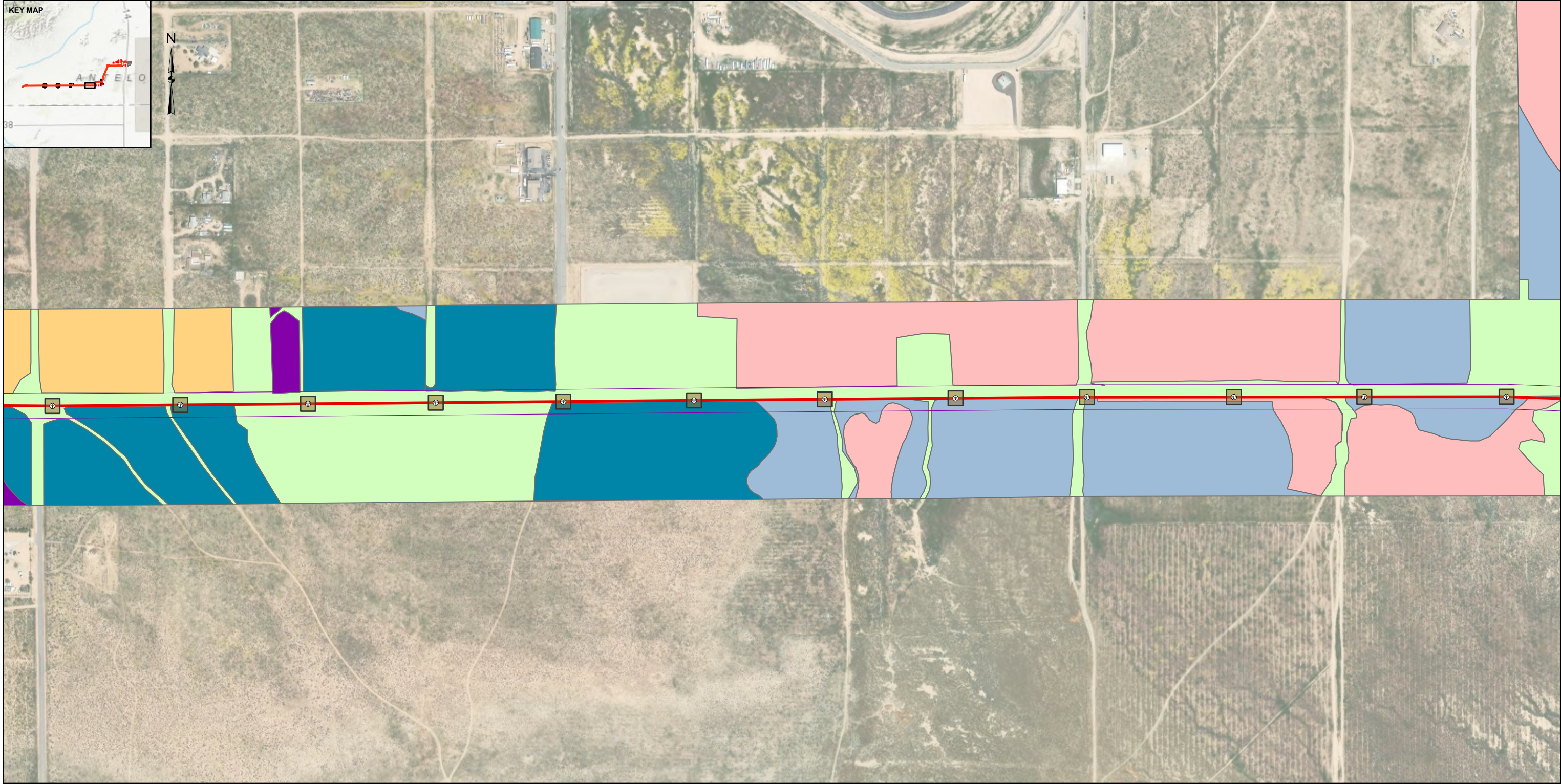
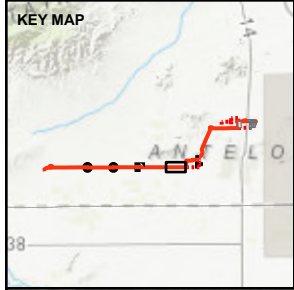
PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -12

CLIENT
GEM A-CAES LLC

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DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Transmission Line
- Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 13 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -13

CLIENT
GEM A-CAES LLC

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DESIGNED MK

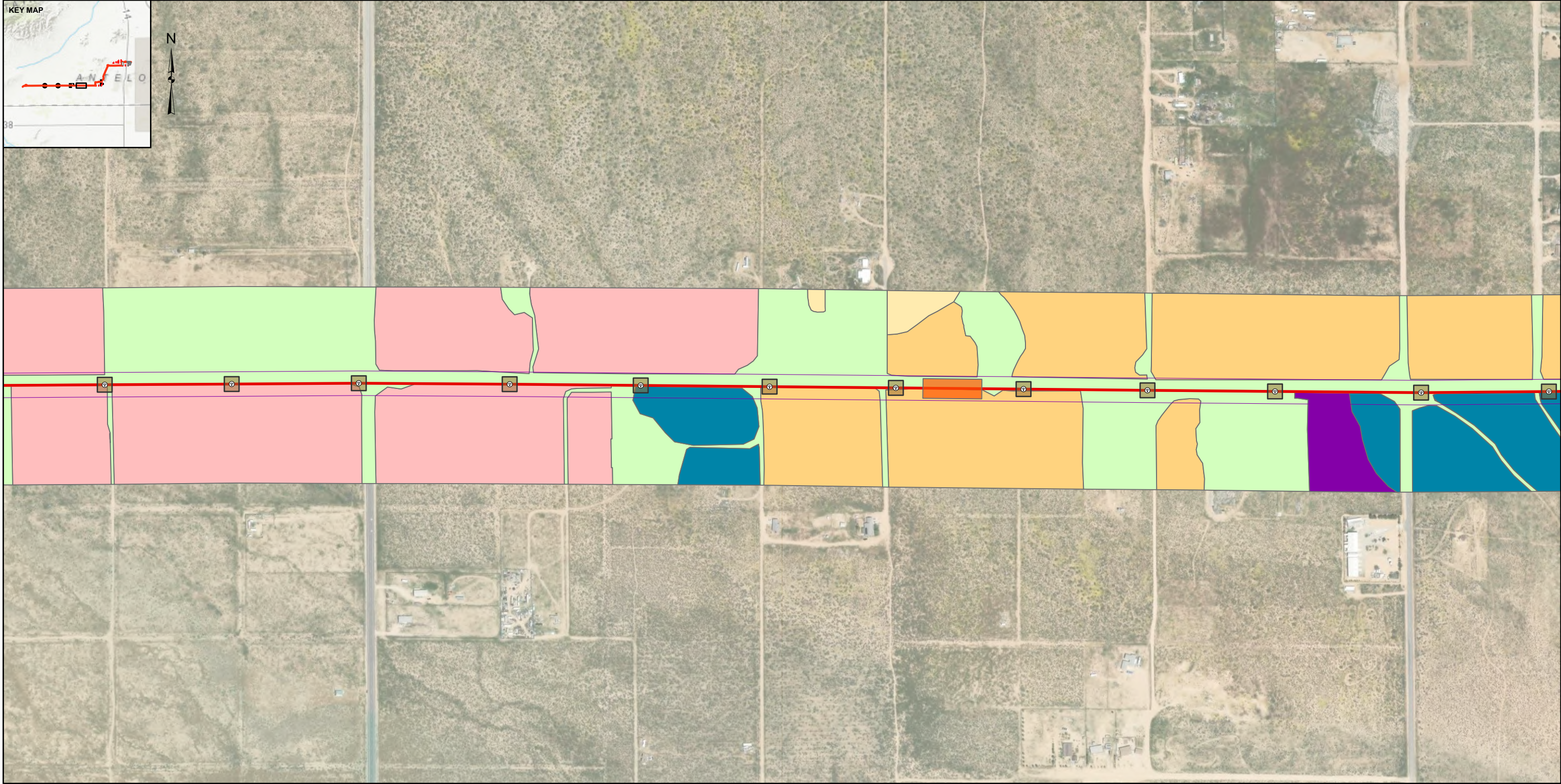
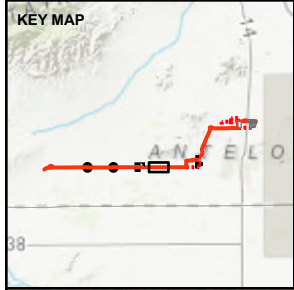
PREPARED KO

REVIEWED NN

APPROVED JP



IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Creosote bush - white bursage scrub (CBWS)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)
- White Bursage Scrub (WBS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites
- Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
- WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 14 OF 22**

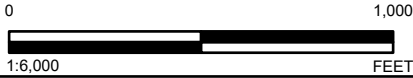
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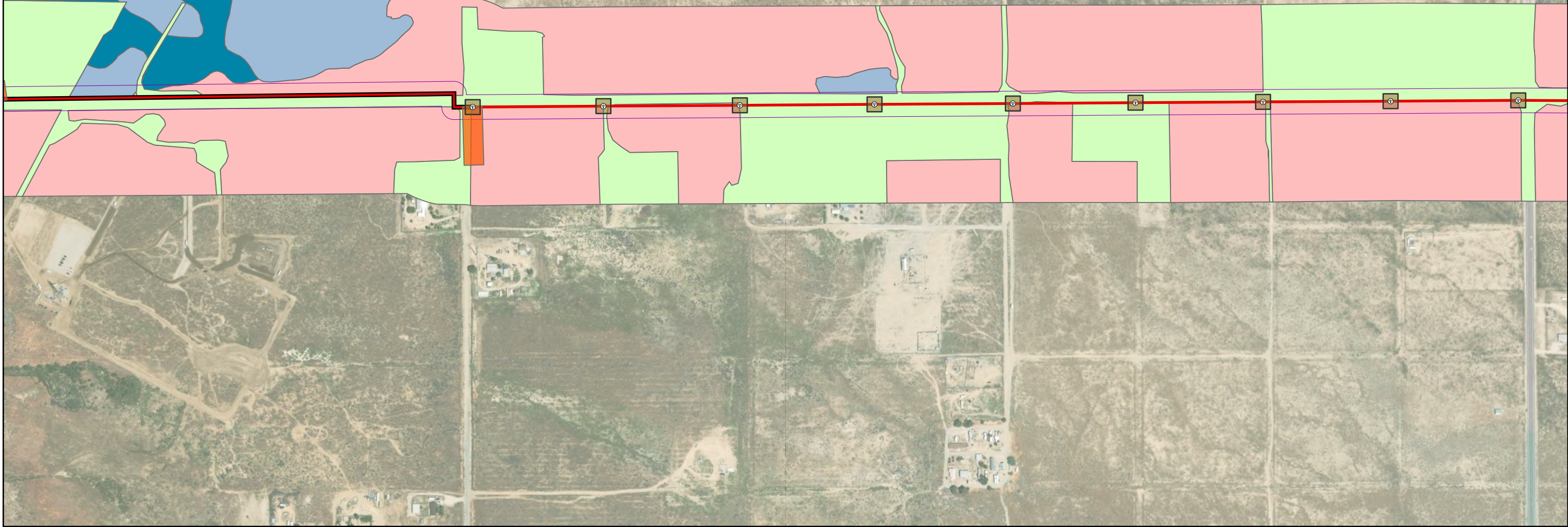
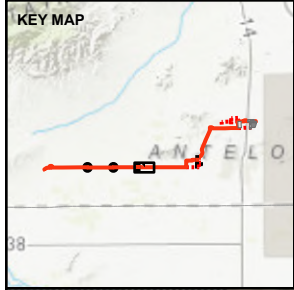
CLIENT
GEM A-CAES LLC

CONSULTANT



YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP





LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 15 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -15

CLIENT
GEM A-CAES LLC

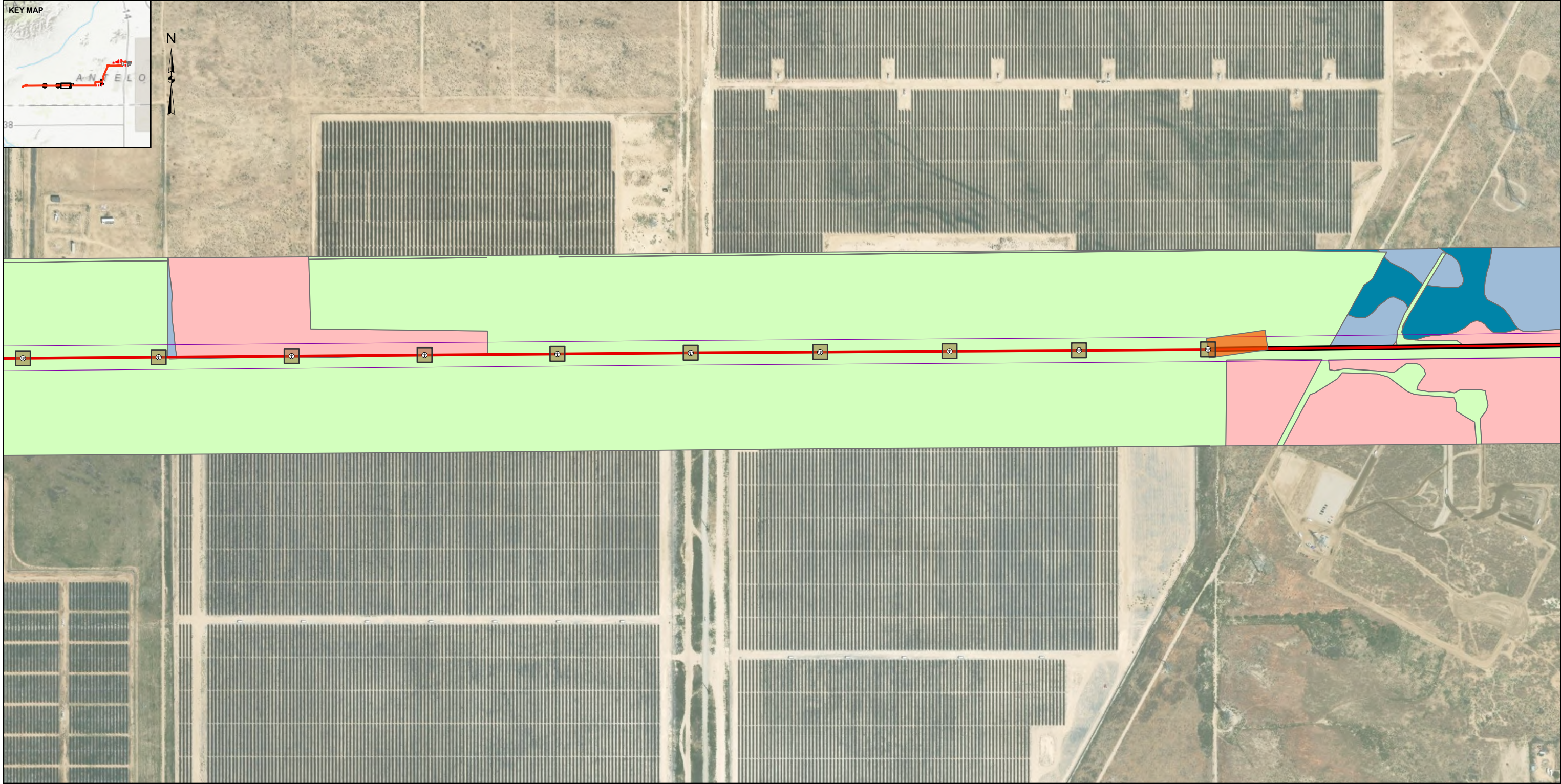
CONSULTANT



YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP

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LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites

- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 16 OF 22

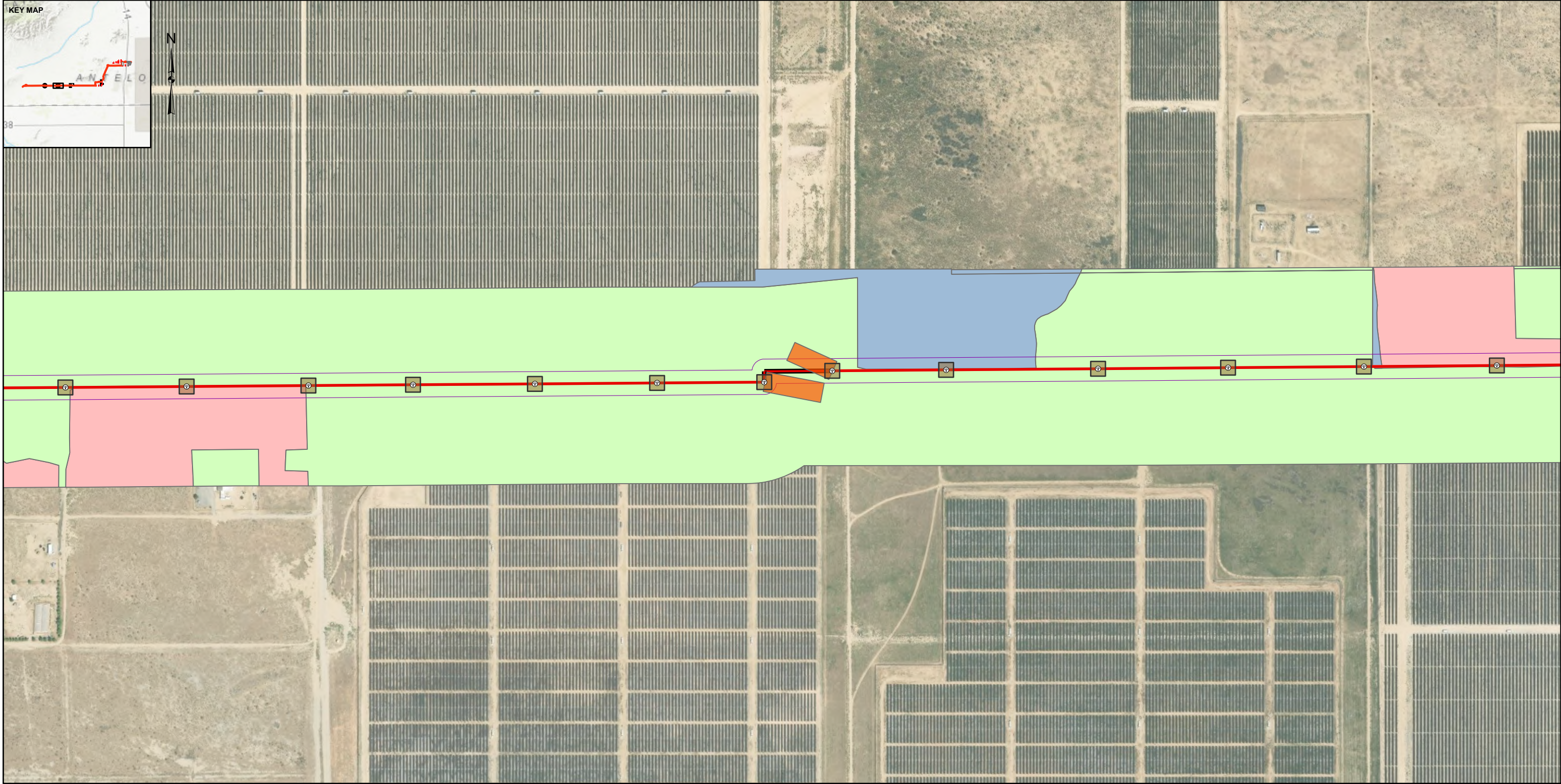
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US0029687.8167	200	1	DR125 -16

CLIENT
GEM A-CAES LLC

CONSULTANT



YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites

- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 17 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -17

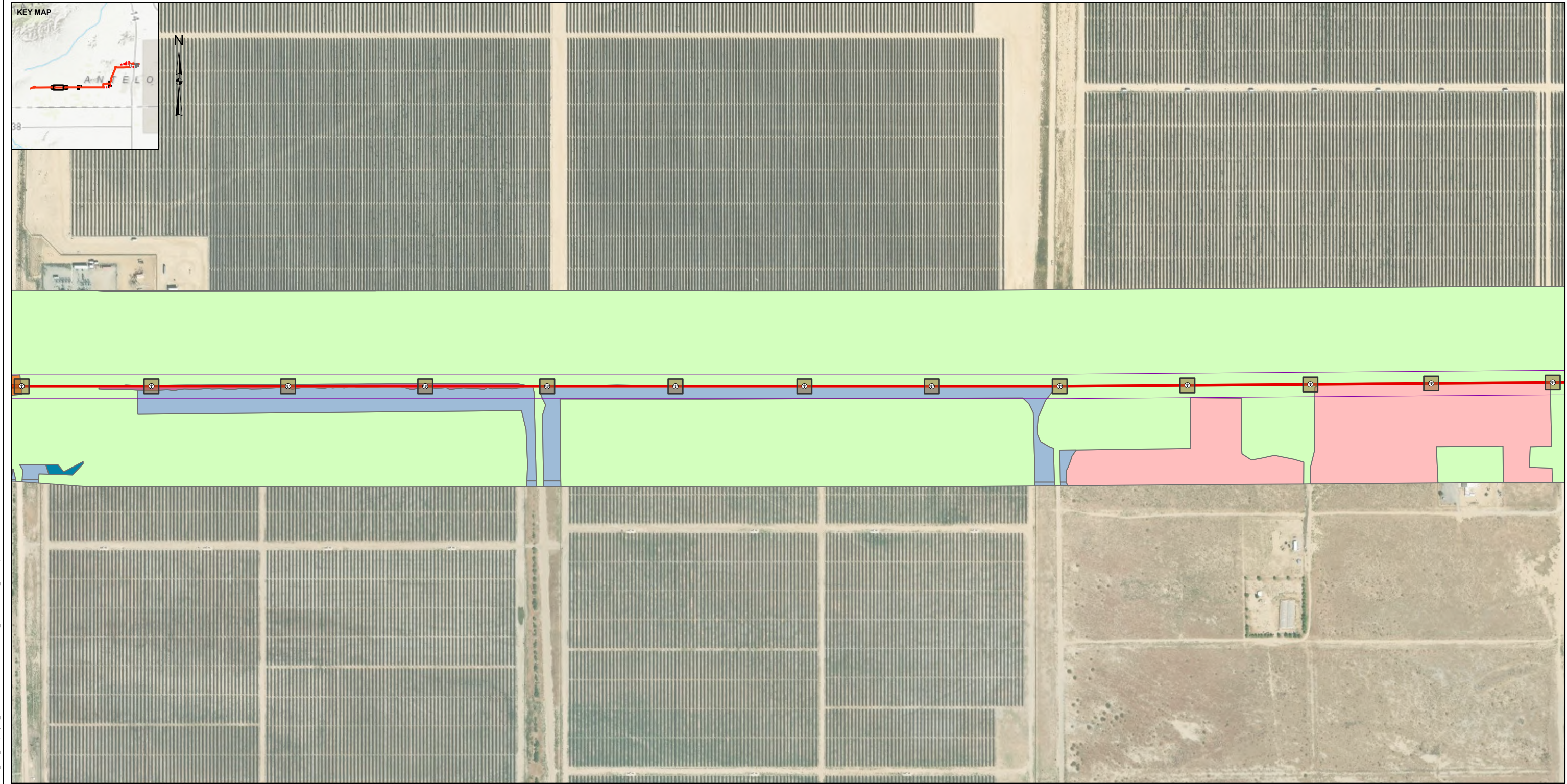
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DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP





LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)
- Tamarisk Thickets (TTH)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Project ROW

0 1,000

1:6,000 FEET

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GEM A-CAES LLC

CONSULTANT

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DESIGNED MK

PREPARED KO

REVIEWED NN

APPROVED JP

NOTE(S)

1. PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

1. CADFW - VEGETATION CLASSES
2. WSP - SUPPLEMENTAL VEGETATION CLASSES
3. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
4. MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS
WORLD IMAGERY: MAXAR

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

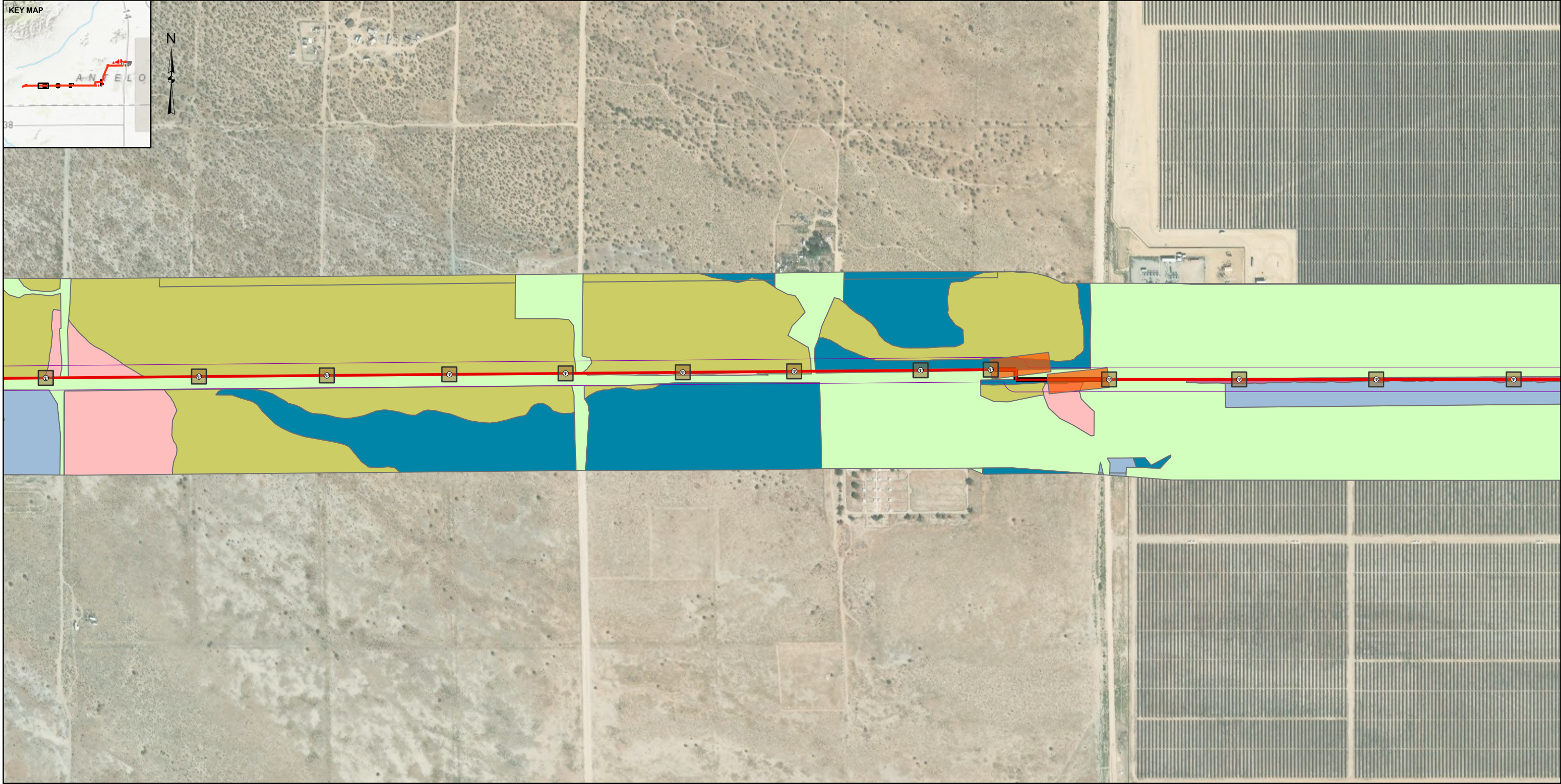
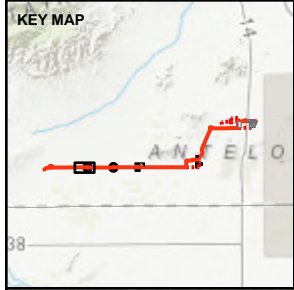
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**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 18 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -18

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LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)
- Tamarisk Thickets (TTH)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites
- Proposed Transmission Line**
- Preferred Route, Aboveground
- Preferred Route, Underground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 19 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -19

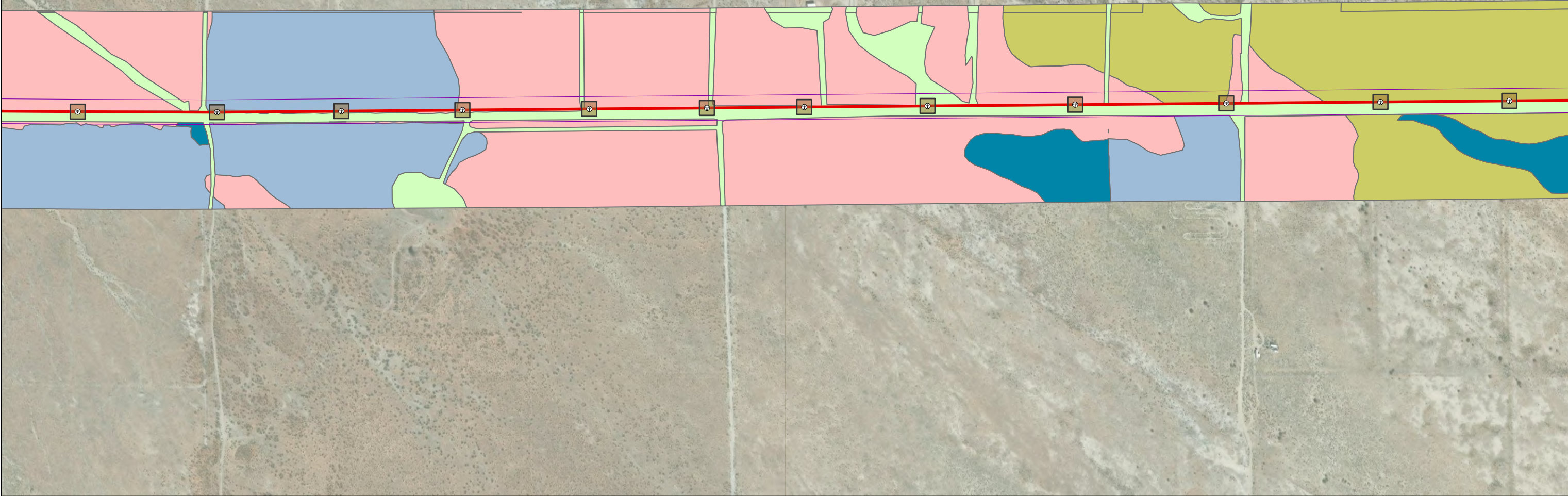
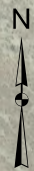
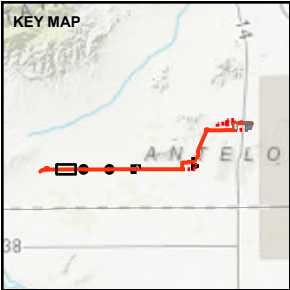
CLIENT
GEM A-CAES LLC

CONSULTANT



YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP





LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites
- Proposed Transmission Line**
- Preferred Route, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

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GEM A-CAES LLC

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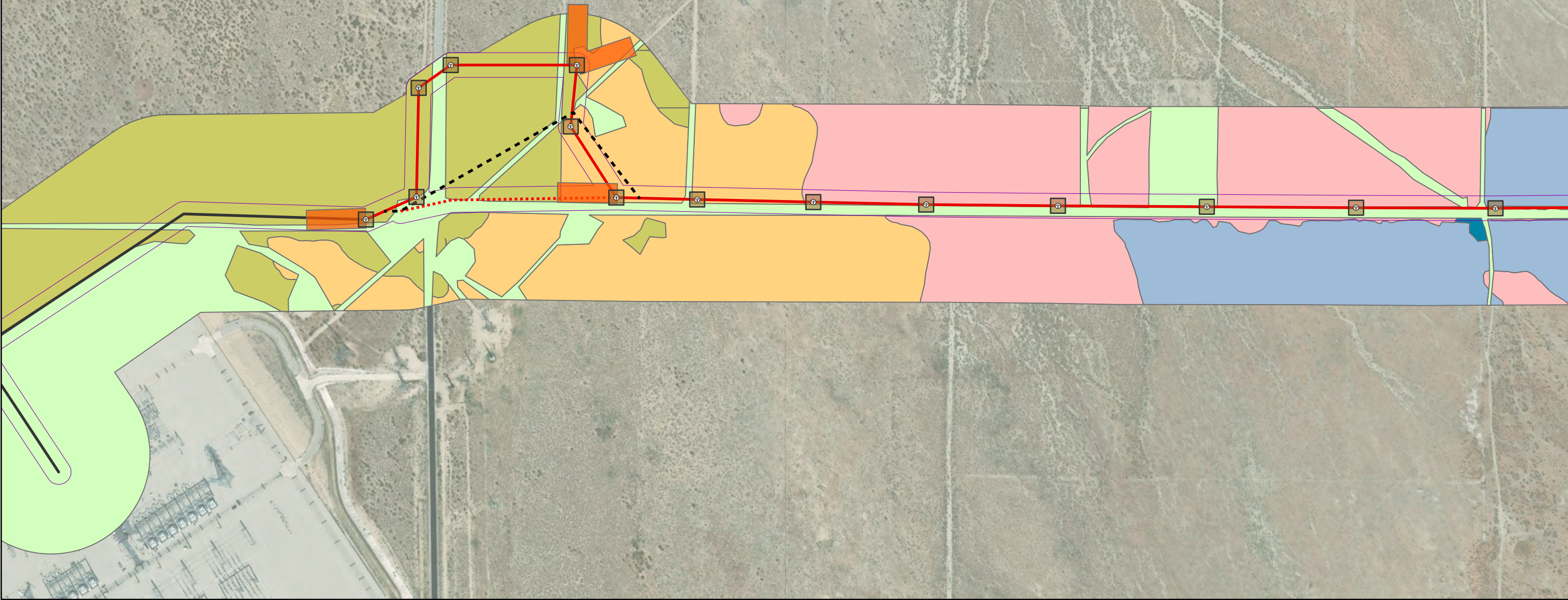
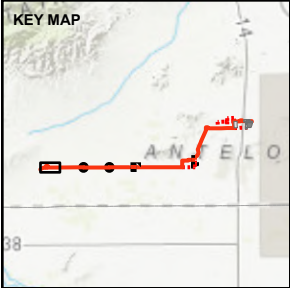
PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE
**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 20 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125-20

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)

Project Features

- Proposed Transmission Line Pole Locations

- Proposed Transmission Pole Construction Sites
- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route Option, Aboveground
- Superseeded Preferred Route, Aboveground
- SCE Whirlwind Substation Segment, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS WORLD IMAGERY: MAXAR

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GEM A-CAES LLC

CONSULTANT

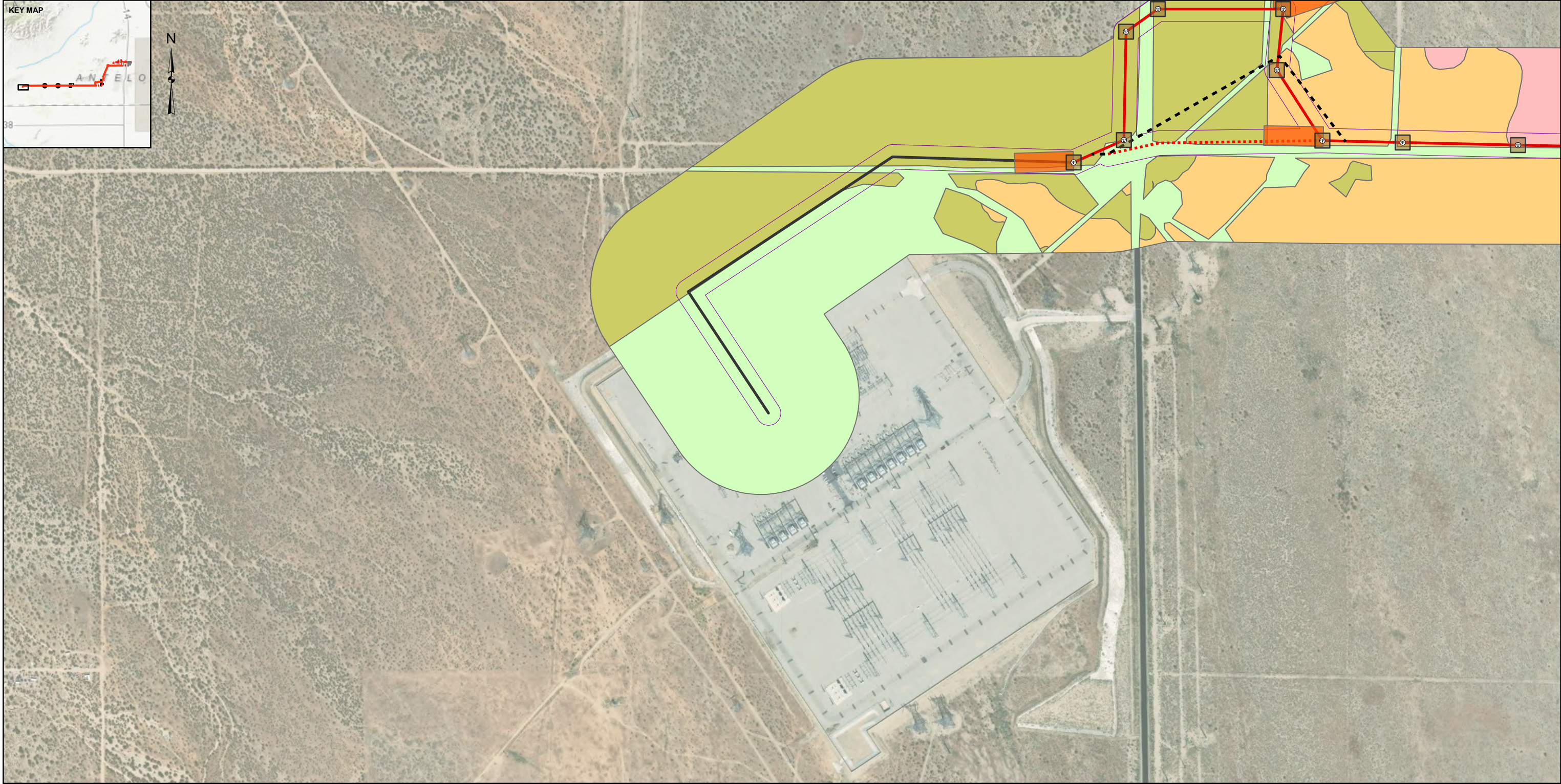
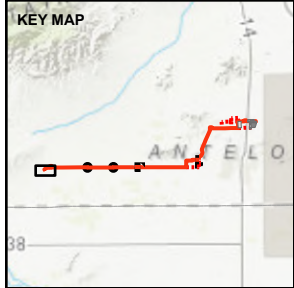


YYYY-MM-DD	2025-01-31
DESIGNED	MK
PREPARED	KO
REVIEWED	NN
APPROVED	JP

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE
**VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 21 OF 22**

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125-21



LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)

Project Features

- Proposed Transmission Line Pole Locations
- Proposed Transmission Pole Construction Sites

- Proposed Pull and Tensioning Sites

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route Option, Aboveground
- Superseeded Preferred Route, Aboveground
- SCE Whirlwind Substation Segment, Aboveground
- Project ROW

NOTE(S)

- PROJECT ROW IS 62.5 FT ON EITHER SIDE OF THE PROPOSED TRANSMISSION LINE ROUTE.

REFERENCE(S)

- CADFW - VEGETATION CLASSES
- WSP - SUPPLEMENTAL VEGETATION CLASSES
- COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
- MAP SERVICE LAYER CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
CEC DATA REQUEST 6

TITLE

VEGETATION AND LAND COVER TYPE IMPACT
MAP BOOK PAGE 22 OF 22

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.8167	200	1	DR125 -22

CLIENT
GEM A-CAES LLC

CONSULTANT



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APPROVED	JP