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REPORT

Willow Rock Energy Storage Center (21-AFC-02)

Data Request Response Set 2

Submitted by:

GEM A-CAES LLC

Prepared with technical assistance from:

WSP USA Inc.

401 B Street, Suite 1650, San Diego, California, USA 92101

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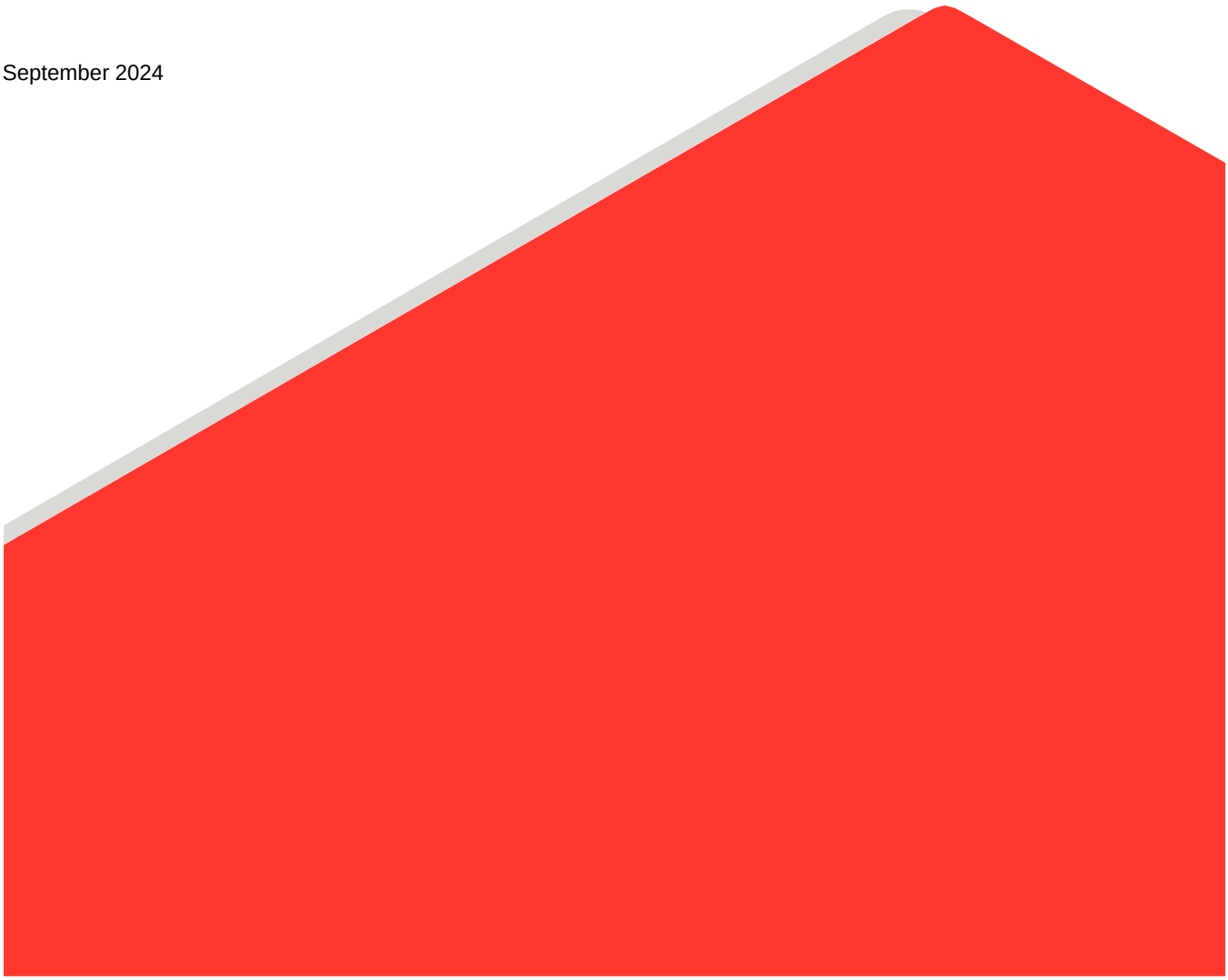

Foreword

On March 1, 2024, GEM A-CAES, LLC (Applicant) docketed the Supplemental Application for Certification (SAFC) Volume 1 for the Willow Rock Energy Storage Center (WRESC; 21-AFC-02). On July 16, 2024, the Executive Director recommends that the Committee accept the Supplemental AFC as complete, and that the 12-month timeline to reach a decision on the AFC, as required by Public Resources Code section 25540.6, should begin.

Pursuant to Title 20, California Code of Regulations, section 1716, California Energy Commission (CEC) Staff on August 22, 2024, docketed Data Requests Set 2. Data Requests Set 2 presents a list of questions associated with the resource topic areas of Air Quality; Hazardous Materials and Wildfire; Land Use, Agriculture, and Forestry; Public Health; and Transportation.

To address CEC Staff's request, each Data Request within Set 2 has been responded to with supplemental information or guidance on where the information may be found.

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1.0 INTRODUCTION

GEM A-CAES LLC's (the "Applicant") is responding to the California Energy Commission (CEC) Staff Data Requests Set 2, numbers:

- **Air Quality**: DR25
- **Hazardous Materials and Wildfire**: DR26 through DR36
- **Land Use, Agriculture, and Forestry**: DR37 and DR38
- **Public Health**: DR39
- **Transportation**: DR40 and DR41

This response document addresses CEC Data Request Set 2. The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as presented by CEC Staff and are keyed to the Data Request (DR) numbers (DR#). New or revised graphics, tables, or attachments are provided as attachments and are numbered in reference to the Data Request number. For a hypothetical example, the first attachment used in response to Data Request DR25 would be numbered Attachment DR25-1. Each page in this response document is sequentially page-numbered consistently with the remainder of the document, although some attachments may also have their own internal page numbering system.

2.0 AIR QUALITY

2.1 Air Quality Modeling for Construction Phase

2.1.1 Data Request DR25

The construction phase of the project is expected to take as long as 60 months. The applicant conducted the air quality modeling for construction phase. As shown in table 5.1-12 and 5.1-13, both federal and state 1-hr NO_2 standards were exceeded for the no-architectural berm and architectural berm options. The applicant remodeled the 1-hr NO_2 impact by assuming the use of tier 4 engines. However, the result is still above the federal 1-hr NO_2 standard.

DR25: *Since the modeled 1-hour NO_2 impact exceeds federal and state 1-hr NO_2 standards, please refine the 1-hour NO_2 modeling for construction phase, including both the no-architectural berm and architectural berm options. Refined modeling may include the use of ozone limiting method (OLM) or plume volume molar ratio method (PVMRM) and pairing modeled impacts with seasonal hour-of-day background. Please provide updated modeling files. If the results are still above the standards, please provide further mitigation measures to reduce the impacts to less than significant.*

Response: Refined 1-hour NO_2 modeling was performed as requested for the construction phase for both the berm and no-berm options. The revised modeling demonstrates that 1-hour NO_2 impacts from Project construction for either option are not expected to result in an exceedance of either the federal or state 1-hr NO_2 standards. Therefore, impacts are expected to be less than significant, and no additional mitigation is necessary. The modeling input and output files are provided in **Attachment DR 25-1**. Due to file type, Attachment DR25-1 was submitted through the *Kiteworks* file transfer system. The modeling approach and a table summarizing the results are provided below.

Project construction-related NO_2 impacts were initially assessed using a conservative Tier 2 analysis, with the Ambient Ratio Method version 2 (ARM2), as adopted in the USEPA Guideline on Air Quality Models.

The construction NO_2 impact assessments were revised to a Tier 3 analysis and included the use of hourly ozone data with the USEPA-approved Ozone Limiting Method (OLM) along with the use of seasonal hour by day background NO_2 and ozone monitoring data. The hourly ozone data from the Kern Route 58 business monitoring station was used for the period of 2018-2022, which coincides with the meteorological data used for the modeling effort. The ozone data was first processed to remove missing data similar to procedures outlined in the CAPCOA guidance document "Modeling Compliance of The Federal 1-Hour NO_2 NAAQS" (October 27, 2011). This was accomplished by replacing missing ozone concentrations with the maximum ozone concentration from the year of missing data.

For both the architectural berm and no berm options, compliance with the 1-hour California Ambient Air Quality Standard (CAAQS) and National Ambient Air Quality Standard (NAAQS) for the Tier 3 construction modeling analyses also included using the 3rd highest seasonal NO_2 concentration for each hour (seasonal hour by day) from the Lancaster Division Street monitoring station, averaged over the three year period of 2020-2022, for determining the background NO_2 concentration, as outlined in USEPA guidance documents (*March 1, 2011 USEPA memorandum "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour N0$_2$ National Ambient Air Quality Standard").* To keep seasonal periods consistent across years of data, per the California Air Pollution Control Officers Association (CAPCOA) NO_2 modeling guidance (December-February must be contiguous), the data period thus included December 2019 and February 2023.

In support of the Tier 3 OLM NAAQS analysis, the modeling methods also included:

- In-stack NO_2/NO_x ratios (ISR) for all combustion equipment were based on small engines from the EPA ISR database with an average value of 0.1.
- AERMOD-default ambient equilibrium NO_2/NO_x ratio of 0.9 was used.
- The option OLMGROUP ALL was used.

The revised berm and no berm modeling results are presented in **Tables DR25-1** and **DR25-2** and demonstrate compliance with both the CAAQS and NAAQS for the 1-hour NO_2 averaging period. The modeling input/output files and hourly ozone and NO_2 data will be made available to the CEC.

Table DR25-1: Construction Air Quality Impact Results – Architectural Berm Option

Pollutant	Averaging Time	Total Maximum Concentration (including Background) (µg/m^3)	Ambient Air Quality Standards (µg/m^3)	
			CAAQS	NAAQS
NO_2[a]	1-hr (highest)	276.95	339	-
	1-hr (98th percentile)	157.78	-	188

[a] Total maximum impact includes background NO_2, NO_2 totals based on OLM with background seasonal hour by day NO_2

Table DR25-2: Construction Air Quality Impact Results – No Architectural Berm Option

Pollutant	Averaging Time	Maximum Concentration (µg/m^3)	Ambient Air Quality Standards (µg/m^3)	
			CAAQS	NAAQS
NO_2[a]	1-hr (highest)	329.59	339	-
	1-hr (98th percentile)	176.41	-	188

[a] Total maximum impact includes background NO_2, NO_2 totals based on OLM with background seasonal hour by day NO_2

3.0 HAZARDOUS MATERIALS AND WILDFIRE

3.1 Diesel Fuel Storage

3.1.1 Data Requests DR26 to DR30

The Supplemental Application (Section 2.0 and Section 5.5) indicates four diesel generators as part of project operations (one generator for the emergency fire pump and three as emergency backup power supply) and three potential additional diesel generators that may be used during project construction (one for the concrete batch plant and two for the construction rock crushing facility). The Supplemental Application does not clearly list the volumes, types, and locations of diesel fuel storage for these generators. The document lists a 600-gallon integrated tank for the fire pump and an approximate 12,000-gallon diesel tank for diesel fuel, but also notes that integrated fuels tanks will be used as part of the emergency generation systems. Diesel fuel is identified as being used during project construction for equipment and vehicles, however no information is provided on whether diesel fuel would be stored onsite during project construction for refueling. No mention is made of diesel fuel storage volumes or location for the potential construction generators.

DR26: *Please clarify volume, location, and type of storage of diesel fuel for the four generators to be used during project operation.*

Response: As noted in Table 5.5-4 of the SAFC, a dual-walled steel, integrated tank installed at the WRESC will not be accessible to the public and will have a tank capacity of 600 gallons to 12,000 gallons or more (Section 5.5.4.2.2). The location for the three emergency diesel generators (EDG) is shown on the plot plan (**Attachment DR26-1**). Each of the three engines has a 3,733-gallon subbase diesel fuel tank. See the EDG enclosure outline drawing (**Attachment DR26-2**) with the tank clouded. The location for the diesel fire pump is shown on the plot plan (**Attachment DR26-1**). Within the fire pump enclosure is a 600-gallon diesel fuel tank.

DR27: *Provide information on diesel fuel storage volumes, locations, and storage types for potential diesel generators that would be used during project construction for the concrete batch plant and the rock crushing facility.*

Response: Figure 1-4 of the SAFC illustrates the location of the batch plant and Temporary Cavern Rock Storage Area. As noted in Section 5.5.2.3.1 of the SAFC, the Applicant anticipates that a refueling truck will be used during construction and if practical, oil and diesel refueling activities will occur within a limited area of the WRESC Site to prevent large or multiple areas of contamination. The Applicant's contractor will have a maintenance yard (likely in the north laydown area) for construction equipment that would include a fuel yard and lube truck that would fill the equipment. The Applicant's contractor anticipates that they will have a double-walled 10,000-gallon Aboveground Storage Tank (AST) during construction.

DR28: *Verify whether diesel fuel would be stored onsite during project construction and, if so, provide information on anticipated volumes, storage type, and locations of diesel storage.*

Response: As noted in Section 5.5.2.3.1 of the SAFC, the Applicant anticipates that a refueling truck will be used during construction. Off road refueling trucks typically carry between 200 and 1,000 gallons.

DR29: *Provide information on how often the construction and operations fuel tanks would need to be refilled and any safety procedures that would be used during refilling to prevent leaks or spills.*

Response: Refueling will occur on an as-needed basis. Best management practices (BMPs) and mitigation procedures for spill response are described in Section 5.5.4.1 of the SAFC. The listed BMPs will be adopted to reduce the risk of potential release of diesel fuel.

DR30: *Provide information on safety procedures for construction and operation to prevent leaks and spill of diesel fuel during use of the fuel tanks.*

Response: BMPs and mitigation procedures for spill response are described in Section 5.5.4.1 of the SAFC. The listed BMPs will be adopted to reduce the risk of potential release of diesel fuel.

3.2 Hazardous Materials Usage During Project Construction

3.2.1 Data Requests DR31 and DR32

Section 5.5.1.2.1 provides a brief summary of the types of hazardous materials that would or could be used during project construction. However, neither this section nor the remainder of Section 5.5 provide any additional information on uses of these materials, anticipated storage volumes, or storage types, or storage locations for hazardous materials during construction.

DR31: *Provide a discussion of anticipated uses, storage volumes, types, and locations for hazardous materials used during project construction. Provide a table similar to Table 5.5-1 through 5.5-3 as an example.*

Response: Section 5.5.1.2.1 provides a discussion on the anticipated uses of hazardous materials during WRESC's construction.

General construction will require the use of hazardous materials such as sealants, adhesives, spent welding materials, paint and paint thinner, solvents, detergents, glycols, and refrigerants. However, maintenance crews don't typically use high-volume solvents, detergents, glycols, and refrigerants. These materials will be contained in small spray canisters.

Passivating and chemical cleaners and lubricating oil will be used on various mechanical equipment during construction. Hydraulic fluid, motor oil, diesel fuel, and gasoline will also be used onsite for motorized equipment and emergency generator use. **Table DR31-1** presents a list of oils and fuels.

Table DR31-1: List of Construction Vehicle Maintenance Fluids

Material	Volume
dyed diesel	8,000 gallons
clear diesel	2,000 gallons

Material	Volume
gasoline	2,000 gallons
diesel exhaust fluid (DEF)	250-gallon tote
Lube Connex (see typical layout below)	
Hydraulic oil 10W	250 gallons
15-40 engine oil	250 gallons
New Antifreeze	150 gallons
Used Antifreeze	150 gallons
Used Oil	500 gallons
80-90 Gear Oil	250 gallons
50W gear oil	250 gallons
30W gear oil	250 gallons

There are no feasible alternatives to vehicle fuels and oils for operating construction equipment. The arrangement of fuels and lubes within the connex during construction is presented in **Figure DR31-1**.

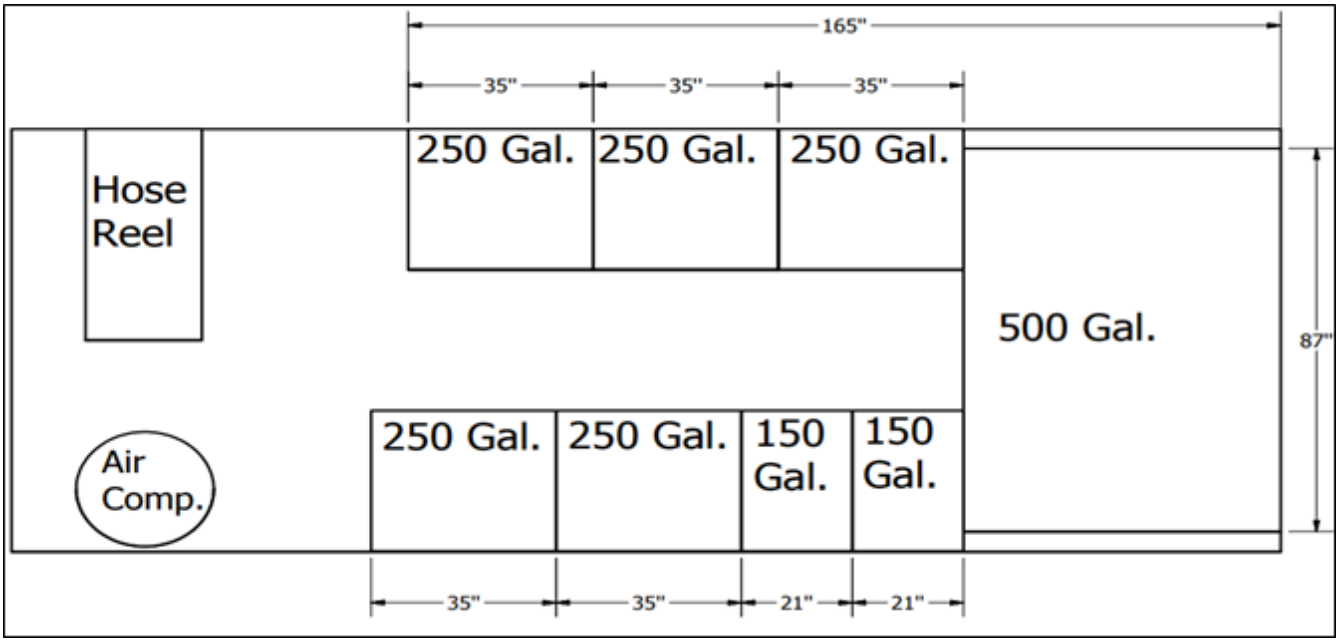


Figure DR31-1: Arrangement of Fuels and Lubes within the Connex during Construction

To power small equipment, lead acid batteries, alkaline batteries, and electrical fuses will be used onsite. The types of paint required are dictated by the equipment and structures that must be coated, and by the service conditions and environment. As discussed in 5.17, Worker Health and Safety, construction of the cavern will require drilling and charging with explosives for the controlled detonation work. Should regulated substances be used during construction of the WRESC, they will be stored and handled in compliance with all applicable regulations. The volumes will be determined during WRESC's Front End Engineering Design (FEED).

DR32: *Provide a discussion of transportation requirements for hazardous materials during project construction*.

Response: Any substance or material defined in Title 49 of the Code of Federal Regulations (49 CFR), Section 171.8 that is capable of causing an unreasonable risk to human health or safety or the environment when transported by vehicle, used incorrectly, or not properly stored or contained, is a hazardous material. Transportation of hazardous materials is discussed in Section 5.5.2.2 of the SAFC. When transported in vehicles, activities associated with hazardous materials transportation (packaging, identifying, loading, and warning the public of the hazard) are regulated by the California Highway Patrol (CHP) and the U. S. Department of Transportation (USDOT). Most of California's hazardous material safety regulations are found in Title 13 of the California Code of Regulations, Division 2, Chapter 6. The federal hazardous material safety regulations are found in 49 CFR, Parts 171 through 180. Hazardous material transportation is required to be carried out via the most direct route, using State or interstate highways whenever possible (California Vehicle Code, Section 31303). The Applicant will conform to these requirements during construction.

3.3 Hazardous Material Usage During Project Operation

3.3.1 Data Request DR33

Section 5.5.2.4 notes "the proposed transportation route for delivery of hazardous materials and regulated materials, such as sulfuric acid, to the WRESC would avoid the school, if possible." Sulfuric acid is not listed in the document as a hazardous material that would be used by the Project.

DR33: *Verify whether or not sulfuric acid is being used by the Project. If so, please provide all the pertinent information that would have been provided in Tables 5.5-1 to 5.5-3, such as use, storage locations, volumes, description, and toxicity, etc.*

Response: Sulfuric Acid will not be used for the Project's operation. Sulfuric Acid was provided in the SAFC only as an example of what could constitute a significant impact from its transportation, storage, and use.

3.4 Phase I ESA for Transmission Line

3.4.1 Data Requests DR34 and DR35

The Supplemental Application includes a Phase I Environmental Site Assessment (ESA) for the Project site (Appendix 5.14A), however no environmental assessment is noted or included for the transmission line between the WRESC and the Southern California Edison Whirlwind Substation. Potential sources of known or suspected environmental contamination at the WRESC or along the transmission line have not been discussed.

DR34: *Provide a Phase I ESA (or equivalent environmental assessment) for areas of ground disturbance along the transmission line.*

Response: CEC siting regulations only require an Applicant to provide a Phase I ESA for the proposed power plant site as noted below in the underlined section of Siting Regulations Appendix B excerpt:

> *"... (12) Waste Management*
> *(A) A Phase I Environmental Site Assessment (ESA) for the proposed power plant site using methods prescribed by the American Society for Testing and Materials (ASTM) document entitled "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process" (Designation: E 1527-93, May 1993), which is incorporated by reference in its entirety; or an equivalent method agreed upon by the applicant and the CEC Staff that provides similar documentation of the potential level and extent of site contamination. The Phase I ESA shall have been completed no earlier than one year prior to the filing of the application..."*

A Phase I ESA was previously provided for the main 88.6-acre WRESC site as Appendix 5.14A of the SAFC (TN # 254810) in accordance with CEC siting regulations. In addition, a draft Phase I ESA was provided for the VH parcel as Attachment DR 2-5 of the Applicant's response to Data Request 2 (TN #258681). The transmission line route and route options pass along the periphery of the VH parcel. The limited sections of the transmission line that are proposed for potential undergrounding will be constructed within Kern County road right-of-way that have been previously disturbed. The total permanent disturbance area associated with placement of individual transmission poles is approximately **0.1 acres**, which is less than **0.1%** of the total permanent disturbance associated with the project.

Pole locations will be examined in advance for any indications of contamination such as surface staining of the soil. The placement of individual transmission poles will be adjusted if necessary to avoid any areas that appear to be stained. In the unlikely event that any potentially contaminated soil is encountered during pole placement, the quantity of material would be very small, since the disturbed area is 6 feet in diameter and pole excavations are relatively shallow (less than 6 feet). The Applicant would take appropriate measures to collect the potentially contaminated soil, test it, and dispose of it in accordance with applicable regulations, including any contaminated material being removed by a licensed hauler to an appropriately licensed disposal facility. As a result, construction of the transmission line is expected to pose an insignificant potential environmental impact. The collection of Phase I ESA information along the entirety of the transmission line is not required by CEC siting regulations nor is it necessary to ensure that impacts from transmission line construction will be insignificant.

DR35: *Provide locations of anticipated ground disturbance along the transmission line, including anticipated surface areas and depths.*

Response: Attachment DR35-1 presents a map that shows the proposed location of transmission line poles from between WRESC and the SCE Whirlwind Substation. **Attachment DR35-1** also shows the location of undergrounding associated with the gen-tie line. Due to its file size, **Attachment DR35-1** was submitted through *Kiteworks*. As the Front-End Engineering Design (FEED) and stakeholder engagement with Kern County progresses, the final location of transmission line poles will be updated and provided to the CEC.

3.5 Fuel Models for Project Site and Transmission Line

3.5.1 Data Request DR36

Section 5.16.1.3.4 provides a discussion of fire fuel sources in the project area and the Tehachapi Management Area. Included in this section is a brief discussion of the Fuel Models present in the area and a Table that

describes the Fuel Models. However, the section does not indicate how the varying Fuel Models relate to varying portions of the Project.

DR36: *Provide a discussion and map that indicates how each identified Fuel Model relates to the Project specifically and where they are in relation to each component of the Project, including the transmission line.*

Response: Attachment DR36-1 provides a map showing the relevant fuel models in relationship to project components. The following describes how each fuel model geographically relates to the Project:

- Based on data from LANDFIRE, the fire behavior fuel models (FBFM) surrounding the transmission line and Project components are FBFM2, FBFM5, and FBFM8.
- FBFM2 dominates the area on the eastern side of the WRESC site
- FBFM5 and FBFM8 make up the areas to the west of the WRESC site along Dawn Road.
- FBFM2 dominates the area surrounding Mojave Tropico Road.
- The majority of Rosamond Boulevard is surrounded by urban areas that do not include an FBFM, however FBFM2, FBFM5, and FBFM8 are dispersed along some sections of the road, with FBFM5 being the most dominant.
- The Whirlwind Substation is mostly surrounded by FBFM2, however, both FBFM5 and FBFM8 occur on the northeast side of the substation.

4.0 LAND USE, AGRICULTURE, AND FORESTRY

4.1 Timing of ROW Grant from BLM

4.1.1 Data Request DR37

The Supplemental Application states in Section 5.6.2.2.7 (page 5.6-12):

Prior to construction, the Applicant will contact the applicable BLM office and notify them of its intent to submit an “Application for Transportation and Utility Systems and Facilities on Federal Lands”. This application is also referred to as a SF-299 form. The Applicant will then set up a pre-application meeting with a BLM Realty Specialist or appropriate staff member to discuss the WRESC Project and gen-tie line routes across the above referenced parcels. Following the pre-application meeting, the Applicant will submit a SF-299 application for review and approval, if required. BLM recommends that SF-299 applications be submitted more than 60 days prior to construction.

DR37: *Please provide more specific timing on when the applicant would initiate the ROW grant application process with the BLM, i.e., during the certification process with the CEC, or following CEC certification of the project but prior to construction.*

Response: BLM received the Applicant’s SF-299 application on August 28, 2024.

4.2 Timing of Rezone of Project Site

4.2.1 Data Request DR38

In Sections 5.6.3.3.1 to 5.6.3.3.4 of the Supplemental Application (pages 5.6-37 to 5.6 39), the applicant states that although the proposed project is allowed with a Conditional Use Permit in the existing Kern County “Limited

Agriculture" zoning designation, Kern County staff recommended the applicant apply for a rezone of the project site to "Exclusive Agriculture" to make the site's zoning designation consistent with the Kern County General Plan land use designation of "Resource Management." The new zone of "Exclusive Agriculture" would also allow the project with a Conditional Use Permit. The applicant stated that they have applied for this rezone.

DR38: *Please provide the approximate timeline of the rezone process, as well as documentation once the rezone has occurred.*

Response: The Applicant submitted the rezone application to Kern County Planning and Natural Resources Department on August 28, 2024. The Applicant anticipates that the zone change will be completed during the third quarter of 2024 at the discretion of the Planning Department.

5.0 PUBLIC HEALTH

5.1 Health Risk Assessment (HRA) for Construction and Commissioning Phase

5.1.1 Data Request DR39

The construction phase of the project is expected to take approximately 60 months (followed by several months of startup and commissioning). A screening health risk assessment was conducted for the construction period due to emissions of diesel particulate matter (DPM). The estimated cancer risks at Point of Maximum Impact (PMI) are 225 in one million in architectural option and 273 in one million in no-architectural beam option. Both are much higher than the significance threshold of 10 in one million. The applicant said that the PMI locations are all along the immediate eastern fence and do not represent either worker or residential receptor locations.

DR39: *Since the cancer risks at PMI are significant, please discuss how the applicant intends to use mitigation measures to reduce the cancer risk to a level of less than significant during construction and ensure the protection of public health. If the results of any health risk assessment results in a health risk of greater than 10 in one million, please provide a map containing health risk isopleths, including an isopleth showing the risk value of 10 in one million.*

Response: A map of the 10-in-a-million risk is provided with this response as **Attachment DR39-1** for both the berm and no berm options. The extent of the maximum 10-in-a-million risk (no berm option) is approximately 2.3 kilometers from the facility fence line boundary. As referenced in the application, there are no residential or worker receptors within this 2.3 km radius. Additionally, there are no structures or buildings located within this area, therefore, it is not expected that any member of the public would be exposed to this level of risk since there will be no public member residing or present in this very limited area with continuous exposure over the five (5) year construction period. Accordingly, public health risk associated with construction is expected to be less than significant and no additional mitigation is necessary.

The risk modeling results are based upon projected emissions from the project's diesel-fueled construction equipment, which were calculated using emission factors from CARB's California Emissions Estimator Model (CalEEMod version 2022.1) for equipment operating in 2025. These CalEEMod calendar year average emission factor for construction (e.g., loaders, tractors, off-road trucks), industrial (e.g., aerial lifts, forklifts, other material handling equipment), and light commercial (e.g., air compressors, generator sets, pumps) equipment are based on the CARB OFFROAD2017-ORIAN V1.0.1 emissions model. The calendar year average emission factors for each year from 2010 through 2050 are calculated using state-wide fleet-averaged emission factors for each equipment type, horsepower range, and fuel type (diesel fuel) were estimated based on daily emissions and fleet-

wide energy use (i.e., total horsepower-hours). The emission factors vary from year to year since the equipment populations (number, age, horsepower, and Tier level) and their activity vary over time for equipment operating in the state. Thus, the modeled diesel-fueled equipment was based upon a fleet-wide average of multiple levels of tiered engine standards.

Regardless of the fleet-wide tier average used in the emissions calculations, the project will incorporate the CEC standard conditions of certification which will include maximum use of Tier 4 construction equipment, to the extent that Tier 4 construction equipment is available.

6.0 TRANSPORTATION

6.1 FAA and DOD Determinations

6.1.1 Data Request DR40

On May 23, 2024, the Applicant filed Federal Aviation Administration (FAA) Form 7560-1 through the agency's online portal (TN 256622, TRAN-2). The Applicant also submitted an application package for approval to the U.S. Department of Defense (DoD) Military Aviation and Installation Assurance Siting Clearinghouse. Correspondence related to the submittal of the DoD clearinghouse form is also provided in the Applicant's Willow Rock Data Adequacy Response document submitted on May 31, 2024 (TN 256622). The Applicant stated they will file FAA and DoD determinations to the project docket upon receipt. This supplemental information will be provided for conformance with Siting Regulations, Appendix B (g) (5) (B) and Appendix B (g) (5) (B) (iv). Staff issues this data request for tracking purposes of outstanding information required for the staff analysis.

DR40: *Please file further communications and determinations received from the FAA and the DoD to the project docket upon receipt.*

Response: As noted above, on May 23, 2024, the Applicant filed Federal Aviation Administration (FAA) Form 7560-1 through the agency's online portal. Additionally, the Applicant, on May 23, 2024, also submitted a preliminary assessment package for review to the DoD's Military Aviation and Installation Assurance Siting Clearinghouse. **Attachment DR40-1** presents the FAA No Hazard Determination for the Project. The Applicant has not had any subsequent communications with the DoD.

6.2 Alternative Sites

6.2.1 Data Request DR41

On June 28, 2020, the Applicant filed a summary of the level of service (LOS)-based traffic study methodology to be implemented for the project (TN 257525). The Applicant will prepare a draft traffic study report for initial review by Kern County as outlined in the aforementioned methodology, respond to Kern County comments and prepare and submit a final traffic study report to both Kern County and the CEC. This additional traffic volume data and corresponding LOS information will further assist the CEC in understanding project effects to roadway and intersection capacity in the vicinity of the project site. Staff issues this data request for tracking purposes of outstanding information required for the staff analysis.

DR41: *Please file the final traffic study report and a record of transmittal of a copy to Kern County, to the project docket upon completion.*

Response: The final traffic study for WRESC was docketed on August 15, 2024 (TN# 258518). The Applicant has provided a signed and sealed hard copy of the WRESC Traffic Study to Kern County prepared by WSP to the Kern County Public Works Department. The copy was delivered via FedEx on September 13, 3024. A copy of the shipping label is provided as **Attachment DR41-1**.

ATTACHMENT DR25-1

1-hr NO_2 Modeling Files (submitted via Kiteworks)

ATTACHMENT DR26-1

WRESC Plot Plan

LEGEND:

0001	ADMINISTRATION/CONTROL ROOM BUILDING
0002	WAREHOUSE/MAINTENANCE BUILDING
0003	PIPE RACK
0004	PARKING AREA
0005	SEPTIC TANK
0006	COMPRESSOR ENCLOSURE
0007	LP AIR INTAKE FILTERHOUSE AND SILENCER
0008	LP COMPRESSOR
0010	COMPENSATION RESERVOIR
0011	HP/IP COMPRESSOR
0012	IP COMPRESSOR FILTER/SEPARATOR
0013	HP COMPRESSOR FILTER/SEPARATOR
0014	CRANE AND ENCLOSURE ACCESS
0015	TURBINE ENCLOSURE
0016	EXHAUST STACK
0017	LP THERMAL MANAGEMENT HEAT EXCHANGER
0018	IP THERMAL MANAGEMENT HEAT EXCHANGER
0019	HP THERMAL MANAGEMENT HEAT EXCHANGER
0020	COLD THERMAL FLUID STORAGE TANK
0021	COLD THERMAL FLUID PUMPS
0022	TMS DISCHARGE PHASE CONTROL PUMPS
0023	HOT THERMAL FLUID STORAGE TANKS
0024	THERMAL FLUID AIR COOLED HEAT EXCHANGER
0027	AIR TURBINE
0028	HP AIR TRIM COOLER
0029	CAVERN DISCHARGE HP AIR FILTER/SEPARATOR SKID
0030	AIR SHAFT SWEEP GAS BOOSTER COMPRESSOR SKID
0031	WATER PENSTOCK CHAMPAGNE EFFECT DEAERATOR
0032	PRIMARY CLOSED COOLING WATER HEAD TANK
0033	CLOSED COOLING WATER RESERVE TANK
0034	PRIMARY CLOSED COOLING WATER PUMPS
0035	RESERVED CLOSED COOLING WATER PUMPS
0036	CLOSED COOLING WATER ACHE
0037	FIRE WATER PUMPS
0038	FIRE WATER TANK
0039	TURBOMACHINERY FIRE SUPPRESSION WATER MIST SKID
0040	ROAD
0042	NITROGEN GENERATION PACKAGE
0043	NITROGEN RECEIVER VESSEL
0044	AIR COMPRESSORS
0045	WET AIR RECEIVER
0046	AIR DRYER
0047	DRY AIR RECEIVER
0048	LP AIR COMPRESSOR LUBE OIL MODULE
0049	HP/IP AIR COMPRESSOR LUBE OIL MODULE
0050	POWER TRAINS AREA OIL/WATER SEPARATOR
0051	CLEAN DRAINS SUMP AND PUMPS
0052	WASTE DRAINS SUMP AND PUMPS
0053	AIR TURBINE LUBE/HYDRAULIC OIL MODULE
0054	MAIN SWITCHYARD
0055	EVAPORATION POND
0056	STORMWATER POND
0057	COMPRESSOR UNIT TRANSFORMER
0058	GENERATOR STEP-UP TRANSFORMER
0060	AIR TURBINE GENERATOR COOLER
0061	TURBINE GENERATOR
0062	COMPRESSOR VFD INPUT TRANSFORMER
0063	HV DISCONNECT SWITCH
0064	UTA SWITCH YARD
0065	MOBILE DEMINERALIZED WATER TREATMENT TRAILER
0066	COMPRESSOR/TURBINE ELECTRICAL ENCLOSURE
0067	SECONDARY UNIT SUBSTATION TRANSFORMER
0068	EMERGENCY DIESEL GENERATOR
0069	4.16kV ELECTRICAL ENCLOSURE
0070	UNIT AUXILIARY TRANSFORMER
0071	COMPRESSOR VFD OUTPUT TRANSFORMER
0074	RECLAIMED CONDENSATE COLLECTION TANK
0075	RECLAIMED CONDENSATE COLLECTION FORWARDING FEED PUMP SKID
0076	POTABLE WATER TANK
0077	POTABLE WATER TEMPERING SKID
0078	LP AIR COMPRESSOR MOTOR COOLER
0079	HP/IP AIR COMPRESSOR MOTOR COOLER
0080	GAS TRANSFER MEMBRANE SKID
0081	DEMINERALIZED WATER TREATMENT SAMPLE ANALYSIS PANEL
0082	OZONEATOR SKID
0083	PLANT COMMON AREA OIL/WATER SEPARATOR
0087	GENERATOR CIRCUIT BREAKER
0088	ISOPHASE BUS DUCT
0089	ELECTRICAL ENCLOSURE
0090	ACHE PDC AND TRANSFORMERS
0091	NITROGEN DRYER AND FILTERS
0092	AIR SHAFTS
0093	SERVICE/WATER SHAFT

EMISSIONS SOURCE COORDINATES

ID	DESCRIPTION	LATITUDE	LONGITUDE
A	EDG-01 EXHAUST 1	N34° 54' 40.93"	W118° 09' 12.83"
B	EDG-01 EXHUAST 2	N34° 54' 40.92"	W118° 09' 12.78"
C	EDG-02 EXHAUST 1	N34° 54' 40.83"	W118° 09' 12.43"
D	EDG-02 EXHAUST 2	N34° 54' 40.82"	W118° 09' 12.38"
E	EDG-03 EXHAUST 1	N34° 54' 40.74"	W118° 09' 12.03"
F	EDG-03 EXHAUST 2	N34° 54' 40.73"	W118° 09' 11.98"
G	DIESEL FIRE PUMP EXHAUST	N34° 54' 46.86"	W118° 09' 13.18"

- PRELIMINARY -
NOT FOR CONSTRUCTION

SCALE: 1" = 80'-0"

REV	DESIGN BY	CHECKED BY	DATE
0	T. BIGGERSTAFF	S. GAWER	01-11-24

ISSUED FOR AFC

HYDROSTOR
WILLOW ROCK ENERGY STORAGE CENTER

HYDROSTOR
Kiewit

PLOT PLAN
OPERATIONS PHASE - WITHOUT BERM

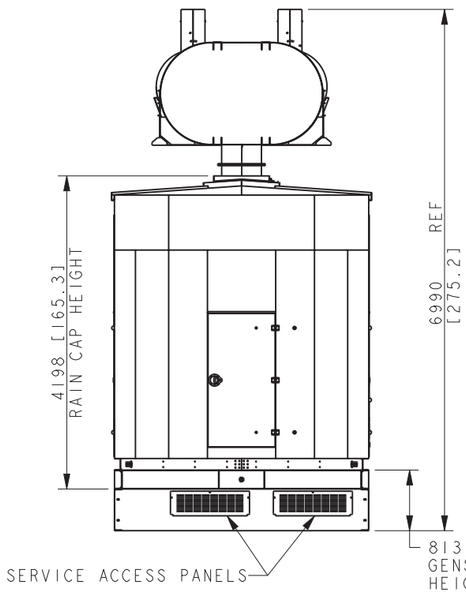
ENGINEER/DESIGN ORIGINATOR	T. BIGGERSTAFF
LEAD ENG	S. GAWER
ENG MGR	S. GAWER
PROJ MGR	J. LUNDQUIST

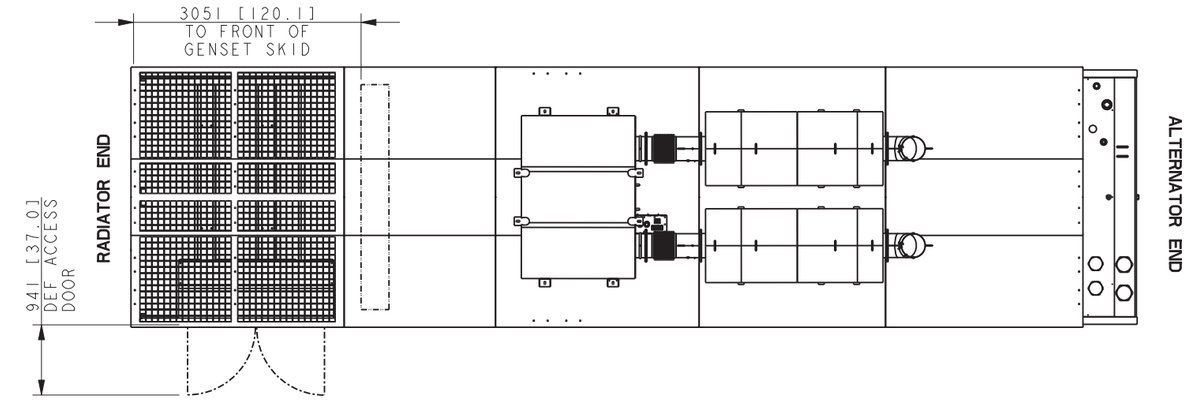
DRAWING NUMBER
20045352-PP-004

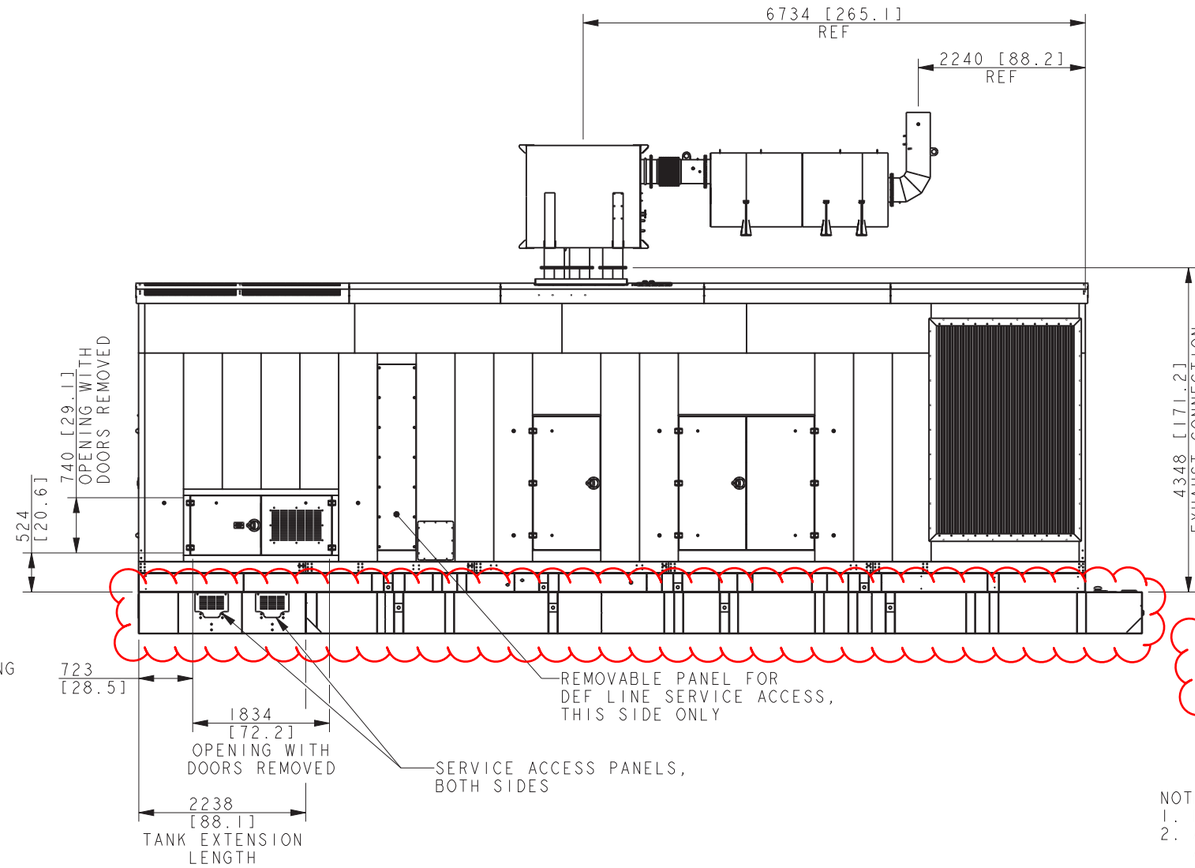
$$DATE$$ $$TIME$$ $$USERNAME$$ $$FILENAME$$

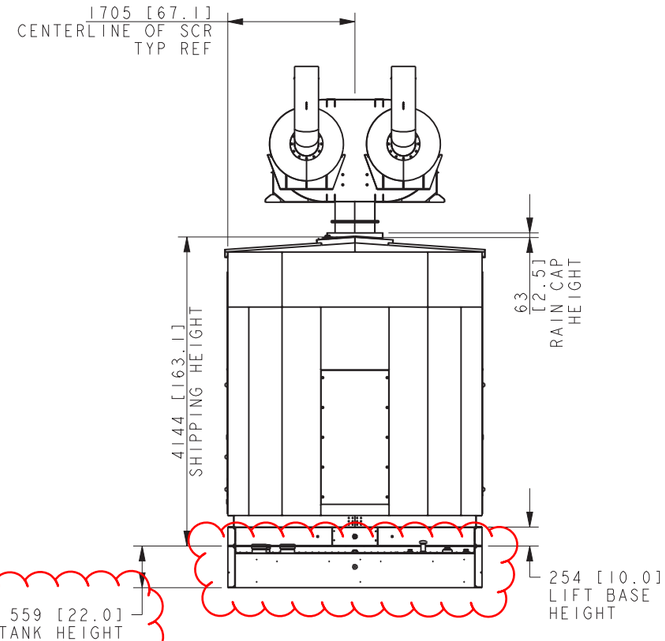
ATTACHMENT DR26-2

Emergency Diesel Generators Enclosure Outline Drawing









NOTE:
1. DIMENSIONS IN [ ] ARE ENGLISH EQUIVALENTS
2. AFTER TREATMENT SUPPORT IS NOT SUPPLIED BY KOHLER AND MUST BE SOURCED SEPARATELY

*ENCLOSURE WEIGHT DOES NOT INCLUDE EXTERNAL EXHAUST COMPONENTS

ALUM. SL2 ENCLOSURE WEIGHT KG [LBS]	4518 [9960]

REFERENCE ENCLOSURE & TANK ADV-9075 FOR ADDITIONAL INFORMATION

EXHAUST COMPONENTS SHOWN FOR REFERENCE. REFER TO GENSET ADV-9163 FOR DETAILS

NON-TABLED DIMENSIONS ARE TYPICAL

PACKAGE INFORMATION		
TANK LITERS [GALLONS]	WEIGHT KG [LBS] (NO FUEL)	TANK EXTENSION WEIGHT KG [LBS]
SL2 LIFT BASE	2648 [5,838]	NA
14130 [3733]	8142 [17,952]	409 [901]

TANK EXTENSIONS NOT TO BE LIFTED WITH TANK AND/OR ENCLOSURE

KD2500-4 SL2 TIER 4 ENCLOSURE AND LIFTING BASE WITH SUB BASE TANK OPTION

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	31JAN2020	NEW DRAWING [CT2020114]	ZJS
A	14APR2020	(A-8) ADDED TIER 4 GENSET ADV REFERENCE	
		NOTE; (B-7) ADDED GENSET MOUNTING HEIGHT;	
		(D-6) ADDED DIMENSION TO FRONT OF GENSET	
		SKID; (C-2) ADDED DIMENSION TO CENTERLINE OF	
		SCR [CT2033581	ZJS
B	22OCT2020	(B-7) REF DIM 6990 ADDED [CT207157]	CEK
C	23JAN2023	(A-3) NOTE 2 ADDED [CT224851]	APM

DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS
GENERAL TOLERANCES: N/A

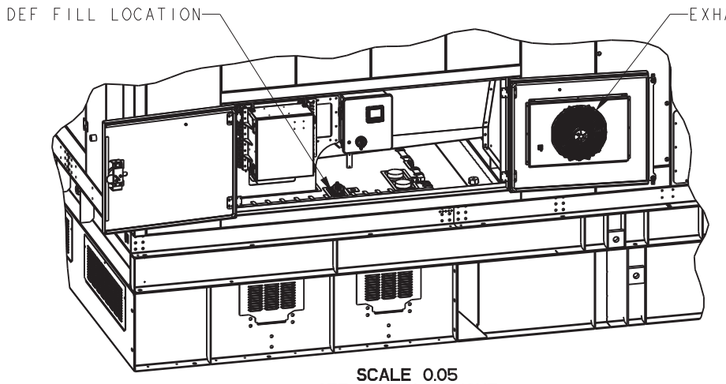
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	ZJS	31JAN2020
CHECKED	KJB	31JAN2020
APPROVED	AJW	31JAN2020

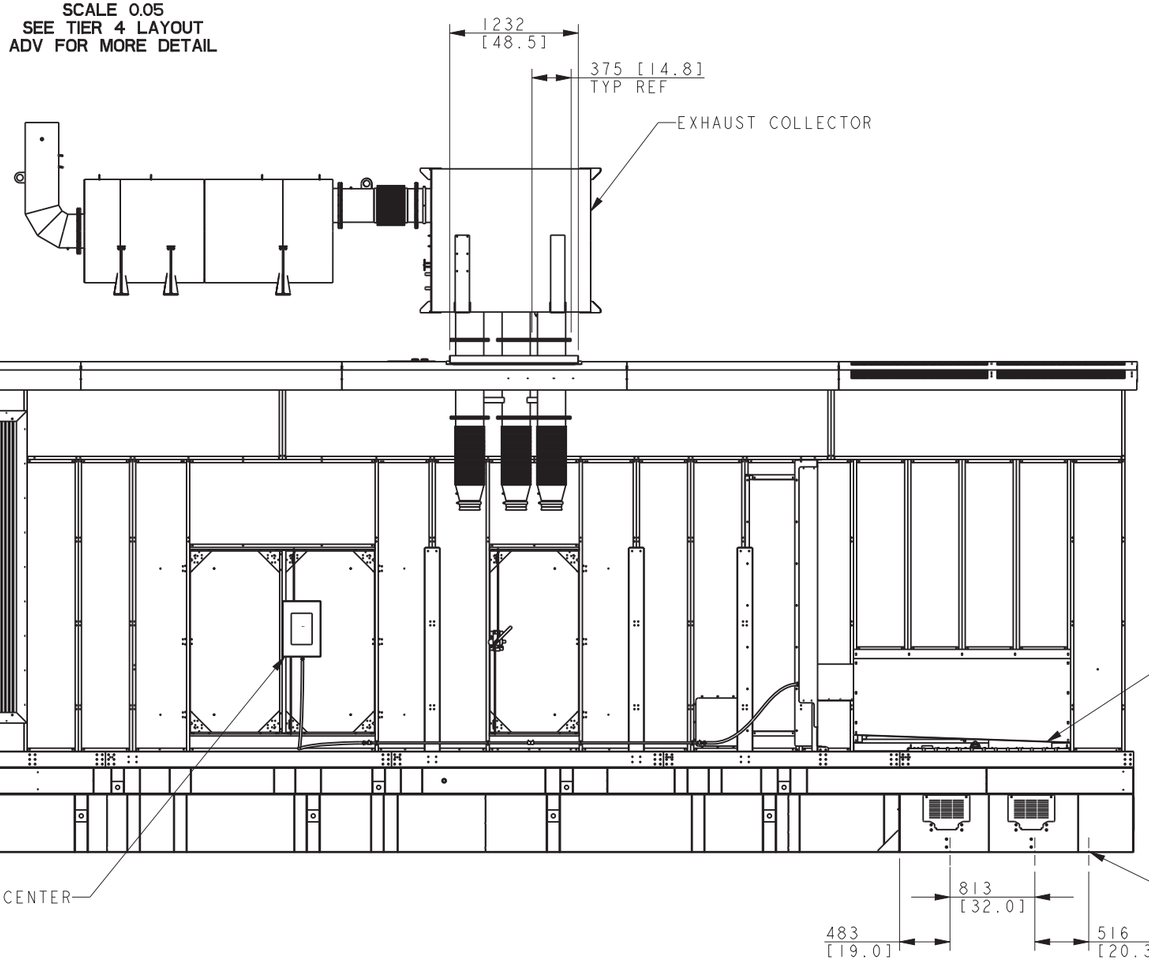
TITLE: DIMENSION PRINT KD2500-4 TIER4 ENCL/TANK

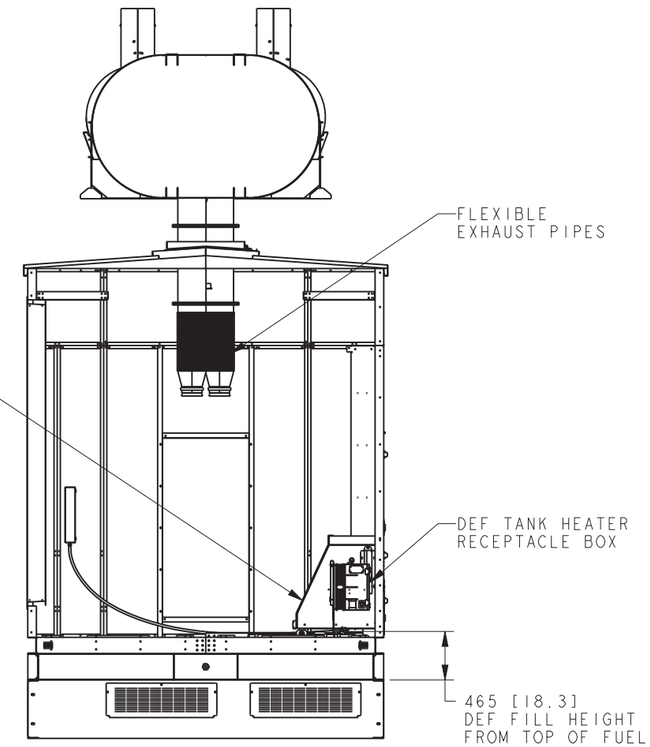
SCALE NA | CAD NO. | SHEET 1 of 3

DWG NO. ADV-9179 | D



SCALE 0.05
SEE TIER 4 LAYOUT
ADV FOR MORE DETAIL





SL2 EXTENSION MOUNTING, ENCLOSURE COMPONENT LOCATION

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	31JAN2020	NEW DRAWING [CT2020014]	ZJS
A	14APR2020	SEE SHEET 1 [CT203358]	ZJS
B	22OCT2020	SEE SHEET 1 [CT207157]	CEK
C	23JAN2023	SEE SHEET 1 [CT224851]	APM

DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS
GENERAL TOLERANCES: N/A

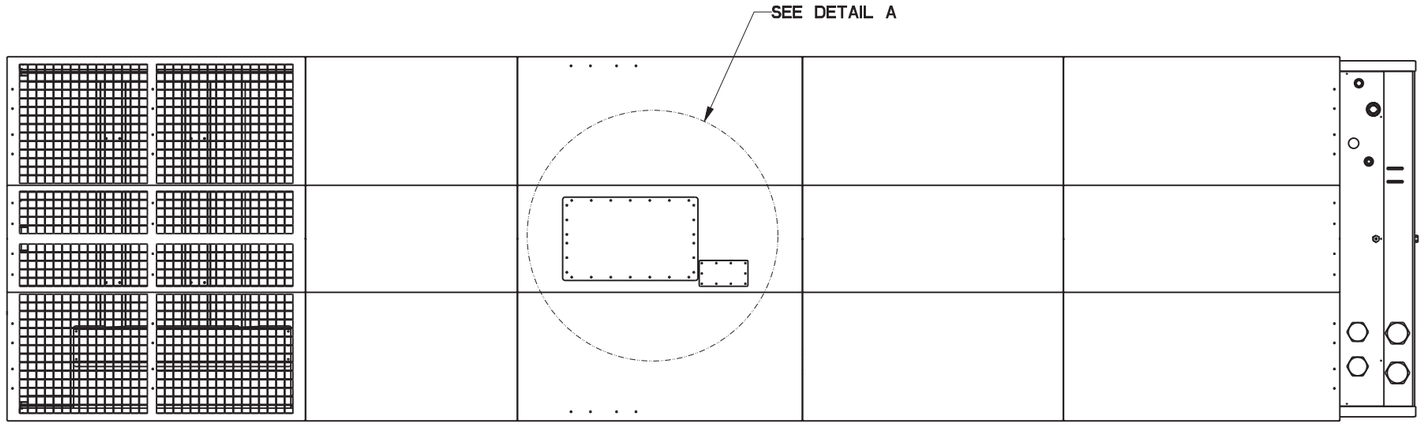
THIRD ANGLE PROJECTION

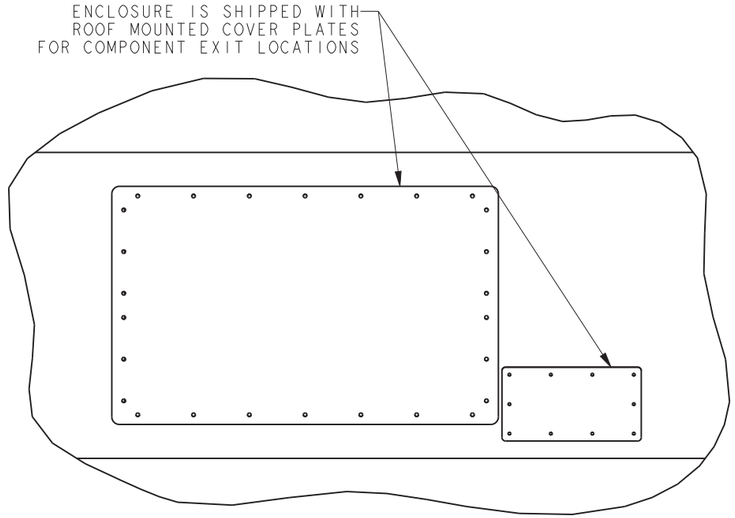
APPROVALS		DATE
DRAWN	ZJS	31JAN2020
CHECKED	KJB	31JAN2020
APPROVED	AJW	31JAN2020

TITLE: **DIMENSION PRINT KD2500-4 TIER4 ENCL/TANK**

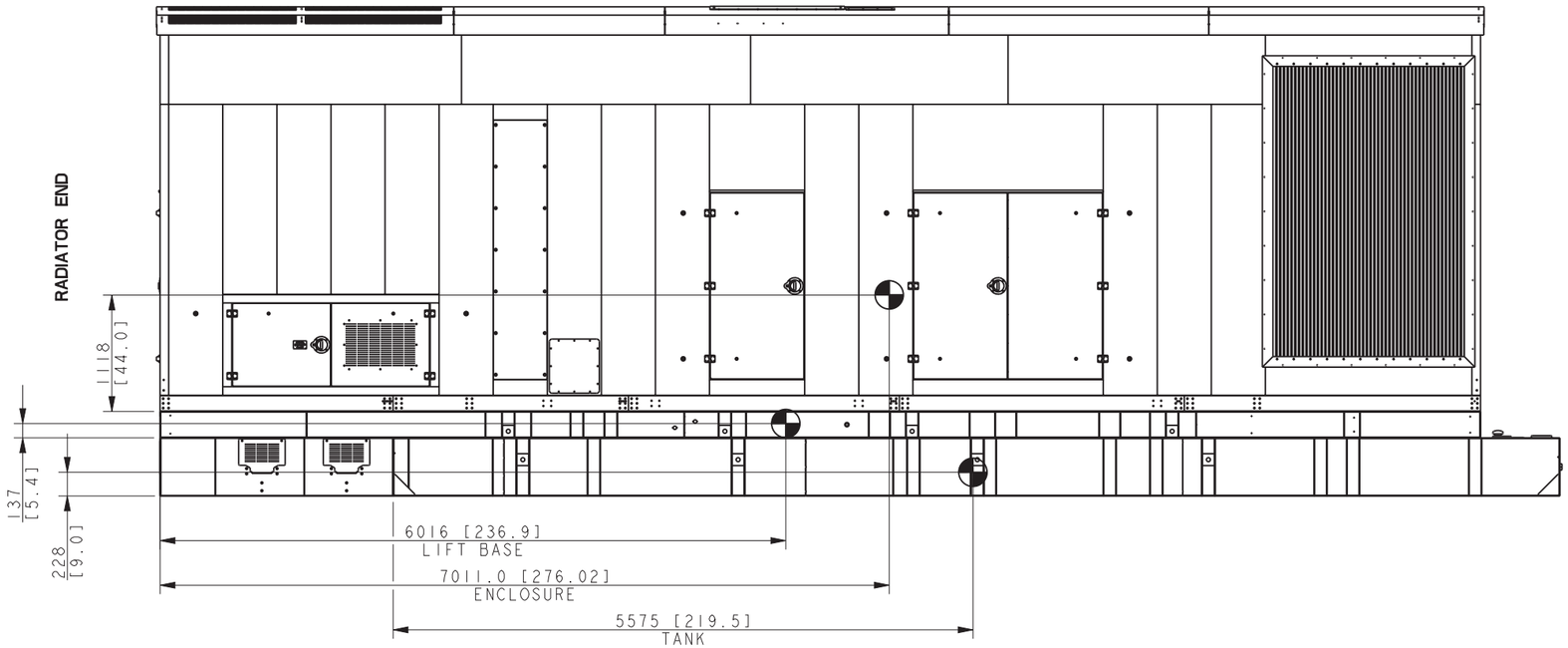
SCALE NA | CAD NO. | SHEET 2 of 3

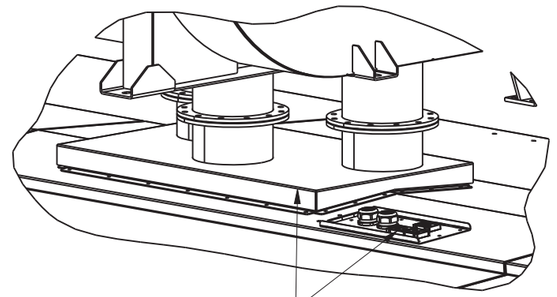
DWG NO. **ADV-9179** | **D**





DETAIL A
SCALE 0.10





SCALE 0.10

SL2 CENTER OF GRAVITY POINTS FOR ENCLOSURE, LIFT BASE, AND TANK VARIATIONS

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	31JAN2020	NEW DRAWING [CT2020014]	ZJS
A	14APR2020	SEE SHEET 1 [CT203358]	ZJS
B	22OCT2020	SEE SHEET 1 [CT207157]	CEK
C	23JAN2023	SEE SHEET 1 [CT224851]	APM

DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS
GENERAL TOLERANCES: N/A

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	ZJS	31JAN2020
CHECKED	KJB	31JAN2020
APPROVED	AJW	31JAN2020

TITLE: **DIMENSION PRINT KD2500-4 TIER4 ENCL/TANK**

SCALE NA | CAD NO. | SHEET 3 of 3

DWG NO. **ADV-9179** | **D**

ATTACHMENT DR35-1

Proposed Locations of Transmission Line Poles and Undergrounding Maps (submitted via Kiteworks)

ATTACHMENT DR36-1

Fuel Models Maps

N

Page 9 | Page 8 | Page 7 | Page 6 | Page 5 | Page 4 | Page 3 | Page 2 | Page 1

Actis

Sierra Hwy

Ansel

14

Willow Springs

Rosamond

Kern County

Los Angeles County

138

LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 | 8,000 | 16,000 Feet

1" = 8,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: WORLD IMAGERY: EARTHSTAR GEOGRAPHICS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3

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

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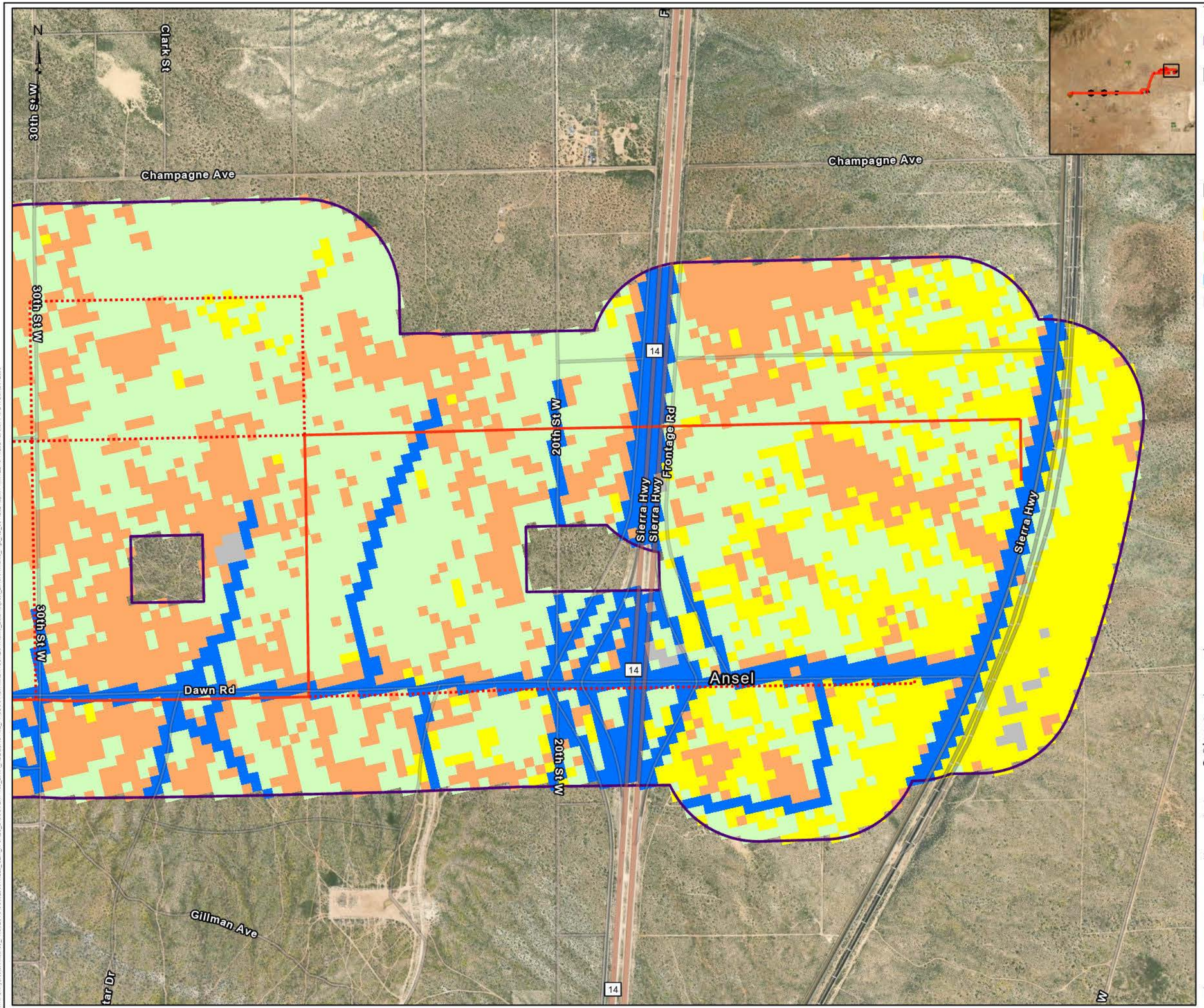

LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 1,000 2,000 Feet

1" = 1,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT
wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-1

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

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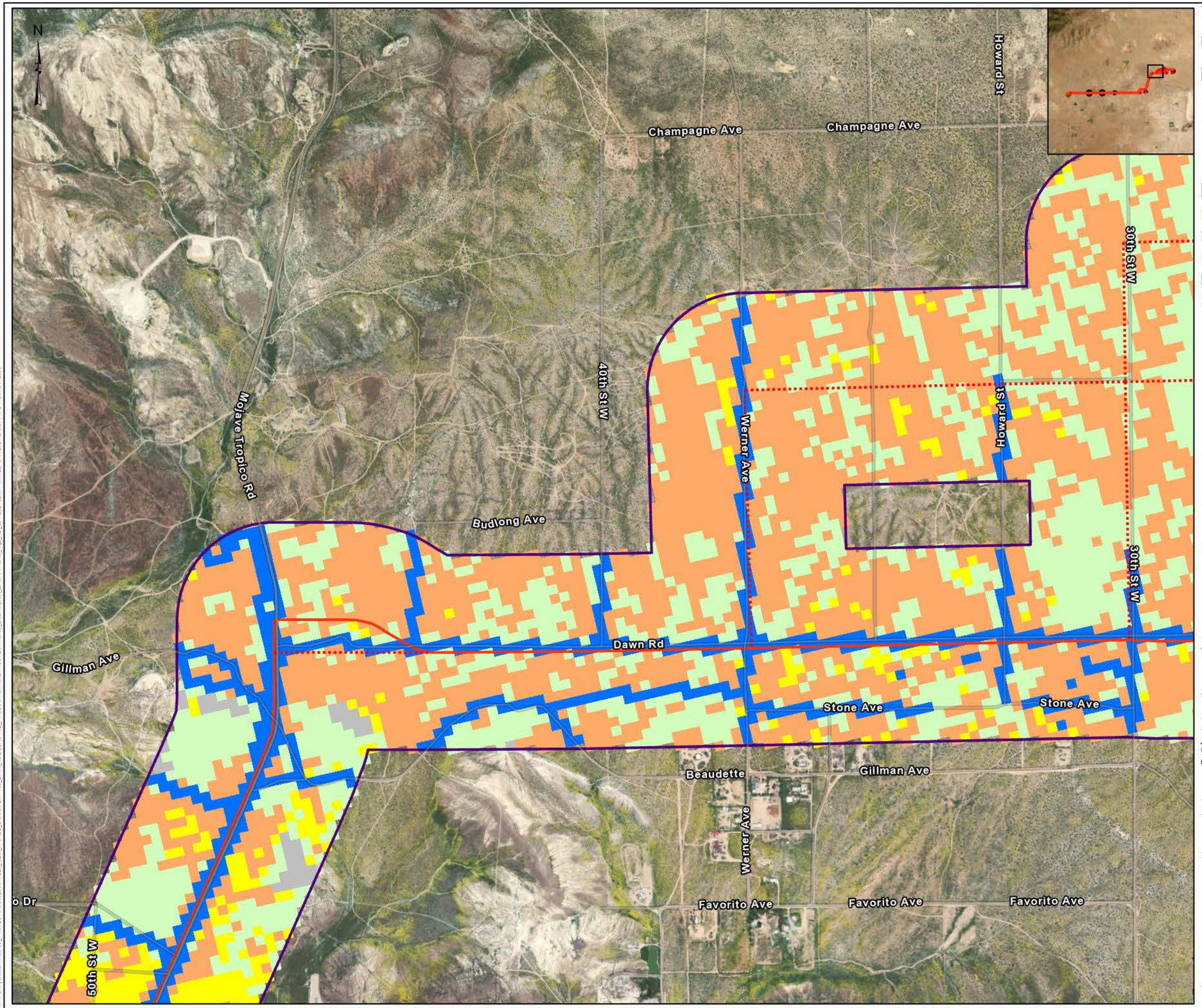

LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 1,000 2,000 Feet

1" = 1,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-2

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

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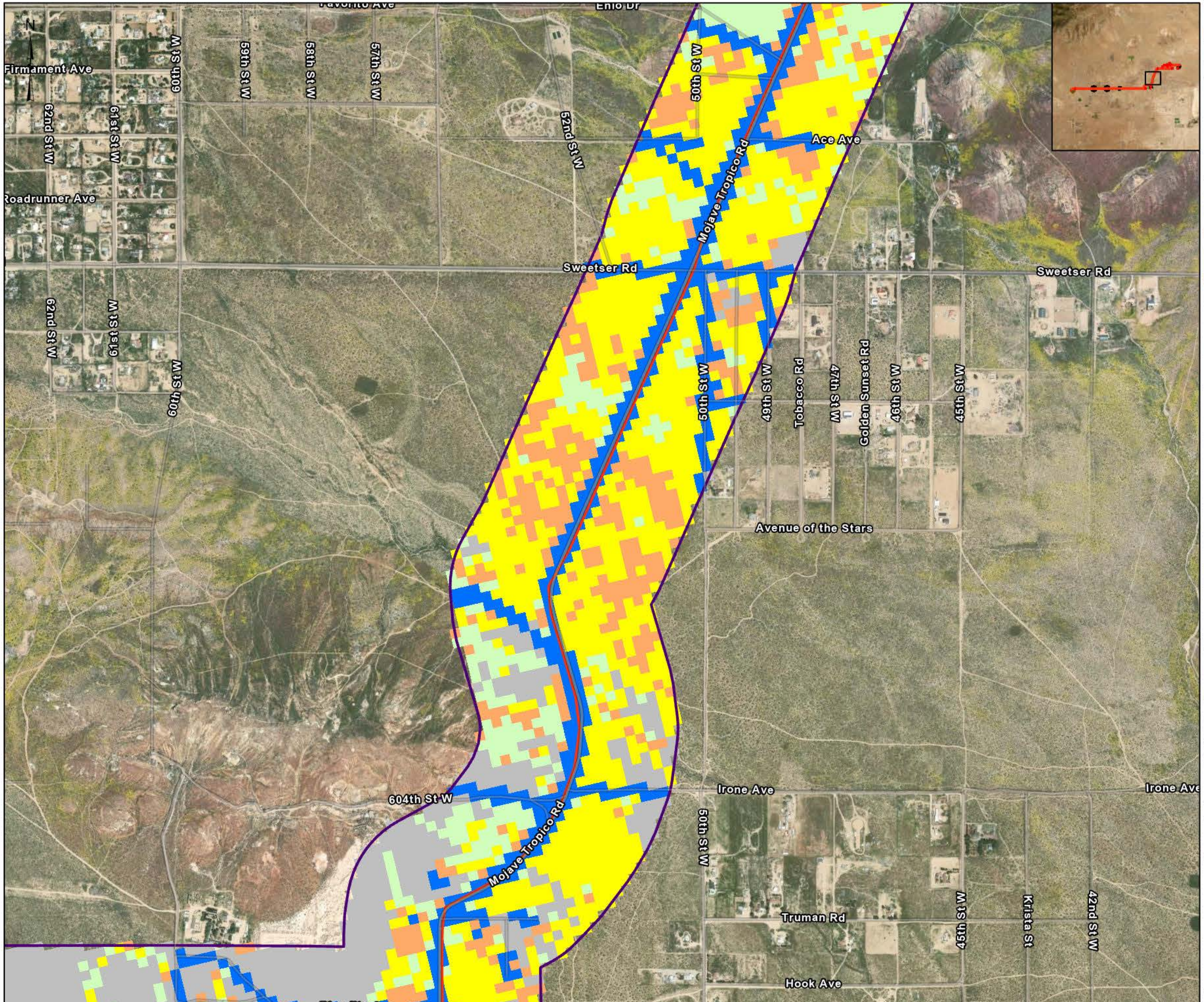


LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 1,000 2,000 Feet

1" = 1,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

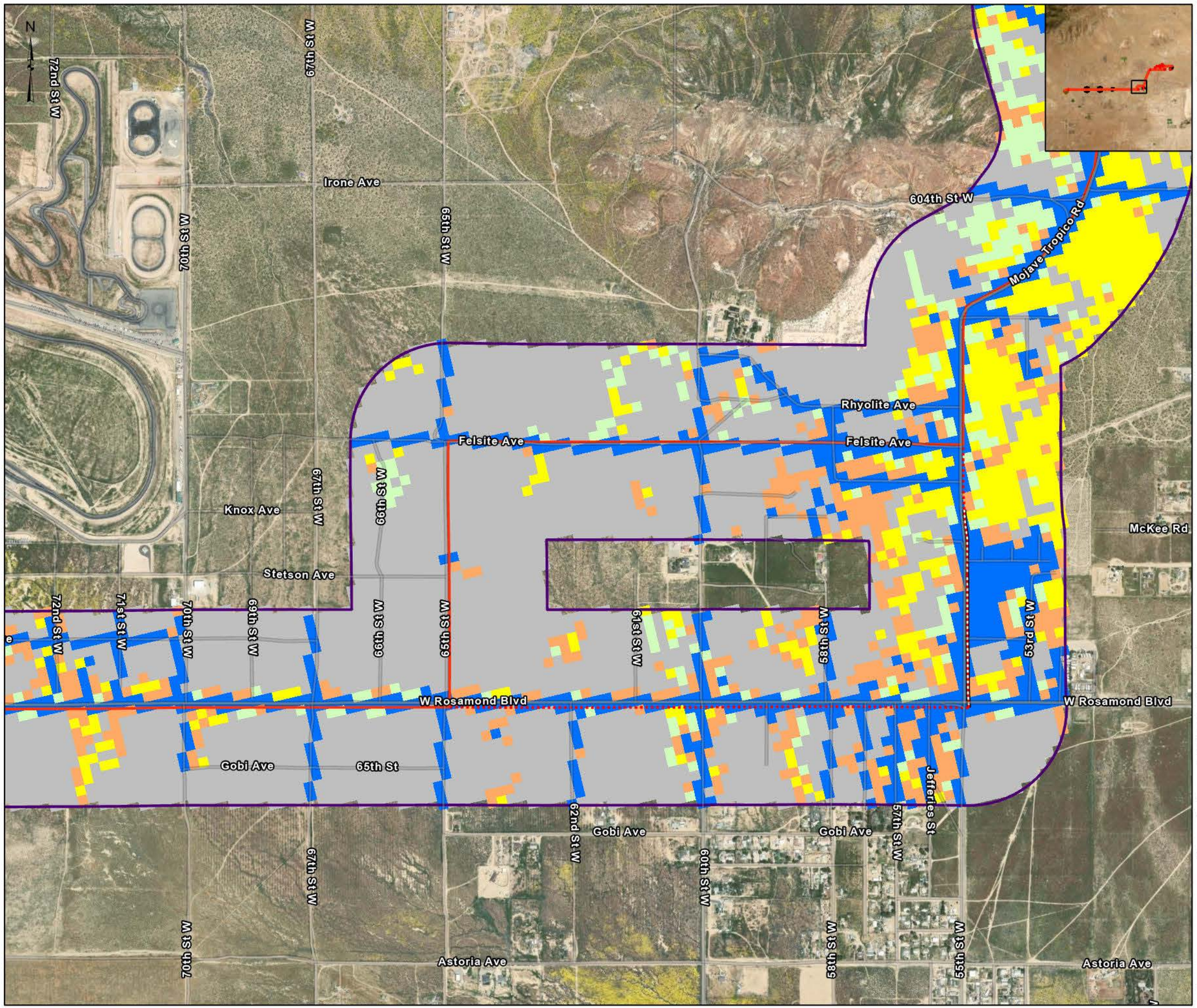
TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-3



LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 1,000 2,000 Feet

1" = 1,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-4

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

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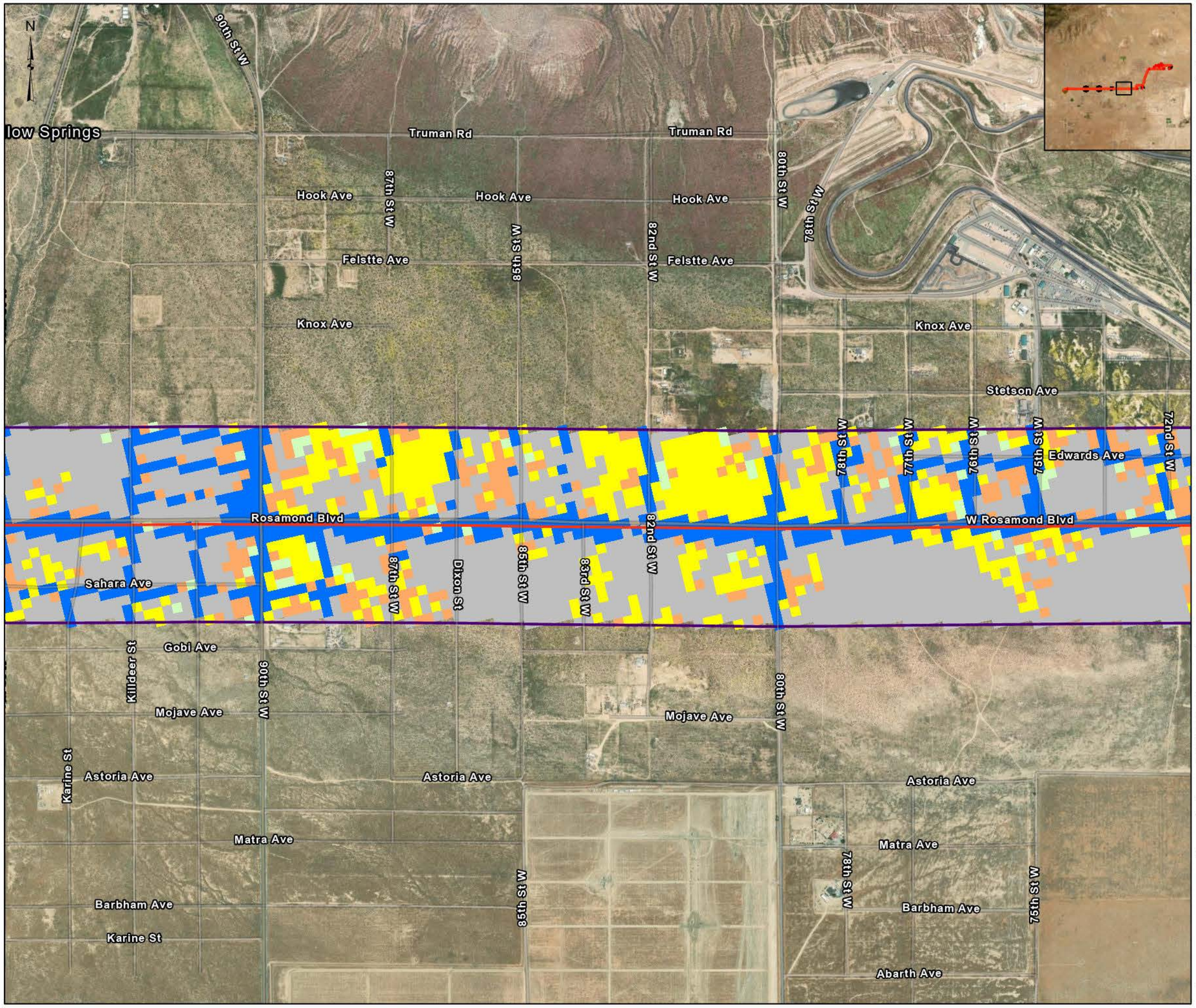

LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 1,000 2,000 Feet

1" = 1,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-5

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

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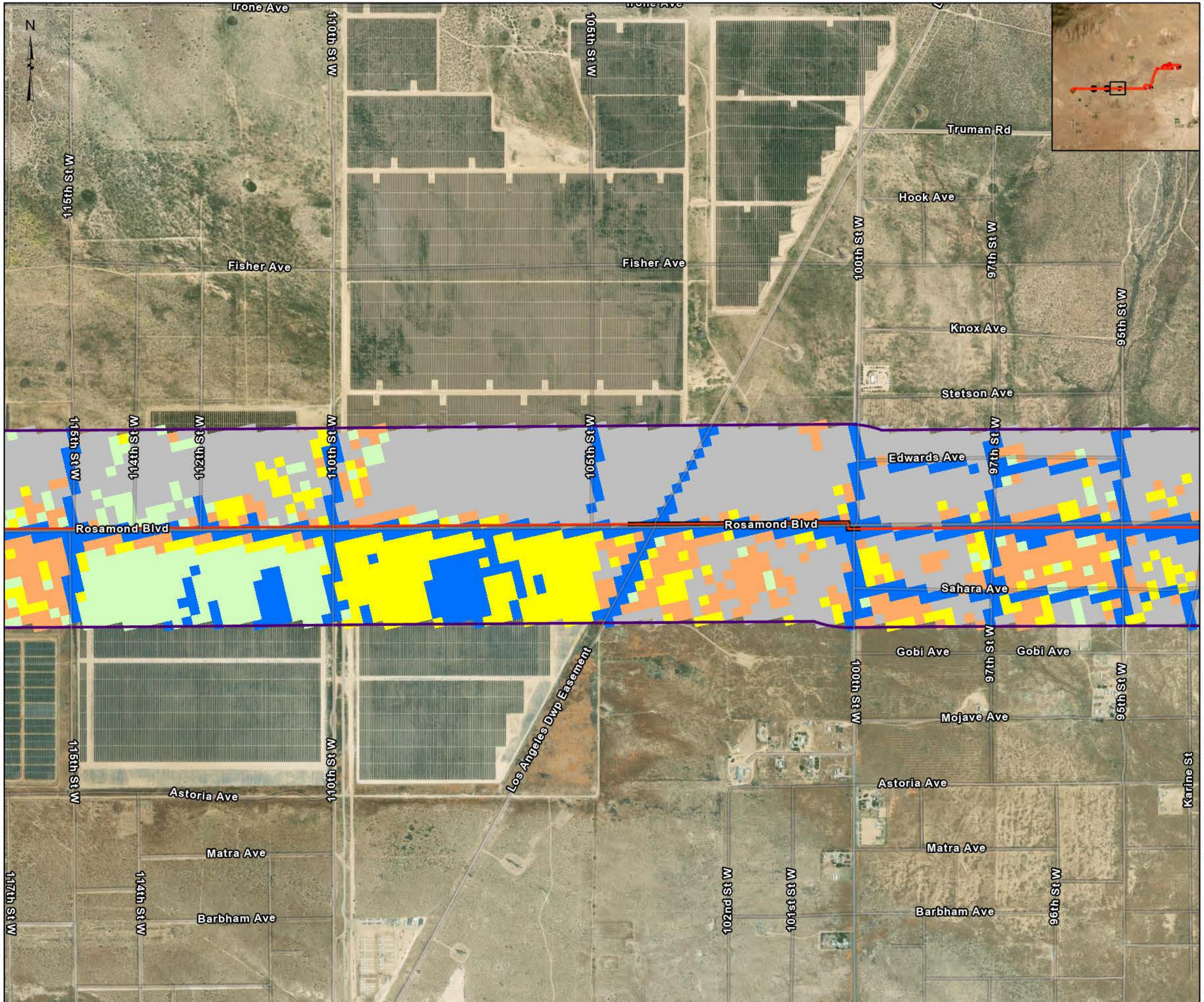


LEGEND

1,000 ft Buffer around Project Parcels and Transmission Line

Project Components

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Fire Behavior Fuel Model (FBFM)

- FBFM2
- FBFM5
- FBFM8
- Urban
- Barren

DRAFT

0 1,000 2,000 Feet

1" = 1,000 ft

NOTE(S)

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

REFERENCE(S)

1. 13 ANDERSON FIRE BEHAVIOR FUEL MODELS - FBFM13, LANDFIRE. DOWNLOADED ON 09/11/2024 FROM HTTPS://LANDFIRE.GOV/DATA/FULLEXTENTDOWNLOADS
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

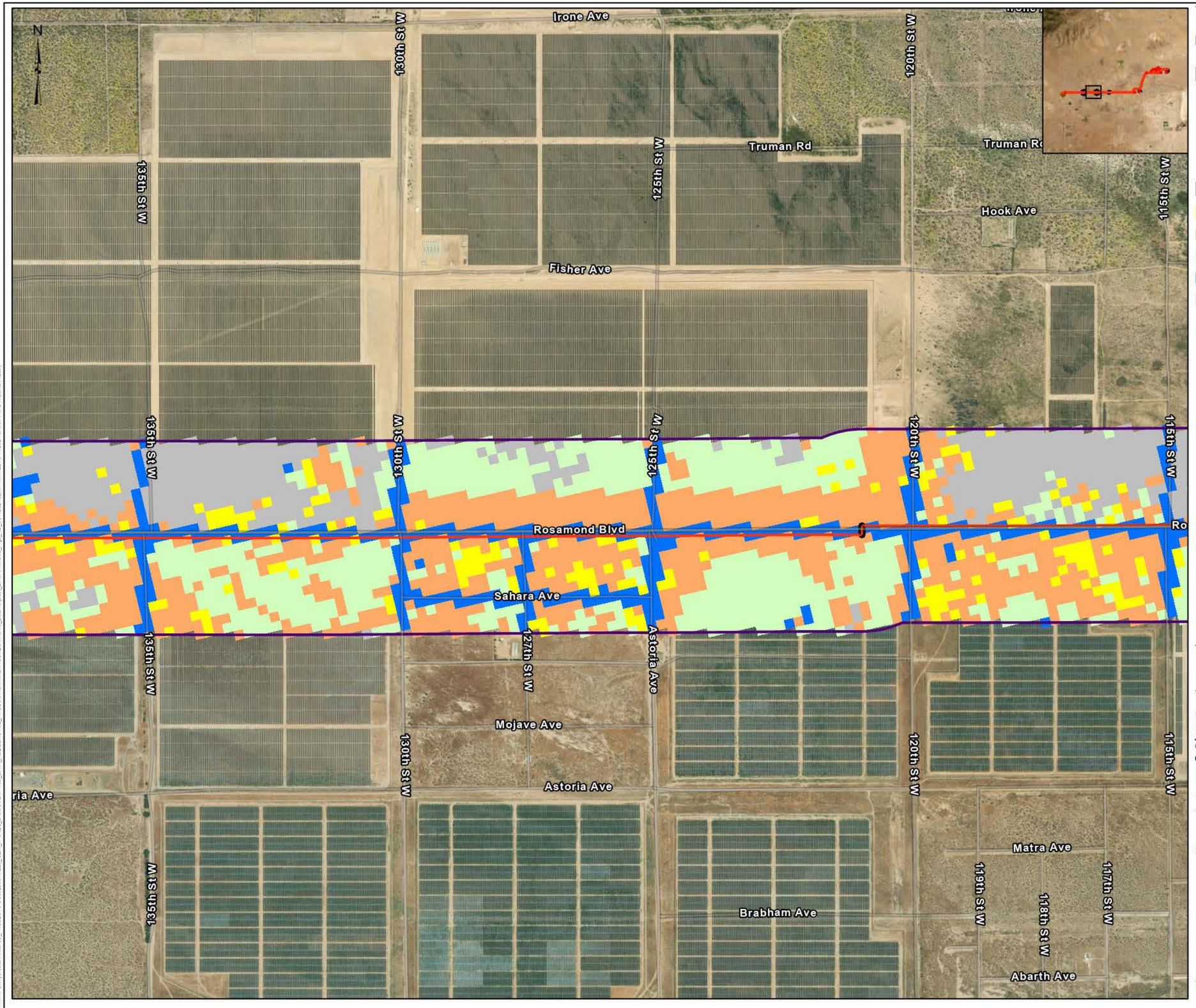
TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-6



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2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

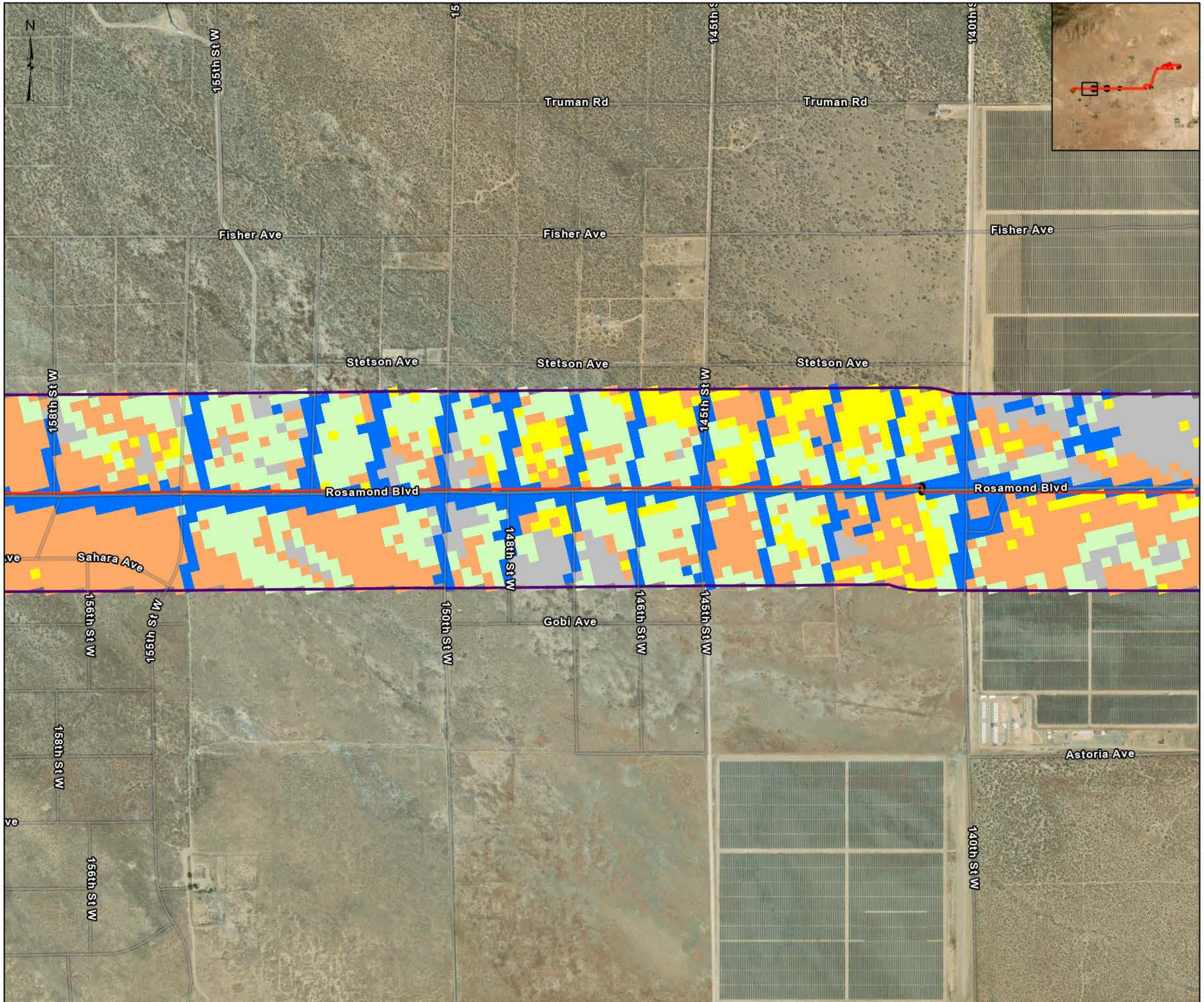
CONSULTANT
wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-7

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

PATH: G:\Hydrotor\Ansel\99_PROJECTS\US0029687.4228_GEM_A-CAES_DISCOVERY\100_DATA_ADEQUACY\02_PRODUCTION\MXD\FIGURES\Wildfire_DataRequest_2\RevO\Wildfire_Fbg_KD_09112024.aprx PRINTED: 9/11/2024 at 5:51 PM BY: USKOT.2869



LEGEND

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2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: HYBRID REFERENCE LAYER: ESRI COMMUNITY MAPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

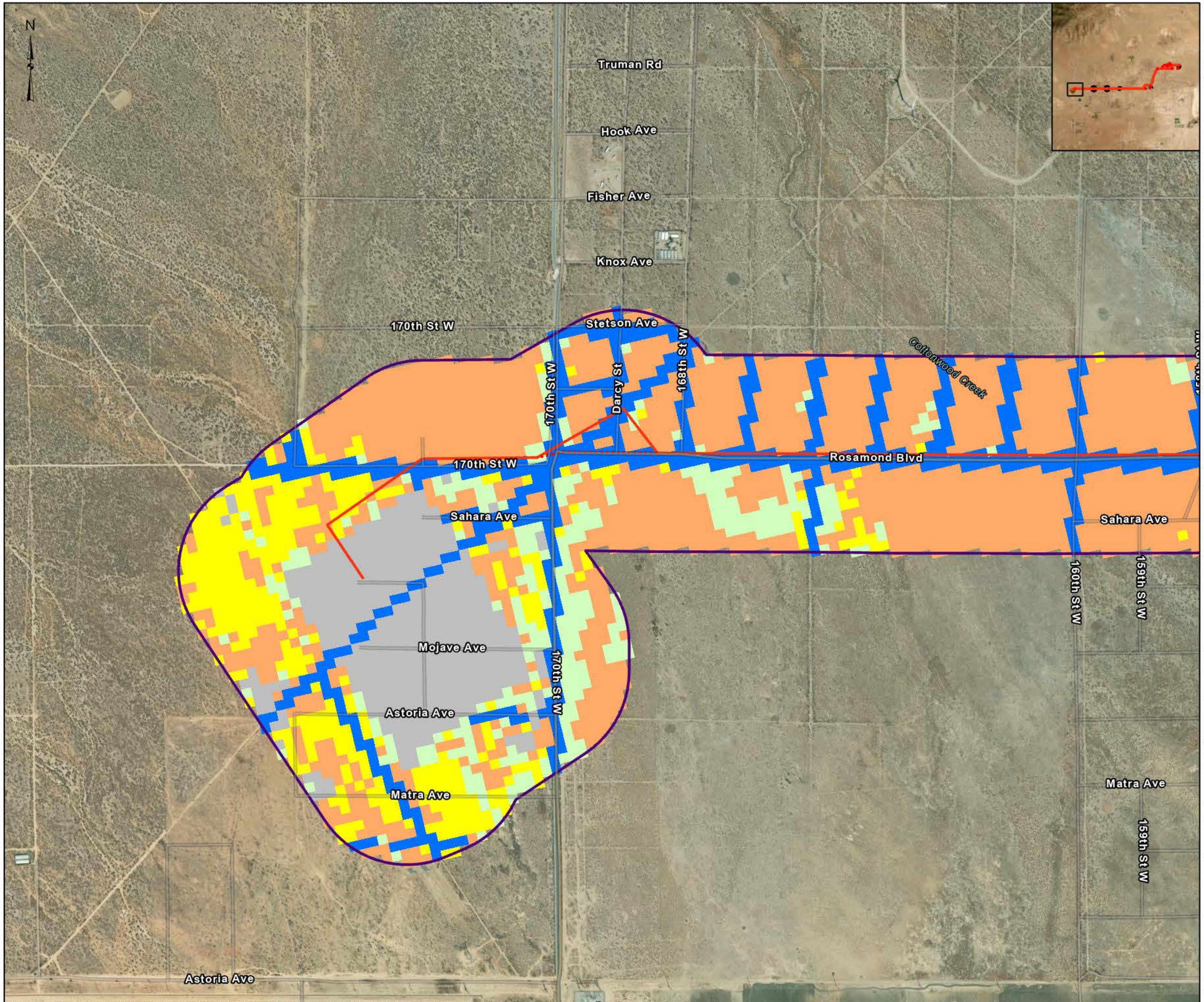
TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT

wsp

YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-8



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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER

TITLE
FIRE BEHAVIOR FUEL MODELS (FBFM) OVERVIEW

CONSULTANT
wsp

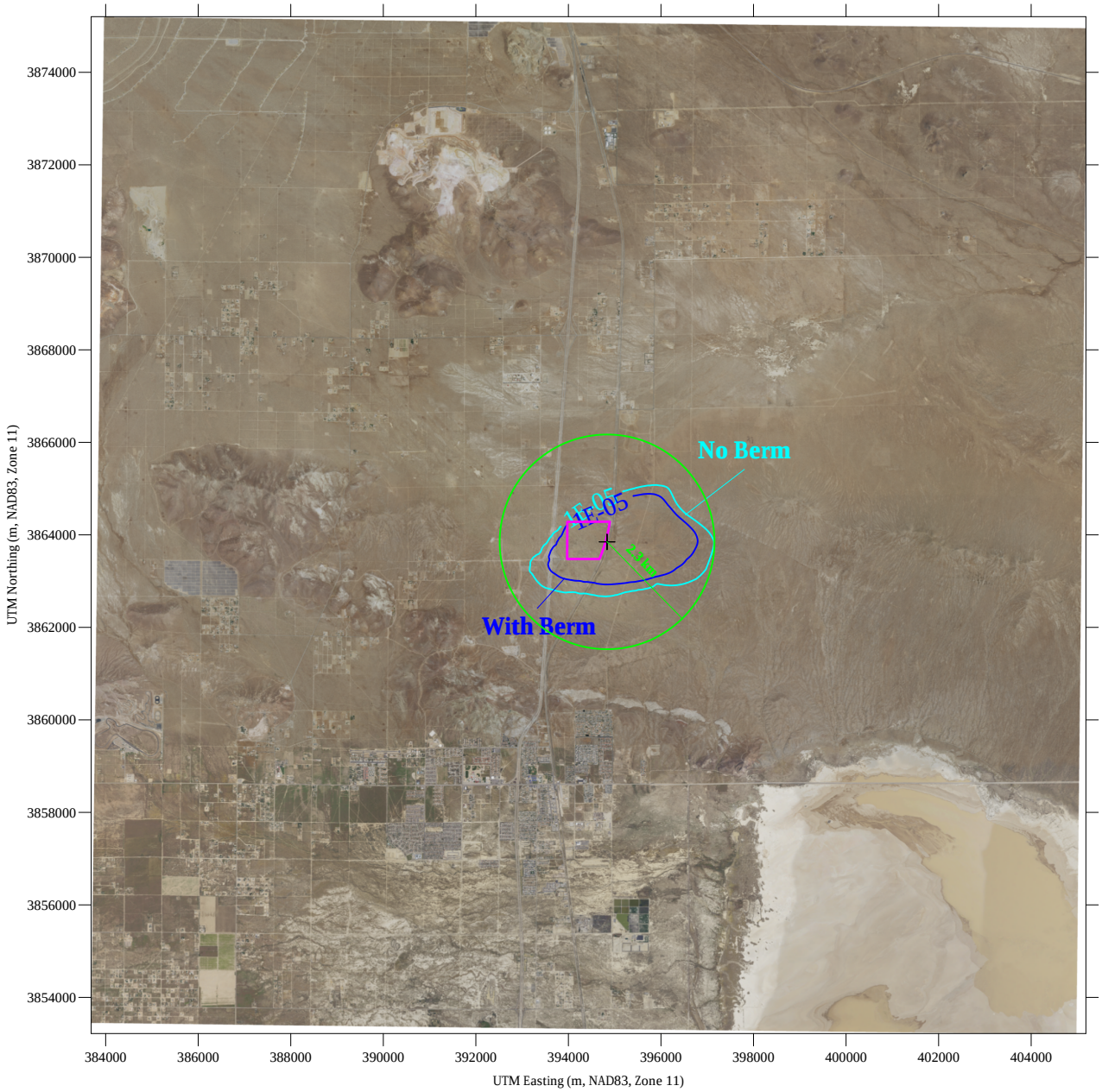
YYYY-MM-DD	2024-09-11
DESIGNED	KD
PREPARED	KD
REVIEWED	JP/DS
APPROVED	LL

PROJECT NO.	PHASE	REV.	FIGURE
US0029687.1105	1100	A	3-9

ATTACHMENT DR39-1

Map of 10-in-a-Million Risk

5-Year 10 in a Million Cancer Risk During Construction



ATTACHMENT DR40-1

FAA Pole Review No Hazard Determination

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-AWP-6185-OE

Issued Date: 06/25/2024

Erin Ekblad
GEM A-CAES LLC
333 Bay Street
Suite 520
Toronto, M5H 2R2

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Transmission Line Tower 93
Location:	Rosamond, CA
Latitude:	34-52-08.95N NAD 83
Longitude:	118-14-49.01W
Heights:	2416 feet site elevation (SE) 99 feet above ground level (AGL) 2515 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/25/2025 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (847) 294-7575, or vivian.vilaro@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-AWP-6185-OE.

Signature Control No: 622534448-625518291 (DNE)
Vivian Vilaro
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2024-AWP-6185-OE

Sectional Map for ASN 2024-AWP-6185-OE

ATTACHMENT DR41-1

Traffic Study Transmittal to Kern County

FedEx®

FedEx® Tracking

DELIVERED

Friday

9/13/24 at 10:03 AM

Signed for by: V.VALDEZ

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

Report missing package

TRACKING ID

778555290272

FROM
SAN DIEGO, CA US

Label Created
9/12/24 4:29 PM

WE HAVE YOUR PACKAGE
SAN DIEGO, CA
9/12/24 5:10 PM

ON THE WAY
BAKERSFIELD, CA
9/13/24 8:39 AM

OUT FOR DELIVERY
BAKERSFIELD, CA
9/13/24 9:14 AM

DELIVERED
BAKERSFIELD, CA US

Delivered
9/13/24 at 10:03 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

MORE OPTIONS

Shipment facts

Shipment overview

TRACKING NUMBER 778555290272

DELIVERED TO Receptionist/Front Desk

SHIP DATE 9/12/24

STANDARD TRANSIT 9/13/24 before 10:30 AM

DELIVERED 9/13/24 at 10:03 AM

Services

SERVICE FedEx Priority Overnight

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 3 lbs / 1.36 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 3 lbs / 1.36 kgs

PACKAGING FedEx Pak

Back to to

Travel history

SORT BY DATE/TIME

Ascending

Time zone

Local Scan Time

- 4:29 PM
  Shipment information sent to FedEx
- 3:26 PM
  Shipment arriving On-Time
  SAN DIEGO, CA
- 3:26 PM
  Picked up
  SAN DIEGO, CA
- 5:10 PM
  Picked up
  SAN DIEGO, CA
- 6:33 PM
  Left FedEx origin facility
  SAN DIEGO, CA

Friday, 9/13/24

- 2:07 AM
  Departed FedEx hub
  OAKLAND, CA
- 8:39 AM
  At local FedEx facility
  BAKERSFIELD, CA
- 9:14 AM
  On FedEx vehicle for delivery
  BAKERSFIELD, CA
- 10:03 AM
  Delivered
  BAKERSFIELD, CA

↑ Back to to

FedEx

FOLLOW FEDEX

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