Project Bella

Application for a Certificate of Environmental Compatibility

Prepared for:

Arizona Power Plant and Transmission Line Siting Committee

Prepared by:

Pinal County Energy Center, LLC

Volume 1 of 1

June 2024

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

ACC	Arizona Corporation Commission
ADA	Arizona Department of Agriculture
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AGC	Automatic Generation Control
AZGFD	Arizona Game and Fish Department
AM	Amplitude Modulation
AMA	Active Management Area
Amsl	Above mean sea level
ANPL	Arizona Native Plant Law
APLIC	Avian Power Line Interaction Committee
ANSI	American National Standards Institute
ARHP	Arizona Register of Historic Places
ARS	Arizona Revised Statutes
ASHA	American Speech-Language-Hearing Association
ASLD	Arizona State Land Department
ASM	Arizona State Museum
AWCS	Arizona Wildlife Conservation Strategy
BCC	Bird of Conservation Concern
BCR	Bird Conservation Region
BESS	Battery Energy Storage System
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
Bmp	Best management practices
CAP	Central Arizona Project
CCA	Critical Conservation Area
CCGT	Combined-Cycle Gas Turbine
CEC	Certificate of Environmental Compatibility
CEMS	Continuous Emissions Monitoring System
CO	Carbon Monoxide
CPA	Comprehensive Plan Amendment
CTG	Combustion Turbine Generators
dB	Decibel
dBA	A-weighted decibels
du/ac	Density units per acre
DNL	Day/Night Average Noise Level
ENO	Excessive Noise Ordinance
EPA	Environmental Protection Agency
EPNG	El Paso Natural Gas
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FM	Frequency Modulation
GE	General Electric
GHz	Gigahertz
GIS	Geographical Information System

GM	General Motors
GPM	Gallons Per Minute
GR	General Rural
HDMS	Heritage Data Management Systems
HOA	Homeowner Association
Hz	Hertz
IBA	Important Bird Areas
ISO	International Standards Organization
I-8	Interstate-8
IPaC	Information for Planning and Consulting
KOP	Key Observation Points
KPE	KP Environmental, Inc.
kV	Kilovolt
L_{eq}	Equivalent Sound Level
L_{dn}	Day-Night Average Sound Level
LTSCs	Long Term Storage Credits
MAG	Maricopa Association of Governments
MBTA	Migratory Bird Treaty Act
MHP	Manufactured Home Park
MHz	Megahertz
MMBtu	Million British Thermal Units
MPH	Miles Per Hour
MSIDD	Maricopa Stanfield Irrigation and Drainage District
MW	Megawatt
MWH	Megawatt Hour
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOx	Nitrogen Oxides
NRHP	National Register of Historic Places
NSA	Noise Sensitive Areas
NSR	New Source Review
OSHA	Occupational Safety and Health Administration
PAD	Planned Area Development
PCAQCD	Pinal County Air Quality Control District
POI	Point of Interconnection
Project	Project Bella
PSA	Project Study Area
PSD	Prevention of Significatn Deterioration
ROD	Record of Decision
SGCN	Species of Greatest Conservation Need
SCR	Selective Catalytic Reduction
SHPO	State Historic Preservation Office
SR	State Route
SR 84	Gila Bend – Casa Grande Highway
SRP	Salt River Project's
SWAP	State Wildlife Action Plan
TES	Thermal Energy Storage
USCB	United States Census Bureau

USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
VOC	Volatile Organic Compounds
WAPA	Western Area Power Administration
WSC	Wildlife Species of Concern

INTRODUCTION

Pinal County Energy Center, LLC (Applicant), under Arizona Revised Statute (A.R.S.) § 40-360 et seq., submits this application (Application) for a Certificate of Environmental Compatibility (CEC) to develop Project Bella (Project). The Project consists of up to 480 megawatts (MW) of natural gas-fired electric generation and a grid-charged 440- MW battery energy storage system (BESS). The Applicant is requesting a CEC for the 480 MW natural gas-fired generating facility. The BESS and associated transmission infrastructure are non-jurisdictional and, therefore, not subject to this CEC. The operation of the gas turbines and BESS will provide capacity for renewable integration and sustainable, reliable energy to the Arizona grid.

The purpose of Project Bella is to provide resource adequacy capacity via quick response battery deployment and quick response, dispatchable natural gas-fired electrical generation turbines to first maximize renewable energy available on the grid, prior to deployment. The ability to deploy the resource adequacy and related energy product attributes (frequency, regulations, non-spinning reserves) into the 500 kilovolt (kV) system without additional, costly infrastructure, strategically positions Project Bella as a superior resource to compliment long-term sustainability objectives.

The Project's quick-starting (10 minutes) and fast-ramping power generation will provide grid reliability and critical integration services for thousands of MWs of renewable solar and wind in the area. Project Bella will also be a key contributor to numerous sustainability goals including reduced water consumption in electricity generation and decarbonization of the grid by providing essential resource adequacy capacity and reliability, thus enabling acceleration of the retirement of coal-fired power generation assets. The batteries will be charged from excess energy on the grid during periods of high renewable (solar and wind) generation periods.

Renewable energy integration is incorporating renewable energy sources into existing electric power grids. Renewable energy generates electricity (from sources such as wind and solar), but their generation deliverability is highly variable and simply not available during some periods (such as non-daylight hours). Thus, to maintain reliability, the load serving entities in Arizona must manage an integrated energy system. An integrated energy system is defined as a cost-effective, sustainable, and secure energy system in which renewable energy production, infrastructure, and consumption are integrated and coordinated through energy services, active users, and enabling technologies such as dispatchable natural gas-fired turbines and BESS. Each type of resource within an integrated energy system serves a unique and critical service.

The gas turbine generation units and the BESS will be electrically interconnected on the Project site directly to the existing 500 kV Pinal Central to Duke transmission line, which crosses the site. The gas turbine generation units will receive clean natural gas fuel from the existing El Paso Natural Gas (EPNG) pipeline, which traverses the property on the northeast corner of the site.

The Applicant is a subsidiary of Seguro Energy Partners LLC (Seguro). Seguro brings extensive experience in electric generation and energy infrastructure development and optimization, as well as reporting and compliance processes. Seguro maintains a comprehensive understanding of market fundamentals and develops practical solutions to resolving complex portfolio supply

requirements through a least-cost approach, taking into account sustainability and community economic impacts.

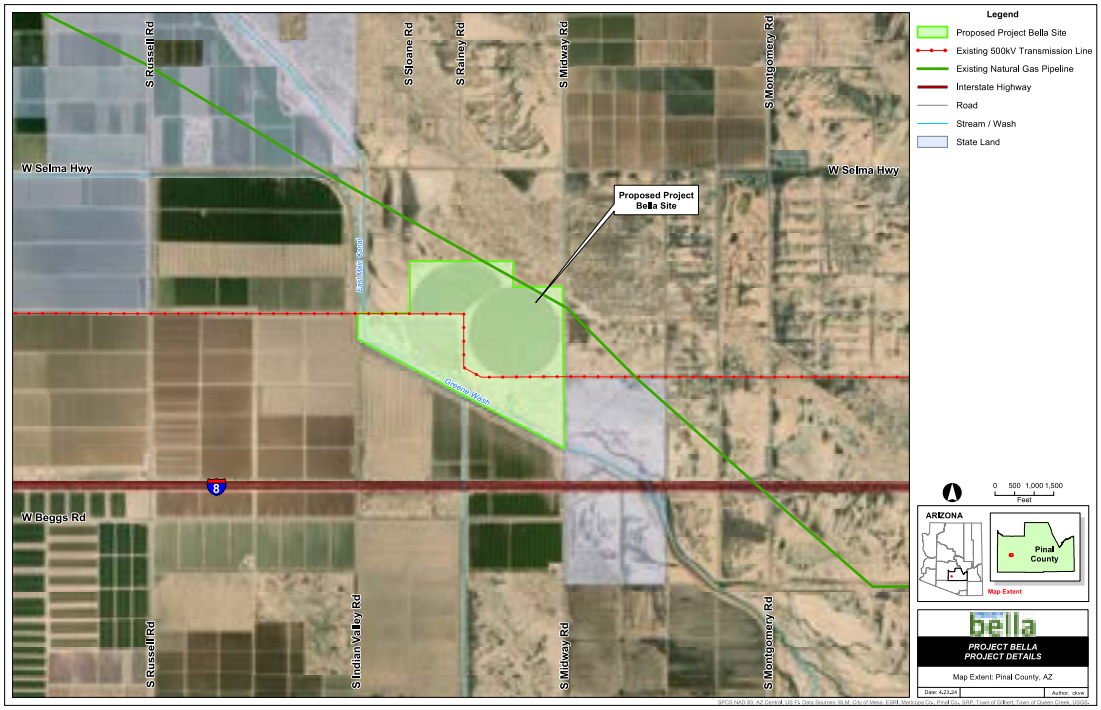
As required by Arizona Administrative Code R14-3-2 l 9, this Application is structured as follows:

- Exhibit A – Project Location and Land Use
- Exhibit B – Environmental Studies
- Exhibit C – Areas of Biological Wealth
- Exhibit D – Biological Resources
- Exhibit E – Scenic Areas, Historic Sites and Structures, Archaeological Sites
- Exhibit F – Recreational Purposes and Aspects
- Exhibit G – Concepts of Typical Facilities
- Exhibit H – Existing Plans
- Exhibit I – Noise Emissions and Communication Interference
- Exhibit J – Special Factors

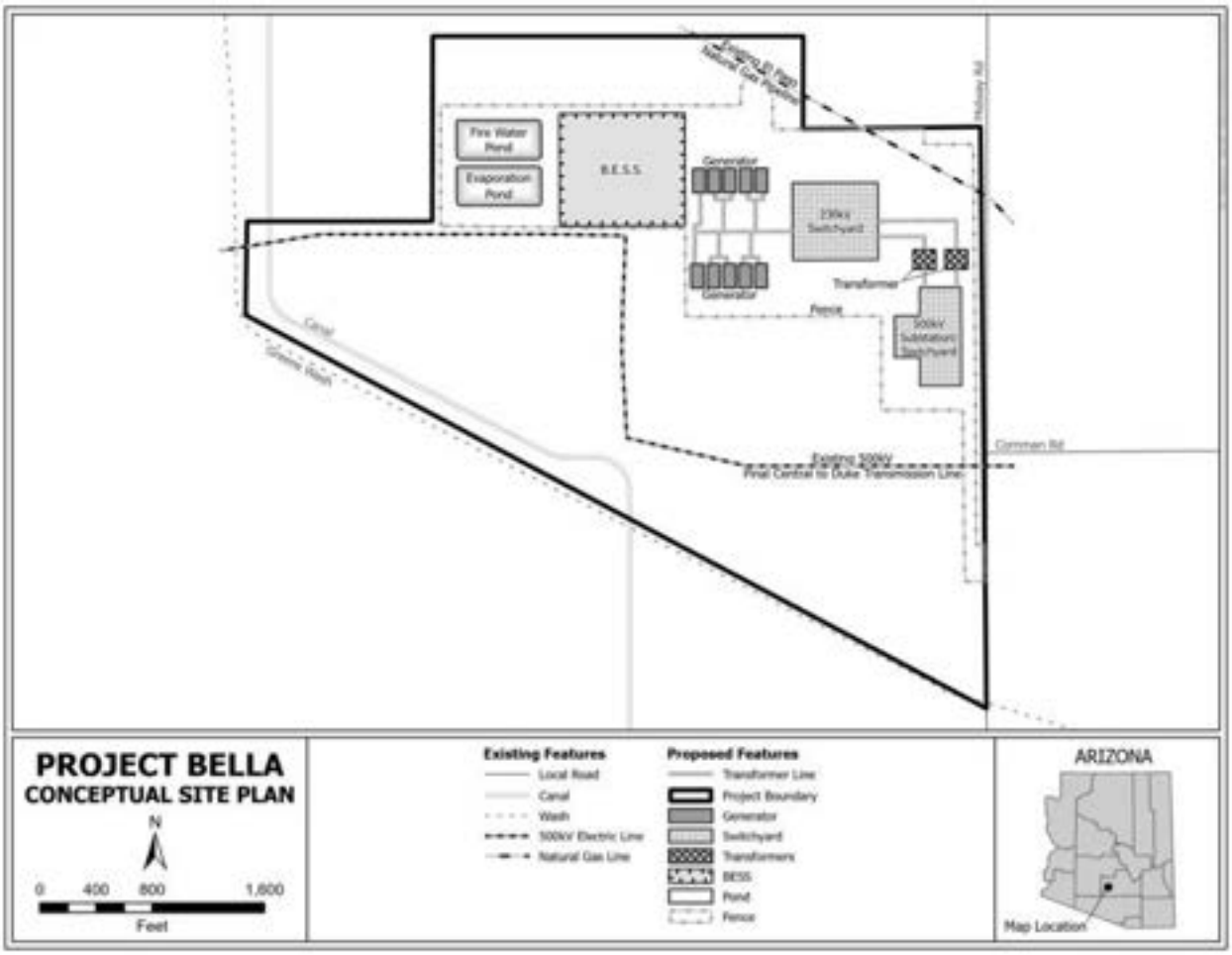
A list of abbreviations is provided following the Table of Contents.

Project Description

The Project site is shown below, which is located on approximately 350 acres in unincorporated Pinal County, Arizona, will consist of two independent energy generation facilities: Cazador del Sol, the 480 MW of thermal gas-fired generation; and Atrapa Soles, the 440 MW BESS. The facilities will utilize a common, shared interconnection to the 500 kV Pinal Central to Duke transmission line.



An overview map featuring the Project components and preliminary layout of the Project site is provided below.



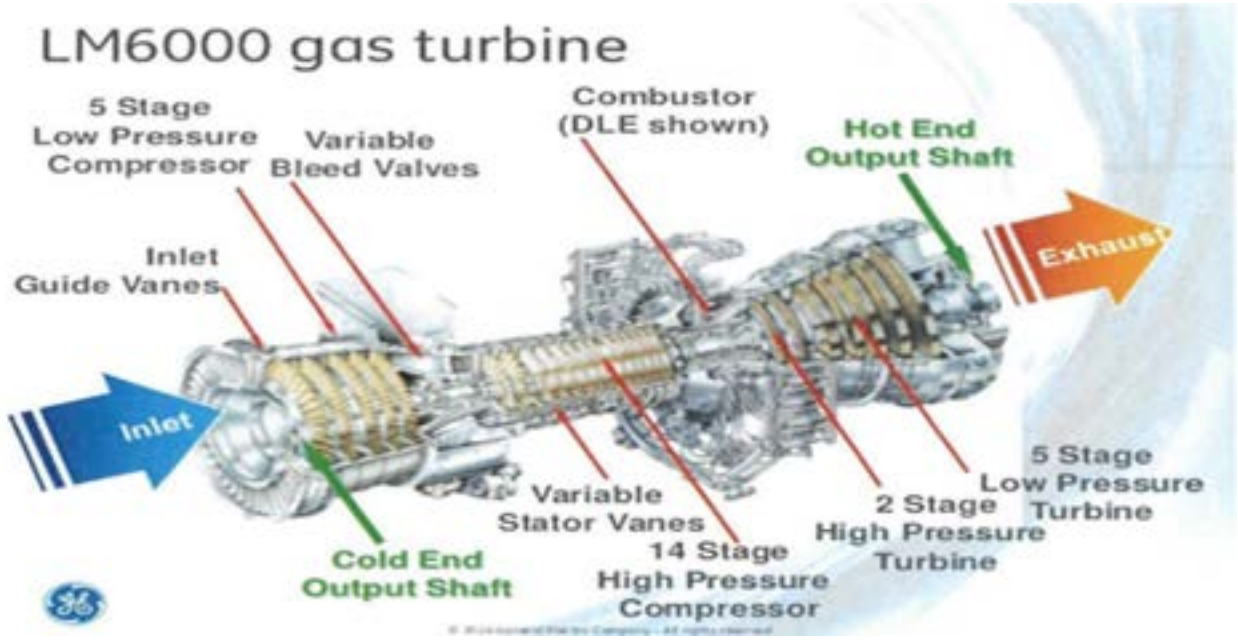
As identified in the site plan, the footprint of the Project resides within an envelope of approximately 158 acres of the approximately 350-acre property. The property already maintains easements and existing infrastructure for high-voltage transmission and natural gas pipelines. Therefore, tie-in to the 500 kV switchyard will occur on-site without the need to cross any public roads or other properties. The Project does not anticipate any improvements of infrastructure or services that would be paid for by the public.

Cazador del Sol consists of ten General Electric (GE) LM6000 natural gas turbines with a total installed capacity of approximately 480 MW. The highly reliable aeroderivative units are designed for quick start, ramping, and efficient heat rate. The quick ramping capability allows grid dispatch to first utilize available renewable energy, thus minimizing the reliance on fossil fuels and providing the lowest net emission energy supply available. In addition to complementing renewable resources, the gas turbines provide resource adequacy capacity and grid support attributes that enhance local reliability, such as regulation, voltage support, non-spinning reserves, and automatic generation control (AGC).

Atrapa Soles, designed specifically for environmental conditions in the American Southwest, will consist of a total 440 MW/1760 megawatt hour (MWH) of grid-charged BESS with liquid cooled cabinets and self-contained fire suppression systems. The quick deployment of charge and discharge to and from the grid can provide essential load shifting, renewable integration, frequency regulation, and peak energy supply to support local reliability.

Gas Turbine Peaker Technology

The Applicant selected the GE LM6000 turbine technology based on three factors: reliability, flexibility, and proven operational performance. The electric system in Arizona is undergoing a substantial transformation as the Southwest departs from large baseload coal resources to a more sustainable energy portfolio at a time in which load-growth is at historical levels. The loss of capacity from these large thermal units requires immediate replacement for reliability purposes. The LM6000 turbines are a proven technology to provide this immediate need for resource adequacy and renewable energy integration. In addition, the quick start and operational flexibility of these smaller, efficient gas turbines advances sustainability objectives of lower water consumption and lower carbon emissions. Specifically, the Project is designed to operate only during periods necessary to meet electrical demand, balance variable renewable energy supply, and provide reliability attributes. The Project will be operated as a peaking facility, and as such, will run to help meet Arizona's peak demand at the hottest times of the year, or when needed to smooth out the variability of renewable resources. During periods of high demand or unforeseen outages from larger thermal resources, the Project could also be called upon in unexpected longer durations.



GE LM6000 combustion turbine generators, with superior performance, reliability, and efficiency, are among the most preferred gas turbines for power generation in the utility industry. While not exhaustive, the following is a list of some of the proven benefits and attributes of this technology:

- Quick dispatch, superior efficiency, low water utilization, and effective emission controls compliment sustainability and reliability objectives;

- The highly reliable and fuel-efficient fleet of over 1200 units worldwide has over 40 million collective operating hours;

- With greater than 99 percent reliability and 98 percent availability, the LM6000 unit is one of the most reliable gas turbines in the power generation industry;

- Low emission combustion technology for exhaust flow features two post-combustion air quality control systems—selective catalytic reduction (SCR) for nitrogen oxide (NOx), and oxidation catalyst for reduction of carbon monoxide (CO) and volatile organic compounds (VOC). All operations are monitored with state-of-the-art instrumentation, and emissions are continuously measured and reported through the continuous emissions monitoring system (CEMS);

- Inlet air cooling (chillers) utilizes water chilled during non-peak hours and stored in a thermal energy storage (TES) tank to ensure optimal net peak capacity deliverability and to prevent the output degradation that otherwise occurs at the high ambient temperatures seen in the Southwest;

- Associated equipment includes metal acoustical enclosure and baffles to reduce sound, inlet chiller, compressor valves and intercooler system, fire detection and protection system, and state-of-the-art instrumentation for safety and performance monitoring;

- A similar-sized combined-cycle gas turbine (CCGT) plant would consume approximately 3,300 gallons per minute (GPM) of water, versus the low water consumption of Cazador del Sol at Project Bella, which will utilize less than 700 GPM of water. With no steam turbine, the plant avoids the water consumption associated with a cooling tower and make-up water for the steam cycle;

- A CCGT plant requires a minimum of three hours to reach full load (from a cold start), versus 10 minutes on the Cazador del Sol turbines at Project Bella; and

- While a combined-cycle generator is more fuel efficient at steady state operation, the fact that it must remain online during periods of high renewable energy availability means that it emits more overall emissions and consumes considerably more water on an annual basis than the quick deployment gas turbines at Cazador del Sol at Project Bella. Combined-cycle generation is more likely to compete with and/or displace renewable generation, rather than complement it.

Air Permit

The Pinal County Air Quality Control District (PCAQCD) is the agency responsible for reviewing the technical data, completing the extensive modeling, and conducting the public review and Environmental Protection Agency (EPA) review process prior to issuing the permit granting authority to construct. PCAQCD has engaged the EPA for additional technical and compliance review of the draft permit. A key component of the air permit application is an air dispersion modeling analysis that demonstrated that the emissions from Project Bella will not cause or contribute to air pollution in violation of National Ambient Air Quality Standards (NAAQS).

The modeling study was carefully reviewed and approved by PCAQCD prior to issuance of the draft permit. The public review process, consideration of comments, adjustments to the draft permit in response to such comments, and submittal to EPA for review was completed during April, May, and June 2024. On June 17, 2024, PCAQCD issued the final air permit, final technical data, and certificate of permit, identified as Permit No. V20700.000.

The equipment selection, operational design, and annual maximum operational dispatch limitations result in the Project being a minor New Source Review (NSR) permit. This means the operational emissions are below the federal Prevention of Significant Deterioration (PSD) major source levels. Furthermore, the PCAQCD limited maximum emissions to 90 percent of the federal major source levels. Enforceable requirements placed on the Project include monthly and annual reporting, as well as annual fuel input limitations, which, by definition, limit operating hours, water consumption, and site emissions.

PCAQCD is experienced in modeling, reviewing, drafting, and issuing final authority to construct permits for natural gas-fired generation. In fact, in the last two years, PCAQCD has diligently and prudently processed the air permit for Salt River Project's (SRP's) Coolidge (November 2023) and Cooper Crossing (May 2023) facilities, both of which utilize the same GE LM6000 technology.

Electrical Interconnection

Project Bella is in SPR's advanced Transition Cluster queue process, identified in the queue as PV-PC-Q32. The project site and interconnection were specifically selected due to their proximity to the existing infrastructure of the 500 kV Pinal Central to Duke transmission line, the 230 kV Western Area Power Administration (WAPA) line, and the EPNG pipeline.

Both the Atrapa Soles BESS of 440 MW and the Cazador del Sol gas turbines of 480 MW will be interconnected to the 500 kV Pinal Central to Duke line. The owners of this 500 kV line are TEP, AEPCO, ED3, ED4, SRP and WAPA, with SRP as the operator. The interconnection to the 500 kV system will be beneficial for optimization in SPP Market +, EDAM and EIM as well for resource adequacy under WRAP.

Project Bella anticipates receipt of a completed System Impact Study from SRP by the end of June 2024. The SRP Hosting Capacity Study, as well as independent transmission deliverability analysis, demonstrates adequate deliverability to SRP, TEP and WAPA on the 500 kV System

without significant transmission overloads. Utilizing existing infrastructure will minimize system upgrade requirements and potential project delays.

SRP Transition Cluster Queue

QUEUE POSITION	POINT OF INTERCONNECTION	GENERATOR(S) TYPE	MW	QUEUE DATE	STATUS	IN-SERVICE DATE
SRP Q09	Pinal Central 230kV	Photovoltaic/Battery	200/200	9/12/2018	In Progress	10/31/2023
SRP Q13	Pinal Central 230kV	Photovoltaic/Battery	300/300	4/1/2019	In Progress	6/1/2024
SRP Q32	**Duke – Pinal Central 500kV**	**Natural Gas/Battery**	**905**	**8/17/2023**	**In Progress**	**11/5/2026**
TEP 62	Pinal West 345 kV	Solar/ Battery	300	9/27/2018	IA IN PROGRESS	5/1/2023
TEP 94	Pinal West 345 kV	Solar/Battery	300/300	6/11/2021	Facility Study In Draft	4/1/2025
TEP 121	Pinal West 345 kV	Battery	200	5/20/2022	On Hold	12/1/2026
TEP 122	Pinal West 345 kV	Battery	100	5/20/2022	On Hold	12/1/2026
TEP 123	Pinal West 345 kV	Battery	50	5/20/2022	On Hold	12/1/2026
TEP 124	Pinal West 345 kV	Solar/Battery	1000	6/16/2022	On Hold	12/31/2025

Water Requirements

The Project is designed to exceed the sustainability and water consumption goals identified by the local power utilities (i.e., SRP and Tucson Electric Power) in their integrated resource plans. The Project is located within Pinal County's designated Active Management Area (AMA). The Project (which will be considered general industrial use) has reviewed and will adhere to the guidelines of the Pinal County AMA and support the requisite sustainability efforts, which include avoiding waste by only using the amount of water that is reasonably required for industrial use.

The Pinal County AMA and the hydrology modeling demonstrate that groundwater availability and quality are generally acceptable for usage; however, the area does experience land subsidence due to active groundwater pumping.

The Project will utilize air cooled inlet chillers with a closed loop thermal storage system. Thus, cooling towers, which are typically utilized by many electrical and industrial processes, will not be required. The modest amount of water utilized will primarily serve to enhance fuel combustion and reduce emissions. Due to this design, the Project will utilize 80 percent less water than a conventional combined-cycle generator and 90 percent less water than a coal facility of similar size.

The Project is located within the Maricopa Stanfield Irrigation and Drainage District (MSIDD) and has an existing groundwater irrigation right (Permit No. 58-105553.0005) associated with a 189-acre active farm area on the property.

In calendar year 2023, the farm currently occupying the Project site used approximately 345 acre-feet of groundwater. At design ambient temperature of 115.5 degrees Fahrenheit and 10 percent

relative humidity, the Project will require approximately 560 GPM of demineralized water—*if all 10 units are operating at full capacity simultaneously*.

Project Bella is anticipated to come online in two phases, with full commercial operation by June 2028. The first phase is estimated to require a consumptive input of water supply of approximately 330 acre-feet per year. The second phase will add 210 acre-feet per year for a total estimated Project demand of approximately 540 acre-feet per year. The aquifer impacts of the Project's first phase are anticipated to be similar to the existing area farm activity.

Project Bella has committed to acquiring Long Term Storage Credits (LTSCs) in quantities sufficient to offset any increases in groundwater use on the site. The LTSCs represent Central Arizona Project (CAP) water stored in the aquifer through the Groundwater Savings Facility (GSF) operated by MSIDD (Permit No. 72-531381.0006).

The overall net groundwater use is reduced by the effective recovery of LTSCs. LTSCs are essentially an offset to groundwater usage, as they are created through the exchange of surface water delivered to an entity in lieu of that entity pumping groundwater under an existing groundwater right. From a water accounting perspective, this mechanism is equivalent to using the CAP water directly at the Project site rather than using groundwater.

While the groundwater being used is considered to be water recovered from a GSF, it must still be physically available at the point of recovery. Based on the latest modeling, sufficient groundwater is anticipated to remain physically available at the immediate Project location through at least 2100.

Based on its maximum potential operating profile at full buildout, the Project would, at most, utilize an additional 195 acre-feet of groundwater beyond that which is currently being utilized at the site for agricultural purposes.

Most agricultural operations in the Pinal County AMA rely on some portion of groundwater use on an annual basis. In calendar year 2023, agricultural activity in MSIDD withdrew over 187,000 acre-feet of groundwater. In contrast, Project Bella's maximum consumption would only utilize approximately 540 acre-feet per year (345 acre-feet of which is already being utilized at the site for agricultural purposes), amounting to less than 0.3 percent of the amount of water withdrawn by MSIDD in 2023.

An analysis of projected water demand by Project Bella performed by Matrix New World Engineering found a negligible impact on aquifer drawdown. The results of the simulation identify that at the end of the 100-year predictive model period, the simulated depth to water is 850 feet at the property. The depth to the bottom of the aquifer is over 3,000 feet below land surface, indicating a remaining saturated thickness of 2,150 feet at the end of the 100-year simulation.

Impact calculations for five-year well drawdown analysis (used to support well permitting) as well as 100-year simulations using the Pinal County AMA Assured Water Supply model, produce results that are too negligible to show on graphics. The five-year drawdown model results suggest a maximum drawdown of less than three feet at the site of the proposed well. And the 100-year

model run (with and without the 195 acre-feet per year increase) showed that the Project's maximum additional pumping caused an additional drawdown of 4.9 feet over the 100-year period.

Project Purpose and Need

The purpose of the Project is to provide capacity for renewable integration and sustainable, reliable energy to central Arizona. The gas-fired turbines will provide reliable capacity that can offer frequency regulation, responsive reserves, and economical energy to complement renewable energy integration and local reliability.

The Project's quick-starting (10 minutes) and fast-ramping power generation will provide grid reliability and critical integration services for thousands of MW of renewable solar and wind in the region. Project Bella will also be a key contributor to numerous sustainability goals, including reduced water consumption in electricity generation and decarbonization of the grid by providing essential resource adequacy capacity and reliability, thus enabling acceleration of the retirement of coal-fired power generation assets.

The BESS facility will charge from the grid during periods of high solar generation and deploy energy back to the grid during high demand periods and/or periods of low renewable energy generation.

The property's location provides several key benefits for the proposed development. The Project has direct access to the existing 140-foot-high Pinal Central to Duke 500 kV line and WAPA's 230 kV transmission line, both of which maintain an easement across the property. Therefore, tie-in to the 500 kV switchyard will occur without the need to cross any public roads or other properties. The property also already maintains an easement for the EPNG pipeline, from which the Project will accept natural gas for operations. The EPNG pipeline maintains adequate capacity to deliver sufficient quantities and pressure for sustainable operation of the Project. No additional rights-of-way or public infrastructure are required from the public.

Specific needs and benefits addressed by the Project include the following:

Accommodating Renewable Energy Integration

Project Bella is designed to interconnect to the high-voltage 500 kV line in order to provide superior deliverability to the grid without transmission overloads. This means that AEPCO, SRP, TEP and WAPA can reliably utilize ancillary services and electricity from the 480 MW gas turbines and 440 MW BESS units at Project Bella to supplement renewable energy to serve load in various areas of central and southern Arizona.

Arizona can provide substantial renewable energy. However, solar and wind renewable energy is highly land intensive. In the southwest terrain, 905 MW of solar energy would require approximately 6,335 acres of land and 905 MW of wind energy would require approximately 10,860 acres of land.

Responsibly Meeting Local Energy Supply Requirements

Local resource adequacy is fundamental in long-term reliability. Project Bella will be connected to the 500 kV system without the need for additional infrastructure (which would have an economic and environmental cost). The 500 kV system is interconnected to support the lower voltage 230, 135, 115, and 69 kV systems where much of the load distribution and renewable energy reside. Pinal County is experiencing record growth from both residential and commercial load. Additionally, Pinal County is hosting new renewable energy facilities. Both the load and the renewable energy maintain highly un-correlated variability. Therefore, resource adequacy capacity is even more essential to accommodate near term reliability.

The Project is critical to meet near-term peak capacity and integrate renewables, while maintaining electric system reliability. Specifically, the Project is designed to provide capacity-based, quick deployment of energy products that will enable the grid to first utilize available renewable energy. The non-jurisdiction BESS will charge during excess periods of renewable energy and low electricity demand. During periods of high electricity demand, the gas turbines and the BESS will both be dispatched to quickly and efficiently provide electricity, regulation, and ancillary services to support the reliability of the grid.

Offset Capacity Constraints Due to Coal Retirements

The Southwest grid is undergoing a significant resource transition, with over 8,500 MW of baseload coal resources retiring during the period 2019–2032. Over half of the coal retirements are pending new infrastructure to be built. The retirement of end-of-life coal facilities cannot be completed in a medium- to high-growth environment that Arizona is experiencing without new resource adequacy generators. Project Bella represents a near-term development project, which can be fully commercially operational by mid-2028 and directly contribute to the sustainability, low-carbon energy supply transformation by providing a cost-effective, reliable electric capacity and ancillary services resource, while embracing priority dispatch and utilization of low-carbon renewable energy.

The Project will provide resource adequacy to offset and replace end-of-life generation capacity from over 5,036 MW of coal retirements in Arizona alone over the next eight years.

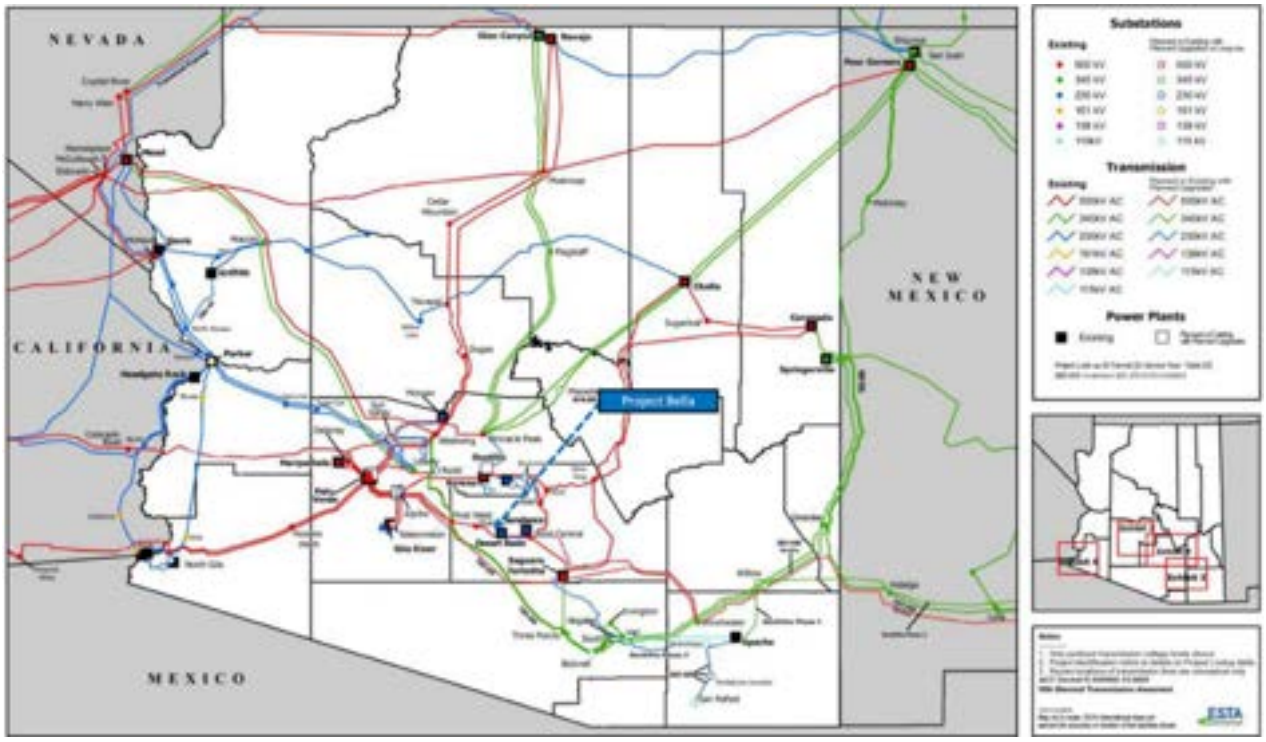
Coal Retirements Impacting Arizona Supply			
Retirement	**Project Name**	**MW**	**Total MW**
2019	Navajo	2,200	
2020	Cholla 4	414	
2022	San Juan 1, 4	924	**3,538**
2025	Cholla 1, 3	415	
2025	Craig 1	428	**843**
2027	Hayden	262	
2027	Springerville 1	425	
2027	Springerville 1	425	**1,112**
2031	Four Corners 4-5	1,460	
2031	Springerville 2, 3	859	
2032	Coronado	762	**3,081**
Total Retirements 2019 - 2032			**8,574**

Leveraging Existing Transmission Infrastructure

The Project is co-located with and will utilize existing natural gas pipeline and electric transmission lines that flow through the state of Arizona. While a large portion of the state's generation facilities are interconnected at or near the Palo Verde Hub west of Phoenix, a significant portion of the load is in central and southern Arizona. Thus, the Project is strategically located to enhance reliability and contribute to the integrated energy system for Central and East Valley. Connection to the 500 kV system provides access to numerous load-serving entities in Arizona without transmission constraints or the need to build additional infrastructure.

The ability to deploy the resource adequacy and related energy product attributes (frequency, regulations, non-spinning reserves) into the 500 kV system without additional, costly infrastructure, strategically positions Project Bella as a superior resource to complement long-term sustainability objectives.

The net benefit of the energy supply transition from baseload coal generation to renewable energy, supported by integration services from resource adequacy capacity, will be significant and essential in maintaining air quality and water supply for Arizona.



Public Outreach Summary

The Applicant has proactively consulted with numerous stakeholders, including Pinal County, the Arizona Corporation Commission (ACC), and Arizona Department of Game and Fish, as well as property owners and residents in the Project area. The following is a summary of the public outreach timeline for the Project:

- In April 2024, the Applicant established a Project website (https://projectbellaaz.com/), social media page (https://www.facebook.com/ProjectBellaAZ), and informational phone line (1-833-815-4853) to provide Project information to the public and facilitate public engagement.

- The Applicant sent informational mailers to property owners within one mile of the Project on April 12, 2024. The mailers included information about the Project and the upcoming open houses, as well as links to the Project website and informational phone line.

- The Applicant went door-to-door in the area surrounding the Project site on April 24, 2024, to distribute door hangers and discuss the Project with nearby residents. The door hangers included information about the Project and the upcoming open houses, as well as links to the Project website and informational phone line. The door hanger materials were double-sided with English-language information on the front and a Spanish-language translation on the back.

- The Applicant hosted two virtual open houses on April 29, 2024—one at 12:00 PM and another at 5:30 PM. Each virtual open house session included a Project overview

presentation as well as a question and answer (Q&A) session in which public participants were encouraged to ask questions to the Project team.

- The Applicant hosted an in-person open house at the Francisco Grande Hotel and Golf Resort on April 30, 2024, from 4:30 PM to 6:30 PM.

- The Applicant will host two virtual open houses in July, 2024 as well as a second in-person open house.

- The Applicant will send a second round of informational mailers to property owners within one mile of the Project for an open house in July 2024. The mailers will include information about the Project and the upcoming open houses as well as links to the Project website and informational phone line. In addition a second round of door hangers also will be hung before the open house.

Throughout the process, the Applicant has posted Project updates and relevant documentation on the Project website and social media page. Additional details related to the public outreach process are included in **Exhibit J.**

Summary of Environmental Compatibility

Based on the criteria in A.R.S §40-360.06, the Applicant respectfully submits that the Project will be environmentally compatible. As described herein, the Applicant has diligently identified and mitigated environmental impacts associated with the Project and would continue to pursue development of the Project in a responsible manner. The Project is necessary to provide capacity for renewable integration and sustainable, reliable energy to the Arizona grid. While the Project will, narrowly viewed, use land and require consumptive use of resources (water, natural gas) while creating some emissions, the Applicant holds that the Project's renewable integration features enable it to result in a lower level of resource consumption and emission production than an alternative in which such renewable integration-supportive generation is not built.

Importantly, operation of the technology employed by Project Bella will not create any smoke, fumes, or odors, as natural gas burns so cleanly that the exhaust is nearly invisible. Additionally, the Project will not require cooling towers, and there will not be any forced evaporation of water for cooling of equipment. Following construction, incidence of dust on the Project site will be minimal and likely determined by the same natural factors, such as wind and humidity, that affect adjacent areas.

The following provides a summary of the environmental compatibility of the Project sought in this Application:

- No significant or detrimental effects would occur to fish, wildlife, plant life, and associated forms of life upon which they are dependent.

- No significant or detrimental effects associated with noise emission levels and interference with communication signals would occur.

- There are no plans for future development of recreational facilities associated with the Project.

- Project implementation would be consistent with safety considerations and regulations.

- No significant or detrimental effects would occur to existing scenic areas, historic sites and structures, or archaeological sites at or in the vicinity of the Project.

- The Project would be environmentally compatible with the total environment of the area.

The Application provides the information relevant to Arizona Administrative Code Rule R14-3-219 for the Project. The Applicant would develop the Project in a responsible manner and would minimize the environmental impacts associated with the Project. The Applicant therefore respectfully requests that the Committee grant, and the ACC approve, the CEC for the construction of the Project.

APPLICATION

In accordance with Arizona Revised Statutes (A.R.S.) Sections 40-360.03 and 40-360.06 and Arizona Administrative Code R14-3-219, the Applicant provides the following information:

1. ***Name and address of the Applicant***

   Name: Pinal County Energy Center, LLC
   Address: 3033 N. Central Avenue, Suite 900
   Phoenix, AZ 85012

2. ***Name, address, and telephone number of a representative of the applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information***

   Name: Mark Thompson
   Address: 3033 N. Central Avenue, Suite 900
   Phoenix, AZ 85012
   Telephone: (832) 260-6042
   Email: mthompson@seguroenergyllc.com

3. ***State each date on which the applicant has filed a ten-year plan in compliance with A.R.S. § 40-360.02 and designate each such filing in which the facilities for which this application is made were described. If they have not been previously described in a ten-year plan, state the reasons therefore.***

   In accordance with A.R.S. Section 40-360.02(B), the Applicant filed a Ninety Day Plan with the Arizona Corporation Commission (ACC) on March 21, 2024. The Ninety Day Plan, which describes the Project, can be found in Docket No. E-00000M-08-0170.

4. ***Description of the proposed facility, including:***

   1. ***With respect to an electric generating plant:***

      i. ***Type of generating facilities (nuclear, hydro, fossil-fueled, etc.).***

      Project Bella (Project) consists of two independent projects co-located on the Project site and interconnected to the high-voltage transmission grid via a common point of interconnection (POI), which is also located directly on the Project site. The Project that is of focus in this Application is derived of ten separate 48 megawatt (MW) natural gas combustion turbines with a total net capacity of approximately 480 MW. In addition, the site will include a non-jurisdictional 440 MW battery energy storage system (BESS) that will also supply the same electricity, regulation, ancillary service, and resource adequacy capacity products during periods of peak electricity demand.

      ii. ***Number and size of proposed units.***

      The Project will include ten General Electric (GE) LM6000 aeroderivative combustion turbine generators (CTGs), each with a nameplate capacity rating of 48 MW. The Project will be designed to produce up to 480 MW of net electrical output during net peak periods based upon summer desert temperature and relative humidity conditions.

The CTGs are capable of rapid start-up, allowing the Project to quickly respond to fluctuations in electric demand within ten minutes. The Project will be designed to operate at output levels ranging from minimum turndown (50 percent) of a single CTG, through any combination of CTGs, up to all 10 generators in the most efficient dispatch protocol deemed necessary for reliability. Under normal summer desert conditions, the Project can deploy from 24 MW to 480 MW net to the grid within less than 30 minutes.

Site Layout and Arrangement

The site plan depicts the proposed site layout and arrangement of the Project. The layout shows the relative sizes and locations of the proposed equipment on the Project site, including access roads, the new 500 kilovolt (kV) electrical switchyard and connection, and evaporation and firewater ponds.

The Project facilities will occupy approximately 158 acres of the 350 total acres on the Project site. The location will embrace existing energy infrastructure, and the interconnection to the existing 500 kV system will enable the local load-serving entities (ED-3, ED-4, SRP, TEP and WAPA) to reliably provide adequate electric transfer capability to balance energy supply and demand in central Arizona. The Project will complement existing energy infrastructure that already maintains easements on the site property, with no new public crossings or public improvements being necessary. Specifically, the property is intersected by the 140-foot-high transmission towers that carry the 500 kV Pinal Central to Duke transmission line and the WAPA 230 kV Test Track to ED5 transmission line. Natural gas is already available to the site via the El Paso Natural Gas (EPNG) pipeline which crosses the north-east side of the property.

The CTGs and associated exhaust stacks are located in the center of the site to maintain setbacks from the Project perimeter and to minimize sound and visual impacts. The main gate to the Project will be located in the northeast corner along Midway Road. The evaporation and firewater ponds will be located towards the western edge of the Project site. The 500 kV switchyard and transmission interconnection will be located on the eastern edge of the Project near Midway Road. A perimeter road for safety and fire equipment and maintenance access will surround the generation and BESS equipment.

Combustion Turbine Equipment

The GE LM6000 combustion turbines are each equipped with state-of-the-art emission control technology, including two different post-combustion, exhaust flow systems for air quality control. Selective catalytic reduction (SCR) systems will help reduce nitrogen oxides (NOx), utilizing a 19 percent aqueous ammonia solution, while oxidation catalyst systems will reduce carbon monoxide (CO) and volatile organic compounds (VOC). All CTG operations are monitored with state-of-the-art instrumentation, and all emissions are continuously measured and reported through a continuous emissions monitoring system (CEMS). Power and capacity are augmented with inlet air cooling (chillers), which utilizes non-peak generated chilled water, stored in a thermal energy storage tank for optimal net peak capacity deliverability.

Other equipment includes metal acoustic enclosures and baffles to reduce sound, compressor valves and intercooler systems, fire detection and protection systems, and state-of-the-art instrumentation for safety and performance monitoring. The Project will meet sound and light requirements via intentional engineering designs. The highest structures will be the 65-foot stacks from the ten gas turbines which are less than half the size of the existing 140-foot-high transmission towers on the property that extend across the county.

iii. The source and type of fuel to be utilized, including a proximate analysis of fossil fuels.

The Project will be fueled by natural gas via the existing EPNG pipeline, which intersects the northeast corner of the Project site.

iv. Amount of fuel to be utilized daily, monthly, and yearly.

The Project will be operated as a peaking facility, and as such, it will operate for a limited number of hours to help meet Arizona's peak demand during the hottest times of the year, or when needed for reliability and balancing of energy from the variable output of renewable resources. The Project could also be called upon in unexpected longer duration events, such as outages of other generators. There are many variables that can impact operation of the facility including electrical demand, system operating conditions, and the amount of renewables on the system. For calculation purposes, the natural gas consumption at full load and International Standards Organization (ISO) conditions will average approximately 4,714 Million British Thermal Units (MMBtu) (HHV) of gas per hour; 75,418 MMBtu per 16-hour day; and 113,126 MMBtu per 24-hour day. Monthly and yearly fuel use will vary based on the factors referenced above.

v. Type of cooling to be utilized and source of any water to be utilized.

The Project is a simple-cycle, gas-fired generating facility and, therefore, will utilize approximately 80 percent less water consumption intensity than a combined-cycle generation facility of similar total capacity. The quick start up and shut down capability provides unique flexibility for the resource capacity to be utilized only when renewable energy is not available or when demand exceeds renewable resources. Therefore, the Project's capacity factor is anticipated to be approximately 30 to 35 percent, and by explicit conditions of the air permit—cannot exceed 45 percent. Thus, by permit, the water consumption and criteria emissions are limited.

Type of Cooling

The ten LM6000 CTGs will be air-cooled and equipped with a mechanical refrigeration, closed-loop cooling system. The closed-loop cooling will use glycol-based coolant, circulated through a mechanical chiller, which decreases the inlet temperature at the turbine for enhanced peak hour net electrical output. The balance of plant equipment will also be air-cooled. Therefore, unlike many natural gas-fired generation facilities, water is not utilized for thermal cooling.

Water Use Requirements

As stated, the Project is designed to minimize water consumption. Water will be utilized by the Project for two primary purposes:

- Water will be injected into the CTGs to minimize the formation of NOx and enable the SCR system to perform efficiently; and
- Water will be used to increase the fuel efficiency and power output of the CTGs:
    - During periods of high temperatures, water may be utilized in the SPRINT system, which sprays micro-droplets of water into the inter-stage air stream to reduce the air temperature and increase the mass flow, thereby increasing the electrical output of the generators.
    - The Project will utilize air-cooled inlet chillers with a closed-loop thermal storage system. Thus, cooling towers that are typically utilized by many electrical and industrial processes will not be required for this Project, which significantly decreases the water utilization intensity.

Source of Water

The property is located within the Maricopa Stanfield Irrigation and Drainage District (MSIDD) and has an existing groundwater irrigation right (Permit No. 58-105553.0005) associated with an existing 189-acre active farming operation. Project water will be sourced from a combination of groundwater pumped from existing or new wells located on the Project site, as well as the purchase of long-term storage credits accrued in the MSIDD Groundwater Savings Facility (Permit No. 72-531381.0006).

The Project is focused on sustainability and good stewardship of the local resources. The Project will follow all state laws regarding local well impacts through direct coordination with the Arizona Department of Water Resources (ADWR). While the operational design is specifically focused on minimizing water consumption, all water used for the Project will be obtained according to the legal requirements for such non-irrigation water uses applicable in the Pinal County Active Management Area (AMA), including all necessary permits.

In addition, the Project will voluntarily implement a sustainability plan to offset the additional incremental water consumption in advance through the acquisition of long-term storage credits, so that the net effect to the regional aquifer is zero when compared to the property's current use.

A number of third parties have previously stored Central Arizona Project (CAP) water within the MSIDD Groundwater Savings Facility (Permit No. 72-531381.0006) and hold long-term storage credits that may be recovered through a well with a recovery well permit (or may be relinquished to the benefit of the same aquifer). The Project has committed that it will, prior to commercial operation, seek to purchase long-term storage credits stored in MSIDD's service territory (thus in close proximity to the Project site) in an amount sufficient to cover the maximum potential additional withdrawal versus current site usage. The water stored in the MSIDD Groundwater Savings Facility is deemed to be hydrologically located beneath MSIDD enrolled lands, so recovery of the long-term storage credits (or donation of such credits) could occur within the property or within nearby MSIDD land.

vi. Proposed height of stacks and number of stacks, if any.

There will be 10 exhaust stacks, one for each of the 10 CTGs. Each of the stacks will be approximately 65 feet in height and approximately 10.5 feet in diameter, which is less than half the height of the existing 140-foot-high transmission towers which intersect the Project site.

vii. Dates for scheduled start-up and firm operation of each unit and date construction must commence in order to meet schedules.

It is anticipated that the Project will be ready for full commercial operation sometime between June 1, 2027, and June 1, 2028, for all of the phases. The Project will operate year-round, as needed by load serving entities in Arizona.

Each Phase will consist of four to six turbines with the total of both phases being no more than ten total turbines.

The anticipated commercial operation date complements the retirement of coal facilities in Arizona and New Mexico, as well as the expansion of additional solar resources in Pinal County.

Construction on the Project will commence by September 2026 to meet the commercial operation dates and planned startup schedule of June 2027 (Phase I) and June 2028 (Phase II).

viii. To the extent available, the estimated costs of the proposed facilities and site, stated separately. (If application contains alternative sites, furnish an estimate for each site and a brief description of the reasons for any variations in estimates.)

The estimated cost for development and construction of the Project is approximately $759 million.

ix. Legal description of proposed site. (If application contains alternative sites, list sites in order of applicant's preference with a summary of reasons for such order or preference and any changes such alternative sites would require in the plans reflected in (i) through (viii) hereof.)

The Project will be located on an approximately 350-acre parcel located in Sections 1 and 12, Township 7 South, Range 4 East, lying westerly of and adjacent to Midway Road in unincorporated Pinal County.

2. ***With respect to a proposed transmission line:***

i. Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line

Not Applicable.

The Project will tie in directly to the existing Pinal Central to Duke 500 kV transmission line that bisects the Project site from east-to-west. The Project will interconnect electrically via a new 500 kV switchyard located on the eastern edge of the Project site. The interconnection will be located wholly within the Project site. Since the transmission components will be under one mile long and contain less than five

structures, they are not considered jurisdictional and subject to this CEC.

Nominal voltage

Not applicable.

Description of the proposed structures

Not applicable.

Description of proposed switchyards and substations

Not applicable.

Purpose for constructing said transmission line

Not applicable.

ii. Description of geographical points between which the transmission line will run the straight-line distance between such points and the length of the transmission line for each alternative route for which the application is made.

Description of geographical points between which the transmission line will run

Not applicable.

Straight-line distance between such points

Not applicable.

Length of the transmission line for each alternative route

Not applicable.

iii. Nominal width of right-of-way required, nominal length of spans, maximum height of supporting structures and minimum height of conductor above ground

Nominal width of right-of-way required

Not applicable.

Nominal length of spans

Not applicable.

Maximum height of supporting structures

Not applicable.

Minimum height of conductor above ground:

Not applicable.

iv. To the extent available, the estimated costs of proposed transmission line and route, stated separately. (If application contains alternative routes, furnish an estimate for each route and a brief description of the reasons for any variations in such estimates.)

Not applicable.

v. ***Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof.)***

Not applicable.

vi. ***For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.).***

No alternative routes have been identified.

5. ***List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction.***

The Project is located wholly within unincorporated Pinal County on private lands, within an area that the County has zoned for agricultural uses. The Applicant is submitting applications for a Zone Change and Comprehensive Plan Amendment to Pinal County in order to accommodate the development of the Project.

6. ***Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion.***

The Applicant has evaluated available secondary and field data related to air quality, biological resources, visual resources, cultural resources, recreational resources, land use, noise levels, and communication signals in order to assess the potential impacts that may result from the construction, operation, and maintenance of the Project. These evaluations are included in Exhibits A, B, C, D, E, F, H, and I to this Application.

Based on the information provided herein, the Applicant hereby affirms, upon thorough expert scientific environmental evaluation and analysis, that Project Bella is environmentally compatible and respectfully requests the Arizona Power Plant and Transmission Line Siting Committee issue a Certificate of Environmental Compatibility (CEC), with a term of 10 years.

By: 

Mark D. Thompson
Managing Partner

ORIGINAL and 25 copies of the foregoing hand delivered and filed with the Director of Utilities, Arizona Corporation Commission, this June 28, 2024.

This page intentionally left blank.

EXHIBIT A
PROJECT LOCATION AND LAND USE

In accordance with Arizona Administrative Code Rules of Practice and Procedure R14-3-219, the Applicant provides the following location maps and land use information:

Where commercially available, a topographic map, 1:250,000 scale, showing the proposed plant site and the adjacent area within 20 miles thereof. If application is made for alternative plant sites, all sites may be shown on the same map, if practicable, designated by applicant's order of preference.

Where commercially available, a topographic map, 1:62,500 scale, of the proposed plant site, showing the area within 2 miles thereof. The general land use plan within this area shall be shown on the map, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of an overlay.

Where commercially available, 1) a topographic map, 1:250,000 scale, showing any proposed transmission line route longer than 50 miles and the adjacent area; and 2) a topographic map, a scale of 1:62,500, for routes shorter than 50 miles showing any proposed transmission line route and the adjacent area.

Where commercially available, a topographic map,1:62,500 scale, of each proposed transmission line route longer than 50 miles showing that portion of the route within two miles of any subdivided area. The general land use plan within the area shall be shown on a 1:62,500 map required for Exhibit A-3, and for the map required by this Exhibit A-4, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of on an overlay.

Project Location

Figure A-1, *Jurisdiction* illustrates the Project Bella site within a 20-mile area on a topographic map at a 1:250,000 scale.

Figure A-2, *Jurisdiction* illustrates the land ownership and surface jurisdiction for the location of Project Bella facilities and land within two miles of the Project Bella (1:62,500 scale).

Figure A-3, *Existing Land Use* illustrates existing land use within two miles of Project Bella (1:62,500 scale).

Figure A-4, *Designated Future Land Use* illustrates the designated future land use plans within two miles of Project Bella (1:62,500 scale).

Figure A-5, *Zoning* illustrates the zoning within two miles of Project Bella facilities (1:62,500 scale).

Project Bella (Project) is located on private land controlled by the Applicant within unincorporated Pinal County, Arizona. **Figures A-1** and **A-2** depict the regional area and, specifically, the location of the Project and the municipal jurisdiction boundaries within two miles.

Existing land uses around the Project generally include agricultural, scattered low-density residential, open space, dairy farm, and vacant land. The Project site is approximately 350 acres and is currently utilized for agricultural operations.

Major transportation corridors include Interstate-8 (I-8), which is located directly south of the Project site, and State Route-84 (SR-84), which is located north of the Project site. South Midway Road is a north-south local road located at the eastern edge of the Project site. Greene Wash is adjacent to the western and southern border of the Project site.

Inventory

The Applicant's consultant completed a land use inventory to identify and map existing and future land uses within two miles of the Project. Methods for the land use inventory included a desktop analysis, including review of available land use plans, aerial imagery, and other supporting documents. The land use inventory also included outreach and communication with government agencies, municipalities, and other stakeholders to gather information regarding future development plans or known development projects.

Jurisdictions/Land Ownership

The Project is within unincorporated Pinal County entirely on private land that is controlled by the Applicant. No federal lands border the Project, but Arizona State Land Department (ASLD) and Bureau of Land Management (BLM) lands are located just within two miles of the Project. The nearest city is Casa Grande, located approximately two miles north of the Project. The community of Stanfield is also approximately two miles northwest of the Project.

Land Use Plans

Land use information was gathered from Pinal County. The following summarizes the existing and future land uses and zoning within two miles of the Project. This discussion includes the land use designations reflected in the most current available land use plans from Pinal County.

Pinal County

Pinal County is located within the south-central part of Arizona and has a total area of approximately 5,374 square miles. According to U.S. Census Bureau data, the 2023 estimated population for Pinal County is 484,239 (U.S. Census Bureau 2023). The Project is in the southwest portion of the County. As depicted in **Figure A-2**, all land within two miles of the Project is in unincorporated areas under jurisdiction of Pinal County.

Existing Land Uses

Figure A-3 shows the existing land uses in Pinal County within two miles of the Project. The land use categories shown on **Figure A-3** reflect the actual existing land uses around the Project based on an aerial interpretation. The existing land uses within two miles of the Project include:

- Agriculture
- Canal/Wash
- Single Family Residential
- Vacant
- Transportation

Planned Future Land Uses

Land use controls for private land within portions of unincorporated Pinal County are regulated by *We Create our Future: Pinal County Comprehensive Plan* (Pinal County Comprehensive Plan). The Pinal County Comprehensive Plan "provides support for the market by helping determine the appropriate uses and types of development in accordance with the plan's policies and guidelines and aligning development with Pinal County's Vision" (Pinal County 2019).

Figure A-4 illustrates the designated future land uses in Pinal County within two miles of the Project. The future land uses of parcels administered by Pinal County include:

- Residential
    - Very Low Density (0-1.0 du/ac)
    - Moderate Low Density (1.0-3.5 du/ac)
- High Intensity Activity Center
- Employment

The designated future land use for the Project site is Moderate Low Density Residential, as stated in the Comprehensive Plan and shown in **Figure A-4**. The Moderate Low Density Residential designation permits residential and agricultural uses, as well as some public or private utility uses. For the Project to comply with land use regulations, the Applicant is currently undergoing a Major Comprehensive Plan Amendment (CPA) from Pinal County, changing the designation from Moderate Low Density Residential to General Public Facilities/Services. General Public Facilities/Services includes large public facilities that require big areas of space such as powerplants, wastewater facilities, and landfills.

With the change from Moderate Low Density Residential to General Public Facilities/Services, the designated future land use would be consistent with the proposed use for electric generation facilities.

Zoning

Figure A-5 illustrates the designated zoning in Pinal County within two miles of the Project and includes:

- Commercial Agricultural Ranch (CAR)
- Local Business (CB-1)
- General Business (CB-2)
- Light Industry and Warehouse (CI-1)
- Industrial (CI-2)
- Single Residence (CR-2/CR-3)
- Multiple Residence (CR-4/CR-5)
- General Rural (GR)
- Manufactured Home (MH)
- Manufactured Home Park (MHP)
- Rural (RU-1.25)
- Recreational Vehicle Homesite (RV)
- Recreational Vehicle Park (RVP)
- Suburban Homestead (SH)
- Suburban Ranch (SR)

The Project is located within an area in Pinal County zoned General Rural (GR), as shown in **Figure A-5**. The Applicant is currently undergoing a Rezone of the property from GR to Industrial (I-3) to accommodate the development of a natural gas-fired power plant and related facilities. In future phases, the Project may include green energy production and require a Planned Area Development (PAD) overlay to accommodate the combination of uses.

With the change from GR to I-3 uses, the zoning designation would be consistent with the proposed use for electric generation facilities.

Potential Effects

Jurisdiction and Land Ownership

The Project is located in unincorporated Pinal County on private land controlled by the Applicant. There would be no change in jurisdiction or land ownership type.

Existing Land Use

Within two miles of the Project site, the land uses are Agriculture, Canal/Wash, Single Family Residential, as shown in **Figure A-3**.

The Project site is currently utilized for agriculture.

While the land use of the Project site will change, there will be no impacts to adjacent land uses.

Future Land Use

The designated future land use for the Project site is Moderate Low Density Residential as designated in the Pinal County Comprehensive Plan and shown in **Figure A-4**. The Moderate Low Density Residential designation permits residential and agricultural uses, as well as some public or private utility uses. The Applicant is currently undergoing a major CPA from Pinal County, changing the designation from Moderate Low Density Residential to General Public Facilities/Services for the Project to comply with land use regulations.

With a CPA that changes the designated future land use to General Public Facilities/Services, the Project will be compatible with the Pinal County Comprehensive Plan.

Zoning

The Project site is currently zoned for GR use. The Applicant is currently undergoing a Rezone of the Project site from GR to I-3.

With the Rezoning, the Project will be compatible with Pinal County's Zoning Ordinance.

Conclusion

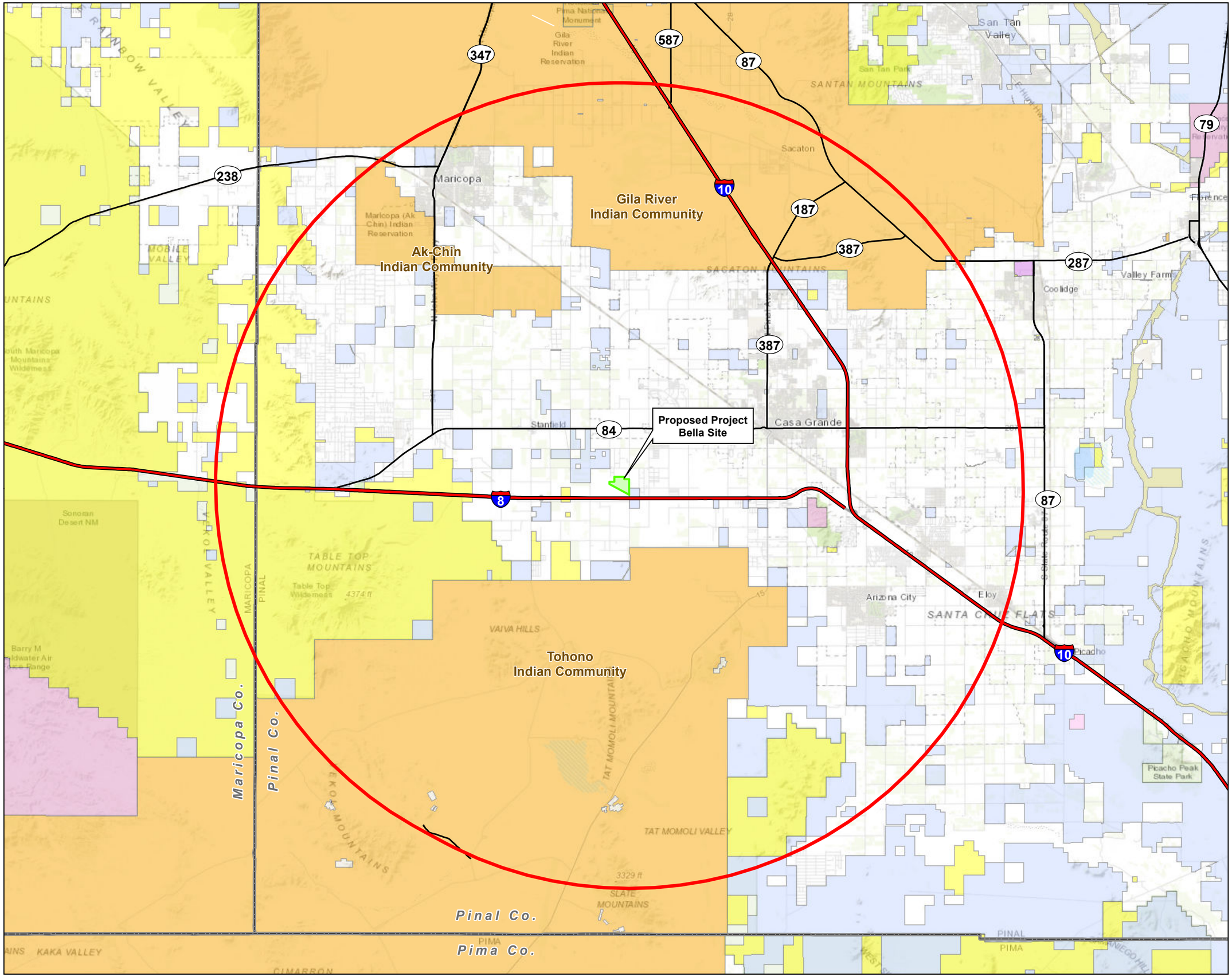
As stated above, the Project is located entirely on private land in unincorporated Pinal County that is controlled by the Applicant. The Project would convert existing land uses to an industrial-electrical generation use, requiring a CPA and Rezone from Pinal County. Therefore, the Project will be consistent with Pinal County's Comprehensive Plan and Zoning Ordinance.

Construction and future decommissioning activities associated with the Project could temporarily restrict or delay access to areas adjacent to the Project site. Such restrictions would be temporary and intermittent; therefore, no long-term or permanent land use impacts on adjacent areas is anticipated.

References

Pinal County. 2019. *We Create our Future: Pinal County Comprehensive Plan*. Available at: Comprehensive-Plan-2020-PDF (pinal.gov). Accessed April 2024.

U.S. Census Bureau. 2023 Decennial Census Total Population. Available at https://www.census.gov/quickfacts/pinalcountyarizona. Accessed April 2024.


Legend
Project Bella Components
Proposed Project Bella Site
20-Mile Buffer of Project Site
Other Components
Interstate Highway
US Route or State Highway
County Boundary
Jurisdictional Land Ownership
Bureau of Land Management Land
Bureau of Reclamation Land
Military Land
National Park Service Land
Tribal Land
State Land
Private Land (No Shading)
Proposed Project Bella Site
Gila River Indian Community
Ak-Chin Indian Community
Tohono Indian Community
Maricopa
Casa Grande
Sacaton
Stanfield
Arizona City
Eloy
Coolidge
Valley Farms
Picacho
Picacho Peak State Park
San Tan Valley
Gila River Indian Reservation
Maricopa (Ak Chin) Indian Reservation
Pima Natural Monument
Sonoran Desert NM
South Maricopa Mountains Wilderness
Table Top Wilderness
Barry M Goldwater Air Force Range
SANTAN MOUNTAINS
SACATON MOUNTAINS
TABLE TOP MOUNTAINS
VAIVA HILLS
TAT MOMOLI MOUNTAINS
TAT MOMOLI VALLEY
EKO MOUNTAINS
SLATE MOUNTAINS
SANTA CRUZ FLATS
PICACHO MOUNTAINS
RAINBOW VALLEY
MOBILE VALLEY
KAKA VALLEY
CIMARRON
WEST
4374 ft
3329 ft
347
587
87
238
10
187
387
287
79
84
8
Maricopa Co.
Pinal Co.
Pima Co.
MARICOPA
PINAL
PIMA
0 2.5 5 7.5 10
Miles
SPCS NAD 83, AZ Central, US Ft.
Data Sources: BLM, ESRI, Maricopa Co., Pinal Co., SRP, USGS.
ARIZONA
Maricopa County
Phoenix
Pinal County
Map Extent
PROJECT BELLA
FIGURE A-1 JURISDICTION
Map Extent: Maricopa & Pinal Counties, AZ
Date: 04.22.24
Author: ckvw

R3E R4E R4E R5E

T6S

T7S

T8S

R4E R5E

CASA GRANDE

Proposed Project Bella Site

Tohono O'odham Nation

W Kortsen Rd
N Fuqua Rd
N Starfield
East Main Canal
N Casa Grande Ave
W Fiesta Rd
N Cardle Stick Dr
W Clayton Rd
Fairfield Inn & Suites Casa Grande
Hotel & Golf Grande Sports World
N Bianco Rd
N Ethington Rd
Starfield
84
W Gila Bend Hwy
W Peters Rd
S Ethington Rd
S Burris Rd
S Thornton Rd
S Whiteland Parker Rd
W Selma Hwy
S Fuqua Rd
S Murphy Rd
S Russell Rd
S Whitlow Rd
S Whispering Sands Dr
S Montgomery Rd
S Schnepf Rd
W Cornman Rd
S Bianco Rd
8
S Starfield Rd
W Boggs Rd
S Indian Valley Rd
W Hanna Rd
W Connelley Rd
W Arica Rd
W Grove Rd
W Marsh Rd
1500 ft
W Joaquin Rd
Santa Rosa Canal
1555 ft

Legend

Project Bella Components

- Proposed Project Bella Site
- 2-Mile Buffer of Project Site

Other Components

- Existing Substation
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Interstate Highway
- State Highway
- Major Road
- Canal or Flood Control Channel
- Railroad
- Municipal Boundary
- Township / Range Boundary
- Section Boundary

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Tribal Land
- State Land

Jurisdiction

- Unincorporated County
- City of Casa Grande

0 0.5 1 1.5 2
Miles

ARIZONA

Pinal County

Map Extent

PROJECT BELLA
FIGURE A-2 JURISDICTION

Map Extent: Pinal County, AZ

Date: 4.23.24 | Author: ckvw

SPCS NAD 83, AZ Central, US Ft. Data Sources: BLM, City of Mesa, ESRI, Maricopa Co., Pinal Co., SRP, Town of Gilbert, Town of Queen Creek, USGS.

R3E R4E R4E R5E

T6S T7S T7S T8S

R4E R5E

CASA GRANDE

Proposed Project Bella Site

East Main Canal

Santa Rosa Wash

Santa Cruz Wash

Greene Wash

Santa Rosa Wash

Santa Rosa Canal

Tohono O'odham Nation

84

8

Legend

Project Bella Components

- Proposed Project Bella Site
- 2-Mile Buffer of Project Site

Other Components

- Existing Substation
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Existing Natural Gas Pipeline
- Interstate Highway
- State Highway
- Canal / Wash
- Railroad
- Municipal Boundary
- Township / Range Boundary
- Section Boundary

Existing Land Use

- Agriculture
- Canal / Wash
- Single Family Residential
- Vacant

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Bureau of Reclamation Land
- Tribal Land
- State Land

Jurisdiction

- Unincorporated County
- City of Casa Grande

0 0.5 1 1.5 Miles

PROJECT bella

PROJECT BELLA
FIGURE A-3 EXISTING LAND USE

Map Extent: Pinal County, AZ

Date: 4.23.24 | Author: ckvw

SPCS NAD 83, AZ Central, US Ft. Data Sources: BLM, City of Mesa, ESRI, Maricopa Co., Pinal Co., SRP, Town of Gilbert, Town of Queen Creek, USGS.

R3E R4E R4E R5E

T6S T7S T7S T8S

CASA GRANDE

Santa Rosa Wash

East Main Canal

Santa Cruz Wash

Greene Wash

Santa Rosa Canal

Tohono O'odham Nation

Proposed Project Bella Site

84

8

R4E R5E

Legend

Project Bella Components

- Proposed Project Bella Site
- 2-Mile Buffer of Project Site

Other Components

- Existing Substation
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Existing Natural Gas Pipeline
- Interstate Highway
- State Highway
- Stream / Wash
- Railroad
- Municipal Boundary
- Township / Range Boundary
- Section Boundary

Pinal County Land Use Plan

- Employment
- High Intensity Activity Center
- Moderate Low Density Residential
- Very Low Density Residential

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Bureau of Reclamation Land
- Tribal Land
- State Land

Jurisdiction

- Unincorporated County
- City of Casa Grande

0 0.5 1 1.5 Miles

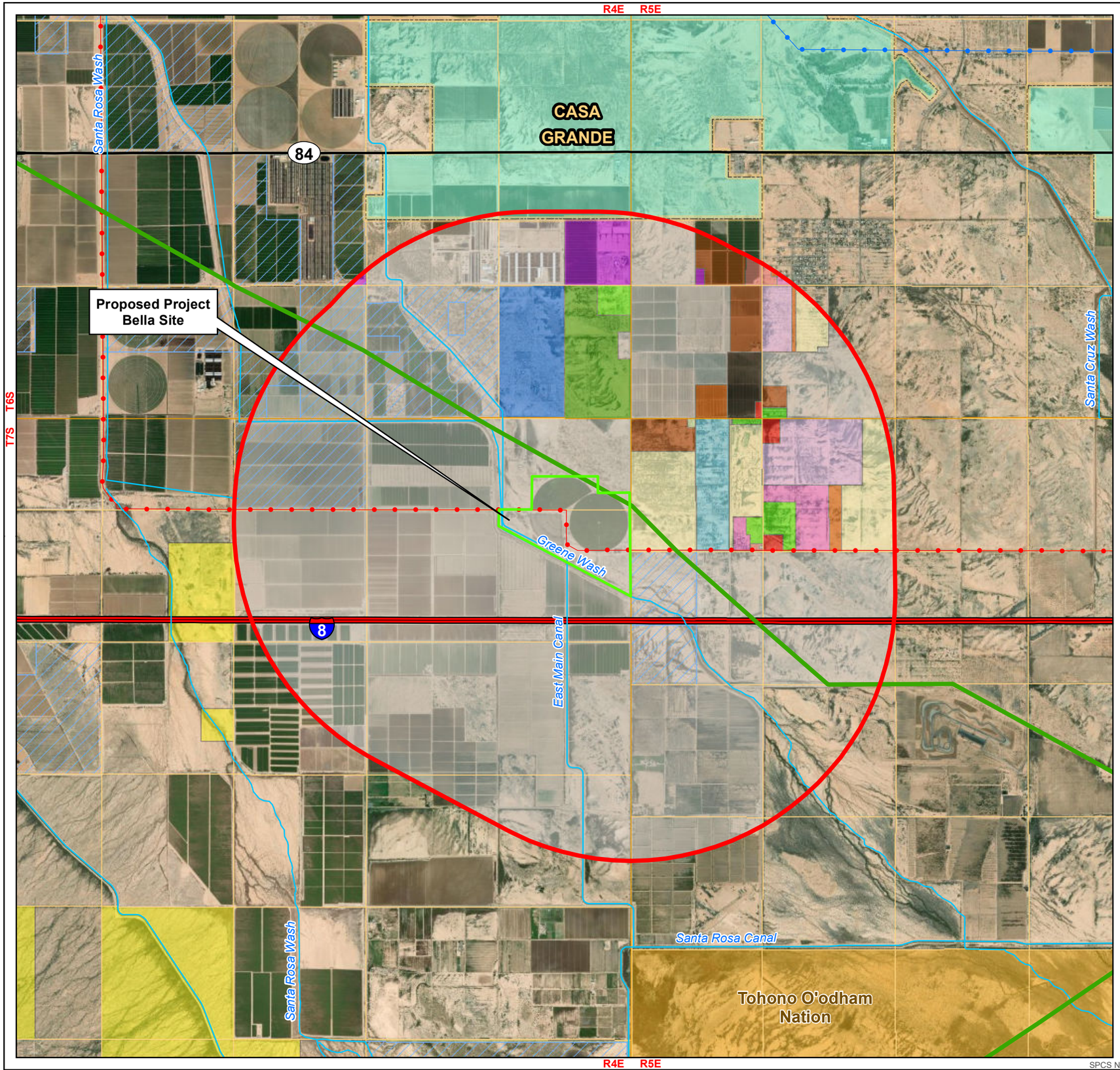
PROJECT bella

PROJECT BELLA
FIGURE A-4 DESIGNATED FUTURE LAND USE

Map Extent: Pinal County, AZ

Date: 4.23.24 | Author: ckvw

SPCS NAD 83, AZ Central, US Ft. Data Sources: BLM, ESRI, Pinal Co., SRP, City of Casa Grande, USGS.



Legend

Project Bella Components

- Proposed Project Bella Site
- 2-Mile Buffer of Project Site

Other Components

- Existing 500kV Transmission Line
- Existing 115kV Transmission Line
- Existing Natural Gas Pipeline
- Interstate Highway
- State Highway
- Stream / Wash
- Municipal Boundary
- Township / Range Boundary
- Section Boundary

Pinal County Zoning

- CAR (Commercial Agricultural Ranch)
- CB-1 (Local Business)
- CB-2 (General Business)
- CI-1 (Light Industry and Warehouse)
- CI-2 (Industrial)
- CR-2 / CR-3 (Single Residence)
- CR-4 / CR-5 (Multiple Residence)
- GR (General Rural)
- MH (Manufactured Home)
- MHP (Manufactured Home Park)
- RU-1.25 (Rural)
- RV (Recreational Vehicle Homesite)
- RVP (Recreatioanl Vehicle Park)
- SH (Suburban Homestead)
- SR (Suburban Ranch)

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Bureau of Reclamation Land
- Tribal Land
- State Land

Jurisdiction

- Unincorporated County
- City of Casa Grande

0 0.5 1 Miles

PROJECT bella

PROJECT BELLA
FIGURE A-5 ZONING

Map Extent: Pinal County, AZ

Date: 4.23.24 | Author: ckvw

SPCS NAD 83, AZ Central, US Ft. Data Sources: BLM, City of Mesa, ESRI, Maricopa Co., Pinal Co., SRP, Town of Gilbert, Town of Queen Creek, USGS.

EXHIBIT B
ENVIRONMENTAL STUDIES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any federal agency or if a federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as a part of this exhibit.

Introduction

The Applicant commissioned environmental studies for the Project, which included an evaluation of land use, biological resources, aesthetics, cultural and historic resources, air quality, water resources, noise, and recreation resources. The following section includes an overview of the air quality and water resources studies developed for the Project.

Exhibit A describes land use; **Exhibit C** addresses potential impacts to sensitive biological resources; **Exhibit D** discusses potential impacts to other biological resources; **Exhibit E** summarizes the potential effects on the area's scenic quality and cultural resources; **Exhibit F** summarizes the potential effects on recreation resources; **Exhibit H** describes how the Project could affect existing local plans; and **Exhibit I** discusses the noise and communication impacts that are expected. There is no federal land or involvement associated with this Project that will require National Environmental Policy Act (NEPA) documents be developed for this Application.

Consultants on behalf of the Applicant have prepared the following memoranda that are attached to **Exhibit B**:

- **Exhibit B-1:** Project Bella Air Quality Assessment and Title V Air Permit V20700.000
- **Exhibit B-2:** Description of the Air Permit for the Bella Energy Facility Project
- **Exhibit B-3:** Summary of the Bella Energy Facility Construction Air Permit Process
- **Exhibit B-4:** Project Bella Groundwater Availability Assessment
- **Exhibit B-5:** Water Supply Options for Project Bella

In addition, the Applicant has prepared the following analysis on air quality to supplement the memoranda and supporting documentation contained in **Exhibit B-1**, **B-2**, and **B-3**.

Environmental Studies – Air Quality

The Applicant received a final Class I air permit from the Pinal County Air Quality Control District (PCAQCD) on June 17, 2024. A summary of the previously completed air permit-related analyses and documentation follows, including the Class 1 Air Permit (#V20700.000), Class I Permit Application, and Air Dispersion Modeling Analysis. In addition, construction emission calculations, and a regulatory applicability review is included as **Exhibit B-1**. This exhibit summarizes the Bella Energy Project (Project) description, baseline air quality, air quality impacts during construction, air quality impacts during operation, and greenhouse gas emissions from the Project. A more detailed analysis and discussion of the Project's emissions, impacts, and regulatory applicability is shown in **Exhibit B-1**. Details related to the air permit process are shown in **Exhibit B-3**.

Project Description

The proposed Bella Energy Project will be a peaking plant with nominal capacity of 490 megawatts (MW) located in Pinal County, Arizona. The Project will utilize ten (10) natural gas aeroderivative GE LM6000PC simple cycle combustion turbine (CT) generators, equipped with oxidation catalyst (OxCat) and Selective Catalytic Reduction (SCR) emissions controls. The Project also includes one 1,500 kilowatt (kW) diesel fire pump engine. The facility will generate electricity that provides reserve capacity to serve peak demand. The Project is currently authorized under a Pinal County Title V Air Permit (#V20700.000), issued on June 17, 2024. A copy of the permit documentation is included in **Exhibit B-1** and the permit process is explained further in **Exhibit B-3**.

Baseline Air Quality

The proposed Project is in a portion of Pinal County that is designated as being in attainment or unclassifiable for criteria pollutants except particulate matter with an aerodynamic diameters less than 10 micrometers (PM10). The facility is located in the West Pinal PM10 nonattainment area, which is classified as "serious" nonattainment.

Air Quality Impacts During Construction

Construction emissions associated with the Project will result from off-road equipment (such as graders and bulldozers) tailpipe emissions, fugitive dust associated grading and bulldozing activities (material movement), vehicle tailpipe emissions associated with worker commutes and delivery truck emissions, VOC emissions from asphalt paving, and VOC emissions from the application of architectural coatings (painting). It is estimated that construction activities could result in annual emissions of 0.6 tons of VOC, 1.2 tons of NOX emissions, 2.0 tons of CO, 0.005 tons of SO2, 1.1 tons of PM10 and 0.3 tons of PM2.5. As a worst-case assumption, it is assumed that these emissions would occur over a six-month period starting the summer of 2026, when actual construction be phased in over several years. The Project will be required to obtain a West Pinal Nonattainment Area Dust Control Permit. This permit will regulate particulate matter emissions generated due to construction activities. All construction activities will be temporary and transient in nature, with no recurring impacts after construction activities have been completed.

Construction emissions compared with emissions from the 2020 Pinal County Emission Inventory are provided in Table 2 of the Bella Energy Project Air Quality Assessment Technical Memorandum (**Exhibit B-1**).

Air Quality Impacts During Operation

Emissions due to operational activities will result from the operation of the ten CTs and one 1,500-kilowatt (kW) diesel fire pump engine. Estimated operational emissions include emissions during normal operation of the CTs and emissions during plant startup and shutdown. Facility-wide emissions will not exceed major source levels for any regulated NSR pollutant. The Class I Air Permit, Permit Application, and Modeling Report are provided in Appendices A, B, and C of the Bella Energy Project Air Quality Assessment Technical Memorandum (**Exhibit B-1**).

Air quality impacts from the Project were assessed by comparing ambient air quality standards and significance levels with the modeled Project ambient air concentrations plus the existing baseline ambient pollutant concentration in the area of the Bella Energy site. The criteria pollutant analysis was conducted to ensure that the Project will not cause or contribute to air pollution in violation of National Ambient Air Quality Standards (NAAQS). Because the Project is located in an area of Pinal County that is classified as serious nonattainment for PM10, the modeling analysis demonstrated compliance for both attainment and nonattainment pollutants. Based on the modeling performed in support of the air permit, the ambient air quality analyses demonstrate the Project will operate in compliance with the NAAQS. The modeling analysis is provided in **Exhibit B-1**.

Greenhouse Gas Emissions

The Project is using the least carbon-intensive fossil fuel source (natural gas). The most prevalent greenhouse gas (GHG) emitted from the Project is CO2. Maximum emission rates of CO2 would be limited to the emissions standards as required by the New Source Performance Standards (40 Code of Federal Regulations [CFR] Part 60, Subpart TTTT and TTTTa). Emissions of carbon dioxide equivalent (CO2e) will not exceed 120 pounds per metric million british thermal units (lbs/MMbtu). Further discussion of the applicability of GHG regulations is provided in **Exhibit B-1**.

Conclusion

The air quality assessment demonstrates the Project will operate in compliance with Pinal County, State of Arizona, and federal air quality rules. The Project will not cause or contribute to a violation of the NAAQS, which EPA has established to be protective of human health and the environment.

EXHIBIT B-1
PROJECT BELLA AIR QUALITY ASSESSMENT AND TITLE V AIR PERMIT V20700.000

Technical Memorandum

To: Mark Thompson, Seguro Energy Partners (SEP)

From: James Westbrook, President, BlueScape Environmental

Date: June 24, 2024

Subject: Exhibit B-1: Bella Energy Project Air Quality Assessment

---

PURPOSE OF TECHNICAL MEMORANDUM

The purpose of this technical memorandum is to accompany and support Exhibit B of the Certificate of Environmental Compatibility (CEC) application for the proposed Bella Energy Project (Project). This technical memorandum summarizes the potential air emissions from the Project and provides a regulatory review demonstrating expected compliance with applicable local, state, and federal air quality regulations. The following sections describe the existing climate and air quality conditions in the area of the Project, the expected construction and operational air emissions, the potential impacts to air quality in Pinal County that would result from Project operations on the ambient air quality, and regulatory applicability.

To support this technical memorandum, the Project Class I air permit (Permit # V20700.000) issued by the Pinal County Air Quality Control District (PCAQCD), the Class I Permit Application, and the Air Dispersion Modeling Analysis are included as Appendices A, B, and C, respectively. The information supplied in the following sections, except the construction emissions calculations, was prepared primarily for the air permit application process. Additional construction emission calculations were performed for this memorandum. The detailed construction emissions calculations are included in Appendix D.

PROJECT INFORMATION

Seguro Energy Partners (SEP) is proposing to develop a peaking plant that will utilize natural gas aeroderivative simple cycle combustion turbine (CT) generators with a total nominal capacity of 490 megawatts (MW). The proposed Bella Energy facility Project will be located within Pinal County on a 158-acre site about 6 miles southwest

of Casa Grande, Arizona, 0.2 miles north of the I-8 freeway and 0.4 miles south of Selma Highway on the west side of Midway Road.

The proposed facility design includes ten (10) CTs that will drive electricity generators, and one 1,500 kilowatt (kW) diesel fire pump engine. The new CT units will be aeroderivative General Electric (GE) Vernova (formerly GE Energy) LM6000PC models, each unit with approximately 49 MW of gross generation capacity at 100% load under normal, or steady-state, operating conditions. The Bella Energy Project will provide incremental peak capacity to the electrical grid and will support the integration of renewable resources.

EXISTING CLIMATE AND AIR QUALITY

Temperature and Precipitation

The Project is located 6 miles southwest of Casa Grande, Arizona and 4.5 miles southeast of Stanfield, Arizona in Pinal County. The general area is predominantly arid desert characterized by very hot temperatures in summer, moderate temperatures in winter, a large daily temperature range, and sparse precipitation. The mean annual temperature in Casa Grande is 70° Fahrenheit (F), with average monthly maximum temperatures ranging from 67°F in December to 105°F in July, and average minimum monthly temperatures ranging from 37°F in January to 76°F July. Average annual precipitation is 9.3 inches. Most precipitation occurs during the winter from December through March and during the monsoonal months of July and August (US Climate Data 2024).

Wind

ADEQ supplied five years of AERMET pre-processed meteorological data (2017-2021) from the Phoenix Sky Harbor International Airport in Phoenix, Arizona, which was used in the permit application air dispersion modeling analysis. The Surface Data meteorological station is located about 41 miles north of the Bella Energy Facility site and was approved by PCAQCD for use in the Class I permit application modeling analysis. A wind rose for the Phoenix Airport surface met station is provided in Appendix B. The wind rose shows an average wind speed of 3.23 meters per second (m/s), with a predominant wind flow from the east and southeast and a secondary wind flow from the west.

Baseline Air Quality

The Bella Energy Facility site is in a portion of Pinal County that is designated as being in attainment or unclassifiable for criteria pollutants except particulate matter with aerodynamic diameter less than 10 micrometers (PM_{10}). The site is located in the West Pinal PM_{10} nonattainment area, which is classified as serious. Emissions of PM_{10} and particulate matter with aerodynamic diameter less than 2.5 micrometers

($PM_{2.5}$) in Pinal County are caused primarily by agricultural activities and naturally occurring windblown dust due to arid conditions.

Ambient background values of air quality data representative of the Project area are shown in Table 1 below. This table also presents the relevant National Ambient Air Quality Standards (NAAQS) for each pollutant and averaging period. Background values were collected from the United States Environmental Protection Agency's (USEPA) ambient air quality monitoring network (USEPA 2024a). Background values for secondary NAAQS standards are not listed in Table 1 and were not required by PCAQCD to be evaluated for the air permit process. None of the selected monitors are subject to the influence of any major, localized industry. All monitors therefore provide an adequate representation of the background air quality in the vicinity of the Bella Energy Project site. A full description of the air monitors selected is shown in the air permit application (Appendix B) and the modeling report (Appendix C).

TABLE 1
AMBIENT BACKGROUND VALUES, 2020-2022

Pollutant	Design Concentration	Background Design Value	NAAQS ($\mu g/m^3$)	Monitor Name (Site ID)
Nitrogen Dioxide (NO_2)				
Annual	Maximum of annual average from 3 years	8.11 ppb	100 (53 ppb)	Buckeye (04-013-4011)
1-hr	98th percentile of 1-hour daily max concentrations, averaged over 3 years	26.3 $\mu g/m^3$	188 (100 ppb)	Alamo Lake
Carbon Monoxide (CO)				
1-hr	Highest concentration from past 3 years	1.5 ppm	40,000 (35 ppm)	West Chandler (04-013-4004)
8-hr		1.3 ppm	10,000 (9 ppm)	
Ozone (O_3)				
8-hr	Annual 4th highest daily max from 3 years	0.072 ppm	137 (0.07 ppm)	Casa Grande Airport (04-021-3003)
Sulfur Dioxide (SO_2)				
1-hr	99th percentile of 1-hr daily max concentrations, averaged over 3 years	5.7 ppb	196 (75ppb)	Durango Complex (04-013-9812)
$PM_{2.5}$				
Annual	3-year annual average	8.25 $\mu g/m^3$	12	Casa Grande Downtown (04-021-0001)
24-hr	98th percentile, averaged over 3 years	17.53 $\mu g/m^3$	35	

TABLE 1 AMBIENT BACKGROUND VALUES, 2020-2022				
Pollutant	**Design Concentration**	**Background Design Value**	**NAAQS (µg/m³)**	**Monitor Name (Site ID)**
PM_{10}				
24-hr	3-year average of 2nd high values	180.3 µg/m³	150[1]	Stanfield (04-021-3008)

µg/m³ = Micrograms per cubic meter, ppb = parts per billion, ppm = parts per million

[1]The area is nonattainment for PM_{10} as shown by the background design value exceeding the NAAQS.

Project Emissions

In Pinal County, air quality is managed by the PCAQCD. Pollutants regulated by the PCAQCD including the following:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO_x)
- Sulfur dioxide (SO_2)
- Particulate matter (PM_{10} and $PM_{2.5}$ which as assumed to be equivalent)
- Ozone (including the precursors NO_x and Volatile Organic Compounds or VOC)
- Sulfuric acid (H_2SO_4) mist
- Lead
- Hazardous air pollutants (HAPs)
- Greenhouse Gases (GHGs)

PCAQCD-regulated New Source Review (NSR) criteria pollutants emitted by the Bella Energy Project include CO, NO_2, SO_2, $PM_{10}/PM_{2.5}$, ozone and its precursors, H_2SO_4, and lead. The maximum estimated operational and construction criteria pollutant emissions are shown in the sections below. Air dispersion modeling analysis results completed for the air permit application for operational emissions of CO, NO_2, SO_2, and $PM_{10}/PM_{2.5}$ are also shown.

Ozone precursor and secondary $PM_{2.5}$ emissions from operations were evaluated under the EPA's Modeled Emission Rates for Precursors (MERPs) guidance to demonstrate that the Project will not result in ozone or secondary $PM_{2.5}$ emissions which would cause or contribute to a NAAQS exceedance (USEPA 2019). The formation of ozone is related to the complex interaction of air pollutants from regional emission sources and regional meteorological conditions. Thus, performing complex cumulative regional emissions and meteorological modeling for ozone for a single project is extremely difficult and is beyond the scope of the analysis that was required to obtain an air permit. Secondary $PM_{2.5}$ impacts are the impacts attributable to nitrates and sulfates formed due to precursor NO_X and SO_X emissions. The MERPS ozone and secondary $PM_{2.5}$ impacts are discussed in the predicted ambient air quality section of this document.

Hazardous Air Pollutants (HAPs) are emitted from the CTs and fire pump engine as a result of fuel combustion. HAPs from the CTs were calculated using emission factors from AP-42 guidance section 3.1, Stational Internal Combustion Engines. HAPs from the fire pump engine were calculated according to AP-42 guidance section 3.3, Gasoline and Diesel Industrial Engines. Annual operational emissions of HAPs are HAPs regulations are discussed in the regulatory applicability sections.

Greenhouse gases (GHGs), including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are emitted from the CTs and fire pump engine as a result of fuel combustion. GHGs are calculated as carbon dioxide equivalent (CO_2e). CO_2e allows for pollutants to be evaluated in terms of their potential to contribute to global warming in terms of CO_2. Operational CO_2e emissions for the Project and applicable GHG regulations are discussed in the regulatory applicability sections.

CONSTRUCTION EMISSIONS

Construction is expected to occur over a six-month duration starting in the summer of 2026. To estimate worst-case annual construction emissions, it was assumed that the entire Project will be constructed within a six-month timeframe. This is highly conservative and overestimates emissions, because it is expected that construction will be phased over several years. Each construction phase is expected to include site grading, building construction, paving, and architectural coating.

Construction emissions result from off-road equipment (such as graders and bulldozers) tailpipe emissions, fugitive dust associated grading and bulldozing activities (material movement), vehicle tailpipe emissions associated with worker commutes and delivery truck emissions, VOC emissions from asphalt paving, and VOC emissions from the application of architectural coatings (painting). Default assumptions applicable to industrial projects such as equipment types, horsepower (hp) and emission factors were obtained from the California Emissions Estimator Model (CalEEMod version 2022.1.1.24). CalEEMod is an accepted regulatory tool used throughout the state of California to estimate emissions from land use development Projects (CAPCOA 2022). A summary of annual criteria pollutant construction emissions is shown in Table 2 below. Detailed calculations, assumptions, and references for the emission calculation methodology are shown in Appendix D of this document.

To characterize potential impacts on air quality that may result from Bella Energy Project construction activities, the annual emissions during the construction year were compared to the total annual criteria pollutant emissions emitted in Pinal County in 2020, sourced from the EPA National Emission Inventory database (USEPA 2020). As shown in Table 2, construction emissions represent a small fraction of the emissions inventory of Pinal County, with NO_X accounting for the highest percentage of Pinal County emissions at 0.14%.

TABLE 2 **ANNUAL CONSTRUCTION EMISSIONS FOR THE BELLA ENERGY PROJECT**						
	Annual Emissions (TPY)					
Construction Activity	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Offroad Equipment	0.12	1.09	1.33	0.002	0.05	0.04
Material Movement	--	--	--		0.10	0.04
Worker and Delivery Vehicles	0.01	0.1	1	0.00	0.94	0.23
Asphalt Paving	0.01	--	--	--	--	--
Architectural Coating	0.4	--	--	--	--	--
Total	**0.6**	**1.2**	**2.0**	**0.005**	**1.1**	**0.3**
Pinal County 2020 Emissions Inventory	33,377	9,002	75,171	435	18,454	6,215
Construction Emissions Percent of Pinal County 2020 Emissions Inventory	0.002%	0.01%	0.003%	0.001%	0.01%	0.01%

--=No emissions
*Pinal county emissions for the year 2020 were obtained from the EPA National Emission Inventory database (USEPA 2020)

Construction activities will be temporary and transient in nature, with no recurring impacts after phased construction activities have been completed. Construction of the Bella Energy Facility will be compliant with applicable rules and regulations that require SEP to minimize air emissions during construction. See the Regulatory Applicability section of this document for an overview of construction-related regulations.

OPERATIONAL EMISSIONS

Operational emissions sources at the Bella Energy Project will include 10 CTs and one diesel-fueled fire pump engine. Combustion gases that contain pollutants exit the CTs at temperatures ranging from 690 °F to 900 °F. To enable the use of selective catalytic reduction (SCR) systems for the proposed CTs, an air injection system is included. This system supplies tempering air to the exhaust of the CT section to reduce the exhaust gas temperature to around 800 °F at the catalyst inlet. The exhaust gases from each CT then pass through two post-combustion air quality control systems: a high-temperature SCR system for the control of NO_X emissions and oxidation catalyst (OxCat) for the control of carbon monoxide (CO) and volatile organic compounds (VOC) including HAPs that are a VOC such as formaldehyde. Emissions control systems will be fully functional during normal operations, and partially functional during CT startup or shutdown.

Maximum emission rates under normal (or steady-state) and startup/shutdown operations for NO_X, CO, VOC, SO_X, PM_{10}, $PM_{2.5}$, sulfuric acid mist, CO_2e, and HAPs for the proposed CTs are detailed in the Potential-to-Emit (PTE) calculations in the Bella Energy Class I Permit Application (Appendix B). The emission calculations are the

maximum projected emissions that will occur on an hourly, daily and annual basis, assuming 100% load condition, at site elevation, for 120 °F ambient temperature, with inlet air chilling and the SPRINT system on, and maximum expected annual operations. The turbine NO_x and CO emissions will be controlled during normal operation with SCR and OxCat. SCR/OxCat has been estimated to control NO_x emissions to 5 parts per million by volume (ppmv) at 15% O_2, and CO emissions to 7 ppmv at 15% O_2, under steady-state conditions. No control of estimated VOC emissions was provided by GE Vernova; 13.2 ppmv as methane at 15% O_2 has been assumed conservatively. The OxCat controls are expected to further reduce VOC emissions, including any HAPs such as formaldehyde. H_2SO_4 mist emissions were estimated as 10% of SO_X emissions. The maximum hourly average fuel sulfur concentration was assumed to be the Federal Energy Regulatory Commission (FERC) limit of 5.0 grains sulfur (S) per 100 standard cubic feet (gr/100 scf) and the annual average fuel S content was assumed to be 1.0 gr/100 scf.

Annual PTE was calculated based on 4,350 total operating hours per turbine, with 4,025 being steady-state operating hours. The startup and shutdown annual emissions were calculated assuming 500 startup / shutdown events per CT. Startup duration is 30 minutes and shutdown duration is 9 minutes. Total annual startup / shutdown hours per turbine are 325 hours.

Estimated facility PTE also includes the diesel fire pump engine emissions. The 1,500-kW engine includes a compression ignition, reciprocating internal combustion engine driving a water pump to serve the plant fire emergency needs. The engine was assumed to operate for a maximum of 500 hours per year, although actual hours for testing, maintenance and emergency conditions are expected to be much lower. The fire pump engine's maximum annual hours of operations of 500 hours per year were included in the facility PTE. For emissions calculations a Tier 2 diesel engine, ultra-low sulfur fuel, and emission factors from AP-42 and 40 CFR Part 98 are used.

As shown in Table 3, the Project emissions (based on the PTE in TPY) of the facility will be a minor source under the New Source Review (NSR) Prevention of Significant Deterioration (PSD) program and a Title V major source, with PTE less than 250 tons/year but greater than 100 tons/year of NO_x, CO and VOC. Requirements under the Title V program are discussed in the regulatory applicability section of this document.

TABLE 3 COMPARISON OF EMISSIONS FOR BELLA ENERGY PROJECT WITH MAJOR SOURCE THRESHOLDS			
	Potential to Emit for Bella Energy Project (TPY)	**Major Source Thresholds**	
Pollutant		**NSR/PSD (TPY)**	**Title V (TPY)**
NO_X	216	250	100
CO	225	250	100
VOC	159	250	100
SOX	26.8	250	100
PM_{10}	62.2	70	70
$PM_{2.5}$	62.2	250	100
H_2SO_4	2.57	250	100
Lead	0.01	5	100
HAPs	9.92	N/A	25
CO_2e	1,131,266	100,000*	N/A

N/A = Not Applicable
* Because the proposed Bella Energy Project is not a major stationary source based on its emissions of non-GHG pollutants, GHGs are not considered subject to regulation for Prevention of Significant Deterioration (PSD).

Table 3 shows air emissions subject to permitting requirements. Other minor sources of operational emissions may include fugitive and tail pipe emissions from worker and maintenance vehicle trips to and from the facility. These types of emissions will be small, would not contribute significantly to short-term or annual emissions, and would not cause or contribute to an exceedance of a NAAQS.

PREDICTED AMBIENT AIR QUALITY IMPACTS

Air quality impacts from the Bella Energy facility were assessed for the PCAQCD air permit process by comparing ambient air quality standards and significance levels to the modeled Project ambient air concentrations plus the existing baseline ambient pollutant concentrations in the Project region. The analysis evaluated emissions of each criteria pollutant that triggered minor NSR as defined in R18-2-302 of the Arizona Administrative Code (AAC). The Project will trigger minor NSR for all criteria pollutants except lead. The criteria pollutant analysis was conducted to ensure that the proposed Project will not cause or contribute to air pollution in violation of NAAQS. Since the Bella Energy facility is located in an area of Pinal County that is classified as nonattainment for PM_{10}, the modeling analysis addressed the ADEQ's procedures for modeling demonstrations for both attainment and nonattainment pollutants. The analysis conforms with the modeling procedures outlined in the ADEQ's Air Dispersion Modeling Guidelines for Arizona Air Quality Permits (ADEQ 2019).

The modeling performed included a load screening analysis to determine the operating conditions that result in the highest modeled impacts, a Significant Impact

Analysis (SIA) to calculate the maximum impacts for each pollutant, and a refined NAAQS analysis to determine compliance with the NAAQS.

The dispersion modeling performed in support of the air permit application considers each of the criteria pollutants regulated by PCAQCD, except for ozone and lead. While lead was not included in the modeling, the emissions are predicted to be less than 0.01 tons per year. Photochemical modeling was not performed for this Project, though the Project's ozone precursor emissions were evaluated under the EPA's Modeled Emission Rates for Precursors (MERPs) guidance to demonstrate that the project will not result in quantifiable ozone formation. The PCAQCD also regulates hazardous air pollutants (HAPs), and an evaluation of these has been included in this analysis.

Load Analysis Results

The results of the load analysis can be found in the Appendix C Modeling Study. The long-term annual average emission rates based on the annual facility potential to emit were used for Annual NO_X and $PM_{2.5}$ modeling. The short-term startup and shutdown scenarios were found to cause the highest impacts for all short-term pollutant analyses except for SO_2. The short-term steady-state operation at 100% load, generated the highest emission rate for the 1-hr and 3-hr SO_2 analyses. The 1-hr NO_2 analysis was performed using a 30-minute startup and 30-minute steady-state emission rate, as directed by PCAQCD. The highest impacts out of each scenario modeled are shown in the significant impact analysis results below. Results of the modeled scenarios are shown in Appendix C.

Significant Impact Analysis Results

Table 4 shows that the Project resulted in impacts exceeding the SILs for $PM_{2.5}$, NO_2, and SO_2. Based upon the results of the significant impacts analysis, an analysis was conducted for those pollutants with significant impacts to assess compliance with the NAAQS.

The high first high 1-hr, 3-hr, 8-hr, or 24-hr values out of the years of meteorological data used for the modeled results were conservatively evaluated against the respective 1-hr, 3-hr, 8-hr, or 24-hr SILs. The maximum annual value of out of all years was compared to the annual NO_2 and $PM_{2.5}$ SILs.

The Project's secondary $PM_{2.5}$ precursor emissions and ozone formation were evaluated under the USEPA's Modeled Emission Rates for Precursors (MERPs) guidance (USEPA 2019) to demonstrate the Project will not result in secondary $PM_{2.5}$ or ozone formation that will cause or contribute to a violation of a NAAQS. A discussion of this analysis can be found in sections 5.7 and 5.8 of the Bella Energy Modeling Report for Class I Title V Air Permit Application (Appendix C). Section 5.7 of the Modeling Report estimates the secondary $PM_{2.5}$ contributions to the $PM_{2.5}$ annual and daily modeled concentrations, which are added to the $PM_{2.5}$ modeling results for comparison to the SIL. Section 5.8 of the Modeling Report estimates the

8-hr Project impact for ozone, which shows the ozone impact is below the SIL of 1.0 ppb.
In the case of the annual $PM_{2.5}$ NAAQS, compliance with the SILs for both the 2012 $PM_{2.5}$ annual NAAQS and the 2024 annual NAAQS is shown. The $PM_{2.5}$ annual NAAQS was lowered to 9 µg/m^3, effective May 6, 2024. On April 30, 2024, EPA released guidance recommending an updated SIL of 0.12 µg/m^3 (USEPA 2024b). As shown in Table 4, Bella Energy is below both the recommended 2012 and 2024 annual $PM_{2.5}$ SILs, therefore a new NAAQS analysis for $PM_{2.5}$ is not required due to the change in the standard.

TABLE 4
SIGNIFICANT IMPACT ANALYSIS RESULTS

Pollutant	Avg Period	Maximum Modeled Impact (µg/m^3)	PSD Significant Impact Level (µg/m^3)	Exceeds SIL?
$PM_{2.5}$[a]	24-hr	3.42	1.2	Yes
	Annual (2012)	0.096	0.2	No
	Annual (2024)	0.096	0.12	No
PM_{10}	24-hr	3.41	5.0	No
NO_2	1-hr	39.2	7.5	Yes
	Annual	0.56	1.0	No
CO	1-hr	162	2,000	No
	8-hr	99.4	500	No
SO_2	1-hr	15.7	7.8	Yes
	3-hr	56.1	25	Yes

a. The secondary $PM_{2.5}$ MERP values shown in the Appendix C Modeling Analysis were added to the maximum modeled impacts of 24-hr and Annual $PM_{2.5}$.

NAAQS Analysis Results

Following the determination of significant impacts, a cumulative impacts analysis was conducted to assess compliance with the $PM_{2.5}$, NO_2, and SO_2 NAAQS. The Desert Basin Generating facility was added to the 24-hr $PM_{2.5}$ and the 1-hr NO_2 models and background concentrations were added to the model results. The Desert Basin facility was not included in the NAAQS 1-hr SO_2 model because the facility does not generate a large amount of SO_2 emissions. The results of the SIL analyses were used to determine which modeling scenarios to use for the NAAQS analyses. The scenarios in the SIL analyses that showed the highest first high for 24-hr $PM_{2.5}$, for 1-hr NO_2, and for 1-hr SO_2 were chosen as the worst-case scenarios for each pollutant/averaging time modeled in the NAAQS cumulative analyses. Evaluation of compliance with the 24-hr $PM_{2.5}$ NAAQS was based upon a five-year average of the 98th percentile of the annual distribution of maximum 24-hr concentrations. Evaluation of compliance with the 1-hr NO_2 NAAQS was based upon the five-year average of the 98th percentile of the annual distribution of daily maximum 1-hour concentrations. Evaluation of compliance with the 1-hour SO_2 was based upon the

five-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations. The primary 1-hr SO_2 standard passes the NAAQS standard, so it is assumed that the secondary 3-hr SO_2 standard will also pass.

The results of the NAAQS analysis are presented in Table 5. As can be seen, the model demonstrates compliance. The full modeling analysis and results are shown in Appendix C.

TABLE 5
NAAQS CUMULATIVE IMPACTS ANALYSIS RESULTS

Pollutant/Avg. Period	Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	Standard ($\mu g/m^3$)	Exceed NAAQS?
$PM_{2.5}$ 24-hr (H8H)	1.92[a]	17.5	19.4	35	No
NO_2 1-hr (H8H)	24.3	26.3	50.6	188	No
SO_2 1-hr (H4H)	11.2	14.9	26.1	196	No

a. The 24-hr secondary $PM_{2.5}$ MERP value from the Appendix C Modeling Analysis was added to the maximum modeled impacts.

REGULATORY APPLICABILITY

The Bella Energy Project is currently authorized under a final Pinal County Air Permit (Permit #V20700.000), issued on June 17, 2024. The following provides a review of the Pinal County, state, and federal air quality regulations applicable to the Bella Energy Project.

County/State Regulations

Arizona has a unitary air permit program for new facilities that applies to the Bella Energy facility. The facility will be a minor source under the federal Prevention of Significant Deterioration (PSD) program and a federal Title V major source, with PTE less than 250 tons/year, but greater than 100 tons/year, of NO_x, CO and VOC. The facility will be regulated under the federal Title V Operating Permit Program, 40 CFR Part 70 and PCAQCD Code Chapter 3, Article 1. The EPA has approved PCAQCD's Title V permitting program via the State Implementation Plan.

A summary of the applicability of county and state regulations and their requirements can be found below in Table 6. A more comprehensive review and list of applicable air quality regulations can be found in the Class I Permit in Appendix A and the Appendix B Permit Application. For applicable rules not listed in the Table 6, refer to the Bella Energy air permit in Appendix A.

TABLE 6 **POTENTIALLY APPLICABLE COUNTY AND STATE REGULATIONS**		
Citation	**Description**	**Applicability**
AAC R18-2-334	Minor New Source Review	The Minor NSR program is applicable for regulated minor NSR pollutants with the potential-to-emit (PTE) equal to or greater than the permitting exemption thresholds. The Bella Energy Project exceeds these exemption thresholds for criteria pollutants. As a result, a reasonably available control technology (RACT) analysis or an ambient air quality assessment is required. An ambient air quality assessment was completed showing the Project will not cause or contribute to an exceedance of the ambient standards. Compliance will be met.
AAC R18-2-334(C)(2)	Ambient Air Quality Assessment	An ambient air quality assessment was performed in place of a RACT determination. An ambient air quality assessment was completed as described previously showing the Project will not cause or contribute to an exceedance of the ambient standards. The Modeling Analysis is shown in Appendix C. Compliance will be met.
Pinal County Code § 2-8-300	Visibility Limiting Standards	The rule establishes standards for visible emissions and opacity to limit the emission of air contaminants into the atmosphere. The opacity of any plume or effluent shall not be greater than 20%. The Bella Energy Project will limit the opacity of any plume to 20%. Compliance will be met.
Pinal County Code § 3-3-203(2)(a)	Major Source Classification in a Nonattainment Area	The Code defines a PSD/NSR major source as any stationary source located in a nonattainment area which emits or has the PTE, 50 TPY of CO, 50 or 25 TPY VOC depending on nonattainment classification, 70 TPY PM_{10}, or 100 TPY of any other conventional air pollutant. Pinal County is nonattainment for PM10. The Bella Energy Project PTE will be below the nonattainment major source threshold for PM_{10}. Compliance will be met.
Pinal County Code § 3-3-203(2)(b)	Major Source Classification in an Attainment Area	The Code defines any stationary source located in an attainment or unclassifiable area which emits, or has the PTE, 250 tons per year or more of any pollutant subject to regulation under the Clean Air Act (1990) if the source is not classified as a categorical source, or 5 TPY lead. The Bella Energy Project will be below major source thresholds for attainment pollutants. Compliance will be met.
Pinal County Code § 3-3-250(A)	BACT Requirements	The Code requires BACT for new Major Sources. The Bella Energy facility is a minor source with respect to PSD and Nonattainment NSR, and therefore, is not subject to BACT. Compliance will be met.

TABLE 6 **POTENTIALLY APPLICABLE COUNTY AND STATE REGULATIONS**		
Citation	**Description**	**Applicability**
Pinal County Code § 5-23-1010	Standards of Performance for Stationary Rotating Machinery	Emission limitations for particulate matter are required under this regulation. Bella Energy will be compliant with all applicable emission limits. Additionally, this regulation sets forth opacity limits in which combustion turbines are not permitted to emit smoke for a period greater than 10 consecutive seconds, which exceeds 40% opacity. Bella Energy will abide by these requirements. For the diesel fire pump engine, Bella Energy will only use ultra-low sulfur diesel, which will be in compliance with the §5-23-1010(D) SO_2 limit of 1.0 lb/MMBtu. Compliance will be met.
Pinal County Code § 4-1-010	West Pinal PM_{10} Serious Nonattainment Area Fugitive Dust Requirements	The proposed Project will be subject to the requirements to control fugitive dust from open areas/vacant lots, unpaved roads, unpaved lots and paved public roadways by requiring measures to prevent, reduce or mitigate fugitive dust emissions. Compliance will be met.
Pinal County Code § 4-2-020	Fugitive Dust	The proposed Project will be subject to the requirements of this rule and will comply with the requirements to reasonably regulate operations that periodically may cause fugitive dust emissions into the atmosphere. Compliance will be met.
Pinal County Code § 4-3-060	Construction Sites – Fugitive Dust	The proposed Project will be subject to the requirements of this rule and will comply with the requirements to improve the control of excessive fugitive dust emissions that are associated with construction, earthwork and land development, and thereby minimize nuisance impacts. The Bella Energy Facility construction will comply with the Universal Performance Standards for dust control required in § 4-3-090 and all other requirements of the rule. Compliance will be met.
Pinal County Code § 4-3-160	Construction Sites – Fugitive Dust, West Pinal PM_{10} Nonattainment Area	The Bella Energy Facility is located in the West Pinal PM_{10} nonattainment area and will be subject to the permit requirements for dust-generating operations within the nonattainment area. The Bella Energy Project will comply with all requirements, including obtaining a Dust Control permit and submitting a Dust Control Plan prior to the start of construction. Compliance will be met.

TABLE 6 POTENTIALLY APPLICABLE COUNTY AND STATE REGULATIONS		
Citation	**Description**	**Applicability**
Pinal-Gila Counties Air Quality Control District § 7-3-1.7	Particulate Emissions – Fuel Burning Equipment	The rule sets maximum allowable emissions of PM based upon the heat input of the unit. The Bella Energy Project will not exceed the maximum allowable emission rate. Compliance will be met.

Federal Regulations

A description of applicable federal regulations and a brief discussion of their requirements can be found below in Table 7. A comprehensive review and list of applicable federal regulations can be found in the Class I Permit in Appendix A and the Appendix B Permit Application.

TABLE 7 POTENTIALLY APPLICABLE FEDERAL REGULATIONS		
Citation	**Description**	**Applicability**
40 CFR Part 60, Subpart A	Standards of Performance for New Stationary Sources General Provisions	Bella Energy will comply with the applicable requirements under general provisions of 40 CFR Part 60, Subpart A. These will include notifications, compliance testing, monitoring, recordkeeping, and reporting provisions of the rule. Compliance will be met.
40 CFR Part 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines	This New Source Performance Standard (NSPS) Subpart applies to stationary combustion turbines for which construction, modification, or reconstruction commenced after February 18, 2005. The combustion turbines meet the definition of an affected facility under this standard. As a result, the turbines associated with the Bella Energy Project are subject to this NSPS Subpart. Bella Energy will comply with the emission limitations, as well as operating, maintenance, monitoring, and reporting requirements associated with this NSPS Subpart. The Project will use Continuous Emissions Monitoring (CEMS) for monitoring of NOx emissions. Compliance will be met.

TABLE 7 **POTENTIALLY APPLICABLE FEDERAL REGULATIONS**		
Citation	**Description**	**Applicability**
40 CFR Part 60, Subpart TTTTa	New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule.	On May 5, 2024, subpart TTTTa was published as an amendment to 40 CFR Part 60, Subpart TTTT with an effective date of July 8, 2024. New and reconstructed turbines that commence construction after May 23, 2023 are subject to the requirements of this rule. The Bella Energy Project will be an affected facility and will comply with all requirements of the rule. Further discussion of applicability and requirements of Subpart TTTTa are discussed in the Greenhouse Gas Regulations section below. Compliance will be met.
40 CFR Part 60, Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	The rule sets emissions limitations for greenhouse gas emissions. Any remaining TTTT limitations that have not been superseded by TTTTa will be met. Compliance will be met.
40 CFR Part 70	State Operating Permit Programs	The rule establishes federal major source operating permits systems consistent with the requirements of Title V of the Clean Air Act. The facility will be regulated under the federal Title V Operating Permit Program and PCAQCD Code Chapter 3, Article 1. The EPA has approved PCAQCD's Title V permitting program via the State Implementation Plan which establishes Title V compliant permitting components, including enforceable limits, monitoring, recordkeeping and reporting requirements. Compliance will be met.
40 CFR Part 70.6 and Codes §§§ 3-1-150, 3-1-160 and 3-1-170	Monitoring, Test Methods and Procedures, and Performance Tests	The rule requires permits to contain provisions to ensure that any emissions limit has been demonstrated to be quantifiable, accountable, enforceable, and based on replicable procedures. The Project is required to perform continuous monitoring and conduct performance tests, using standard test methods approved by the EPA. The Project will use Continuous Emissions Monitoring Systems (CEMS) for NO_X and CO.

TABLE 7 POTENTIALLY APPLICABLE FEDERAL REGULATIONS		
Citation	**Description**	**Applicability**
		The Project will use parametric emissions monitoring for PM_{10}, VOC, Sulfur dioxide, and HAPs. Compliance is expected.
40 CFR Part 72 and Code Chapter 3, Article 6	Acid Rain Program	Because the new simple-cycle combustion turbines will fire natural gas and produce electricity for sale, these will be affected units under the federal Acid Rain Program. Bella Energy will submit an Acid Rain Permit application to the EPA and provide a copy PCAQCD.
40 CFR Part 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must operate and maintain the engine to comply with the emissions standards in Table 4 of CFR 60.4205(c) and use diesel fuel meeting the requirements of 40 CFR 80.510(b) which requires that diesel fuel shall have a maximum sulfur content of 15 parts per million (ppm) and either a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. The Bella Energy Project will meet the fire pump engine requirements. Compliance is expected.

Hazardous Air Pollutants (HAPs) Regulations

The annual emissions of any individual HAP from the Bella Energy Project will be well below 10 tons per year, and the total HAPs emissions will be well below 25 tons per year. Therefore, the facility will qualify as an area source (non-major) for HAPs. As an area source of HAPs, the Bella Energy Facility will not be subject to the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) rules under 40 CFR Part 63 Subpart YYYY, the National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.

NESHAP 40 CFR 63 Subpart ZZZZ applies to reciprocating internal combustion engine (RICE) located at area and major sources of HAP emissions. The Bella Energy Project, an area source of HAPs, will involve installation of a diesel fire pump engine. Pursuant to 40 CFR § 63.6590(c)(1), new stationary RICE located at an area source that is subject to 40 CFR Part 60 IIII are exempt from 40 CFR Part 63 Subpart A and Subpart ZZZZ. Though the Project includes a RICE and is an area source of HAPs, the Bella Energy Project is exempt from the requirements of Subpart ZZZZ because it is subject to 40 CFR Part 60 IIII.

Greenhouse Gas Regulations

Per 40 Code of Federal Regulations (CFR) § 52.21 (b)(49)(iv) (implemented per delegation agreement with the EPA), greenhouse gases (GHGs) are potentially subject to regulation only if a proposed new stationary source is a major stationary

source, as that term is defined at 40 CFR § 52.21 (b)(1), based on its PTE for a regulated NSR pollutant other than GHGs. Because the proposed Bella Energy Project is not a major stationary source based on its emissions of non-GHG pollutants, GHGs are not considered subject to regulation for Prevention of Significant Deterioration (PSD). The Project is estimated to emit 1,131,266 tons of the carbon dioxide equivalent (CO_2e) on an annual basis. CO_2e allows for pollutants to be evaluated in terms of their potential to contribute to global warming in terms of CO_2.
The facility is limited to the GHG standards in 40 CFR part 60 subpart TTTTa. Effective July 8, 2024, the New Source Performance Standard (NSPS) codified in subpart TTTTa, is directly applicable to affected facilities that begin construction, reconstruction, or modification on or after May 23, 2023. An affected facility is any stationary combustion turbine that commences construction or reconstruction after May 23, 2023, that has a baseload greater than 250 MMBtu/hr and serves a generator capable of selling greater than 25 MW Bella Energy will be an affected facility and will meet the requirements upon startup.

Emissions standards in Subpart TTTTa apply to new combustion turbines according to the facilities' subcategory. The subcategory applicability and standards are shown in Table 8. The Bella Energy Project is expected to be in the intermediate load subcategory, having a capacity factor between 20% and 40%. Requirements of intermediate load turbines include the Best System of Emission Reduction (BSER) of highly efficient simply cycle technology with best operating and maintenance practices and an emissions standard of 1,170 lb CO_2/MWh-gross. The Bella Energy Project will utilize highly efficient simple cycle CTs; the 1,170 lb CO_2/MWh-gross requirement will be met. Applicability to the appropriate standard will be determined using the design efficiency methods incorporated by reference into subpart TTTT and conditioned in the Bella Energy Air Permit. Because Bella Energy is only permitted to burn natural gas fuel, and that utility-grade fuel is expected to have a uniform chemical composition that will result in a consistent emission rate of 160 lb CO_2/MMBtu or less, the facility will not be subject to the monitoring and recordkeeping requirements in Subpart TTTTa, other than the requirement to maintain fuel purchase records.
The CO_2 emissions standards subcategories potentially applicable to Bella Energy are shown in Table 8 below.

TABLE 8 **SUBCATEGORIES AND GHG EMISSIONS STANDARDS FOR NEW STATIONARY COMBUSTION TURBINES**		
Affected Category	**Category Determination**	**CO2 Emissions Standard**
Base Load Combustion Turbines	Supplies more than 40 percent of its potential electric output as net-electric sales on both a 12-operating month and a 3-year rolling average basis.	For 12-operating month averages beginning before January 2032, 360 to 560 kg CO_2 /MWh (800 to 1,250 lb CO_2 /MWh) of gross energy output; or 370 to 570 kg CO_2 /MWh (820 to 1,280 lb CO_2 /MWh) of net energy output as determined by the procedures in § 60.5525a.
Intermediate Load Combustion Turbines	Supplies more than 20 percent but less than or equal to 40 percent of its potential electric output as net-electric sales on both a 12-operating month and a 3-year rolling average basis.	530 to 710 kg CO_2 /MWh (1,170 to 1,560 lb CO_2 /MWh) of gross energy output; or 540 to 700 kg CO_2 /MWh (1,190 to 1,590 lb CO_2 /MWh) of net energy output as determined by the procedures in § 60.5525a.
Low Load Combustion Turbines	Supplies 20 percent or less of its potential electric output as net-electric sales on both a 12-operating month and a 3-year rolling average basis.	Between 50 to 69 kg CO_2 /GJ (120 to 160 lb CO_2 /MMBtu) of heat input as determined by the procedures in § 60.5525a.

CONCLUSION

The air pollutant emission estimates and ambient air quality analyses presented in this memorandum and the attached air permit application and modeling analysis documents (Appendices B and C) demonstrate that the Bella Energy Project will operate in compliance with applicable Pinal County, State of Arizona, and federal air quality regulations. Additionally, the Bella Energy Project has already received the final air permit from PCAQCD, shown in Appendix A, authorizing the construction and operation of the facility.

REFERENCES

ADEQ 2019. *Air Quality Modeling Guidelines for Arizona Air Quality Permits*. Facilities Emissions Control Section, Air Quality Division, Arizona Department of Environmental Quality, November 1, 2019

CAPCOA 2022. California Emissions Estimator Model (CalEEMod) Users Guide Version 2022.1, CAPCOA, April 2022. Available at: https://caleemod.com/documents/user-guide/01_User%20Guide.pdf

US Climate Data 2024. *Climate Casa Grande – Arizona.* Available at: https://www.usclimatedata.com/climate/casa-grande/arizona/united-states/usaz0028. Accessed February 19, 2024.

USEPA 2019. *Memorandum: Guidance on the Development of Model Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ Under the PSD Permitting Program.* Office of Air Quality Planning and Standards, April 30, 2019.
USEPA 2020. *2020 National Emissions Inventory (NEI) Data*. Office of Air Quality Planning and Standards. Available at https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-data. Accessed June 21, 2024.

USEPA 2024a. *Interactive Map of Air Quality Monitors.* Available at: https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors. Accessed June 19, 2024.

USEPA 2024b. *Supplement to the Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program.* Office of Air Quality Planning and Standards. April 30, 2024.

APPENDIX A

PERMIT #V20700.000

SEGURO ENERGY PARTNERS, LLC - CASA GRANDE

1. Introduction

This permit pertains to an electrical power plant, owned and operated by Seguro Energy Partners, LLC, an Idaho Corporation. The SIC Code is 4911 and the NAICS Code is 221100. The facility, commonly known as Bella Energy Facility, is located at the Northeast Corner of the Intersection of West Cornman Road and South Midway Road, Casa Grande, Arizona, upon a parcel also identified by Pinal County Assessor's Parcel Numbers #500-12-007A, 500-12-007B, 500-17-004A, 500-17-004B, 500-17-0050 and 500-17-006B The source is situated in an area classified as serious non-attainment for PM_{10}.

The facility will have a generating capacity of 490 MW, provided by ten (10) natural gas fired aeroderivative GE Vernova LM6000PC simple cycle combustion turbines (SCCT) that will drive electricity generators each approximately rated at 49 MW-gross generating capacity.

The plant includes ten natural gas fired combustion turbines (CT), each equipped with a combustion turbine technology which is comprised of an air inlet system, two compressor sections, a combustion section, and a turbine section. Each SCCT system will have a separate stack, with selective catalytic reduction (SCR) system for NOX control. The oxidation catalysts will be used for the control of CO and VOCs. The plant will also install a 1,500 kW (2,114 bhp) fire pump engine to be used during emergency situations.

The facility is a synthetic minor with respect to Prevention of Significant Deterioration (PSD) and Non-attainment New Source Review (NNSR), therefore is not subject to Best Available Control Technology (BACT) requirements and for the purposes of demonstrating continuous "synthetic minor" status (annual emissions of either NO_X, CO, VOC, SO_2 or $PM_{2.5}$ are less than 250 tons per year, and annual emissions of PM10 are less than 70 tons per year. Each SCCT stack is equipped with a continuous emission monitoring system (CEMS) for NO_X. NO_X is monitored in accordance with EPA's acid rain requirements. Annual emissions of PM_{10}, SO_2, and VOC are calculated using non-instrumental test results along with fuel monitoring data. The source is subject to the operating permit requirements under Title V of the CAA.

2. Listing of Federally Enforceable Applicable Requirements *[Mandated by 40 CFR §70.5(c)(4)]* (Code §§3-1-060.B.2.d, 3-1-081.A.2, 3-1-081.A.8.a)

A. Those specific provisions of the Pinal-Gila Counties Air Quality Control District ("PGAQCD") Regulations, as adopted by the Pinal County Board of Supervisors on March 31, 1975, and approved by the Administrator as elements of the Arizona State Implementation Plan ("SIP") at 43 FR 50531, 50532 (11/15/78), and specifically the following rules:

2-8-300	Visibility Limiting Standards
4-2-040	Fugitive Dust Standards
7-3-1.3	Emission Standards - Particulates - Open Burning
7-3-1.7.A	Particulate Emissions - Fuel Burning Equipment
7-3-1.7.C	Particulate Emissions - Fuel Burning Equipment
7-3-1.7.D	Particulate Emissions - Fuel Burning Equipment
7-3-1.7.E	Particulate Emissions - Fuel Burning Equipment
7-3-2.2	SO_2 Emissions - Fuel Burning Installations
7-3-4.1	CO Emissions - Industrial

B. Those specific provisions of the Pinal-Gila Counties Air Quality Control District Regulations, as last amended by the Pinal County Board of Supervisors on June 16, 1980, and approved by the Administrator as elements of the Arizona SIP at 47 FR 15579 (4/12/82), specifically, the following rules:

7-3-1.7.F	Fuel Burning Equipment

C. The New Source Performance Standard General Provisions, 40 CFR Part 60, Subpart A [40 CFR §§60.1 - 60.19 (1998)]; NSPS Standards of Performance for Stationary Gas Turbines, 40 CFR Part 60, Subpart KKKK [40 CFR §60.4300 *et seq.* (7/6/06)].

D. The New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart TTTT, Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units [40 CFR §60.5508 *et seq.* (10/23/15)].

E. The New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines 40 CFR Part 60, Subpart IIII.

F. The Acid Rain Program, 40 CFR Part 72 (1998) and related regulations, Sulfur Dioxide Allowance System, 40 CFR Part 73 (1998) and Continuous Emission Monitoring, 40 CFR Part 75 (1998).

G. Asbestos NESHAP Compliance [40 CFR Part 61§§145, 148, 150. Subpart M].

3. Compliance Certification

A. Compliance Plan
[Mandated by 40 CFR §70.(5)(c)(8)] (Code §3-1-083A.7)

Insofar as the Permittee is currently in compliance, the compliance plan consists of continued adherence to the requirements of this permit and those requirements set forth in applicable regulations and statutes.

B. Compliance Schedule
[Mandated by 40 CFR §§ 70.5(c)(8), 70.6(c)(3)] (Code §3-1-083.A.7*)*

Insofar as the Permittee is currently in compliance, no compliance schedule to attain compliance is required.

4. Authority to Construct
[Federally enforceable - Code §§3-1-010, 3-1-040 (as amended 10/12/95) approved as a SIP Element at 61 FR 15717 (4/9/96)]

A. In General

Emissions from this facility, specifically the equipment described in "Equipment Schedule" section below, and the operating configuration as defined below and more fully described in the application for permit, fall subject to the enforceable limitations identified throughout this permit. Therefore, based on the regulations in effect upon the date of issuance of this permit and a finding that allowable emissions from the equipment described in the Equipment Schedule will neither cause nor contribute to a violation of any ambient air quality standard even without any additional limitations, this permit constitutes authority to construct and operate such equipment.

B. Equipment/Controls Authorized and Required
(Code §3-3-250.A.1)

1. The facility has ten (10) natural gas fired, simple cycle General Electric LM6000 PC combustion turbines, each rated at a higher heat value of 488 mm btu/hr.

2. The facility has a 1,500 kW (2,114 bhp) fire pump engine on site.

3. The Permittee shall install, calibrate, maintain and operate continuous emissions monitoring systems (CEMS) on all the turbines and record the output of the system, for measuring nitrogen oxides and CO emissions to the atmosphere during startup and shutdown events and the normal operation of the combustion turbines, and to

measure the amount of fuel used. Monitoring equipment shall be installed and operated in accordance with the plan submitted to the district by the permittee.

4. Each CT shall be equipped with a SCR control for NOX.

5. Each CT shall be equipped with an oxidation catalyst control for CO and VOCs.

5. Emission Limitations
[Mandated by 40 CFR §70.6(a)(1)]

A. Applicable Limitations
(Code §3-1-082)

Where different standards or limitations apply under this permit, the most stringent combination shall prevail and be enforceable.

B. Allowable Emissions
(Code § 3-1-040)

Permittee is authorized to discharge or cause to discharge into the atmosphere those emissions of air contaminants as set forth in Section 4 of this permit. Unless exempted as an insignificant activity under Code §1-3-140.79a, as a categorical exemption under Code §3-1-040.C., or authorized by a separate permit or by a revision or operational change allowed under this permit or under Chapter 3, Article 2 of the Code, Permittee shall not commence construction of, operate or make any modification to this source in a manner which will cause emissions of any regulated air pollutant in excess of the de minimis amount.

C. Facility Wide Emission Limits
(Codes §§3-1-084)

1. The Permittee shall not cause or allow the combined PM/PM10/PM2.5 emissions from all CTs to exceed 63 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

2. The Permittee shall not cause or allow the combined NOX emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

3. The Permittee shall not cause or allow the combined VOC emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

4. The Permittee shall not cause or allow the combined CO emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

5. The Permittee shall not cause or allow the combined SOX emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

6. The Permittee shall not cause or allow each individual HAP to exceed 9 tons per 12-month rolling calendar year total sum or the combined HAP emissions from all CTs to exceed 22.5 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

7. The Permittee shall limit the natural gas annual combined heat input to the CTs to

18,844,300 MMBtu HHV, based upon a rolling 12-month average.

D. NSPS Emission Limits

1. NOX Emission Limitations – Subpart KKKK
[40 CFR §60.4320(a), Table 1, §60.4350(g)]

Permittee shall comply with the following:

a. NOX emission limit of 25 ppm at 15% O2 or 1.2 lb/MWh (for a combustion turbine firing natural gas with heat input greater than 50 MMBtu per hour and less than or equal to 850 MMBtu per hour) on a four (4) hour rolling average basis while the combustion turbines are operating at greater than or equal to 75% of peak load.

b. NOX emission limit of 96 ppm at 15% O2 or 4.7 lb/MWh (for a combustion turbine firing natural gas with output greater than 30 MW) on a four (4) hour rolling average basis while the combustion turbines are operating at less than 75% of peak load.

2. SO_2 Emission Limitations – Subpart KKKK
[40 CFR §60.4330.(a).(1) & (a).(2), Table 2]

a. Permittee shall not cause to be discharged into the atmosphere from the stationary combustion turbine any gases which contain SO_2 in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output.

b. Permittee shall not burn in stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J or 0.06 lb SO_2 / MMBtu heat input.

3. CO2 Emission Limitation – Subpart TTTT
[40 CFR §60.5520.(a), Table 2]

a. Newly constructed or reconstructed stationary combustion turbine that supplies more than its design efficiency or 50 percent, whichever is less, times its potential electric output as net-electric sales on both a 12-operating month and a 3-year rolling average basis and combusts more than 90% natural gas on a heat input basis on a 12-operating-month rolling average basis, shall not discharge from the affected EGU any gases that contain CO_2 in excess of 450 kg CO_2 per mWh of gross energy output (1,000 lbCO2/MWh); or 470 kilograms (kg) of CO2 per megawatt-hour (MWh) of net energy ouput (1,030 lb/MWh).

b. Newly constructed or reconstructed stationary combustion turbine that supplies its design efficiency or 50 percent, whichever is less, times its potential electric output or less as net-electric sales on either a 12-operating month or a 3-year rolling average basis and combusts more than 90% natural gas on a heat input basis on a 12-operating-month rolling average basis, shall not discharge from the affected EGU any gases that contain CO_2 in excess of 50 kg CO_2 per gigajoule (GJ) of heat input (120 lb/CO2/MMBtu).

c. Newly constructed and reconstructed stationary combustion turbine that combusts 90% or less natural gas on a heat input basis on a 12-operating-month rolling average basis, shall not discharge from the affected EGU any gases that

contain CO_2 in excess of 50 kg CO_2/GJ of heat input (120 lb/MMBtu) to 69 kg CO2/GJ of heat input (160 lb/MMbtu).

4. Start-up and Shutdown Limitations

1. Definitions

a. "Start-up" is defined as the 30-minute period following an initiation of fuel flow.

b. "Shutdown" is defined as the 9-minute period prior to shut-off the fuel supply.

c. "Malfunction" is defined as any sudden and unavoidable failure of air pollution control equipment, process equipment or a process to operate in a normal and usual manner, but does not include failures that are caused by poor maintenance, careless operation or any other upset condition or equipment breakdown which could have been prevented by the exercise of reasonable care.

E. NSPS Subpart IIII Standards – Compression Ignition (CI) Internal Combustion Engines (ICE) [40 CFR 60.4205(c), Table 4]

1. Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must operate and maintain the engine to comply with the following emission standards over the entire life of the engine:

Unit	Mfr. Date	Displacement per Cylinder (l)	NMHC + NO_x g/kW-hr	CO g/kW-hr	PM g/kW-hr
Tier 2 Fire Pump Engine 1,500 kW (2,114 bhp)	2007+	<30	6.4	3.5	0.20

F. Standards of Performance for Stationary Rotating Machinery (Code §5-23-1010.A.B.C.D.F)

A. For equipment having a heat input rate of 4200 million Btu/hr or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 1.02 * Q^{0.769}$$

Where: E = the maximum allowable particulate emissions rate in pounds-mass per hour

Q = the total heat input of all operating fuel burning units on a plant premises in million btu/hr

2. For references purposes only, the actual values shall be calculated from the applicable equations and rounded off to two decimal places.

3. No person shall cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

4. When low sulfur oil is fired, stationary rotating machinery installations shall burn fuel which limits the emission of sulfur dioxide to 1.0 pound per million Btu heat input.

G. Fuel-Burning Equipment - Particulate Emissions

1. SIP Limitation
[Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.7 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)]

For equipment with a heat input capacity of less than 4,000 million Btu per hour1, particulate emissions shall not exceed:

$E = 1.02X^{-.231}$, where E = maximum emissions in lbs./hr. for each million BTU per hour heat input, and X = maximum heat input capacity in million BTU per hour.
(The SCCTs are rated at 490 mm BTU/hr each.)

2. Current Code Limitation
(§5-23-1010)

For equipment with a heat input capacity of less than 4,200 million Btu per hour, particulate emissions shall not exceed:

$E = 1.02Q^{0.769}$, where E = maximum emissions in lbs./hr. for each million BTU per hour heat input, and Q = maximum heat input capacity in million BTU per hour.

H. Generally Applicable Opacity Limits

1. SIP Limitation
[Federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP Element at 47 FR 15579 (4/12/82)]

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual (ADEQ, 1992). Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.

2. Visibility Limiting Standard
[Federally enforceable provision, pursuant to Code §2-8-300.B (as amended 5/18/05) approved as a SIP element at 47 FR 15043 (3/27/06)]

The opacity of any plume or effluent from any point source not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR 60, Appendix A.

I. Particulate Matter Reasonable Precautions
[Currently federally enforceable pursuant to Code §4-2-040 (6/29/93) approved as a SIP element at 72 FR 41896 (8/1/07)

a. Permittee shall not cause, suffer, allow, or permit a building or its appurtenances, subdivision site, driveway, parking area, vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, or fill dirt to be deposited, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

b. Permittee shall not cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, such as but not limited to all-

terrain vehicles, trucks, cars, cycles, bikes, or buggies, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

c. Permittee shall not disturb or remove soil or natural cover from any area without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

d. Permittee shall not crush, screen, handle or convey materials or cause, suffer, allow or permit material to be stacked, piled or otherwise stored without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

e. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such a manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne. Other reasonable precautions shall be taken, as necessary, to effectively prevent fugitive dust from becoming airborne.

f. Permittee shall not cause, suffer, allow or permit transportation of materials likely to give rise to fugitive dust without taking reasonable precautions to prevent fugitive dust from becoming airborne. Earth and other material that is tracked out or transported by trucking and earth moving equipment on paved streets shall be removed by the party or person responsible for such deposits.

J. Surface Stabilization
[Federally enforceable pursuant to Code §4-1-010 (10/28/15) approved as a SIP element at 82 FR 20267 (5/1/17), Amended 1/25/23]

1. Vehicle Use in Open Areas and Vacant Lots
(Code §4-1-030.2)

a. Permittee shall not cause or allow visible emissions of particulate matter, including fugitive dust generated from the vehicle use in open areas and vacant lots beyond the property line within which the emissions are generated.

b. Permittee shall stabilize the open areas and vacant lots on which vehicles are used to by complying with any one of the stabilization requirements listed in PCAQCD Code §4-1-030.2.A.

c. Permittee shall apply appropriate control measures to the open areas and vacant lots on which vehicles are used as listed in PCAQCD Code §4-1-030.2.B.

d. Permittee shall implement one or more of the control measures described in PCAQCD Code §4-1-030.2.B within 60 calendar days following the initial discovery by the Control Officer of any open areas and vacant lots that are 0.10 acre (4,356 square feet) or larger and having a cumulative of 500 square feet or more that are disturbed by being driven over and/or used by motor vehicles, by off road vehicles, or for material dumping.

e. Permittee shall, within 30 calendar days following the initial discovery by the Control Officer of the disturbance or vehicle use on open areas and vacant lots, provide in writing to the Control Officer a description and date of the control measure(s) to be implemented to prevent such disturbance.

f. Permittee shall implement all control measures necessary to limit the disturbance or vehicle sues on open areas and vacant lots in accordance with the requirements of PCAQCD Code §4-1-030.2.B. Control measure(s) shall be

considered effectively implemented when the open areas and vacant lots meets the requirements described in PCAQCD Code §4-1-030.2.A.

g. Use of or parking on open areas and vacant lots by the Permittee shall not be considered vehicles use in open areas and vacant lots.

h. Establishing initial landscapes without the use of mechanized equipment or conducting landscape maintenance without the use of mechanized equipment shall not be considered vehicle use in open areas and vacant lots.

2. Open Areas and Vacant Lots
(Code §4-1-030.3)

a. Permittee shall not cause or allow visible emissions of particulate matter, including fugitive dust generated from the open areas and vacant lots beyond the property line within which the emissions are generated.

b. Permittee shall stabilize the open areas and vacant lots by complying with any one of the stabilization requirements listed in PCAQCD Code §4-1-030.3.A.ii.

c. Permittee shall apply appropriate control measures to the disturbed open areas and vacant lots as listed in PCAQCD Code §4-1-030.3.B.

d. Permittee shall implement one or more of the control measures described in PCAQCD Code §4-1-030.3.B within 60 calendar days following the initial discovery by the Control Officer of any open areas and vacant lots that are 0.10 acre (4,356 square feet) or larger and having a cumulative of 500 square feet or more that are disturbed, and if such disturbed area remains unoccupied, unused, vacant, or undeveloped for more than 15 days.

e. Permittee shall, within 30 calendar days following the initial discovery by the Control Officer of the disturbance on the open areas and vacant lots, provide in writing to the Control Officer a description and date of the control measure(s) to be implemented to prevent such disturbance.

f. Permittee shall apply the control measures listed in PCAQCD Code §4-1-030.5.A if machinery is used to clear weeds and/or trash from open areas and vacant lots of 5,000 square feet or larger.

3. Unpaved Parking Lots
(Code §4-1-030.4)

a. Permittee shall not cause or allow visible emissions of particulate matter, including fugitive dust generated from the unpaved parking lots beyond the property line within which the emissions are generated.

b. Permittee shall apply appropriate control measures to the disturbed unpaved parking lots as listed in PCAQCD Code §4-1-030.4.B.

c. Permittee shall repair and/or replace the control measures listed in PCAQCD Code §4-1-030.4.B, and shall clean-up immediately any trackout from areas accessible to the public including curbs, gutters and sidewalks when trackout extends a cumulative distance of 25 linear feet or more and at the end of the day for all other trackout.

4. Paved Public Roadway

(Code §4-1-030.7)

a. Permittee upon discovery of the mud/dirt on its property due to the trackout or erosion-caused deposition that extends 25 feet or more from the nearest unpaved surface exit onto the paved public roadway shall apply any one of the control measures listed in PCAQCD §4-1-030.7.A.i.

b. Permittee shall remove the mud/dirt in a manner that does not cause another source of fugitive dust.

c. In the event unsafe travel conditions would result from restricting traffic and removal of such material is not possible within 72 hours due to a weekend or holiday condition, the provisions of PCAQCD Code §4-1-030.7.A.i can be extended upon notification to and approval by the Control Officer.

d. Permittee who is the owner and/or operator of any existing paved public roadways shall apply in sufficient quantity a dust suppressants to the total surface area subject to the disturbance and prevent track by applying any one of the control measures listed in PCAQCD §4-1-030.7.A.i, prior to, during and after work on unpaved road shoulders.

e. Permittee who is the owner and/or operator having jurisdiction over, or ownership of, public or private paved roads shall construct, or require to be constructed, all new or modified paved roads in conformance with the road shoulder width and drivable median stabilization as required in PCAQCD Code §4-1-030.7.D.

f. Unpaved shoulders and medians of paved roads shall be considered to have control measures effectively implemented when fugitive dust emissions do not exceed 20% opacity and silt loading does not equal or exceed 0.33 oz/ft^2 as determined in PCAQCD Code §4-9-310 except for unpaved shoulders on which gravel has been applied. Where gravel is utilized to prevent trackout from unpaved shoulders and medians of paved roads, surface gravel shall be uniformly applied and maintained to a depth of two (2) inches to comply with the 20% opacity standards, the gravel depth and silt content test methods in PCAQCD Code §4-9-310.

g. Permittee who is the owner and/or operator having jurisdiction over, or ownership of, existing public or private paved roads which do not conform with the requirements of PCAQCD Code §4-1-030.7.D shall reconstruct, or require to be reconstructed, the existing nonconforming paved road within 365 calendar days following the initial discovery that the road fails to meet the requirements. The control officer may require short-term stabilization of any paved road subject to the requirements set forth in PCAQCD Codes §§4-1-030.7.D and 4-1-030.7.E

5. Recordkeeping
(Codes §§4-1-040 and 4-1-050)

Permittee, if subject to the above requirements, shall compile and retain records that provide evidence of control measure application including records of receipts/purchase, street sweeping, water applications, maintenance of trackout control devices, gravel pads, fences, wind barriers, tarps, type of treatment/control measure application, extent of coverage, and date applied. The supporting documentation shall be provided as soon as possible but no later than 48 hours upon a verbal or written request by the Control Officer, excluding weekends. If the Control Officer is at the site where requested records

are kept, the records shall be provided without delay. Copies of such records shall be retained for at least two years.

K. Fuel Use Limitations

1. CT Fuels (Code §3-3-250.A.1)

In the CT units, Permittee is allowed to burn exclusively pipeline natural gas, provided Permittee shall not procure natural gas having a total sulfur content in excess of 5 grains per 100 standard cubic feet (gr/100 scf).

1. Primary Fuel for the Emergency Generator, Subpart IIII ***[40 CFR §60.4207(a)]***

Owners and operators of CI and ICI with a displacement of less than 30 liters per cylinder that use diesel fuel must only use diesel fuel meeting the requirements of 40 CFR 80.510(b) which requires that diesel fuel shall:

a. Have a maximum sulfur content of 15 parts per million (ppm) and;

b. Either a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

3. Other Fuels (Codes §§3-1-081.G, 5-23-1010.F)

Permittee shall not use used oil, used oil fuel, hazardous waste, and hazardous waste fuel (as defined in federal, state, or county codes and rules) in the steam generating units or the combustion turbines without first obtaining a separate permit or an appropriate permit revision.

L. General Maintenance Obligation
[Federally Enforceable Provision pursuant to code §3-1-081.E (9/5/01) approved as a SIP element at 66 FR 63166 (12/5/01)]

At all times, including periods of start-up, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate the permitted facility including associated air pollution control and monitoring equipment in a manner consistent with good air pollution control practice for minimizing emissions.

M. Generally Applicable Limits

1. Asbestos NESHAP Compliance
[Currently federally enforceable; 40 CFR Part 61, Subpart M] (Code §§7-1-030, 7-1-060)

Permittee shall comply with Code §§7-1-030.A. and 7-1-060 and 40 CFR Part 61, Subpart M, when conducting any renovation or demolition activities at the facility.

2. Stratospheric Ozone and Climate Protection
[Currently federally enforceable; 40 CFR Part 82 Subpart F]

The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction.

N. Acid Rain Requirements
(Code §§3-6-565, 3-1-081.A.6)

1. When provisions or requirements of the regulations incorporated pursuant to Code §3-6-565 (*i.e.* the Acid Rain Program) conflict with any of the other applicable requirements set forth in this permit, the regulations incorporated under §3-6-565 shall apply and take precedence.

2. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Acid Rain Program, provided that such increases do not require a permit revision under any other applicable requirement. Code §3-1-081.A.6.a.

3. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement. Code §3-1-081.A.6.b.

4. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Part IV of the CAA, commonly known as CAA Title IV. Code §3-1-081.A.6.c.

5. All of the following are prohibited:
(Code §3-1-081.A.6.d.)

   a. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners or operators of the unit or the designated representative of the owners or operators.
   b. Exceedances of applicable emission rates specified in this permit.
   c. The use of any allowance prior to the year for which it was allocated.
   d. Contravention of any other provision of this permit.

O. Additional Plant-Wide Requirements

1. Sandblasting - Plant Wide
(Code §5-4-160.)

   Permittee shall use at least one of the following control measures during sandblasting operations:

   a. Vacuum collection system.
   b. Confined blasting.
   c. Wet abrasive blasting.
   d. Hydroblasting.
   e. A control measure that is determined by the Control Officer to be equally effective to control particulate matter emissions.

2. Architectural Coatings
(Code §5-12-370)

   Permittee shall not employ, apply, evaporate or dry any architectural coating, as defined in §5-12-370.C, for industrial or commercial purposes, material containing photochemically reactive solvent as defined in §5-9-280 or shall thin or dilute any architectural coating with a photochemically reactive solvent.

3. Other Spray Painting
(Code §5-13-390)

   Permittee shall conduct spray painting operations except architectural coatings in an enclosed area designed to contain not less than 96% by weight of the overspray. An enclosed area means a 3-sided structure with walls a minimum of 8 feet high.

4. Disposal
(Codes §5-12-370 and 5-13-390)

Permittee shall not, during any one day, dispose of a total of more than one and one-half gallons of any photochemically reactive solvent or of any material containing more than one and one-half gallons of any such photochemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere.

5. Cutback and Emulsified Asphalt
(Code §5-16-670)

Except as exempted in §5-16-680, Permittee:

a. Shall not use or apply the following materials for paving, construction or maintenance:

i. Rapid cure cutback asphalt;

ii. Any cutback asphalt material, road oils or tar which contains more than 1.5% by volume VOCs which evaporate at 500°F or less using ASTM Test Method D-402-76 or more than 27% by volume total solvent in the asphalt binder.

iii. Any emulsified asphalt or emulsified tar containing more than 3% by volume VOCs which evaporate at 500°F or less using ASTM Test Method D-244-89.

b. Shall not store within Pinal County any emulsified or cutback asphalt product which contains more than 1.5% by volume solvent-VOC unless such material lot included a designation of solvent-VOC content on data sheet(s) expressed in percent solvent-VOC by volume.

c. Permittee shall keep monthly records of any use of asphaltic/bituminous material containing more than 1.5 percent by volume solvent-VOC.

6. Compliance Demonstration

A. Non-NSPS and NSPS Subpart KKKK NOX Testing
[Mandated by 40 CFR §70.6(a)(3) Codes §§3-1-160 & 3-1-170***]***

1. Initial Performance Testing

Within 60 days after achieving maximum production rate of each CT but no later than 180 days after the initial start-up of the CTs, Permittee shall conduct performance tests, using standard test methods approved by the EPA (40 CFR Part 60) as specified below. If any change to the test methods and procedures specified in this permit condition are approved, the Permittee shall submit an application to revise the permit to reflect the approved alternate test methods. These tests shall be performed at a maximum heat input capacity available on the day of testing. The continuous monitoring systems required by this permit shall be operating prior to conducting the performance tests. The performance tests shall address:

a. Nitrogen oxides emissions: Ref. Part 60, App. A, Ref. Method 7E **or** use NOX CEMS RATA as the initial NOX performance test (NSPS Subpart KKKK, 40 CFR Part §60.4400.(b).(5), §60.4405)
b. Carbon monoxide emissions: Ref. Part 60, App. A-4, Ref. Method 10

c. Particulate matter emissions (PM_{10}/PM2.5): Ref. Part 60, App. A-3, Ref. Method 5 and Ref. Part 51 App. M, Ref. Method 202 for condensable PM.
d. Volatile organic compound emissions (VOC): Ref. Part 60, App. A-7, Ref. Method 25a
e. Formaldehyde

2. Test Protocol

Test protocols for all the tests shall be submitted to the District at least thirty (30) days prior to the test.

3. Performance Test Notice

Notice of any performance test required by this permit shall be submitted to the District at least thirty days (30) days prior to running the test.

4. Test Report

A copy of each test report shall be submitted to the District for approval within forty-five (45) days after the test. In addition to any other information required under this permit, the test report shall specifically define that the following pollutants meet the emission limitations specified in §Section 5.C of this permit:

a. NOX emissions rates, defined as function of heat input
b. PM_{10} emission rates, defined as a function of heat input
c. CO emission rates, defined as a function of heat input
d. VOC emission rates, defined as a function of heat input

5. Recurring Testing Cycle

a. Performance tests shall be repeated within 5 years of the previous performance test in accordance with Section §6.A.1 of this permit.

b. Subsequent NO_X performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test) in accordance with Section §6.A.1.a of this permit. If the Permittee elects to demonstrate compliance using the NOX-diluent CEMS, no subsequent performance tests are required, and RATA shall be performed at the frequency required by 40 CFR Part 75, Appendix B, Sections 2.3.1.1 or 2.3.1.2 as applicable.

6. NSPS (Subpart TTTT) Greenhouse Gas Emissions for Electric Generating Units Testing Requirements ***[Federally enforceable pursuant to 40 CFR 60.5580]***

Design efficiency of the combustion turbines shall be determined using one of the following methods: ASME PTC 22 Gas Turbines (incorporated by reference, see §60.17), ASME PTC 46 Overall Plant Performance (incorporated by reference, see §60.17) or ISO 2314 Gas turbines—acceptance tests (incorporated by reference, see §60.17).

B. Compliance Requirements Subpart KKKK
[40 CFR Part §60.4333]

Permittee shall operate and maintain all the stationary combustion turbines' air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

C. Operational Compliance Demonstration for CI ICE ***[40 CFR §§60.4211(a), (f)]***

1. All engines and control devices must be installed, configured, operated and maintained according to the specifications and instructions provided by the engine manufacturer.

2. All the emergency stationary ICE are subject to the following standards:

a. Install a non-resettable hour meter.

b. There is no time limit on the use of emergency stationary ICE in emergency situations.

c. Emergency stationary ICE may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. Copies of such records shall be provided to the District upon request.

d. Emergency stationary ICE may be operated for a maximum of 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response program.

e. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

D. Monitoring Requirements Subpart KKKK
[40 CFR §60.4335(b), §60.4340(a), §60.4345(a)]

1. Permittee shall use NOX continuous emission monitoring system (CEMS) installed, certified, and operated in accordance with 40 CFR Part 75 Appendix A.

2. NOX CEMS RATA may be used in place of demonstrating compliance with an annual performance test.

E. Monitoring Requirements Subpart TTTT
[40 CFR §60.5520(d), §60.5525]

1. Stationary combustion turbines subject to a heat input-based standard of this subpart that are only permitted to burn one or more uniform fuels with a consistent chemical composition (*i.e.,* uniform fuels) that result in a consistent emission rate of 160 lb CO_2/MMBtu or less shall maintain purchase records for permitted fuels.

2. Permittee shall maintain purchase records for the permitted fuels.

F General Monitoring Requirements
[Mandated by 40 CFR §70.6(a)(3)]

1. Instrumental Emissions Monitoring - Oxides of Nitrogen
[40 CFR 60.47a(c) & (d), Code §3-1-150.]

The Permittee shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) on all CTs in accord with requirements of 40 CFR Part 75, and record the output of the system, for measuring:

a. Nitrogen oxides emissions discharged to the atmosphere during startup, shutdown, and normal operations of the combustion turbines.

b. Either the oxygen or carbon dioxide content of the flue gases from each unit, with the measurement taken where the NO_x emissions are monitored.

c. On a calendar-month basis, Permittee shall generate a record of cumulative actual nitrogen oxide emissions from all CTs, emitted for the previous 12-months, and shall compare that total to the annual nitrogen oxides emission limitation imposed under Section §5.C.2 of this permit. Permittee shall maintain a record of those monthly total calculations, and monthly conclusion regarding compliance with the NOX cap.

d. Permittee has an alternate option for two CTs to be monitored by one CEM, for a total of five (5) CEMs units, pending review and approval of the compliance plan submitted to the Department. The compliance plan shall be submitted within sixty (60) days of the issuance of this permit.

2. Instrumental Emissions Monitoring - Carbon Monoxide
[40 CFR 60.47a(c) & (d), Code §3-1-150.]

The Permittee shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) on all CTs in accord with requirements of 40 CFR Part 75, and record the output of the system, for measuring:

a. Carbon monoxide emissions discharged to the atmosphere during startup, shutdown, and normal operations of the combustion turbines.

b. Either the oxygen or carbon dioxide content of the flue gases from each unit, with the measurement taken where the CO are monitored.

c. On a calendar-month basis, Permittee shall generate a record of cumulative actual carbon monoxide emissions from all CTs, emitted for the previous 12-months, and shall compare that total to the annual nitrogen oxides emission limitation imposed under Section §5.C.4 of this permit. Permittee shall maintain a record of those monthly total calculations, and monthly conclusion regarding compliance with the CO cap.

d. Permittee has an alternate option for two CTs to be monitored by one CEM, for a total of five (5) CEMs units, pending review and approval of the compliance plan submitted to the Department. The compliance plan shall be submitted within sixty (60) days of the issuance of this permit.

3. Parametric Emission Monitoring – Particulate Matter

a. By the 10th day of each month, Permittee shall calculate and record the quantity of PM/PM10/PM2.5 emissions from the CT, separately for each unit, for the previous calendar month. Calculations shall be performed using records of fuel use data, startup and shutdown events, and emission factors, as provided in paragraph c below.

b. By the 10th day of each month, Permittee shall calculate and record the

Combined PM/PM10PM2.5 emissions from the CTs on a rolling calendar year 12-month total sum basis. This value shall be calculated as the sum of the emissions from the CTs during the previous month and during the preceding eleven months. Permittee shall compare this 12-month total to the annual PM/PM10/PM2.5 emission limitation under Section §5.C.1 of this permit. Records of the monthly total calculations and compliance with the PM/PM10/PM2.5 emission limitations shall be maintained.

c. Monthly total PM/PM10/PM2.5 emissions from each CT shall be calculated, separately for each unit as the sum of the emissions from that unit during startup and shutdown events, calculated as provided in paragraph d below, and the emissions from that unit during non-startup/shutdown periods, calculated as provided in paragraph e below.

d. PM/PM10/PM2.5 emissions from startup and shutdown events at a combustion turbine shall be calculated as the product of the number of events and an approved emission factor of 5.1 pounds per event. An event is one startup followed by one shutdown.

e. PM/PM10/PM2.5 emissions during non-startup/shutdown operating periods at a combustion turbine shall be calculate as the product of the cumulative heat input during such period, expressed in MMBtu, and the approved emission factor, expressed in lb/MMBtu:

i Permittee shall use an approved PM/PM10/PM2.5 emission factor of 0.0082 lb/MMBtu HHV to calculate annual emissions from the CTs during operating periods from the date of initial startup of each CT through the last day of the calendar month during which PCAQCD first approves a test-derived emission factor for the CTs in accordance with paragraph f below.

ii. Following approval of a performance test-derived PM/PM10/PM2.5 emission factor for the CTs by PCAQCD in accordance with paragraph f below Permittee shall use the approved test-derived PM/PM10/PM2.5 emission factor to calculate emissions during operating periods beginning with the first day of the calendar month after such approval. Permittee shall continue to use such approved performance test-derived PM/PM10/PM2.5 emission factor until it is superseded by approval of a new test-derived PM/PM10/PM2.5 emission factor for the CTs.

f. During each PM/PM10/PM2.5 performance test conducted at the CTs pursuant to Section §6.A of this permit, Permittee shall calculate a performance test-derived PM/PM10/PM2.5 emission factor for such combustion turbine and shall submit such emission factor to PCAQCD for approval. The test derived emission factor shall be calculated as the arithmetic mean of the emission factor results for all valid runs conducted as part of such performance test. The emission factor result for each run shall be calculated by dividing the measured emission rate during that run, expressed in lb/hr by the heat input rate during that run, expressed in MMBtu/hr HHV.

4. Parametric Emissions Monitoring - Volatile Organic Compounds
[Code §3-1-150.]

a. By the 10th day of each month, Permittee shall calculate and record the quantity of VOC emissions from the CTs, separately for each unit, for the previous calendar month. Calculations shall be performed using records of fuel use data,

startup and shutdown events, and emission factors, as provided in paragraph c below.

b. By the 10th day of each month, Permittee shall calculate and record the combined VOC emissions from the CTs on a rolling calendar year 12-month total sum basis. This value shall be calculated as the sum of the emissions from the CTs during the previous month and during the preceding eleven months. Permittee shall compare this 12-month total to the annual VOC emission limitation under Section §5.C.3 of this permit. Records of the monthly total calculations and compliance with the VOC emission limitations shall be maintained.

c. Monthly total VOC emissions from each CT shall be calculated, separately for each unit as the sum of the emissions from that unit during startup and shutdown events, calculated as provided in paragraph d below, and the emissions from that unit during non-startup/shutdown periods, calculated as provided in paragraph e below.

d. VOC emissions from startup and shutdown events at CTs shall be calculated as the product of the number of events and an approved emission factor of 2.7 pounds per event. An event is one startup followed by one shutdown.

e. VOC emissions during non-startup/shutdown operating periods at CTs shall be calculate as the product of the cumulative heat input during such period, expressed in MMBtu, and the approved emission factor, expressed in lb/MMBtu:

i. Permittee shall use an approved VOC emission factor of 0.0155 lb/MMBtu HHV to calculate emissions from the CTs during operating periods from the date of initial startup of a combustion turbine through the last day of the calendar month during which PCAQCD first approves a test-derived emission factor for such combustion turbine in accordance with paragraph f below.

ii Following approval of a performance test-derived VOC emission factor for the CTs by PCAQCD in accordance with paragraph f below, Permittee shall use the approved test-derived VOC emission factor to calculate emissions during operating periods beginning with the first day of the calendar month after such approval. Permittee shall continue to use such approved test-derived VOC emission factor until it is superseded by approval of a new performance test-derived VOC emission factor for the CTs.

f. During each VOC performance test conducted at the CTs, pursuant to Section §6.A of this permit, Permittee shall calculate a test-derived VOC emission factor for such combustion turbine and shall submit such emission factor to PCAQCD for approval. The performance test derived emission factor shall be calculated as the arithmetic mean of the emission factor results for all valid runs conducted as part of such performance test. The emission factor result for each run shall be calculated by dividing the measured emission rate during that run, expressed in lb/hr by the heat input rate during that run, expressed in MMBtu/hr HHV.

5. Parametric Emissions Monitoring - Sulfur Dioxide
[Code §3-1-150.]

As a surrogate measurement for monitoring emissions of sulfur dioxide, Permittee shall maintain daily records reflecting total fuel consumption in each unit. On a cycle adequate to comply with the emission limitations and semi-annual reporting requirements under this permit, Permittee shall utilize the SO_2 emission calculation methodology set forth in 40 CFR part 75, Appendix D, to calculate and report SO_2 emissions. Permittee shall determine fuel sulfur content in accordance with the procedures set forth in 40 CFR Part 75, Appendix D.

6. Parametric Emissions Monitoring – Hazardous Air Pollutants
[Code §3-1-150.]

By the 10th day of each month, Permittee shall calculate and record the quantity of individual and total HAPs from the CTs, separately for each unit, for the previous calendar month. Calculations shall be performed using fuel records and emission factors from AP-42, Section 3.1, and Table 3.1-3.

7. General Parametric Emission Monitoring Requirements
[Code §3-1-150]

To provide a basis for the other aspects of parametric monitoring set forth below, Permittee shall maintain operating logs, which may be digital in form, detailing:

a. Hours of operation for the CTs in a manner that may be mapped to corresponding NO_x and CO monitoring records, defining periods of normal operations, startup operations, and shutdown operations of the units.

b. Fuel flow/heat input to the CTs, separately defining fuel flow/heat input during the various system operating modes, including during startup, during normal operation and during shutdown.

c. By the 10th day of each month, Permittee shall calculate and record the total heat input from the CTs separately for each unit, for the previous calendar month. Heat input shall be calculated following the procedures of 40 CFR Part 75, Appendix D.

d. By the 10th day of each month, Permittee shall calculate and record the combined total heat input from the CTs on a rolling calendar year 12-month total sum basis. This value shall be calculated as the sum of the heat input from both units during the previous month and during the preceding eleven months. Permittee shall compare this 12-month total to the annual heat input limitation under Section 5.C.6 of this permit. Records of the monthly total calculations and compliance with the heat input limitations shall be maintained.

e. To verify compliance with the operational limitations on the diesel-driven fire pump, Permittee shall maintain a log reflecting hours of non-emergency operation.

f. To assure compliance with the general maintenance obligation defined under this permit, Permittee shall maintain repair logs with regard to each turbine unit.

G. Excess Emissions - NO_X
[40 CFR Part 60, Subpart KKKK, Section §60.4380.(b)]

For turbines using continuous emission monitoring, excess emissions and monitoring downtime are defined as:

1. An excess emissions is any unit operating period in which the 4-hour or 30-day rolling average NO_X emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this subpart, a "4-hour rolling average NO_X emission rate" is the arithmetic average of the average NO_X emission rate in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NO_X emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NO_X emission rate is obtained for at least 3 of the 4 hours. For the purposes of this subpart, a "30-day rolling average NO_X emission rate" is the arithmetic average of all hourly NO_X emission data in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO_X emissions rates for the preceding 30 unit operating days if a valid NO_X emission rate is obtained for at least 75 percent of all operating hours.

2. A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration, fuel flow rate, steam flow rate, steam temperature, and steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if the information is used for compliance purposes.

3. For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

H. Excess Emissions - SO_2
[40 CFR Part 60, Subpart KKKK, Section §60.4385]

If the option to monitor the sulfur content of the fuel is chosen, excess emissions and monitoring downtime are defined as:

1. For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

2. A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

I. Recordkeeping
[Mandated by 40 CFR §70.6(a)(3)] (Code §3-1-083)

1. Permittee shall maintain at the source, a file of all measurements, including continuous monitoring-system-, monitoring-device, and performance- testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; all records of maintenance/testing operations; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.

2. Permittee shall record the following in a permanent logbook, which may be in written or digital form, for inclusion in the semiannual report:

a. Emissions of nitrogen oxides, carbon monoxide, particulate matter (PM10), volatile organic compounds, and sulfur dioxide;

b. Total natural gas consumed;

c. Run times associated with operation of each unit;

d. The number of start-up and shut-down cycles for each unit; and

e. Total net electrical output generated.

3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, maintenance/testing operations, or malfunction in the operation of the permitted facility or any air pollution control equipment.

J. Compliance Reporting Requirements Subpart KKKK

[40 CFR §60.4375]

1. For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, reports of excess emissions and monitor downtime shall be submitted in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.

2. For each affected unit that performs annual performance tests in accordance with §60.4340(a), a written report of the results of each performance test before the close of business on the 60 day following the completion of the performance test shall be submitted.

K. General Compliance Reporting
[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4)] (Code §3-1-083.A)

In order to demonstrate compliance with the provisions of this permit, the Permittee shall submit a semi-annual report containing the information required to be recorded pursuant to this permit. All instances of deviations from permit requirements shall be clearly identified in such reports. For brevity, such deviation reports may incorporate by reference any written supplemental upset reports filed by Permittee during the reporting period. The report shall be submitted to the District within 30 days after the end of each semiannual period. Appendix A of this permit is a form which may be used for the report.

L. Regular Compliance/Compliance Progress Certification
[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]

Permittee shall annually submit to the Control Officer and also to the Administrator of the US EPA (Enforcement Office (AIR5), EPA Region 9, 75 Hawthorne St, San Francisco, CA 94105-3901) a certification of compliance with the provisions of this permit. The certification shall:

1. Be signed by a responsible official, namely the president, secretary, treasurer or vice-president of the corporation, or such other person as may be approved by the Control Officer as an administrative amendment to this permit;

2. Identify each term or condition of the permit that is the basis of the certification;

3. Verify the compliance status with respect to each such term or condition;

4. Verify whether compliance with respect to each such term or condition has been continuous or intermittent;

5. Identify the permit provision, or other, compliance mechanism upon which the certification is based; and

6. Be postmarked within thirty (30) days of the beginning of each calendar year.

7. Other Reporting Obligations

A. Deviation Reporting Requirement
(Code §3-1-083.A.3.b.) ***[Mandated by 40 CFR §§70.6(a)(3)(iii)(B), 70.6(g)][40 CFR 63.6640.b]***

Permittee shall report any deviation from the requirements of this permit along with the probable cause for such deviation, and any corrective actions or preventative measures taken to the District within fifteen days of the deviation unless earlier notification is required by the provisions of Section 9.P. of this permit.

B. Notification of Construction & Start-up
[Federally Enforceable, pursuant to 40 CFR Part 60.7] (Code §3-1-083)

For new facilities and modification of existing facilities, the Permittee shall notify the District in writing of:

1. The anticipated date of initial start-up of each facility of the source for which construction or modification is allowed by this permit; notice shall be sent not more than sixty (60) days nor less than thirty (30) days prior to such date;

2. The actual date of commencement of construction; notice shall be sent within thirty (30) days of such date; and

3. The actual date of start-up; notice shall be sent within fifteen (15) days after such date.

C. Annual Emissions Inventory
[Federally Enforceable Provision pursuant to code §3-1-103.A&B (2/22/95) approved as a SIP element at 65 FR 79742 (12/2/00)]

Permittee shall complete and submit to the District an annual emissions inventory, disclosing actual emissions for the preceding calendar year. The submittal shall be made on a form provided by the District. The inventory is due by the latter of March 31st, or ninety (90) days after the form is furnished by the District.

8. Fee Payment
[Mandated by 40 CFR §§70.6(a)(7), 70.9]

As an essential term of this permit, an annual permit fee shall be assessed by the District and paid by Permittee in accord with the provisions of Code Chapter 3, Article 7 generally, and Code §3-1-081.A.9 specifically. The annual permit fee shall be due on or before the anniversary date of the issuance of an individual permit, or formal grant of approval to operate under a general permit. The District will notify the Permittee of the amount to be due, as well as the specific date on which the fee is due.

9. General Conditions

A. Term
[Mandated by 40 CFR §70.6(a)(2*)*] (Code §3-1-089)

This permit shall have a term of five (5) years, measured from the date of issuance.

B. Basic Obligation
[***Mandated by 40 CFR §§70.4(b)(15), 70.6(a)(6(i), 70.6(a)(6)(ii), 70.7.b***] (Code §3-1-081.)

1. The owner or operator ("Permittee") of the facilities shall operate them in compliance with all conditions of this permit, the Pinal County Air Quality Control District ("the District") Code of Regulations ("Code"), and consistent with all State and Federal laws, statutes, and codes relating to air quality that apply to these facilities. Any permit noncompliance is grounds for enforcement action; for a permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application and may additionally constitute a violation of the Clean Air Act (1990).

2. All equipment, facilities, and systems used to achieve compliance with the terms and conditions of this permit shall at all times be maintained and operated in good working order.

C. Duty to Supplement Action
[Mandated by 40 CFR §§70.5(b), 70.6(a)(6)(v)] (Code §§3-1-050.H, 3-1-081.A.8.e, 3-1-110)

Even after the issuance of this permit, a Permittee, who as an applicant who failed to include all relevant facts, or who submitted incorrect information in an application, shall, upon becoming award of such failure or incorrect submittal, promptly submit a supplement to the application, correcting such failure or incorrect submittal. In addition, Permittee shall furnish to the District within thirty days any information that the Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit and/or the Code.

D. Right to Enter
[***Mandated by 40 CFR §70.6(c)(2)]*** (Code § 3-1-132)

Authorized representatives of the District shall, upon presentation of proper credentials, be allowed:

1. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit;

2. to inspect any equipment, operation, or method required in this permit; and to sample emissions from the source.

E. Transfer of Ownership
[Mandated by 40 CFR §70.7(d)(4)]

This permit may be transferred from one person to another by notifying the District at least 30 days in advance of the transfer. The notice shall contain all the information and items required by Code § 3-1-090. The transfer may take place if not denied by the District within 10 days of the receipt of the transfer notification.

F. Posting of Permit
(Code §3-1-100)

Permittee shall firmly affix the permit, an approved facsimile of the permit, or other approved identification bearing the permit number, upon such building, structure, facility or installation for which the permit was issued. In the event that such building, structure, facility or installation is so constructed or operated that the permit cannot be so placed, the permit shall be mounted so as to be clearly visible in an accessible place within a reasonable distance of the equipment or maintained readily available at all times on the operating premises.

G. Permit Revocation for Cause
[Mandated by 40 CFR §70.6(a)(6)(iii)] (Code §3-1-140)

The Director of the District ("Director") may issue a notice of intent to revoke this permit for cause pursuant to Code §3-1-140, which cause shall include occurrence of any of the following:

1. The Director has reasonable cause to believe that the permit was obtained by fraud or material misrepresentation;

2. Permittee failed to disclose a material fact required by the permit application form or a regulation applicable to the permit;

3. The terms and conditions of the permit have been or are being violated.

H. Certification of Truth, Accuracy and Completeness
[Mandated by 40 CFR §§70.5(a)(2), 70.6(a)(3)(iii)(B)] [Federally enforceable - Code §§3-1-083.A.5, 3-1-175 (as amended 10/12/95) approved as SIP Elements at 61 FR 15717 (4/9/96)]

Any application form, report, or compliance certification submitted pursuant to the Code shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under Chapter 3 of the Code shall state that, based on information and belief formed after reasonable inquire, the statements and information in the document are true, accurate, and complete.

I. Renewal of Permit
[Mandated by 40 CFR §§70.5(a)(1)(iii), 70.7(c)]

Expiration of this permit will terminate the facility's right to operate unless either a timely application for renewal has been submitted in accordance with §§3-1-050, 3-1-055 and 3-1-060, or a substitute application for a general permit under §3-5-490. For Class I permit renewals, a timely application is one that is submitted at least 6 months, but not greater than 18 months prior to the date of the permit expiration. For Class II or Class III permit renewals, a timely application is one that is submitted at least 3 months, but not greater than 12 months prior to the date of permit expiration.

J. Severability
[Mandated by 40 CFR §70.6(a)(5)]

Pursuant to Code § 3-1-081.A.7., the provisions of this permit are severable, and if any provision of this permit is held invalid the remainder of this permit shall not be affected thereby.

K. Permit Shield
[Mandated by 40 CFR §70.6(f)] (Code § 3-1-102.)

Subject to the following schedule of exclusions, compliance with the terms of this permit shall be deemed compliance with any applicable requirement identified in this permit. The permit-shield exclusions include:
1. PGCAQCD Rule §7-3-1.3 OPEN BURNING;
2 PGCAQCD Rule §7-3-4.1 INDUSTRIAL - CARBON MONOXIDE EMISSIONS.
3. Items listed in Section 10 of this permit as not being federally enforceable.

L. Permit Revisions
[Mandated by 40 CFR §70.7(d), 70.7(e)] (Code Chapter 3, Article 2)

1. This permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance,

or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

2. The permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

3. Permit amendments, permit revisions, and changes made without a permit revision shall conform to the requirements in Article 2, Chapter 3, of the Code.

4. Revision to Obtain Authority to Reconstruct ***[Federally enforceable - 40 CFR 63.42(c)]*** Code §3-1-040.D.

Prior to commencing a reconstruction, as defined below, Permittee shall apply for and obtain a revision to this permit, which revised permit shall include a final and effective case-by-case determination pursuant to the provisions of 40 CFR 63.43 such that the emissions from the reconstructed facility will be controlled to a level no less stringent than the maximum achievable control technology emission limitation for new sources.

For purposes of this subsection, "reconstruction" is defined as the replacement of components at an existing process or production unit that in and of itself emits or has that potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, whenever:

a. The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable process or production unit; and

b. It is technically and economically feasible for the reconstructed major source to meet the applicable maximum achievable control technology emission limitation for new sources established under 40 CFR Part 63, Subpart B.

M. Permit Re-opening
[Mandated by 40 CFR §§70.6(a)(6)(iii), 70.7(g), 70.7(g)] (Code §3-1-087.)

1. This permit shall be reopened if:

a. Additional applicable requirements under the Clean Air Act (1990) become applicable to this source, and on that date, this permit has a remaining term of three or more years. Provided, that no such reopening under this subparagraph is required if the effective date of the newly applicable requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to Code §3-1-089.C.

b. The Control Officer determines that it contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of it;

c. The Control Officer determines that it needs to be revised or revoked to assure compliance with the applicable requirements; or

d. The EPA Administrator finds that cause exists to terminate, modify, or revoke and reissue this permit.

2. If this permit must be reopened or revised, the District will notify the permittee in accord with Code §3-1-087.A.3.

N. Record Retention
[Mandated by 40 CFR §70.6(a)(3)(ii)(B)] (Code §3-1-083.A.2.b)

Permittee shall retain for a period of five (5) years all documents required under this permit, including reports, monitoring data, support information, calibration and maintenance records, and all original recordings or physical records of required continuous monitoring instrumentation.

O. Scope of License Conferred
[Mandated by 40 CFR §70.6(a)(6)(iv)] (Code §3-1-081.)

This permit does not convey any property rights of any sort, or any exclusive privilege.

P. Excess Emissions Reports
(Code §8-1-030)

1. To the extent Permittee may wish to offer a showing in mitigation of any potential penalty, underlying upset events resulting in excess emissions shall reported as follows:

   a. The permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. Such report shall be in two parts:

      i. Notifications by telephone or facsimile within 24 hours or the next business day, whichever is later, of the time when the owner or operator first learned of the occurrence of excess emissions, including all available information required under subparagraph b. below.

      ii. Detailed written notification within 3 working days of the initial occurrence containing the information required under subparagraph b. below.

   b. The excess emissions report shall contain the following information:

      i. The identity of each stack or other emission point where the excess emissions occurred.

      ii. The magnitude of the excess emissions expressed in the units of the applicable limitation.

      iii. The time and duration or expected duration of the excess emissions.

      iv. The identity of the equipment from which the excess emissions occurred.

      v. The nature and cause of such emissions.

      vi. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.

      vii. The steps that were or are being taken to limit the excess emissions. To the extent this permit defines procedures governing

operations during periods of start-up or malfunction, the report shall contain a list of steps taken to comply with this permit.

viii. To the extent excess emissions are continuous or recurring, the initial notification shall include an estimate of the time the excess emissions will continue. Continued excess emissions beyond the estimated date will require an additional notification.

10. Additional provisions applicable to Title V Sources

A. Enforcement by the Administrator and Citizens
[Mandated by 40 CFR §70.6(b)]

All terms and conditions in a part 70 permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Act.

11. Equipment
[Mandated by 40 CFR §70.5(c)(3)(ii)] (Code §3-1-050.B)

Equipment for which emissions are allowed by this permit are as follows:

Emission Unit	Manufacturer	Model	Serial #	Date	Quantity	Capacity
Gas Turbines (Simple Cycle) GE1 – GE10	GE Vernova	LM6000PC			10	488 MMBtu/hr HHV each
Fire Pump Engine (ENG1)						1,500 kW (2,114 bhp)

Appendix A **Semi-annual Report**

Permit V20700.000

Abstract

This constitutes a semi-annual report of all required monitoring, documenting emissions during the subject reporting period.

Reporting Period - January-June ___ Or July-December ___ Year _____

Facility - Seguro Energy Partners, LLC
Bella Energy Facility
Intersection of West Cornman Road and South Midway Road, Casa Grande, AZ

Fuel Consumption Report

Natural gas burned during reporting period - _____ MMBtu

Operations Report

Power generated during reporting period (GE1 and GE10) - _____ megawatt-hours

GE1
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE2
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE3
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE4
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE5
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE6
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE7
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE8
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE9
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

GE10
Normal Run Time ..... _____ hours
Start-up cycles ..... _____ each
Shut-down cycles..... _____ each

Operational hours of the fire pump engine - _____hours

Emissions Report

Emissions of nitrogen oxides - _____ tons

Emissions of carbon monoxide - _____ tons

Emissions of particulate matter PM_{10} - _____ tons

Emissions of particulate matter $PM_{2.5}$ - _____ tons

Emissions of volatile organic compounds - _____ tons

Emissions of sulfur dioxide - _____ tons

Performance Testing

Were the initial performance tests performed as required under Section §6.A of this permit?
Yes____ No_____

If yes, please list the dates of the most recent performance tests_____

Monitoring Requirements

Pursuant to the NO_x emission limitation of §5.C.2, did the monitoring requirements under §6.F.1 show continuous compliance during the reporting period? Yes_____ No_____

Pursuant to the CO emission limitation of §5.C.4, did the monitoring requirements under §6.F.2 show continuous compliance during the reporting period? Yes_____ No_____

Pursuant to the PM/PM10/PM2.5 emission limitation of §5.C.1, did the monitoring requirements under §6.F.3 show continuous compliance during the reporting period? Yes_____ No_____

Pursuant to the VOC emission limitation of §5.C.3, did the monitoring requirements under §6.F.4 show continuous compliance during the reporting period? Yes_____ No_____

Pursuant to the SO_2 emission limitations of §5.D.2, did the monitoring requirements under §6.F.5 show continuous compliance during the reporting period? Yes_____ No_____

Certification by Responsible Official

I certify that, based on information and belief formed after reasonable inquiry, that the statements and information in this report are true, accurate and complete.

Signed _____

Printed Name _____

Title _____

Contact Phone Number _____

Date_____

Email to: compliancereports@pinal.gov, or

Mail to: Pinal County Air Quality Control District
P.O. Box 987
Florence, AZ 85132

APPENDIX B

BELLA ENERGY CLASS I TITLE V PERMIT APPLICATION

APPLICATION FOR CLASS I PERMIT
FOR THE
BELLA ENERGY PROJECT
BUCKEYE, ARIZONA

Submitted to:

Pinal County Air Quality Control District
P.O. Box 987
Florence, AZ 85132

Completed by:

BlueScape Environmental
16870 West Bernardo Drive, Suite 400
San Diego, CA 92127

August 30, 2023

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION AND SUMMARY

1.1 Introduction

Seguro Energy Partners, LLC (SEP) is seeking authorization in the form of a Class I permit to construct and operate a peaking plant with nominal capacity of 490-megawatt (MW) in Pinal County, Arizona identified as the Bella Energy Project (Project). The Project will utilize ten (10) natural gas aeroderivative simple cycle combustion turbine generators to generate electricity that provides reserve capacity to serve peak demand. The Bella Project will be located on approximately 147 acres located about 6 miles southwest of Casa Grande, AZ, 0.5 miles north of the I-8 at the northeast corner of the intersection of Cornman and Midway Roads, within a portion of Section 06, Township 7 South, Range 5 East, in Pinal County, Arizona.

The proposed Project constitutes a minor source under the Prevention of Significant Deterioration (PSD) preconstruction permitting regulations and a new major source under the Title V operating permit regulations. This Class I permit application contains all of the required information, analyses and demonstrations under the Pinal County Title V regulations and all other applicable federal, state and county air quality regulations. The Pinal County Air Quality Control District (PCAQCD) is the permitting authority for this Project. PCAQCD's permitting authority is explained in greater detail in Section 4.0 of this application.

1.2 Permit Application Required Content and Forms

This document is Seguro Energy's Class I permit application to authorize construction and operation of the Project. Section 2.0 presents the proposed Project and process description. Project emissions and proposed limitations are presented in Section 3.0. Section 4.0 presents a regulatory applicability analysis. Section 5.0 includes proposed Class I permit conditions, limits and compliance methodologies.

Completed permit application forms are contained in Appendix A to this permit application. Appendix B includes the site layout. Emissions calculations for the Project are included in Appendix C. The Acid Rain program application is included in Appendix D. Appendix E shows GE Vernova-provided operational parameters and conditions for various emissions cases. Appendix F includes the air dispersion Modeling Protocol.

2.0 PROJECT AND PROCESS DESCRIPTION

This section provides an overview of the Project and description of the proposed emission units.

2.1 Project Overview

SEP is proposing to construct the Bella Energy Project, ~490 MW natural gas-fueled electric generating station on an approximately 147-acre site in Pinal County, Arizona. The Bella Energy Project will provide incremental peak capacity and will

support the integration of renewable resources. The proposed facility design includes ten (10) aeroderivative combustion turbines (CTs) that will drive electricity generators. Seguro Energy is anticipating the new units to be aero-derivative GE Vernova (formerly GE Energy) LM6000PC models, or its equivalent, each unit with approximately 49 MW gross generation capacity.[1]

2.2 Project Location

The proposed Bella Energy facility will be located within Pinal County, about 6 miles southwest of Casa Grande, AZ and 0.5 miles north of the I-8 at the northeast corner of the intersection of Cornman and Midway Roads. Facility turbine emission sources will be centered at about UTM 418129 m E, 3634090 m N, WGS84 Zone 12. Figure 2-1 shows the general location of the facility. Figure 2-2 shows the specific facility location and land uses of the surrounding area. The site layout for the facility is provided in Appendix B. The site is made up of five parcels (511-66-006, 511-66-008, 511-66010A, 511-66-010B, and 511-66-011), with all turbine units to be located in parcel 511-66-008.

The area immediately surrounding the site is characterized by flat agricultural terrain at about 1,355 feet (ft) above sea level. The Project is located adjacent to the Browing/Abel 500KV transmission line and the Kinder Morgan fuel pipeline. There is a sparsely populated residential area located to the east near the proposed Project location. Agricultural land uses exist to the southwest and to northwest of the site, and further away to the north and south. The nearest industrial site is a sand and gravel quarry located about 4 miles east of the proposed Project site. Otherwise, air quality in the area is affected by agricultural activities, vehicle travel on unpaved roads, and naturally-occurring windblown dust.

The portion of Pinal County where the facility is located is classified as attainment or unclassified for all criteria pollutants other than particulate matter (PM) with an aerodynamic diameter of less than ten micrometers (PM_{10}), for which the area is classified as "serious" nonattainment.

[1] Estimated MW rating provided by GE Vernova at 100% full load under normal, or steady-state operating conditions.

FIGURE 2-1. GENERAL LOCATION OF THE BELLA ENERGY FACILITY SITE

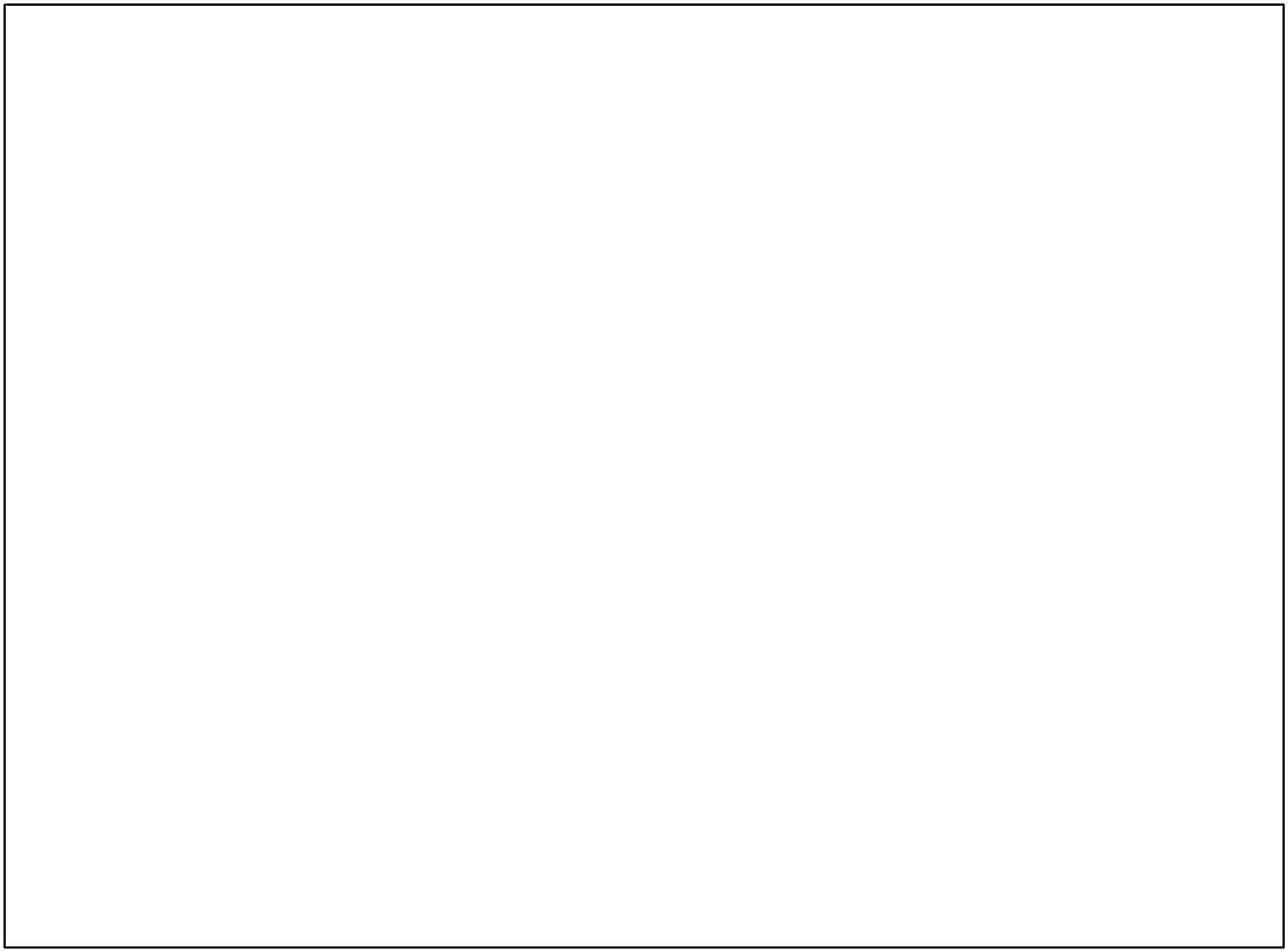


FIGURE 2-2. SPECIFIC LOCATION OF THE BELLA ENERGY FACILITY AND NEAREST LAND USES

2.3 Simple Cycle Combustion Turbine Generators

The Bella Energy facility aeroderivative General Electric (GE) Vernova Model LM6000PC simple cycle combustion turbines (CTs) will drive electrical generators to produce electric power for supply to the grid. A CT is an internal combustion system which uses inlet air as a working fluid to produce mechanical power. This combustion turbine technology is comprised of an air inlet system, two compressor sections, a combustion section, and a turbine section. As the name implies, aeroderivative combustion turbines are based on turbine designs used in the aviation industry. By design this turbine technology is capable of starting and ramping-up to full capacity within 10 minutes.

Aeroderivative CT models are generally specified for use where fast start capability, power demand matching, and relatively lower power outputs are the primary objectives. The air inlet system includes an inlet air heater, inlet air cooler, air filters, and noise silencer that supplies air to the multistage axial compressor. This turbine technology is lightweight, compact, and operates at high compression ratios compared to other turbine technologies. Aeroderivative CTs like those specified for the proposed Bella Energy Project operate at a very high compression ratio (typically in excess of 30). The pressure ratio is the ratio of air pressure at the discharge compared to the inlet of the compressor section.

During operation, ambient air is drawn into the compressor section. Once the air is compressed it is heated by the combustion of fuel gas in the combustion section. The combusted gases then expand through the turbine section of the combustion turbine. The pressure differential across the turbine blades caused by this expansion, rotates the shaft of the turbine thus rotating the coupled generator. The rotation of the generator is what produces the power that is supplied to the electrical grid.

Figure 2-3 presents a diagram for the proposed GE LM6000PC unit. The turbines are equipped with inlet air filters which remove dust and particulate matter from the inlet air. During hot weather, the filtered air may also be cooled by passing through an inlet air evaporative cooling system. During cold weather, the filtered air may be heated by use of a radiative heating system that is part of the anti-icing system. This system utilizes a glycol and water solution as the working fluid that is heated by induction heaters. The filtered air is drawn into the low-pressure compressor section where the air is compressed. The CTs are also equipped with spray intercooling (SPRINT) which allows for demineralized water to be atomized within the low-pressure compressor. The resulting increase in mass flow allows for higher power output in high ambient conditions. The low-pressure compressor section features fixed inlet guide vanes. The high-pressure section of the compressor uses independently controlled variable stator vanes to optimize air flow to the combustion section. Incorporation of these advanced airflow and cooling technologies help the proposed turbines have lower emission rates, increased fuel efficiency, and minimized unburned hydrocarbon emissions. Water is also injected into the combustion section of the turbine which reduces flame temperatures and thermal nitrogen oxides (NO_X) formation.

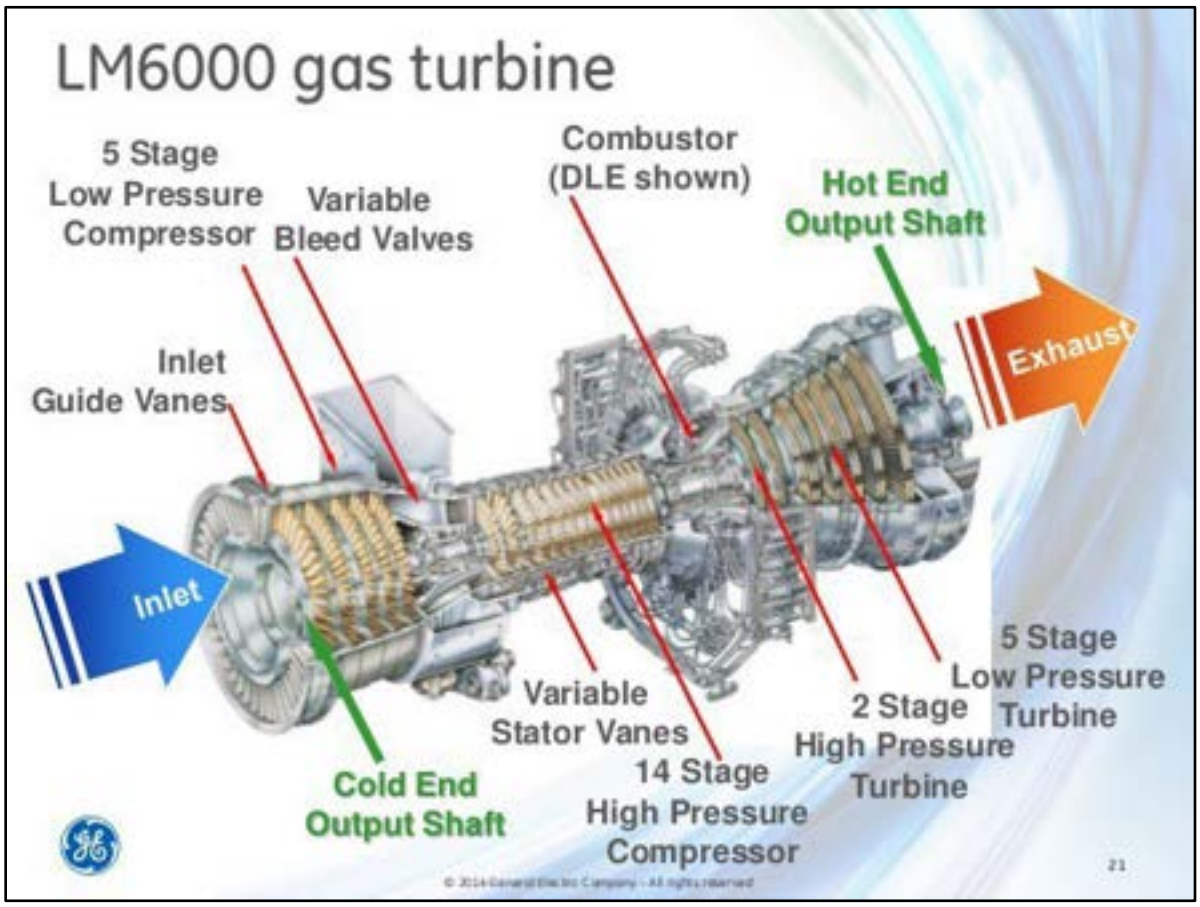


FIGURE 2-3. DIAGRAM OF A GE MODEL LM6000PC SIMPLE CYCLE COMBUSTION TURBINE (FROM GE VERNOVA)

The general specifications for these turbines provided by the manufacturer are summarized in Table 2-1. The specifications reflect turbine operation at max fuel use and 100% load. Note that the specifications in this table are for new turbines which have not undergone any performance degradation due to normal operation, and also do not account for efficiency reductions due to post combustion emission control systems.

TABLE 2-1
GENERAL SPECIFICATIONS FOR A GE LM6000PC SIMPLE CYCLE CT UNIT

Parameter	Value*
GE Model	LM6000PC (60 Hz)
Number of Units	10
Output Power per Unit (Gross) Total	49 MW
Facility Output Power (Gross) Total	490 MW
Heat Rate ISO Full Load per Unit (Gross)	8,567 Btu/kW-hr
Fuel Heat Input Rate Full Load per Unit, Higher Heating Value**	488 MMBtu/hour HHV

* Estimated under normal operations, at 120°F with inlet evaporative cooling.
** Includes a 5% margin above the highest heat input case provided by GE Vernova.

The combustion turbine will be enclosed in a metal acoustical enclosure which also contains auxiliary equipment. Each combustion turbine package will be equipped with the following equipment:

- Inlet air filters;
- Spray Intercooling (SPRINT);
- Inlet evaporative cooling;
- Anti-icing system;
- Metal acoustical enclosure to reduce sound;
- Duplex shell and tube lube oil coolers for the combustion turbine and generator;
- Annular standard combustor combustion system;
- Water injection system for NO_X control;
- Compressor intercooler system;
- Fire detection and protection system;
- Hydraulic starting system; and
- Compressor variable bleed valve vent to prevent compressor surge in off-design operation.

2.4 Combustion Turbine Air Emissions Control Systems

The combustion gases exit the CTs at temperatures ranging from 690 °F to 900 °F. To enable the use of selective catalytic reduction (SCR) systems for the proposed turbines, an air injection system is included. This system supplies tempering air to the exhaust of the turbine section to reduce the exhaust gas temperature to around 800 °F at the catalyst inlet. The exhaust gases then pass through two post combustion air quality control systems: oxidation catalysts (OxCat) for the control of carbon monoxide (CO) and volatile organic compounds (VOC), and high- temperature SCR systems for the control of NO_X emissions. Emissions control systems will be functional during normal operations. Table 3-3 in Section 3.3.2 shows estimated duration, heat input and emissions for startup and shutdown operations provided by GE Vernova.

2.5 Backup Diesel Engine

A Tier 2 EPA-certified diesel-fired (compression ignition) reciprocating internal combustion engine (RICE), with estimated backup maximum output rating of 1,500 kW (or about 2,114 bhp) will be installed as part of the Project. The backup engine will be operated as fire pump or for backup power during emergency situations. The

engine will be operated periodically and for equipment maintenance and testing purposes. The specific backup diesel engine selection (make, model and serial number) is pending.

2.6 Summary of Project Emissions Units

Table 2-2 presents a summary of the proposed emissions units for the Bella Energy Project.

TABLE 2-2
PROPOSED EMISSION UNITS FOR THE BELLA ENERGY PROJECT

Emission Units	Designation	Description
1 – 10	GE1 – GE10	GE LM6000PC Simple Cycle CT Aeroderivative, 10 Units
11	ENG1	Backup Diesel Engine

3.0 PROJECT EMISSIONS

The Bella Energy Project will be a new stationary source. Therefore, the potential to emit (PTE) of regulated attainment and nonattainment area New Source Review (NSR) criteria pollutants from the proposed equipment under the Project is used for air permitting purposes. The equipment proposed under the Bella Energy Project includes installation of ten (10) natural gas-fired simple cycle combustion turbines and a diesel-fired emergency backup engine. This section describes the emissions calculations for regulated NSR criteria pollutants, greenhouse gases (GHGs) and HAPs.

3.1 Regulated NSR Pollutants

This section summarizes PTE calculations and resulting emissions rates for regulated NSR criteria pollutants and GHGs from the units proposed as part of the Bella Energy Project. The regulated NSR pollutants included here are NO_X, CO, VOC, sulfur dioxide (SO_2), PM, PM_{10}, particulate matter equal to or less than an aerodynamic diameter of nominally 2.5 µm ($PM_{2.5}$), sulfuric acid mist (H_2SO_4 mist), lead (Pb), and GHGs as carbon dioxide equivalent (CO_2e).

3.2 Greenhouses Gases

To comply with greenhouse gas emissions limitations in 40 CFR Part 60, Subpart TTTT, the CO_2e emission rate is set to 120 lb/MMBtu higher heating value (HHV). Detailed calculations for CO_2e emissions are shown in Appendix C.

Per 40 CFR § 52.21(b)(49)(iv) [implemented per delegation agreement with the United States Environmental Protection Agency (USEPA)], for major modification purposes, GHGs are considered subject to regulation only if the project is a major source for attainment area criteria pollutants other than GHGs and the increase in emissions of GHGs is 75,000 tons of CO_2e per year or more. As noted later in this application, this project will not be a major source of attainment criteria pollutants.

Therefore, GHGs are not considered subject to regulation under the federal PSD permitting program for attainment pollutants or the nonattainment NSR permitting program for PM_{10}.

3.3 LM6000PC Unit Regulated NSR Criteria Pollutants

A summary of criteria pollutant emissions from the proposed CTs during startup and shutdown and normal operation are presented below. GE Vernova provided the Project applicant Seguro Energy with seventeen (17) normal, or steady-state, operational emissions scenarios. These scenarios are varied by generator load, fuel consumption, ambient air temperature, inlet conditioning use, and other parameters that impact pollutant emission factors. These scenarios, or "cases," are provided in Appendix E of this application.

For all normal operational modes, maximum hourly, and average daily and annual PTE calculations are conservatively based on the emissions scenario that includes the highest generator output and fuel heat input. In this scenario, each natural gas-fired turbine unit will burn natural gas with a HHV of 21,007 Btu/lb and a fuel flow of 6.14 pounds per second (lbs/s) or 464.6 MMBtu/hr HHV. This heat input rate is for site conditions at 120 degrees Fahrenheit (°F) ambient temperature with use of inlet air chilling and the SPRINT system. An additional 5% margin is included, for maximum instantaneous heat input rating of 488 MMBtu/hr HHV per unit.

Based upon the assumptions used in this application and calculated emissions, total operating hours for all ten (10) turbine units are estimated to be 43,500 unit hours per year, including an estimated 5,000 unit startups and shutdowns. The actual hours for steady-state, startup, and shutdown hours will depend upon a number of factors, but maximum annual emissions will not exceed 90% of the applicable New Source Review major source thresholds for criteria pollutants. For the purpose of this application, PM_{10} and $PM_{2.5}$ emissions are assumed to be equivalent. While the maximum hourly and daily $PM_{10}/PM_{2.5}$ emission rate per unit is estimated by GE Vernova as 4.00 lbs/hr, the annual average $PM_{10}/PM_{2.5}$ emission rate has been limited to 2.45 lbs/hr to prevent exceedance of 90% of the major source threshold for PM_{10}, or 63 tons/year. The PM emission rate includes both direct and secondary in-stack PM formation.

To obtain SO_X PTE, the maximum hourly average fuel sulfur concentration is assumed to be the Federal Energy Regulatory Commission (FERC) limit of 5.0 grains sulfur (S) per 100 standard cubic feet (gr/100 scf). This application assumes an annual average fuel S content of 1.0 gr/100 scf. These emissions limitations are further discussed in the regulatory review section and permit conditions sections of this application.

3.3.1 Normal Operation

The short-term (hourly to daily, or 24-hour) PTE of regulated NSR pollutants for the proposed CTs are based upon the estimated maximum 488 MMBtu/hr HHV per unit. Annual average emissions for each turbine are based upon 90% of the estimated maximum heat input or 439 MMBtu per hour (HHV) per unit. Table 3-1 presents the estimated maximum design parameters and hourly emissions information used for

this application, after controls, for the proposed GE LM6000PC units.

TABLE 3-1 DESIGN PARAMETERS FOR THE PROPOSED GE LM6000PC		
Parameter	**Value**	**Units**
Number of units	10	n/a
Maximum heat input per unit (120 °F, site elevation, full load, inlet air chilling and SPRINT system)	488	MMBtu/hr HHV
Maximum controlled NO_X emission rate	8.21	lb/hr
Maximum controlled CO emission rate	7.00	lb/hr
Maximum controlled VOC emission rate	7.57	lb/hr
Maximum $PM_{10}/PM_{2.5}$ emission rate	4.00	lb/hr
Maximum SO_X emission rate	6.65	lb/hr

Maximum emission rates under normal operations for NO_X, CO, VOC, SO_X, PM_{10}, $PM_{2.5}$., and sulfuric acid mist for the proposed CTs are detailed in the PTE calculations in Appendix C. These are based on 100% load condition, at site elevation, for 120 °F ambient temperature, with inlet air chilling and the SPRINT system on. The turbine NO_x and CO emissions will be controlled during normal operation with SCR and OxCat. Specifications and emissions guarantees for SCR/OxCat controls are unavailable at this time. However, SCR/OxCat has been estimated to control NO_x emissions to at least 5 parts per million by volume (ppmv) at 15% O_2, and CO emissions to at least 7 ppmv at 15% O_2, under steady-state conditions. No control of estimated VOC emissions was provided by GE Vernova; 13.2 ppmv as methane at 15% O_2 has been assumed conservatively. The OxCat controls are expected to further reduce VOC emissions. H_2SO_4 mist emissions are estimated as 10% of SO_X emissions.

The PTE of regulated NSR pollutants from the simple cycle combustion turbines during normal operation using the conservative emission rates show above, are summarized in Table 3-2. Estimated total normal operating hours per turbine are 4,025 hours per year.

TABLE 3-2 PTE FOR GE LM6000PC UNIT FOR NORMAL OPERATION	
Pollutant	**Emissions per CT (tons/year)**
NO_X	16.5
CO	14.1
VOC	15.2
SO_X	2.41
PM_{l0}	4.93
$PM_{2.5}$	4.93
H_2SO_4	0.24
CO_2e	1,060,668

Example Calculation (NO_X Emissions): (8.21 lbs/hr*4,025 hours)/2000 lbs/ton = 16.5 tons/year

3.3.2 Startup and Shutdown Emissions

The air pollution control systems including SCR and oxidation catalysts are not fully operational during the entire cycle of the startup or shutdown of the CTs. Water injection is used to reduce NO_X emissions from these CTs. The earlier that water injection can be initiated during the startup process, the lower the NO_X emissions will be during startup. However, if injection is initiated at very low loads, it can impact flame stability and combustion dynamics, and it may increase CO emissions. These concerns must be carefully balanced when determining when to initiate water injection. SCR and oxidation catalyst systems are not fully functional during periods of startup and shutdown because the exhaust gas temperatures are too low for these systems to function as designed. During a startup, as the CT achieves minimum emissions compliance load (MECL), the CT emissions controls reduce the stack emission rates of NO_X and CO below the rates in the emissions specifications for normal operation.

For simple CTs, the time required for startup is much shorter than combustion turbines used in combined cycle applications.[2] The CTs are able to achieve full capacity within 10 minutes but the SCR requires a warm-up period of up to 20 minutes to achieve optimum temperature for emissions control. Therefore, the unit achieves MECL in ~30 minutes and for purposes of this permit application, emissions calculations have been conducted using the full 30 minutes for a startup cycle. The length of time for a normal shutdown, that is, the time from the MECL to the time when the flame out occurs, is normally 9 minutes. For the purposes of this application, emission calculations have been conducted using a 9-minute shutdown cycle. The normal duration for a startup and shutdown event cycle, therefore is 39 minutes. In Table 3-3, the startup and shutdown heat input (MMBtu HHV) and emissions are detailed by event. Table 3-4 shows the maximum annual startup and shutdown emissions per CT. The startup and shutdown annual emissions are calculated using an assumed 500 startup / shutdown events per year per CT, or 5,000 events for the facility. NO_X, CO, VOC, and particulate matter emission rates during startup and shutdown, in terms of pounds per event, have been provided by GE Vernova assuming that SCR and OxCat are operational. Emissions of SO_X, H_2SO_4, and CO_2e are calculated using the same emission factor assumptions as for normal operation, using the maximum heat inputs estimate by GE Vernova for startup and shutdown events.

[2] Heating up the heat recovery steam generator and associated steam turbine system in a combined cycle setup requires a slow ramp up of the CT resulting in longer startup and shutdown durations.

TABLE 3-3 LM6000PC UNIT STARTUP AND SHUTDOWN EMISSIONS PER EVENT CYCLE							
Event	**Duration (min)**	**Heat Input (MMBtu/ event)**	**Heat Input (MMBtu/hr)**	**NO_x (lb/event)**	**CO (lb/event)**	**VOC (lb/event)**	**PM_{10}/ $PM_{2.5}$ (lb/event)**
Startup with SCR and OxCat	30	199.6	399.2	14.3	15.7	1.8	4.1
Shutdown with SCR and OxCat	9	33.7	224.7	3.9	16.6	0.9	1.0
Startup/ shutdown Cycle with SCR and OxCat	39	--	--	18.2	32.2	2.7	5.1

TABLE 3-4 PTE FOR GE LM6000PC UNIT PER STARTUP/SHUTDOWN EVENT CYCLE		
Pollutant	**Startup Emissions per CT (tons/year)**	**Shutdown Emissions per CT (tons/year)**
NO_X	3.58	0.98
CO	3.93	4.15
VOC	0.45	0.23
SO_X	0.68	0.02
PM_{10}	1.03	0.25
$PM_{2.5}$	1.03	0.25
H_2SO_4	0.01	0.002
CO_2e	5,988	1,011

A summary of the PTE of the ten CTs combined with the PTE of the backup diesel engine is presented in sub-section 3.3.4.

3.3.3 Backup Diesel Engine

The emergency backup diesel engine will include a compression ignition, reciprocating internal combustion engine to drive the water pump to serve the plant fire emergency needs, or to provide backup electricity. The estimated specifications for the proposed backup diesel engine are summarized in Table 3-5.

TABLE 3-5 ESTIMATED SPECIFICATIONS FOR THE BACKUP DIESEL ENGINE	
Parameter	**Value**
Fuel	Diesel
Power Output (kW)	1,500
Power Output (hp)	2,114
Heat Input (MMBtu/hour HHV)	14.8
Maximum annual hours of operation (hours/year)	500

The proposed backup diesel engine will be an EPA-certified unit as required in 40 CFR §60.4205(c) and subject to the emissions standards in Table 4 of 40 CFR 60 Subpart IIII for NO_X, CO, VOC, and PM. For emissions calculations a Tier 2 diesel engine, ultra-low sulfur fuel, and emission factors from AP-42 and 40 CFR Part 98 are used.

3.3.4 Summary of Project Potential to Emit of Regulated NSR Pollutants

Table 3-6 summarizes PTE of regulated NSR pollutants for the Bella Project for all turbines. Detailed emissions calculations are provided in Appendix C.

TABLE 3-6 SUMMARY OF PTE FOR BELLA ENERGY PROJECT					
	Potential to Emit (tons/year)				
	Simple Cycle Aero			**Diesel Engine**	**Total**
Pollutants	**Normal**	**SU&SD**	**Total**		
NO_X	165	45.5	211	5.0	216
CO	141	80.8	222	2.9	225
VOC	152	6.8	159	0.3	159
SO_x	24.1	1.6	25.7	1.1	26.8
PM_{10}	49.3	12.8	62.1	0.2	62.2
$PM_{2.5}$	49.3	12.8	62.1	0.2	62.2
H_2SO_4	2.4	0.8	2.57	0.0	2.57
Lead	0.004	2.9E-04	4.65E-03	0.0	4.65E-03
CO_2e	1,060,668	69,990	1,130,658	608	1,131,266

3.4 Hazardous Air Pollutants Emissions

HAPs emissions from the proposed emissions units under the Bella Energy Project are presented in this section.

3.4.1 Combustion Turbine HAPs Emissions

Combustion of natural gas in combustion turbines forms HAPs. However, natural gas fired CTs generate relatively small HAPs emissions. HAPs emissions are calculated for the CTs using the maximum annual heat input. All of the CTs will include oxidation catalyst controls for CO and VOC emissions. These controls will also reduce organic HAPs emissions from the CTs. To be conservative, the normal operation heat input was used to calculate HAPs for all hours, including startup and shutdown.

The HAPs emission factors are from the USEPA's Compilation of Air Pollutant Emission Factors, AP-42, Volume 1: Stationary Point and Area Sources, Section 3.1, Stationary Combustion Turbines. Potential emissions for the proposed new CTs are detailed in Table 3-7.

3.4.2 Backup Diesel Engine HAP Emissions

Diesel fuel combustion in the backup diesel engine will result in HAP emissions. The potential emissions of HAPs from the engine are summarized in Table 3-7. HAP emissions are based on emission factors from the USEPA's Compilation of Air Pollutant Emission Factors, AP-42, 5th Edition, Tables 3.4-3 and 3.4-4.

3.4.3 Summary of Source-wide HAPs Emissions

Table 3-7 presents the total HAP emissions from the Bella Project.

TABLE 3-7
SOURCE WIDE HAPS EMISSIONS

HAPs	CAS #	Emissions (tons/year)		
		CTs	Backup Engine	Total
Acetaldehyde	75070	3.82E-01	2.84E-03	0.38
Acrolein	107028	4.30E-01	3.42E-04	0.43
Benzene	71432	1.15E-01	3.45E-03	0.12
1,3-Butadiene	106990	4.11E-03	1.45E-04	0.004
Ethylbenzene	100414	3.06E-01	0.00E+00	0.31
Formaldehyde	50000	6.78E+00	4.36E-03	6.79
Naphthalene	91203	1.24E-02	3.14E-04	0.01
PAHs	1151	2.10E-02	6.21E-04	0.02
Toluene	108883	1.24E+00	1.51E-03	1.24
Xylenes (mixed)	1330207	6.11E-01	1.05E-03	0.61
Total	**--**	**9.91**	**1.46E-02**	**9.92**

Maximum PTE of a single HAP (formaldehyde) is 6.79 tons per year and total PTE of all HAPs is 9.92 tons per year.

4.0 REGULATORY APPLICABILITY REVIEW

A review of the potentially applicable federal and Pinal County regulations has been conducted for the proposed Bella Energy Project. The following subsections summarize the applicability of these regulations to the proposed Project.

4.1 County Regulations

This analysis is based on the latest version of the Pinal County Air Quality Control District Code of Regulations ("Code") available from the department's website.[3]

4.1.1 Applicability and Classes of Permits (Code Ch. 3, Article 1)

The PCAQCD Code Chapter 3, Article 1, Section 040 [Code §3-1-040] requires a Class I permit prior to commencing construction on an "affected source" as well as a "major source." An affected source is defined in Code §3-1-080 as "[a] source that includes one or more units which are subject to emission reduction requirements or limitations under Title IV of the Clean Air Act (1990)." As explained later in this section, the proposed CTs under the Bella Project will be subject to the requirements of the Acid Rain Program under 40 CFR Part 72 and Title IV of the Clean Air Act. Also, as shown in Table 3-6, NO_X, CO, and VOC PTE for the project exceed the 100 TPY major source threshold in Code §1-3-140(80)(c). Therefore, a Class I permit is required for the proposed Bella Energy Project.

A completed "Permit Application Form" (from Appendix A of the Code) for a Class I permit is provided in Appendix A of this application. A review of applicable requirements per Code §3-1-055(B), for completeness determination, is provided in this section.

Even though not specifically required under the applicable regulations, due to the facility size, PCAQCD has requested that Seguro Energy conduct an ambient air quality modeling analysis for the proposed Bella Energy Project. An air quality Modeling Protocol is included in Appendix F. A detailed ambient air quality assessment report will be submitted in the near future upon incorporation of any comments/changes from the review of the modeling protocol. The intent of the assessment will be to confirm that the ambient concentrations resulting from the Project will not cause or contribute to exceedance of a national ambient air quality standard (NAAQS).

4.1.2 Permit Requirements for New Major Sources (Code Ch. 3, Article 3)

The Project will involve installation of ten natural gas fired CTs, in simple cycle operation. The Project site is located southwest of Casa Grande, Arizona, in the "serious" PM_{10} nonattainment area of Pinal County. The site area is attainment for all other criteria pollutants. PM_{10} emissions are evaluated for nonattainment major new source review (NNSR) applicability under Code §3-3-203(2)(a). All other regulated NSR pollutants are evaluated for PSD applicability under Code §3-3-203(2)(b). On August 10, 2011, the USEPA Region 9 delegated the permitting authority for GHGs under the federal PSD program, at 40 CFR §52.21, to PCAQCD.[4] For purposes of determining applicability of "major source" under Code §3-3-203(2) and 40 CFR

[3] https://www.pinal.gov/DocumentCenter/View/9686/PCAQCD--Code-of-Regulations-Updated-January-25-2023-PDF (last accessed on August 23, 2023).
[4] Available at: https://www.epa.gov/sites/default/files/2015-08/documents/pinal_county_ghg_psd_delegation_agreement.pdf. (last accessed on August 23, 2023)

§52.21(b)(l), PTE of regulated NSR pollutants for the proposed equipment under the Project is presented in Table 4-1 and compared with the applicable thresholds. Equipment under the proposed Project does not belong to the "categorical sources" list in Code §1-3-140(25). In accordance with 40 CFR §52.21(b)(49)(iv)(a), GHGs are "subject to regulation" if a new major stationary source for non-GHGs also results in a CO_2e increase greater than 75,000 tons per year.

TABLE 4-1
NNSR & PSD APPLICABILITY FOR BELLA ENERGY PROJECT

Pollutant	Source PTE (tons/year)	Major Source Threshold (tons/year)	Whether Major?
NO_X	216	250	No
CO	225	250	No
VOC	159	250	No
SO_x	26.8	250	No
PM	62.2	250	No
PM_{10}	62.2	70	No
$PM_{2.5}$	62.2	250	No
H_2SO_4	2.57	250	No
Lead	4.65E-03	250	No
CO_2e	1,131,266	-NA-	-NA-

*Determination whether GHGs are "subject to regulation."

PTE of PM_{10} for the proposed Bella facility is less than 70 tons per year. Therefore, the NNSR requirements of Code §§3-3-220 and 230 are not applicable to the proposed facility. PTE of all other regulated NSR pollutants from the Project are below 250 tons per year. Therefore, the proposed Project is a minor source for PSD. The PSD requirements in Code §3-3-250 do not apply to the Project.

4.1.3 Permit Fees (Code Ch. 3, Article 7)

The proposed Project will be a "new source." Code §3-7-580 requires a deposit fee of $4,000 for a new source required to obtain a Class I permit pursuant to Code §3-1-040.B.1. This fee is assessed upon the receipt of the application. This fee will be credited toward the permit processing fee that will reflect the amount due for the actual time spent on processing the application. A check in the amount $4,000 was provided to PCAQCD with the initial application submittal.

4.1.4 West Pinal PM_{10} Fugitive Dust Requirements (Code Ch. 4, Article 1)

The proposed Project will be located in the West Pinal County "serious" PM_{10} nonattainment area. Therefore, open areas/vacant lots, any unpaved roads, and unpaved lots will be subject to the measures to prevent, reduce or mitigate fugitive

dust emissions.

4.1.5 Fugitive Dust (Code Ch. 4, Article 2)

The proposed Project will be subject to the requirements of this rule and will comply with the requirement to reasonably regulate operations that periodically may cause fugitive dust emissions into the atmosphere.

4.1.6 Stationary Source Performance Standards (Code Ch. 5)

Chapter 5 of the Code specifies performance standards for new and existing source categories. This section presents the applicability of these requirements to the proposed units.

4.1.6.1 Fossil Fuel Fired Industrial and Commercial Equipment (Code Ch. 5, Article 21)

The proposed equipment (combustion turbines and the backup diesel engine) are direct-fired and do not involve any units where products of combustion come into direct contact with the process materials. Therefore, pursuant to Code §5-21-920, these units are not subject to the requirements of this standard.

Fossil Fuel Fired Steam Generators (Code Chapter 5, Article 22)

The proposed Project does not include any units that produce steam. Therefore, the requirements of this standard are not applicable to the proposed Project.

Stationary Rotating Machinery (Code Chapter 5, Article 23)

In accordance with Code §5-23-990, requirements of this standard apply to stationary combustion turbines and internal combustion engines.

a. Pursuant to Code §5-23-1010(A), particulate matter emissions from the proposed combustion turbines and backup diesel engine shall not exceed the allowable particulate matter emissions rate per the following equation for units with heat input rate of 4,200 MMBtu per hour or less.

$$E = 1.02Q^{0.432}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the total heat input of all operating fuel-burning units on a plant or premises in MMBtu/hour.

(a) Pursuant to Code §5-23-1010(C), opacity of exhaust from the proposed CTs and backup diesel engine shall not exceed 40% for

any period greater than 10 consecutive seconds. Visible emissions when starting cold equipment shall be exempt for the first 10 minutes.

The proposed CTs will fire natural gas only. The backup diesel engine will use ultra-low sulfur diesel fuel. Emissions from these operations are expected to be in compliance with the requirements of Code §§5-23-1010(A) and (C).

(b) For the backup diesel engine, Bella Energy will only use ultra-low sulfur diesel, which will be in compliance with the SO_2 limit of 1.0 lb/MMBtu per Code §5-23-1010(D).

4.1.6.2 Miscellaneous and Unclassified Source Requirements (Code Ch. 5, Article 24)

Use of ultra-low sulfur diesel will ensure that the emissions from the backup diesel engine shall be in compliance with the SO_2 emission limitation in Code §5-24-1030(A)(2) of 600 ppm.

NO_X emissions from the proposed equipment will be in compliance with the 500 ppm limit in Code §5-24-1030(A)(3).

Control of Federally Listed HAPs (Code Chapter 7, Article 1): Code §7-1-040 (A) generally requires that construction of a new major source of federally listed HAPs shall include the installation of maximum achievable control technology (MACT) for the new major source determined on a case-by-case basis in Code §7-1-040 (B) and Code §7-1-050 (A). As noted in section 3.4.3, for the Project, the potential emissions of a single HAP are less than 10 tons per year and the potential emissions of total HAPs are less than 25 tons per year. Therefore, the Project does not meet the definition of "major source" in Code §7-1-020 (5) as the HAPs PTE is below the applicable regulatory thresholds and the case-by-case MACT requirements in Code §7-1-050 (A) do not apply to the Project.

4.2 Federal Regulations

4.2.1 New Source Performance Standards (40 CFR Part 60; Code Ch. 6)

Some of the federal new source performance standards (NSPS) requirements are incorporated by reference in Code §6-1-030. Applicability of the NSPS requirements for the proposed units is presented below.

4.2.1.1 General Provisions, 40 CFR Part 60, Subpart A

Bella Energy will comply with the applicable requirements under general provisions of 40 CFR Part 60 Subpart A. These will include notifications, compliance testing, monitoring, recordkeeping, and reporting provisions of the rule.

4.2.1.2 Standards of Performance for Stationary Combustion Turbines, 40 CFR Part 60, Subpart KKKK

NSPS 40 CFR Part 60, Subpart KKKK applies to stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu per hour that commence construction after February 18, 2005. The proposed simple cycle combustion turbines will be affected units under this NSPS and will be subject to the following standards:

(a) Comply with the NO_X emission limit of 25 ppm at 15 percent O_2 or 1.2 lb/MWh (for combustion turbine firing natural gas with heat input greater than 50 MMBtu per hour and less than or equal to 850 MMBtu per hour) on a four (4) hour rolling average basis. (40 CFR §60.4320 and Table 1, 40 CFR §60.4350 (h))

(b) Comply with the alternate NO_X emission limit of 96 ppm at 15 percent O_2 or 4.7 lb/MWh (for combustion turbine firing natural gas with output greater than 30 MW) on a four (4) hour rolling average basis when combustion turbines are operating at less than 75% of peak load. (40 CFR §60.4320 and Table 1, 40 CFR §60.4350 (g))[5]

(c) Comply with the SO_2 emission limits of 0.90 pounds per megawatt-hour gross output, or not burn any fuel which contains emissions in excess of 0.060 lb SO_2/MMBtu heat input. (40 CFR §60.4330)

(d) Compliance requirement – The simple cycle combustion turbines, SCR, oxidation catalysts, and monitoring equipment must be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. (40 CFR §60.4333)

(e) Option to use a NO_X continuous emission monitoring system (CEMS). Bella will use NO_X CEMS installed, certified and operated in accordance with 40 CFR Part 75 Appendix A. (40 CFR §§60.4335(b) and 60.4345(a))

(f) The requirement to monitor fuel sulfur for SO_2 monitoring does not apply if potential sulfur emissions expressed as SO_2 are less than 0.060 lb/MMBtu. Bella proposes to use a fuel tariff sheet or purchase contract information to show that fuel sulfur will comply with the applicable limit. (40 CFR §§60.4360 and 60.4365)

(g) Bella proposes to use NO_X CEMS Relative Accuracy Test Audit (RATA) as the initial NO_X performance test. (40 CFR §60.4400)

[5] 71 Fed. Reg. 38482, July 6, 2016, pp 38486 "Turbine owners and operators that are continuously monitoring parameters or emissions have an alternate limit during periods when the turbine operates at less than 75 percent of peak load or the ambient temperature is less than 0 °F."

(h) No annual performance test is required due to the presence of NO_X CEMS. (40 CFR § 60.4340(b)(1))

(i) Comply with the reporting requirements in 40 CFR § 60.4375 regarding excess emissions and monitor downtime.

4.2.1.3 Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units, 40 CFR Part 60, Subpart TTTT

This NSPS applies to carbon dioxide (CO_2) emissions from certain stationary combustion turbines. As specified in 40 CFR § 60.5509(a) of this subpart, the GHG standards included in this subpart apply to any steam generating unit, Integrated Gasification Combined Cycle facility (IGCC), or stationary combustion turbine; all of which are designated as electric generating units (EGUs); that commenced construction after January 8, 2014 or commenced reconstruction after June 18, 2014 that meets the applicability conditions in below:

(a) Has a base load rating greater than 250 MMBtu per hour of fossil fuel (either alone or in combination with any other fuel); and

(b) Serves a generator or generators capable of selling greater than 25 MW of electricity to a utility power distribution system.

The ten proposed simple cycle combustion turbines each have a base load rating greater than 250 MMBtu per hour of fossil fuel and serve generators capable of selling greater than 25 MW of electricity. Therefore, these units are subject to the requirements of this standard.

Per 40 CFR § 60.5520(a), the proposed CTs will be subject to the CO_2 emission standards specified in Table 2 of the 40 CFR 60 Subpart TTTT. The proposed units are "non-base load" type as they will combust more than 90% natural gas on a heat input basis (100%), and Bella Energy plans to limit net electric sales for each CT to less than its design efficiency (or 50% whichever is less), multiplied by its potential electric output on a 12-operating month basis or 3-year rolling average basis. Therefore, these units will be subject to the nominal CO_2 limitation of 120 lb per MMBtu on a 12-month rolling average basis (40 CFR § 60.5520, 40 CFR § 60.5525, and Table 2).

Per 40 CFR § 60.5520(d), stationary combustion turbines are subject to a heat input-based standard in Table 2 of this subpart that are only permitted to burn one or more uniform fuels, as described in 40 CFR § 60.5520(d)(l), are only subject to the monitoring requirements in 40 CFR § 60.5520(d)(l) as follows:

> Stationary combustion turbines that are only permitted to burn fuels with a consistent chemical composition (i.e., uniform fuels) that result in a consistent emission rate of 160 lb CO_2/MMBtu or less are not subject to any monitoring or reporting requirements under this subpart. These fuels include, but are not limited to, natural gas, methane, butane,

butylene, ethane, ethylene, propane, naphtha, propylene, jet fuel kerosene, No. 1 fuel oil, No. 2 fuel oil, and biodiesel. Stationary combustion turbines qualifying under this paragraph are only required to maintain purchase records for permitted fuels.

The proposed simple cycle combustion turbines will be permitted to burn only natural gas which is classified as a uniform fuel. Therefore, per 40 CFR § 60.5520(d)(l), the proposed CTs are not subject to any monitoring or reporting requirements under this standard and are only required to maintain purchase records for the permitted fuels.

4.2.1.4 Standards of Performance for Stationary Compression Ignition Internal Combustion Engine, 40 CFR Part 60, Subpart IIII

NSPS 40 CFR Part 60, Subpart IIII applies to stationary compression ignition RICE, including engines that commence construction after 2009. The proposed backup diesel engine will be subject to the requirements of this rule as noted below:

(a) Comply with the emission limitations in Table 4-2 below. (40 CFR §§60.4202(d) and 60.4205(c), Table 4)

TABLE 4-2
NSPS IIII REQUIREMENTS FOR THE TIER 2 BACKUP DIESEL ENGINE

Pollutant	Emission Standard (lb/HP-hr)
$NMHC+NO_X$	4.8
CO	2.6
PM	0.15

SEP plans to purchase a manufacturer-certified RICE that will be in compliance with the above limitations.

(b) Use ultra-low sulfur diesel fuel per the requirements of 40 CFR §80.510(b). (40 CFR §60.4207(b))

4.2.1.5 National Emissions Standards for Hazardous Air Pollutants (40 CFR Part 63; Code Ch 7)

Some of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements are incorporated by reference in Code §7-1-030. Applicability of the NESHAP requirements for the proposed units is presented below. Source-wide PTE of HAPs provided in Table 3-7 lists PTE of single HAPs and combination of HAPs as less than 10 tons per year and 25 tons per year, respectively. Therefore, the proposed Project will be an area source in 40 CFR §63.2 for applicability of NESHAP requirements.

4.2.1.6 National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, 40 CFR Part 63, Subpart YYYY

NESHAP 40 CFR 63 Subpart YYYY applies to stationary combustion turbines at major sources of HAP emissions. The Bella Energy Project is an area (non-major) source of HAPs and the new combustion turbines will not be subject to the NESHAP requirements.

4.2.1.7 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63, Subpart ZZZZ

NESHAP 40 CFR 63 Subpart ZZZZ applies to RICE located at area and major sources of HAP emissions. The Bella Energy Project, an area source of HAPs, will involve construction of a backup diesel engine. Pursuant to 40 CFR § 63.6590(c)(1), new stationary RICE located at an area source that is subject to 40 CFR Part 60 IIII are exempt from 40 CFR Part 63 Subpart A and Subpart ZZZZ.

4.2.2 Title V Operating Permit Program (40 CFR Part 70 and Code Ch. 3, Article 1)

Arizona has a unitary air permit program for new facilities that applies to the Bella Energy facility. The facility will be a major source with PTE greater than 100 tons/year of NO_x, CO and VOC, and will be regulated under the federal Title V Operating Permit Program, 40 CFR Part 70 and PCAQCD Code Chapter 3, Article 1. In addition to the application to construct a new power generation facility, this application serves as the initial Title V operating permit application for the Bella Energy facility. The EPA has approved PCAQCD's Title V permitting program via the State Implementation Plan. This application includes proposed permit conditions addressing regulations applicable to emission units and the facility, including insignificant sources.

4.2.3 Acid Rain Program (40 CFR Part 72 and Code Ch. 3, Article 6)

The federal acid rain program requirements at 40 CFR Part 72 are incorporated by reference in Code §3-6-565(A). Per 40 CFR §72.6(a)(3)(i), a "utility unit," that is a "new unit" is considered an affected unit. Any source that includes such an affected unit shall be an affected source, subject to the requirements of the Acid Rain Program in 40 CFR Part 72. A "utility unit" means a unit owned or operated by a utility that serves a generator in any State that produces electricity for sale. Finally, "Unit" means a fossil fuel-fired combustion device. Because the new combustion turbine generators fire natural gas and produce electricity for sale, these new CTs are affected units under the federal Acid Rain Program. A copy of the Acid Rain Permit application has been submitted to the USEPA, and is included with this application as Appendix D.

5.0 PROPOSED PERMIT TERMS AND CONDITIONS

This section of the application presents proposed permit terms and conditions for the Class I Permit for The Bella Energy Facility.

As provided under Code § 3-1-084, Bella Energy is proposing the following voluntary emission limitations for the proposed simple cycle combustion turbines to keep the project PTE below the NNSR and PSD thresholds.

(1) Emission Limitations

a. The Permittee shall not cause or allow the combined NO_X emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

b. The Permittee shall not cause or allow the combined CO emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

c. The Permittee shall not cause or allow the PM_{10} or $PM_{2.5}$ emissions from all CTs to exceed 63 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

d. The Permittee shall not cause or allow the combined VOC emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

e. The Permittee shall not cause or allow the combined SO_X emissions from all CTs to exceed 225 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

f. The Permittee shall not cause or allow each individual HAP to exceed 10 tons per 12-month rolling total sum or the combined HAP emissions from all CTs to exceed 25 tons per 12-month rolling total sum (combined for normal operations and startup/shutdown events).

(2) Compliance Demonstration

a. Within 60-days after achieving maximum production rate of each CT, but no later than 180 days after the initial start-up of the CT, Permittee shall conduct performance tests, using standard test methods approved by the EPA (40 CFR Part 60) specified below, or equivalent methods as approved by the District pursuant to approval of the test plan required below. These tests shall be performed at the maximum practical production rate. The continuous monitoring systems required by this permit shall be operating prior to conducting the performance tests. The performance tests shall address:

i. Nitrogen oxides emissions: Ref. Part 60, App. A-4, Ref. Method 7E

ii. Carbon monoxide emissions: Ref. Part 60, App. A-4, Ref. Method 10

iii. Particulate matter emissions (PM_{10}, $PM_{2.5}$): Ref. Part 60, App. A-3, Ref. Method 5 and Ref. Part 51 App. M, Ref. Method 202

iv. Volatile organic compound emissions: Ref. Part 60, App. A-7, Ref. Method 25a

(3) Instrumental Emissions Monitoring Requirements – Nitrogen Oxides

a. The Permittee shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) on the ten CTs, and record the output of each system, for measuring nitrogen oxide emissions to the atmosphere during startup and shutdown events and the normal operation of the combustion turbines. Monitoring equipment required under this subsection shall be installed and operated in accordance with a plan submitted to PCAQCD by the permittee.

b. On a calendar-month basis, Permittee shall generate a record of cumulative actual nitrogen oxide emissions from the ten CTs emitted for the previous month and for the preceding 12 months and shall compare that total to the annual nitrogen oxide emissions limitations imposed under the conditions of the permit. The Permittee shall maintain a record of those monthly total calculations, and monthly conclusion regarding compliance with the emission limitations.

c. In accordance with the plan that will be submitted to PCAQCD and if accepted, the Permittee has the alternative option for two CTs to be monitored by each CEMs, for a total of five (5) CEMs units.

(4) Parametric Emissions Monitoring – Carbon Monoxide

a. By the 10^{th} day of each month, Permittee shall calculate and record the quantity of CO emissions from the CTs, separately for each unit, for the previous calendar month. Calculations shall be performed using records of fuel use data, startup and shutdown events, and emission factors, as provided in paragraph c below.

b. By the 10^{th} day of each month, Permittee shall calculate and record the combined CO emissions from the CTs on a rolling 12-month total sum basis. This value shall be calculated as the sum of the emission factors from both units during the previous month and during the preceding eleven months. Permittee shall compare this 12-month total to the annual CO emission limitations under of this permit. Records of the monthly total calculations and compliance with the CO emission limitations shall be maintained.

c. Monthly total CO emissions from each CT shall be calculated, separately for each unit, as the sum of the emissions from that unit during startup and shutdown events, calculated as provided in paragraph d below, and the

emissions from that unit during non-startup/shutdown periods, calculated as provided in paragraph e below.

d. CO emissions from startup and shutdown events at a CT shall be calculated as the product of the number of events and an approved emission factor of 32.3 pounds per event. An event is one startup followed by one shutdown.

e. CO emissions during non-startup/shutdown operating periods at the CTs shall be calculated as the product of the cumulative heat input during such period, expressed in MMBtu, and the approved emission factor, expressed in lb/MMBtu.

   i. Permittee shall use an approved CO emission factor of 0.0143 lb/MMBtu HHV to calculate emissions from the CTs during operating periods from the date of initial startup of each CT through the last day of the calendar month during which PCAQCD first approves a performance test-derived CO emission factor for the CTs in accordance with paragraph f.

   ii. Following approval of a performance test-derived CO emission factor for the CTs by PCAQCD in accordance with paragraph f below, Permittee shall use the approved performance test-derived CO emission factor to calculate emissions during operating periods beginning with the first day of the calendar month after such approval. Permittee shall continue to use such approved performance test-derived CO emission factor until it is superseded by approval of a new test-derived CO emission factor for such CTs.

During each CO performance test conducted at the ten CTs pursuant to Section 2 of this permit, Permittee shall calculate a performance test-derived CO emission factor for such combustion turbine and shall submit such emission factor to PCAQCD for approval. The test-derived emission factor shall be calculated as the arithmetic mean of the emission factor results for all valid runs conducted as part of such performance test. The emission factor result for each run shall be calculated by dividing the measured emission rate during that run, expressed in lb/hr, by the heat input rate during that run, expressed in MMBtu/hr HHV.

(5) Parametric Emissions Monitoring – Particulate Matter

a. By the 10th day of each month, Permittee shall calculate and record the quantity of $PM_{10}/PM_{2.5}$ emissions from the ten CTs, separately for each unit, for the previous calendar month. Calculations shall be performed using records of fuel use data, startup and shutdown events, and emission factors, as provided in paragraph c below.

b. By the 10th day of each month, Permittee shall calculate and record the combined $PM_{10}/PM_{2.5}$ emissions from the ten CTs on a rolling 12-month total sum basis. This value shall be calculated as the sum of the emission factors from both units during the previous month and during the preceding eleven months. Permittee shall compare this 12-month total to the annual $PM_{10}/PM_{2.5}$

emission limitations under this permit. Records of the monthly total calculations and compliance with the $PM_{10}/PM_{2.5}$ emission limitations shall be maintained.

c. Monthly total $PM_{10}/PM_{2.5}$ emissions from the ten CTs shall be calculated, separately for each unit, as the sum of the emissions from that unit during startup and shutdown events, calculated as provided in paragraph d below, and the emissions from that unit during non-startup/shutdown periods, calculated as provided in paragraph e below.

d. $PM_{10}/PM_{2.5}$ emissions from startup and shutdown events at the ten CTs shall be calculated as the product of the number of events and an approved emission factor of 5.1 pounds per event. An event is one startup followed by one shutdown.

e. $PM_{10}/PM_{2.5}$ emissions during non-startup/shutdown operating periods at the ten CTs shall be calculated as the product of the cumulative heat input during such period, expressed in MMBtu, and the approved emission factor, expressed in lb/MMBtu.

   i. Permittee shall use an approved $PM_{10}/PM_{2.5}$ emission factor of 0.0056 lb/MMBtu HHV to calculate annual emissions from the ten CTs during operating periods from the date of initial startup of each turbine through the last day of the calendar month during which PCAQCD first approves a performance test-derived $PM/PM_{10}/PM_{2.5}$ emission factor for the CTs in accordance with paragraph f.

   ii. Following approval of a performance test-derived $PM_{10}/PM_{2.5}$ emission factor for the ten CTs by PCAQCD in accordance with paragraph f below, Permittee shall use the approved performance test-derived $PM_{10}/PM_{2.5}$ emission factor to calculate emissions during operating periods beginning with the first day of the calendar month after such approval. Permittee shall continue to use such approved performance test-derived $PM_{10}/PM_{2.5}$ emission factor until it is superseded by approval of a new test-derived $PM_{10}/PM_{2.5}$ emission factor for such CTs.

f. During each $PM_{10}/PM_{2.5}$ performance test conducted at the CTs pursuant to Section 2 of this permit, Permittee shall calculate a performance test-derived $PM_{10}/PM_{2.5}$ emission factor for such combustion turbine and shall submit such emission factor to PCAQCD for approval. The test-derived emission factor shall be calculated as the arithmetic mean of the emission factor results for all valid runs conducted as part of such performance test. The emission factor result for each run shall be calculated by dividing the measured emission rate during that run, expressed in lb/hr, by the heat input rate during that run, expressed in MMBtu/hr HHV.

(6) Parametric Emissions Monitoring – Volatile Organic Compounds

a. By the 10^{th} day of each month, Permittee shall calculate and record the

quantity of VOC emissions from the CTs, separately for each unit, for the previous calendar month. Calculations shall be performed using records of fuel use data, startup and shutdown events, and emission factors, as provided in paragraph c below.

b. By the 10th day of each month, Permittee shall calculate and record the combined VOC emissions from the CTs on a rolling 12-month total sum basis. This value shall be calculated as the sum of the emission factors from both units during the previous month and during the preceding eleven months. Permittee shall compare this 12-month total to the annual VOC emission limitations under of this permit. Records of the monthly total calculations and compliance with the VOC emission limitations shall be maintained.

c. Monthly total VOC emissions from each CT shall be calculated, separately for each unit, as the sum of the emissions from that unit during startup and shutdown events, calculated as provided in paragraph d below, and the emissions from that unit during non-startup/shutdown periods, calculated as provided in paragraph e below.

d. VOC emissions from startup and shutdown events at a CT shall be calculated as the product of the number of events and an approved emission factor of 2.7 pounds per event. An event is one startup followed by one shutdown.

e. VOC emissions during non-startup/shutdown operating periods at the CTs shall be calculated as the product of the cumulative heat input during such period, expressed in MMBtu, and the approved emission factor, expressed in lb/MMBtu.

   i. Permittee shall use an approved VOC emission factor of 0.0172 lb/MMBtu HHV to calculate emissions from the CTs during operating periods from the date of initial startup of each CT through the last day of the calendar month during which PCAQCD first approves a performance test-derived VOC emission factor for the CTs in accordance with paragraph f.

   ii. Following approval of a performance test-derived VOC emission factor for the CTs by PCAQCD in accordance with paragraph f below, Permittee shall use the approved performance test-derived VOC emission factor to calculate emissions during operating periods beginning with the first day of the calendar month after such approval. Permittee shall continue to use such approved performance test-derived VOC emission factor until it is superseded by approval of a new test-derived VOC emission factor for such CTs.

f. During each VOC performance test conducted at the ten CTs pursuant to Section 2 of this permit, Permittee shall calculate a performance test-derived VOC emission factor for such combustion turbine and shall submit such emission factor to PCAQCD for approval. The test-derived emission factor shall be calculated as the arithmetic mean of the emission factor results for all valid runs conducted as part of such performance test. The emission factor result

for each run shall be calculated by dividing the measured emission rate during that run, expressed in lb/hr, by the heat input rate during that run, expressed in MMBtu/hr HHV.

(7) Particulate Matter Reasonable Precautions

[Currently federally enforceable pursuant to Code §4-2-040 (6/29/93) approved as a SIP element at 72 FR 41896 (8/1/07)]

a. Permittee shall not cause, suffer, allow, or permit a building or its appurtenances, subdivision site, driveway, parking area, vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared or leveled, or the earth to be moved or excavated, or fill dirt to be deposited without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

b. Permittee shall not cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, such as but not limited to all-terrain vehicles, trucks, cars, cycles, bikes, or buggies, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

c. Permittee shall not disturb or remove soil or natural cover from any area without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

d. Permittee shall not crush, screen, handle or convey materials or cause, suffer, allow or permit material to be stacked, piled or otherwise stored without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

e. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such a manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne. Other reasonable precautions shall be taken, as necessary, to effectively prevent fugitive dust from becoming airborne.

f. Permittee shall not cause, suffer, allow or permit transportation of materials likely to give rise to fugitive dust without taking reasonable precautions to prevent fugitive dust from becoming airborne. Earth and other material that is tracked out or transported by trucking and earth moving equipment on paved streets shall be removed by the party or person responsible for such deposits.

(8) Surface Stabilization

[Currently federally enforceable pursuant to Code §4-1-030 (10/28/15) approved as a SIP element at 82 FR 20267 (5/1/17)]

a. Permittee shall not cause or allow visible fugitive dust emissions from open areas/vacant lots (areas not being utilized for an activity) to exceed 20% opacity based on EPA method 9 or the continuous phone or intermittent plume methods listed in PCAQCD Code §4-9-340.

b. Permittee shall erect barriers or no trespassing signs upon evidence of trespass on open areas/ vacant lots.

c. Permittee shall stabilize any open area / vacant lot greater than 1.0 acre that has 0.5 acre or more of disturbed surface and sign up for the Pinal County Dust Control forecast within 30 days of discovery. The open area / vacant lot shall be stabilized the day leading up to and the day that is forecast to be high risk for dust emissions.

d. Permittee shall not remove vegetation from open areas / vacant lots without applying dust suppressants before and during the weed abatement. Track out onto paved surfaces must be prevented or eliminated and dust suppressants must be applied following weed abatement to stabilize the entire surface.

e. Stabilization of open areas / vacant lots is determined by the drop ball, threshold friction velocity, flat vegetation or standing vegetation methods listed in PCAQCD Code 4-9-320.

f. Permittee shall not cause or allow visible fugitive dust emissions from unpaved lots (areas being utilized for an activity) greater than 5000 square feet to exceed 20% opacity based on EPA Method 9 or the continuous plume or intermittent plume methods listed in PCAQCD Code §4-9-340.

g. Permittee shall not allow silt loading equal to or greater than 0.33 oz/ft^2 or allow the silt content to exceed 8% on unpaved lots greater than 5000 square feet.

h. Permittee shall stabilize unpaved lots greater than 5000 square feet by paving, applying a dust suppressant or graveling.

i. Permittee shall clean up track out on a paved public roadway that exceeds 50 feet within 24 hours of discovery and limit opacity to 20% or less while using a rotary brush or broom.

j. Permittee shall make a record of the control measures applied.

(9) Additional Plant-Wide Requirements

a. Sandblasting – Plant Wide (Code §5-4-160.)

Permittee shall use at least one of the following control measures during sandblasting operations:

i. Vacuum collection system.

ii. Confined blasting.

iii. Wet abrasive blasting.

iv. Hydroblasting.

v. A control measure that is determined by the Control Officer to be equally effective to control particulate matter emissions.

b. Architectural Coatings (Code §5-12-370)

Permittee shall not employ, apply, evaporate or dry any architectural coating, as defined in §5-12-370.C, for industrial or commercial purposes, material containing photochemically reactive solvent as defined in §5-9-280 or shall thin or dilute any architectural coating with a photochemically reactive solvent.

c. Other Spray Painting (Code §5-13-390)

Permittee shall conduct spray painting operations except architectural coatings in an enclosed area designed to contain not less than 96% by weight of the overspray. An enclosed area means a 3-sided structure with walls a minimum of 8 feet high.

d. Disposal (Codes §5-12-370 and 5-13-390)

Permittee shall not, during any one day, dispose of a total of more than one and one-half gallons of any photochemically reactive solvent or of any material containing more than one and one-half gallons of any such photochemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere.

APPENDIX A

PERMIT APPLICATION FORM

Pinal County Air Quality Control District

P.O. Box 987 – Florence, AZ 85132 P-(520) 866-6929 F-(520) 866-6967

PINAL COUNTY
WIDE OPEN OPPORTUNITY

Permit Application

(As required by A.R.S. §49-480, and Chapter 3, Article I, Pinal County Air Quality Control District Code of Regulations)

1. Permit to be issued to:
   Seguro Energy Partners, LLC
   (Name and legal status (e.g. corporation or proprietorship) or organization that is to receive permit)

2. Mailing Address:
   9004 South 230th Ave
   City: Buckeye State: AZ Zip: 85326
   Billing Address (if different from above):
   City: State: Zip:

3. Plant Name (if different from above): Bella Energy Facility

4. Name(s) of Owner or Operator: Seguro Energy Partners, LLC
   Phone: +1 406-490-1109

5. Plant/Site Manager: Mark Thompson, Managing Partner Phone: 406-490-1109 Fax:

6. Contact Person: Mark Thompson Phone: 406-490-1109 Fax:
   Email Address: mthompson@seguroenergyllc.com

7. Equipment/Plant Location or Proposed Location Address: At the northeast corner of the intersection of W Corman Rd and S Midway Rd
   City: Casa Grande (nearest city) Zip: 85193 Parcel #:
   Section/Township/Range: Section 06, Township 7 South, Range 5 East
   Latitude/Longitude: 32.835884, -111.877416 (SW corner) Elevation: 1359 ft

8. General Nature of Business: Power generation and energy storage
   North American Industry Classification System: According to the 2022 NAICS, the code is 22111

9. Type of Organization
   - ☐ Corporation — State of Incorporation: ID
   - ☐ Arizona Limited Liability
   - ☐ Government Entity — Government Facility Code:
   - ☐ Individual Owner
   - ☐ Partnership
   - ☑ Other (Specify): Limited Liability Company

10. Permit Application Basis: (Check all that apply)

- [x] New Source
- [ ] Permit Revision
- [ ] Administrative Change
- [ ] Renewal of Existing Permit
- [ ] Portable Source
- [ ] General Permit
- [ ] Permit Transfer

For renewal or modification, include existing permit number: N/A

Date of Commencement of Construction or Modification: October 15, 2024

Is any of the equipment to be leased to another individual or entity? [ ] Yes [x] No

11. If necessary to preserve this source's status as a less-than-major source, the undersigned agrees that the permit or this source ***SHOULD*** [x] ***SHOULD NOT*** [ ] include Federally Enforceable Provisions in accord with Code §3-1-084.

12. The undersigned states and certifies that, based on information and belief formed after reasonable inquiry, the statements and information in this document and supporting materials are true, accurate and complete. To the extent that this application pertains to an assignment of an existing permit, the undersigned further agrees to comply with and accept each and every obligation associated with that existing permit. *Knowingly presenting a false certification constitutes a criminal offense under A.R.S. §13-2704.*

13. The undersigned applicant states that he/she currently has, or at the time construction and/or operation begins will have, legal authority to enter upon and use the premises upon which this source will be operated.

14. Attach a description of the process to be permitted or revised including a list of equipment, capacities, MSDS sheets and anticipated production or throughput.

15. For new sources, an application filing deposit fee must be included with the application.

Signature of Responsible Official of Organization

Mark D. Thompson

Typed or Printed Name of Signer

Managing Partner

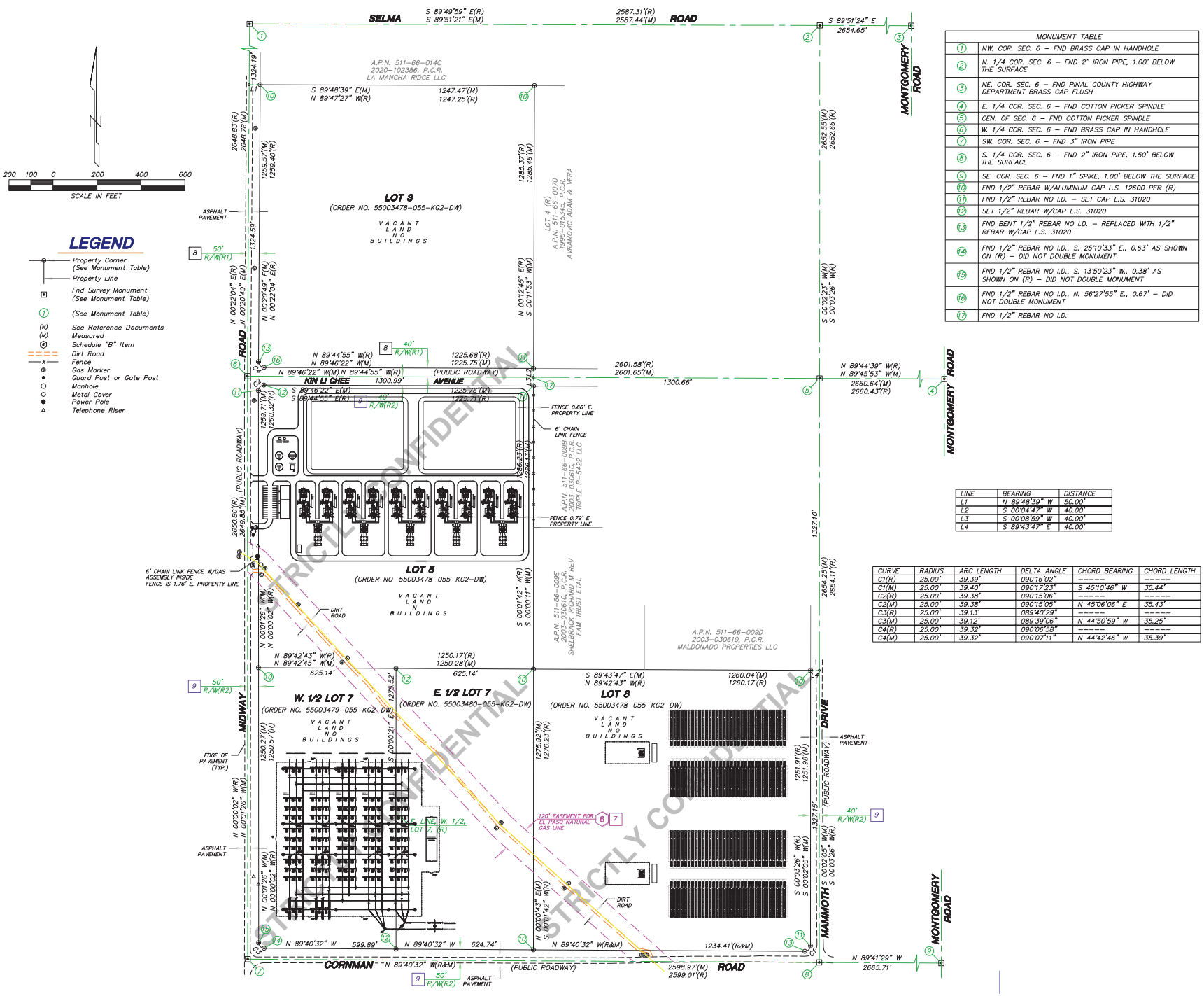
Official Title of Signer

May 10, 2023

Date

APPENDIX B

SITE LAYOUT



MONUMENT TABLE	
1	NW. COR. SEC. 6 – FND BRASS CAP IN HANDHOLE
2	N. 1/4 COR. SEC. 6 – FND 2" IRON PIPE, 1.00' BELOW THE SURFACE
3	NE. COR. SEC. 6 – FND PINAL COUNTY HIGHWAY DEPARTMENT BRASS CAP FLUSH
4	E. 1/4 COR. SEC. 6 – FND COTTON PICKER SPINDLE
5	CEN. OF SEC. 6 – FND COTTON PICKER SPINDLE
6	W. 1/4 COR. SEC. 6 – FND BRASS CAP IN HANDHOLE
7	SW. COR. SEC. 6 – FND 3" IRON PIPE
8	S. 1/4 COR. SEC. 6 – FND 2" IRON PIPE, 1.50' BELOW THE SURFACE
9	SE. COR. SEC. 6 – FND 1" SPIKE, 1.00' BELOW THE SURFACE
10	FND 1/2" REBAR W/ALUMINUM CAP L.S. 12600 PER (R)
11	FND 1/2" REBAR NO I.D. – SET CAP L.S. 31020
12	SET 1/2" REBAR W/CAP L.S. 31020
13	FND BENT 1/2" REBAR NO I.D. – REPLACED WITH 1/2" REBAR W/CAP L.S. 31020
14	FND 1/2" REBAR NO I.D., S. 25°10'33" E., 0.63' AS SHOWN ON (R) – DID NOT DOUBLE MONUMENT
15	FND 1/2" REBAR NO I.D., S. 13°50'23" W., 0.38' AS SHOWN ON (R) – DID NOT DOUBLE MONUMENT
16	FND 1/2" REBAR NO I.D., N. 56°27'55" E., 0.67' – DID NOT DOUBLE MONUMENT
17	FND 1/2" REBAR NO I.D.

LINE	BEARING	DISTANCE
L1	N 89°48'39" W	50.00'
L2	S 00°04'47" W	40.00'
L3	S 00°08'59" W	40.00'
L4	S 89°43'47" E	40.00'

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1(R)	25.00'	39.39'	090°16'02"	------	------
C1(M)	25.00'	39.40'	090°17'23"	S 45°10'46" W	35.44'
C2(R)	25.00'	39.38'	090°15'06"	------	------
C2(M)	25.00'	39.38'	090°15'05"	N 45°06'06" E	35.43'
C3(R)	25.00'	39.13'	089°40'29"	------	------
C3(M)	25.00'	39.12'	089°39'06"	N 44°50'59" W	35.25'
C4(R)	25.00'	39.32'	090°06'58"	------	------
C4(M)	25.00'	39.32'	090°07'11"	N 44°42'46" W	35.39'

LEGEND

- Property Corner (See Monument Table)
- Property Line
- Fnd Survey Monument (See Monument Table)
- (1) (See Monument Table)
- (R) See Reference Documents
- (M) Measured
- (8) Schedule "B" Item
- Dirt Road
- Fence
- Gas Marker
- Guard Post or Gate Post
- Manhole
- Metal Cover
- Power Pole
- Telephone Riser

200 100 0 200 400 600
SCALE IN FEET

REV.	DATE	DESCRIPTION

VANDERWEIL POWER GROUP

RGV Job No.	Sheet of
Drawn by:	
Checked by:	
Date of Original:	12-09-2022
Scale:	NO SCALE

Project

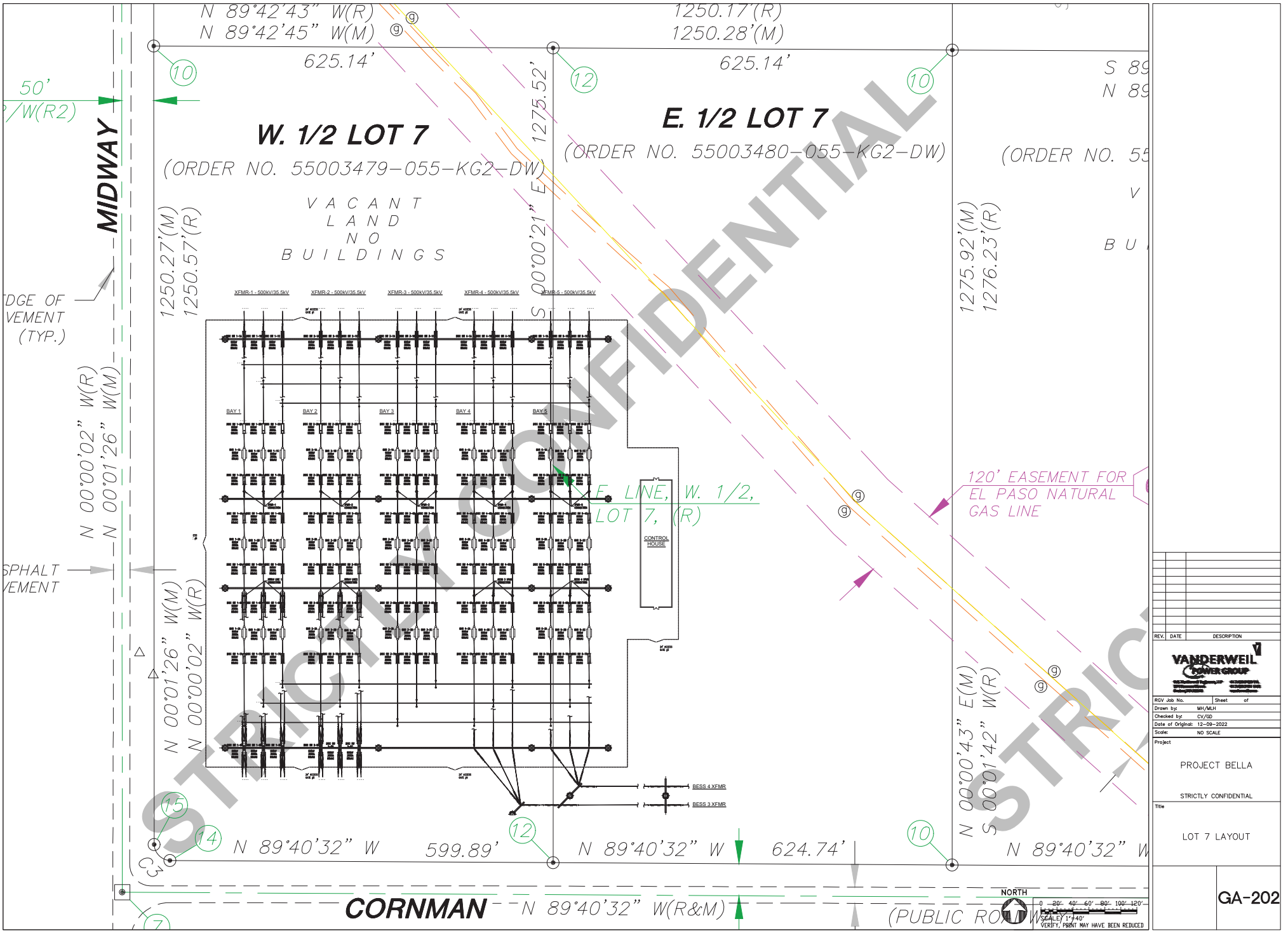
PROJECT BELLA

STRICTLY CONFIDENTIAL

Title

OVERALL SITE LAYOUT

GA-101



REV.	DATE	DESCRIPTION

VANDERWEIL POWER GROUP

RGV Job No.	Sheet of
Drawn by:	MH/MLH
Checked by:	CV/GD
Date of Original:	12-09-2022
Scale:	NO SCALE

Project

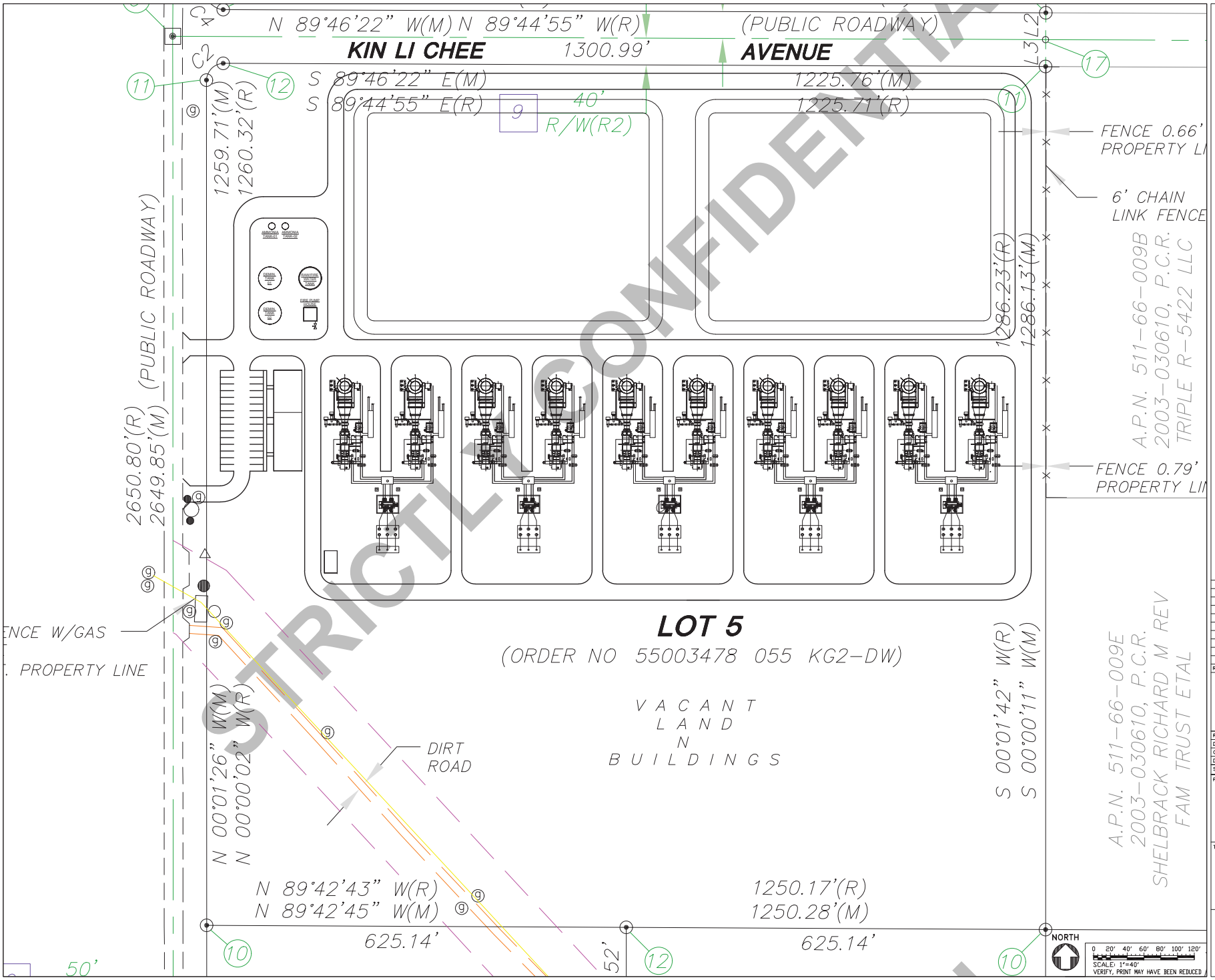
PROJECT BELLA

STRICTLY CONFIDENTIAL

Title

LOT 7 LAYOUT

GA-202



REV.	DATE	DESCRIPTION

VANDERWEIL POWER GROUP

RGV Job No.	Sheet of
Drawn by:	MN/MLH
Checked by:	CV/GD
Date of Original:	12-09-2022
Scale:	AS NOTED

Project

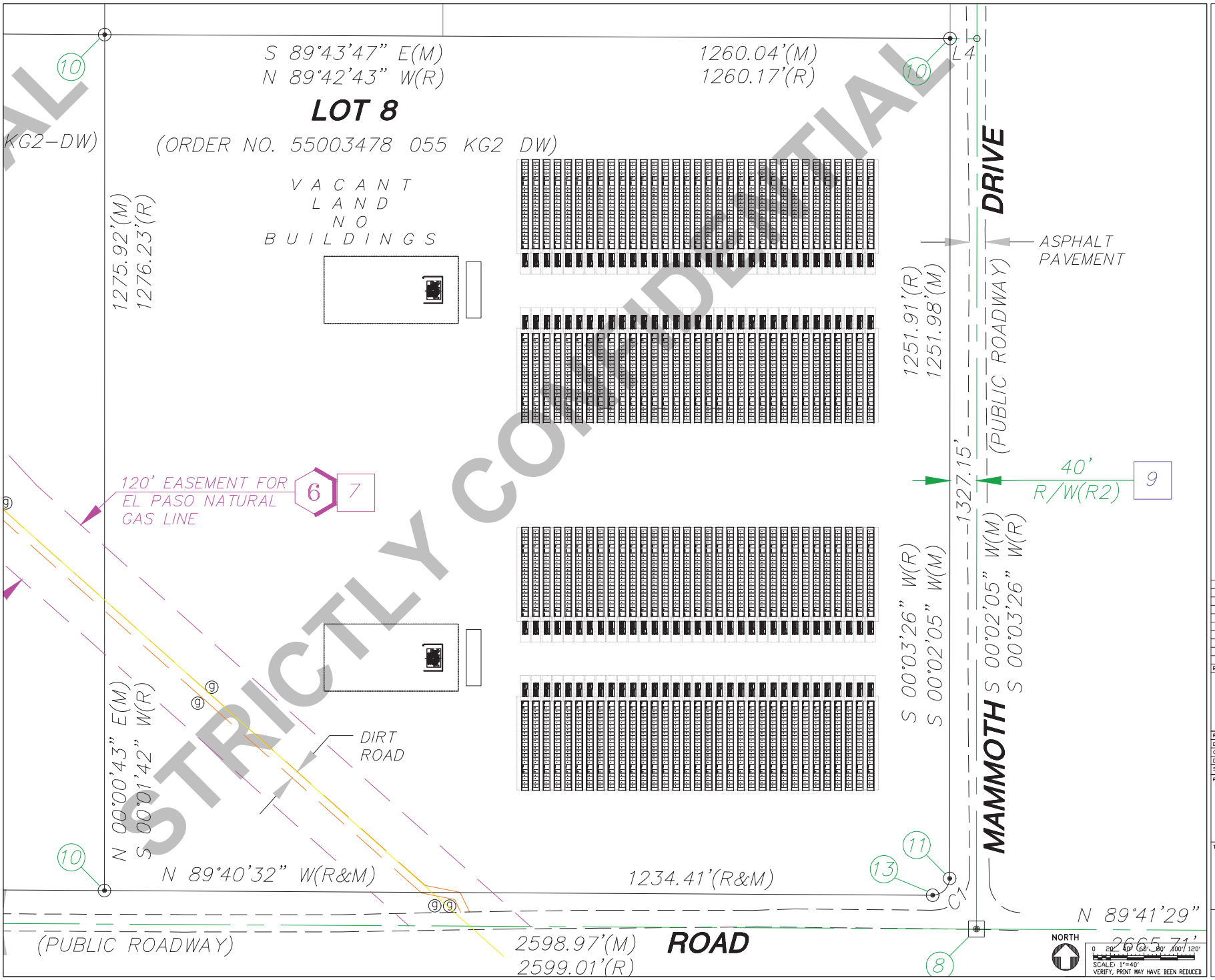
PROJECT BELLA

STRICTLY CONFIDENTIAL

Title

LOT 5 LAYOUT

GA-201



REV.	DATE	DESCRIPTION

VANDERWEIL POWER GROUP

RGV Job No.	Sheet of
Drawn by:	MN/MLH
Checked by:	CV/GD
Date of Original:	12-09-2022
Scale:	AS NOTED

Project

PROJECT BELLA

STRICTLY CONFIDENTIAL

Title

LOT 8 LAYOUT

GA-203

APPENDIX C

POTENTIAL-TO-EMIT CALCULATIONS

10 GE Vernova LM6000PC Natural Gas Fired Turbines PTE
30-Aug-23

Site Parameters	Value	Units	Reference
Site Elevation	1,355	ft	Seguro Energy
Number Turbine Units	10	Units	Seguro Energy
Genset Power (Gross Output)	49	MW	Seguro Energy

Fuel information	Value	Units	Reference
Fuel LHV	18,983	BTU/lb	Seguro Energy
Fuel HHV	21,007	BTU/lb	Seguro Energy
LHV to HHV conversion	1.1066		Calculated
Fuel Flow	6.1	lbs/s	Seguro Energy
Fuel Flow	7,395	scfm	Seguro Energy
Fuel LHV	946.4	BTU/scf	Calculated
Fuel HHV	1,047	BTU/scf	Calculated
Max. Hourly/Daily Fuel S Content	5	gr/100 scf	Input
Annual Avg. Fuel S Content	1	gr/100 scf	Input

Data Inputs - Operation-Specific per Unit	Value	Units	Reference
Load	100	%	Seguro Energy
Fuel Heat Input, steady-state operations (LHV)	420	MMBTU/hr	Seguro Energy
Short-Term Fuel Heat Input, steady-state operations (HI	488	MMBTU/hr	Calculated +5% margin
Annual Fuel Heat Input, steady-state operations (HHV)	439	MMBTU/hr	Calculated, 90% of HHV
Daily Operating Hours	24	hrs/day	Input (120 F, 14 PSI, full load)
Fuel Heat Input HHV, Startup Event	199.6	MMBTU/event	GE guarantee table
Fuel Heat Input HHV, Shutdown Event	33.7	MMBTU/event	GE guarantee table
Number of startups - daily	2	max num/day	Seguro Energy
Number of shutdowns - daily	2	max num/day	Seguro Energy
Startup Duration	30	min	GE guarantee table
Shutdown Duration	9	min	GE guarantee table
Number of startups/shutdowns - yearly	500	num/year	Seguro Energy
Total Annual Steady-State Operating Hours	4,025	hrs/yr	Input, optimized
Total Annual Startup Hours	250	hrs/yr	from above
Total Annual Shutdown Hours	75	hrs/yr	from above
Total Operating Hours per year per turbine	4,350	hrs/yr	Input, optimized

Conversions & Constants	
lb/ton	2000
lb/kg	2.205
grains/lb	7000
g/lb	453.59
days/yr	365
hours/day	24
min/hr	60
sec/min	60
F Factor (scf/MMBtu)	8710
MV- Volume of 1 mole (scf/lb-mole)	379.5
% O2	15.0
MW NO2 (lb/lb-mole)	46.01
MW CO (lb/lb-mole)	28.01
MW VOC as methane (lb/lb-mole)	16.05
MW SO2 (lb/lb-mole)	64.06
MW S (lb/lb-mole)	32.06

F Factor from EPA Method 19, Table 19-2
Molar Volume from AP-42 5.3, Natural Gas Processing

10 GE Vernova LM6000PC Natural Gas Fired Turbines PTE
30-Aug-23

	Units	NOx	CO	VOC	Hourly and Daily SOx	Annual SOx	Hourly and Daily PM_{10}	Annual PM_{10}	Hourly and Daily $PM_{2.5}$	Annual $PM_{2.5}$	CO_2e	Lead	H_2SO_4
Emission Factor (uncontrolled)	ppm	25.0	89.0	13.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Emission Factor (controlled)	ppm	5.00	7.00	13.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Emission Factor	lbs/MMBtu	1.87E-02	1.59E-02	1.72E-02	1.36E-02	2.73E-03	8.20E-03	5.58E-03	8.20E-03	5.58E-03	120	4.93E-07	N/A
Steady-State Controlled Emissions Per Turbine													
Emissions Per Turbine	lbs/hr	8.21	7.00	7.57	6.65	--	4.00	2.45	4.00	2.45	52,704	2.17E-04	0.67
Emissions Per Turbine	lbs/day	197	168	182	160	--	96	58.8	96	58.8	1,264,896	5.20E-03	16.0
Emissions Per Turbine	tons/yr	16.5	14.1	15.2	--	2.41	--	4.93	--	4.93	106,067	4.36E-04	0.24
Startup Emissions Per Turbine													
Emissions Per Event	lbs/event	14.3	15.7	1.80	2.7	0.54	4.10	4.10	4.10	4.10	23,952	9.8E-05	0.27
Emissions Per Day	lbs/day	28.6	31.4	3.60	5.44	1.09	8.20	8.20	8.20	8.20	47,904	1.97E-04	0.54
Emissions Per Year	tons/yr	3.58	3.93	0.45	0.68	0.14	--	1.03	--	1.03	5,988	2.46E-05	0.01
Shutdown Emissions Per Turbine													
Emissions Per Event	lbs/event	3.90	16.6	0.90	0.46	0.09	1.00	1.00	1.00	1.00	4,044	1.66E-05	0.05
Emissions Per Day	lbs/day	7.80	33.2	1.80	0.92	0.18	2.00	2.00	2.00	2.00	8,088	3.32E-05	0.09
Emissions Per Year	tons/yr	0.98	4.15	0.23	0.11	0.02	--	0.25	--	0.25	1,011	4.15E-06	0.002
Startup /Shutdown Emissions (full cycle)													
Emissions Per Turbine, Startup & Shutdown Cycle	lbs/cyle	18.2	32.3	2.70	3.18	--	5.10	--	5.10	--	27,996	1.15E-04	0.32
Total SU/SD Emissions per turbine per day	lbs/day	36.4	64.6	5.40	6.36	--	10.20	--	10.20	--			
Total SU/SD Emissions per turbine per year	tons/yr	4.55	8.08	0.68	0.79	0.16	--	1.28	--	1.28	6,999	2.88E-05	0.079
Emissions Total (all turbines w/startup and shutdown hours)	**Max lbs/hr**	**211**	**348**	**53.5**	**55.1**	**--**	**65.0**	**--**	**65.0**	**--**	**464,424**	**1.91E-03**	**5.51**
	lbs/day	**2,229**	**2,235**	**1,771**	**1,573**	**--**	**1,010**	**--**	**1,010**	**--**	**11,963,808**	**4.92E-02**	**151**
	tons/yr	**211**	**222**	**159**	--	**25.7**	--	**62.1**	--	**62.1**	**1,130,658**	**4.65E-03**	**2.57**
PSD/NA Major Source Thresholds	tons/yr	250	250	250		250		70		250	N/A	250	250
Exceed NSR Major Source Threshold?		*No*	*No*	*No*		*No*		*No*		*No*	*N/A*	*No*	*No*
Title V Thresholds	tons/yr	100	100	100		100		100		100	100,000		
Exceed Major Source Threshold?		*Yes*	*Yes*	*Yes*		*No*		*No*		*No*	*Yes*		
AZ Minor NSR Threshold	tons/yr	20	50	20		20		7.5		5			
Exceed AZ Minor NSR Threshold?		*Yes*	*Yes*	*Yes*		*Yes*		*Yes*		*Yes*			
Reasonably Available Control Tech (RACT) threshold	tons/yr	24	60	24		24		9		6			
Exceed RACT Threshold?		*Yes*	*Yes*	*Yes*		*Yes*		*Yes*		*Yes*			
Enforceable Limit	tons/yr	225	225	225		225		63		225			
Exceed Enforcable Limit?		*No*	*No*	*No*		*No*		*No*		*No*			

Diesel 1500 kW Engine Emissions
30-Aug-23

Data Inputs	Value	Units	Reference
Diesel Engine Output	1500	kW	
Diesel Engine Rating	2114	bhp	
Operating Hours per year	500	hrs/yr	for testing and emergency hours
Diesel Engine operating capacity	100%	percent	assumed
Low-Sulfur Diesel Fuel content	0.0015	% wt	http://www.epa.gov/otaq/documents/eng-cert/nrci-cert-ghg-15f.xls

Conversions	
g/lb	454
lb/ton	2000
Btu/hp-hr	7000
kw/bhp	0.747
power effeciency (%)	95%

Pollutant	Emission Factor	Emission Factor Units	Basis of Emission Factors	Maximum Potential Emissions (lb/hour)	Maximum Potential Emissions (tons/year)
Criteria Pollutants					
NOx	6.08E+00	g/kW-hr	EPA Tier 2 Emission Standard	2.01E+01	5.02
PM_{10}	2.00E-01	g/kW-hr	EPA Tier 2 Emission Standard	6.61E-01	0.17
$PM_{2.5}$	2.00E-01	g/kW-hr	EPA Tier 2 Emission Standard	6.61E-01	0.17
CO	3.50E+00	g/kW-hr	EPA Tier 2 Emission Standard	1.16E+01	2.89
NMHC	3.20E-01	g/kW-hr	EPA Tier 2 Emission Standard	1.06E+00	0.26
SOx	2.05E-03	lb/hp-hr	AP-42 Emission Factor	4.33E+00	1.08
CO_2	1.15E+00	lb/hp-hr	AP-42 Emission Factor	2.43E+03	607.69
Hazardous Air Pollutants					
Benzene	9.33E-04	lb/MMBtu	AP-42 Emission Factor	1.38E-02	3.45E-03
Toluene	4.09E-04	lb/MMBtu	AP-42 Emission Factor	6.05E-03	1.51E-03
Xylenes	2.85E-04	lb/MMBtu	AP-42 Emission Factor	4.22E-03	1.05E-03
1,3-Butadiene	3.91E-05	lb/MMBtu	AP-42 Emission Factor	5.79E-04	1.45E-04
Formaldehyde	1.18E-03	lb/MMBtu	AP-42 Emission Factor	1.75E-02	4.36E-03
Acetaldehyde	7.67E-04	lb/MMBtu	AP-42 Emission Factor	1.13E-02	2.84E-03
Acrolein	9.25E-05	lb/MMBtu	AP-42 Emission Factor	1.37E-03	3.42E-04
Naphthalene	8.48E-05	lb/MMBtu	AP-42 Emission Factor	1.25E-03	3.14E-04
Total PAHs	1.68E-04	lb/MMBtu	AP-42 Emission Factor	2.49E-03	6.21E-04

References:

EPA Tier 2 Emission Standards: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OA05.pdf

AP-42 Emission Factors: https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf

A NMHC+NO_X EF was provided in the tier 2 emission standards. It is assumed that this EF is 5% NMHC and 95% NO_X

NMHC + NOX EF 6.4 g/kW-hr

Bella Energy Hazardous Air Pollutant PTE
30-Aug-23

Data Inputs - Operation-Specific	Value	Units
Fuel Consumption (HHV)	439	MMBtu/hr

Hazardous Air Pollutant	Gas Turbine Emission Factor	Turbine Emissions Per Unit	Turbine Emissions Per Unit	Turbine Emissions Per Unit	Total Turbine Emissions	1500 kW Diesel Engine Emissions	Total HAPs	Minor Source Threshold	Exceed threshold?
	(lb/MMBtu)	lb/hr	lb/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	
Acetaldehyde	4.0E-05	1.8E-02	7.6E+01	3.82E-02	3.8E-01	2.8E-03	0.38	10	no
Acrolein	4.5E-05	2.0E-02	8.6E+01	4.3E-02	4.3E-01	3.4E-04	0.43	10	no
Benzene	1.2E-05	5.3E-03	2.3E+01	1.1E-02	1.1E-01	3.5E-03	0.12	10	no
Butadiene, 1,3 -	4.3E-07	1.9E-04	8.2E-01	4.1E-04	4.1E-03	1.4E-04	0.004	10	no
Ethylbenzene	3.2E-05	1.4E-02	6.1E+01	3.1E-02	3.1E-01	0.0E+00	0.31	10	no
Formaldehyde	7.1E-04	3.1E-01	1.4E+03	6.8E-01	6.8E+00	4.4E-03	6.79	10	no
Naphthalene	1.3E-06	5.7E-04	2.5E+00	1.2E-03	1.2E-02	3.1E-04	0.01	10	no
PAHs	2.2E-06	9.7E-04	4.2E+00	2.1E-03	2.1E-02	6.2E-04	0.02	10	no
Toluene	1.3E-04	5.7E-02	2.5E+02	1.2E-01	1.2E+00	1.5E-03	1.24	10	no
Xylenes	6.4E-05	2.8E-02	1.2E+02	6.1E-02	6.1E-01	1.1E-03	0.61	10	no
Combined HAPs					**9.91**	**1.5E-02**	**9.92**	**25**	**no**

Turbine Emission Facotors: AP-42 3.1 Stationary Internal Combustion Engines. Table 3.1-3

APPENDIX D

ACID RAIN PERMIT APPLICATION

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ✓ **New** **Revised** **for ARP permit renewal**

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Facility (Source) Name	State	Plant Code
Bella Energy Facility	AZ	58413

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)
GE1	Yes
GE2	Yes
GE3	Yes
GE4	Yes
GE5	Yes
GE6	Yes
GE7	Yes
GE8	Yes
GE9	Yes
GE10	Yes

Permit Requirements

STEP 3

Read the standard requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:

(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Sulfur Dioxide Requirements, Cont'd.

STEP 3, Cont'd.

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:

(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and

(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:

(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission

of a new certificate of representation changing the designated representative;

STEP 3, Cont'd.

Recordkeeping and Reporting Requirements, Cont'd.

(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:
(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with

any other provision of the Act, including the provisions of title I of the Act relating

STEP 3, Cont'd.

Effect on Other Authorities, Cont'd.

to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a source can hold; *provided,* that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 4
Read the certification statement, sign, and date.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name MARK D. THOMPSON	
Signature Mark Thompson	Date August 25, 2023

Instructions for the Acid Rain Program Permit Application

The Acid Rain Program requires the designated representative to submit an Acid Rain permit application for each source with an affected unit. A complete Certificate of Representation must be received by EPA before the permit application is submitted to the title V permitting authority. A complete Acid Rain permit application, once submitted, is binding on the owners and operators of the affected source and is enforceable in the absence of a permit until the title V permitting authority either issues a permit to the source or disapproves the application.

Please type or print. If assistance is needed, contact the title V permitting authority.

STEP 1 A Plant Code is a 4 or 5 digit number assigned by the Department of Energy=s (DOE) Energy Information Administration (EIA) to facilities that generate electricity. For older facilities, "Plant Code" is synonymous with "ORISPL" and "Facility" codes. If the facility generates electricity but no Plant Code has been assigned, or if there is uncertainty regarding what the Plant Code is, send an email to the EIA. The email address is EIA-860@eia.gov.

STEP 2 In column "a," identify each unit at the facility by providing the appropriate unit identification number, consistent with the identifiers used in the Certificate of Representation and with submissions made to DOE and/or EIA. Do not list duct burners. For new units without identification numbers, owners and operators must assign identifiers consistent with EIA and DOE requirements. Each Acid Rain Program submission that includes the unit identification number(s) (e.g., Acid Rain permit applications, monitoring plans, quarterly reports, etc.) should reference those unit identification numbers in exactly the same way that they are referenced on the Certificate of Representation.

Submission Deadlines

For new units, an initial Acid Rain permit application must be submitted to the title V permitting authority 24 months before the date the unit commences operation. Acid Rain permit renewal applications must be submitted at least 6 months in advance of the expiration of the acid rain portion of a title V permit, or such longer time as provided for under the title V permitting authority's operating permits regulation.

Submission Instructions

Submit this form to the appropriate title V permitting authority. If you have questions regarding this form, contact your local, State, or EPA Regional Acid Rain contact, or call EPA's Acid Rain Hotline at (202) 343-9620.

Paperwork Burden Estimate

The public reporting and record keeping burden for this collection of information is estimated to average 8 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. **Do not send the completed form to this address.**

APPENDIX E

GE VERNOVA-PROVIDED OPERATIONAL PARAMETERS

Output - Printed Report	US-Units	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Engine		LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC
Frequency	Hz	60	60	60	60	60	60	60	60
Voltage	kV	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
PF		0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Ambient Conditions									
Dry Bulb Temperature	°F	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
Wet Bulb Temperature	°F	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4
Relative Humidity	%	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Elevation a.s.l.	ft	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355
Barometric Pressure	psia	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Engine Inlet Conditioning		None	Evap. Cooling	Chilling	Chilling	Chilling	None	None	None
Compressor Inlet Temperature	°F	120.0	85.3	55.0	48.0	48.0	120.0	120.0	120.0
Compressor Inlet RH	%	20.0	85.1	100.0	100.0	100.0	20.0	20.0	20.0
Inlet Air Flow	lb/s	213.5	248.6	271.4	276.3	270.5	213.5	191.6	185.5
Inlet Air Flow	lb/hr	768,514	894,801	977,147	994,801	973,935	768,514	689,633	667,628
Chilling/Heat Capacity	RT	0.0	0.0	1725.8	2090.8	2047.0	0.0	0.0	0.0
EVAP Water Flow	lb/s	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Pressure Losses									
Inlet Pressure Loss	in H2O	4.0	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Exh. Pressure Loss	in H2O	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Performance									
GTG Load	%	100.0	100.0	100.0	100.0	100.0	100.0	75.0	50.0
Generator Output, Gross	kW	32,822	42,020	47,885	49,012	45,142	32,822	24,617	16,411
STD Aux Load	kW	750	750	750	750	750	750	750	750
Gen. Output, Unit Net	kW	32,072	41,270	47,135	48,262	44,392	32,072	23,867	15,661
Estimated Heat Rate, Gross	Btu/kWh	9,184	8,752	8,593	8,567	8,570	9,184	9,787	11,340
Estimated Heat Rate, Net	Btu/kWh	9,399	8,911	8,730	8,700	8,715	9,399	10,095	11,883
Fuel		Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.
Fuel LHV	Btu/lb	18,983	18,983	18,983	18,983	18,983	18,983	18,983	18,983
Heat Input	MMBtu/h	301.5	367.7	411.5	419.9	386.9	301.5	240.9	186.1
Fuel Flow	lb/s	4.4	5.4	6.0	6.1	5.7	4.4	3.5	2.7
Vol. Fuel Flow	scfm	5,309	6,477	7,247	7,395	6,813	5,309	4,243	3,277
Fuel Temperature	°F	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0
Fuel HHV	Btu/lb	21,007	21,007	21,007	21,007	21,007	21,007	21,007	21,007
SPRINT		LPC	LPC	LPC	LPC	OFF	LPC	LPC	OFF
SPRINT Water Flow	lb/s	1.9	2.7	2.8	2.6	0.0	1.9	1.9	0.0
SPRINT Water Temperature	°F	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
NOx Control		Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx
Diluent Flow	lb/s	3.3	3.5	4.9	5.2	5.7	3.3	2.0	1.8
Diluent Temperature	°F	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Emissions (ESTIMATED)									
NOx, Ref % O2	ppm	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
CO, Ref % O2	ppm	89.0	89.0	89.0	89.0	89.0	89.0	89.0	110.0
UHC, Ref % O2	ppm	53.4	53.4	53.4	53.4	53.4	53.4	53.4	66.0
VOC, Ref % O2	ppm	10.7	10.7	10.7	10.7	10.7	10.7	10.7	13.2
NOx as NO2 (previous reported)	lb/h	20.9	25.6	28.6	29.2	26.9	20.9	16.7	12.9
NOx as NO2 (Corrected)	lb/h	30.5	37.2	41.6	42.5	39.1	30.5	24.3	18.8
CO	lb/h	66.1	80.6	90.2	92.1	84.8	66.1	52.8	50.3
UHC (CH4)	lb/h	22.7	27.7	31.0	31.6	29.1	22.7	18.1	17.3
VOC	lb/h	4.5	5.5	6.2	6.3	5.8	4.5	3.6	3.5
PM-10	lb/h	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
CO2	lb/h	40,170	48,980	54,790	55,900	51,520	40,170	32,124	24,846

Output - Printed Report	US-Units	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Exhaust Parameter									
Exhaust Temperature	°F	901.1	878.8	854.1	849.5	838.3	901.1	888.5	885.5
Exhaust Flow	lb/s	220.7	257.2	282.0	287.2	278.8	220.7	187.8	162.8
Exhaust Flow	lb/hr	794,404	926,033	1,015,340	1,033,788	1,003,805	794,404	676,233	586,090
Exhaust Volume Flow	acfm	472,653	542,984	580,048	587,589	563,591	472,653	398,601	342,955
Exhaust Volume Flow	scfm	179,707	210,547	229,638	233,539	225,714	179,707	152,566	131,341
Exhaust Pressure	psia	14.6	14.7	14.7	14.7	14.7	14.6	14.6	14.6
Exhaust Energy (Ref T2)	MMBtu/h	165.4	196.8	215.1	219.2	208.1	165.4	137.7	117.5
Fuel Composition									
Methane	% vol	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000
Ethane	% vol	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800
Propane	% vol	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500
n-Butane	% vol	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
n-Pentane	% vol	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800
n-Hexane	% vol	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Oxygen	% vol	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Water	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nitrogen	% vol	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300
Carbon Dioxide	% vol	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700
Carbon Monoxide	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hydrogen	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ammonia	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Generator Information									
Generator Name		BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT
Generator Coolant		Air	Air	Air	Air	Air	Air	Air	Air
Gen. Coolant Temperature	°F	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0

Output - Printed Report	Case 9	Case 10	Case 11	Case 12	Case 13	Case 14	Case 15	Case 16	Case 17
Engine	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC	LM6000PC
Frequency	60	60	60	60	60	60	60	60	60
Voltage	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
PF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Ambient Conditions									
Dry Bulb Temperature	120.0	120.0	120.0	55.0	55.0	55.0	10.0	10.0	10.0
Wet Bulb Temperature	81.4	81.4	81.4	47.8	47.8	47.8	8.1	8.1	8.1
Relative Humidity	20.0	20.0	20.0	60.0	60.0	60.0	60.0	60.0	60.0
Elevation a.s.l.	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355
Barometric Pressure	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Engine Inlet Conditioning	Chilling	Chilling	Chilling	None	None	None	None	None	None
Compressor Inlet Temperature	55.0	55.0	55.0	55.0	55.0	55.0	10.0	10.0	10.0
Compressor Inlet RH	100.0	100.0	100.0	60.0	60.0	60.0	60.0	60.0	60.0
Inlet Air Flow	271.4	258.4	217.5	272.8	260.1	219.1	293.7	260.2	232.1
Inlet Air Flow	977,147	930,396	783,154	982,159	936,373	788,850	1,057,195	936,881	835,482
Chilling/Heat Capacity	1725.8	1643.2	1383.1	0.0	0.0	0.0	0.0	0.0	0.0
EVAP Water Flow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pressure Losses									
Inlet Pressure Loss	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Exh. Pressure Loss	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Performance									
GTG Load	100.0	75.0	50.0	100.0	75.0	50.0	100.0	75.0	50.0
Generator Output, Gross	47,885	35,914	23,942	48,212	36,159	24,106	48,090	36,068	24,045
STD Aux Load	750	750	750	750	750	750	750	750	750
Gen. Output, Unit Net	47,135	35,164	23,192	47,462	35,409	23,356	47,340	35,318	23,295
Estimated Heat Rate, Gross	8,593	8,950	9,745	8,595	8,951	9,742	8,393	8,722	9,560
Estimated Heat Rate, Net	8,730	9,141	10,060	8,731	9,141	10,055	8,526	8,907	9,867
Fuel	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.
Fuel LHV	18,983	18,983	18,983	18,983	18,983	18,983	18,983	18,983	18,983
Heat Input	411.5	321.4	233.3	414.4	323.7	234.8	403.6	314.6	229.9
Fuel Flow	6.0	4.7	3.4	6.1	4.7	3.4	5.9	4.6	3.4
Vol. Fuel Flow	7,247	5,661	4,109	7,298	5,700	4,136	7,108	5,540	4,048
Fuel Temperature	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0
Fuel HHV	21,007	21,007	21,007	21,007	21,007	21,007	21,007	21,007	21,007
SPRINT	LPC	LPC	OFF	LPC	LPC	OFF	OFF	OFF	OFF
SPRINT Water Flow	2.8	2.8	0.0	2.8	2.8	0.0	0.0	0.0	0.0
SPRINT Water Temperature	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
NOx Control	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx	Water to Target NOx
Diluent Flow	4.9	2.9	2.3	5.3	3.2	2.5	5.9	3.8	2.2
Diluent Temperature	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Emissions (ESTIMATED)									
NOx, Ref % O2	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
CO, Ref % O2	89.0	89.0	110.0	89.0	89.0	110.0	89.0	89.0	110.0
UHC, Ref % O2	53.4	53.4	66.0	53.4	53.4	66.0	53.4	53.4	66.0
VOC, Ref % O2	10.7	10.7	13.2	10.7	10.7	13.2	10.7	10.7	13.2
NOx as NO2 (previous reported)	28.6	22.3	16.2	28.8	22.5	16.3	28.0	21.8	15.9
NOx as NO2 (Corrected)	41.6	32.5	23.6	41.9	32.7	23.7	40.8	31.7	23.2
CO	90.2	70.4	63.1	90.8	70.9	63.5	88.4	68.8	62.1
UHC (CH4)	31.0	24.2	21.7	31.2	24.4	21.8	30.4	23.6	21.3
VOC	6.2	4.8	4.3	6.2	4.9	4.4	6.1	4.7	4.3
PM-10	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
CO2	54,790	42,863	31,137	55,167	43,156	31,335	53,691	41,903	30,666

Output - Printed Report	Case 9	Case 10	Case 11	Case 12	Case 13	Case 14	Case 15	Case 16	Case 17
Exhaust Parameter									
Exhaust Temperature	854.1	767.8	787.7	852.3	765.9	786.0	772.7	724.2	689.1
Exhaust Flow	282.0	258.2	202.9	283.8	259.9	204.2	302.1	265.3	218.6
Exhaust Flow	1,015,340	929,419	730,602	1,021,744	935,504	735,266	1,087,427	955,110	787,091
Exhaust Volume Flow	580,048	495,133	394,440	581,965	496,774	395,705	576,059	485,870	388,530
Exhaust Volume Flow	229,638	209,142	163,248	230,744	210,176	164,008	243,347	212,805	174,690
Exhaust Pressure	14.7	14.7	14.6	14.7	14.7	14.6	14.7	14.7	14.6
Exhaust Energy (Ref T2)	215.1	173.0	138.4	215.5	173.2	138.6	214.7	174.7	135.6
Fuel Composition									
Methane	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000	84.5000
Ethane	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800	5.5800
Propane	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500	2.0500
n-Butane	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
n-Pentane	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800
n-Hexane	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Oxygen	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Water	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nitrogen	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300	5.9300
Carbon Dioxide	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700
Carbon Monoxide	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hydrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ammonia	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Generator Information									
Generator Name	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT	BDAX 7-290ERJT
Generator Coolant	Air	Air	Air	Air	Air	Air	Air	Air	Air
Gen. Coolant Temperature	120.0	120.0	120.0	55.0	55.0	55.0	10.0	10.0	10.0

APPENDIX F

AIR QUALITY MODELING PROTOCOL

AIR DISPERSION MODELING PROTOCOL
FOR THE
BELLA ENERGY PROJECT
BUCKEYE, ARIZONA

Pinal County Air Quality Control District
P.O. Box 987,
Florence, AZ 85132

Completed by:
BlueScape Environmental
16870 West Bernardo Drive, Suite 400
San Diego, CA 92127

August 30, 2023

TABLE OF CONTENTS

TABLES

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

Seguro Energy Partners, LLC (SEP) has applied for an air permit from the Pinal County Air Quality Control District (PCAQCD) to develop the Bella Energy Project (Project), a proposed reliability power generation and energy storage facility consisting of ten natural gas-fired turbines. The turbines will be General Electric (GE) LM6000 PC SPRINT Airless G&L models, or its equivalent, installed with Selective Catalytic Reduction (SCR) and Oxidation Catalyst (OxCat) emission controls. Net power generation capacity is estimated to be about 49 MW per turbine, with 10 turbines installed, generating a total of 490 MW. The plant is intended to provide reserve capacity and will run only when needed during times of peak power demand.

The proposed Project constitutes a minor source under the Prevention of Significant Deterioration (PSD) preconstruction permitting regulations. Seguro Energy plans to permit the Bella Energy Project as a Class I Minor Source under the State of Arizona Minor New Source Review (NSR) program [R18-2-334 of the Arizona Administrative Code (A.A.C.)]. The proposed site is in Pinal County, Arizona, which is classified as attainment for all regulated NSR criteria pollutants except for particulate matter of 10 or less microns in diameter (PM_{10}). Attainment criteria pollutants include nitrogen oxides (NO_x and NO_2), carbon monoxide (CO), ozone [including precursors volatile organic compounds (VOC) and NO_x], particulate matter of less than 2.5 microns in diameter ($PM_{2.5}$, including secondary particulate formation), and oxides of sulfur (SO_X and SO_2).

PCAQCD has requested that Seguro Energy Partners submit an air dispersion Modeling Protocol to compare criteria pollutant impacts from the Project to the National Ambient Air Quality Standards (NAAQS), to show that the Project will not cause or contribute to a NAAQS exceedance. The Arizona regulations do not require evaluation of air quality impacts for minor NSR permit applications, but the study will be completed voluntarily. This Modeling Protocol addresses the Arizona Department of Environmental Quality (ADEQ) procedures for modeling demonstrations in the *Air Quality Modeling Guidelines for Arizona Air Quality Permits* (ADEQ 2019). The proposed modeling approach will follow the United States Environmental Protection Agency's (USEPA) *Guideline on Air Quality Models* 40 CFR Part 51 Appendix W (USEPA 2017).

If needed, the proposed Project will include emissions controls and/or operational limitations to comply with the NAAQS. The air quality impacts from the Project, as currently proposed, are not expected to cause or contribute to an exceedance of the NAAQS.

1.1 Project Location

The Bella Energy Project will be located about 6 miles southwest of Casa Grande, Arizona, 0.5 miles north of the I-8 at the northeast corner of the intersection of Cornman and Midway Roads. Facility turbine emission sources will be centered at UTM 418129 m E, 3634090 m N, WGS84 Zone 12.

The Project layout showing structures and turbine locations is presented in Attachment A. The site is made up of five parcels (511-66-006, 511-66-008, 511-66010A, 511-66-010B, and 511-66-011), with all turbines located in parcel 511-66-008. The area immediately surrounding the site is characterized by flat agricultural terrain at about 1,355 feet (ft) above sea level. The Project is located adjacent to the Browing/Abel 500KV transmission line and the Kinder Morgan fuel pipeline. There is a sparsely populated residential area located to the east near the proposed Project location. Agricultural land uses exist to the southwest and to northwest of the site, and further away to the north and south. The nearest industrial site that may contribute to background particulate concentrations is a sand and gravel quarry about 4 miles east of the proposed Project site. Otherwise, background air quality concentrations are from agricultural activities, vehicle travel on unpaved roads, and naturally occurring windblown dust.

The area is an arid desert, characterized by very hot temperatures, a large daily temperature range, and sparse precipitation. The mean annual temperature is 70^{o} Fahrenheit (F) with average maximum temperatures ranging from 67º to 105º F and average minimum temperatures ranging from 37º to 76º F. Average annual precipitation is only 9 inches. Most of the precipitation occurs during the winter from December through March and during the monsoon months of July and August (U.S. Climate Data 2023). Refer to section 3.4 Meteorological Data for wind characteristics of the site location and Attachment B for a wind rose showing the graphical description of the frequency and occurrence of wind direction and wind speed.

Aerial photographs showing the location and surrounding streets of the Project site are shown below in Figures 1 and 2. Figure 1 shows the general location of the Bella Energy Project. Figure 2 shows the specific location of the facility, and land uses near the facility.

FIGURE 1. GENERAL LOCATION OF BELLA ENERGY GENERATING FACILITY SITE

FIGURE 2. LOCATION OF BELLA ENERGY FACILITY AND NEAREST LAND USES

1.2 Proposed Project Description

Seguro Energy Partners has applied for a Minor Source NSR air permit from the PCAQCD to develop the Project, a proposed reliability power generation and energy storage facility consisting of ten natural gas-fired turbines, to supplement solar energy during peak use hours. SEP is anticipating the new units to be aero-derivative GE Vernova (formerly GE Energy) LM6000PC models with SCR and OxCat emission controls. Net power generation capacity is estimated to be about 49 MW per turbine, with 10 turbines installed, generating a total of 490 MW. The plant is intended to provide reserve capacity and will run only when needed during times of peak power demand. The turbines will be adjacent to each other in lot 5 (parcel 511-66-008). The turbines will operate at a maximum of 4,350 hours per year and 24 hours per day during times of peak energy demand.

A Tier 2 USEPA-certified diesel-fired (compression ignition) reciprocating internal combustion engine (RICE), with estimated backup maximum output rating of 1,500 kW (or about 2,114 bhp) will be installed as part of the Project. The backup engine will be operated as fire pump or for backup power during emergency situations. The engine will be operated periodically and for equipment maintenance and testing purposes. The specific backup diesel engine selection (make, model and serial number) is pending.

2.0 REGULATORY BACKGROUND

The Project will be completing a Minor Source NSR modeling study to support the application for a Class I permit. This section describes the regulatory background for the modeling study.

2.1 Minor NSR Source Applicability

The proposed Project will not be a major source under attainment or nonattainment NSR for any criteria pollutant. A facility is a minor source when it is not classified as a categorical source and emissions of regulated attainment NSR pollutants [SO_2, NO_2, ozone (including NO_x and VOC), $PM_{2.5}$, and CO] do not exceed 250 tons/year (A.A.C. R18-2-334). Because the Project is located in a Pinal County nonattainment area for PM_{10}, the nonattainment NSR major source threshold is 70 tons/year. The Minor NSR program is applicable for any regulated minor NSR pollutants with the potential to emit (PTE) equal to or greater than the permitting exemption thresholds shown in Table 1 (A.A.C. 2013).

TABLE 1 PERMITTING EXEMPTION AND MAJOR SOURCE THRESHOLDS		
Pollutant	**Permitting Exemption Thresholds (tons/year)**	**NSR Major Source Threshold (tons/year)**
$PM_{2.5}$ (primary emissions only)	5	250
PM_{10}	7.5	70
SO_2	20	250
NO_X	20	250
VOC	20	250
CO	50	250

2.2 Hazardous Air Pollutants Regulations

ADEQ has established the Learning Sites Policy to ensure that children at learning sites are protected from criteria air pollutants as well as from hazardous air pollutants (HAPs). Learning sites consist of all existing public schools, charter schools, and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. Any facility located within 2 miles of a learning site is subject to the policy and must submit a modeling analysis to demonstrate compliance with the NAAQS and acute/chronic ambient air concentrations for listed air toxics. The closest schools to the Bella Power Project site are Stanfield Elementary School and the Sahuaro Elementary School. Both schools are located more than 4 miles from the Bella Energy Project site. Therefore, modeling of HAP impacts will not be required pursuant to the Learning Sites Policy.

2.3 Pollutants Subject to Modeling Review

2.3.1 Criteria Pollutants

All minor NSR pollutants with emissions in excess of the permitting exemption thresholds shown in Table 1 will be evaluated for NAAQS compliance. These pollutants include NO_2, CO, SO_X, $PM_{2.5}$, PM_{10} and VOC (ozone).

2.3.2 Lead

The natural gas used as fuel in combustion turbines does not contain lead; therefore, lead emissions from the Project will not be included in the modeling.

2.3.3 Secondary $PM_{2.5}$ and Ozone

Secondary $PM_{2.5}$ formation will be evaluated according to the USEPA's Modeled Emission Rates for Precursors (MERPs) guidance (USEPA 2019). The Project's ozone precursor emissions will also be evaluated according to MERPs guidance to demonstrate that the Project will not result in ozone formation that will cause or

contribute to a NAAQS exceedance. Refer to sections 4.5 for details on the secondary $PM_{2.5}$ analysis and section 4.6 for details on the ozone analysis.

2.4 Significant Impact Analysis

The criteria pollutants listed in Table 1 above will be evaluated for NAAQS compliance. To demonstrate that the Project will not cause or contribute to a NAAQS exceedance, the criteria pollutant air quality analysis will be conducted in two phases: an initial or significant impact analysis, and a refined analysis if necessary. In the significant impact analysis, the calculated maximum impacts will be determined for each operational scenario considered (See tables in Attachment C for details on modeling scenarios chosen), pollutant and averaging period. These impacts will be used to determine the net change in air quality resulting from the proposed Project. Attainment pollutants with impacts which exceed the significant impact levels (SILs), as listed in Table 2, will be evaluated for NAAQS compliance in a refined analysis.

TABLE 2
SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Significant Impact Levels ($\mu g/m^3$)[a]
$PM_{2.5}$	24-hour	1.2[c]
	Annual	0.2[c]
PM_{10}	24-hour	5
	Annual	1.0
NO_2	1-hour	7.5[b]
	Annual	1.0
CO	1-hour	2,000
	8-hour	500
Ozone	8-hour	1 ppb[c]
SO_2	3-hour	25
	24-hour	5
	Annual	1.0

[a] Unless otherwise noted, significance levels are codified at § 3-1-030 of the PCAQCD Regulations.
[b] There is no 1-hr NO_2 significance level promulgated in the federal or PCAQCD regulations. An interim 1-hr NO_2 significance level of 4 ppb (7.5 $\mu g/m^3$) will be used as the 1-hr NO_2 significance level.
[C] $PM_{2.5}$ and ozone significance levels are from the USEPA's Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program (USEPA 2018).

2.5 Refined NAAQS Analysis

The Project requires modeling to assess NAAQS compliance for regulated NSR pollutants that are above the permitting exemption threshold. If initial modeling for attainment pollutants exceeds a SIL (see Table 2), then a refined analysis will be conducted in which modeled impacts will be added to the regional background concentrations presented in Table 6. Table 3 shows the primary NAAQS thresholds, with modeling design basis, for NO_2, $PM_{2.5}$, SO_2, and CO.

TABLE 3 NAAQS THRESHOLDS		
Pollutant	**Modeling Design Basis**	**NAAQS Threshold (µg/m³)**
NO_2	1-hour Average Daily Maximum Concentration 98th Percentile (H8H) Average at each receptor over 3 years modeled	188 (100 ppb)
	Maximum Annual Average over each of 3 years modeled	100 (53 ppb)
$PM_{2.5}$	24-hour Average Concentration 98th Percentile (H8H) Average at each receptor over 3 years modeled	35
	Annual Average, Averaged over 3 years	12.0
PM_{10}	24-hour Average Concentration High-6th High (H6H) At each receptor over 3 years modeled	150[1]
SO_2	1-hour Average Daily Maximum Concentration 99th Percentile (H4H) Average at each receptor over 3 years modeled	196 (75 ppb)
CO	Maximum 1-Hour Average Concentration High-Second High (H2H) At each receptor over each of 3 years modeled	40,000 (35 ppm)
	Maximum 8-Hour Average Concentration High-Second High (H2H) At each receptor over each of 3 years modeled	10,000 (9 ppm)

Source: USEPA 2023
[1]In areas already in attainment of the PM_{10} NAAQS.

Pursuant to the ADEQ Modeling Guidelines, inclusion of regional or nearby sources under the minor NSR program is typically not required. Due to the remoteness of the Project site and distance the nearby sources, it is expected that nearby sources can be excluded from the modeling analysis.

2.6 Modeling Demonstration for Nonattainment Pollutants

The Bella facility is located in a nonattainment area for PM_{10} and the most recent three years of ambient monitoring data does not indicate that the background concentrations for the Project site are below the NAAQS. Therefore, PM_{10} modeling must show compliance with the SIL and a NAAQS analysis will not be conducted. If preliminary modeling exceeds the SIL, SEP will refine emission estimates or evaluate additional controls to mitigate the source's impact to below the SIL. Alternatively, a hybrid modeling approach comparing impacts to NAAQS and SILs may be demonstrated. For the cases showing modeled PM_{10} violations, SEP may compare modeled impacts from the Project emissions associated with the modeled violations, paired in time and space (or a "cause or contribute" analysis), to the SIL for the relevant pollutant and averaging period. The demonstration is satisfied if the source impact is less than the PM_{10} SIL at projected violations.

3.0 DISPERSION MODELING METHODOLOGY

This section describes the methodology that will be followed to complete the air dispersion modeling analysis. Criteria pollutants listed in Table 1 with emissions in excess of the permitting exemption threshold will be evaluated for NAAQS compliance. These pollutants include: NO_2, CO, SO_2, $PM_{2.5}$, PM_{10} and NO_x/VOC (for ozone).

3.1 Air Dispersion Model Selection

In accordance with ADEQ modeling guideline Section 1.4, the USEPA-approved AERMOD model Version 22112 is proposed. AERMOD is a sequential model that calculates concentrations at each receptor for every hour in the year. The model is designed for rural or urban applications and can be used with a rectangular or polar system of receptors.

3.2 Air Emission Sources

In Pinal County, the six criteria pollutants with NAAQS include:

- Carbon Monoxide (CO);
- Nitrogen Dioxide (NO_2);
- Sulfur Dioxide (SO_2);
- Particulate Matter:
    - Particulate Matter of 10 micron of less (PM_{10})
    - Particulate Matter of 2.5 micron of less ($PM_{2.5}$), including secondary-formed particulates;
- Ozone, including precursors NO_x and VOC; and
- Lead

Lead is not a pollutant associated with natural gas combustion emissions, and therefore, an analysis of impacts due to lead has not been included in this Modeling Protocol. Facility haul road traffic through power plants is generally minimal, so road-based fugitive dust will not be considered, as it will be negligible.

The Class I permit application includes point source emissions from ten (10) new natural gas-fired turbines, and point source emissions from one 1,500 kW diesel-fueled emergency engine. The facility is expected to operate at a maximum of 4,350 hours per year, including steady-state operations, 500 startup periods and 500 shutdown periods. Each turbine startup period is 30 minutes and each shutdown period is 9 minutes. Startup and shutdown heat input and emissions per event have been provided by GE Vernova. Selective Catalytic Reduction SCR and OxCat technology will be operational during normal operation and are used to control emissions of NO_X and CO. The emergency engine is assumed to operate up to a maximum 500 hours per year for testing and emergency usage.

3.3 Modeling Scenarios

The Bella Energy facility will run at a maximum of 4,350 hours per year and 24 hours per day at times of peak energy need. The turbine emission rates and stack parameters vary with the numerous combinations of operating load and ambient temperatures. GE Vernova has provided Seventeen (17) different operating cases displaying various combinations of steady state load conditions and ambient temperatures. They also provided pollutant emission rates and heat input for startup and shutdown events. Seven (7) different modeling scenarios have been created to capture the potential worst case emission rates and parameters for steady state and startup and shutdown operations. Scenario A is a long-term scenario, capturing average annual emissions with 500 startups and shutdowns. Scenarios B, C, and D are short-term 24-hr, 8-hr, and 1-hr scenarios containing the max number of startups and shutdowns in their respective operational periods. Scenarios E, F, and G are short-term scenarios, capturing 100%, 75%, and 50% load conditions, respectively, during steady state operation.

The exhaust temperature for each scenario is the minimum temperature over each load from the GE steady-state cases. The maximum LHV fuel input value from the seventeen steady-state operating cases provided by GE was used to calculate the short-term steady state HHV fuel input, with a 5% margin added. The long-term steady state HHV was calculated as 90% of the short-term HHV. The startup and shutdown heat input values provided by GE were averaged with the steady-state heat input to generate an average heat input for each scenario. The exhaust volume flow is calculated from the average heat input using the EPA's method 9 F factor conversion for natural gas. Attachment C shows the operating conditions, operating schedule, and pollutants to be modeled in each scenario.

3.4 Meteorological Data

ADEQ has supplied five years of AERMET pre-processed meteorological data (2017-2021) from the Phoenix Sky Harbor International Airport in Phoenix, AZ. The Surface Data met station is located about 41 miles North of the Bella Energy Project, which is the closest station to the Project site. A wind rose for the Phoenix Airport surface met station is provided in Attachment B. The wind rose shows an average wind speed of 3.23 meters per second (m/s), with a predominant wind flow from the east and southeast and a secondary wind flow from the west.

3.5 NO_2 Modeling Approach

Following USEPA guidance, the NO_2 modeling analyses will use the recommended three-tier screening approach. Initially, Tier 1 will be employed with the conservative assumption that 100% of the available NO_X converts to NO_2. If the NO_2 impacts under this assumption exceeded the SILs, the Tier 2 (Ambient Ratio Method, or ARM2) will be employed with the USEPA recommended minimum and maximum ambient NO_2/NO_X ratios of 0.5 and 0.9, respectively. At this time, it is

not expected that Tier 3 modeling will be needed, or that a lower NO_2/NO_x in-stack ratio (ISR) than 0.5 specific to simple cycle gas turbines will need to be used.

Emissions from the emergency diesel engine will be intermittent and therefore will be excluded from the 1-hr NO2 analysis pursuant to the March 1, 2011 EPA guidance (EPA 2011) and ADEQ modeling policy. Pursuant to these documents, any source with emissions that do not have the potential to contribute significantly to the annual distribution of the daily maximum concentrations can be excluded from the analysi. These sources include:

- Any source that operates for no more than 200 hours per year
- Emergency equipment that operates up to 500 hours per year and not more than 100 hours per year for maintenance
- Infrequent startup/shutdown operations

Please note that the diesel engine will be included in the NO_2 annual modeling.

3.6 Secondary $PM_{2.5}$ from NO_X and SO_X Emissions

On July 29, 2022, the USEPA issued guidance for assessing ozone and fine particulate matter modeling (USEPA 2022). The guidance addresses both primary and secondary $PM_{2.5}$ impacts. Primary $PM_{2.5}$ impacts refer to the impacts due to direct emissions of $PM_{2.5}$. Secondary impacts refer to the $PM_{2.5}$ impacts attributable to nitrates and sulfates formed due to precursor NO_2 and SO_X emissions. If emissions of direct $PM_{2.5}$, NO_X, or SO_X exceed PSD Significant Emission Rates (SERs), an analysis of secondary formation of $PM_{2.5}$ is required. The SERs are 10 tons/year for direct $PM_{2.5}$, and 40 tons/year for direct NO_X and SO_X. Bella Energy Project proposed PTE shows emissions of $PM_{2.5}$, NO_X, and SO_X to be greater than the SERs. Therefore, the Project's secondary $PM_{2.5}$ precursor emissions will be evaluated under the USEPA's Modeled Emission Rates for Precursors (MERPs) guidance (USEPA 2019) to demonstrate the Project will not result in secondary $PM_{2.5}$ formation that will cause exceedance of NAAQS thresholds.

The Tier 1 MERPs guidance involves the use of appropriate and technically credible relationships between emissions and ambient impacts developed from existing modeling studies deemed sufficient for evaluating a project's source impacts. Source No. 4007 from Gila County will be evaluated as a representative hypothetical source under the USEPA's secondary $PM_{2.5}$ MERPs guidance. Modeled emissions of the hypothetical source 4007 are 500 tpy of NO_X, SO_2, and VOC and the release height is 10 m. This is a conservative representation because the proposed NO_X and SO_X emissions from the Bella Project are less than the MERPs values for source 4007. The secondary $PM_{2.5}$ contribution to the $PM_{2.5}$ modeled concentration is calculated in Table 4 according to MERPs guidance.

TABLE 4 SECONDARY $PM_{2.5}$ IMPACT TO THE MODELED $PM_{2.5}$ CONCENTRATION						
Precursor	**Modeled Emissions of Hypothetical Source (MER) (TPY)**	**Project Emissions (TPY)**	**Max 24-hr Impact of hypothetical Source 4007 ($\mu g/m^3$)**	**Max Annual Impact of hypothetical Source 4007 ($\mu g/m^3$)**	**24-hr Project Impact ($\mu g/m^3$)**	**Annual Project Impact ($\mu g/m^3$)**
NO_X	500	216	0.0112	0.0009	0.0048	0.0004
SO_2	500	26.7651	0.0351	0.0020	0.0019	0.0001
				Total	**0.0067**	**0.0005**

Project Impact = source 4007 max impact/source 4007 emissions * Bella Project emissions

The total contribution of secondary $PM_{2.5}$ from both NO_X and SO_X emissions will be added to the Bella Energy facility modeled concentration to assess compliance with NAAQS.

3.7 Ozone Formation from VOC and NO_X Emissions

Formation of ozone is related to the complex interaction of air pollutants from regional emission sources and regional meteorological conditions. Since the Bella Project proposed VOC and NO_X emissions are greater than SERs, ozone formation will be evaluated under the USEPA's MERPs guidance to demonstrate the project will not result in quantifiable ozone formation.

As with the secondary $PM_{2.5}$ formation analysis, Source No. 4007 from Gila County under the USEPA's ozone MERPs guidance will be evaluated. Calculations are shown below. Since the proposed VOC and NO_X emissions contributing to ozone formation from the Bella Project are less than the MERPs values for source 4007, this is a conservative analysis. Using the MERPs guidance calculations, Table 5 shows that the ozone impact is below the SIL of 1.0 ppb. We conclude that the proposed Project will not cause or contribute to a violation of the NAAQS for ozone. No additional ozone impacts analysis will be conducted in the modeling study.

TABLE 5 IMPACTS OF OZONE PRECURSORS NO_X AND VOC				
Precursor	**Modeled Emissions of Hypothetical Source (MER) (TPY)**	**Bella Project Emissions (TPY)**	**Max 8-hr Impact of Hypothetical Source (MIHS) (ppb)**	**Calculated 8-hr Project Impact (ppb)**
NO_X	500	216	1.226	0.529
VOC	500	159	0.025	0.008
			Total	**0.537 ppb**
				Ozone SIL = 1.0 ppb

Project Impact = source 4007 max impact/source 4007 emissions * Bella Project emissions

3.8 Background Concentration Data Selection

Pursuant to ADEQ's Modeling Guidelines, background pollutant concentrations must be included in NAAQS analyses for both PSD and minor NSR applications. In general, the background concentrations are intended to account for sources not explicitly included in the modeling. The background concentrations are added to the modeled concentrations to assess NAAQS compliance.

The Project will require modeling to assess NAAQS compliance for criteria pollutants except lead. Unless a project site is in a nonattainment area for certain pollutant(s), the ADEQ Modeling Guidelines allow for a facility to model facility-wide emissions of the pollutant(s) for which the site is in attainment and add the model results to representative background concentrations to demonstrate concentrations below the NAAQS. If a project site is in a nonattainment area for a certain pollutant, the modeled concentration results are not added to background concentrations of that pollutant and are compared to the SILs instead of the NAAQS thresholds (ADEQ 2019). The Project site is in an area classified as non-attainment for PM_{10}, so modeling results for PM_{10} will be compared to the SILs listed in Table 2. Background data are therefore needed for $PM_{2.5}$, NO_2, CO, and SO_2.

Background values were collected from the USEPA's ambient air quality monitoring network (USEPA 2023) and are shown in Table 6. Background values for secondary NAAQS standards are not listed in Table 6 and will not be evaluated. If the primary 1-hr SO_2 standard passes, then it is assumed that the secondary 3-hr SO_2 will also pass. All proposed monitors are within 50 km of the Bella Energy Site. None of the selected monitors are subject to the influence of any major, localized industry. All monitors therefore provide an adequate representation of the air quality in the vicinity of the Bella Energy Site.

There are very few NO_2 monitors in Arizona and nearly all monitoring sites are located in the Phoenix/Tucson metropolitan areas. The annual and 1-hr NO_2 concentrations as measured in Phoenix are proposed as a conservative representation. While the climatology and topography of Phoenix is representative of the Bella Energy Project site location, the Phoenix NO_2 concentrations are influenced by localized emissions from vehicles and are therefore likely higher than would be expected at the more rural Bella Energy location. Use of the Phoenix data should therefore be a conservatively high representation of the upper bound of annual NO_2 concentrations experienced at the Bella Energy site. Another option for the 1-hr NO2 background value is to use 20 $\mu g/m^3$, as directed by the ADEQ modeling guidance for areas where local anthropogenic NOX sources are negligible.

The existing ambient monitors were established and air quality data were collected as part of the EPA's ambient air quality monitoring network. Federal regulations at 40 CFR Part 58, Appendix A, require that these data meet quality assurance (QA) requirements. The QA requirements for monitoring criteria pollutants at PSD sites are very similar to the QA requirements for monitoring sites for NAAQS compliance. The proposed monitoring data meet the data quality criterion.

TABLE 6
AMBIENT BACKGROUND VALUES, 2020-2022

Pollutant	Design Concentration	2020	2021	2022	Background Design Value	Monitor Name (Site ID)
Nitrogen Dioxide (NO_2)						
Annual	Maximum of annual average from 3 years	25.11 ppb	25.94 ppb	23.83 ppb	25.94 ppb	Thirty-third (04-013-4020)
1-hr	98th percentile of 1-hour daily max concentrations, averaged over 3 years	38.92 ppb	40.90 ppb	38.26 ppb	39.36 ppb	
Carbon Monoxide (CO)						
1-hr	Highest concentration from past 3 years	1.5 ppm	1.4 ppm	1.2 ppm	1.5 ppm	West Chandler (04-013-4004)
8-hr		1.3 ppm	1.2 ppm	1 ppm	1.3 ppm	
Ozone (O_3)						
8-hr	Annual 4th highest daily max from 3 years	0.075 ppm	0.069 ppm	0.072 ppm	0.072 ppm	Casa Grande Airport (04-021-3003)
Sulfur Dioxide (SO_2)						
1-hr	99th percentile of 1-hr daily max concentrations, averaged over 3 years	7 ppb	6 ppb	4 ppb	5.7 ppb	Durango Complex (04-013-9812)
3-hr	Not to exceed 0.5 ppm more than once per year	0.007 ppm	0.006 ppm	0.004 ppm	0.006 ppm	
$PM_{2.5}$						
Annual	3-year annual average	9.29 $\mu g/m^3$	7.87 $\mu g/m^3$	7.62 $\mu g/m^3$	8.25 ug/m^3	Casa Grande Downtown (04-021-0001)
24-hr	98th percentile, averaged over 3 years	21.3 $\mu g/m^3$	13.8 $\mu g/m^3$	17.5 $\mu g/m^3$	17.53 $\mu g/m^3$	

Source: USEPA 2023.

4.0 Air Dispersion Modeling Analysis

Under ADEQ *Air Quality Modeling Guidelines for Arizona Air Quality Permits* (ADEQ 2019) and the USEPA *Guideline on Air Quality Models* 40 CFR Part 51, Appendix W (USEPA 2017), modeling is used to assess project impacts compared against SILs and NAAQS thresholds. Dispersion modeling will be performed using Lakes AERMOD Version 22112. Initial modeling will be used to assess project impacts above SIL thresholds. For pollutants with maximum off-site ambient concentrations less than the applicable SIL thresholds, no further impact analysis will be required. If maximum off-site ambient concentrations are significant, modeled concentrations

will be added to representative background concentrations from Table 6 and compared to the NAAQS.

4.1 Model Inputs

The AERMOD model requires various model inputs. These inputs will be developed as appropriate for the project location, and in accordance with the ADEQ and USEPA modeling guidance. The model inputs are discussed in this section.

4.1.1 Control Parameters and Land Use

AERMOD will be run in the regulatory default mode, including stack-tip downwash and use of elevated terrain algorithms. The land type in the area must be classified as either urban or rural so that appropriate dispersion parameters may be used with AERMOD. The use of rural dispersion coefficients is supported by ADEQ Modeling Guidance (ADEQ 2019) because the area within and surrounding the Project is distinctly rural, as shown in Figure 1 above.

4.1.2 Source Parameters

The source parameters used as model inputs in AERMOD are shown in Attachment A. The modeling analysis will include emissions from turbine and diesel engine combustion. All ten turbine stacks and the diesel-fueled engine stack will be modeled as vertical point sources with no rain cap or at the outlets. The AERMOD source parameters for modeling listed in Attachment A includes source coordinates, base elevation above MSL, stack height, stack gas exit velocity, stack diameter, and stack gas temperature for Modeling Scenario A (see table in Attachment C for a list of modeling scenarios). All ten turbines will be modeled at a height of 40 ft and a diameter of 11.0 ft. The 1,500 kW Emergency Engine will be modeled at a height of 15 ft, stack diameter of 18 inches, and exit velocity of 25 m/s.

Modeling of point sources with stack heights that are less than good engineering practice (GEP) stack height should consider the impacts associated with building downwash (USEPA 1985). The Bella Project stacks are proposed to be 40 feet (12.2 meters) tall, which is less than the GEP stack height of 213.25 ft (65 meters); therefore, building downwash impacts associated with the 14 ft turbine structures will be assessed. There are no other large or obstructive structures or buildings on the site plan or surrounding areas which would generate building downwash impacts. AERMOD has the capability to account for building downwash produced by airflow over and around structures. Direction-specific building downwash parameters will be developed for Bella Energy sources for input to AERMOD using the USEPA Building Profile Input Program, or BPIP Model. The BPIP model requires building dimensions as well as stack locations for input. Building parameters are shown in Attachment A.

4.1.3 Receptor Data

To complete air dispersion modeling, Cartesian receptor grids will be developed following ADEP modeling guidance and defined using UTM WGS84 Zone 12. The receptor grid will consist of four Cartesian grids and receptors spaced at 25 m intervals along the facility fenceline. The first grid will extend to approximately 3 km from the fenceline in all directions, with receptors spaced at 100 m intervals. The second grid will extend from 3 km to 7.5 km from the fenceline, with receptors spaced at 250 m intervals. The third Cartesian grid will extend from 7.5 km to 10 km from the fenceline, with receptors spaced at 500 m intervals. The fourth Cartesian grid will extend from 10 km to 25 km from the fenceline, with receptors spaced at 1000 m intervals. Maximum impacts are expected to fall within the 100 m spacing of receptors.

4.1.4 Terrain Data

The AERMOD model requires receptor elevation inputs to calculate impacts in simple terrain above stack base and in complex terrain above the stack height. Receptor elevations will be developed using the National Elevation Dataset (NED) data. The NED data will be converted to GeoTIFF format and processed using the Lakes Environmental AERMOD View GUI interface with AERMAP. NED data will be processed at 1 Arc-Sec resolution; receptor terrain values will be interpolated from the nearest NED grid points.

4.1.5 Meteorological Data

For AERMOD modeling, a 5-year hourly sequential meteorological data set will be utilized. Please refer to Section 4.3 for details.

6.0 REFERENCES

A.A.C. 2013. *Arizona Administrative Code Title 18. Environmental Quality, Chapter 2. Department of Environmental Quality and Pollution Control.* Arizona Department of Environmental Quality, September 30, 2013.

ADEQ 2019. *Air Quality Modeling Guidelines for Arizona Air Quality Permits*. Facilities Emissions Control Section, Air Quality Division, Arizona Department of Environmental Quality, November 2019.

PCAQCD 2023. *Pinal County Code of Regulations*. Pinal County Air Quality Control District, January 25, 2023.

U.S. Climate Data 2023. *Climate Casa Grande – Arizona*. Available at https://www.usclimatedata.com/climate/casa-grande/arizona/united-states/usaz0028. Accessed May 10, 2023.

USEPA 1985. *Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for Stack Height Regulations (Revised)).* Office of Air Quality Planning and Standards, US Environmental Protection Agency, June 1985.

USEPA 2004. 40 CFR Part 63. *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.* 40 CFR Part 63 Subpart YYYY March 5, 2004.

USEPA 2011. *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 National Ambient Air Quality Standard.* Office of Air Quality Planning and Standards, US Environmental Protection Agency, June 29, 2010.

USEPA 2017. 40 CFR Part 51 Appendix W. *Guideline on Air Quality Models.* Federal Register Vol. 82. No 10, January 17, 2017.

USEPA 2018. *Guidance on Significant Impact Levels for Ozone and Fine Particulates in the Prevention of Significant Deterioration Permitting Program*. Office of Air Quality Planning and Standards, US Environmental Protection Agency, April 17, 2018.

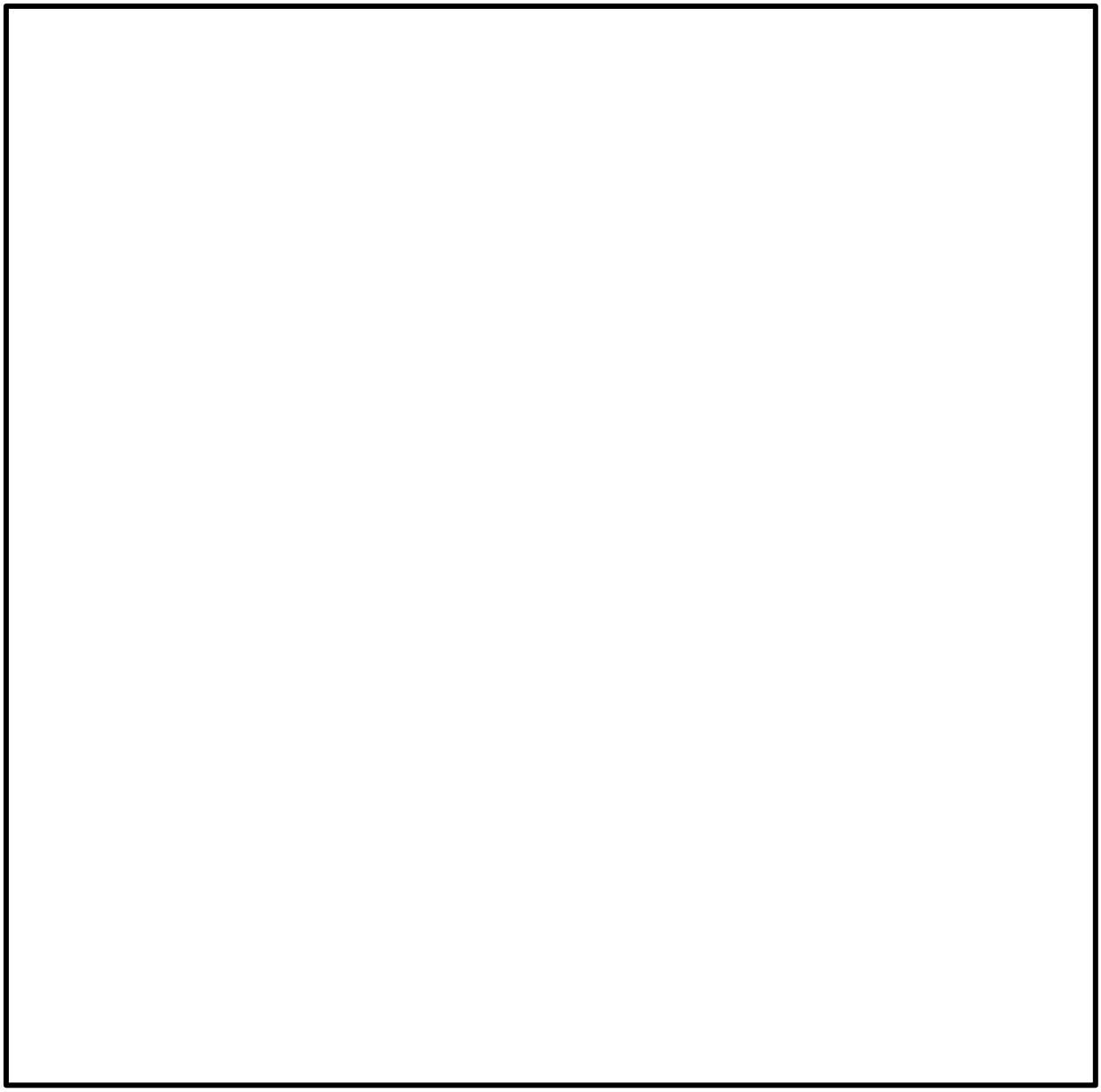
USEPA 2019. *Memorandum: Guidance on the Development of Model Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ Under the PSD Permitting Program.* Office of Air Quality Planning and Standards, April 30, 2019.

USEPA 2022. *Memorandum: Guidance for Ozone and Fine Particulate Matter Permit Modeling.* Office of Air Quality Planning and Standards, US Environmental Protection Agency, July 29, 2022.

USEPA 2023. AirData Air Quality Monitors, USEPA, Accessed June 28, 2023. Available at: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319

ATTACHMENT A

FACILITY MAPS SHOWING STACK LOCATIONS, STACK PARAMETERS, BUILDINGS AND PROPERTY LINES



Bella Energy AERMOD Source Parameters - Scenario A

Type	ID	Description	Base_Elev [m]	Height [m]	Diam [m]	Exit_Vel [m/s]	Exit_Temp [K]	Release_Type	Rain_Cap?	X1 [m]	Y1 [m]
POINT	GE1	GE Turbine 1	413.72	12.19	3.35	3.36	772.75	VERTICAL	N	417940.66	3634072.27
POINT	GE2	GE Turbine 2	413.88	12.19	3.35	3.36	772.75	VERTICAL	N	417971.96	3634071.88
POINT	GE3	GE Turbine 3	413.99	12.19	3.35	3.36	772.75	VERTICAL	N	418003.16	3634071.79
POINT	GE4	GE Turbine 4	414.13	12.19	3.35	3.36	772.75	VERTICAL	N	418034.31	3634071.67
POINT	GE5	GE Turbine 5	414.29	12.19	3.35	3.36	772.75	VERTICAL	N	418065.43	3634071.04
POINT	GE6	GE Turbine 6	414.39	12.19	3.35	3.36	772.75	VERTICAL	N	418096.65	3634071.00
POINT	GE7	GE Turbine 7	414.49	12.19	3.35	3.36	772.75	VERTICAL	N	418128.08	3634071.13
POINT	GE8	GE Turbine 8	414.58	12.19	3.35	3.36	772.75	VERTICAL	N	418159.10	3634070.88
POINT	GE9	GE Turbine 9	414.67	12.19	3.35	3.36	772.75	VERTICAL	N	418190.40	3634070.64
POINT	GE10	GE Turbine 10	414.79	12.19	3.35	3.36	772.75	VERTICAL	N	418221.64	3634070.43
POINT	ENG1	1500 kW Emergency Engine	413.86	4.572	0.46	25.0	700.0	VERTICAL	N	417912.68	3634123.81

*Attachment C in the Protocol lists Modeling Scenarios A - G. The parameters shown in this table for the turbines are parameters for A.
The exit temperature and exit velocity vary with scenarios, but base elevation, stack height,and diameter are the same for all scenarios.

Bella Energy AERMOD Building Parameters

ID_Building	Description	Tier_Number	Base_Elevation [m]	Tier_Height [m]	X_Length [m]	Y_Length [m]	Rotation_Angle (deg)	Num_Coords	X1 [m]	Y1 [m]
BLD_1	GE1 Housing	1	413.21	4.32	25.01	99.52	0	1	417930.64	3633981.97
BLD_2	GE2 Housing	1	413.27	4.32	25.01	99.52	0	1	417960.77	3633981.97
BLD_3	GE3 Housing	1	413.37	4.32	25.01	99.52	0	1	417991.99	3633981.97
BLD_4	GE4 Housing	1	413.5	4.32	25.01	99.52	0	1	418023.64	3633981.97
BLD_5	GE5 Housing	1	413.8	4.32	25.01	99.52	0	1	418054.86	3633981.97
BLD_6	GE6 Housing	1	413.92	4.32	25.01	99.52	0	1	418085.65	3633981.97
BLD_7	GE7 Housing	1	414.04	4.32	25.01	99.52	0	1	418116.44	3633981.97
BLD_8	GE8 Housing	1	414.14	4.32	25.01	99.52	0	1	418148.30	3633981.97
BLD_9	GE9 Housing	1	414.24	4.32	25.01	99.52	0	1	418179.09	3633981.97
BLD_10	GE10 Housing	1	414.44	4.32	25.01	99.52	0	1	418211.17	3633981.97

ATTACHMENT B

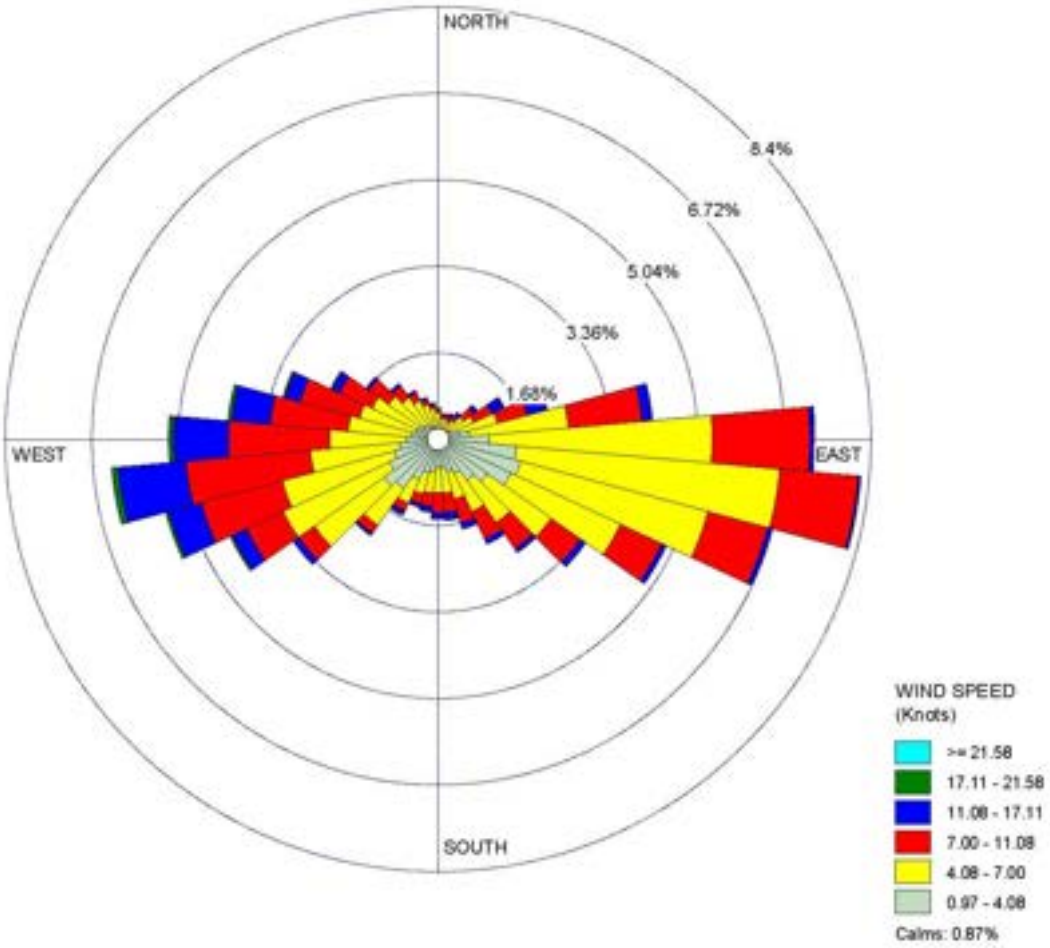
WIND ROSE FOR THE PHOENIX AIRPORT SURFACE MET STATION

WIND ROSE PLOT:

Phoenix Sky Harbor International Airport
Station 23183

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	Start Date: 1/1/2017 - 00:00 **End Date: 12/31/2021 - 23:59**	MODELER:	
	CALM WINDS: **0.87%**	TOTAL COUNT: **43613 hrs.**	
	AVG. WIND SPEED: **6.28 Knots**	DATE: **6/29/2023**	PROJECT NO:

ATTACHMENT C

MODELING SCENARIOS

Bella Energy Modeling Scenarios												
Scenario	**Description**	**Load (%)**	**Period Duration (hours)**	**Number of Startups**	**Number of Shutdowns**	**Startup Hours in Period**	**Shutdown Hours in Period**	**Steady State Hours in Period**	**Average Heat Input (MMBtu/hr)**	**Average Exhaust Volume Flow, acfm**	**Exhaust Temperature (°F)**	**Pollutants to be Analyzed**
A	Long-Term Average Scenario	100%	4350	500	500	250	75	4025	433.02	62,859.67	772.7	Annual: NO_X, $PM_{2.5}$
B	Startup/ Shutdown 24-hr Scenario	100%	24	2	2	1	0.3	22.7	481.01	69,826.38	772.7	24 hr: PM_{10}, $PM_{2.5}$
C	Startup/ Shutdown 8-hr Scenario	100%	8	2	2	1	0.3	6.7	467.03	67,796.46	772.7	8-hr: CO
D	Startup/ Shutdown 1-hr Scenario	100%	1	1.7	1	0.85	0.150	0	373.02	54,150.07	772.7	1-hr: CO, NO_X, SO_X
E	Short-Term Steady-State Scenario, 100%	100%	24	0	0	0	0	24	488	70,841.33	772.7	1-hr: CO, NO_X, SO_X 8-hr: CO 24hr: PM_{10}, $PM_{2.5}$
F	Short-Term Steady-State Scenario, 75%	75%	24	0	0	0	0	24	366	53,131.00	724.2	1-hr: CO, NO_X, SO_X 8-hr: CO 24hr: PM_{10}, $PM_{2.5}$
G	Short-Term Steady-State Scenario, 50%	50%	24	0	0	0	0	24	244	35,420.67	689.1	1-hr: CO, NO_X, SO_X 8-hr: CO 24hr: PM_{10}, $PM_{2.5}$

APPENDIX C

BELLA ENERGY AIR DISPERSION MODELING ANALYSIS

AIR DISPERSION MODELING ANALYSIS

FOR THE

PROPOSED
BELLA ENERGY PROJECT

Submitted to:

Pinal County Air Quality Control District
P.O. Box 987
Florence, AZ 85132

Completed by:

BlueScape Environmental
16870 West Bernardo Drive, Suite 400
San Diego, CA 92127

Updated: February 6, 2024

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

1.0 INTRODUCTION

Seguro Energy Partners, LLC (SEP) is seeking authorization in the form of a Class I permit to construct and operate a peaking plant with nominal capacity of 490 megawatts (MW) in Pinal County, Arizona, identified as the Bella Energy Project (Project). The Project is located within the jurisdiction of the Pinal County Air Quality Control District (PCAQCD). This document is an update to the air quality dispersion modeling analysis submitted to PCAQCD on December 1, 2023.

Since the submittal of the air quality modeling analysis in December 2023, the proposed Bella Energy Project site has moved to a location adjacent, and to the west of the originally modeled site. The center of the proposed turbine stacks will be about 2,704 feet west of the location previously modeled. Also, the stack height of each of the 10 turbines has been increased from 40 feet (ft) to 65 ft above grade. This update to the air quality dispersion modeling analysis will present updated modeling results, accounting for the changes to site location and stack heights.

The analysis evaluates emissions of each criteria pollutant that triggers minor New Source Review (NSR) as defined in R18-2-302 of the Arizona Administrative Code (AAC). The Project will trigger minor NSR for all criteria pollutants except lead (Pb). The criteria pollutant analysis was conducted to ensure that the proposed Project will not cause or contribute to air pollution in violation of a National Ambient Air Quality Standard (NAAQS). Since the Bella Project is located in an area of Pinal County which is classified as nonattainment for particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}), the modeling analysis addresses the Arizona Department of Environmental Quality's (ADEQ) procedures for modeling demonstrations for both attainment and nonattainment pollutants.

2.0 PROJECT DESCRIPTION

SEP is proposing to construct the Bella Energy Project, a ~490 MW natural gas-fueled electrical generating station on an approximately 349-acre site in Pinal County, Arizona. The Bella Energy Project will provide incremental peak capacity to the electrical grid and will support the integration of renewable resources. The proposed facility design includes ten (10) aeroderivative combustion turbines (CTs) that will drive electricity generators and one 1500 kilowatt (kW) emergency fire pump engine. Seguro Energy is anticipating the new CT units to be aeroderivative General Electric (GE) Vernova (formerly GE Energy) LM6000PC models, or its equivalent, each unit with approximately 49 MW of gross generation capacity.[1]

[1] Estimated MW rating provided by GE Vernova at 100% full load under normal, or steady-state operating conditions.

3.0 SITE DESCRIPTION

As shown in Figure 1, the proposed Bella Energy facility will be located within Pinal County, about 6 miles southwest of Casa Grande, Arizona, 0.2 miles north of the I-8 freeway and 0.4 miles south of Selma Highway on the west side of Midway Road. Facility turbine emission sources are centered at about UTM 417252 m E, 3633945 m N, WGS84 Zone 12. Figure 2 shows the specific facility location and land uses of the surrounding area. The site layout for the sources at the facility is shown in Figure 3 in Section 4.3. The site is made up of five parcels (500-12-007A, 500-12-007B, 500-17-004A, 500-17-004B, 500-17-0050, and 500-17-006B), with all turbine units located in parcels 500-12-007A and 500-17-0050.

FIGURE 1. GENERAL LOCATION OF THE FACILITY

FIGURE 2. SPECIFIC LOCATION OF THE FACILITY

The facility site is approximately 1,355 feet (ft) above mean sea level. The portion of Pinal County where the facility is located is classified as attainment or unclassified for all criteria pollutants other than particulate matter (PM) with an aerodynamic diameter of less than ten micrometers (PM_{10}), for which the area is classified as "serious" nonattainment.

4.0 MODEL SELECTION AND INPUT

4.1 Model Selection

In accordance with ADEQ modeling guideline section 1.4 (ADEQ 2019), the United States Environmental Protection Agency (USEPA)-approved AERMOD model version 23132 with Lakes Environmental software was used to conduct the modeling analysis. AERMOD is a sequential model that calculates concentrations at each receptor for every hour in the year. The model is designed for rural or urban applications and can be used with a rectangular or polar system of receptors.

4.2 Control Options and Land Use

AERMOD was run in the regulatory default mode, including stack-tip downwash and use of elevated terrain algorithms. The land type in the area must be classified as either urban or rural so that appropriate dispersion parameters may be used with AERMOD. The use of rural dispersion coefficients is supported by ADEQ Modeling Guidance (ADEQ 2019) because the area within and surrounding the Project is distinctly rural, as shown in Figure 1 above.

4.3 Source Data

Only point sources required evaluation. The CTs will vent to stacks with a well-defined opening. The CTs were therefore modeled as point sources in AERMOD. The emergency fire pump engine was also modeled as a point source. Each CT and the emergency fire pump engine were modeled as separate sources. All ten turbines were modeled at a height of 65 ft and a stack diameter of 11 ft. The 1,500 kW emergency fire pump engine was modeled at a height of 15 ft, a stack diameter of 18 inches, and an exit velocity of 25 meters/second (m/sec). All source locations were based upon a UTM WGS84, UTM Zone 12 projection. Attachment A provides the modeling input data.

AERMOD has the capability to account for building downwash produced by airflow over and around structures. Direction-specific building downwash parameters were developed for Bella Energy sources for input into AERMOD using the USEPA Building Profile Input Program, or BPIP Model. The BPIP model requires building dimensions as well as stack locations for input. The preliminary building parameters proposed in the Modeling Protocol (BlueScape 2023) have been updated to reflect the most current plans and are shown in Attachment A. The configuration of the facility and AERMOD sources is shown in Figure 3.

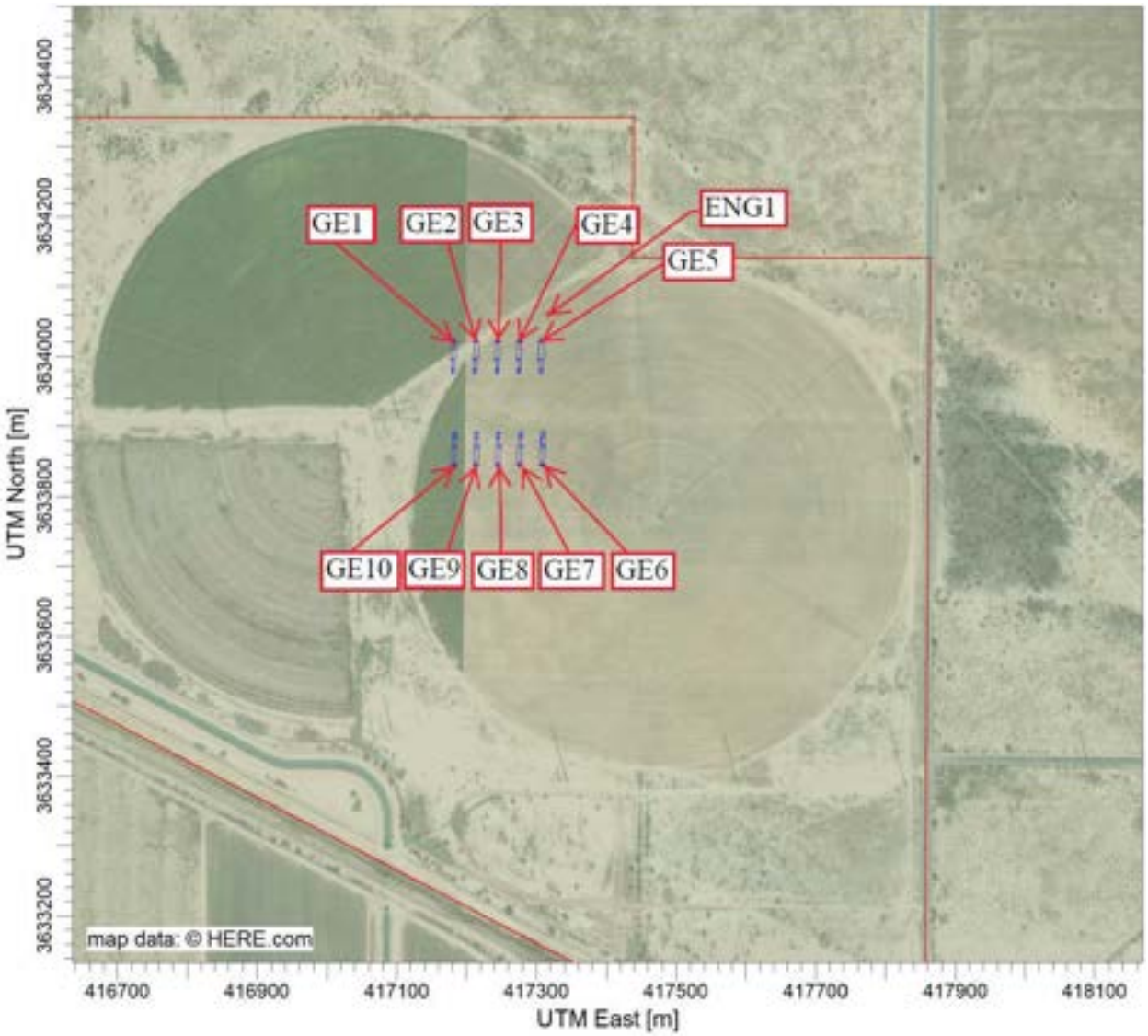


FIGURE 3. FACILITY CONFIGURATION

4.4 Monitored Background and Nearby Source Data

Pursuant to ADEQ's Modeling Guidelines, background pollutant concentrations must be included in NAAQS analyses for both Prevention of Significant Deterioration (PSD) and minor NSR applications. In general, the background concentrations are intended to account for sources not explicitly included in the modeling. The background concentrations are added to the modeled concentrations and significant nearby sources to assess NAAQS compliance.

The Project requires modeling to assess NAAQS compliance for criteria pollutants except lead. Unless a project site is in a nonattainment area for certain pollutant(s), the ADEQ Modeling Guidelines allow for a facility to model facility-wide emissions of

the pollutant(s) for which the site is in attainment and add the model results to representative background concentrations and significant nearby sources to demonstrate concentrations below the NAAQS. If a project site is in a nonattainment area for a certain pollutant, the modeled concentration results are not added to background concentrations of that pollutant and are compared to the Significant Impact Levels (SILs) instead of the NAAQS (ADEQ 2019). The Project site is in an area classified as nonattainment for PM_{10}, so modeling results for PM_{10} are compared to the SIL. To complete NAAQS cumulative modeling for any pollutant impacts that exceed the SILs, background and nearby source data are needed, for particulate matter with an aerodynamic diameter of less than 2.5 microns ($PM_{2.5}$), nitrogen dioxide (NO_2), carbon monoxide (CO), and sulfur dioxide (SO_2).

Background values were collected from the USEPA's ambient air quality monitoring network (USEPA 2023) and are shown in Table 1. Background values for secondary NAAQS standards are not listed in Table 1 and were not evaluated. None of the selected monitors are subject to the influence of any major, localized industry. All monitors therefore provide an adequate representation of the background air quality in the vicinity of the Bella Energy Project site.

In the Modeling Protocol (BlueScape 2023), the annual and 1-hr NO_2 concentrations as measured in Phoenix were proposed. In their November 28, 2023, email, PCAQCD determined the 2020-2022 Alamo Lake background data to be the most representative 1-hr NO_2 data for locations where other sources of anthropogenic nitrogen oxides are negligible. Therefore, the Alamo Lake data was used for 1-hr NO_2 background data. The 1-hr NO_2 background design value was provided by PCAQCD. The Buckeye Monitoring Station was used for the annual NO_2 data.

The existing ambient monitors were established, and air quality data was collected as part of the USEPA's ambient air quality monitoring network. Federal regulations at 40 CFR Part 58, Attachment A, require that these data meet quality assurance (QA) requirements. The QA requirements for monitoring criteria pollutants at PSD sites are very similar to the QA requirements for monitoring sites for NAAQS compliance. The proposed monitoring data meet the data quality criterion.

As discussed in Section 6.3, the nearby source Desert Basin Generating Facility, located approximately 10 kilometers (km) northeast of the Bella Energy Project site, was included in the 24-hr $PM_{2.5}$ and 1-hr NO_2 NAAQS cumulative modeling, including permitted emission sources and building structures. PCAQCD reviewed the permitted PCAQCD sources within a 10 km radius of the Bella Energy facility and determined that Desert Basin should be the only nearby source included in the NAAQS cumulative analysis for $PM_{2.5}$ and NO_2, because it is the only nearby source that could potentially generates significant emissions of those pollutants. The Desert Basin facility was not included in the NAAQS 1-hr SO_2 model because the facility does not generate a large amount of SO_2 emissions.

TABLE 1
AMBIENT BACKGROUND VALUES, 2020-2022

Pollutant	Design Concentration	2020	2021	2022	Background Design Value	Monitor Name (Site ID)
Nitrogen Dioxide (NO_2)						
Annual	Maximum of annual average from 3 years	8.11 ppb	8.05 ppb	8.02 ppb	8.11 ppb	Buckeye (04-013-4011)
1-hr	98th percentile of 1-hour daily max concentrations, averaged over 3 years	N/A			26.3 µg/m³	Alamo Lake
Carbon Monoxide (CO)						
1-hr	Highest concentration from past 3 years	1.5 ppm	1.4 ppm	1.2 ppm	1.5 ppm	West Chandler (04-013-4004)
8-hr		1.3 ppm	1.2 ppm	1 ppm	1.3 ppm	
Ozone (O_3)						
8-hr	Annual 4th highest daily max from 3 years	0.075 ppm	0.069 ppm	0.072 ppm	0.072 ppm	Casa Grande Airport (04-021-3003)
Sulfur Dioxide (SO_2)						
1-hr	99th percentile of 1-hr daily max concentrations, averaged over 3 years	7 ppb	6 ppb	4 ppb	5.7 ppb	Durango Complex (04-013-9812)
3-hr	Not to exceed 0.5 ppm more than once per year	0.007 ppm	0.006 ppm	0.004 ppm	0.006 ppm	
$PM_{2.5}$						
Annual	3-year annual average	9.29 µg/m³	7.87 µg/m³	7.62 µg/m³	8.25 µg/m³	Casa Grande Downtown (04-021-0001)
24-hr	98th percentile, averaged over 3 years	21.3 µg/m³	13.8 µg/m³	17.5 µg/m³	17.53 µg/m³	

Source: USEPA 2023. N/A = Data not available.

4.5 Receptor Data

Modeled receptors were placed in all areas considered as "ambient air" pursuant to 40 CFR §50.1(e) and §1-3-140 of the PCAQCD Regulations. Ambient air is defined as that portion of the atmosphere, external to buildings, to which the general public has access.

To complete air dispersion modeling, Cartesian receptor grids were developed following ADEQ modeling guidance and defined using UTM WGS84 Zone 12. The grid

spacing was adjusted from the spacing described in the Modeling Protocol (BlueScape 2023). For the SIL modeling analyses, the receptor grid consists of three-tiered grid receptors and fenceline receptors spaced at 25 m intervals along the facility fenceline. The first tier extends to approximately 1 km from the center of the stacks in all directions, with receptors spaced at 50 m intervals. The second grid extends from 1 km to 2 km from the center of the stacks, with receptors spaced at 100 m intervals. The third Cartesian grid extends from 2 km to 5 km from the fenceline, with receptors spaced at 200 m intervals.

For the 1-hr NO_2, 24-hr $PM_{2.5}$, and 1-hr SO_2 NAAQS analyses, a 50 km receptor grid was used. The first tier of the receptor grid extends to approximately 2 km from the center of the stacks in all directions, with receptors spaced at 100 m intervals. The second tier of the receptor grid extends to approximately 5 km from the center of the stacks in all directions, with receptors spaced at 500 m intervals. The third tier of the receptor grid extends to approximately 20 km away from the center of the stacks in all directions, with receptors spaced at 1,000 m intervals. The fourth tier of the receptor grid extends to approximately 50 km away from the center of the stacks in all directions, with receptors spaced at 2,000 m intervals. Receptors were spaced at 25 m intervals along the facility fenceline. AERMOD was run with the threshold value output option, to identify all receptor locations at which the SILs were exceeded for the 1-hr NO_2 and 24-hr $PM_{2.5}$ analyses within 50 km of the Project.

For the 1-hr NO_2 and 24-hr $PM_{2.5}$ NAAQS cumulative analyses, the threshold value output files from the SIL analyses were used to create the receptor grids for the cumulative analyses. Only those receptors which exceeded the SILs were included in the NAAQS cumulative analyses. For the 1-hr NO_2 analysis, 3,031 receptors made up the receptor grid. For the 24-hr $PM_{2.5}$ run 752 receptors made up the receptor grid.

4.6 Terrain Data

The AERMOD model requires receptor elevation inputs to calculate impacts in simple terrain above stack base and in complex terrain above the stack height. Receptor and emissions source elevations were developed using the National Elevation Dataset (NED) data. The NED data was converted to GeoTIFF format and processed using the Lakes Environmental AERMOD View GUI interface with AERMAP. NED data were processed at 1 arc-sec resolution; receptor terrain values were interpolated from the nearest NED grid points.

4.7 Meteorological Data

Five years of AERMET pre-processed meteorological data (2017-2021) from the Phoenix Sky Harbor International Airport (KPHX) in Phoenix, AZ were downloaded from the ADEQ website (ADEQ 2023). The Surface Data met station is located about 67 km north of the Bella Energy Project, which is the closest station to the Project site. The KPHX meteorological data was approved by PCAQCD for use in the Modeling Analysis. A wind rose for the Phoenix Airport surface met station is shown in Figure

4. The wind rose shows an average wind speed of 3.23 m/sec, with a predominant wind flow from the east and southeast and a secondary wind flow from the west.

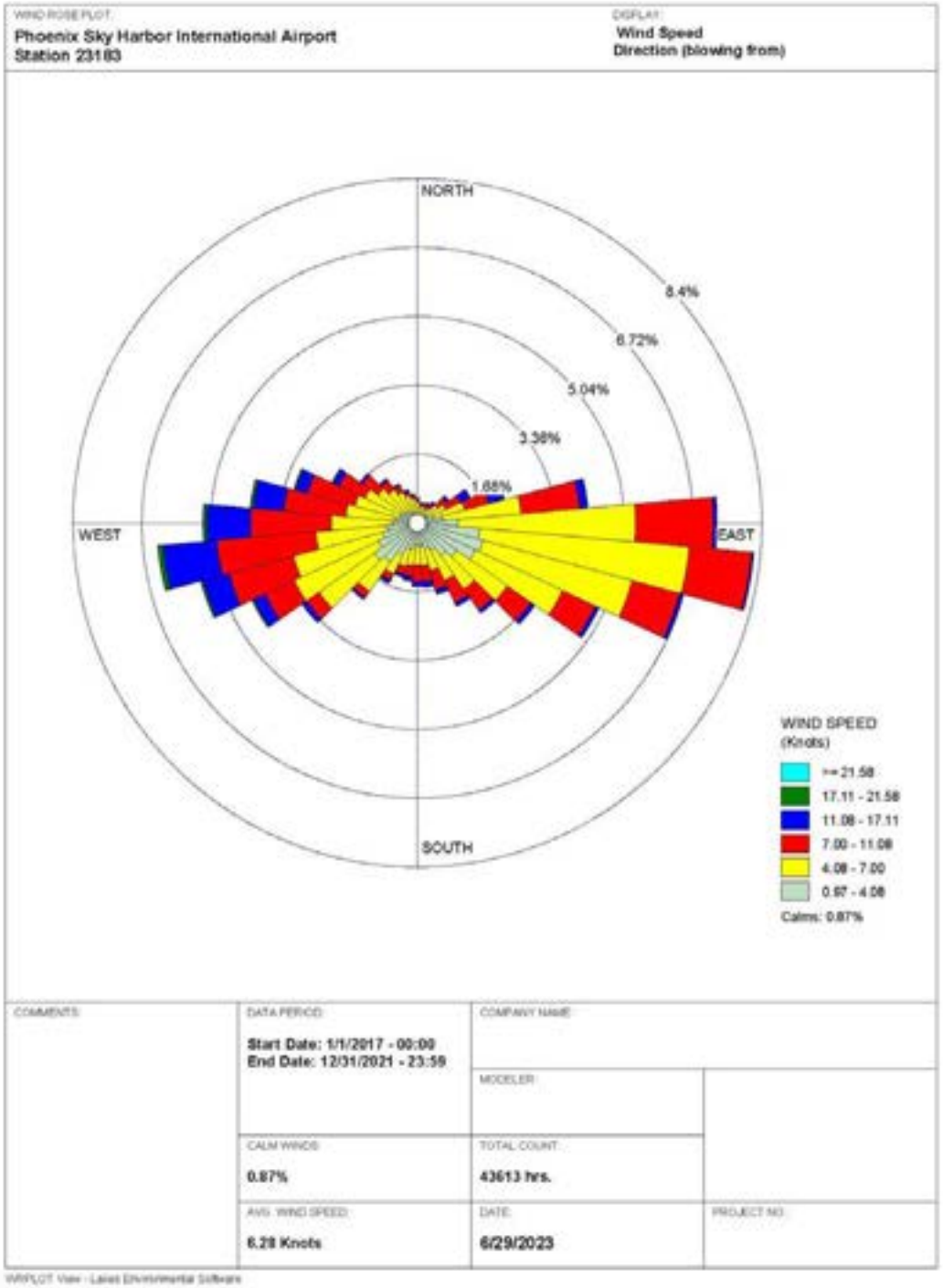


FIGURE 4. WIND ROSE FOR PHOENIX AIRPORT MET STATION

5.0 MODELING METHODOLOGY

5.1 Pollutants Subject to Review

All criteria pollutants with emissions in excess of the minor NSR threshold were evaluated for NAAQS compliance. These pollutants include NO_2, CO, SO_2, $PM_{2.5}$, PM_{10}, and volatile organic compounds (VOC).

5.2 Modeling Scenarios

The Bella Energy Project facility will run at a proposed maximum of 4,350 hours per year and 24 hours per day at times of peak energy need. The maximum number of startups and shutdowns that could possibly occur (although extremely unlikely) in a 24-hour period was assumed to be 35, based upon 17.5 startup hours, 5.25 shutdown hours, and 1.25 hours of steady state operation in a 24-hour period. Up to 500 startups/shutdowns per year were assumed.

For modeling, several scenarios were developed to capture worst case impacts associated with various combinations of operating loads and stack parameters. GE Vernova provided seventeen (17) different operating cases displaying various steady-state load conditions, ambient temperatures, and engine inlet conditioning parameters. GE Vernova also provided pollutant emission rates and heat input for startup and shutdown events. The modeling scenarios developed in Attachment B assume the worst-case emission rates and/or the worst-case stack parameters from the GE provided steady state operating conditions. Some of the modeling scenarios have been adjusted since submittal of the Modeling Protocol (BlueScape 2023) as described in this section.

Rather than model each of the combinations of stack and ambient temperatures and loads for each turbine load condition, a simplified yet conservative analysis was performed by modeling the worst-case stack temperatures and flow rates over ambient temperature for each load. Scenario A is a long-term scenario, capturing average annual emissions with a maximum of 500 startups and shutdowns. Scenario B represents the maximum startup and shutdown emissions that may occur in a 1-hr, 3-hr, or 8-hr averaging period. The Scenario B emission rates are based on the average emissions over a 39-minute startup/shutdown cycle. Scenario B in this Modeling Analysis replaced Scenarios C and D described the Modeling Protocol.

Scenario C represents the maximum number of startup and shutdown emissions that may occur in a 24-hr period. The Scenario C emission rates are the average emissions over a 24-hr period with 35 startup/shutdown cycles. This scenario is highly conservative and will never occur but was established so that no daily permit limits will be established on daily startups. Scenario C in this Modeling Analysis replaced Scenario B described in the Modeling Protocol.

Scenarios D, E, and F are short term steady-state scenarios, capturing 100%, 75%, and 50% load conditions, respectively. These scenarios capture steady state emission

rates, with no startup or shutdown events, and low exhaust flow conditions associated with lower loads. Scenarios D, E, and F in this Modeling Analysis replaced Scenarios E, F, and G described in the Modeling Protocol.

For the 1-hr NO_2 analysis only, PCAQCD requested the use of an emission rate of a one-hour period consisting of one 30-minute startup and 30 minutes of steady state operation at 100% load (Scenario G). This is the only 1-hr NO_2 scenario presented in this Modeling Analysis and was not previously described in the Modeling Protocol.

The steady state cases provided by GE Vernova included nine (9) 100% load cases, four (4) 75% load cases, and four (4) 50% load cases. The selected exhaust temperature for each scenario is the minimum temperature out of each load from the GE steady-state cases. The maximum LHV fuel input value out of each load was used to calculate the short-term steady state HHV fuel input, with a 5% margin added. The long-term steady state HHV was calculated as 90% of the short-term HHV. The selected exhaust volume flow for each scenario is the minimum flow out of each load and differs from the exhaust flow presented in the Modeling Protocol. In the Modeling Protocol exhaust flow for each scenario was calculated from the average heat input of each scenario using the USEPA's Method 9 F-factor conversion for natural gas. Attachment B shows the load conditions, operating parameters, and emission rates analyzed in each scenario.

5.3 Significant Impact Levels

To demonstrate that the Project will not cause or contribute to a NAAQS exceedance, the criteria pollutant air quality analysis was conducted in two phases: an initial or significant impact analysis, and a NAAQS cumulative analysis, if necessary. In the significant impact analysis, the calculated maximum impacts were determined for each pollutant and compared to SILs. These impacts were used to determine the net change in air quality resulting from the proposed Project. Five years of Phoenix meteorological data were modeled. Maximum modeled concentrations were compared to the pollutant-specific significant impact levels for all pollutants and averaging times.

Attainment pollutants with impacts that exceed the SILs, as listed in Table 2, were evaluated for the NAAQS cumulative analysis.

TABLE 2 SIGNIFICANT IMPACT LEVELS		
Pollutant	**Averaging Time**	**Significant Impact Levels ($\mu g/m^3$)[a]**
$PM_{2.5}$	24-hour	1.2[c]
	Annual	0.2[c]
PM_{10}	24-hour	5
NO_2	1-hour	7.5[b]
	Annual	1.0
CO	1-hour	2,000
	8-hour	500
Ozone	8-hour	1 ppb[c]
SO_2	1-hour	7.8
	3-hour	25

a. Unless otherwise noted, significance levels are codified at § 3-1-030 of the PCAQCD Regulations.
b. There is no 1-hr NO_2 significance level promulgated in the federal or PCAQCD regulations. An interim 1-hr NO_2 significance level of 4 ppb (7.5 $\mu g/m^3$) will be used as the 1-hr NO_2 significance level.
c. $PM_{2.5}$ and ozone significance levels are from the USEPA's Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program (USEPA 2018)

5.4 Modeling Demonstration for Nonattainment Pollutants

The Bella Energy Project facility is located in a nonattainment area for PM_{10} and the most recent three years of ambient monitoring data does not indicate that the background concentrations for the Project site are below the NAAQS. Therefore, PM_{10} modeling must show compliance with the SIL and a NAAQS analysis was not conducted.

5.5 NAAQS Cumulative Analysis

The Project requires modeling to assess NAAQS compliance for regulated NSR pollutants that are above the permitting exemption threshold. If initial modeling for attainment pollutants exceeds a SIL (see Table 2), then a cumulative analysis was conducted in which modeled impacts from the Bella Energy Project facility plus impacts from nearby significant sources (Desert Basin facility was the only one included) were added to the regional background concentrations presented in Table 1. Table 3 shows the primary NAAQS, with modeling design basis, for NO_2, $PM_{2.5}$, SO_2, and CO.

TABLE 3 NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)		
Pollutant	**Modeling Design Basis**	**NAAQS (µg/m³)**
NO_2	1-hour Average Daily Maximum Concentration 98th Percentile (H8H) Average at each receptor over 3 years modeled	188 (100 ppb)
	Maximum Annual Average over each of 3 years modeled	100 (53 ppb)
$PM_{2.5}$	24-hour Average Concentration 98th Percentile (H8H) Average at each receptor over 3 years modeled	35
	Annual Average, Averaged over 3 years	12.0
PM_{10}	24-hour Average Concentration High-6th High (H6H) At each receptor over 3 years modeled	150[1]
SO_2	1-hour Average Daily Maximum Concentration 99th Percentile (H4H) Average at each receptor over 3 years modeled	196 (75 ppb)
CO	Maximum 1-Hour Average Concentration High-Second High (H2H) At each receptor over each of 3 years modeled	40,000 (35 ppm)
	Maximum 8-Hour Average Concentration High-Second High (H2H) At each receptor over each of 3 years modeled	10,000 (9 ppm)

Source: USEPA 2023
1. In areas already in attainment of the PM_{10} NAAQS.

5.6 NO_2 Analysis

Following USEPA guidance (USEPA 2017), the NO_2 modeling analyses used the recommended three tier screening approach. Tier 1 was not employed, with the conservative assumption that 100% of the available NO_X converts to NO_2. The Tier 2 (Ambient Ratio Method, or ARM2) was employed with the USEPA recommended minimum and maximum ambient NO_2/NO_X ratios of 0.5 and 0.9 respectively. Tier 3, which accounts for the chemical reactions that convert NO_X to NO_2 in the presence of ozone, was not employed.

Emissions from the emergency diesel engine will be intermittent and therefore were excluded from the 1-hr NO_2 analysis, as well as the 1-hr SO_2 analysis, pursuant to the March 1, 2011 USEPA guidance (USEPA 2011) and ADEQ modeling policy. Pursuant to these documents, any source with emissions that does not have the potential to contribute significantly to the annual distribution of the daily maximum concentrations can be excluded from the analysis. These sources include:

- Any source that operates for no more than 200 hours per year.
- Emergency equipment that operates up to 500 hours per year and not more than 100 hours per year for maintenance.
- Infrequent startup/shutdown operations.

Please note that the diesel engine is included in the NO_2 annual modeling.

5.7 Secondary $PM_{2.5}$ Analysis

On July 29, 2022, the USEPA issued guidance for assessing ozone and fine particulate matter modeling (USEPA 2022). The guidance addresses both primary and secondary $PM_{2.5}$ impacts. Primary $PM_{2.5}$ impacts refer to the impacts due to direct emissions of $PM_{2.5}$. Secondary impacts refer to the $PM_{2.5}$ impacts attributable to nitrates and sulfates formed due to precursor NO_X and SO_X emissions. If emissions of direct $PM_{2.5}$, NO_X, or SO_X exceed PSD Significant Emission Rates (SERs), an analysis of secondary formation of $PM_{2.5}$ is required. The SERs are 10 tons/year (TPY) for direct $PM_{2.5}$, and 40 TPY for direct NO_X and SO_X. Bella Energy Project proposed potential to emit (PTE) shows emissions of $PM_{2.5}$, NO_X, and SO_X to be greater than the SERs. Therefore, the Project's secondary $PM_{2.5}$ precursor emissions have been evaluated under the USEPA's Modeled Emission Rates for Precursors (MERPs) guidance (USEPA 2019) to demonstrate the Project will not result in secondary $PM_{2.5}$ formation that will cause or cause to exceedance of the NAAQS.

The Tier 1 MERPs guidance involves the use of appropriate and technically credible relationships between emissions and ambient impacts developed from existing modeling studies deemed sufficient for evaluating a project's source impacts. Source No. 4007 from Gila County is evaluated as a representative hypothetical source under the USEPA's secondary $PM_{2.5}$ MERPs guidance. Modeled emissions of the hypothetical source 4007 are 500 TPY of NO_2, SO_2, and VOC and the release height is 10 m. This is a conservative representation because the proposed NO_2 and SO_2 emissions from the Bella Project are less than the MERPs values for source 4007. The secondary $PM_{2.5}$ contribution to the $PM_{2.5}$ modeled concentration is calculated in Table 4 according to MERPs guidance.

TABLE 4
SECONDARY $PM_{2.5}$ IMPACT TO THE MODELED $PM_{2.5}$ CONCENTRATION

Precursor	Modeled Emissions of Hypothetical Source (TPY)	Project Emissions (TPY)	Max 24-hr Impact of Hypothetical Source 4007 ($\mu g/m^3$)	Max Annual Impact of Hypothetical Source 4007 ($\mu g/m^3$)	24-hr Project Impact ($\mu g/m^3$)	Annual Project Impact ($\mu g/m^3$)
NO_X	500	216	0.0112	0.0009	0.0048	0.0004
SO_X	500	26.8	0.0351	0.0020	0.0019	0.0001
				Total	**0.0067**	**0.0005**

Project Impact = source 4007 max impact/source 4007 emissions * Bella Energy Project emissions

The total contribution of secondary $PM_{2.5}$ from both NO_X and SO_X emissions were added to the Bella Energy Project facility modeled concentration to assess compliance with NAAQS.

5.8 Ozone Analysis

Formation of ozone is related to the complex interaction of air pollutants from regional emission sources and regional meteorological conditions. Since the Bella Energy Project proposed VOC and NO_X emissions are greater than SERs, ozone formation was evaluated under the USEPA's MERPs guidance to demonstrate the Project will not result in quantifiable ozone formation.

As with the secondary $PM_{2.5}$ formation analysis, Source No. 4007 from Gila County under the USEPA's ozone MERPs guidance was evaluated. Calculations are shown below. Since the proposed VOC and NO_X emissions contributing to ozone formation from the Bella Energy Project are less than the MERPs values for source 4007, this is a conservative analysis. Using the MERPs guidance calculations, Table 5 shows that the ozone impact is below the SIL of 1.0 ppb. We concluded that the proposed Project will not cause or contribute to a violation of the NAAQS for ozone. No additional ozone impacts analysis was conducted in the modeling analysis.

TABLE 5
IMPACTS OF OZONE PRECURSORS NO_X AND VOC

Precursor	Modeled Emissions of Hypothetical Source (TPY)	Bella Project Emissions (TPY)	Max 8-hr Impact of Hypothetical Source (ppb)	Calculated 8-hr Project Impact (ppb)
NO_X	500	216	1.226	0.529
VOC	500	159	0.025	0.008
			Total	**0.537 ppb**
			Ozone SIL	**1.0 ppb**

Project Impact = source 4007 max impact/source 4007 emissions * Bella Energy Project emissions

5.9 Modeling for HAPs Sources – Learning Sites Policy

ADEQ has established the Learning Sites Policy to ensure that children at learning sites are protected from criteria air pollutants as well as from hazardous air pollutants (HAPs). Learning sites consist of all existing public schools, charter schools, and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. Any facility located within 2 miles of a learning site is subject to the policy and must submit a modeling analysis to demonstrate compliance with the NAAQS and acute/chronic ambient air concentrations for listed air toxics. The closest schools to the Bella Energy Project site are Stanfield Elementary School and the Sahuaro Elementary School. Both schools are located more than 4 miles from the Bella Energy Project site. Therefore, modeling of HAP impacts was not required pursuant to the Learning Sites Policy.

6.0 MODEL RESULTS

Attachment C to this report provides the modeling results summary. AERMOD input and output files are provided electronically.

6.1 Scenario Analysis Results

The long-term average annual emission rates and operating conditions modeled for NO_X and $PM_{2.5}$ are shown in Attachment B. The short-term startup and shutdown scenarios, B and C, were found to cause the highest impacts for all short-term pollutant analyses except for SO_2. Scenario D, short-term steady-state operation at 100% load, generated the highest emission rate for the 1-hr and 3-hr SO_2 analyses. The 1-hr NO_2 analysis was performed using the 30-minute startup and 30-minute steady state emission rate (Scenario G), as directed by PCAQCD. The highest impacts out of each scenario modeled are shown in the significant impact analysis results below. Results of all modeled scenarios are shown in Attachment C.

6.2 Significant Impact Analysis Results

Table 6 shows that the Project resulted in significant impacts exceeding the SILs for $PM_{2.5}$, NO_2, and SO_2. Based upon the results of the significant impacts analysis, an analysis was conducted for those pollutants with significant impacts to assess compliance with the NAAQS.

The high first high 1-hr, 3-hr, 8-hr, or 24-hr values out of all years of meteorological data of the modeled results were conservatively evaluated against the respective 1-hr, 3-hr, 8-hr, or 24-hr SILs. The maximum annual value of out of all years was compared to the annual NO_2 and $PM_{2.5}$ SILs.

TABLE 6
SIGNIFICANT IMPACT ANALYSIS RESULTS

Pollutant	Avg Period	Modeling Scenario	Maximum Modeled Impact (µg/m³)	PSD Significant Impact Level (µg/m³)	Exceeds SIL?
$PM_{2.5}$[a]	24-hr	C	3.42	1.2	Yes
	Annual	A	0.096	0.2	No
PM_{10}	24-hr	C	3.41	5.0	No
NO_2	1-hr	G	39.2	7.5	Yes
	Annual	A	0.56	1.0	No
CO	1-hr	B	162	2,000	No
	8-hr	B	99.4	500	No
SO_2	1-hr	D	15.7	7.8	Yes
	3-hr	D	56.1	25	Yes

a. The secondary $PM_{2.5}$ MERP values from Table 4 were added to the maximum modeled impacts of 24-hr and Annual $PM_{2.5}$.

6.3 NAAQS Cumulative Analysis Results

Following the determination of significant impacts, a cumulative impacts analysis was conducted to assess compliance with the $PM_{2.5}$, NO_2, and SO_2 NAAQS. The Desert Basin Generating facility was added to the 24-hr $PM_{2.5}$ and the 1-hr NO_2 models and background concentrations were added to the model results. The Desert Basin facility was not included in the NAAQS 1-hr SO_2 model because the facility does not generate a large amount of SO_2 emissions. The results of the SIL analyses in Section 6.1 were used to determine which modeling scenarios to use for the NAAQS analyses. The scenarios in the SIL analyses that showed the highest first high for 24-hr $PM_{2.5}$ (Scenario C), for 1-hr NO_2 (Scenario G), and for 1-hr SO_2 (Scenario D) were chosen as the worst-case scenarios for each pollutant/averaging time modeled in the NAAQS cumulative analyses. Evaluation of compliance with the 24-hr $PM_{2.5}$ NAAQS was based upon a five-year average of the 98th percentile of the annual distribution of maximum 24-hr concentrations. Evaluation of compliance with the 1-hr NO_2 NAAQS was based upon the five-year average of the 98th percentile of the annual distribution of daily maximum 1-hour concentrations. Evaluation of compliance with the 1-hour SO_2 was based upon the five-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations. The primary 1-hr SO_2 standard passes the NAAQS standard, so it is assumed that the secondary 3-hr SO_2 standard will also pass.

The results of the NAAQS analysis are presented in Table 7. As can be seen, the model demonstrates compliance. A modeling results summary can be found in Attachment C.

TABLE 7
NAAQS CUMULATIVE IMPACTS ANALYSIS RESULTS

Pollutant/Avg. Period	Modeled Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	Standard (µg/m³)	Exceed NAAQS?
$PM_{2.5}$ 24-hr (H8H)	1.92[a]	17.5	19.4	35	No
NO_2 1-hr (H8H)	24.3	26.3	50.6	188	No
SO_2 1-hr (H4H)	11.2	14.9	26.1	196	No

a. The 24-hr secondary $PM_{2.5}$ MERP value from Table 4 was added to the maximum modeled impacts.

7.0 CONCLUSIONS

Seguro Energy has presented the results of this air quality dispersion modeling analysis to ensure that the proposed Project will not cause or contribute to air pollution in violation of a NAAQ Standard. As shown in Table 6, modeled impacts except 24-hr $PM_{2.5}$, 1-hr NO_2, and 1-hr SO_2 are below the SILs. A cumulative analysis was performed to assess compliance with the NAAQS for those standards exceeding the SILs. In the NAAQS cumulative analysis, the Desert Basin Generating facility was

added to the model and background concentrations were added to the 24-hr $PM_{2.5}$ and the 1-hr NO_2 model results. Background concentrations were added to the 1-hr SO_2 model results. As shown in Table 7, the NAAQS Standards were not exceeded.

8.0 REFERENCES

ADEQ 2019. *Air Quality Modeling Guidelines for Arizona Air Quality Permits*. Facilities Emissions Control Section, Air Quality Division, Arizona Department of Environmental Quality, November 1, 2019

ADEQ 2023. *AERMET Data Files.* Arizona Department of Environmental Quality. Accessed August 2023. Available at: https://azdeq.gov/node/2127

BlueScape 2023. *Air Dispersion Modeling Protocol for the Bella Energy Project, Buckeye, Arizona*, BlueScape Environmental, Submitted to PCAQCD on August 25, 2023.

USEPA 2011. *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard.* Office of Air Quality Planning and Standards, US Environmental Protection Agency, June 29, 2010

USEPA 2017. *40 CFR Part 51 Appendix W. Guideline on Air Quality Models*. Federal Register Vol. 82. No 10, January 17, 2017

USEPA 2018. *Guidance on Significant Impact Levels for Ozone and Fine Particulates in the Prevention of Significant Deterioration Permitting Program*. Office of Air Quality Planning and Standards, US Environmental Protection Agency, April 17, 2018.

USEPA 2019. *Memorandum: Guidance on the Development of Model Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ Under the PSD Permitting Program.* Office of Air Quality Planning and Standards, April 30, 2019.

USEPA 2022. *Memorandum: Guidance for Ozone and Fine Particulate Matter Permit Modeling.* Office of Air Quality Planning and Standards, US Environmental Protection Agency, July 29, 2022.

USEPA 2023. AirData Air Quality Monitors, USEPA, Accessed June 28, 2023. Available at: https://epa.maps.arcgis.com/apps/webappviewer/index.html

ATTACHMENT A

MODELING INPUTS

100% LOAD SCENARIOS: A, B, C, D, AND G SOURCE PARAMETERS											
										UTM Location	
Type	ID	Description	Base Elev (m)	Height (m)	Diam (m)	Exit Vel (m/s)	Exit Temp (K)	Release Type	Emission Rate	X (m)	Y (m)
POINT	GE1	GE Turbine 1	411.59	19.812	3.3528	25.26565	684.678	VERTICAL	See Emission Rates in Attachment B	417181.63	3634022.88
POINT	GE2	GE Turbine 2	411.63	19.812	3.3528	25.26565	684.678	VERTICAL		417213.13	3634022.88
POINT	GE3	GE Turbine 3	411.67	19.812	3.3528	25.26565	684.678	VERTICAL		417244.63	3634022.88
POINT	GE4	GE Turbine 4	411.70	19.812	3.3528	25.26565	684.678	VERTICAL		417276.13	3634022.88
POINT	GE5	GE Turbine 5	411.72	19.812	3.3528	25.26565	684.678	VERTICAL		417307.63	3634022.88
POINT	GE6	GE Turbine 6	411.91	19.812	3.3528	25.26565	684.678	VERTICAL		417309.12	3633844.54
POINT	GE7	GE Turbine 7	411.97	19.812	3.3528	25.26565	684.678	VERTICAL		417276.62	3633844.39
POINT	GE8	GE Turbine 8	412.04	19.812	3.3528	25.26565	684.678	VERTICAL		417245.12	3633844.23
POINT	GE9	GE Turbine 9	412.16	19.812	3.3528	25.26565	684.678	VERTICAL		417213.62	3633844.08
POINT	GE10	GE Turbine 10	412.28	19.812	3.3528	25.26565	684.678	VERTICAL		417182.12	3633843.92
POINT	ENG1	1500 kW Emergency Fire Pump Engine	411.61	4.572	0.4572	25.0	644.261	VERTICAL		417316.71	3634060.25

75% LOAD SCENARIO E SOURCE PARAMETERS											
										UTM Location	
Type	ID	Description	Base Elev (m)	Height (m)	Diam (m)	Exit Vel (m/s)	Exit Temp (K)	Release Type	Emission Rate	X (m)	Y (m)
POINT	GE1	GE Turbine 1	411.59	19.812	3.3528	21.307	657.706	VERTICAL	See Emission Rates in Attachment B	417181.63	3634022.88
POINT	GE2	GE Turbine 2	411.63	19.812	3.3528	21.307	657.706	VERTICAL		417213.13	3634022.88
POINT	GE3	GE Turbine 3	411.67	19.812	3.3528	21.307	657.706	VERTICAL		417244.63	3634022.88
POINT	GE4	GE Turbine 4	411.70	19.812	3.3528	21.307	657.706	VERTICAL		417276.13	3634022.88
POINT	GE5	GE Turbine 5	411.72	19.812	3.3528	21.307	657.706	VERTICAL		417307.63	3634022.88
POINT	GE6	GE Turbine 6	411.91	19.812	3.3528	21.307	657.706	VERTICAL		417309.12	3633844.54
POINT	GE7	GE Turbine 7	411.97	19.812	3.3528	21.307	657.706	VERTICAL		417276.62	3633844.39
POINT	GE8	GE Turbine 8	412.04	19.812	3.3528	21.307	657.706	VERTICAL		417245.12	3633844.23
POINT	GE9	GE Turbine 9	412.16	19.812	3.3528	21.307	657.706	VERTICAL		417213.62	3633844.08
POINT	GE10	GE Turbine 10	412.28	19.812	3.3528	21.307	657.706	VERTICAL		417182.12	3633843.92
POINT	ENG1	1500 kW Emergency Fire Pump Engine	411.61	4.572	0.4572	25.0	644.261	VERTICAL		417316.71	3634060.25

50% LOAD SCENARIO F SOURCE PARAMETERS											
										UTM Location	
Type	ID	Description	Base Elev (m)	Height (m)	Diam (m)	Exit Vel (m/s)	Exit Temp (K)	Release Type	Emission Rate	X (m)	Y (m)
POINT	GE1	GE Turbine 1	411.59	19.812	3.3528	18.333	638.206	VERTICAL	See Emission Rates in Attachment B	417181.63	3634022.88
POINT	GE2	GE Turbine 2	411.63	19.812	3.3528	18.333	638.206	VERTICAL		417213.13	3634022.88
POINT	GE3	GE Turbine 3	411.67	19.812	3.3528	18.333	638.206	VERTICAL		417244.63	3634022.88
POINT	GE4	GE Turbine 4	411.70	19.812	3.3528	18.333	638.206	VERTICAL		417276.13	3634022.88
POINT	GE5	GE Turbine 5	411.72	19.812	3.3528	18.333	638.206	VERTICAL		417307.63	3634022.88
POINT	GE6	GE Turbine 6	411.91	19.812	3.3528	18.333	638.206	VERTICAL		417309.12	3633844.54
POINT	GE7	GE Turbine 7	411.97	19.812	3.3528	18.333	638.206	VERTICAL		417276.62	3633844.39
POINT	GE8	GE Turbine 8	412.04	19.812	3.3528	18.333	638.206	VERTICAL		417245.12	3633844.23
POINT	GE9	GE Turbine 9	412.16	19.812	3.3528	18.333	638.206	VERTICAL		417213.62	3633844.08
POINT	GE10	GE Turbine 10	412.28	19.812	3.3528	18.333	638.206	VERTICAL		417182.12	3633843.92
POINT	ENG1	1500 kW Emergency Fire Pump Engine	411.61	4.572	0.4572	25.0	644.261	VERTICAL		417316.71	3634060.25

DESERT BASIN GENERATING FACILITY SOURCE PARAMETERS											
										UTM Location	
Type	ID	Description	Base Elev (m)	Height (m)	Diam (m)	Exit Vel (m/s)	Exit Temp (K)	Release Type	Emission Rate	X (m)	Y (m)
POINT	CTG01	Desert Basin Turbine CTG01	417.63	48.77	5.883	14.935	366.483	VERTICAL	See Emission Rates in Attachment B	426204.00	3640882.68
POINT	CTG02	Desert Basin Turbine CTG02	417.59	48.77	5.883	13.716	366.483	VERTICAL		426204.05	3640921.19
POINT	SCCT4	Desert Basin Turbine SCCT4	415.66	10.06	3.048	39.347	700.372	VERTICAL		426077.00	3641147.33
POINT	SCCT5	Desert Basin Turbine SCCT5	415.63	10.06	3.048	39.929	700.372	VERTICAL		426112.08	3641147.33

BELLA ENERGY FACILITY BUILDING PARAMETERS										
Building ID	Description	Tier Number	Base Elevation (m)	Tier Height (m)	Diameter (m)	X Length (m)	Y Length (m)	Rotation Angle (deg)	UTM Location	
									X (m)	Y (m)
STACK_1	GE 1 Stack Structure	1	411.61	19.81	3.81	--	--	--	417181.63	3634022.88
STACK_2	GE 2 Stack Structure	1	411.64	19.81	3.81	--	--	--	417213.13	3634022.88
STACK_3	GE 3 Stack Structure	1	411.67	19.81	3.81	--	--	--	417244.63	3634022.88
STACK_4	GE 4 Stack Structure	1	411.73	19.81	3.81	--	--	--	417276.13	3634022.88
STACK_5	GE 5 Stack Structure	1	411.74	19.81	3.81	--	--	--	417307.63	3634022.88
STACK_6	GE 6 Stack Structure	1	411.89	19.81	3.81	--	--	--	417309.12	3633844.54
STACK_7	GE 7 Stack Structure	1	411.95	19.81	3.81	--	--	--	417276.62	3633844.39
STACK_8	GE 8 Stack Structure	1	412.02	19.81	3.81	--	--	--	417245.12	3633844.23
STACK_9	GE 9 Stack Structure	1	412.12	19.81	3.81	--	--	--	417213.62	3633844.08
STACK_10	GE 10 Stack Structure	1	412.24	19.81	3.81	--	--	--	417182.12	3633843.92
OXCAT_1	GE 1 Catalytic Oxidizer	1	411.67	6.40	--	6.55	25.22	0	417178.37	3633995.75
OXCAT_2	GE 2 Catalytic Oxidizer	1	411.70	6.40	--	6.55	25.22	0	417209.87	3633995.75
OXCAT_3	GE 3 Catalytic Oxidizer	1	411.73	6.40	--	6.55	25.22	0	417241.37	3633995.75
OXCAT_4	GE 4 Catalytic Oxidizer	1	411.75	6.40	--	6.55	25.22	0	417272.87	3633995.75
OXCAT_5	GE 5 Catalytic Oxidizer	1	411.79	6.40	--	6.55	25.22	0	417304.37	3633995.75
OXCAT_6	GE 6 Catalytic Oxidizer	1	411.84	6.40	--	6.55	25.22	180.28	417312.25	3633871.69
OXCAT_7	GE 7 Catalytic Oxidizer	1	411.88	6.40	--	6.55	25.22	180.28	417279.75	3633871.53
OXCAT_8	GE 8 Catalytic Oxidizer	1	411.93	6.40	--	6.55	25.22	180.28	417248.25	3633871.38
OXCAT_9	GE 9 Catalytic Oxidizer	1	412.00	6.40	--	6.55	25.22	180.28	417216.75	3633871.22
OXCAT_10	GE 10 Catalytic Oxidizer	1	412.11	6.40I	--	6.55	25.22	180.28	417185.25	3633871.07
GEN_1	Generator 1 Housing	1	411.73	4.39	--	4.11	19.99	0	417179.59	3633975.76
GEN_1	Generator 1 Housing	2	411.73	10.49	--	4.11	13.72	0	417179.59	3633982.04
GEN_2	Generator 2 Housing	1	411.77	4.39	--	4.11	19.99	0	417211.09	3633975.76

BELLA ENERGY FACILITY BUILDING PARAMETERS										
Building ID	Description	Tier Number	Base Elevation (m)	Tier Height (m)	Diameter (m)	X Length (m)	Y Length (m)	Rotation Angle (deg)	UTM Location	
									X (m)	Y (m)
GEN_2	Generator 2 Housing	2	411.77	10.49	--	4.11	13.72	0	417211.09	3633982.04
GEN_3	Generator 3 Housing	1	411.80	4.39	--	4.11	19.99	0	417242.59	3633975.76
GEN_3	Generator 3 Housing	2	411.80	10.49	--	4.11	13.72	0	417242.59	3633982.04
GEN_4	Generator 4 Housing	1	411.81	4.39	--	4.11	19.99	0	417274.09	3633975.76
GEN_4	Generator 4 Housing	2	411.81	10.49	--	4.11	13.72	0	417274.09	3633982.04
GEN_5	Generator 5 Housing	1	411.83	4.39	--	4.11	19.99	0	417305.59	3633975.76
GEN_5	Generator 5 Housing	2	411.83	10.49	--	4.11	13.72	0	417305.59	3633982.04
GEN_6	Generator 6 Housing	1	411.84	4.39	--	4.11	19.99	180.28	417310.93	3633891.67
GEN_6	Generator 6 Housing	2	411.84	10.49	--	4.11	13.72	180.28	417310.96	3633885.39
GEN_7	Generator 7 Housing	1	411.85	4.39	--	4.11	19.99	180.28	417278.43	3633891.52
GEN_7	Generator 7 Housing	2	411.85	10.49	--	4.11	13.72	180.28	417278.46	3633885.24
GEN_8	Generator 8 Housing	1	411.88	4.39	--	4.11	19.99	180.28	417246.93	3633891.36
GEN_8	Generator 8 Housing	2	411.88	10.49	--	4.11	13.72	180.28	417246.96	3633885.08
GEN_9	Generator 9 Housing	1	411.95	4.39	--	4.11	19.99	180.28	417215.43	3633891.21
GEN_9	Generator 9 Housing	2	411.95	10.49	--	4.11	13.72	180.28	417215.46	3633884.93
GEN_10	Generator 10 Housing	1	412.06	4.39	--	4.11	19.99	180.28	417183.93	3633891.05
GEN_10	Generator 10 Housing	2	412.06	10.49	--	4.11	13.72	180.28	417183.96	3633884.77

DESERT BASIN GENERATING FACILITY BUILDING PARAMETERS										
Building ID	Description	Tier Number	Base Elevation (m)	Tier Height (m)	Diameter (m)	X Length (m)	Y Length (m)	Rotation Angle (deg)	UTM Location	
									X (m)	Y (m)
DB_STK1	Desert Basin CTG01 Stack	1	417.60	48.77	5.88	--	--	--	426204.00	3640882.68
DB_STK2	Desert Basin CTG02 Stack	1	417.56	48.77	5.88	--	--	--	426204.00	3640921.19
DB_STK3	Desert Basin SCCT4 Stack	1	415.68	10.06	3.05	--	--	--	426077.00	3641147.33
DB_STK4	Desert Basin SCCT5 Stack	1	415.65	10.06	3.05	--	--	--	426112.08	3641147.33
BLD_35	Desert Basin CTG02 Building	1	417.57	30.48	--	21.34	30.48	267.8	426168.85	3640932.43
BLD_36	Desert Basin CTG01 Building	1	417.70	30.48	--	21.34	30.48	267.8	426169.31	3640894.87
BLD_37	Desert Basin SCCT5 Building 1	1	415.66	6.1	--	13.72	12.19	--	426105.02	3641112.93
BLD_38	Desert Basin SCCT4 Building 1	1	415.91	6.1	--	13.72	12.19	--	426068.83	3641112.96
BLD_39	Desert Basin SCCT5 Building 2	1	415.65	9.14	--	6.1	19.66	--	426109.02	3641125.71
BLD_40	Desert Basin SCCT4 Building 2	1	415.76	9.14	--	6.1	19.66	--	426073.66	3641125.71
BLD_41	Desert Basin Building	1	417.93	9.14	--	21.34	30.48	--	426125.72	3640939.14

ATTACHMENT B

MODELING SCENARIOS AND EMISSION RATES

MODELING SCENARIO LOAD CONDITIONS										
Scenario	**Description**	**Load (%)**	**Fuel Heat Input, LHV (MMBtu/hr)**	**Short Term Steady-State Heat Input HHV (MMBtu/hr)**	**Long Term Steady-State Heat Input (MMBtu/hr)**	**Exhaust Temperature, (°F)**	**Exhaust Volume Flow (acfm)**	**Gene-rator Output, Gross (kW)**	**Fuel Flow, (lb/s)**	**Vol. Fuel Flow, (scfm)**
A	Long Term Average/PTE Scenario	100	419.9	488.0	439.2	772.7	472,653	49,012	6.14	7,395
B	1/3/8-hr Scenario: Maximum Startup and Shutdown	100	419.9	488.0	439.2	772.7	472,653	49,012	6.14	7,395
C	24 hr Scenario: 35 Startups and Shutdowns	100	419.9	488.0	439.2	772.7	472,653	49,012	6.14	7,395
D	1/3/8/24-hr Scenario, Short Term Steady-State Operation, 100% Load	100	419.9	488.0	439.2	772.7	472,653	49,012	6.14	7,395
E	1/3/8/24-hr Scenario, Short Term Steady-State Operation, 75% Load	75	323.7	376.0	338.4	724.2	398,601	36,159	4.74	5,700
F	1/3/8/24-hr Scenario, Short Term Steady-State Operation, 50% Load	50	234.8	273.0	245.7	689.1	342,955	24,106	3.44	4,136
G	1-hr NO_2 Scenario, 30 Minute Startup and 30 Minutes Steady State	100	419.9	488.0	439.2	772.7	472,653	49,012	6.14	7,395

MODELING SCENARIO POLLUTANTS TO BE ANALYZED AND OPERATING HOURS											
Scenario	**1-hour**	**3-hour**	**8-hour**	**24-hour**	**Annual**	**Operating Hours in Scenario**	**Number of Startups in Period**	**Number of Shutdowns in Period**	**Total Startup Hours**	**Total Shutdown Hours**	**Total Steady-State Operating Hours**
A	--	--	--	--	NO_X $PM_{2.5}$	4350	500	500	250	75	4025
B	CO, SO_X	SO_X	CO	--	--	N/A – 39 min Startup/Shutdown cycle average emission rate was used					0
C	--	--	--	$PM_{10}/PM_{2.5}$	--	24	35	35	17.5	5.25	1.25
D	CO, SO_X	SO_X	CO	$PM_{10}/PM_{2.5}$	--	24	0	0	0	0	24
E	CO, SO_X	SO_X	CO	$PM_{10}/PM_{2.5}$	--	24	0	0	0	0	24
F	CO, SO_X	SO_X	CO	$PM_{10}/PM_{2.5}$	--	24	0	0	0	0	24
G	NO_2	--	--	--	--	1	1	0	0.5	0	0.5

BELLA ENERGY MODELING SCENARIO TURBINE EMISSION RATES (G/SEC)						
Scenario	**Description**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
A	Long Term Average/PTE Scenario	0.606	--	--	--	0.179
B	1/3/8-hr scenario: Maximum Startups and Shutdowns	--	6.26	0.616	--	--
C	24-hr Scenario: 35 Startups and Shutdowns	--	--	--	0.963	0.963
D	1/3/8/24-hr Scenario, Short Term Steady-State Operation, 100%	--	0.882	0.838	0.504	0.504
E	1/3/8/24-hr Scenario, Short Term Steady-State Operation, 75%	--	0.680	0.646	0.504	0.504
F	1/3/8/24-hr Scenario, Short Term Steady-State Operation, 50%	--	0.493	0.469	0.504	0.504
G	1-hr NO_2 Scenario, One 30-minute Startup, 30 Minutes Steady State	2.32	--	--	--	--

BELLA ENERGY FIRE PUMP DIESEL ENGINE EMISSION RATES						
	1-hr Emissions		**3-hr, 8-hr, 24-hr Emissions**		**Annual Emissions**	
Pollutant	**lbs/hr**	**g/s**	**lbs/hr**	**g/s**	**Tons/year**	**g/s**
NO_X	--	--	20.09	2.53	5.02	0.145
CO	11.56	1.46	11.56	1.46	2.89	0.083
SO_X	--	--	4.33	0.546	1.08	0.031
PM_{10}	0.661	0.083	0.661	0.083	0.17	0.005
$PM_{2.5}$	0.661	0.083	0.661	0.083	0.17	0.005

* NO_2 and SO_2 intermittent emissions are not included in hourly runs
* Engine assumed to run for entire hourly, 8-hr, and 24-hr averaging periods
* Engine assumed to run for 500 hours in annual period

DESERT BASIN GENERATING STATION TURBINE EMISSION RATES (G/SEC)		
Turbine Source ID	**1-hr NO_X**	**24-hr $PM_{2.5}$**
DB_CTG01	3.30	2.90
DB_CTG02	3.30	2.90
DB_SCCT4	1.03	0.504
DB_SCCT5	1.03	0.504

ATTACHMENT C

MODELING RESULTS SUMMARY

MODELING RESULTS SUMMARY					
Pollutant	**Averaging Period**	**Scenario**	**Load (%)**	**Modeled Impact, First High ($\mu g/m^3$)**	**File Name**
$PM_{2.5}$	24-hr	C	100	3.41	BE_5by5_24hr_PM2_5_35SUSD_020324
		E	75	2.60	BE_5x5_24hr_PM2_5_SS75_020224
		F	50	2.80	BE_5x5_24hr_PM2_5_SS50_020224
		C (NAAQS Analysis)	100	1.91 (H8H)	BE_5by5_24hr_PM25_SILThreshold_020224 BE_DB_5by5_24hr_PM25_35SUSD_NAAQS_020224
	Annual	A	100	0.096	BE_5by5_Annual_PM25_020324
PM_{10}	24-hr	C	100	3.41	BE_5by5_24hr_PM10_35SUSD_020324
		E	75	2.60	BE_5by5_24hr_PM10_SS75_020224
		F	50	2.80	BE_5by5_24hr_PM10_SS50_020224
NO_2	1-hr	G	100	39.2	BE_5by5_1hr_NO2_1SU_020324
		G (NAAQS Analysis)	100	24.3 (H8H)	BE_5by5_1hr_NO2_SILThreshold_020224 BE_DB_5by5_1hr_NO2_NAAQS_020224
	Annual	A	100	0.560	BE_5by5_Annual_NO2_020324
CO	1-hr	B	100	162	BE_5by5_1hr_8hr_CO_MaxSUSD_020324
		E	75	162	BE_5by5_1hr_8hr_CO_SS75_020224
		F	50	162	BE_5by5_1hr_8hr_CO_SS50_020224
	8-hr	B	100	99.4	BE_5by5_1hr_8hr_CO_MaxSUSD_020324
		E	75	98.5	BE_5by5_1hr_8hr_CO_SS75_020224
		F	50	98.4	BE_5by5_1hr_8hr_CO_SS50_020224
SO_2	1-hr	D	100	15.7	BE_5by5_1hr_SO2_SS100_020324
		D (NAAQS Analysis)	100	11.2 (H4H)	BE_1hr_SO2_SS100_NAAQS_020324
		E	75	14.4	BE_5by5_1hr_SO2_SS75_020224
		F	50	12.6	BE_5by5_1hr_SO2_SS50_020224
	3-hr	D	100	56.1	BE_5by5_3hr_SO2_SS100_020324
		E	75	56.1	BE_5by5_3hr_SO2_SS75_020224
		F	50	56.1	BE_5by5_3hr_SO2_SS50_020224

*Only the highest emission rate from each load condition was run in the short-term analyses. For all pollutants except SO_2, this was the startup/shutdown scenario, B or C. For SO_2, the highest emission rate was from the 100% steady-state scenario.

APPENDIX D

CONSTRUCTION EMISSION CALCULATIONS

Bella Energy Project
Construction Emissions
Annual Summary
6/24/2024

Construction Activity	Annual Emissions (tons/year)					
	VOC	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Offroad Equipment	0.12	1.09	1.33	0.002	0.05	0.04
Material Movement	--	--	--		0.10	0.04
Worker and Delivery Vehicles	0.01	0.1	1	0.00	0.93	0.23
Asphalt Paving	0.01	--	--	--	--	--
Architectural Coating	0.4	--	--	--	--	--
Total	**0.58**	**1.23**	**1.95**	**0.0046**	**1.08**	**0.31**

Bella Energy Project
Construction Emissions
Offroad Equipment Exhaust Emissions
6/24/2024

Emission Factors

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor	Work Days	Emission Factors (g/hp-hr)					
									VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Grading	Graders	Diesel	Average	3	8	148	0.41	30	0.313	2.528	3.397	0.005	0.140	0.129
Grading	Rubber Tired Dozers	Diesel	Average	2	8	367	0.40	30	0.353	3.223	2.726	0.005	0.142	0.131
Building Construction	Cranes	Diesel	Average	1	7	367	0.29	130	0.198	1.837	1.637	0.005	0.075	0.069
Building Construction	Forklifts	Diesel	Average	3	8	82	0.20	130	0.246	2.342	3.579	0.005	0.112	0.103
Building Construction	Generator Sets	Diesel	Average	1	8	14	0.74	130	0.539	4.324	2.860	0.008	0.174	0.160
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3	7	84	0.37	130	0.184	1.885	3.481	0.005	0.063	0.058
Building Construction	Welders	Diesel	Average	1	8	46	0.45	130	0.465	3.570	4.493	0.007	0.095	0.088
Paving	Pavers	Diesel	Average	2	8	81	0.42	20	0.216	2.338	3.435	0.005	0.105	0.097
Paving	Paving Equipment	Diesel	Average	2	8	89	0.36	20	0.163	1.883	3.377	0.005	0.058	0.053
Paving	Rollers	Diesel	Average	2	8	36	0.38	20	0.501	3.509	4.084	0.005	0.132	0.121
Architectural Coating	Air Compressors	Diesel	Average	1	6	37	0.48	20	0.457	3.440	4.760	0.007	0.065	0.060

Emissions

Phase Name	Equipment Type	Emissions (lbs/day)						Emissions (tons/yr)					
		VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Grading	Graders	1.00	8.12	10.9	0.016	0.45	0.41	0.02	0.12	0.16	0.0002	0.007	0.006
Grading	Rubber Tired Dozers	1.83	16.7	14.1	0.025	0.74	0.68	0.03	0.25	0.21	0.0004	0.011	0.010
Building Construction	Cranes	0.32	3.02	2.69	0.008	0.12	0.11	0.02	0.20	0.17	0.001	0.008	0.007
Building Construction	Forklifts	0.21	2.03	3.11	0.004	0.10	0.09	0.01	0.13	0.20	0.0003	0.006	0.006
Building Construction	Generator Sets	0.10	0.79	0.52	0.001	0.03	0.03	0.01	0.05	0.03	0.0001	0.002	0.002
Building Construction	Tractors/Loaders/Backhoes	0.26	2.71	5.01	0.007	0.09	0.08	0.02	0.18	0.33	0.0005	0.006	0.005
Building Construction	Welders	0.17	1.30	1.64	0.003	0.03	0.03	0.01	0.08	0.11	0.0002	0.002	0.002
Paving	Pavers	0.26	2.81	4.12	0.006	0.13	0.12	0.003	0.03	0.04	0.0001	0.001	0.001
Paving	Paving Equipment	0.18	2.13	3.82	0.006	0.07	0.06	0.002	0.02	0.04	0.0001	0.001	0.001
Paving	Rollers	0.24	1.69	1.97	0.003	0.06	0.06	0.002	0.02	0.02	0.00003	0.001	0.001
Architectural Coating	Air Compressors	0.11	0.81	1.12	0.002	0.02	0.01	0.001	0.01	0.01	0.00002	0.0002	0.0001

Notes:

CalEEMod defaults were used for heavy industrial construction; as site is relatively flat and well-graded, scrapers and excavators were removed from the grading phase, but the quantity of graders and dozers were increased.

CalEEMod formula for combustion emissions were used as follows:

$$E_p = \sum (EF_i \times Pop_i \times hp_i \times Load_i \times Activity_i)$$

Where:
E = total daily off-road equipment emissions (g/day).
EF = emission factor in grams per horsepower-hour (g/hp-hr) (Table G-11).
Pop = population, or the number of pieces of equipment (number/day).
hp = average horsepower for the off-road equipment (unitless) (Table G-12).
Load = load factor of the off-road equipment (unitless) (Table G-12).
Activity = hours of daily operation of the off-road equipment (hr/day/number).
p = pollutant.
i = equipment type.

Bella Energy Project
Construction Emissions
Fugitive Dust from Material Movement
6/24/2024

Grading

Parameter	Abbreviation	Units	Value
Mean Vehicle Speed	S	mph	7.1
Coefficient for PM_{15}, grading	C_{PM15}	--	0.051
Coefficient for TSP, grading	C_{TSP}	--	0.04
PM_{10} scaling factor, grading	F_{PM10}	--	0.6
$PM_{2.5}$ scaling factor, grading	$F_{PM2.5}$	--	0.031
Blade width of the grading equipment	W_b	ft	12

Bulldozing Overburden

Parameter	Abbreviation	Units	Value
Material Moisture Content (%)	M	%	7.9
Material Silt Content (%)	s	%	6.9
Daily operational hours	--	hours/day	8
Coefficient for PM_{15}, bulldozing	C_{PM15}	--	1
Coefficient for TSP, bulldozing	C_{TSP}	--	5.7
PM_{10} scaling factor, bulldozing	F_{PM10}	--	0.75
$PM_{2.5}$ scaling factor, bulldozing	$F_{PM2.5}$	--	0.105

Control efficiency from watering exposed areas (assume twice daily)	61%
sqft/acre	43560
feet/mile	5280

Acres Graded by Equipment Type

Equipment Type	Acres Graded per 8 Hour Day	Days	Quantity	Acres/day Graded	Total Acres Graded	VMT	Uncontrolled Emissions lbs/day PM_{10}	Uncontrolled Emissions lbs/day $PM_{2.5}$	Uncontrolled Emissions tons/yr PM_{10}	Uncontrolled Emissions tons/yr $PM_{2.5}$	Controlled Emissions lbs/day PM_{10}	Controlled Emissions lbs/day $PM_{2.5}$	Controlled Emissions tons/yr PM_{10}	Controlled Emissions tons/yr $PM_{2.5}$
Graders	0.5	30	3	1.5	45	1.03	4.77	0.52	0.07	0.008	1.86	0.20	0.03	0.003
Rubber Tired Dozers	0.5	30	2	1	30	--	12.0	6.62	0.18	0.10	4.70	2.58	0.07	0.04

Notes:
Acres/day graded uses CalEEMod defaults by equipment

Bella Energy Project
Construction Emissions
Fugitive Dust from Material Movement
6/24/2024

Grading

Fugitive dust emissions from grading equipment passes are estimated using the methodology described in Section 11.9 of USEPA's AP-42 (USEPA 1998b). Section 11.9 provides guidance to estimate the emission factor of PM_{10} by applying a scaling factor to PM_{15}. Similarly, the emission factor of $PM_{2.5}$ is scaled from that of total suspended particulates (TSP). The following presents the equations used to calculate the emission factors for PM_{15} and TSP and the scaling factors for PM_{10} and $PM_{2.5}$.

$EF_{PM15} = 0.051 \times (S)^{2.0}$, and $EF_{PM10} = EF_{PM15} \times F_{PM10}$
$EF_{TSP} = 0.04 \times (S)^{2.5}$, and $EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$

Where:
EF = emission factor (lb/VMT).
S = mean vehicle speed (mph). The AP-42 default value is 7.1 mph.
$F_{PM2.5}$ = $PM_{2.5}$ scaling factor. The AP-42 default value is 0.031.
F_{PM10} = PM_{10} scaling factor. The AP-42 default value is 0.6.

Grading dust emissions are calculated by multiplying the emission factors with the total VMT for the grading equipment (i.e., grader). VMT is estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$Ep = EF_p \times VMT$, and
$VMT = As/Wb \times UC1 \div UC2$

Where:
E = emissions (lb/day).
EF = emission factor (lb/VMT).
VMT = vehicle miles traveled (mile).
As = the acreage of the grading site (acre/day).
Wb = Blade width of the grading equipment. Assume blade width of 12 feet based on Caterpillar's 140 Motor Grader (Caterpillar 2021).
UC1 = unit conversion from acre to square feet (43,560 sqft/acre).
UC2 = unit conversion from feet to miles (5,280 feet/mile).
p = pollutant (PM_{10} or $PM_{2.5}$).

Bulldozing

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for fugitive dust are scaled from the emission factors for PM15 and TSP. Based on AP-42 Section 11.9, the dust emission factors for bulldozing are calculated using the following equations (USEPA 1998b).

$EF_{TSP} = C_{TSP} \times s^{1.2} \div M^{1.3}$, and $EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$
$EF_{PM15} = C_{PM15} \times s^{1.5} \div M^{1.4}$, and $EF_{PM10} = EF_{PM15} \times F_{PM10}$

Where:
EF = emission factor (lb/hr).
C = arbitrary coefficient used by AP-42.
M = material moisture content (%).
s = material silt content (%).
F = scaling factor.
C, M, s, and F vary depending on the bulldozed material. Constants for overburden are from AP-42 (USEPA 1998b:Tables 11.9-1 and 11.9-3).

Bella Energy Project
Construction Emissions
Vehicle Exhaust Emissions
6/24/2024

Emission Factors

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Miles/ Day	Days in Phase	Vehicle Mix	Assumed Weight (tons)	Uncontrolled Emission Factors (lbs/mile)						Controlled Emission Factors (lbs/mile)					
								VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Grading	Worker	20	12.0	239	30	LDA,LDT1,LDT2	1.59	6.263E-05	2.986E-04	3.649E-03	7.140E-06	3.702E-02	9.088E-03	6.26E-05	2.99E-04	3.65E-03	7.14E-06	1.50E-03	3.71E-04
Grading	Delivery	4	7.6	31	30	HHDT,MHDT	17.5	4.022E-05	2.465E-03	5.705E-04	2.755E-05	4.264E-01	1.047E-01	4.02E-05	2.46E-03	5.70E-04	2.75E-05	1.73E-02	4.27E-03
Building Construction	Worker	200	12.0	2394	130	LDA,LDT1,LDT2	1.59	6.263E-05	2.986E-04	3.649E-03	7.140E-06	3.702E-02	9.088E-03	6.26E-05	2.99E-04	3.65E-03	7.14E-06	1.50E-03	3.71E-04
Building Construction	Delivery	78	7.6	595	130	HHDT,MHDT	17.5	4.022E-05	2.465E-03	5.705E-04	2.755E-05	4.264E-01	1.047E-01	4.02E-05	2.46E-03	5.70E-04	2.75E-05	1.73E-02	4.27E-03
Paving	Worker	15	12.0	180	20	LDA,LDT1,LDT2	1.59	6.263E-05	2.986E-04	3.649E-03	7.140E-06	3.702E-02	9.088E-03	6.26E-05	2.99E-04	3.65E-03	7.14E-06	1.50E-03	3.71E-04
Paving	Delivery	4	7.6	31	20	HHDT,MHDT	17.5	4.022E-05	2.465E-03	5.705E-04	2.755E-05	4.264E-01	1.047E-01	4.02E-05	2.46E-03	5.70E-04	2.75E-05	1.73E-02	4.27E-03
Architectural Coating	Worker	40	12.0	479	20	LDA,LDT1,LDT2	1.59	6.263E-05	2.986E-04	3.649E-03	7.140E-06	3.702E-02	9.088E-03	6.26E-05	2.99E-04	3.65E-03	7.14E-06	1.50E-03	3.71E-04
Architectural Coating	Delivery	4	7.6	31	20	HHDT,MHDT	17.5	4.022E-05	2.465E-03	5.705E-04	2.755E-05	4.264E-01	1.047E-01	4.02E-05	2.46E-03	5.70E-04	2.75E-05	1.73E-02	4.27E-03

Controlled Emissions

Phase Name	Trip Type	Emissions (lbs/day)						Emissions (tons/yr)					
		VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Grading	Worker	1.50E-02	7.15E-02	8.74E-01	1.71E-03	3.59E-01	8.87E-02	2.25E-04	1.07E-03	1.31E-02	2.56E-05	5.38E-03	1.33E-03
Grading	Delivery	1.23E-03	7.52E-02	1.74E-02	8.41E-04	5.27E-01	1.30E-01	1.84E-05	1.13E-03	2.61E-04	1.26E-05	7.91E-03	1.96E-03
Building Construction	Worker	1.50E-01	7.15E-01	8.74E+00	1.71E-02	3.59E+00	8.87E-01	9.75E-03	4.65E-02	5.68E-01	1.11E-03	2.33E-01	5.77E-02
Building Construction	Delivery	2.39E-02	1.47E+00	3.40E-01	1.64E-02	1.03E+01	2.54E+00	1.56E-03	9.53E-02	2.21E-02	1.07E-03	6.68E-01	1.65E-01
Paving	Worker	1.12E-02	5.36E-02	6.55E-01	1.28E-03	2.69E-01	6.65E-02	1.12E-04	5.36E-04	6.55E-03	1.28E-05	2.69E-03	6.65E-04

Paved Roads
Paved Road equation from AP-42 (1/2011) Section 13.2.1.3, Equation 1:

$$E=[k(sL)^{0.91}(W)^{1.02}](1-P/4N)$$

Where:
E = particulate emission factor (having units matching the units of k),
k = particle size multiplier for particle size range and units of interest (see below),
sL = road surface silt loading (grams per square meter) (g/m2), and
W = average weight (tons) of the vehicles traveling the road.

	PM_{10}	$PM_{2.5}$
k (lb/VMT)	0.0022	0.00054
Controlled sL (g/m^2)	0.4	0.4
1-P/4N	0.97	0.97

Notes:
Default trip quantities and lengths from CalEEMod
Default fleet mix and vehicle weights from CalEEMod
Controlled fugitive emissions based on lower silt loading, achieved by sweeping and/or watering.

Bella Energy Project

Construction Emissions

Construction Paving

6/24/2024

Parameter	Units	Value
Area Paved, Asphalt	acres	10.3
Emission Factor	lb VOC/acre	2.62
Total Emissions	lb VOC	27.1
Work days	days	20
Daily Emissions	lb VOC/day	1.35

Notes:

VOC off-gassing emissions associated with paving of asphalt surfaces uses the following equation:

$E = EF \times A_{PL} \times P_{paved}$

Where:

E = paving emissions (lb VOC/day).

EF = paving emission factor (lb VOC/acre).

The default emission factor is 2.62 lb/acre (Sacramento Metropolitan Air Quality Management District 1994).

A_{PL} = area paved (acre).

P_{paved} = percent of area that is paved with asphalt (%)

Bella Energy Project
Construction Emissions
Architectural Coatings
6/24/2024

Parameter	Abbreviation	Units	Value
VOC Content of coating	C_{VOC}	g/L	250
Unit conversion	UC_1	lb/g	0.002
Unit conversion	UC_2	L/gal	3.79
Square feet coating per gallon	S	sqft/gal	180
Architectural Coating Emission Factor	EF	(lb VOC/sqft)	0.01159
Sqft of building requiring coatings		sqft	23,970
Coefficient of Surface Area painted, building		--	2
Percent of parking lot area that is painted	$P_{paint\ parking}$	%	6%
Fraction of surface area painted	$F_{paint\ Bldg}$	%	100%
Surface area painted, building	$A_{paint\ Bldg}$	sqft	47,940
Surface area painted, parking	$A_{paint\ Parking}$	sqft	27,000
Total Emissions	E_{total}	lb VOC	868.6
Length of Phase		days	20
Emissions	E_{daily}	lb VOC/day	43.4

Notes:

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings. The architectural coating emission factor is based on the VOC content of the surface coatings and is estimated using the following equation.

$EF = C_{VOC} \times UC_1 \times UC_2 \div S$

Where:

EF = architectural coating emission factor (lb VOC/sqft).

C_{VOC} = VOC content (g/L).

VOC content is assumed to be the limit of nearby Maricopa County AQD rules

UC_1 = unit conversion from grams to lb (0.00220462262 lb/g).

UC_2 = unit conversion from gallons (gal) to liters (L) (3.78541 L/gal).

S = sqft coated per gal (180 sqft/gal).

Architectural coating emissions are calculated using the following equation.

$E = EF \times F_{paint\ Bldg} \times A_{paint\ Bldg}$

Where:

E = architectural coating emissions (lb VOC/day).

EF = architectural coating emission factor (lb VOC/sqft).

$F_{paint\ Bldg}$ = fraction of surface area painted.

$A_{paint\ Parking} = A_{PL} \times P_{paint\ parking}$

Where:

A_{PL} = parking lot area (sqft).

$P_{paint\ parking}$= percent of parking lot area that is painted (6%).

EXHIBIT B-2
DESCRIPTION OF THE AIR PERMIT FOR THE BELLA ENERGY FACILITY PROJECT

Memorandum

To: Mark Thompson, Seguro Energy Partners, LLC

From: James Westbrook, BlueScape Environmental

Date: June 19, 2024

Subject: Description of the Air Permit for the Bella Energy Facility Project, Issued by the Pinal County Air Quality Control District

---

Seguro Energy Partners, LLC (SEP) requested that BlueScape Environmental (BlueScape) provide a brief description of the final construction air permit (or air permit) for the proposed Bella Energy Facility. The air permit was issued by the Pinal County Air Quality Control District (PCAQCD) on June 17, 2024. This memorandum provides a summary of the proposed Bella Energy Project and a brief description of requirements contained in the air permit, including enforceable emission limitations, monitoring requirements and reporting requirements. BlueScape, a consulting company specializing in power plant air permitting, submitted the required air permit application materials to PCAQCD; completed the regulatory review, air emissions calculations and air quality modeling to support the application; and supported SEP to obtain the final air permit. The final air permit certificate, Conditions, and Technical Support Document (TSD) for the Bella Project are attached to this memorandum.

Bella Energy Facility Project Description

SEP applied to PCAQCD in mid-2023, seeking authorization for construction of the Bella Energy Facility, a peaking generation facility including ten (10) General Electric LM6000 turbines, and having total nominal generation capacity of 490-megawatt (MW), and including a small diesel-fired fire pump. For the purposes of maximum emission calculations, it was assumed that the facility turbine units will operate up to a maximum of 4,350 hour/year including unit startup and shutdown periods. The facility will be located on approximately 158 acres in Pinal County, Arizona, about 6 miles southwest of Casa Grande, 0.5 miles north of the I-8 at the northeast corner of the intersection of Cornman and Midway Roads, within a portion of Section 06, Township 7 South, Range 5 East. The proposed 500 MW battery energy storage facility that will be developed adjacent to the Bella Energy Facility was not part of the

project details reviewed by PCAQCD, because these storage operations do not have any air permit-related requirements.

The units will use selective catalytic reduction (SCR) and oxidation catalyst technology for the control of NO_X, VOC, and CO emissions. The turbine units will also be equipped with continuous emissions monitoring (CEMS) for NO_x and CO, and parametric monitoring for PM, VOC and HAPs, to monitor compliance with federal emission standards and to calculate emissions for compliance purposes. The conditioning of SCR for NO_x emissions control and oxidation catalyst for CO/VOC emissions control, and these emissions monitoring systems and standards are an established and approved practice for other projects in Pinal County, including the approved Salt River Project (SRP) Copper Crossing facility.

The Bella Energy project constitutes a minor source under the US Environmental Protection Agency (USEPA) Prevention of Significant Deterioration (PSD) New Source Review (NSR) preconstruction permitting regulations, and a new major source under the federal Title V operating permit regulations. Because the PCAQMD new source permitting program is a unitary program, the minor source NSR construction permit and the federal Title V operating permit for the Bella Energy Facility were issued at the same time. The air permit includes conditions under applicable local PCAQCD, state Arizona Department of Environmental Quality (AZ DEQ) and federal USEPA regulatory requirements.

Enforceable Air Emissions Limitations

The Bella Energy Facility air permit includes the following facility-wide PCAQMD and federally-enforceable air emissions limitations (expressed on a 12-month rolling total sum basis) as shown in Table 1 below, primarily to restrict maximum potential emission levels to below major source levels:

TABLE 1
FACILITY-WIDE EMISSION LIMITS

Pollutant	Emission Limit (Tons per Year)
Particulate Matter (PM, PM_{10}, $PM_{2.5}$)	63
NO_X	225
VOC	225
CO	225
SO_X	225
Hazardous Air Pollutants (HAPs)	9

In addition to these emission limitations, the facility is authorized to consume only natural gas with sulfur content not exceeding 5 grains/100 standard cubic feet, and is held to a total facility-wide annual maximum fuel consumption of 18,844,300 on a rolling 12-month average.

Specific emissions limitations are applicable to gas turbine units as stated in the air permit, from applicable federal New Source Performance Standards (NSPS):

- NSPS Subpart KKKK – NO_X emission limit per gas turbine of 25 ppm at 15% O_2 or 1.2 lb/MWh when operating at greater than or equal to 75% of peak load for four hours, or 96 ppm at 15% O_2 or 4.7 lb/MWh when operating at less than 75% of peak load.
- NSPS Subpart KKKK – SO_2 emission limit of 110 nanograms per Joule (ng/J) or 0.9 lb/ SO_2 per MWh gross output.
- NSPS Subpart TTTT – as applicable to Bella Facility operations since electricity supply at design capacity will be less than 50% with more than 90% natural gas combustion on a heat input basis; CO_2 emission limit per unit of 120 lb/MMBtu.

The diesel fire pump will be subject to the emission limitations in NSPS Subpart IIII, as well as a requirement to use diesel fuel with maximum 15 ppm sulfur content. The Bella Facility will be in compliance with general particulate emission limitations that apply to fuel-burning equipment and exhaust gas opacity.

Based on the enforceable limit of annual maximum fuel consumption and the emission control systems, the actual projected emissions from the natural gas turbines is identified in Table 2 below.

TABLE 2
NATURAL GAS TURBINE - PROJECTED EMISSION LEVELS BASED ON PERMIT LIMITATIONS AND EMISSION CONTROLS

Pollutant	Emission Limit (Tons per Year)
Particulate Matter (PM, PM_{10}, $PM_{2.5}$)	62.1
NO_X	211
VOC	159
CO	222
SO_X	31.1
Hazardous Air Pollutants (HAPs)	9

Compliance Monitoring Requirements

PCAQCD established compliance monitoring requirements for operation of the gas turbines to ensure enforceable emissions limitations and applicable regulatory requirements will be met.

These can be summarized as the following:

- Initial performance source testing for NO_X, CO, PM, VOC and formaldehyde emissions, to establish site-specific emission factors that will be used to assess compliance with facility-wide emission limits. PCAQMD requires testing to be updated every five years, except that NO_X testing must be repeated annually, unless compliance can be demonstrated using Continuous Emissions Monitoring System (CEMS) data.

- Instrumental continuous CEMS monitoring for NO_X and CO emissions.

- Parametric monitoring for PM, VOC, and HAP emissions, using source-test derived emission factors and recorded ongoing fuel usage.

Between the time that the draft and final permits were issued, PCAQMD added the initial performance test requirement for formaldehyde, the CO CEMS monitoring requirement, and the parametric monitoring requirement for HAPs. Doing so has provided greater assurance that the facility will be in compliance with emission limitations and specific regulatory conditions.

Recordkeeping and Reporting Requirements

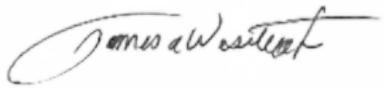
The Bella Facility is required by PCAQCD to maintain extensive operating records, track ongoing emissions and complete periodic reporting. Records required include copies of initial performance source tests, CEMs data and RATA test reports, design efficiency, natural gas fuel usage and heat input data tracking per turbine unit, sulfur content of natural gas and diesel fuel used, and other records.

In addition to required up-front notifications and performance tests, regular reporting requirements include a semi-annual report demonstrating compliance with permit conditions, that must be supplied to PCAQCD and EPA Region IX. An annual compliance certification is also required. In addition, because Bella is a Title V facility, any deviations from permit applicable requirements must be reported within 15 days of a deviation occurrence. An annual emissions inventory stating actual emission for the previous calendar year must be filed by the latter of March 31st each year or 90 days from when the emissions form is provided by PCAQCD for the facility to complete.

If you have any questions regarding this description of the final air permit for the Bella Energy Facility, please do not hesitate to call me on mobile at 858-774-2009.

Best Regards,

BLUESCAPE ENVIRONMENTAL



James A. Westbrook
President

EXHIBIT B-3
SUMMARY OF THE BELLA ENERGY FACILITY CONSTRUCTION AIR PERMIT PROCESS

Memorandum

To: Mark Thompson, Seguro Energy Partners, LLC

From: James Westbrook, BlueScape Environmental

Date: June 19, 2024

Subject: Summary of the Bella Energy Facility Construction Air Permit Process

---

Seguro Energy Partners, LLC (SEP) requested that BlueScape Environmental (BlueScape) provide a summary of the Bella Energy Facility construction air permit (or air permit) process, as described in this memorandum. SEP received authorization from Pinal County Air Quality Control District (PCAQCD) to construct and operate the facility in Pinal County, Arizona. The facility will be a peaking generation plant with ten (10) General Electric (GE) LM6000 turbines having total nominal capacity of 490-megawatt (MW)

This memorandum describes the Pinal County Air Quality Control District (PCAQCD) permit review process, from the initial air permit application submittal to receipt of the final air permit, including steps completed by PCAQCD during the application review process, with a description of the 30-day Public Comment period and the 45-day US Environmental Protection Agency (USEPA) Administrative Review Period, that occurred prior to final permit issuance.

Bella Energy Facility Air Permit Application Process

The initial application for a Class I Permit for the Bella Energy Facility was submitted to PCAQCD on May 23, 2023. The application included permit forms, initial fees, a site plan, equipment specifications and operational details, air emission calculations, and an application report that included a detailed regulatory compliance review. Supporting documentation and an application revision were requested by PCAQCD – these were provided on June 22, 2023 and August 30, 2023.

PCAQCD requested that an air dispersion modeling demonstration be made showing that facility impacts will not cause or contribute to exceedance of the National Ambient Air Quality Standards (NAAQS). The required air dispersion Modeling Protocol was supplied to PCAQCD with the 8/30/23 application revision submittal.

The expert modeling consultant supporting PCAQCD provided several comments on the Modeling Protocol. These included a request for justification for meteorological data proposed, and demonstration of inclusion of facilities within 10 kilometers that should be included in the cumulative modeling analysis. BlueScape responded to these comments in several emails, until the Modeling Protocol was approved by PCAQCD. The Air Dispersion Modeling Analysis was submitted to PCAQCD on December 1, 2023, showing that the project will not cause or contribute to air pollution in violation of the NAAQS. After response to questions by PCAQCD's consultant regarding the Modeling Analysis, the study was approved by PCAQCD as acceptable, on December 22, 2023.

During the permit application process, water access limitations at the initial proposed site required SEP to secure a different, nearby site location. BlueScape updated PCAQCD in January 2024 with site-related details and analyses including the site plan showing the proposed updated site boundaries, equipment and structures configuration, and updated stack information. An updated Modeling Analysis was submitted to PCAQCD on February 6, 2024. PCAQCD accepted these revisions and then finalized the application review process and moved forward to draft permit issuance.

Draft Air Permit Review; 30-day Public Comment Period

On February 15, 2024, PCAQCD approved all application materials and issued the initial draft construction air permit for the Bella Energy Facility. A 30-day Public Comment period began on February 29, 2024 and concluded on March 30, 2024, As required by Pinal County regulations, PCAQCD provided notice to the public in the local newspaper and at the County building in Casa Grande, Arizona. SEP was required by PCAQCD to notify the public as well, by placing the public notice document at locations near the proposed facility property line. Large visible signs were placed near the intersection of Cornman and S Midway Road at the east side of the property line beginning February 29, 2024, the date that the project was noticed in the newspaper. The public notice letter and pictures of sign postings are attached to this memorandum.

A virtual Public Hearing was held on April 1, 2024, the first business day following the weekend within the 30-day comment period. Comments were received from a few parties including SEP. SEP requested revision of the draft air permit to include increased source testing and monitoring conditions, which PCAQCD included in draft air permit revisions.

USEPA 45-day Administrative Review and Final Air Permit Issuance

Upon completion of the 30-day Public Comment period, PCAQCD prepared written response to public comments and then sent the updated draft permit with comments and responses to USEPA. The 45-day USEPA Administrative Review period then began on April 25, 2024 and ended on June 10, 2024. USEPA had no comments or objections to the draft air permit. Upon completion of the 45-day USEPA review period, having

received no comments from USEPA, PCAQCD issued the final air permit, on June 17, 2024.

Similarity to Other Projects - SRP Copper Crossing Energy and Research Center and Other Projects

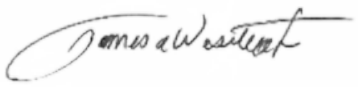
An example of the final air permitting outcome for Bella Energy is the recent SRP Copper Crossing Energy and Research Center (CCERC) project. The CCERC final construction air permit was issued in May 2023 by PCAQCD. Like for Bella Energy, the CCERC facility will have GE LM6000 PC simple cycle combustion turbines equipped with selective catalytic reduction (SCR) and oxidation catalyst controls. The CCERC facility was also permitted with conditions to limit emissions to below the federal New Source Review major source levels. Therefore, the regulations and the air permit process applicable to CCERC are also applicable as a direct comparison to the Bella Energy Project permit process. The proposed CCERC permit underwent the 30-day Public Comment period and received verbal and written comments, but none of the comments caused delays in issuing the final CCERC air permit. USEPA had no comments on the draft CCERC permit.

BlueScape has also reviewed air permits issued for other projects in Pinal County, such as the SRP Coolidge expansion and the installation of gas turbines at the Desert Basin Power Plant. The air permit conditions and applicable requirements in the Bella Energy Facility permit, such as emissions limitations and monitoring requirements, are consistent with the permits and conditions issued for those facilities.

If you have any questions about this description, please do not hesitate to call me on mobile at 858-774-2009.

Best Regards,

BLUESCAPE ENVIRONMENTAL



James A. Westbrook
President

PUBLIC NOTICE OF PROPOSED PERMIT OR PERMIT REVISION NOTICE OF PUBLIC HEARING

PINAL COUNTY AIR QUALITY CONTROL DISTRICT
P.O. Box 987 Florence, Arizona 85132

Please note that **PUBLIC COMMENT IS REQUESTED** and a **PUBLIC HEARING** will be held, as follows:

Purpose of Hearing	To allow public comment regarding a pending application for a permit/revision that will authorize changes in emissions to the ambient air from the source described below.
PCAQCD FILE #	**V20700.000**
Applicant	Seguro Energy- Partners, LLC 9004 S. 230th Ave Buckeye, AZ 85236
Source Location	**Bella Energy Facility** Intersection of W. Cornman Rd & S. Midway Rd Casa Grande, AZ
Type of Operations	**Power Generation and Energy Storage**
Emission	Nitrogen Oxides, Carbon Monoxide, Sulfur Dioxide, Particulate Matter, Volatile Organic Compounds and Hazardous Air Pollutants (Formaldehyde)
Hearing Date	**Monday, April 1, 2024 Hearing Time: 10:00 AM**
Hearing Location	The public hearing will be held virtually **Google Hangout Meeting - meet.google.com/cgb-opev-zrh or Conference Call # - 1 505-738-1193 PIN: 51O 497 453#**

Any person who may be adversely affected by the requested permit/revision may offer oral or written objection to the terms or issuance of such permit. Grounds for comment are limited to whether the proposed permit meets the criteria for issuance prescribed in statute or rule. Objections or comments may be mailed to the District, may be hand delivered to the District, or may be expressed at the scheduled hearing. Written comments must identify the person objecting, be signed, and clearly set forth reasons why the permit/revision should be changed or should not be issued. Objections or comments are due during the public comment period, which ends upon the latter of thirty (30) days after the date of the first publication of this notice, or close of business on the date of any hearing that may be held.
Send objections/comments to Pinal County Air Quality Control District, P.O. Box 987, Florence, Arizona 85132, emailed to airquality@pinal.gov or deliver to the District at 85 N. Florence St, Florence, Arizona.

The permit application package, including a draft permit, and comments and objections received, can be requested at Pinal County Air Quality Control District, 85 N. Florence St, Florence, AZ during the hours of 7:00 a.m. to 5:30 p.m., Monday through Thursday, excluding Holidays. The draft permit is available at https://www.pinal.gov/401. Any questions regarding the proposed permit or the hearing may be directed to the District at (520) 866-6929.

Any person may petition the Administrator within 60 days after the expiration of the Administrator's 45-day review period to object the issuance of this permit. Any such petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

PCAQCD will take reasonable measures to provide access to department services to individuals with limited ability to speak, write, or understand English and/or to those with disabilities. Requests for language interpretation services or for disability accommodations must be made at least 48 hours in advance by contacting: (520) 866-6929.

PCAQCD tomara medidas razonables para proveer acceso a los servicios del departmento para personas con capacidad limitada para hablar, escribir o entender Ingles y/o para las personas con discapacidad. Las solicitudes de servicios de interpretaci6n del lenguaje o de alojamiento de discapacidad deben hacerse por lo menos 48 horas de antelaci6n poniendose en contacto con: (520) 866-6929.

Anu Jain
Pinal County Air Quality Control Director

2/28/24
Date

First Publication Date: March 2, 2024

NOTIFICACIÓN PÚBLICA DE PROPUESTA DE PERMISO O REVISIÓN DE PERMSO
AVISO DE AUDIENCIA PÚBLICA

DISTRITO DE CONTROL DE CALIDAD DEL AIRE DE PINAL COUNTY

P.O. Box 987 Florence, Arizona 85132

Tenga en cuenta que SE SOLICITA COMENTARIOS DEL PÚBLICO y se llevará a cabo una AUDIENCIA PÚBLICA, de la siguiente manera:

Propósito de la audiencia	Permitir comentarios públicos sobre una solicitud pendiente de permiso/revisión que autorizará cambios en las emisiones al aire ambiente de la fuente que se describe a continuación.
PCAQCD FILE #	**V20700.000**
Solicitante	Seguro Energy- Partners, LLC 9004 S. 230th Ave Buckeye, AZ 85236
Ubicación de origen	**Bella Energy Facility** Intersection of W. Cornman Rd & S. Midway Rd Casa Grande, AZ
Tipo de operaciones	**Generación de Energía y Almacenamiento de Energía**
Emisión	Óxidos de nitrógeno, monóxido de carbono, dióxido de azufre, partículas, compuestos orgánicos volátiles y contaminantes atmosféricos peligrosos (formaldehído)
Fecha de la audiencia	Lunes**, Abril 1, 2024 Hora de la audienciaTime: 10:00 AM**
Ubicación de la audiencia	La audiencia pública se realizará de manera virtual **Google Hangout Meeting - meet.google.com/cgb-opev-zrh or Conference Call # - 1 505-738-1193 PIN: 51O 497 453#**

Cualquier persona que pueda verse afectada negativamente por el permiso/revisión solicitado puede ofrecer una objeción oral o escrita a los términos o la emisión de dicho permiso. Los motivos para realizar comentarios se limitan a si el permiso propuesto cumple con los criterios para su emisión prescritos en el estatuto o norma. Las objeciones o comentarios pueden enviarse por correo al Distrito, entregarse personalmente al Distrito o expresarse en la audiencia programada. Los comentarios escritos deben identificar a la persona que objeta, estar firmados y establecer claramente las razones por las cuales el permiso/revisión debe cambiarse o no debe emitirse. Las objeciones o comentarios deben presentarse durante el período de comentarios públicos, que finaliza treinta (30) días después de la fecha de la primera publicación de este aviso, o al cierre de operaciones en la fecha de cualquier audiencia que pueda celebrarse, lo que ocurra más tarde.

Envíe sus objeciones/comentarios al Distrito de Control de Calidad del Aire del Condado de Pinal, P.O. Box 987, Florence, Arizona 85132, enviado por correo electrónico a airquality@pinal.gov o entregado al Distrito en 85 N. Florence St, Florence, Arizona.

El paquete de solicitud de permiso, que incluye un borrador de permiso y los comentarios y objeciones recibidos, se puede solicitar en el Distrito de Control de Calidad del Aire del Condado de Pinal, 85 N. Florence St, Florence, AZ durante el horario de 7:00 a. m. a 5:30 p. m. De lunes a jueves, excepto festivos. El borrador del permiso está disponible en https://www.pinal.gov/401. Cualquier pregunta sobre el permiso propuesto o la audiencia puede dirigirse al Distrito al (520) 866-6929.

Cualquier persona puede solicitar al Administrador dentro de los 60 días posteriores al vencimiento del período de revisión de 45 días del Administrador para objetar la emisión de este permiso. Cualquier petición de este tipo se basará únicamente en objeciones al permiso que se plantearon con especificidad razonable durante el período de comentarios públicos, a menos que el peticionario demuestre que era impracticable plantear dichas objeciones dentro de dicho período, o a menos que los motivos de dicha objeción surgieran después de dicho período.

PCAQCD tomara medidas razonables para proveer acceso a los servicios del departmento para personas con capacidad limitada para hablar, escribir o entender Ingles y/o para las personas con discapacidad. Las solicitudes de servicios de interpretaci6n del lenguaje o de alojamiento de discapacidad deben hacerse por lo menos 48 horas de antelaci6n poniendose en contacto con: (520) 866-6929.

Anu Jain
Pinal County Air Quality Control Director

2/28/24
Fecha

Primera Fecha de Publicación: Marzo 2, 2024

EXHIBIT B-4
PROJECT BELLA GROUNDWATER AVAILABILITY ASSESSMENT

Matrix New World Engineering
3033 N. 44 Street, Ste 270
Phoenix, AZ 85018
602.955.5547 973.240.1800
mnwe.com

MATRIXNEWORLD
Engineering Progress

TECHNICAL MEMORANDUM

TO: Mark Thompson, Seguro Energy Partners

CC: Michele L. Van Quathem, Law Offices of Michele Van Quathem

FROM: Nathan Miller and DeAnn Hauver

DATE: June 19, 2024

RE: **Project Bella Groundwater Availability Assessment**

PURPOSE OF MEMO

The purpose of this technical memorandum is to assess the physical availability of the proposed water supply and demonstrate that the proposed water supply is sufficient to meet the water demands for Project Bella. The proposed source of water for Project Bella is groundwater pumped from one or more onsite production wells.

INTRODUCTION

Project Bella is located in the Maricopa-Stanfield Sub-basin of the Pinal Active Management Area (AMA). The Project encompasses approximately 350 acres within portions of Sections 1 and 12 of Township 7 South, Range 4 East of the Gila and Salt River Baseline and Meridian (**Figure 1**). Specifically, Project Bella is located approximately 880 feet north of Interstate 8, west of Midway Road, and 0.4 miles south of Selma Highway. Greene Wash runs along the southern boundary of the Project.

Project Bella will provide substantial resources for local electric providers servicing the Arizona population contributing to grid resilience and reliability by the development of a natural gas-fired power plant, BESS, and related facilities. The footprint of the Project envelope is approximately 158 acres of the approximate 350-acres Property. The Project is anticipated to be built in two phases. The first phase is estimated to require approximately 330 acre-feet per year (ac-ft/yr) of water. The second phase is expected to include an additional 210 ac-ft/yr of water for a total estimated Project demand of 540 ac-ft/yr.

The Property has an existing irrigation grandfathered groundwater right (IGFR) identified by Arizona Department of Water Resources (ADWR) permit number 58-105553.0005. The right covers 189 irrigation acres with a maximum annual groundwater allotment of 635.20 ac-ft/yr. Arizona Department of Water Resources (ADWR) records show that in 2023, a total of 345.80 ac-ft of groundwater was used for irrigation pursuant to this IGFR.

Seguro has committed to acquiring Long Term Storage Credits (LTSCs) in quantities sufficient to offset any increases in groundwater use on the site. The LTSCs represent Central Arizona Project (CAP) water stored in the aquifer through the Groundwater Savings Facility (GSF) permit 72-531381.0006 associated with the Maricopa Stanfield Irrigation and Drainage District (MSIDD).

MATRIXNEWORLD
Engineering Progress

GEOLOGIC BACKGROUND

The regional geology in the Maricopa-Stanfield Sub-basins consists of a deep alluvial basin bounded by bedrock ranges consisting primarily of granitic, metamorphic, and volcanic rocks. The alluvial basin is a sequence of fill materials comprised of unconsolidated to semi-consolidated clastic sediments of Late Tertiary to Quaternary age. The alluvial deposits generally increase in thickness and decrease in grain size toward the central areas of the basin (Wickham and Corkhill, 1989). The bedrock ranges surrounding the Project are the Sacaton Mountains in the north, the Casa Grande Mountains to the southeast, the Silver Reef Mountains in the south, and the Table Top Mountains in the west.

GEOLOGIC BEDROCK

Depth to bedrock beneath the study area is estimated based on review of depth to bedrock contours developed by AGS (Richard et al, 2007), the Pinal AMA Model, and review of lithologic well logs located in the area (ADWR, 2024a). Generally, total alluvial thickness in the Pinal AMA Model serves as a proxy for depth to bedrock that has been estimated by geophysical methods (Richard et al, 2007). Total basin fill alluvial thickness is simulated in the Model as shown on **Figure 2**. The simulated alluvial thickness (i.e., depth to bedrock) in the study area generally increases from the east to the northwest, with an average total thickness of 1,352 feet at the Project. Depth to bedrock contours (Richard et al. 2007) also shown in **Figure 2** show the estimated depth to bedrock greater than 1,600 feet at the Project, signficantly greater than the modeled values. The model reflects a more conservative value supported by local well data.

Wells in the area have not been drilled to sufficient depth to encounter bedrock. The deepest wells in the area (55-615421, 55-228588, and 55-085946, located approximately 1.6 miles northwest, 1.5 miles north, and 3.8 miles southeast respectively, of the Project were drilled to 1,420 feet below land surface (ft bls), 1,200 ft bls, and 1,087 ft bls respectively, without encountering bedrock.

GROUNDWATER LEVELS

October 2021 through March 2022, i.e. Winter 2021 / 2022, depths to groundwater and groundwater surface elevations (ADWR, 2024b) are presented on **Figure 3**. Review of the Winter 2021 / 2022 groundwater elevations indicates:

- The groundwater surface elevation at the Project ranges from approximately 775 feet above mean sea level (amsl) to 850 ft amsl.
- Depth to groundwater at the Project is estimated between 500 to 550 ft bls.
- The regional groundwater flow direction is to the west-southwest towards a cone of depression.

ADWR has monitored groundwater levels at three wells near Project Bella. The locations of these wells are displayed in **Figure 3** and hydrographs of these wells are presented on **Figure 4**. Review of data presented in the hydrographs indicates wells D(06-04) 36DDD and D(07-05) 07DDD have experienced similar rising and falling trends for the period of record. The hydrograph for well D(06-05) 19DDA PZ2, located northeast of the Project, shows the groundwater to be fairly stable with an average decline of 0.62 ft/yr over the last 5 years. Groundwater level trends calculated for the last 5 years ranged from a decline of 0.62 ft/yr to a decline of 3.7 ft/yr. The average 5-year water level trend for wells in the study area is a decline of 1.91 ft/yr.

MATRIXNEWORLD
Engineering Progress

WATER PRODUCTION WELLS

The average reported groundwater pumping from 2018 through 2022 for wells in the area is presented in **Figure 5**. The size of the symbols representing each well on the map reflects its average pumping. As shown on **Figure 5**, the average annual groundwater use at Project Bella is 160 ac-ft/yr in the western portion and 487 ac-ft/yr in the southeast. This is a total of 647 ac-ft/yr of groundwater pumping at the Project. Two wells within one half a mile west of the Project have reported average pumping values of 1,329 and 1,940 ac-ft/yr

Since the estimated total Project demand is 540 ac-ft/yr , and the reported 2023 irrigation groundwater pumping for the Property is 345.80 ac-ft, the Project results in a net increase in demand of approximately 195 ac-ft/yr.While Seguro will acquire LTSCs to achieve a net zero increase to groundwater pumping in the aquifer, there is a potential local increase of 195 ac-ft/yr of demand for the Property. 195 ac-ft/yr would be represented by the smallest symbols on the map indicating that this level of increased pumping is nominal with respect to the quantity of reported pumping for other wells in the area.

A graph of the total reported pumping over time for wells within approximately 3-miles of the proposed Project Bella property is presented in **Figure 6**. The increase of 195 ac-ft is shown compared to the total reported pumping in 2022 of 22,390 ac-ft. The increase of 195 ac-ft to 22,590 ac-ft is nearly indistinguishable from the total pumping value for 2022.

SUSTAINABILITY OF THE AREA AQUIFER

Current runs of the Pinal AMA model (ADWR, 2019) demonstrate that the aquifer supports demands for future approved Assured Water Supply (AWS) determinations plus continued agricultural pumping for areas with AWS determinations. **Figure 7** identifies the results of that simulation at the end of the 100-year predictive model period. The simulated depth to water at the end of the 100-year period is 850 feet at the proposed Project Bella. The average depth to the bottom of the aquifer is 1,352 feet below land surface based on the model data, indicating a remaining saturated thickness of 500 feet at the end of the 100-year simulation. **Figure 7** also shows the pumping well locations with simulated pumping through the 100-year predictive period. The total pumping assigned to wells within three miles of the proposed Project Bella property was over 3.2 million acre-feet, or an average of over 32,000 acre-feet per year throughout the 100-year period. Therefore, the maximum of 540 ac-ft/yr from Project Bella represents less than 1.7% of the total simulated pumping quantity within the 3-mile radius.

Based on an approximate increase of 195 ac-ft/yr from the current reported groundwater use of 345 ac-ft/yr to 540 ac-ft/yr, Matrix conducted impact calculations for both five-year drawdown impacts (well impact analysis to support well permitting) as well as 100-year simulations using the Pinal AMA AWS model. These models produce results that are negligible to show on graphics. The five-year drawdown model simulates a maximum drawdown of less than 3 feet at the site of a proposed well at Project Bella. The 100-year model run with and without the 195 ac-ft/yr increase showed that the additional pumping caused an additional drawdown of 4.9 feet over the 100-year period.

REFERENCES

ADWR, 2019. 2019 Pinal Model and 100-Year Assured Water Supply Projection, Technical Memorandum. October 11, 2019. Arizona Department of Water Resources.

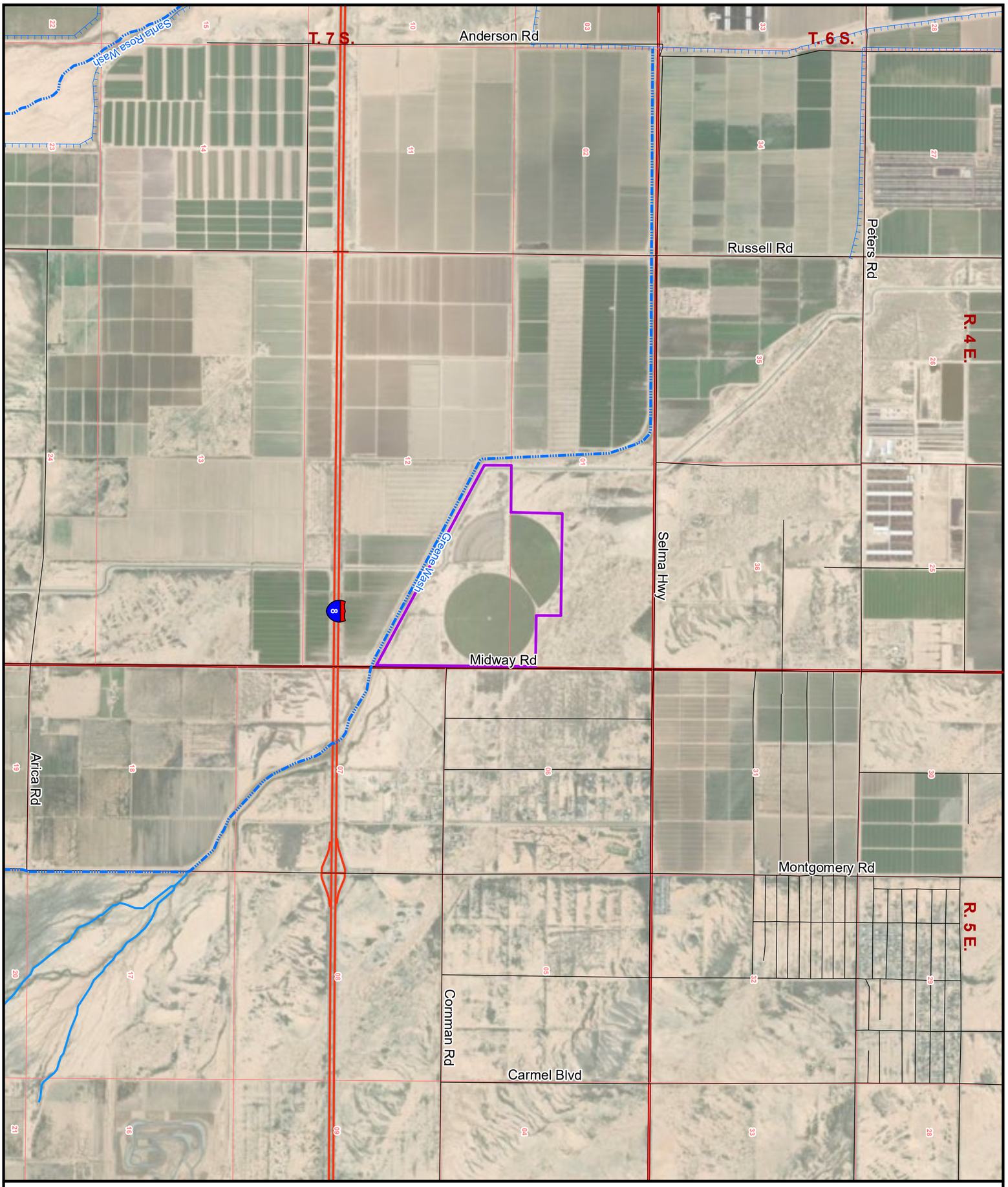
ADWR, 2024a. Wells 55 On-line Database. Well driller reports. Queried February 2024.

ADWR, 2024b. On-line Groundwater Site Inventory (GWSI) Database. Queried February 2024.

Richard, S.M., Shipman, T.C., Greene, L., and Harris, R.C., 2007. Estimated Depth to Bedrock in Arizona. Arizona Geological Survey Digital Geologic Map 52 (DGM-52), version 1.0. April, 2007.

Wickham, M.P. and Corkhill, E.F., 1989. Pinal Active Management Area, Regional Groundwater Flow Model, Phase One: Hydrogeologic Framework, Water Budget and Phase One Recommendations. Arizona Department of Water Resources Modeling Report No. 1. June 1989.

S:\MyDocs\SGCPRJ\2024\24-0097 Seguro Energy Plant - Pinal AMA\GIS\Final Figures\24-0097.aprx



EXPLANATION

- Project Bella
- Ditch
- Stream / River
- Wash
- Interstate
- Local Route
- Section
- Township

0 0.5 1 Miles

N

Notes
Service Layer Credits: World Street Map: Esri, HERE, Garmin, NGA, USGS, NPS
World Imagery: Maxar, AZGS, USGS, ADWR

FIGURE NUMBER: 1

PROJECT BELLA
PINAL COUNTY, ARIZONA

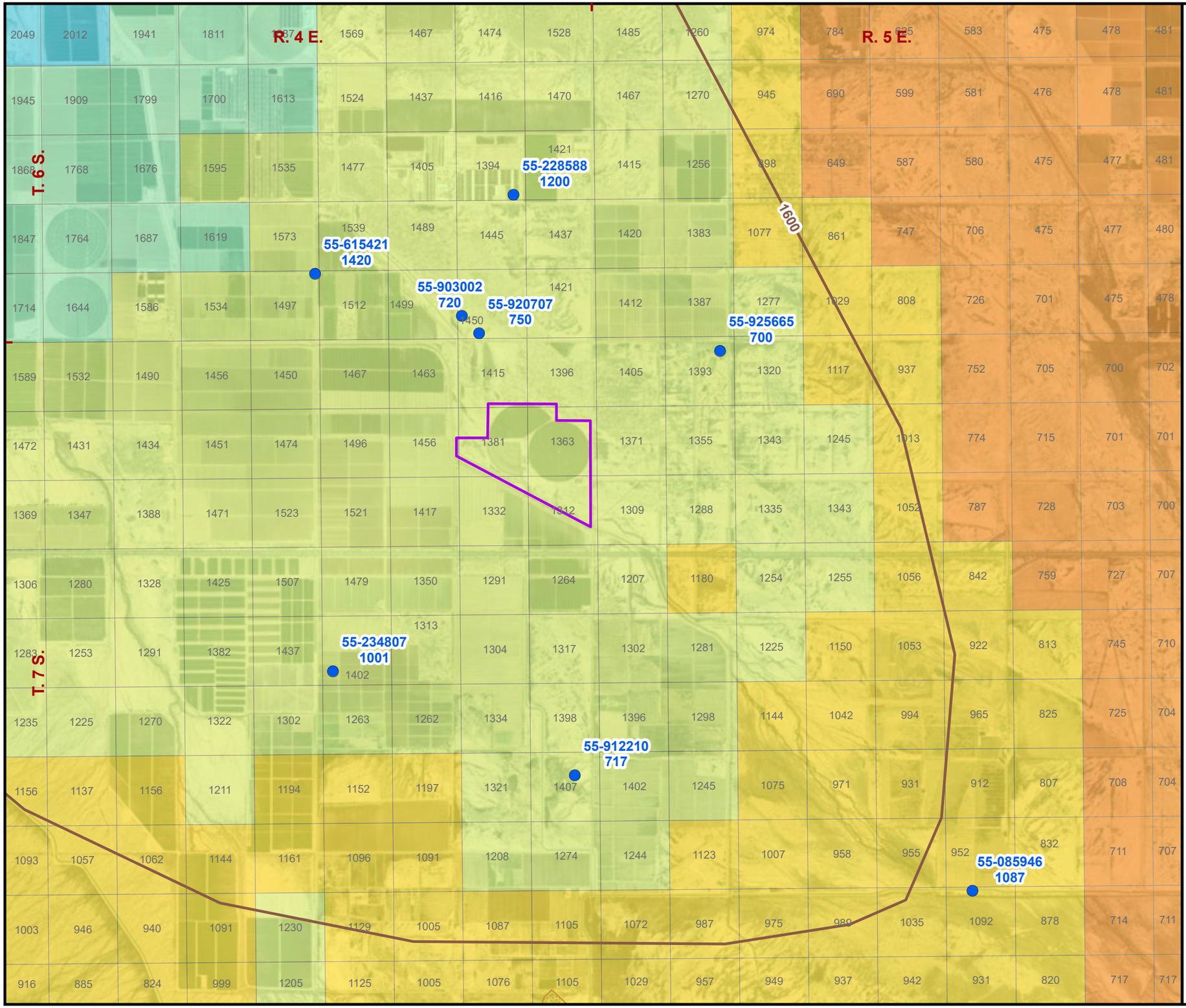
MATRIXNEWORLD
Engineering Progress

Matrix New World Engineering, PC
3033 North 44th Street, Suite 270
Phoenix, Arizona 85018

Tel: 602-955-5547
Fax: 602-955-7585
www.mnwe.com

LOCATION MAP

DRAWN BY: JE	APPROVED BY: HB	PROJECT NUMBER: 24-0097
DATE: 06/19/2024	DATE: 06/19/2024	



EXPLANATION

- Project Bella
- Well Showing Total Depth Without Encountering Bedrock
- Depth to Bedrock Contour (ft bls)(Richard et.al., 2007)

Pinal AMA Model

Sedimentary Thickness (ft)

- 0 - 400
- 401 - 800
- 801 - 1200
- 1201 - 1600
- 1601 - 2000
- 2001 - 2400
- 2401 - 2800
- 2801 - 3300

N

0 1 2
Miles

Notes
Service Layer Credits: World Imagery: Earthstar Geographics, AZGS, USGS, ADWR
ft = feet
ft bls = feet below land surface

DEPTH TO BEDROCK MAP

PROJECT NUMBER: 24-0097

DRAWN BY: JE DATE: 06/19/2024

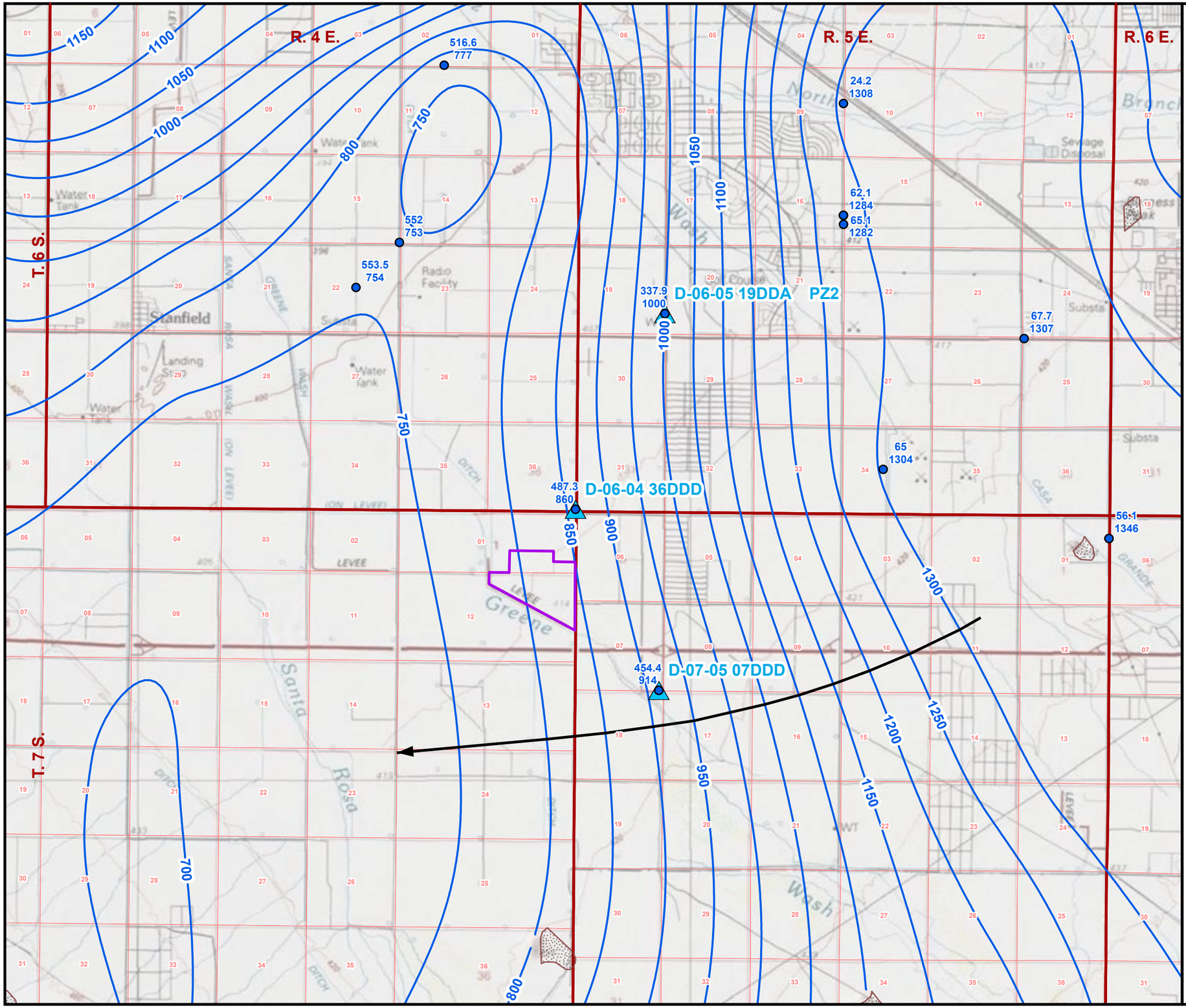
APPROVED BY: HB DATE: 06/19/2024

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
3033 North 44th Street, Suite 270
Phoenix, AZ 85018
Tel: 602-955-5547
Fax: 602-955-7585
www.mnwe.com

PROJECT BELLA
PINAL COUNTY, ARIZONA

FIGURE NUMBER:
2

S:\MyDocs\SCCPRJ\2024\24-0097 Seguro Energy Plant - Pinal AMA\GIS\Final Figures\24-0097.aprx



EXPLANATION

- Project Bella
- Well with Historical Groundwater Data
- Oct. 2021 - Mar. 2022 Static Groundwater Level Well
  - Depth to Groundwater (ft bls)
  - Water Level Elevation (ft amsl)
- Direction of Groundwater Flow
- Groundwater Elevation Contour (ft amsl)
  - Contour Interval - 50 feet
- Township
- Section

0 1 2
Miles

Notes
Service Layer Credits: US Topo Maps: Copyright:© 2013 National Geographic Society, i-cubed, AZGS, USGS, ADWR
ft bls = feet below land surface
ft amsl = feet above mean sea level

GROUNDWATER LEVEL MAP

PROJECT NUMBER: 24-0097

APPROVED BY: HB
DATE: 06/19/2024

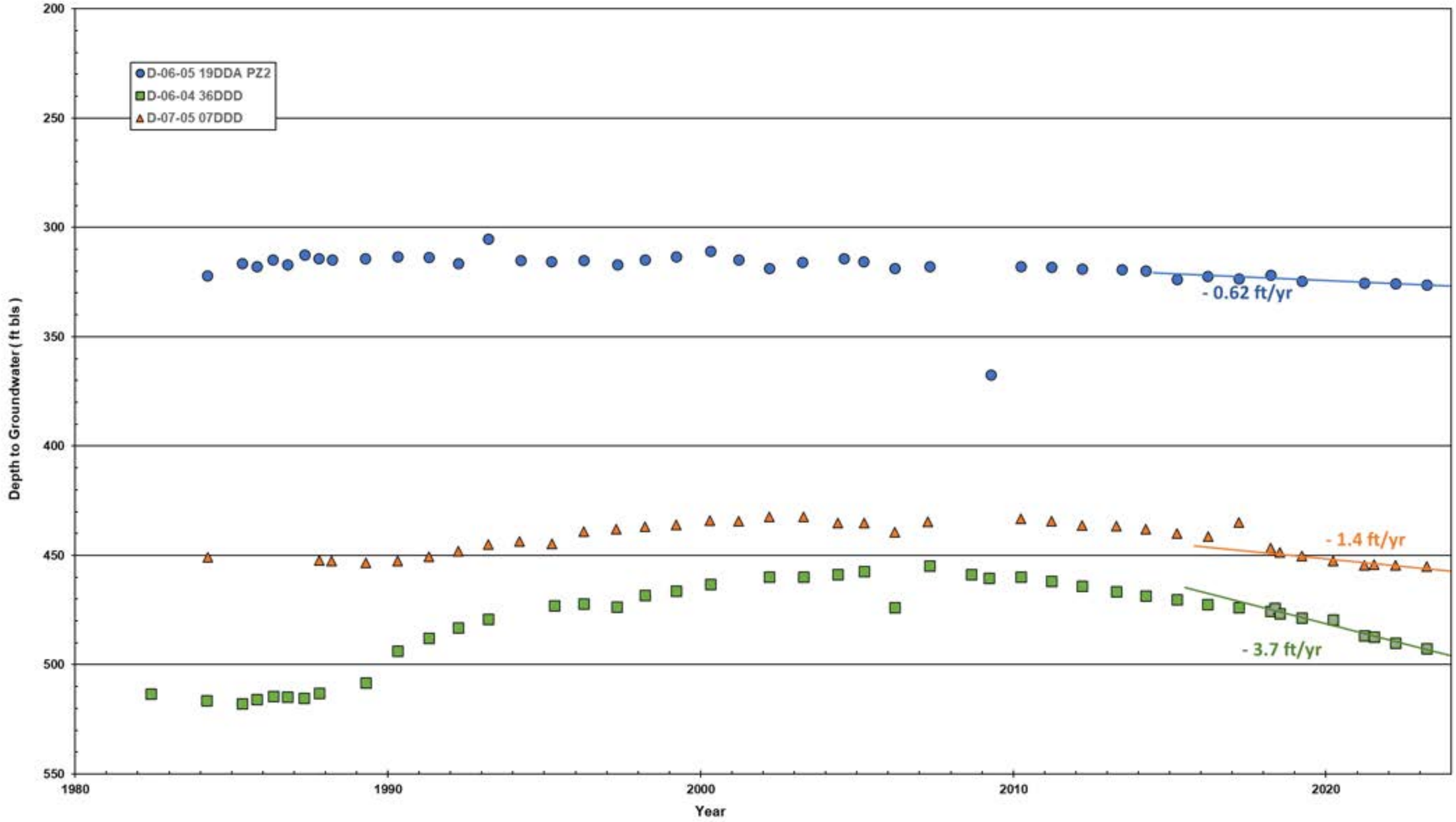
DRAWN BY: JE
DATE: 06/19/2024

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
3033 North 44th Street, Suite 270
Phoenix, AZ 85018
Tel: 602-955-5547
Fax: 602-955-7585
www.mnwe.com

PROJECT BELLA
PINAL COUNTY, ARIZONA

FIGURE NUMBER:
3

S:\MyDocs\SGCPRJ\2024\24-0097 Seguro Energy Plant - Pinal AMA\GIS\Final Figures\24-0097.aprx



HISTORIC WATER LEVEL HYDROGRAPHS

DRAWN BY: JS
DATE: 2/27/2024

APPROVED BY: DH
DATE: 2/27/2024

PROJECT NUMBER: 24-0097

MATRIXNEWORLD
Engineering Progress

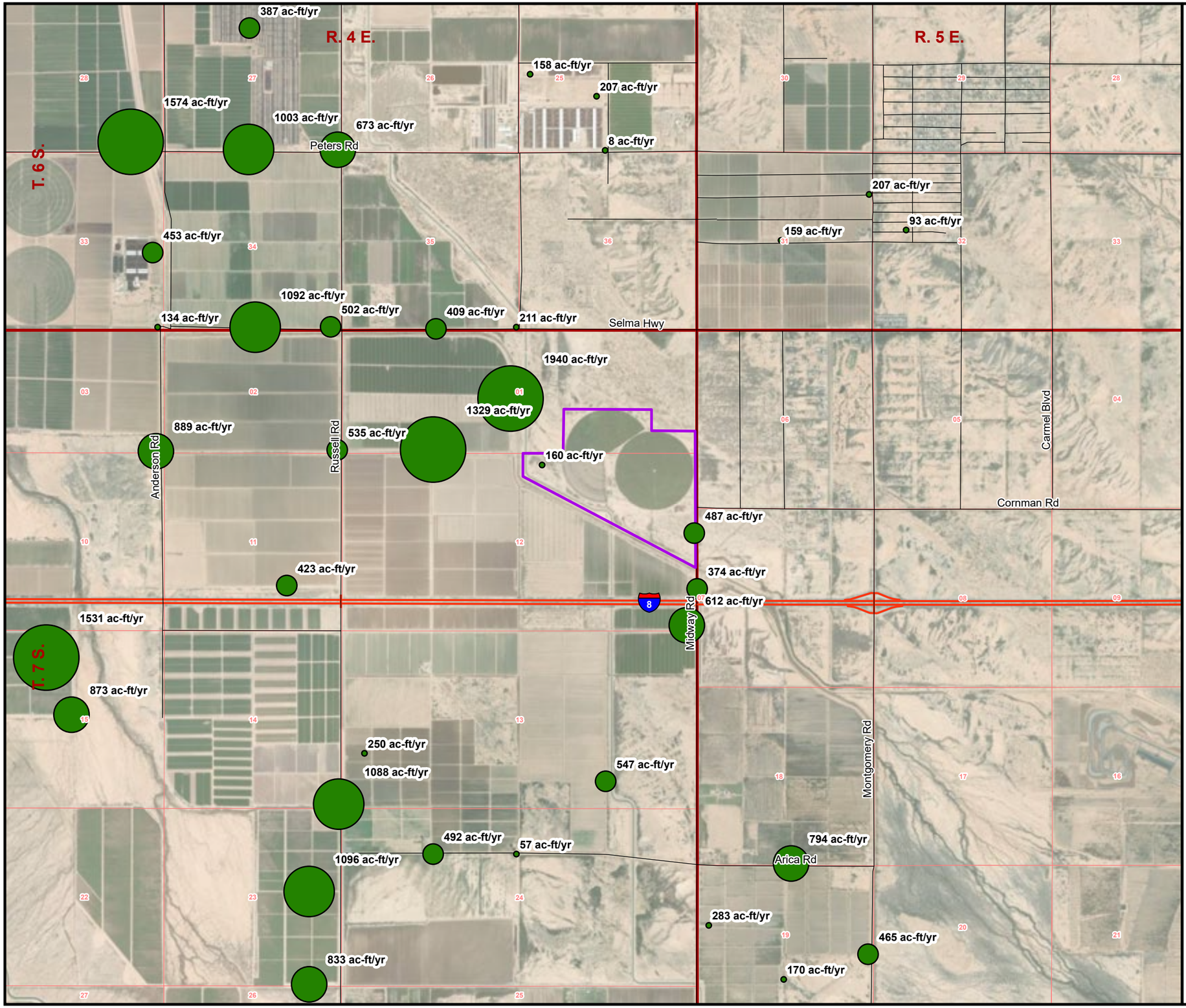
Matrix New World Engineering, PC
3033 North 44th Street, Suite 270
Phoenix, Arizona 85018

Tel: 602-955-5547
Fax: 602-955-7585
www.mnwe.com

PROJECT BELLA
PINAL COUNTY, ARIZONA

FIGURE NUMBER:

4



EXPLANATION

Project Bella

Production Wells

Average Annual Pumping (acre-feet)

- 0 - 300
- 301 - 600
- 601 - 900
- 901 - 1200
- 1201 - 2782

Township

Section

N

0 0.5 1

Miles

Notes

Service Layer Credits: World Imagery: Earthstar Geographics, AZGS, USGS, ADWR

ROGR WELL PUMPING RATE MAP

DRAWN BY: JE DATE: 06/19/2024

APPROVED BY: HB DATE: 06/19/2024

PROJECT NUMBER: 24-0097

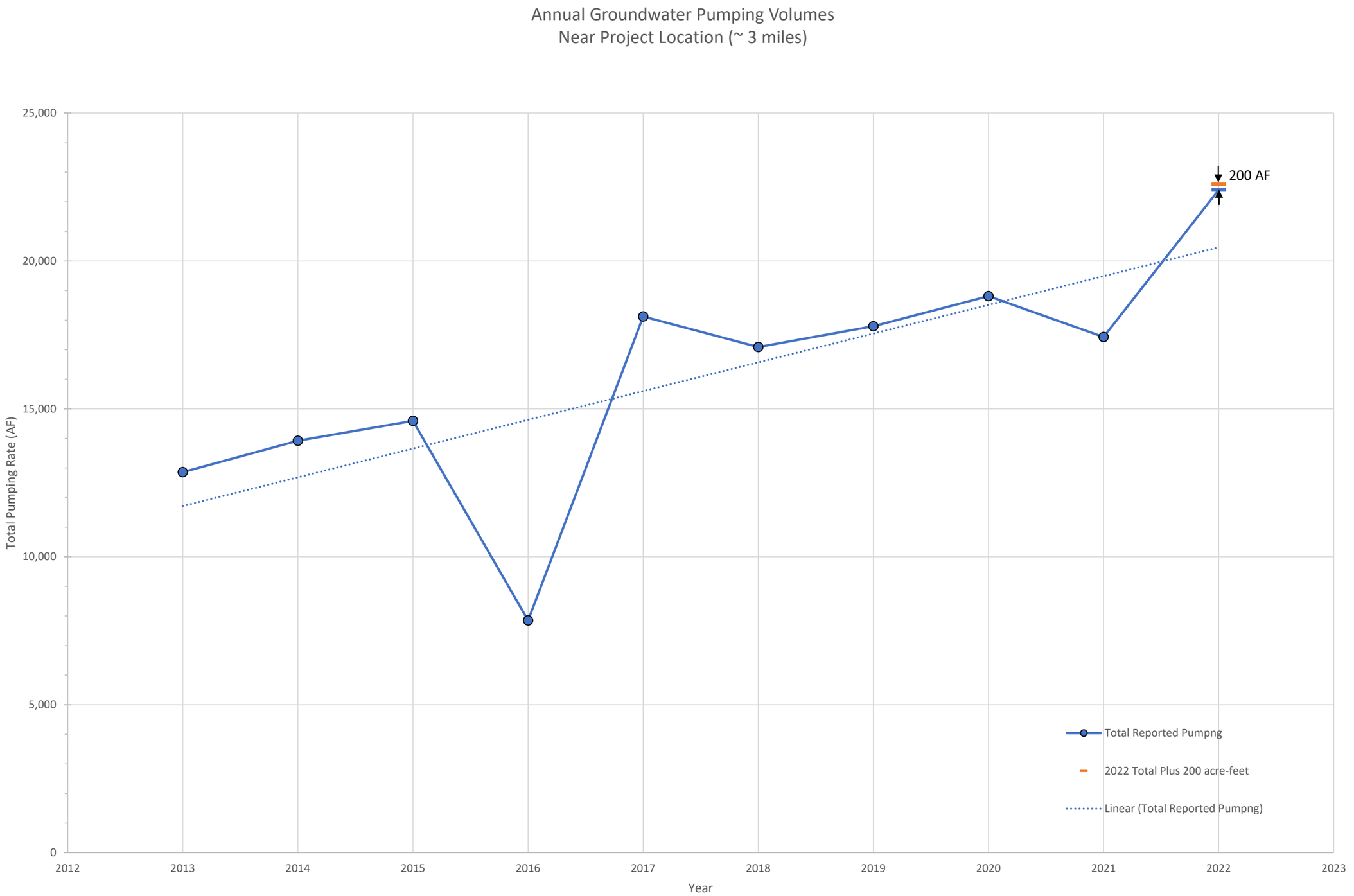
MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
3033 North 44th Street, Suite 270
Phoenix, AZ 85018
Tel: 602-955-5547
Fax: 602-955-7585
www.mnwe.com

PROJECT BELLA
PINAL COUNTY, ARIZONA

FIGURE NUMBER:

5

S:\MyDocs\SGCPRJ\2024\24-0097 Seguro Energy Plant - Pinal AMA\GIS\Final Figures\24-0097.aprx



GROUNDWATER PUMPING IN THE AREA

DRAWN BY: AS DATE: 2/27/2024

APPROVED BY: DH DATE: 2/27/2024

PROJECT NUMBER: 24-0097

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, PC
3033 North 44th Street, Suite 270
Phoenix, Arizona 85018
Tel: 602-955-5547
Fax: 602-955-7585
www.mnwe.com

PROJECT BELLA
PINAL COUNTY, ARIZONA

FIGURE NUMBER:

6

EXPLANATION

Simulated Pumping Wells
Assigned 100-year production (AF)

- 0 - 25,000
- 25,001 - 100,000
- 100,001 - 200,000
- > 200,000 AF
- Project Bella

100-Year Depth to Water (ft bls)

- 1,101 - 1,556
- 1,001 - 1,100
- 801 - 1,000
- 601 - 800
- 401 - 600
- 201 - 400
- < 200
- Dry Cells
- Hardrock Outcrops

N

0 0.5 1 1.5 2 Miles

PINAL AMA AWS MODEL
100-YEAR DEPTH TO WATER

PROJECT BELLA
PINAL COUNTY, ARIZONA

MATRIXNEWORLD
Engineering Progress

June 19, 2024 Project 24-0097

Revised Figure Number: 7

EXHIBIT B-5
WATER SUPPLY OPTIONS FOR PROJECT BELLA

Memo

LAW OFFICES
OF MICHELE VAN QUATHEM

To: Mark Thompson

From: Michele Van Quathem

Date: June 19, 2024

Re: Water Supply Options for Project Bella

You requested a summary of the water supplies for Project Bella to aid in the Certificate of Environmental Compliance review.

Legal Disclaimer. The description in this memorandum is not legal advice, and may not be relied upon for any purpose whatsoever by any person who is not my client. Third parties, while they may find the information in this memorandum helpful, are cautioned to conduct their own legal research and diligence regarding the statements in this memorandum.

Background

The project site is located on the west side of South Midway Road between Interstate-8 and the Selma Highway in Pinal County. The project parcel contains an active farm located within the Maricopa Stanfield Irrigation and Drainage District ("MSIDD"). The landowner owns Certificate of Grandfathered Irrigation Groundwater Withdrawal Right No. 58-105553.0005, with 189 irrigation acres, and 160 water duty acres (the "IGR"). MSIDD supplies the farm's irrigation water through the MSIDD Main Canal that flows through the southern part of the site. The 2024 groundwater allotment (limit) for irrigation purposes is 635.20 acre-feet per year.

At full build-out, Project Bella is expected to use 540 acre-feet per year[1] or less, with this demand starting likely in two smaller phases.

Non-Potable Process Water Supply

Physical water supply options for the project location include water withdrawn from the ground at or near the project site or water of some type delivered to the project through the MSIDD Main Canal pursuant to a potential wheeling agreement with the District. Given the impending Colorado River shortages and lack of other local available surface water or effluent (reclaimed) sources, the most feasible physical supply will be water withdrawn through a well. While the project will continue to review potential other non-groundwater direct delivery options through

[1] For scope, this quantity, 540 acre-feet, is approximately the same amount allowed for annual use by an 18-hole regulation-size golf course in the Pinal Active Management Area per the Arizona Department of Water Resources' new Fifth Management Plan conservation limits.

exchanges or other creative means, the impending Colorado River water shortages make such potential arrangements speculative at this time.

At this location, there are two types of water identified in Arizona statutes that can be withdrawn through a well that can be considered: (1) groundwater withdrawn pursuant to a Type 1 Non-Irrigation Grandfathered Groundwater Withdrawal Right (a "Type 1 Right") and/or a Type 2 Non-Irrigation Grandfathered Groundwater Withdrawal Right (a "Type 2 Right") and (2) stored Central Arizona Project ("CAP") water withdrawn pursuant to a recovery well permit.

The existing farming use on the project site will continue after the property is purchased for the project while the construction permit and planning work is completed for the project. When the project is prepared to construct, the farming use will be retired. The project landowner will permanently retire the IGR to a Type 1 Right per Arizona Revised Statutes ("A.R.S.") section 45-469. The amount of the Type 1 Right available for project uses will be up to 480 acre-feet per year per A.R.S. section 45-469.F [2.54 acre-feet per acre X 189 irrigation acres]. The Type 1 Right could be withdrawn through the existing on-site well or any other nearby well with grandfathered or permitted impact capacity and requisite well owner permissions, and used in compliance with the Groundwater Code.

Arizona law also allows groundwater withdrawals pursuant to a purchased or leased Type 2 Right. Type 2 Rights are existing rights within the Pinal Active Management Area, and use of a Type 2 Right would require that the project negotiate a purchase or lease agreement with the Type 2 Right owner.

Finally, subject to cost feasibility and permit requirements, the project can expand its withdrawal authority by purchasing long term storage credits (representing Central Arizona Project saved underground within MSIDD) and permitting a well within MSIDD's district boundaries as a recovery well under A.R.S. section 45-834.01. A number of third parties have previously stored CAP water within the MSIDD Groundwater Savings Facility (Permit No. 72-531381.0006). If the long-term storage credits are available for purchase and recovered through a permitted recovery well, the legal character of the water withdrawn is Central Arizona Project water. There could be limitations to the volume of water that can be recovered through individual recovery wells due to permit requirements and management plan rules. Well site selection is ongoing based on these and other physical considerations.

Potable Water Supply

Potable water can be available to on-site personnel through purchased bottled water sources, or may be made available with point-of-use systems meeting Safe Drinking Water Act requirements.

EXHIBIT C
AREAS OF BIOLOGICAL WEALTH

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state effects, if any, the proposed facilities will have thereon.

Introduction

Areas of biological wealth and the rare and endangered species that may occur at or in the vicinity of Project Bella (Project) were identified through a biotic resource review conducted by KP Environmental, Inc. (KPE). The data sources consulted for the review include:

- Topographical and aerial maps and land use, land cover, and elevation data (Google Earth, 2024).
- The U.S. Fish and Wildlife Service (USFWS) species list for the Project, obtained from the USFWS online Information for Planning and Consultation (IPaC) system (**Exhibit C-1**) and shown in **Table C-1**.
- Species information obtained from the USFWS Environmental Conservation Online System, the USFWS Arizona Ecological Services document library, and the Arizona Game and Fish Department (AZGFD) Online Environmental Review Tool (**Exhibit C-2**) and special-status species listed in the AZGFD Heritage Data Management System (HDMS) within Pinal County (**Table C-2,** *Special-Status Species with the Potential to Occur in Pinal County*).
- A field survey of the Project site conducted on May 21, 2024, by a KPE biologist.

The AZGFD Online Environmental Review Tool database query establishes a buffer beyond the Project area to search for occurrence records and the presence of modeled habitat. The size of the buffer depends on the type of project being considered. For this Project, the buffer is five miles beyond the Project (Project area) as defined by the AZGFD Online Environmental Review Tool.

A KPE biologist with expertise in the biology of flora and fauna of the region completed a survey of the Project site on May 21, 2024. All plant and wildlife species observed in the Project site during surveys on May 21, 2024, were recorded (see **Exhibit D** for a complete list), and the site was assessed to determine if habitat features for species protected under the federal, state, or local regulations were present on the Project site and in the vicinity.

Laws and Policies

Applicable laws and policies regarding special-status species in Arizona include the following:

- The USFWS administers the Endangered Species Act of 1973 (ESA), as amended. The

ESA protects wildlife species listed as threatened or endangered from "take" (generally, directly, or indirectly harming or disturbing listed species). However, the ESA does not provide the same take protections for listed plant species, except on federal land. The ESA also allows for the designation of critical habitat for listed species, although designation of critical habitat is not required. Critical habitat is an administrative designation of a defined area with specific characteristics important to the survival and recovery of a listed species. Designation of critical habitat can affect federal actions but not state or private actions without a federal nexus.

- The Migratory Bird Treaty Act (MBTA) provides for the protection of migratory birds and prohibits their unlawful take or possession. The act bans "taking" any native birds; "taking" can mean killing a wild bird or possessing parts of a wild bird, including feathers, nests, or eggs. Exceptions are allowed for hunting game birds and for research purposes, both of which require permits.
- The Bald and Golden Eagle Protection Act (BGEPA) prohibits any form of possession or taking of bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*). The act prohibits the "take" of bald and golden eagles; "taking" includes disturbing eagles, which means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The AZGFD manages and conserves wildlife in Arizona. Nearly all take of wildlife is regulated in some manner through the hunting and fishing license system. Arizona does not have a counterpart to the federal ESA, but a list of rare species (Wildlife Species of Concern [WSC]) was created in 1996, based on ESA candidate species, without creating any specific statutory protections for those species (AZGFD 1996).

However, hunting regulations are used to provide some protection. The WSC status is no longer a valid category because they were former but no longer candidate species under the ESA; however, the AZGFD continues to track these species due to an existing memorandum of understanding between the USFWS and AZGFD. Generally, no hunting or capture of those species is allowed, with some exceptions for managed recreational fisheries of native fish (AZGFD 2017) and recreational capture of certain reptiles (AZGFD 2015).

Arizona prepared a Comprehensive Wildlife Conservation Strategy in 2006 (AZGFD 2006), later renamed the State Wildlife Action Plan (SWAP), through a state–federal partnership and grant program. The SWAP was updated in 2022 (AZGFD 2022) and is now called the Arizona Wildlife Conservation Strategy (AWCS), making minor refinements to SWAP criteria to provide clarity. The AWCS identifies Species of Greatest Conservation Need (SGCN) in several tiers. SGCN were scored on the following seven criteria: Extirpated Status, Federal or Legal Status, Declining Status, Disjunct Status, Demographic Status, Concentration Status, and Distribution Status. Tier 1 species were deemed vulnerable in at least one of the previous categories and is at least one of the following: federally listed as endangered or threatened under the ESA, recently removed from ESA and currently requires post-delisting monitoring, specifically covered under a signed

conservation agreement CCA or a CCAA or a Conservation Strategy and Assessment or Strategic Conservation Plan, or a closed season species (i.e., no take permitted) as identified in AZGFD Orders 40, 41, 42 or 43 (AWCS 2022). Tier 2 species were deemed vulnerable in at least one of the seven criteria listed above but matched none of the additional criteria also listed above. Tier 3 species have "unknown status" in at least one of the seven criteria listed above. These species have no assessed status, and thus represent priority research and information needs. With more information on these species, their status is likely to change. **Exhibit C** addresses Tier 1 and 2 SGCNs. Species identified as WSC in 1996 are included in the AWCS and are addressed as SGCNs in **Table C-2** and the discussion in **Exhibit C.**

Native plants in Arizona are managed by the Arizona Department of Agriculture (ADA), which regulates harvest, salvage, and transport of plants. Harvest or salvage of most plant species may be permitted or required, and fees may be assessed on state land. Plants listed in the Highly Safeguarded category may only be taken or salvaged for scientific or conservation purposes. No Highly Safeguarded plant species, or any other rare plant species, are likely to be present on the Project site.

The ADA administers the state noxious weed law under Arizona Administrative Code R3-4-245.

Inventory

A KPE biologist surveyed the Project area on May 21, 2024. The biologist documented existing conditions and noted any habitat features that may be important to special-status species or related to areas of biological wealth on the Project site and vicinity.

The USFWS IPaC was accessed on April 23, 2024, and the USFWS generated a report listing proposed, candidate, threatened, and endangered species and other resources that could potentially occur within the Project area (USFWS 2024a; species are shown in **Table C-1**, *USFWS-listed Species*).

The AZGFD Online Environmental Review Tool search was completed for the Project on May 14, 2024 (AZGFD 2024a). The information provided in the environmental review is used to guide preliminary decisions and assessments of proposed land development, management, and conservation projects while incorporating fish and wildlife resource needs or features.

In addition, the AZGFD HDMS has published a list of special-status species that could occur in each county in Arizona (AZGFD 2024b), see **Table C-2**. The list was consulted to identify species that could potentially be present in the vicinity of the Project. **Table C-2** presents the special-status species potentially occurring within Pinal County (where the Project is located) as well as those species that were included on the Arizona Online Environmental Review Tool listed by common name, scientific name, and status.

The USFWS IPaC has identified zero plant species and six wildlife species (one mammal, three birds, one fish, and one invertebrate) with federal status that have the potential to occur within the Project area, see **Table C-1**.

The AZGFD Arizona Online Environmental Review Tool identified one plant species and five wildlife species (one mammal, zero fish, two birds, one amphibian, zero invertebrates, and one reptile) with special status that have the potential to occur within five miles of the Project area. These species are included in **Table C-2**.

The special-status species listed in the AZGFD HDMS (**Table C-2**) identified 20 plant species and 52 wildlife species (14 mammals, 10 fish, 15 birds, three amphibians, two invertebrates, and eight reptiles) with special status that have the potential to occur within Pinal County.

Prior to conducting the desktop analysis, the ecology and habitat requirements of various species that could occur in the county were researched. An on-ground field reconnaissance assessment of anticipated Project components and surrounding areas was conducted by a qualified biologist on May 21, 2024. During the field assessment, scans for migratory bird nests, western burrowing owls, and special-status species were conducted for the proposed Project components. Additionally, a native plant evaluation was conducted within the Project area. The information was used to evaluate the potential effects of Project implementation on special-status species within the vicinity of the Project.

Results of Field Surveys

Information from the field assessment denoted that overall habitat quality and plant diversity within the proposed Project area were determined to be low. The entirety of the proposed Project is within a disturbed area that has been previously altered by agricultural activity. The majority of the proposed Project area consists of crop weeds and other non-native vegetation that has grown over previously bare ground areas. Stands of velvet mesquite (*Prosopis velutina*) and creosote (*Larrea tridentata*) were noted in the western and southern peripheral edges of the proposed Project area as having re-vegetated areas previously disturbed by agricultural practices. There were no nests nor special-status species observed during the habitat assessment within the proposed Project boundary. Wildlife observed included red-winged blackbird (*Agelaius phoeniceus*), killdeer (*Charadrius vociferus*), mallard (*Anas platyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and mourning dove (*Zenaida macroura*).

Greene Wash is an ephemeral riverine corridor with mapped riparian habitat that lies adjacent to the southern terminus of the proposed Project area, and provides a natural movement corridor for wildlife in the area. This riverine corridor contains concentrated vegetation consisting of native shrubs with an understory of non-native grasses sprawling latitudinally throughout the wash; however, this segment of the Greene Wash adjacent to the proposed Project area is considered to be low-to-moderate quality due to its proximity to active agricultural operations to the south and west, as well as previous agricultural operations within the Project area located just north of the riparian area.

Summary of Occurrence

Threatened, Endangered, and Sensitive Plant Species

The USFWS and AZGFD lists referenced earlier were consulted to provide a basis for protected species that might be present in the vicinity of the Project. **Table C-1** represents the USFWS-listed special-status species potentially occurring within the area, listed by common and scientific name, and status.

The USFWS IPaC did not identify any plant species listed as endangered or threatened under the ESA within the Project area. The AZGFD HDMS list identified 20 plant species that are protected under Arizona Native Plant Law that have the potential to occur within Pinal County (**Table C-2**).

Threatened, Endangered, and Sensitive Wildlife Species

The USFWS IPaC has identified five wildlife species (one mammal, three birds, one fish) protected under the ESA and one ESA candidate invertebrate species (**Table C-1**). The AZGFD Online Environmental Review Tool identified 49 species of greatest conservation need (SGCN) (11 mammal, 32 birds, four amphibian, two reptiles and zero invertebrates) with the potential to occur within five miles of the Project area, and the AZGFD HDMS has identified 52 wildlife species (14 mammals, 10 fish, 15 birds, three amphibians, two invertebrates, and eight reptiles) with special status that have the potential to occur within Pinal County (some of these species overlap between the AZGFD Online Environmental Review Tool and the AZGFD HDMS species list; all of these species are included in **Table C-2**. These special-status species and their likelihood of being present in the vicinity of the proposed Project are addressed below in four sections: 1) Areas of Biological Wealth, 2) Federally Listed and Endangered Species, 3) Other Special Status Species, and 4) Protected Native Plants.

Areas of Biological Wealth

No designated or proposed critical habitat occurs within the Project area (USFWS 2024a). An area of biological wealth occurs in the vicinity of the Project—a Pinal County Wildlife Movement Area, the Greene Wash and Reservoir (AZGFD 2024a), however this portion of the Greene Wash occurs in proximity to existing agriculture to the south and west, as well as previous agricultural practices within the Project area. There are two important connectivity zones that were identified in the vicinity of the Study Area (AZGFD 2024a), with the first located approximately three miles northeast of the Project area, and the second located approximately 2.6 miles southeast of the Project area. Tohono O'odham Nation resides within the Study Area, and approximately 2.75 miles south of the Project.

Pinal County Riparian Areas are mapped within the Study Area in the AZGFD report (AZGFD 2024a; AZGFD and Pinal County 2019), and include the Santa Rosa Wash, located approximately 2.5 miles west of the Project area, and the Santa Cruz Wash, located approximately 3.8 miles northeast of the Project area. This riparian category was developed to provide planners and other project proponents the information to identify opportunities to protect riparian areas, open spaces, and other natural resources throughout Pinal County (AZGFD and Pinal County 2019). No Important Bird Areas (IBAs) occur within the Study Area or vicinity. The closest IBA, the Boyce

Thompson Arboretum and Arnett-Queen Creeks IBA, is approximately 50 miles northeast of the Study Area (Audubon 2024b).

Federally Listed Threatened and Endangered Species

The USFWS has not identified plant species listed as endangered under the ESA within the Project area. Based on field reconnaissance, there appear to be no suitable habitats for plants protected by the Arizona Native Plant Law. One of these protected species, the Thornber fishhook cactus (*Mammillaria thornberi*) is known to occur within five miles of the Project (AZGFD, 2024a), but was not observed during the field assessment.

The IPaC (USFWS 2024a) lists six species of wildlife with the potential to occur in the analysis area: Sonoran pronghorn (*Antilocapra americana sonoriensis*), cactus ferruginous pygmy-owl (*Glaucidium brasilianum*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*) and Gila -topminnow (incl. Yaqui) (*Poeciliopsis occidentalis*). The candidate species is the monarch butterfly (*Danaus plexippus*). The species' federal status and potential for occurrence in the vicinity of the Project are presented in **Table C-1**.

Table C-1. USFWS-listed Species			
Species		**USFWS Protection Status**	**Potential to Occur in Project Area (Justification)**
Common name	**Scientific name**		
Sonoran Pronghorn	*Antilocapra americana sonoriensis*	Experimental Population, Non-Essential (EXPN)	Very low potential to pass through; no habitat within Project area.
Cactus Ferruginous Pygmy-Owl	*Glaucidium brasilianum cactorum*	Threatened	Very low potential to pass through; no suitable habitat within the Project area.
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	Endangered	Very low potential to pass through; no suitable habitat within the Project area.
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	Potential to occur; foraging habitat within Project area.
Gila Topminnow	*Poeciliopsis occidentalis*	Endangered	No potential to occur; no suitable habitat within Project area.
Monarch butterfly	*Danaus plexippus*	Candidate	No known breeding areas containing milkweed or flowering plants within the Project area. Very low potential to pass through; no habitat within Project area.

Sonoran Pronghorn

This species is endemic to the Sonoran Desert, so their range is limited and unpredictable. Suitable habitat includes dry plains and desert. In southwestern Arizona, this species can be found in broad alluvial valleys separated by granite mountains and mesas that experience excessive winter rains followed by a spring drought, and summer rains followed by autumn drought. Due to the developed nature of the site and presence of agricultural operations surrounding the site, there is very low potential for this species to pass through the Project area.

Cactus Ferruginous Pygmy-owl

This species is historically found in Arizona and Texas. Generally, their habitat consists of arroyos, canyons, forests, woodlands, shrublands, savannas, thickets, and desert habitats. Their breeding behavior is unknown, and their nesting site is typically in a cavity in a tree or a giant cactus. This species will also utilize old woodpecker holes in trees for nesting sites (Audubon 2024a). There is

no suitable nesting habitat for this species, and there is very low potential for this species to pass through the Project area for foraging purposes.

Southwestern Willow Flycatcher

This species is found throughout North America, migrating north during mid to late May, and migrating south in August and September. Habitat consists of dense riparian vegetation near surface water or saturated soils. Breeding is uncommon in the vicinity of the Study Area. This species feeds primarily on insects by foraging within tall shrubs or low trees (Audubon 2024a). There is no suitable nesting habitat for this species, and there is very low potential for this species to pass through the Project area for foraging purposes.

Yellow-billed Cuckoo

This species will migrate south in early fall and will return late spring. Generally, habitat consist of dense leafy groves, thickets along streams, fields, meadows, shrublands, arroyos, abandoned farmland, and canyons. This species breeds mostly in thickets but is uncommon in the vicinity of the Study Area (Cornell Lab of Ornithology 2021). Due to the tendency of this species to utilize agricultural fields to forage, there is potential for this species to forage within the Project area.

Gila Topminnow (incl. Yaqui)

This species is endemic to Gila River system and the Yaqui River system. They prefer warm, shallow, and slow-moving waters (USGS 2019). Due to the lack of aquatic features within the Project area, there is no potential for this species to occur.

Monarch Butterfly

Habitat is complex. Generally, breeding areas are virtually all patches of milkweed (*Asclepias* sp.). Milkweed species grow across a diverse array of habitats from grasslands, meadows, agricultural land, mountain foothills, and sandy areas. The species occurs throughout Arizona during the spring and summer to breed and migrate to winter in Mexico and California; although, small numbers do overwinter in the low deserts of southwestern Arizona. Abundant nectar sources are crucial to their survival across migration corridors. While there is very low potential for this species to pass through, the immediate Project area does not have an abundance of milkweed species nor flowering plants to be considered suitable habitat for egg deposition. Occurrence onsite would likely be in the form of an individual passing through, and effects to this species as a result of the Project would be expected to be negligible.

Other Special-Status Species

The AZGFD HDMS has identified 20 plant species that are protected under the Arizona Native Plant Law that have the potential to occur within Pinal County. One of the plant species protected under the Arizona Native Plant Law identified as having potential to occur within Pinal County, the Thornber's fishhook cactus, was documented within five miles of the Project area (AZGFD

2024a). Neither Thornber's fishhook cactus, nor any other plant species protected by Arizona Native Plant Law with potential to occur within Pinal County were observed during the biological field assessment.

There is suitable habitat for four special-status amphibian species within the Project area: Sonoran desert toad (*Incilius alvarius*, AZGFD SGCN 2), Sonoran green toad (*Anaxyrus retiformis*, AZGFD SGCN 2), Sinoloan narrow-mouthed toad (*Gastrophryne mazatlanensi*, AZGFD SGCN 2), and lowland leopard frog (*Rana yavapaiensis*, USFSWS Species of Concern, AZGFD SGCN 1). Low-quality foraging habitat in proximity to the Greene Wash and Reservoir occurs within the proposed Project area. No individuals of these species were noted during the biological field assessment, nor were any potentially suitable burrows.

There is suitable habitat for four special-status reptile species within the Project area: Sonoran desert tortoise (*Gopherus morafkai*, USFWS Candidate Conservation Agreement, AZGFD SGCN 1), variable sandsnake (*Chilomeniscus stramineus*, AZGFD SGCN 2), and regal horned lizard (*Phrynosoma solare*, AZGFD SGCN 2). No individuals for either of these species were noted during the biological field assessment, nor were potential burrows. Suitable habitat exists toward the Greene Wash and Reservoir in proximity to the Project area, but not in the Project area itself. Due to the proximity to the Greene Wash and Reservoir and appropriate foraging habitat (Brennan 2021), there is low potential for these species to occur for foraging purposes.

There is suitable habitat for six special-status mammal species within the Project area: antelope jackrabbit (*Lepus alleni*, AZGFD SGCN 2), hoary bat (*Lasiurus cinereus*, AZGFD SGCN 2), Arizona pocket mouse (*Perognathus amplus*, AZGFD SGCN 2), western yellow bat (*Lasiurus xanthinus*, AZGFD SGCN 2), California leaf-nosed bat (*Macrotus californicus*, USFWS Species of Concern, AZGFD SGCN 2), and Yuma myotis (*Myotis yumanensis*, USFWS Species of Concern, AZGFD SGCN 2). These species have potential to occur for foraging purposes. For the antelope jackrabbit, it would only occur in the form of passing through, as there is no suitable habitat within the Project area.

There is suitable habitat for one special-status invertebrate species within the Project area: Maricopa tiger beetle (*Cicindela oregona Maricopa*, USFWS Species of Concern). This species has very low potential to occur in the form of passing through.

There is potentially suitable habitat for 28 special-status bird species that were included in the AZGFD species lists, Online Environmental Review Tool, or the USFWS IPaC list. There is potentially suitable habitat for two bird species that also have documented occurrences within five miles per the AZGFD Online Environmental Review Tool—the western burrowing owl (USFWS Species of Concern and AZGFD SGCN 2) and Bendire's thrasher (AZGFD SGCN 2). These species also receive federal protection by the USFWS under the MBTA and by Arizona state law (Arizona Revised Statutes [ARS] Title 17). As discussed above, a field assessment was conducted for western burrowing owl and Bendire's thrasher within the Project area. No burrows were observed during the assessment, and no signs of habitation nor special-status species individuals were observed.

There is potentially suitable habitat for 23 other special-status bird species within the Project area: Sprague's pipit (*Anthus spragueii*, USFWS Species of Concern, AZGFD SGCN 2), ferruginous

hawk (*Buteo regalis*, USFWS Species of Concern, AZGFD SGCN 2), Swainson's hawk (*Buteo swainsoni*, AZGFD SGCN 2), chestnut-collared longspur (*Calcarius ornatus*, AZGFD SGCN 2), Costa's hummingbird (*Calypte costae*, AZGFD SGCN 2), mountain plover (*Charadrius montanus*, USFWS Species of Concern, AZGFD SGCN 2), killdeer (*Charadrius vociferus*, AZGFD SGCN 2), Inca dove (*Columbina inca*, AZGFD SGCN 2), broad-billed hummingbird (*Cynanthus latirostris*, AZGFD SGCN 2), gray flycatcher (*Empidonax wrightii*, AZGFD SGCN 2), prairie falcon (*Falco mexicanus*, AZGFD SGCN 2), American kestrel (*Falco sparverius*, AZGFD SGCN 2), Bullock's oriole (*Icterus bullockii*, AZGFD SGCN 2), Scott's oriole (*Icterus parisorum*, AZGFD SGCN 2), Gila woodpecker (*Melanerpes uropygialis*, AZGFD SGCN 2), Lincoln's sparrow (*Melospiza lincolnii*, AZGFD SGCN 2), Harris's hawk (*Parabuteo unicinctus*, AZGFD SGCN 2), savannah sparrow (*Passerculus sandwichensis*, AZGFD SGCN 2), rufous-winged sparrow (*Peucaea carpalis*, AZGFD SGCN 2), vesper sparrow (*Pooecetes gramineus*, AZGFD SGCN 2), Brewer's sparrow (*Spizella breweri*, AZGFD SGCN 2), golden eagle (*Aquila chrysaetos*, AZGFD SGCN 2), and American peregrine falcon (*Falco peregrinus anatum*, USFWS Species of Concern, AZGFD SGCN 2). Low-quality foraging habitat for these species is found within the proposed Project area, but there is no suitable nesting habitat.

There is no suitable habitat and/or the Project area is not within the appropriate elevation ranges for the remainder of the special-status species identified by the USFWS and AZGFD for Pinal County. Therefore, the potential for occurrence of these species within or in the vicinity of the Project is highly unlikely (**Table C-2**).

Bald and Golden Eagles

Bald Eagle

There is a very low potential for bald eagles to occur as there is a lack of roosting sites and foraging habitat within and in the vicinity of the Project. There is a very low potential for bald eagles to migrate through the Project due to the lack of suitable nesting and foraging habitats in the surrounding areas.

Golden Eagle

There is a very low potential for golden eagles to occur as there is a lack of nesting sites within and in the vicinity of the Project. There is a very low potential for golden eagles to forage within the Project due to the highly disturbed nature of the area and the distance to the nearest potentially suitable nesting habitat.

Birds of Conservation Concern

The Project is located in the Sonoran Desert Bird Conservation Region (BCR). Birds of Conservation Concern (BCC) that were included in the IPaC include; American avocet (*Recurvirostra americana*, USFWS BCC), Bendire's thrasher (*Toxostoma bendirei*, AZGFD SGCN 2, USFWS BCC), black skimmer (*Rynchops niger*, USFWS BCC), USFWS BCC), Gila woodpecker (*Melanerpes uropygialis*, AZGFD SGCN 2, USFWS BCC), marbled godwit (Limosa fedoa, USFWS BCC), western grebe (*Aechmophorus occidentalis*, USFWS BCC), and willet

(*Tringa semipalmata*, USFWS BCC).

American Avocet

American avocets are common in mesquite, riparian woodlands, and near water and agricultural areas. This species may occur because riparian areas are within the Project area. This species was not observed during any of the project surveys.

Bendire's Thrasher

Bendire's thrasher can be found in open desert scrub habitat, and suitable habitat is limited because the Project area is primarily agricultural fields. This species was not observed during any of the project surveys.

Black Skimmer

Black skimmers favor coastal waters that are sheltered from disturbances. There is a no potential for the Black skimmer to occur in the Project area due to the lack of suitable habitat. This species was not observed during any of the project surveys.

Gila Woodpecker

Gila woodpeckers are cavity nesters and use landscape saguaro cactus and large residential trees for nesting and foraging. There is no foraging or nesting habitat within the Project, but there may be suitable habitat in the vicinity. There is a very low potential for the Gila woodpecker to occur in the Project area due to lack of vegetation and nesting habitat. The species may pass through the area on its way between suitable habitats. This species was not observed during any of the Project surveys.

Marbled Godwit

Marbled godwits nest on the ground and are primarily found in coastal areas or the Great Plains. This species' primary habitat included prairies, shores, tideflats, and pools. There is no potential for the marbled godwit to occur in the Project area due to lack of suitable habitat. This species was not observed during any of the Project surveys.

Western Grebe

The western grebe is commonly found in lakes and sloughs during the winter and freshwater lakes during the summer. This species will nest in shallow water marshes. There is no potential for the western grebe to occur in the Project area due to lack of suitable habitat. This species was not observed during any of the Project surveys.

Willet

The willet migrates from the Great Plains to coastal regions during the summer. There is no foraging or nesting habitat within the Project area. There is a very low potential for the willet to occur in the Project area. This species was not observed during any of the Project surveys.

Protected Native Plants

The Arizona Native Plant Law (A.R.S. § 3-904) (ANPL) identifies a lengthy list of plant species—largely cacti, agaves, yuccas, and desert trees—that are susceptible to removal for collection, landscaping, sale, or other commercial uses. The ANPL states that these plants shall not be taken, transported, or possessed from any land without permission and a permit from the ADA; it also requires notification prior to land clearing even if the plants will be destroyed. The Project is located on an agricultural field and would unlikely require native plant removal within the Project site.

Of the 20 special-status plant species recorded in the AZGFD HDMS as having some potential to occur within Pinal County, only the Thornber fishhook cactus (*Mammillaria thornberi*) occurs within five miles of the Project (AZGFD 2024a). Additionally, the elevation of the Project is outside of the range for these plants and/or there is no suitable habitat. No native plants protected under the Arizona Native Plant Law within the AZGFD HDMS list were observed during the field assessment.

Noxious Weeds

The State of Arizona maintains a list of noxious weeds in three categories: Class A, Class B, and Class C (ADA 2024). Class A species are those that are not known to occur in Arizona, are of limited distribution, and are of high priority for quarantine, control, or mitigation. Class B noxious weeds are species known to occur but are of limited distribution in Arizona and may be high-priority pests for quarantine, control, or mitigation if a significant threat to crop, commodity, or habitat exists. Class C noxious weeds are species of plants that are widespread but may be recommended for active control based on risk assessment.

Noxious weeds are known to occur in the vicinity of the project (iMap Invasives 2024), such as Buffelgrass (*Pennisetum ciliare*). This species is a Class C noxious weed in Arizona. Measures will be taken to avoid spreading noxious weeds in the Study Area. No buffelgrass was observed during the field assessment.

Table C-2. Special-Status Species with the Potential to Occur in Pinal County				
Species		**Protection Status[1]**		
Common name	**Scientific name**	**ESA[2, 3]**	**Arizona SGCN[3]**	**Potential to Occur in Project Area (Justification)[4]**
Amphibians				
Sonoran Desert Toad	*Incilius alvarius*	--	2	Yes (None observed)
Lowland Burrowing Treefrog	*Smilisca fodiens*	--	2	No (Habitat)
Sonoran Green Toad	*Anaxyrus retiformis*	--	2	Yes (None observed)
Sinoloan Narrow-mouthed Toad	*Gastrophryne mazatlanensis*	--	2	Yes (None observed)
Lowland Leopard Frog	*Rana yavapaiensis*	SC	1	Yes (None observed)
Birds				
Sprague's Pipit	*Anthus spragueii*	SC	2	Yes (None observed)
Sagebrush Sparrow	*Artemisiospiza nevadensis*	--	--	No (Habitat)
Long-eared Owl	*Asio otus*	--	2	No (Habitat)
Verdin	*Auriparus flaviceps*	--	2	No (Habitat)
American Bittern	*Botaurus lentiginosus*	--	2	No (Habitat)
Ferruginous Hawk	*Buteo regalis*	SC	2	Yes (None observed)
Swainson's Hawk	*Buteo swainsoni*	--	2	Yes (None observed)
Chestnut-collared Longspur	*Calcarius ornatus*	--	2	Yes (None observed)
Costa's Hummingbird	*Calypte costae*	--	2	Yes (None observed)
Cactus Wren	*Campylorhynchus brunneicapillus*	--	2	No (Habitat)
Swainson's Thrush	*Catharus ustulatus*	--	2	No (Habitat)
Mountain Plover	*Charadrius montanus*	SC	2	Yes (None observed)
Killdeer	*Charadrius vociferus*	--	2	Yes (Observed)
Gilded Flicker	*Colaptes chrysoides*	--	2	No (Habitat)
Inca Dove	*Columbina inca*	--	2	Yes (None observed)
Broad-billed Hummingbird	*Cynanthus latirostris*	--	2	Yes (None observed)
Gray Flycatcher	*Empidonax wrightii*	--	2	Yes (None observed)
Prairie Falcon	*Falco mexicanus*	--	2	Yes (None observed)
American Kestrel	*Falco sparverius*	--	2	Yes (None observed)

Table C-2. Special-Status Species with the Potential to Occur in Pinal County				
Species		**Protection Status[1]**		
Common name	**Scientific name**	**ESA[2, 3]**	**Arizona SGCN[3]**	**Potential to Occur in Project Area (Justification)[4]**
Bullock's Oriole	*Icterus bullockii*	--	2	Yes (None observed)
Scott's Oriole	*Icterus parisorum*	--	2	Yes (None observed)
Loggerhead Shrike	*Lanius ludovicianus*	SC	2	No (Habitat)
Western Screech-owl	*Megascops kennicottii*	--	--	No (Habitat)
Gila Woodpecker	*Melanerpes uropygialis*	--	2	Yes (None observed)
Lincoln's Sparrow	*Melospiza lincolnii*	--	2	Yes (None observed)
Abert's Towhee	*Melozone aberti*	--	2	No (Habitat)
Elf Owl	*Micrathene whitneyi*	--	--	No (Habitat)
Harris's Hawk	*Parabuteo unicinctus*	--	2	Yes (None observed)
Savannah Sparrow	*Passerculus sandwichensis*	--	2	Yes (None observed)
Rufous-winged Sparrow	*Peucaea carpalis*	--	2	Yes (None observed)
Vesper Sparrow	*Pooecetes gramineus*	--	2	Yes (None observed)
Desert Purple Martin	*Progne subis hesperia*	--	--	No (Habitat)
Brewer's Sparrow	*Spizella breweri*	--	2	Yes (None observed)
Bendire's Thrasher	*Toxostoma bendirei*	--	2	Yes (None observed)
LeConte's Thrasher	*Toxostoma lecontei*	--	2	No (Habitat)
Buff-collared Nightjar	*Antrostomus ridgwayi*	--	2	No (Habitat)
Golden Eagle	*Aquila chrysaetos*	--	2	Yes (None observed)
Western Burrowing Owl	*Athene cunicularia hypugaea*	SC	2	Yes (None observed)
Gray Hawk	*Buteo plagiatus*	SC	--	No (Habitat)
Northern Beardless-Tyrannulet	*Camptostoma imberbe*	--	2	No (Habitat)
Yellow-billed Cuckoo (Western DPS)	*Coccyzus americanus*	LT	1	Yes (None observed)
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	LE	1	Yes (None observed)
American Peregrine Falcon	*Falco peregrinus anatum*	SC	1	Yes (None observed)
Cactus Ferruginous Pygmy-owl	*Glaucidium brasilianum cactorum*	PT	1	No (Habitat)

Table C-2. Special-Status Species with the Potential to Occur in Pinal County				
Species		**Protection Status[1]**		
Common name	**Scientific name**	**ESA[2, 3]**	**Arizona SGCN[3]**	**Potential to Occur in Project Area (Justification)[4]**
Bald Eagle – Winter Population	*Haliaeetus leucocephalus (wintering pop.)*	SC	2	No (Habitat)
Bald Eagle – Sonoran Desert Population	*Haliaeetus leucocephalus pop. 3*	SC	2	No (Habitat)
Mississippi Kite	*Ictinia mississippiensis*		2	No (Habitat)
Yuma Ridgway's Rail	*Rallus obsoletus yumanensis*	LE	1	No (Habitat)
Mexican Spotted Owl	*Strix occidentalis lucida*	LT	1	No (Habitat)
Thick-billed Kingbird	*Tyrannus crassirostris*	--	2	No (Habitat)
Fish				
Gila Longfin Dace	*Agosia chrysogaster chrysogaster*	SC	2	No (Habitat)
Desert Sucker	*Catostomus clarkii*	SC	2	No (Habitat)
Sonora Sucker	*Catostomus insignis*	SC	2	No (Habitat)
Desert Pupfish	*Cyprinodon macularius*	LE	1	No (Habitat)
Gila Chub	*Gila intermedia*	LE	1	No (Habitat)
Roundtail Chub	*Gila robusta*	SC	1	No (Habitat)
Spikedace	*Meda fulgida*	LE	1	No (Habitat)
Gila Topminnow	*Poeciliopsis occidentalis occidentalis*	LE	1	No (Habitat)
Speckled Dace	*Rhinichthys osculus*	SC		No (Habitat)
Loach Minnow	*Tiaroga cobitis*	LE	1	No (Habitat)
Invertebrates				
Maricopa Tiger Beetle	*Cicindela oregona maricopa*	SC	--	Yes (None observed)
Monarch	*Danaus plexippus*	C	--	No (Habitat & Elevation)
Mammals				
Harris' Antelope Squirrel	*Ammospermophilus harrisii*	--	2	No (Habitat)
Pale Townsend's Big-eared Bat	*Corynorhinus townsendii pallescens*	SC	2	No (Habitat)

Table C-2. Special-Status Species with the Potential to Occur in Pinal County				
Species		**Protection Status[1]**		
Common name	**Scientific name**	**ESA[2, 3]**	**Arizona SGCN[3]**	**Potential to Occur in Project Area (Justification)[4]**
Hoary Bat	*Lasiurus cinereus*	--	2	Yes (None observed)
Gray-collared Chipmunk	*Neotamias cinereicollis*	--	1	No (Habitat)
Arizona Pocket Mouse	*Perognathus amplus*	--	1	Yes (None observed)
Mexican Long-tongued Bat	*Choeronycteris mexicana*	SC	2	No (Habitat)
Pale Townsend's Big-eared Bat	*Corynorhinus townsendii pallescens*	SC	1	No (Habitat)
Greater Western Bonneted Bat	*Eumops perotis californicus*	SC	2	No (Habitat)
Western Red Bat	*Lasiurus blossevillii*	--	2	No (Habitat)
Western Yellow Bat	*Lasiurus xanthinus*	--	2	Yes (None observed)
Ocelot	*Leopardus pardalis*	LE	1	No (Habitat)
Lesser Long-nosed Bat	*Leptonycteris yerbabuenae*	SC	1	No (Habitat)
Antelope Jackrabbit	*Lepus alleni*	--	2	Yes (None observed)
California Leaf-nosed Bat	*Macrotus californicus*	SC	2	Yes (None observed)
Western Small-footed Myotis	*Myotis ciliolabrum*	SC	2	No (Habitat)
Cave Myotis	*Myotis velifer*	SC	2	No (Habitat)
Yuma Myotis	*Myotis yumanensis*	SC	2	Yes (None observed)
Pocketed Free-tailed Bat	*Nyctinomops femorosaccus*	--	2	No (Habitat)
Brazilian Free-tailed Bat	*Tadarida brasiliensis*	--	2	No (Habitat)
Plants				
Pima Indian Mallow	*Abutilon parishii*	SC	SR	No (Elevation)
Hohokam Agave	*Agave murpheyi*	SC	HS	No (Habitat)
Toumey Agave	*Agave toumeyana var. bella*	--	SR	No (Elevation)
Redflower Onion	*Allium rhizomatum*	--	SR	No (Habitat)
Chihuahuan Sedge	*Carex chihuahuensis*	--	--	No (Elevation)
Cochise Sedge	*Carex ultra*	--	--	No (Elevation)
Nichol Turk's	*Echinocactus horizonthalonius*	LE	HS	No (Habitat)

Table C-2. Special-Status Species with the Potential to Occur in Pinal County				
Species		**Protection Status[1]**		
Common name	**Scientific name**	**ESA[2, 3]**	**Arizona SGCN[3]**	**Potential to Occur in Project Area (Justification)[4]**
Head Cactus	*var. nicholii*			
Arizona Hedgehog Cactus	*Echinocereus arizonicus ssp. arizonicus*	LE	HS	No (Elevation)
Santa Rita Hedgehog Cactus	*Echinocereus santaritensis*	--	SR	No (Habitat)
Acuna Cactus	*Echinomastus erectocentrus var. acunensis*	LE	HS	No (Habitat)
Needle-spined Pineapple Cactus	*Echinomastus erectocentrus var. erectocentrus*	SC	SR	No (Habitat)
Sierra Ancha Fleabane	*Erigeron anchana*	SC	SR	No (Habitat)
San Carlos Wild-buckwheat	*Eriogonum capillare*	SC	SR	No (Elevation)
Desert Barrel Cactus	*Ferocactus cylindraceus*	--	SR	No (Habitat)
Flannel Bush	*Fremontodendron californicum*	--	SR	No (Habitat)
Huachuca Water-umbel	*Lilaeopsis schaffneriana ssp. recurva*	LE	HS	No (Elevation)
Mapleleaf False Snapdragon	*Mabrya acerifolia*	--	--	No (Habitat)
Thornber Fishhook Cactus	*Mammillaria thornberi*	--	SR	No (Habitat)
Varied Fishhook Cactus	*Mammillaria viridiflora*	--	SR	No (Habitat)
Stag-horn Cholla	*Opuntia versicolor*	--	SR	No (Elevation)
Catalina Beardtongue	*Penstemon discolor*	--	HS	No (Elevation)
Aravaipa Sage	*Salvia amissa*	SC	--	No (Elevation)
Organ Pipe Cactus	*Stenocereus thurberi*	--	SR	No (Habitat)
Aravaipa Woodfern	*Thelypteris puberula var. sonorensis*	--	--	No (Habitat)
Tumamoc Globeberry	*Tumamoca macdougalii*	SC	SR	No (Habitat)
Copper Zephyr Lily	*Zephyranthes longifolia*	--	SR	No (Elevation)
Reptiles				
Variable Sandsnake	*Chilomeniscus stramineus*	--	2	Yes (None observed)

Table C-2. Special-Status Species with the Potential to Occur in Pinal County				
Species		**Protection Status[1]**		
Common name	**Scientific name**	**ESA[2, 3]**	**Arizona SGCN[3]**	**Potential to Occur in Project Area (Justification)[4]**
Resplendent Shovel-nosed Snake	*Chionactis annulata*	--	--	No (Habitat)
Tiger Rattlesnake	*Crotalus tigris*	--	2	No (Habitat)
Sonoran Collared Lizard	*Crotaphytus nebrius*	--	2	No (Habitat)
Sonoran Desert Tortoise	*Gopherus morafkai*	CCA	1	Yes (None observed)
Regal Horned Lizard	*Phrynosoma solare*	--	2	Yes (None observed)
Giant Spotted Whiptail	*Aspidoscelis stictogramma*	SC	2	No (Habitat)
Red-backed Whiptail	*Aspidoscelis xanthonota*	SC	2	No (Habitat)
Gila Monster	*Heloderma suspectum*	--	1	No (Habitat)
Saddled Leaf-nosed Snake	*Phyllorhynchus browni*	--	2	No (Habitat)
Desert Box Turtle	*Terrapene ornata luteola*	--	--	No (Habitat)
Bezy's Night Lizard	*Xantusia bezyi*	--	2	No (Habitat)

Summary of Potential Effects

The following sections address the potential effects from development of the Project components to special-status species identified by the agencies as having the potential to occur within the Project area.

Areas of Biological Wealth

Because of the distance to the wildlife corridors and Pinal County riparian areas, the Project is expected to have no impact on the riparian areas or the wildlife and plants that occur there. The project is surrounded by agricultural and residential disturbances, so construction and operation of the Project is unlikely to increase habitat fragmentation in the vicinity or create a significant barrier to wildlife movement. The field assessment showed that no riparian areas occurred within the Project site and that riparian vegetation outside the Project site was low-to-moderate quality. No IBAs and proposed or designated critical habitat occurs within the Project area.

Federally Listed Threatened and Endangered Species

There are no suitable nesting or breeding habitats for species listed as threatened, endangered or candidate species under the ESA in the Project area so there would be no impacts on these species from implementation of the Project.

Other Special-Status Species

There are 40 other special-status wildlife species have the potential to occur—Sonoran desert toad, Sonoran green toad, Sinoloan narrow-mouthed toad, lowland leopard frog, Sonoran desert tortoise, variable sandsnake, regal horned lizard, antelope jackrabbit, hoary bat, Arizona pocket mouse, western yellow bat, California leaf-nosed bat, Yuma myotis, Maricopa tiger beetle, western burrowing owl, Bendire's thrasher, Sprague's pipit, ferruginous hawk, Swainson's hawk, chestnut-collared longspur, Costa's hummingbird, mountain plover, killdeer, Inca dove, broad-billed hummingbird, gray flycatcher, prairie falcon, American kestrel, Bullock's oriole, Scott's oriole, Gila woodpecker, Lincoln's sparrow, Harris's hawk, savannah sparrow, rufous-winged sparrow, vesper sparrow, Brewer's sparrow, golden eagle, and American peregrine falcon.

Burrowing species could be directly and indirectly impacted by construction activities if they are present in the areas adjacent to anticipated construction. Construction-related impacts would be temporary and short-term and may include temporary displacement of resident burrowing animals in the vicinity of the construction area, very low chance of injury or death from vehicle strikes during construction activities, temporary impacts on foraging behaviors in the vicinity of the construction area, and noise-related disturbance. No special-status burrowing animals were observed during the field assessment, and they are unlikely to nest within the active construction areas. With the incorporation of the applicant's proposed measures (**Table C-3**), impacts to burrowing animals are expected to be minimal.

Foraging species could be directly and indirectly impacted by construction activities if they are present in the areas adjacent to anticipated construction. Construction-related impacts would be temporary and short-term and may include the temporary displacement of animals passing through the Project area, very low chance of injury or death from vehicle strikes during construction activities, temporary impacts on foraging behaviors in adjacent habitat, and noise-related disturbance. No special-status species were observed foraging during the field assessment, and they are unlikely to nest within the active construction areas. With the incorporation of the applicant's proposed measures (**Table C-3**), impacts to foraging species are expected to be minimal.

Due to the heavily disturbed nature of the proposed Project area and the lack of suitable nesting and breeding habitat for the other special-status species listed above, it is unlikely that any of these species could be directly impacted by construction activities.

Protected Native Plants

Of the 20 special-status plant species having some potential to occur within Pinal County (AZGFD 2024b), only the Thornber fishhook cactus has been recorded within five miles of the Project area (AZGFD 2024a). This species was not observed during the Project's field assessment, and there was determined to be no suitable habitat. Native plants recorded during the field assessment were

noted to have re-vegetated areas previously disturbed by agricultural activities and included velvet mesquite and creosote on the southern and western edges of the proposed Project boundary. The Project would, therefore, have no direct or indirect impacts on threatened, endangered, and state protected plants.

Noxious Weeds

Construction activities have the potential to transport noxious weed species to the Project area and create microhabitats that would be suitable for the spread of noxious weeds. In advance of construction activities, all construction equipment arriving on site would have the tires, axles, frames, running boards, under-carriages, and any equipment parts designed to hold soil or rock washed and cleaned at a documented off-site location to prevent transport of invasive weed species into Project areas (**Table C-3**).

Mitigation and Conclusion

The Project site has been previously disturbed, significantly reducing its habitat quality. The Project site is currently used for agriculture, providing limited Sonoran Desert scrub habitat. The disturbances associated with construction of the Project would occur in previously disturbed areas. The sensitive species with the potential to occur would not be expected to be negatively affected because of the lack of suitable habitat and/or implementation of mitigation measures that would be employed to avoid or minimize the potential risk to this and other species. In coordination with AZGFD, the Department has provided preliminary recommendations that have been incorporated into the Project's proposed mitigation measures (AZGFD 2024c) and shown in **Exhibit C-2**.

If construction occurs during the nesting season, a preconstruction protocol survey would be conducted 30 days prior to construction in compliance with guidelines from the Burrowing Owl Project Clearance Guidance for Landowners (Arizona Burrowing Owl Working Group 2009) to ensure that any active western burrowing owl burrows and any other bird nests protected under the MBTA are either avoided or removed before they become active (AZGFD 2024c). If active burrows and/or nests cannot be avoided, on-site personnel would contact the biologist for steps to take to ensure the nesting birds are protected. The biologist would work with the AZGFD and wildlife rehabilitators should western burrowing owls need to be relocated. Therefore, direct impacts associated with the Project would constitute a short-term minor impact on western burrowing owl, Gila woodpecker, peregrine falcon, Bendire's thrasher, and other special-status species that may be encountered. With implementation of mitigation, the proposed Project is not likely to significantly affect any rare, endangered, or special-status species.

Pre-construction surveys for burrowing animals, including the Sonoran desert toad, variable sandsnake, regal horned lizard, and Arizona pocket mouse, will be conducted to determine presence and to inform pre-construction activities in accordance with AZGFD recommendations (AZGFD 2024c). Should special-status burrowing species be encountered, the Applicant will coordinate with AZGFD in identifying suitable conservation measures, such as one-way exclosures on burrows that allow wildlife to exit the burrows and disperse to adjacent lands, to ensure that impacts to special-status burrowing species are minimized.

Pre-construction presence/absence surveys for Sonoran desert tortoise will be conducted in accordance with the AZGFD recommendations to determine the presence of this species or its habitat. If tortoises are found within the Project area, the Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat (Arizona Interagency Desert Tortoise Team 2008) will be referred to and implemented. If a tortoise is identified as requiring handling, the Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Project (AZGFD 2014) will be adhered to (AZGFD 2024c). With implementation of mitigation, the proposed Project is not likely to significantly affect any Sonoran desert tortoise populations.

If wildlife species are encountered during Project activities, the individual(s) will be evaluated and moved by a qualified biologist no more than a quarter of a mile outside of the Project boundary within similar habitat in accordance with AZGFD recommendations. Should an Arizona Species of Greatest Conservation Need be encountered, the biologist will work with the appropriate counterparts, including AZGFD and wildlife rehabilitators, to appropriately relocate the individual(s) and minimize impacts to the species (AZGFD 2024c).

In order to mitigate potential impacts to riparian areas, a buffer of 100 feet should be maintained around the Greene Wash located south of the Project boundary in accordance with AZGFD recommendations. Alterations of the waterway should be minimized and controls to minimize stormwater runoff should be implemented to preserve the water quality of the riparian resource (AZGFD 2024c).

With implementation of mitigation, the Proposed Project is not likely to significantly affect any rare, endangered, or special-status species. No ESA-listed species are expected to be present and are not likely to be affected by the proposed Project. No protected areas, or any areas of biological wealth, are within the Project area.

Table C-3 **Proposed Measures**
BIOLOGICAL RESOURCES
Vegetation
Adverse effects on vegetation during construction would be minimized as follows:
• Prohibit vehicle operation off designated routes by construction workers, including construction work and employee access. • Existing access roads would be used to the maximum extent allowable.
The following prescriptions would prevent the spread of invasive weeds into previously uninfested areas in the designated construction ROW.
• In advance of construction activities, all construction equipment arriving on site would have the tires, axles, frame, running boards, under-carriages, and any equipment parts designed to hold soil or rock washed and cleaned at a documented off-site location to prevent transport of invasive weed species into Project areas.
Wildlife
Construction activities and vehicle operation would be conducted to minimize potential impacts or disturbance of wildlife.

Table C-3 **Proposed Measures**
• Speed limits along the ROW and access roads would be limited to 15 mph. In addition, construction and maintenance employees would exercise caution when traveling to and from the proposed ROW site on designated routes to reduce the potential for wildlife mortality. • During construction, work areas would be checked for animals before daily work is initiated to minimize harm.
Design would minimize electrocution and collision potential for birds:
• Design would space conductors and shield wires sufficiently apart so that large-bodied birds cannot contact two conductors or one conductor and a shield wire to cause electrocution as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art (APLIC Revised electronic version 2022) and Reducing Avian Collisions with Power Lines: The State of the Art (APLIC 2012).
Implement conservation measures to decrease the likelihood of take of special status wildlife species and impacts to critical habitat.
• Minimize habitat degradation by limiting travel to existing roads and surface disturbance to previously disturbed areas.
• Conduct pre-construction burrowing owl survey within 30 days prior to the commencement of construction activities during the burrowing owl nesting season to ensure that any active burrowing owl burrows are avoided.
• If construction would occur during the nesting season, a pre-construction migratory bird nest survey would be conducted within 30 days prior to the commencement of construction activities to ensure that any active nests are avoided. If an active nest is discovered, on-site personnel would take steps to take to ensure the nesting birds are protected.
• Pre-construction presence/absence surveys for Sonoran desert tortoise will be conducted in accordance with the AZGFD recommendations to determine the presence of this species or its habitat. If tortoises are found within the Project area, appropriate procedures would be implemented by the Project biologist to ensure the species is protected and to minimize any potential impacts.
• Pre-construction surveys for burrowing animals, including the Sonoran desert toad, variable sandsnake, regal horned lizard, and Arizona pocket mouse, will be conducted to determine presence and to inform pre-construction activities in accordance with AZGFD recommendations.
• If wildlife species are encountered during Project activities, the individual(s) will be evaluated and moved by a qualified biologist no more than a quarter of a mile outside of the Project boundary within similar habitat in accordance with AZGFD recommendations.
• A buffer of 100 feet should be maintained around the Greene Wash located south of the Project boundary in accordance with AZGFD recommendations. Alterations of the waterway should be minimized and controls to minimize stormwater runoff should be implemented to preserve the water quality of the riparian resource.

References

Arizona Burrowing Owl Working Group. 2009. Burrowing Owl Project Clearance Guidelines for Landowners. Available at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/nongame/eagles/BurrowingOwlClearanceProtocol_2009.pdf. Accessed June 2024.

Arizona Department of Agriculture (ADA). 2024. Noxious Weed List. Available at: https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds. Accessed May 2024.

Arizona Game and Fish Department (AZGFD). 1996. Wildlife of Special Concern in Arizona. Public review draft. Nongame and Endangered Wildlife Program, Arizona Game and Fish Department, Phoenix, Arizona. 23 p.

_____. 2006. Arizona's Comprehensive Wildlife Conservation Strategy: 2005-2015. Available at: https://repository.asu.edu/attachments/78349/content/CWCS_Final_May2006.pdf. Accessed September 2021.

_____.2014. Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects. Available at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf. Accessed June 2024.

_____. 2015. Arizona Reptile and Amphibian Regulations 2015 & 2016. Arizona Game and Fish Department, Phoenix, Arizona. 9 pp.

_____. 2017. Arizona Game and Fish Department 2017 & 2018 Fishing Regulations. Arizona Game and Fish Department, Phoenix, Arizona. 68 pp.

_____. 2022. Arizona Wildlife Conservation Strategy: 2022–2032. Phoenix, Arizona. Available at: https://azgfd-wdw.s3.amazonaws.com/awcs-2022/documents/AWCS_Final_Approved_11-22.pdf. Accessed May 2024.

_____. 2024a. Arizona Environmental Review Tool Report, Project Bella. Project ID: HGIS-22047. Accessed May 2024.

_____. 2024b. Special Status Species by County, Taxonomic Group, Scientific Name. 2023. Arizona Game and Fish Department, Heritage Data Management System. Available at: https://live-azgfd-main.pantheonsite.io/wp-content/uploads/2023/05/SSS_By_County_20230412.pdf. Accessed May 2024.

_____. 2024c. RE: Project Bella Power Plant and Battery Energy Storage System. June 19, 2024. Arizona Game and Fish Department, Buckeye, Arizona.

Arizona Game and Fish Department (AZGFD) and Pinal County. 2019. Pinal County Riparian Area Guidelines. Available at: https://s3-us-west-2.amazonaws.com/azgfd-portal-wordpress- pantheon/wp-

content/uploads/archive/PinalCounty_RiparianGuides_FINAL.pdf. Accessed May 2024.

Arizona Interagency Desert Tortoise Team. 2008. Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat. Available at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/MitigationMeasures.pdf. Accessed June 2024.

Audubon. 2024a. Guide to North American Birds. Available at: https://www.audubon.org/bird-guide. Accessed May 2024.

_____. 2024b. Important Bird Areas. Available at: https://www.audubon.org/important-bird-areas. Accessed May 2024.

Avian Power Line Interaction Committee (APLIC). Revised electronic version 2022. Suggested Practices for Avian Protection on Power Lines: The State of the Art 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.

———. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC, Washington, D.C.

Brennan, T.C. 2021. Reptiles and Amphibians of Arizona. Available at: http://www.reptilesofaz.org/.

Accessed November 2021.

Cornell Lab of Ornithology. 2021. All About Birds: An online guide for bird identification, life history, and distribution. Available at: https://allaboutbirds.org. Accessed May 2024.

Google Earth. 2024. Satellite Imagery of the Project Area (32.501440°, -111.531042°). Accessed April 2024.

iMap Invasives. 2024. Available at: https://www.imapinvasives.org/. Accessed May 2024.

U.S. Fish and Wildlife Service (USFWS). 2024a. Information for Planning and Consultation (IPaC). Environmental Conservation Online System (ECOS) online environmental review tool. Consultation Code. Available at: https://ecos.fws.gov/ipac/. Accessed May 2024.

EXHIBIT C-1
USFWS IPAC RESULTS

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Pinal County, Arizona

Local office

Arizona Ecological Services Field Office

(602) 242-0210
(602) 242-2513

9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Sonoran Pronghorn Antilocapra americana sonoriensis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4750	EXPN

Birds

NAME	STATUS
Cactus Ferruginous Pygmy-owl Glaucidium brasilianum cactorum Wherever found There is **final** critical habitat for this species. https://ecos.fws.gov/ecp/species/1225	Threatened
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered

Yellow-billed Cuckoo Coccyzus americanus — Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/3911

Fishes

NAME	STATUS
Gila Topminnow (incl. Yaqui) Poeciliopsis occidentalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1116	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

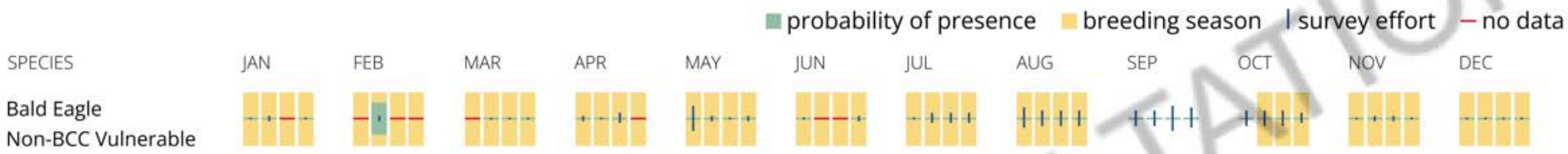
Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the

general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Avocet *Recurvirostra americana* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 21 to Aug 10
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Bendire's Thrasher *Toxostoma bendirei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9435	Breeds Mar 15 to Jul 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15

Gila Woodpecker Melanerpes uropygialis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5960	Breeds Apr 1 to Aug 31
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a

BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

EXHIBIT C-2
AGFD ONLINE ENVIRONMENTAL REVIEW TOOL RESULTS

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Project Bella

Project Description:

Seguro Energy is developing the proposed Project Bella (Project) which includes 480 MW of thermal gasfired generation and 440 MW of Battery Energy Storage utilizing a shared transmission interconnection to the existing 500 kV Duke - Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting. This Project is designed to provide reliable capacity for integration of renewable energy and deficits impacted by near-term coal retirements while exceeding the sustainability goals identified by SRP and TEP.

Project Type:

Energy Production/Storage/Transfer, Energy Production (generation), gas power plant (new/expansion)

Contact Person:

Gabriella Glener

Organization:

KP Environmental

On Behalf Of:

CONSULTING

Project ID:

HGIS-22047

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

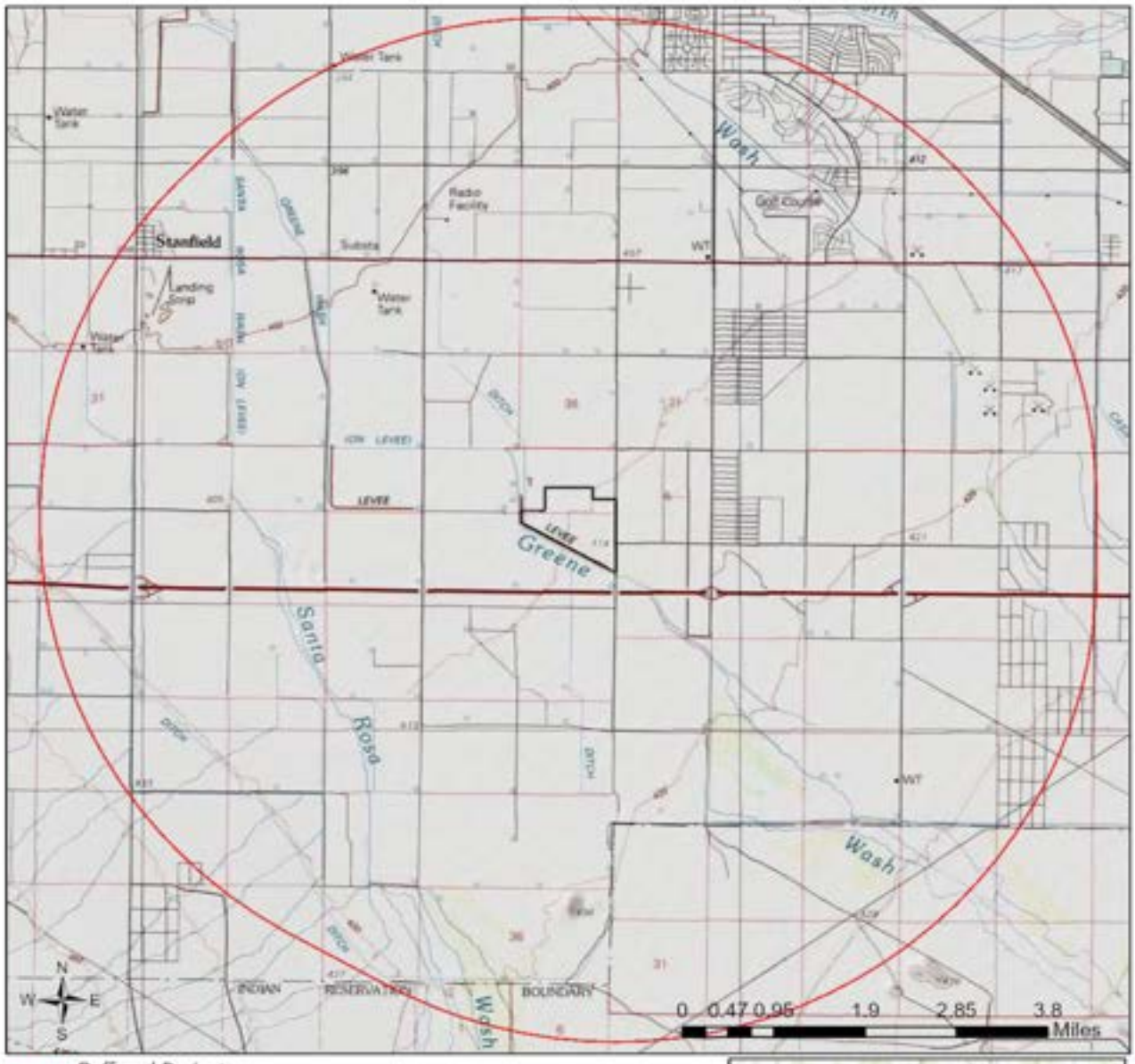
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.

Project Bella

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary

Project Size (acres): 348.28

Lat/Long (DD): 32.8384 / -111.8845

County(s): Pinal

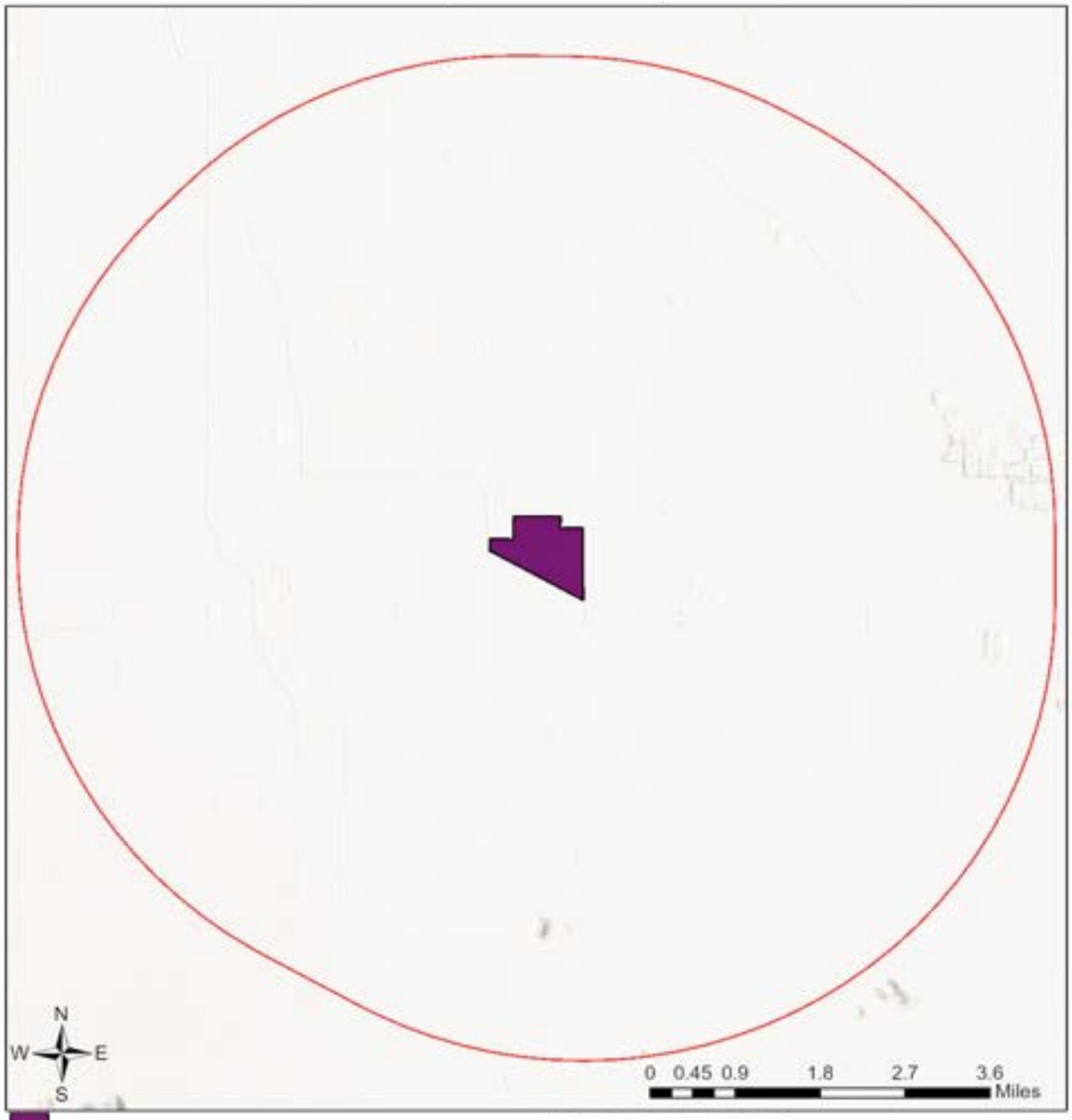
AGFD Region(s): Mesa

Township/Range(s): T7S, R4E

USGS Quad(s): DOUBLE PEAK

Project Bella

Web Map As Submitted By User



Buffered Project Boundary

Project Boundary

Project Size (acres): 348.28

Lat/Long (DD): 32.8384 / -111.8845

County(s): Pinal

AGFD Region(s): Mesa

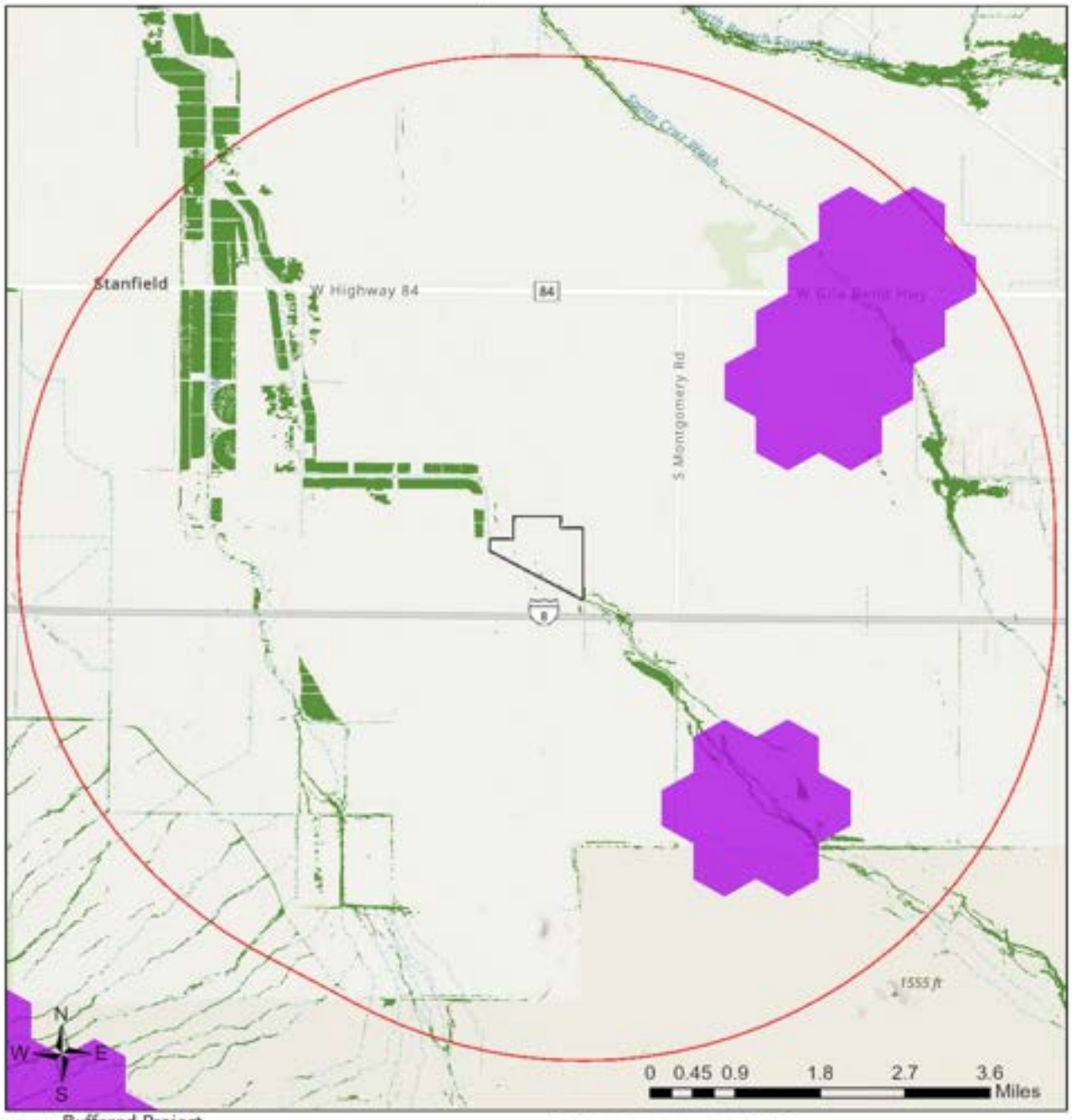
Township/Range(s): T7S, R4E

USGS Quad(s): DOUBLE PEAK

Esri, NASA, NGA, USGS

Project Bella

Important Areas



- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Important Connectivity Zones
- Wildlife Connectivity

Project Size (acres): 348.28

Lat/Long (DD): 32.8384 / -111.8845

County(s): Pinal

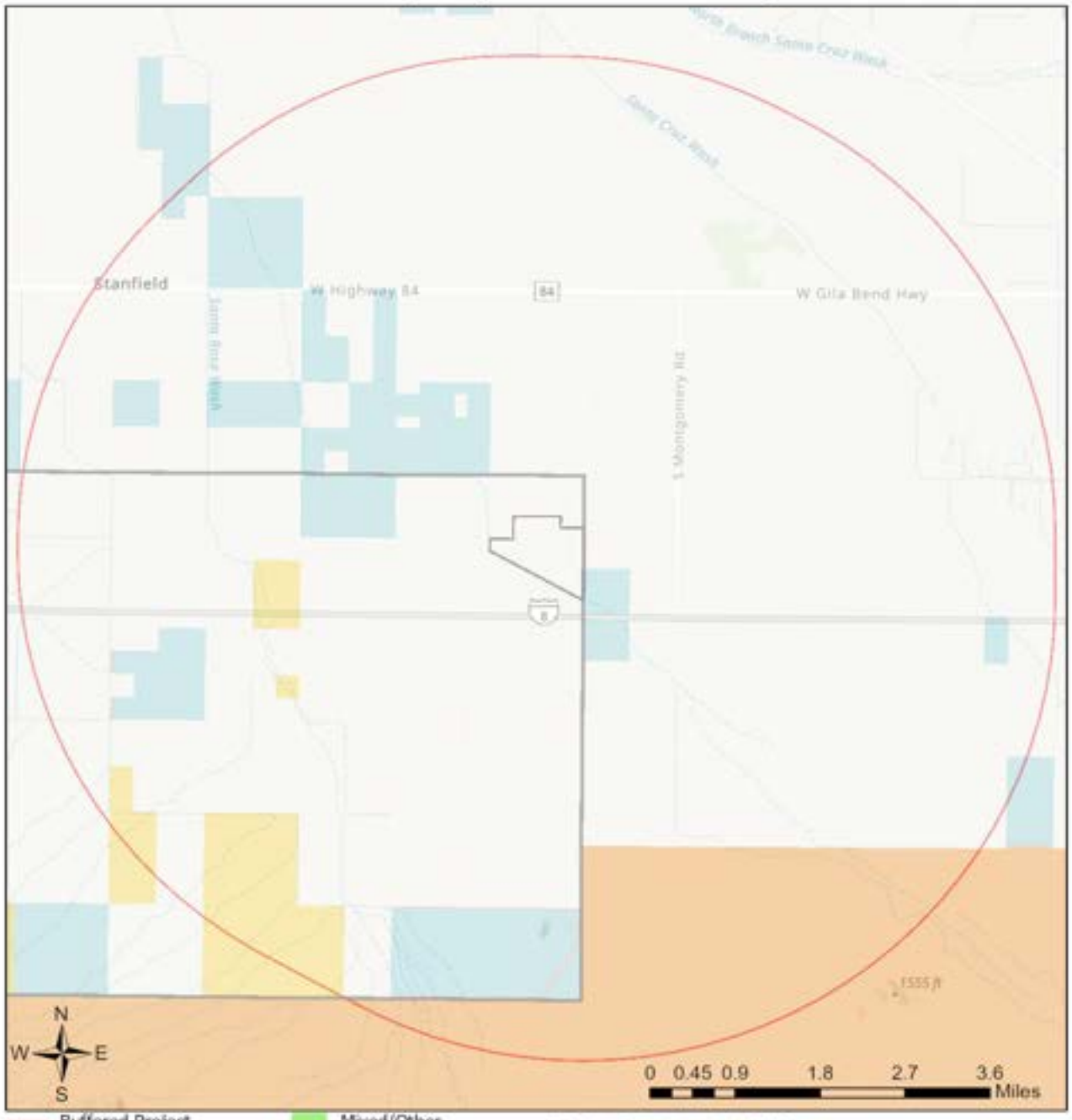
AGFD Region(s): Mesa

Township/Range(s): T7S, R4E

USGS Quad(s): DOUBLE PEAK

Project Bella

Township/Ranges and Land Ownership



- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 348.28

Lat/Long (DD): 32.8384 / -111.8845

County(s): Pinal

AGFD Region(s): Mesa

Township/Range(s): T7S, R4E

USGS Quad(s): DOUBLE PEAK

Special Status Species Documented within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		2
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Incilius alvarius	Sonoran Desert Toad					2
Lepus alleni	Antelope Jackrabbit					2
Mammillaria thornberi	Thornber Fishhook Cactus				SR	
Toxostoma bendirei	Bendire's Thrasher					2

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Greene Wash and Reservoir	Pinal County Wildlife Movement Area - Riparian/Wash					
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Anaxyrus retiformis	Sonoran Green Toad			S		2
Anthus spragueii	Sprague's Pipit	SC				2
Aquila chrysaetos	Golden Eagle			S		2
Artemisiospiza nevadensis	Sagebrush Sparrow					
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		2
Auriparus flaviceps	Verdin					2
Buteo regalis	Ferruginous Hawk	SC		S		2
Buteo swainsoni	Swainson's Hawk					2
Calcarius ornatus	Chestnut-collared Longspur					2
Calypte costae	Costa's Hummingbird					2
Campylorhynchus brunneicapillus	Cactus Wren					2
Catharus ustulatus	Swainson's Thrush					2
Charadrius montanus	Mountain Plover	SC				2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)					
Colaptes chrysoides	Gilded Flicker			S		2
Columbina inca	Inca Dove					2
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1
Empidonax wrightii	Gray Flycatcher					2
Eumops perotis californicus	Greater Western Bonneted Bat					

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Falco mexicanus	Prairie Falcon					2
Falco peregrinus anatum	American Peregrine Falcon					
Falco sparverius	American Kestrel					2
Gastrophryne mazatlanensis	Sinoloan Narrow-mouthed Toad					
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Icterus bullockii	Bullock's Oriole					2
Incilius alvarius	Sonoran Desert Toad					2
Lanius ludovicianus	Loggerhead Shrike	SC				2
Lasiurus blossevillii	Western Red Bat		S			2
Lasiurus cinereus	Hoary Bat					2
Lasiurus xanthinus	Western Yellow Bat		S			2
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1
Megascops kennicottii	Western Screech-owl					
Melanerpes uropygialis	Gila Woodpecker					2
Melospiza lincolnii	Lincoln's Sparrow					2
Micrathene whitneyi	Elf Owl					
Myotis velifer	Cave Myotis	SC		S		2
Myotis yumanensis	Yuma Myotis	SC				2
Neotamias cinereicollis	Gray-collared Chipmunk					
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					2
Parabuteo unicinctus	Harris's Hawk					2
Passerculus sandwichensis	Savannah Sparrow					2
Perognathus amplus	Arizona Pocket Mouse					2
Peucaea carpalis	Rufous-winged Sparrow					2
Phrynosoma solare	Regal Horned Lizard					2
Pooecetes gramineus	Vesper Sparrow					2
Spizella breweri	Brewer's Sparrow					2
Tadarida brasiliensis	Brazilian Free-tailed Bat					
Toxostoma bendirei	Bendire's Thrasher					2
Toxostoma lecontei	LeConte's Thrasher			S		2

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Energy Production/Storage/Transfer, Energy Production (generation), gas power plant (new/expansion)

Project Type Recommendations:
During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with the Environmental Protection Agency may be required (http://www.epa.gov/).

For any powerlines built, proper design and construction of the transmission line is necessary to prevent or minimize risk of electrocution of raptors, owls, vultures, and golden or bald eagles, which are protected under state and federal laws. Limit project activities during the breeding season for birds, generally March through late August, depending on species in the local area (raptors breed in early February through May). Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during the nesting season. For underground powerlines, trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herpetofauna (snakes, lizards, tortoise) from entering ditches. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated.

Based on the project type entered, coordination with State Historic Preservation Office may be required (https://azstateparks.com/).

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (https://new.azwater.gov/).

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Avoid/minimize wildlife impacts related to contacting hazardous and other human-made substances in facility water collection/storage basins, evaporation or settling ponds and/or facility storage yards. Design slopes to discourage wading birds and use fencing, netting, hazing or other measures to exclude wildlife.

The Department encourages the use of technology that requires minimal amounts of water, preferably dry cooling. In the desert, water is very scarce and reducing consumption will lessen impacts on wildlife as well as the public.

Project Location and/or Species Recommendations:
HDMS records indicate that one or more native plants listed on the **Arizona Native Plant Law and Antiquities Act** have been documented within the vicinity of your project area. Please contact:
Arizona Department of Agriculture
1688 W Adams St.
Phoenix, AZ 85007
Phone: 602.542.4373
https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf starts on page 44

Analysis indicates that your project is located in the vicinity of an identified ***wildlife habitat connectivity feature***. The **County-level Stakeholder Assessments** contain five categories of data (Barrier/Development, Wildlife Crossing Area, Wildlife Movement Area- Diffuse, Wildlife movement Area- Landscape, Wildlife Movement Area- Riparian/Washes) that provide a context of select anthropogenic barriers, and potential connectivity. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer to: https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-identifying-corridors/.
Please contact the Project Evaluation Program (pep@azgfd.gov) for specific project recommendations.

HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at https://www.fws.gov/office/arizona-ecological-services or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Sonoran Desert Tortoise** have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf.

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at https://www.azgfd.com/wildlife-conservation/conservation-and-endangered-species-programs/burrowing-owl-management/.

June 19, 2024

Mr. Mark Thompson
Managing Director
9004 South 230th Avenue
Buckeye, AZ 85326

Electronically submitted to: mthompson@seguroenergyllc.com

RE: Project Bella Power Plant and Battery Energy Storage System

Dear Mr. Thompson:

The Arizona Game and Fish Department (Department) appreciates the opportunity to review the Bella Power Plant and Battery Energy Storage System (Project). The Department understands the Project would involve the construction of a 440 MW Battery Energy Storage System (BESS) and a 480 MW thermal gas-fired generator within 350 acres of existing agricultural lands in Pinal County near the city of Casa Grande. Both facilities will connect into the existing 500kV Duke-Pinal Central transmission line. Construction would likely include a battery storage facility, concrete inverter/transformer pads, battery skids, aggregate access roads, and a 6-foot perimeter view obscuring fence.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department recognizes the importance of planning efforts to develop energy storage facilities that contribute to regional and state economic growth needs for renewable energy. The Department recognizes that appropriate coordination, proper planning, and voluntary implementation of best management practices allow projects to be developed that avoid, minimize, or offset potential impacts to wildlife and recreational access during development, maintenance, and operation of the facilities. For your consideration, the Department provides the following general and preliminary comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation. Additionally, please refer to the attached Online Environmental Review Tool report

(HGIS-22084) for recommendations on artificial lighting and actions that could be taken to reduce the spread of invasive species.

- The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act (MBTA), has been documented within three miles of the project area. The Department recommends conducting occupancy surveys for this species following guidelines found in *Burrowing Owl Project Clearance Guidance for Landowners*[1]. Please note that the survey should be conducted by a surveyor who is certified by the Department or has similar training and qualifications. If an active burrowing owl burrow is detected, please contact the Department and the U.S. Fish and Wildlife Service[2] (USFWS) for direction, in accordance with the guidelines.
- The Sonoran desert tortoise, which is a federal and state species of special concern, could occur in the project area. The Department recommends conducting surveys, in accordance with the *Desert Tortoise Survey Guidelines for Environmental Consultants*[3], to determine the presence of this species or its habitat. If tortoises are identified, please refer to and implement the *Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat*[4] and *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects*[5].
- Burrowing mammal species could occur within the project area and could be influenced by construction activities and by loss of habitat. Surveys for these species are recommended to determine their presence and to inform pre-construction activities. Department staff are available to assist in identifying suitable conservation measures, such as one-way exclosures on burrows that allow wildlife to exit the burrows and disperse to adjacent lands in advance of construction.
- Birds of prey, such as raptors, owls, vultures, and eagles are vulnerable to powerline strikes and electrocution during construction and operation of transmission lines and substations as power poles can also serve as perches for birds of prey. The Department recommends designing power lines and substations to be bird safe by following standards established by the Avian Power Line Interaction Committee (APLIC) for new power lines, which can be found in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*[6] and *Reduced Avian Collisions with Power Lines: The State of the Art in 2012*[7]. Another possible alternative to reduce mortality is using bird flight diverters to decrease avian mortalities. Tuk Jacobson, the Department's Raptor Coordinator, can provide further information on specific design features and best management practices; he can be contacted at raptors@azgfd.gov or 623-236-7575.
- In addition, a variety of other Arizona Species of Greatest Conservation Need (SGCN) have the potential to occur within the project area. If wildlife are encountered during project activities, the Department recommends moving them out of harm's way, no more

[1] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/nongame/eagles/BurrowingOwlClearanceProtocol_2009.pdf
[2] https://www.fws.gov/office/arizona-ecological-services/contact-us
[3] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2010SurveyguidelinesForConsultants.pdf
[4] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/MitigationMeasures.pdf
[5] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf
[6] https://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf
[7] https://www.aplic.org/uploads/files/15518/Reducing_Avian_Collisions_2012watermarkLR.pdf

than 0.25 mile outside the project boundary within similar habitat. Please note that the Arizona State Wildlife Action Plan was recently updated, and the Department has an interactive website, Arizona Wildlife Conservation Strategy[8], that includes the most recent list of SGCN to help navigate and identify conservation opportunities.

Maintaining habitat connectivity is a priority for the Department, and wildlife movement corridors are important for wildlife to respond to changing environmental conditions. The landscape in which this project is proposed provides important movement pathways for wildlife. Additionally, riparian areas, which are important for wildlife, are adjacent to the project area. The following are project design features that can assist in reducing overall impacts within and adjacent to the Project area:

- Riparian areas are important movement corridors for wildlife. To the extent possible a buffer of 100 feet should be maintained around Greene Wash. Riparian areas buffer waterways against excessive runoff from upland activities, whether natural or human induced, which can degrade water quality. Alterations of the waterway should be minimized and controls to minimize stormwater runoff should be employed to preserve water quality.

Thank you for the opportunity to provide input on the Project Bella Power Plant and Battery Energy Storage System. For further coordination, please contact Bobby Lamoureux at rlamoureux@azgfd.gov or 480-262-9427.

Sincerely,

Joshua W. Hurst

Joshua Hurst
Regional Supervisor

cc: Ginger Ritter – Project Evaluation Program Supervisor
Kelly Wolff – Habitat, Evaluation and Lands Program Manager, Region 6

Attachment: HGIS-22084 ERT Species Report

AZGFD #M24-05283244

[8] https://awcs.azgfd.com

EXHIBIT D
BIOLOGICAL RESOURCES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

List the fish, wildlife, plant life, and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.

Introduction

To identify the plant and wildlife species that may occur in the vicinity of the proposed Project, KP Environmental, Inc. (KPE) consulted publicly available data sources, including:

- Topographical and aerial maps and land use, land cover, and elevation data.
- Arizona Game and Fish Department (AZGFD) Online Environmental Review Tool (AZGFD 2024a)
- The following resources were utilized to analyze the potential occurrence of common plant life, mammals, birds, reptiles, and amphibians:
    - Biotic Communities: Southwestern United States and Northwestern Mexico (Brown 1994).
    - The Mammals of Arizona. University of Arizona Press (Hoffmeister 1986).
    - Arizona Breeding Bird Atlas. University of New Mexico Press (Corman and Wise-Gervais 2005).
    - A Field Guide to Western Reptiles and Amphibians. Peterson Field Guides (Stebbins 1985).

In addition, a habitat assessment survey was conducted within the Project area for biological resources.

- On May 21, 2024, a KPE biologist with knowledge of the biology of flora and fauna of the region completed an on-ground habitat assessment survey of the Project area. The survey that was performed included a habitat assessment of the proposed Project area and right-of-way (ROW).

Exhibit D-1 contains **Tables D-1, D-2, D-3,** and **D-4** which include lists of common plant life, mammals, birds, reptiles, and amphibians potentially present in Pinal County and within the vicinity of the Project.

The habitat assessment survey determined that overall habitat quality and plant diversity within the proposed Project area were low. The entirety of the proposed Project is within a disturbed area that has been previously altered by agricultural activity. The majority of the proposed Project area consists of crop weeds and other non-native vegetation that has grown over previously bare ground areas. Stands of velvet mesquite (*Prosopis velutina*) and creosote (*Larrea tridentata*) were noted in the western and southern peripheral edges of the proposed Project area as having re-vegetated

areas previously disturbed by agricultural practices. There were no nests, burrurow, nor special-status species observed during the habitat assessment within the proposed Project boundary. Wildlife observed included red-winged blackbird (*Agelaius phoeniceus*), killdeer (*Charadrius vociferus*), mallard (*Anas platyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and mourning dove (*Zenaida macroura*).

Existing Conditions

Vegetation

The Project area is located within the Lower Colorado River Valley subdivision of the Sonoran Desertscrub Biotic Community (Brown 1994) with an elevational range of approximately 1,270 to 1,450 feet above mean sea level (amsl). The Project Area is located 0.2 mile north of Interstate 8 (I-8). South Midway Road runs along the eastern boundary of the Project. Land uses in the Study Area and vicinity include agriculture and residential development. Greene Wash and Reservoir—a Pinal County Wildlife Movement Area—occurs outside of the Project boundary to the south. Gila River to Lake St. Claire, and an important connectivity zone run 1.5 miles west, and two miles northeast of the Project, respectively. Tohono O'odham Nation is located approximately 2.75 miles south of the Project. The vegetation communities found within the area are described below. **Table D-1** in **Exhibit D-1** lists some of the native species that could be found within the Project area and Pinal County generally.

Sonoran Desert Scrub

The Project site is mapped as having native vegetation characteristics of the Lower Colorado River Valley subdivision of the Sonoran Desert scrub biome; however, the entire project site has been previously cleared of all native vegetation. The Project area contains sparse stands of Sonoran Desertscrub, including velvet mesquite (*Prosopis velutina*) and creosote (*Larrea tridentata*). During the Project's field assessment, these species were noted in the western and southern peripheral edges of the Project as having re-vegetated areas previously cleared and disturbed by agricultural practices.

Wildlife

Wildlife resources within the Project area are predominantly associated with agricultural habitats. Species occurrence, abundance, and distribution are strongly influenced by the topography and habitat types. Wildlife species that were observed during field surveys included the western side-blotched lizard (*Uta stansburiana*), red-winged blackbird (*Agelaius phoeniceus*), killdeer (*Charadrius vociferus*), mallard (*Anas platyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and mourning dove (*Zenaida macroura*).

Tables D-2, D-3, and **D-4** in **Exhibit D-1** present lists of common fish, mammals, birds, reptiles, and amphibians that may occur or that have been observed within Pinal County in habitats similar to those in the Project area. Some of the species are also listed in **Exhibit C** as Wildlife of Special Concern; although there is a potential for these species to occur, field verification shows that it is unlikely.

Mammals

Most mammalian species likely to be present are small, inconspicuous, largely nocturnal species of rodents and bats. Desert-adapted rodents noted as having potential for occurrence within the vicinity of the Project area include desert kangaroo rat, Merriam's kangaroo rat, black-tailed jackrabbit, white-throated woodrat, Arizona pocket mouse, cactus mouse, western harvest mouse, desert cottontail, Botta's pocket gopher, and round-tailed ground squirrel. Medium-sized mammals with potential for occurrence in the vicinity of the Project area include the coyote and striped skunk; however, none of these animals were observed during the field assessment. Large mammal species are not expected to occur due to the largely disturbed nature of the Project area and surrounding agriculture, roads, and development. **Table D-2** in **Exhibit D-1** presents a more comprehensive list of mammalian species that may occur within the Project area and Pinal County

Birds

Most bird species likely to be present are associated with agricultural land uses and disturbed areas. Waterfowl and other birds may use the new evaporation ponds within the Project site as loafing ponds—midday stops where birds rest before feeding or heading back to the roost. Other birds may be attracted to the water in the evaporation ponds, but not use the area for nesting, roosting, foraging, or reproduction. Birds that are likely to only be attracted to the planned evaporation ponds, as well as those that are just dispersing or migrating through the Project area, are not included in the following table. The majority of birds present during any given season are Cooper's hawk, red-winged blackbird, red-tailed hawk, Gambel's quail, Anna's hummingbird, cactus wren, northern cardinal, house finch, turkey vulture, rock dove, Inca dove, black vulture, common raven, American kestrel, greater roadrunner, northern mockingbird, ash-throated flycatcher, Harris's hawk, house sparrow, great-tailed grackle, European starling, white-winged dove, and mourning dove (**Table D-3** in **Exhibit D-1**). No special-status avian species were observed during the habitat assessment, but may occur in the Project area in the form of pass-by flights. Burrowing owl were also not observed during the assessment, but may occur in the area as they have been known to nest in ditches along roads in agricultural areas.

Amphibians and Reptiles

Relatively undisturbed desert habitats represent the best habitat for reptiles, although some species can be found in disturbed areas (Stebbins 1985). Evaporation ponds will be constructed on the Project site; therefore, amphibians may be expected to be present on the site. **Table D-4** in **Exhibit D-1** presents a list of amphibian and reptilian species that could be present in the vicinity of the Project area and in Pinal County.

Fish

There is no perennial aquatic habitat in or near the Project. However, introduced fish have the potential to occur within the Project area in concrete-lined canals. Many of these fish represent invasive species that have been released or sportfish that have been stocked into waterways connected to the canals. These canals are unlikely to constitute suitable habitat for any species that would support long-term life-history functions. No native fish species would be expected to occur.

Invasive Weed Species and Noxious Weeds

Non-native and weed species typically dominate disturbed and unmaintained areas. Invasive weed species and noxious weeds are present in the disturbed areas within the proposed Project area. Noxious weeds that were observed during the field assessment include cheatgrass (*Bromus tectorum*), scotch thistle (*Onopordum acanthium*), and great brome (*Bromus diandrus*), in addition to other non-native weed species including Russian thistle (*Salsola tragus*) and common Mediterranean grass (*Schismus barbatus*).

Summary of Potential Effects

The proposed Project is located within an area that has been previously disturbed by agricultural operations, and is surrounded to the south and west by lands that are currently being utilized for commercial agriculture. Therefore, the proposed Project would primarily have impacts on disturbed and agricultural habitats, and to the potential wildlife that may occupy agricultural habitat. Implementation of the proposed Project may have short-term temporary impacts to the Greene Wash and Reservoir located south of the Project boundary, and to the wildlife that occupy this habitat. Short-term impacts to potential burrowing and foraging species that could occur from the Greene Wash and Reservoir would include injury or death to individuals unable to avoid construction activities; wildlife collisions with equipment during construction; and possible displacement of animals caused by increased activity and noise levels in the proposed Project area. A long-term impact would be removal or damage to re-grown native vegetation that has re-populated previously disturbed areas within the proposed Project footprint. Wildlife species are not expected to experience long-term detrimental impacts from the loss or alteration of vegetative cover within the Project site based on the availability of other suitable and unaffected habitats in the vicinity of the proposed Project.

Mitigation Measures

In coordination with AZGFD, the Department has provided preliminary recommendations that have been incorporated into the Project's proposed mitigation measures (AZGFD 2024b). With implementation of mitigation, the Proposed Project is not likely to significantly affect any rare, endangered, or special-status species. The following mitigation measures reduce risk of animal injury or spread of invasive species:

- Design would space conductors and shield wires sufficiently apart so that large-bodied birds cannot contact two conductors or one conductor and a shield wire to cause electrocution as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art (APLIC Revised electronic version 2022) and Reducing Avian Collisions with Power Lines: The State of the Art (APLIC 2012).
- Pre-construction surveys for nesting birds will be conducted by qualified biologists if vegetation- clearing activities would occur during bird nesting season (generally March–September and January–June for raptors).
- Conduct preconstruction burrowing owl survey within 30 days prior to the commencement of construction activities during the burrowing owl nesting season to ensure that any active

burrowing owl burrows are avoided.

- Pre-construction presence/absence surveys for Sonoran desert tortoise will be conducted in accordance with the AZGFD recommendations to determine the presence of this species or its habitat (AZGFD 2024b).
- Pre-construction surveys for burrowing animals, including the Sonoran desert toad, variable sandsnake, regal horned lizard, and Arizona pocket mouse, will be conducted to determine presence and to inform pre-construction activities in accordance with AZGFD recommendations (AZGFD 2024b).
- If wildlife species are encountered during Project activities, the individual(s) will be evaluated and moved by a qualified biologist no more than a quarter of a mile outside of the Project boundary within similar habitat in accordance with AZGFD recommendations. Should an Arizona Species of Greatest Conservation Need be encountered, the biologist will work with the appropriate counterparts, including AZGFD and wildlife rehabilitators, to appropriately relocate the individual(s) and minimize impacts to the species (AZGFD 2024b).
- In order to mitigate potential impacts to riparian areas, a buffer of 100 feet should be maintained around the Greene Wash located south of the Project boundary in accordance with AZGFD recommendations. Alterations of the waterway should be minimized and controls to minimize stormwater runoff should be implemented to preserve the water quality of the riparian resource (AZGFD 2024b).
- To minimize the introduction and spread of invasive species and noxious weeds, standard best management practices (BMPs) will be used during construction. These BMPs can include measures such as washing equipment prior to and following mobilization to the Project area.
- Speed limits along the right-of-way (ROW) and access roads would be limited to 15 miles per hour (mph). In addition, construction and maintenance employees would exercise caution when traveling to and from the proposed ROW site on designated routes to reduce the potential for wildlife mortality.
- During construction, work areas would be checked for animals before daily work is initiated to minimize potential for harm.
- Minimize habitat degradation by limiting travel to existing roads and surface disturbance to previously disturbed areas.

Conclusion

The entirety of the Project area occurs within previously disturbed areas, developed areas, and active agricultural fields. Existing roads occur adjacent to and within the Project area. The plant diversity is lower and the structure less complex within the Project area than in typical undisturbed desert areas. Similarly, fewer wildlife species would be expected to occur in the disturbed, developed, and in-use agricultural areas than would be expected in native desert habitat. However, the irrigation canals likely draw animals from surrounding areas owing to the increase of water or prey species, and some wildlife species are specifically attracted to agricultural fields owing to the open space or higher moisture.

Because the Project would disturb a relatively small area and both native vegetation and agricultural fields occur outside of the Project area, impacts to general plants and wildlife would be minimal and restricted to individuals. At a landscape level, the Project would not significantly reduce the amount of native desertscrub vegetation available for wildlife use, increase habitat fragmentation, or impact any likely wildlife dispersal or migration corridor. Therefore, the Project may impact individuals (both wildlife and plant) but would be unlikely to have impacts at the population level for any species.

References

Arizona Burrowing Owl Working Group. 2009. Burrowing Owl Project Clearance Guidelines for Landowners. Available at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/nongame/eagles/BurrowingOwlClearanceProtocol_2009.pdf. Accessed June 2024.

Arizona Game and Fish Department (AZGFD). 2024a.Arizona Environmental Review Tool Report, Coolidge Expansion Project. Project ID: HGIS: 45983. Accessed November 8, 2021.

_____. 2024b. RE: Project Bella Power Plant and Battery Energy Storage System. June 19, 2024. Arizona Game and Fish Department, Buckeye, Arizona.

Avian Power Line Interaction Committee (APLIC). Revised electronic version 2022. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.

———. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC, Washington, D.C.

Brennan, T.C. 2021. Reptiles and Amphibians of Arizona. Available at: http://www.reptilesofaz.org/. Accessed November 2021.

Brennan, T.C. and A.T. Holycross. 2006. A field guide to amphibians and reptiles in Arizona. Arizona Game and Fish Department. Phoenix, Arizona.

Brown, D.E. 1994. Biotic Communities: Southwestern United States and Northwestern Mexico.

University of Utah Press, Provo, Utah.

Corman, T.E., and C. Wise-Gervais. 2005. Arizona Breeding Bird Atlas. Albuquerque: University of New Mexico Press.

Hoffmeister, D.F. 1986. Mammals of Arizona. University of Arizona Press and the Arizona Game and Fish Department, Tucson.

Stebbins, Robert. 1985. A Field Guide to Western Reptiles and Amphibians. Sacramento, California Department of Fish and Game.

EXHIBIT D-1
BIOLOGICAL RESOURCES TABLES

Table D-1
Plant Species
Potential Occurrence in Isolated Disturbed/Native Habitats in the Vicinity of the Project Area[1]

Common Name	Scientific Name	Ecosystem
Triangleleaf bursage	*Ambrosia deltoidea*	Sonoran Desertscrub, Sonoran Riparian
White bursage	*Ambrosia dumosa*	Sonoran Desertscrub
Fiddlehead	*Amsinckia intermedia*	Sonoran Riparian
Fiddleneck	*Amsinckia spp.*	Sonoran Desertscrub, Disturbed
Purple three-awn	*Aristida purpurea*	Sonoran Desertscrub
Four-wing saltbush	*Atriplex canescens*	Sonoran Desertscrub
All scale	*Atriplex polycarpa*	Sonoran Desertscrub
Red brome	*Bromus madritensis ssp. rubens*	Sonoran Desertscrub, Disturbed
Blue palo verde	*Circidium jloridum*	Sonoran Desertscrub, Sonoran Riparian
Datura	*Datura stramonium*	Sonoran Riparian
Englemann's hedgehog cactus	*Echinocereus englemannii*	Sonoran Desertscrub
Brittle bush	*Encelia farinosa*	Sonoran Desertscrub, Sonoran Riparian
Skeletonweed	*Eriogonum dejlexum*	Sonoran Desertscrub
Filaree	*£radium cicutarium*	Sonoran Desertscrub, Disturbed
Barrel cactus	*Ferocactus wislizenii*	Sonoran Desertscrub
Ocotillo	*Fouquieria splendens*	Sonoran Desertscrub
Halogeton	*Halogeton glomeratus*	Sonoran Desertscrub, Disturbed
Rhatany	*Krameria parvijlora*	Sonoran Desertscrub, Sonoran Riparian
Creosote bush	*Larrea tridentata*	Sonoran Desertscrub, Sonoran Riparian
Woltberry	*Lycium spp.*	Sonoran Desertscrub, Sonoran Riparian
Little fishhook cactus	*Mammi/laria thornberi*	Sonoran Desertscrub
Teddybear cholla	*Opuntia bigelovii*	Sonoran Desertscrub
Prickly pear cactus	*Opunlia engelmannii*	Sonoran Desertscrub
Jumping cholla	*Opunlia fulgida*	Sonoran Desertscrub
Desert mistletoe	*Phoradendron californicum*	Sonoran Desertscrub
Plantago	*Plan/ago spp.*	Sonoran Desertscrub, Disturbed
Galleta grass	*Pleuraphis James*ii	Sonoran Desertscrub, Sonoran Riparian
Mesquite	*Prosopis spp.*	Sonoran Riparian
Bladdersage	*Salazaria mexicana*	Sonoran Desertscrub
Russian thistle	*Sa/sofa tragus*	Sonoran Desertscrub, Sonoran Riparian
London rocket	*Sisymbrium irio*	Sonoran Desertscrub, Sonoran Riparian
Globe mallow	*Sphaera/cea spp.*	Sonoran Desertscrub, Sonoran Riparian
Mediterranean grass	*Schismus arabicus and* S. *barbatus*	Sonoran Desertscrub, Disturbed

[1] Brown, 1994

Table D-2 Mammal Species Potential Occurrence in the Vicinity of the Project Area[1]	
Common Name	**Scientific Name**
Pallid bat	*Antrozous pallidus*
Coyote	*Canis latrans*
Javelina	*Dicotyles tajacu*
Desert kangaroo rat	*Dipodomys deserti*
Merriam's kangaroo rat	*Dipodomys merriami*
Big brown bat	*Eptesicus fuscus*
Black-tailed jackrabbit	*Lepus californicus*
California leaf-nosed bat	*Macrotus californicus*
Striped skunk	*Mephitis mephitis*
California myotis	*Myotis californicus*
White-throated woodrat	*Neotoma albigula*
Arizona pocket mouse	*Perognathus amp/us*
Desert pocket mouse	*Perognathus penicillatus*
Cactus mouse	*Peromyscus eremicus*
Western harvest mouse	*Reithrodontomys megalotis*
Desert cottontail	*Sylvilagus audubonii*
Botta's pocket gopher	*Thomomys bottae*
Round-tailed ground squirrel	*Xerospermophilus tereticaudus*
[1] Hoffmeister, 1986	

Table D-3 Bird Species Potential Occurrence in the Vicinity of the Project Area[1]	
Common Name	**Scientific Name**
Cooper's hawk	*Accipiter cooperii*
Red-winged blackbird	*Agelaius phoeniceus*
Red-tailed hawk	*Buteo jamaicensis*
Swainson's hawk	*Buteo swainsoni*
Gambel's quail	*Callipepla gambelii*
Anna's hummingbird	*Calypte anna*
Cactus wren	*Campylorhynchus brunneicapillus*
Northern cardinal	*Cardinalis cardinalis*
House finch	*Carpodacus mexicanus*
Turkey vulture	*Cathartes aura*
Lesser nighthawk	*Chordeiles acutipennis*
Rock dove	*Columba livia*
Inca dove	*Columbina inca*
Black vulture	*Coragyps atratus*
Common raven	*Corvus corax:*
American kestrel	*Fa/co sparverius*
Greater roadrunner	*Geococcyx californianus*
Northern mockingbird	*Mimus polyglottos*
Brown-headed cowbird	*Molothrus ater*
Ash-throated flycatcher	*Myiarchus cinerascens*
Harris's hawk	*Parabuteo unicinctus*
House sparrow	*Passer domesticus*
Phainopepla	*Phainopepla nitens*
Great-tailed grackle	*Quiscalus mexicanus*
European starling	*Sturnus vulgaris*
Western kingbird	*Tyrannus verticalis*
White-winged dove	*Zenaida asiatica*
Mourning dove	*Zenaida macroura*
White-crowned sparrow	*Zonotrichia leucophrys*
[1] Corman and Wise-Gervais, 2005	

Table D-4 Reptile and Amphibian Species Potential Occurrence in the Vicinity of the Project Area[1]	
Common Name	**Scientific Name**
Tiger whiptail	*Aspidoscelis tigris*
Zebra tail lizard	*Callisaurus dracanaides*
Desert banded gecko	*Coleonyx variegatus variegatus*
Coachwhip	*Coluber flagellum*
Sonoran sidewinder	*Crotalus cerastes cercobombus*
Mojave rattlesnake	*Cratalus scutulatus*
Sidewinder	*Crotalus cerastes*
Desert iguana	*Dipsosaurus dorsalis*
Night snake	*Hypsiglena tarquata*
Gophersnake	*Pituophis catenifer*
Desert homed lizard	*Phrynosama platyrhinas*
Desert homed lizard	*Phrynosoma platyrhinos calidiarum*
Sonoran gopher snake	*Pituphis melanoleucus affinis*
Western long-nosed snake	*Rhinacheilus lecontei lecontei*
Couch spadefoot	*Scaphiopus couchi*

EXHIBIT E
SCENIC AREAS, HISTORIC SITES AND STRUCTURES, ARCHAEOLOGICAL SITES

In accordance with Arizona Administrative Code R14-3-219, the Applicant provides the following information:

Describe any existing scenic areas, historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon.

Visual Resources

Sensitive Viewpoints

Sensitive viewpoints consist of locations from which individuals would view a landscape and be exposed to the presence of the proposed Project Bella (Project). There are no designated scenic areas within the Project site. Potential sensitive viewpoints in the Project area occur along transportation and in residential land uses and sensitive receptors where the Project could be seen.

Viewer sensitivity is based on the importance of features, conditions that affect visual perception, and social factors that contribute to view perception. The levels of sensitivity are generally classified as low, moderate, or high depending on viewer types and exposure, view orientation and duration, and viewer awareness or sensitivity to visual changes.

Visual quality is the visual pattern created by the combination of natural character landscapes and industrial and artificial features. Visual quality is typically evaluated using the following descriptions:

- Natural – the landscape exhibits distinctive and memorable natural visual features (landforms, rock outcrops, etc.) and patterns (vegetation/open space) that are largely undisturbed, usually a rural or open space setting. Few human-made developments or disturbances are present.
- Rural – the landscape consists of natural and human-made features/patterns, often the result of altering the landscape for farming or mineral extraction. These areas may not be visually distinct or unusual in the region.
- Mixed Residential and Commercial – the landscape is primarily human-made and affected by elements common to the built environment of mixed residential, commercial, and industrial areas. Human elements are prevalent and landscape modifications exist which do not compatibly blend with the natural surroundings.

Existing Conditions

Five representative key viewpoints, or Key Observation Points (KOPs), were selected within the Project area to depict the existing visual quality. The KOPs were selected based on viewers viewing the Project from the closest residential areas and along nearby transportation corridors. Photos were taken during field reconnaissance in May 2024. **Figure E-1** depicts a map with the locations of the five KOPs. The existing conditions and the potential visual effects of the proposed Project components are shown for the KOPs on **Figures E-2A** through **E-6A**.

KOP 1 (Figure E-2A) West Selma Highway and Rainy Road

KOP 1 was taken along West Selma Highway near the intersection with Rainy Road looking southeast towards the Project. KOP 1 represents the view for motorists traveling eastbound on West Selma Highway. The existing view shows the dirt berm on the southern shoulder of West Selma Highway in the foreground, disturbed vegetation in the midground, existing transmission lines and overhead structures ranging in 100 to 150 feet in height in the background, and mountains in the distant background. The visual quality of the view is classified as vacant and rural, with vacant and industrial land uses dominating the area.

KOP 2 (Figure E-3A) West Cornman Road and South Mammoth Drive

KOP 2 was taken from the intersection of West Cornman Road and South Mammoth Drive looking northwest toward the Project site. KOP 2 represents the view from the closest residential area to the Project. The existing view shows the southern terminus of South Mammoth Drive, a segment of West Cornman Road, a stop sign and street sign, and vacant grassy vegetation in the foreground, with vacant grassy vegetation with sparse shrubs in the midground, as well as existing transmission lines and overhead structures in the background. Mountains are visible in the distant background, but views are partially obstructed by existing vegetation and overhead transmission lines and structures. The visual quality of the view is classified as vacant and rural, with rural and industrial land uses dominating the area.

KOP 3 (Figure E-4A) Montgomery Road and Interstate-8 (I-8)

KOP 3 was taken from the I-8 off ramp onto Montgomery Road looking northwest towards the Project. KOP 3 represents the view of motorists on the off-ramp of I-8. The existing view includes the on-ramp to I-8 West, highway signage, and grassy vegetated areas in the foreground, disturbed vegetation and low-density residential areas in the midground, and existing transmission lines and overhead structures in the background. Mountains are also intermittently visible in the distant background, but the view is partially obscured by distance and the existing transmission structures. The visual quality of the view is classified as mixed use and vacant in character.

KOP 4 (Figure E-5A) I-8

KOP 4 was taken from I-8 looking northeast. KOP 4 represents the view from motorists traveling on I-8. The existing view includes disturbed vegetation in the I-8 median and the paved eastbound and westbound lanes of I-8 in the foreground, vacant grassy vegetated areas in the midground, and existing transmission lines and overhead structures in the background. Mountains are also visible

in the background through the existing transmission lines. The visual quality of the view is classified as rural.

KOP 5 (Figure E-6A) South Russel Road

KOP 5 was taken from South Russel Road looking east. KOP 5 represents the view from motorists traveling on South Russel Road in the agricultural area west of the Project. The existing view includes disturbed vegetation and the road shoulder in the foreground, an agricultural field in the midground, and existing transmission lines and overhead structures in the background. Mountains are also partially visible in the background through the existing transmission lines. The visual quality of the view is classified as rural.

Potential Effects

Potential effects to visual resources relate to changes in available views of the landscape and the effects of those changes on viewers. Potential effects were evaluated based on a combination of contrasts between levels of visual quality and the levels of viewer sensitivity.

Visual resources would be affected by introducing the Project into the existing visual landscape. The structures associated with the Project include a 500 kilovolt (kV) switch, 230 kV switch, water tanks, maintenance buildings, gas tanks, generators, battery energy storage system (BESS) and associated transmission structures. The effects of introducing these elements into the landscape would be apparent when viewed from sensitive viewpoints. The Project would introduce new elements into the landscape; however, they would not appreciably alter the existing form, line, color, and texture which characterize the existing landscape and are consistent with the existing infrastructure in the area.

Visual effects associated with each of the KOPs are described below and shown in **Figures E-2B** through **E-6B** (visual simulations). These simulations show the proposed views from the KOPs after construction of the Project.

KOP 1 (Figure E-2B) West Selma Highway and Rainy Road

KOP 1 was taken from the intersection of West Selma Highway and the south corner of Rainy Road looking southeast towards the Project site. This simulation represents the view for motorists traveling south on Rainy Road and near its intersection with West Selma Highway. The proposed view shows the disturbed dirt berm on the southern shoulder of West Selma Highway Road and disturbed vacant and vegetated areas in the foreground, vacant and vegetated areas and the proposed Project structures in the midground, and existing transmission lines, overhead structures, and mountains in the background. The Project would introduce a 500 kV switch, 230 kV switch, water tanks, maintenance buildings, gas tanks, generators, BESS, and associated transmission structures. The top portions of these structures are visible from KOP 1, which shows the enclosure structures as non-reflective and neutral earth-tone colors. The Project would introduce utility structures into the viewshed from KOP 1, and the existing distant views to the mountains in the background would be partially obscured by the proposed Project. However, given the presence of existing transmission infrastructure in the vicinity, the proposed Project structures would be consistent. The Project introduces the proposed structures into the viewshed that would moderately

alter the visual landscape.

KOP 2 (Figure E-3B) West Cornman Road and South Mammoth Drive

KOP 2 was taken from the intersection of West Cornman Road and South Mammoth Drive looking northwest towards the Project site. This simulation represents the view from the closest residential area to the Project. The proposed Project would not change from the existing view in the foreground and midground. The southern terminus of South Mammoth Drive and West Cornman Road are visible in the foreground, with grassy vegetation with sparse shrubs visible in the midground. The existing transmission lines, overhead structures, and the proposed Project are visible in the midground and background. The Project would introduce a 500 kV switch, 230 kV switch, water tanks, maintenance buildings, gas tanks, generators, BESS, and associated transmission structures, which are partially visible from KOP 2. The Project structures would be partially obscured by existing vegetation in the foreground and would consist of non-reflective and neutral earth-tone colors to avoid contrast with the existing environment. Given the presence of existing transmission infrastructure in the vicinity, the proposed Project structures would be consistent. The Project introduces the proposed structures into the viewshed that would moderately alter the visual landscape.

KOP 3 (Figure E-4B) Montgomery Road and I-8

KOP 3 was taken from the I-8 off ramp onto Montgomery Road looking northwest towards the Project. This simulation represents the view of motorists on the off-ramp of I-8 onto Montgomery Road. The proposed view will not change from the existing view in the foreground and midground. The I-8 West on-ramp, highway signage, and the roadway is visible in the foreground, and disturbed vegetation and low density-residential developments are visible in the midground. The proposed Project structures would be visible in the midground, along with existing overhead structures and transmission lines and rural development. The existing intermittent view to the mountains in the distant background would be partially obscured by the proposed Project. The Project would introduce a 500 kV switch, 230 kV switch, water tanks, maintenance buildings, gas tanks, generators, BESS, and associated transmission structures to the mid- to background. The Project structures would be partially obscured by existing vegetation and rural development in the foreground and would consist of non-reflective and neutral earth-tone colors to avoid contrast with the existing environment. The Project would introduce structures into the viewshed from KOP 3; however, given the presence of existing transmission infrastructure in the vicinity to the I-8, the proposed Project structures would be consistent. The Project introduces the proposed structures into the viewshed that would moderately alter the visual landscape.

KOP 4 (Figure E-5B) I-8

KOP 4 was taken from I-8 looking northeast towards the Project. This simulation represents the view from motorists traveling on I-8. The proposed view would not change from the existing view in the foreground and background. Disturbed vegetation in the I-8 median and the eastbound and westbound lanes of I-8 are visible in the foreground, and vacant grassy vegetated areas are visible in the midground. The Project would introduce a 500 kV switch, 230 kV switch, water tanks, maintenance buildings, gas tanks, generators, BESS, and associated transmission structures in the

mid- to background. Existing transmission lines and overhead structures are visible in the background in the Project vicinity, and the mountains are visible in the background. The Project structures would partially obscure distant views to the mountains; however, these views are partially interrupted by existing transmission infrastructure. The Project would introduce structures into the viewshed from KOP 4, which would consist of non-reflective and neutral earth-tone colors. These structures will not substantially alter the characteristics of the existing visual landscape because the primary viewers from this KOP would be motorists along I-8 and would be traveling at relatively high speeds, therefore the viewer exposure would be low. Given the presence of existing transmission infrastructure in the vicinity, the proposed Project structures would be consistent. The Project introduces the proposed structures into the viewshed that would moderately alter the visual landscape.

KOP 5 (Figure E-6B) South Russel Road

KOP 5 was taken from South Russel Road looking east towards the Project. This simulation represents the view from motorists traveling on South Russel Road in the agricultural area west of the Project. The proposed view will not change from the existing view in the foreground and midground. Disturbed vegetation and the road shoulder is visible in the foreground, and an agricultural field is visible in the midground. The Project structures would be visible in the background, along with existing transmission lines and mountains in the distant background. The Project would introduce a 500 kV switch, 230 kV switch, water tanks, maintenance buildings, gas tanks, generators, and BESS to the background. The proposed structures would consist of non-reflective and neutral earth-tone colors to avoid contrast with the existing landscape. From this viewpoint, the mountains would still be visible in the distant background and there would be no obstruction due to Project structures. Given the presence of existing transmission infrastructure in the vicinity to South Russel Road, the proposed Project structures would be consistent. The Project introduces the proposed structures into the viewshed that would moderately alter the visual landscape.

Historic and Archaeological Resources

Cultural Context

The following cultural context was adapted from a Cultural Resources Survey report prepared in May 2024 by PanGIS, Inc. for the Applicant and attached as **Exhibit E-1**. All references are included in the Cultural Resources Survey Report (Mengers and Eckhardt, 2024).

Hohokam Tradition (A.D. 450 – 1450)

The most substantive prehistoric archaeological remains in Pinal County are those defined by archaeologists as Hohokam. This prehistoric tradition developed in the deserts of central and southern Arizona sometime around A.D.450 (although this may have varied regionally, the transition from Early Agricultural to a formally defined Hohokam tradition remains an active area

of archaeological inquiry and discussion) and is characterized by the introduction of red ware, red-on-buff, and red-on brown pottery (Haury 1976, Wallace et al. 1995).

The portions of Pinal County that include the middle Gila River constitute part of the core area of the Hohokam tradition. The Grewe-Casa Grande settlement complex on the middle Gila River is one of the largest Hohokam settlements found and has the added distinction of being one the longest continuously occupied settlements in the prehistoric American Southwest, with an occupation of close to a millennium, ca. A.D. 500 to 1450 (Craig 2001, Marshall and Craig 2010).

The Hohokam cultural sequence is divided into four general periods: Pioneer (A.D. 450-750), Colonial (A.D. 750-950), Sedentary (A.D. 950-1150), and Classic (A.D.1150-1450). The Pioneer period is distinguished by the introduction of red ware and, somewhat later, red-on-buff pottery, and the establishment of the first large, nucleated villages with plazas along the Gila and Salt rivers (Gregory and Huckleberry 1994). This was followed by a rapid expansion of irrigation systems and habitation centers across the river basins during the Colonial period (Doyel 1991). Eleven of 13 canals systems that are documented from the middle Gila were started and expanded during this period (Woodson 2010). Increasing social complexity also characterized the Colonial period. Pithouses were clustered into discrete courtyards, which, in turn, were organized into larger village segments, each with their own roasting area and cemetery (Henderson 1987; Wilcox et al. 1981). Around A.D. 800, ballcourts were built at a number of the largest villages (Wilcox and Sternberg 1983). The presence of the ballcourt is thought to represent the emergence of a regional system with religious, economic, and political functions, tied together by the exchange of plain and buff ware ceramics, marine shell,
foodstuffs, and other items (Abbott 2001; Wilcox 1991; Wilcox and Sternberg 1983).

In the Sedentary period, settlements across the Gila-Salt Basin continued to increase in number and size. It was also a time of change when some settlements, such as Snaketown, were abandoned entirely while others, like Grewe, shifted in location (Craig 2001). Many of the canal systems were reconfigured during this time (Howard 1991), with some consolidation of separate systems (Woodson 2010). The reconfiguration and expansion through consolidation coincided with a more developed settlement hierarchy in the river basins—that is, each canal system having at least one large village in addition to smaller ones (Gregory and Nials 1985). By the late Sedentary period, house clusters were arranged in more formalized rectangular patterns that forecast the development of the supra-household compounds seen in the Classic period (Wilcox et al. 1981).

The Classic period is marked by dramatic changes in Hohokam material culture, architecture, and traditions. Surface adobe-compound architecture appeared for the first time, supplementing, but not replacing, the tradition of semisubterranean pithouse architecture. Burial modes also changed, with an increasing dominance of inhumation over cremation burial. Buff ware pottery diminished in frequency during the period, being replaced by red ware pottery and, later, polychrome types. Ballcourts were largely abandoned during the late eleventh century (Wallace et al. 1995), and sometime around the late thirteenth century (Gregory 1987), large earthen features called platform mounds replaced ballcourts as the principal form of public architecture. Adobe roomblocks served as the principal form of residence often surrounded by massive compound walls.

Large irrigation communities spaced at regular intervals along the canal systems were prevalent in the Gila and lower San Pedro river valleys. Casa Grande Ruins, Arizona's most famous prehistoric landmark, was a four story structure and the downstream terminus and largest settlement along a 20 mile canal that originated east of the present day Town of Florence. Because construction of these features required considerable levels of organized labor, many think the mounds and canal systems are symbols of a socially differentiated society (Doelle et al. 1995; Elson 1998; Fish and Fish 1992; Gregory 1987).

Most notable during this period is the overall aggregation of Hohokam villages into fewer, but larger, villages found primarily along the middle Gila and lower San Pedro Rivers and McClelland Wash and Santa Cruz Flats areas. Beginning in the early fourteenth century, population declined steadily in most areas, and by the mid-to-late fifteenth century, the manifestations of what are recognized as Hohokam disappeared from the archaeological record (Hill et al. 2004). To date, few archaeological sites dating to the period between the collapse of Hohokam society and the arrival of the Spanish in southern Arizona have been found or investigated. However, some modern day Native American tribes consider themselves to be among the descendants of the Hohokam, including the O'odham and several clans of the Hopi and Zuni tribes. Many traditional histories also maintain that while the political structure of Hohokam society may have dissolved, the people themselves persisted and thrived throughout the Protohistoric period and continue to occupy the region today (Loendorf and Lewis 2012; Wells 2006).

Historic Period

The Historic period in Arizona dates roughly from 1753, the founding of the first permanent Spanish settlement, to 1954. In 1775 Juan Bautista de Anza successfully opened an overland route of emigration and supply from Sonora to the missions and settlements of Alta California. The soldiers and families that Anza escorted brought with them on their 1,200-mile trek their language, traditions, and diverse New World Hispanic culture. The backgrounds of all soldiers and settlers were carefully recorded as español, mulato, or mestizo. Almost all the expedition members were born on this continent and had mixed European, African or Indian parentage. These influences changed the lives of the indigenous peoples and shaped the development of Arizona and California. The route opened by Anza supplied the settlements of Alta California long enough for them to become established. In 1781, the Yumas revolted against Spanish rule and closed the route during the rest of the Colonial period. In later years, Anza's trail served the military, settlers, cattlemen, forty-niners and other desert travelers (Guerrero 2006).

The Mexican War of Independence did not have a direct effect on the area, as most of the battles took place far south of Arizona in central Mexico. However, the Spanish did have to withdraw their troops to central Mexico, which left a vacuum that the Apache exploited. During the 1820s, Apache raiders were estimated to have killed approximately 5,000 people in Sonora and southern Arizona. Mexico was victorious in the war and declared independence in 1821. The new Mexican government abolished the mission system. In Arizona, settlements and occupation contracted to Tucson and Tubac. In response to increased Apache raiding, O'odham settlement also contracted south and west (Sides 2006).

Arizona north of the Gila River became part of the United States in 1848, although the American phase did not officially begin until 1853, when this area was sold to the United States by Mexico

as part of the Gadsden Purchase. During the Mexican-American War, American military forces passed through southern Arizona on their way to California, commonly using routes centered on the Santa Cruz and Gila rivers. These routes were well blazed by the Army, and increased use occurred after the end of the war. One specific route, the Gila Trail, was by this time a widely used mail, freight, and emigrant route (Keane and Bruder 2004).

After the Civil War and establishment of the Arizona Territory, Americans began to settle permanently along the Salt River and Gila River because of the availability of good agricultural lands. Communities along the Salt River, including Phoenix and Tempe, were founded in the 1860s as small agricultural communities, especially after the establishment of Fort McDowell made the upriver areas safer for American settlers. Communities to the south, such as Sacaton and Florence, were established along the Gila River somewhat earlier along the former Butterfield Stage Route. From 1880 to 1900, the population of southern Arizona doubled, and by the turn of the 20th century, Arizona had a population of 100,000 (Keane and Bruder 2004).

Prior to the arrival of the railroad, long distance travel and freight transport were conducted by wagon road. The main routes were constructed by the US Army, including Cooke's Wagon Road, built by the Mormon Battalion in 1846-1847; the Beale Wagon Road, constructed in 1859 along the 35th parallel; and the Crook Trail, built in the 1870s to connect the region's military forts (Keane and Bruder 2004). After the establishment of the Arizona Territory in 1863, wagon roads expanded with the establishment of mail routes and with the charter of private companies to construct toll roads. Most other wagon roads were funded locally or privately (*ibid.*).

After the successful completion of the first transcontinental railroad in 1869, a southern railroad route along the former Butterfield Stage Route was being explored as an option to move goods and people across the country in a timely fashion. The Southern Pacific Railroad Company (SPRR) was to lay track from San Francisco to Yuma, while the Texas and Pacific Railroad Company (T&PRR) was to lay track westward across Texas, New Mexico, and Arizona. After T&PRR construction stalled in the vicinity of Fort Worth, Texas, the SPRR was given approval to continue laying track eastward. The first train arrived in Maricopa Station, modern Heaton, on April 29, 1879. Maricopa Station quickly became a boomtown, as it was the closest point to retain alternative transportation to reach Phoenix. By the end of 1881 the SPRR track through Arizona connected to the nationwide system of rail lines, spurring the economy and settlement of southern Arizona. Through the turn of the 20th century, SPRR land development policies, and the need to provide consistent water supply for steam locomotives, led to the development of townsites and water stops, many of which later grew into larger communities (Orsi 2005).

The Maricopa and Phoenix Railroad was completed in 1887 to connect Phoenix to the SPRR, which passed approximately 28 miles to the south at Phoenix Junction (now known as Maricopa). The Welton-Phoenix-Mesa-Eloy segment of the SPRR was constructed in 1926 to provide mainline access to Phoenix, which had developed into Arizona's most important city by the mid-1920s. It spurs off of the mainline in Wellton and travels through Phoenix, Tempe, Mesa, Gilbert, and Coolidge before rejoining the mainline at Eloy (Janus 1989).

The nearest city to the Project area, Casa Grande, was founded in 1879 as a SPRR work camp which expanded as a rail hub serving mining in the region (Museum of Casa Grande 2024). After

a national mining slump in the 1890s, small-scale agriculture and livestock became the main industry in the early 20th century, especially cotton and dairy (Casa Grande Chamber of Commerce 2015).

The main Tohono O'odham reservation, formerly called the Papago Indian Reservation, is located approximately 3.0 miles south of the APE. The third largest Indian reservation in the United States, it was established in 1917 (Tohono O'odham Nation 2016).

Rivers Relocation Center, also known as the Gila River War Relocation Center, was a Japanese-American concentration camp that operated from 1942-1945 approximately 16 miles north of the APE on the Gila River Indian Reservation (Leong 2019). It housed over 13,000 inmates, primarily from central California.

Approximately 3.4 miles north of the APE, the Francisco Grande resort was constructed in 1959 as a spring training camp for the San Francisco Giants Major Leage Baseball team by team owner Horace Stoneham. The first exhibition game was played at the facility in 1961, and it operated as the Giants' training camp until 1982 (Francisco Grande 2013).

Existing Conditions

The Project area is within the Lower Colorado River subdivision of the Sonoran Desert scrub biotic community. Vegetation within the Project area includes paloverde, mesquite, creosote, bursage, brittle brush, and various grasses. The area surrounding the Project is primarily used for agriculture. Approximately 2.75 miles south of the Project is Tohono O'odham Nation. The land has been zoned as General Rural (GR) by Pinal County and the Applicant is undergoing a rezone to change the designation to Industrial (I-3) to allow for industrial development. Interstate-8 (I-8) is located directly south of the Project site and State Route-84 (SR-84) is located approximately 2.5 miles north of the Project site. South Midway Road is a north-south local road located at the eastern edge of the Project site. Greene Wash is adjacent to the western and southern border of the Project site.

Archaeological evidence suggests widespread use of the Gila River region during the Middle Archaic period (6500-2100 B.C.) and Early Agricultural/Early Ceramic period (2100 B.C.-A.D. 450). Succeeding cultural development in the region includes the Hohokam sequence and later Akimel O'odham. The Historic period begins with the 1753 founding of the first permanent Spanish settlement in the region. Governance of the area transferred to Mexico in 1821 and the United States in 1853. The earliest American-period land use in the vicinity of the Project area was limited to scattered homesteads and wagon roads connecting distant population centers. Communities closer to the Project area were founded after the arrival of the railroad (1880s) and regional irrigation works (1900s). Small-scale agriculture and livestock became the main industry in the early 20th century, especially cotton and dairy.

Previous Research

A cultural resources records and literature review was conducted in April 2024. The review was completed in advance of the proposed Project. The purpose of the investigation was to identify

previously recorded cultural resources, which may include archaeological sites (prehistoric or historic), structures, buildings, landscapes, districts, or objects for their respective eligibility for listing on the National Register of Historic Places (NRHP) within the Project footprint.

Previous Cultural Resources Surveys

The records check and literature review revealed that eight investigations have been conducted within one mile of the Project. Four of these investigations intersect with the Project footprint (**Table E-1,** *Previous Investigations*). Four surveys, 1985-200.ASM, 1992-52.ASM, 2007-692.ASM, and 2015-251. ASM—intersected with a portion of the Project area but no cultural resources were identified in the Project area.

Table E-1. Previous Investigations

Report ID	Year	Author	Project	Company	Location
1985-161.ASM	1985	Stone, Lyle M.	ADOT/ARS 8 Stanfield	Archaeological Research Services	Within 1-mile buffer
1985-200.ASM	**1986**	**Quillan, P., and K. Henderson**	**Stanfield-Maricopa Laterals, Task 28 and 33: Maricopa-Stanfield Irrigation District East Irrigation District East Main Canal**	**Northland Research**	**Within APE**
1992-52.ASM	**1992**	**Stone, L.**	**Channelization Next to Greene Wash**	**Archaeological Research Services**	**Within APE**
1996-409.ASM	1996	Stone, Bradford W.	Interstate-8/Pinal County Line	Archaeological Research Services	Within 1-mile buffer
2007-692.ASM	**2007**	**Henderson, Kathy**	**Pinal West to Dinosaur Transmission Line Surveys**	**Desert Archaeology**	**Within APE**
2008-307.ASM	2008	Goldstein, Beau J.	Jeff Hanson	San Carlos Irrigation Project (SCIP)	Within 1-mile buffer
2009-755.ASM	2009	Goldstein, Beau J.	R0109-053	San Carlos Irrigation Project (SCIP)	Within 1-mile buffer
2015-251.ASM	**2006**	**Mitchell, Doug**	**El Dorado Development Survey**	**SWCA Environmental Consultants**	**Within APE**

Previously Recorded Archaeological Sites

Five previously recorded cultural resource sites were identified within the one-mile buffer of the Project components (**Table E-2,** *Cultural resources*). Two of these recorded sites are within the Project footprint, AZ AA:1:129 (Midway Road) and AZ AA:1:251 (historic irrigation canal).

AZ AA:1:129(ASM) – Midway Road

Midway Road is a north-south trending, crowned and ditched, dirt section line road running south from Highway 84, 5.0 miles east of Stanfield, Arizona. It is located on the section line between Range 4 East and Range 5 East and provides local access to farms and ranches. It is shown on the 1924 Casa Grande 15' United States Geological Survey (USGS) quadrangle map but not the 1889 General Land Office (GLO) map. It was in use and maintained at the time of recording. The resource was determined ineligible for listing on the NRHP (State Historic Preservation Office (SHPO) 2009-1226).

AZ AA:1:251(ASM) – Historic irrigation canal

This resource consists of an abandoned irrigation canal lateral located along the west side of Midway Road. It is a 300-foot-long concrete-lined ditch almost entirely filled with sediment, likely constructed in the first half of the 20th century and abandoned in the early 2000s. The resource was determined ineligible for listing on the NRHP (SHPO 2017-1460).

Table E-2. Cultural Resources

Site #	Site Type	Site Description	NRHP Status	Location
AZ AA:1:90(ASM)	Historic	Trash scatter	Recommended ineligible	Within 1-mile buffer
AZ AA:1:129(ASM)	**Historic**	**Midway Road**	**Determined ineligible (SHPO 2009-1226)**	**Within APE**
AZ AA:1:134(ASM)	Historic	Montgomery Road	Determined ineligible (SHPO 2009-1226)	Within 1-mile buffer
AZ AA:1:159(ASM)	Historic	Montgomery Road Irrigation Canal	Recommended ineligible	Within 1-mile buffer
AZ AA:1:251(ASM)	**Historic**	**Irrigation canal**	**Determined ineligible (SHPO 2017-1460)**	**Within APE**

The result of the cultural resources records search and literature review shows that only a portion of the Project footprint has been previously surveyed for archaeological resources. Two previously recorded historic resources are located within the Project footprint. AZ AA:1:129 (Midway Road) was determined ineligible for listing in the NRHP with SHPO concurrence (SHPO 2009-1226).

AZ AA:1:251 (historic irrigation canal) was determined ineligible for listing in the NRHP with SHPO concurrence (SHPO-2017-1460). Three additional previously recorded cultural resource sites were identified within the one-mile buffer of the Project route. Four previous cultural resource investigations (1985-200.ASM, 1992-52.ASM, 2007-692.ASM, and 2015-251.ASM) intersect with a portion of the Project area but did not identify any cultural resources within the Project area. An additional four investigations have been conducted within one mile of the Project.

Tribal Outreach

Consultation letters and the results of the Class I Inventory search were sent to local Native American Tribes seeking comment on June 6, 2024. The Applicant obtained the list of Tribes with claims in the Project area by consulting the SHPO Government-to-Government Consultation Toolkit. The following Tribes were sent consultation letters: Pueblo of Zuni, Gila River Indian Community, Tohono O'Odham Nation, Yavapai-Apache Nation, White Mountain Apache, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community. Tribal consultation letters and correspondence sent are included in **Exhibit E-2**. Response letters from the tribes have been included at the end of **Exhibit E-2**.

Potential Effects

The entire Project site has been subject to previous cultural resources survey, and no previously identified archaeological sites, historic buildings or structures would be impacted by the Project. Accordingly, the Project would result in a finding of no historic properties affected.

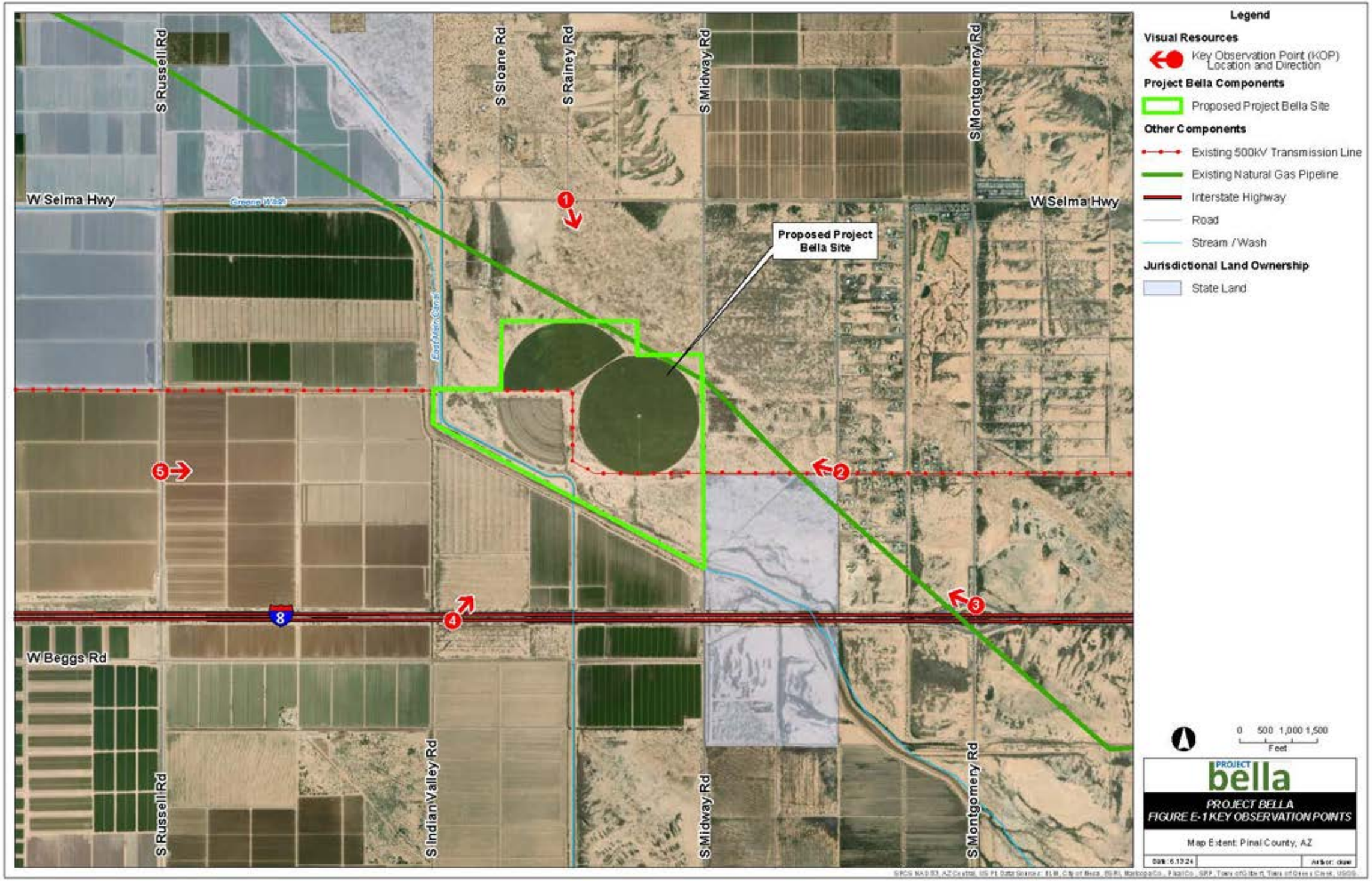
Recommendations

For most cultural resources, the greatest potential for adverse impacts is from ground disturbing activities directly associated with Project construction. For the Project, ground disturbance would occur within the Project footprint. Appropriate mitigation measures would be developed in consultation with the appropriate land managing agencies, including SHPO, and interested Tribes. Mitigation measures could include flagging or fencing of sites during construction. Other mitigation measures could include site testing and excavation.

While it is unlikely that unanticipated discoveries of archaeological, paleontological, or historical sites, human remains, funerary objects, sacred ceremonial objects or objects of national or tribal patrimony would occur during construction or operation of Project facilities, it is nonetheless possible. Unanticipated discoveries of such materials on state, county, or municipal lands are subject to A.R.S. § 41-844. For unanticipated discoveries of human remains or funerary objects on private lands, the Applicant would comply with the protocols set forth in A.R.S. § 41-865. If unanticipated discoveries are made in connection with construction activities, the Project would immediately suspend all operations in the vicinity of the find and would not resume until the discovery is appropriately treated and authorization is given by the appropriate agency.

References

Mengers, Douglas and William Eckhardt. 2024. *Class I Cultural Resources Report for Project Bella Thermal Generation and Energy Storage Project. Pinal County, Arizona.* PanGIS, Inc.



PROJECT bella

PROJECT BELLA

KEY OBSERVATION POINT KEY MAP

Figure E1

NORTH

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

WEST SELMA HIGHWAY & RAINY ROAD - LOOKING SOUTHEAST - EXISTING VIEW

Figure E-2A

KOP# 1

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

WEST SELMA HIGHWAY & RAINY RD - LOOKING SOUTHEAST - PROPOSED VIEW

THIS RENDERING IS BASED ON CURRENT INFORMATION AS OF THIS DATE AND IS SUBJECT TO CHANGE.

KOP# 1

Visual Environments
WWW.VISENV.COM

6/6/24

Figure E-2B

PROJECT BELLA

WEST CORNMAN ROAD & SOUTH MAMMOTH DRIVE - LOOKING NORTHWEST - EXISTING VIEW

Figure E-3A

KOP# 2

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

WEST CORNMAN ROAD & SOUTH MAMMOTH DRIVE - LOOKING NORTHWEST - PROPOSED VIEW

THIS RENDERING IS BASED ON CURRENT INFORMATION AS OF THIS DATE AND IS SUBJECT TO CHANGE.

KOP# 2

Visual Environments
WWW.VISENV.COM

6/6/24

Figure E-3B

PROJECT BELLA

I-8 & SOUTH MONTGOMERY ROAD - LOOKING NORTHWEST - EXISTING VIEW

Figure E-4A

KOP# 3

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

I-8 & SOUTH MONTGOMERY ROAD - LOOKING NORTHWEST - PROPOSED VIEW

THIS RENDERING IS BASED ON CURRENT INFORMATION AS OF THIS DATE AND IS SUBJECT TO CHANGE.

KOP# 3

Visual Environments
WWW.VISENV.COM

6/6/24

Figure E-4B

PROJECT BELLA

I-8 EASTBOUND - LOOKING NORTHEAST - EXISTING VIEW

Figure E-5A

KOP# 4

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

I-8 EASTBOUND - LOOKING NORTHEAST - PROPOSED VIEW

Figure E-5B

THIS RENDERING IS BASED ON CURRENT INFORMATION AS OF THIS DATE AND IS SUBJECT TO CHANGE.

KOP# 4

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

SOUTH RUSSEL ROAD - LOOKING EAST - EXISTING VIEW

Figure E-6A

KOP# 5

Visual Environments
WWW.VISENV.COM

6/6/24

PROJECT BELLA

SOUTH RUSSEL ROAD - LOOKING EAST - PROPOSED VIEW

Figure E-6B

THIS RENDERING IS BASED ON CURRENT INFORMATION AS OF THIS DATE AND IS SUBJECT TO CHANGE.

KOP# 5

Visual Environments
WWW.VISENV.COM

6/6/24

EXHIBIT E-1
CLASS I CULTURAL RESOURCES SURVEY REPORT

PROJECT BELLA
THERMAL GENERATION AND ENERGY STORAGE PROJECT

CLASS I CULTURAL RESOURCES REPORT
PINAL COUNTY
ARIZONA

PREPARED BY:

DOUGLAS MENGERS, M.A., RPA, DPPH
PanGIS, INC.
LEAD ARCHAEOLOGIST

WILLIAM ECKHARDT, B.A.
PanGIS, Inc.
SENIOR ARCHAEOLOGIST

MAY 2024

PREPARED FOR:

KP ENVIRONMENTAL, INC.
1038 DEWITT AVE.
ENCINITAS, CA 92024

TABLE OF CONTENTS

Acronyms

Tables

Appendix — Figures

Confidential Appendices – Bound Separately: Not for public review

ACRONYMS

A.D.	Anno Domini
ADOT	Arizona Department of Transportation
APE	Area of Potential Effect
ASLD	Arizona State Land Department
ASM	Arizona State Museum
AZSITE	Arizona State Museum Geographic Information System
B.C.	Before Christ
BLM	Bureau of Land Management
GLO	General Land Office
kV	kilovolt
LARC	ASM Library and Archives Collection
MW	megawatt
NRHP	National Register of Historic Places
SHPO	State Historic Preservation Office
SPRR	Southern Pacific Railroad
T&PRR	Texas and Pacific Railroad
USGS	United States Geological Survey

1.0 INTRODUCTION

The following Class I cultural resources report was prepared on behalf of KP Environmental and Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC). Pinal County Energy Center, LLC, is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (**Figures 1 and 2**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line (**Figure 3**). The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

The Project has not been assigned a number by the Arizona State Land Department (ASLD). The Project Area of Potential Effect (APE) consists of the facilities and transmission line corridor, covering a total of approximately 350 acres.

Four previous cultural resource investigations intersect with the Project area; of these, one (1992-52.ASM) identified cultural resources, but outside the Project APE (AZ AA:1:90(ASM)).

Two cultural resources were identified within the disturbance footprint of the Project. AZ AA:1:129(ASM) (Midway Road) and AZ AA:1:251(ASM) (historic-era irrigation canal) have been determined ineligible for listing on the National Register of Historic Places (NRHP).

Approximately 12 percent of the Project route has been recently surveyed. We recommend that Pinal County Energy Center, LLC, conduct a Class III survey of the proposed facilities and transmission line, where feasible, prior to construction.

2.0 METHODS

The previously recorded cultural resources and investigations in the disturbance footprint, plus a 1-mile-wide buffer, were examined using data received from the Arizona State Museum (ASM) site file check to determine if known cultural resources would be potentially impacted by the Project. The ASM record search was conducted in April 2024. Additional sources consulted include the NRHP database, the Arizona State Museum Geographic Information System (AZSITE) database, the ASM Library and Archives (LARC) online catalog, records of the Arizona State Historic Preservation Office (SHPO), and the Arizona Historic Bridge Inventory.

Additional research was focused on the identification of historic-era resources within the Project vicinity. Historic maps of the Project area reviewed included 1889, 1914, 1917, and 1929 survey plat maps (BLM 2024); United States Geological Survey (USGS) 1:250,000 scale maps (Tucson 1956, 1959, and 1962); USGS 1:62,500 scale quadrangles (Casa Grande 1922 and 1924); and USGS 1:24,000 scale quadrangles (Double Peak 1965) (USGS 2024). Aerial photographs consulted include 1961, 1963, and 1983 (NETROnline 2024).

The prehistoric and protohistoric Cultural Setting was taken from *Priority Prehistoric Cultural Resources, Pinal County, Arizona* (Laurenzi 2012), developed by Archaeology Southwest for the Pinal County Planning and Development Department in service of the County's addition of a Cultural Resources element to its Comprehensive Land Use Plan. The cultural context included in Laurenzi 2012 is primarily excerpted from Lindeman et al. 2009 and Marshall and Craig 2010.

To develop the historic period context of the Project area, secondary sources were consulted comprising popular histories including Vladimir Guererro's *The Anza Trail and the Settling of California*, Hampton Sides' *Blood and Thunder: The Epic Story of Kit Carson and the Conquest of the American West*, Richard Orsi's *Sunset Limited: The Southern Pacific Railroad and the Development of the American West, 1850-1930*, David Myrick's *Railroads of Arizona* series, and government records including National Register documentation. Statewide historic contexts consulted included *Good Roads Everywhere: A History of Road Building in Arizona* (Keane and Bruder 2004), *Transcontinental Railroading in Arizona, 1878-1940* (Janus 1989), and *Lifeline to the Desert: Water Utilization and Technology in Arizona's Historic Era, 1540-1960* (Steely and Gilpin 2004).

3.0 CULTURAL SETTING

A cultural prehistory for Pinal County is broadly sketched in this section. This prehistory supplies a simplified outline of events and processes that may have influenced human occupation in the middle Gila River basin from its earliest human inhabitants up through the Spanish exploration period.

Paleoindian Period (10800 – 8000 B.C.)

The Paleoindian are the earliest human occupants of the American Southwest. Traditionally viewed as small, highly mobile groups of big-game hunters, the Paleoindian are believed to have roamed portions of the Southwest from approximately 12,800 to 10,000 years ago (Ballenger et al. 2011). The period is primarily manifested in Arizona by isolated surface finds of Clovis and Folsom Paleoindian points and a small number of Pleistocene megafauna kill sites in southeastern Arizona (Haynes 2011). The extent or intensity of Paleoindian occupation in Pinal County is unknown because any existing Paleoindian remains have likely been buried by Holocene alluvium that has been accumulating on the valley floors since the Late Pleistocene period.

Archaic Period (8000 – 2100 B.C.)

The transition from the Paleoindian period to the Archaic period was accompanied by marked climatic changes. During this time, the environment came to look much like it does today. Archaic period people pursued a mixed subsistence strategy, characterized by intensive wild plant gathering and the hunting of small game animals. This pattern of wild resource exploitation resulted in a high degree of residential mobility and low population density.

Although no Early Archaic (8000-6500 B.C.) sites are known in the middle Gila River region, Middle Archaic (6500-2100 B.C.) remains have been found in bajada and upland settings (Bayham et al. 1986). In addition, numerous surface finds of Archaic-style projectile points, as well as points recovered from later Hohokam sites, suggest widespread use of the Gila River region during the Archaic period (Gasser 1990; Halbirt and Henderson 1993; Loendorf and Rice 2004).

Early Agricultural/Early Ceramic (2100 B.C. – A.D. 450)

The Early Agricultural period began when domesticated plant species were first cultivated in the Greater Southwest. Over the time period, sites exhibit increasing levels of sedentism and pottery becomes an essential component of the artifact inventory. However, characteristic elements of the Hohokam prehistoric tradition (see below) are not present at sites, most notably red ware pottery and villages around plazas.

A seasonally sedentary settlement pattern has been inferred, with populations moving from winter habitations spread along the margins of floodplains to seasonal summer camps in upland areas (Cable and Doyel 1987, Halbirt and Henderson 1993). Although wild plants and animals composed an important part of the subsistence base, floodwater agriculture supported in some areas by irrigation canals seems to have been the principle focus of subsistence efforts (Henderson 1995; Henderson and Clark 2004). The precise timing of the introduction of cultigens is not known, although direct radiocarbon dates on maize indicate it was being cultivated in the Tucson Basin and several other parts of the Southwest by 2100 B.C. (Mabry 2008). By at least 400 B. C., within the Tucson basin, groups were living in substantial agricultural settlements in the floodplain of the Santa Cruz River. Recent archaeological investigations (Thiel and Diehl 2006) established that canal irrigation began by at least 1500 B.C., during this Early Agricultural/Early Ceramic period in the Tucson basin area south of the Pinal County line.

Outside the Tucson Basin and distinct from these canal-based settlement systems are a number of sites formerly considered Late Archaic that are now more appropriately considered Early Agricultural (Clark 2000; Fish et al. 1992). There is variability among Early Agricultural sites, but many have now been documented that include small, round or oval, semisubterranean pithouses, including storage facilities, burials in excavated residential settings and by the abundance and consistency of associated cultigens. At some sites, a larger round structure is also present, which is thought to be for communal or ritual purposes. Stylistically distinctive Cortaro, Tallerin, Empire, San Pedro, and Cienega type projectile points are common at sites, as are a range of ground stone and flaked stone tools, ornaments, and shell jewelry. The fact that shell and some of the material used for stone tools and ornaments were not locally available suggests trade networks were operating.

Agriculture, particularly the cultivation of corn, was important in the diet and increased in importance through time. However, gathered wild plants, such as tansy mustard and amaranth seeds, mesquite seeds and pods, and agave hearts, were also frequently used resources. As in the preceding Archaic period, the hunting of animals such as deer and rabbits, continued to provide an important source of protein. There are several sites on the mainstem Gila River (Fish 1967; Loendorf and Rice 2004), Santa Cruz Flats (Halbirt and Henderson 1993) and at locations near the Picacho Mountains (Fish et al. 1992) that are believed to be Early Agricultural sites, although the presence of canal irrigation similar to what was present in the Tucson Basin has yet to be documented. At the mainstem Gila River site near Kearny (Clark 2000), there were more than 70 small, circular, rock structures identified, a clear indication of a strong Early Agricultural presence along this part of the Gila.

During the Early Agricultural Period, while there was increasingly more investment in an area through cultivated agricultural, intentional aggregation and permanent habitations were not present (Wallace and Lindeman 2012). During the Early Ceramic period there developed more residential permanence, as evidenced through architectural features, however, there were no settlements that could be termed "villages". Sites containing only a few structures were the norm and might best be considered farmsteads or hamlets rather than anything approaching the villages that characterized the beginning of the Hohokam sequence.

Hohokam Sequence (A.D. 450 – 1450)

The most substantive prehistoric archaeological remains in Pinal County are those defined by archaeologists as Hohokam. This prehistoric tradition developed in the deserts of central and southern Arizona sometime around A.D.450 (although this may have varied regionally, the transition from Early Agricultural to a formally-defined Hohokam tradition remains an active area of archaeological inquiry and discussion) and is characterized by the introduction of red ware, red-on-buff, and red-on-brown pottery (Haury 1976, Wallace et al. 1995).

The portions of Pinal County that include the middle Gila River constitute part of the core area of the Hohokam tradition. The Grewe-Casa Grande settlement complex on the middle Gila River is one of the largest Hohokam settlements found and has the added distinction of being one the longest continuously occupied settlements in the prehistoric American Southwest, with an occupation of close to a millennium, ca. A.D. 500 to 1450 (Craig 2001, Marshall and Craig 2010).

The Hohokam cultural sequence is divided into four general periods: Pioneer (A.D.450-750), Colonial (A.D.750-950), Sedentary (A.D.950-1150), and Classic (A.D.1150-1450). The Pioneer period is distinguished by the introduction of red ware and, somewhat later, red-on-buff pottery, and the establishment of the first large, nucleated villages with plazas along the Gila and Salt rivers (Gregory and Huckleberry 1994). This was followed by a rapid expansion of irrigation systems and habitation centers across the river basins during the Colonial period (Doyel 1991). Eleven of 13 canals systems

that are documented from the middle Gila were started and expanded during this Period (Woodson 2010). Increasing social complexity also characterized the Colonial period. Pithouses were clustered into discrete courtyards, which, in turn, were organized into larger village segments, each with their own roasting area and cemetery (Henderson 1987; Wilcox et al. 1981). Around A.D. 800, ballcourts (Figure 5) were built at a number of the largest villages (Wilcox and Sternberg 1983). The presence of the ballcourt is thought to represent the emergence of a regional system with religious, economic, and political functions, tied together by the exchange of plain and buff ware ceramics, marine shell, foodstuffs, and other items (Abbott 2001; Wilcox 1991; Wilcox and Sternberg 1983).

In the Sedentary period, settlements across the Gila-Salt Basin continued to increase in number and size. It was also a time of change when some settlements, such as Snaketown, were abandoned entirely while others, like Grewe, shifted in location (Craig 2001). Many of the canal systems were reconfigured during this time (Howard 1991), with some consolidation of separate systems (Woodson 2010). The reconfiguration and expansion through consolidation coincided with a more developed settlement hierarchy in the river basins—that is, each canal system having at least one large village in addition to smaller ones (Gregory and Nials 1985). By the late Sedentary, house clusters were arranged in more formalized rectangular patterns that forecast the development of the supra-household compounds seen in the Classic period (Wilcox et al. 1981).

The Classic period is marked by dramatic changes in Hohokam material culture, architecture, and traditions. Surface adobe-compound architecture appeared for the first time, supplementing, but not replacing, the tradition of semisubterranean pithouse architecture. Burial modes also changed, with an increasing dominance of inhumation over cremation burial. Buff ware pottery diminished in frequency during the period, being replaced by red ware pottery and, later, polychrome types. Ballcourts were largely abandoned during the late eleventh century (Wallace et al. 1995), and sometime around the late thirteenth century (Gregory 1987), large earthen features called platform mounds replaced ballcourts as the principal form of public architecture. Adobe roomblocks served as the principal form of residence often surrounded by massive compound walls.

Large irrigation communities spaced at regular intervals along the canal systems were prevalent in the Gila and lower San Pedro river valleys. Casa Grande Ruins, Arizona's most famous prehistoric landmark, was a four story structure and the downstream terminus and largest settlement along a 20 mile canal that originated east of the present day Town of Florence. Because construction of these features required considerable levels of organized labor, many think the mounds and canal systems are symbols of a socially differentiated society (Doelle et al. 1995; Elson 1998; Fish and Fish 1992; Gregory 1987).

Most notable during this period is the overall aggregation of Hohokam villages into fewer, but larger, villages found primarily along the middle Gila and lower San Pedro Rivers and McClelland Wash and Santa Cruz Flats areas. Beginning in the early fourteenth century, population declined steadily in most areas, and by the mid-to-late fifteenth century, the manifestations of what are recognized as Hohokam disappeared from the archaeological record (Hill et al. 2004). To date, few archaeological sites dating to the period between the collapse of Hohokam society and the arrival of the Spanish in southern Arizona have been found or investigated. However, some modern day Native American tribes consider themselves to be among the descendants of the Hohokam, including the O'odham and several clans of the Hopi and Zuni tribes. Many traditional histories also maintain that while the political structure of Hohokam society may have dissolved, the people themselves persisted and thrived throughout the Protohistoric period and continue to occupy the region today (Loendorf and Lewis 2012; Wells 2006).

Protohistoric Period

Little is known of the period between the disappearance of Hohokam material cultural remains from the archaeological record, and the appearance of Spanish explorers and missionaries in the late sixteenth and seventeenth centuries. O'odham people (whose tribal lands presently include the Tohono O'odham Nation, Gila River Indian Community, Ak-Chin Indian Community, and Salt River Pima-Maricopa Indian Community), were first noted in written Spanish accounts by Padre Eusebio Kino in 1687 (Sheridan 2008). O'odham people were well established in southern Arizona with villages on the San Pedro, Santa Cruz, and Gila Rivers when Padre Kino and other Spanish explorers arrived in the late seventeenth century (Spicer 1962).

These early Spanish accounts suggest O'odham settlements were loosely organized collections of round, brush-covered houses, most often located in riverine settings. Each small village seems to have been politically autonomous, self-sufficient, and focused on irrigation and floodwater agriculture. An O'odham group, referred to as Sopaiburi, was noted by Padre Eusebio Kino in his travels along the lower San Pedro River in the 1690s (Bolton 1936). Sometime in the early 1600s, Apache people are believed to have settled in areas east and south of Pinal County, although the obscure nature of the human footprint of Apache people in the archaeological record makes the timing of the arrival of Apache a subject of ongoing debate. There are Spanish accounts that indicate that Apache did interact with Sopaiburi along the San Pedro River in the late 1600s. Protohistoric sites are rare, given the ephemeral nature of the archaeological remains associated with O'odham and Apache people living in the region at this time as well as the limited nature of the Spanish presence.

Historic Period

The Historic period in Arizona dates roughly from 1753, the founding of the first permanent Spanish settlement, to 1954. In 1775 Juan Bautista de Anza successfully opened an overland route of emigration and supply from Sonora to the missions and settlements of Alta California. The soldiers and families that Anza escorted brought with them on their 1,200-mile trek their language, traditions, and diverse New World Hispanic culture. The backgrounds of all soldiers and settlers were carefully recorded as español, mulato, or mestizo. Almost all the expedition members were born on this continent and had mixed European, African or Indian parentage. These influences changed the lives of the indigenous peoples and shaped the development of Arizona and California. The route opened by Anza supplied the settlements of Alta California long enough for them to become established. In 1781, the Yumas revolted against Spanish rule and closed the route during the rest of the colonial period. In later years, Anza's trail served the military, settlers, cattlemen, forty-niners and other desert travelers (Guerrero 2006).

The Mexican War of Independence did not have a direct effect on the area, as most of the battles took place far south of Arizona in central Mexico. However, the Spanish did have to withdraw their troops to central Mexico, which left a vacuum that the Apache exploited. During the 1820s, Apache raiders were estimated to have killed approximately 5,000 people in Sonora and southern Arizona. Mexico was victorious in the war and declared independence in 1821. The new Mexican government abolished the mission system. In Arizona, settlements and occupation contracted to Tucson and Tubac. In response to increased Apache raiding, O'odham settlement also contracted south and west (Sides 2006).

Arizona north of the Gila River became part of the United States in 1848, although the American phase did not officially begin until 1853, when this area was sold to the United States by Mexico as

part of the Gadsden Purchase. During the Mexican-American War, American military forces passed through southern Arizona on their way to California, commonly using routes centered on the Santa Cruz and Gila rivers. These routes were well blazed by the Army, and increased use occurred after the end of the war. One specific route, the Gila Trail, was by this time a widely used mail, freight, and emigrant route (Keane and Bruder 2004).

After the Civil War and establishment of the Arizona Territory, Americans began to settle permanently along the Salt River and Gila River because of the availability of good agricultural lands. Communities along the Salt River, including Phoenix and Tempe, were founded in the 1860s as small agricultural communities, especially after the establishment of Fort McDowell made the upriver areas safer for American settlers. Communities to the south, such as Sacaton and Florence, were established along the Gila River somewhat earlier along the former Butterfield stage route. From 1880 to 1900, the population of southern Arizona doubled, and by the turn of the 20th century, Arizona had a population of 100,000 (Keane and Bruder 2004).

Prior to the arrival of the railroad, long distance travel and freight transport were conducted by wagon road. The main routes were constructed by the US Army, including Cooke's Wagon Road, built by the Mormon Battalion in 1846-1847; the Beale Wagon Road, constructed in 1859 along the 35th parallel; and the Crook Trail, built in the 1870s to connect the region's military forts (Keane and Bruder 2004). After the establishment of the Arizona Territory in 1863, wagon roads expanded with the establishment of mail routes and with the charter of private companies to construct toll roads. Most other wagon roads were funded locally or privately (*ibid.*).

After the successful completion of the first transcontinental railroad in 1869, a southern railroad route along the former Butterfield Stage Route was being explored as an option to move goods and people across the country in a timely fashion. The Southern Pacific Railroad Company (SPRR) was to lay track from San Francisco to Yuma, while the Texas and Pacific Railroad Company (T&PRR) was to lay track westward across Texas, New Mexico, and Arizona. After T&PRR construction stalled in the vicinity of Fort Worth, Texas, the SPRR was given approval to continue laying track eastward. The first train arrived in Maricopa Station, modern Heaton, on April 29, 1879. Maricopa Station quickly became a boomtown, as it was the closest point to retain alternative transportation to reach Phoenix. By the end of 1881 the SPRR track through Arizona connected to the nationwide system of rail lines, spurring the economy and settlement of southern Arizona. Through the turn of the 20th century, SPRR land development policies, and the need to provide consistent water supply for steam locomotives, led to the development of townsites and water stops, many of which later grew into larger communities (Orsi 2005).

The Maricopa and Phoenix Railroad was completed in 1887 to connect Phoenix to the SPRR, which passed approximately 28 miles to the south at Phoenix Junction (now known as Maricopa). The Welton-Phoenix-Mesa-Eloy segment of the SPRR was constructed in 1926 to provide mainline access to Phoenix, which had developed into Arizona's most important city by the mid-1920s. It spurs off of the mainline in Wellton and travels through Phoenix, Tempe, Mesa, Gilbert, and Coolidge before rejoining the mainline at Eloy (Janus 1989).

The nearest city to the Project area, Casa Grande, was founded in 1879 as a SPRR work camp which expanded as a rail hub serving mining in the region (Museum of Casa Grande 2024). After a national mining slump in the 1890s, small-scale agriculture and livestock became the main industry in the early 20th century, especially cotton and dairy (Casa Grande Chamber of Commerce 2015).

The main Tohono O'odham reservation, formerly called the Papago Indian Reservation, is located approximately 3.0 miles south of the APE. The third largest Indian reservation in the United States, it was established in 1917 (Tohono O'odham Nation 2016).

Rivers Relocation Center, also known as the Gila River War Relocation Center, was a Japanese-American concentration camp that operated from 1942-1945 approximately 16 miles north of the APE on the Gila River Indian Reservation (Leong 2019). It housed over 13,000 inmates, primarily from central California.

Approximately 3.4 miles north of the APE, the Francisco Grande resort was constructed in 1959 as a spring training camp for the San Francisco Giants Major Leage Baseball team by team owner Horace Stoneham. The first exhibition game was played at the facility in 1961, and it operated as the Giants' training camp until 1982 (Francisco Grande 2013).

4.0 PREVIOUS RESEARCH

The previously recorded cultural resources and investigations review conducted by the ASM in April 2024 for the Project combined with a 1-mile buffer, were examined to determine if known cultural resources would be potentially impacted. The records check and literature review revealed that 9 investigations have been conducted within one mile of the Project. Four of these investigations were completed within the Project route (**Table 1** and **Figure 4**).

Table 1. Previous Investigations

Report ID	Year	Author	Project	Company	Location
1985-161.ASM	1985	Stone, Lyle M.	ADOT/ARS 8 Stanfield	Archaeological Research Services	Within 1-mile buffer
1985-200.ASM	**1986**	**Quillan, P., and K. Henderson**	**Stanfield-Maricopa Laterals, Task 28 and 33: Maricopa-Stanfield Irrigation District East Main Canal**	**Northland Research**	**Within APE**
1992-52.ASM	**1992**	**Stone, L.**	**Channelization Next to Greene Wash**	**Archaeological Research Services**	**Within APE**
1996-409.ASM	1996	Stone, Bradford W.	Interstate-8/Pinal County Line	Archaeological Research Services	Within 1-mile buffer
2007-692.ASM	**2007**	**Henderson, Kathy**	**Pinal West to Dinosaur Transmission Line Surveys**	**Desert Archaeology**	**Within APE**
2008-307.ASM	2008	Goldstein, Beau J.	Jeff Hanson	San Carlos Irrigation Project (SCIP)	Within 1-mile buffer
2009-755.ASM	2009	Goldstein, Beau J.	R0109-053	San Carlos Irrigation Project (SCIP)	Within 1-mile buffer
2015-251.ASM	**2006**	**Mitchell, Doug**	**El Dorado Development Survey**	**SWCA Environmental Consultants**	**Within APE**
2015-497.ASM	2015	Goldstein, Beau J.	Class III Cultural Resource Surveys, 2015 4th Quarter	San Carlos Irrigation Project (SCIP)	Within 1-mile buffer

Of the four investigations that intersected with a portion of the Project area, only one (1992-52.ASM) identified cultural resources, but outside the Project APE (AZ AA:1:90(ASM), see below). Four of the surveys listed above (1985-200.ASM, 1992-52.ASM, 2007-692.ASM, and 2015-251.ASM) provided unique survey coverage of the Project area, covering a combined 42.9 acres of the APE (approximately 12%).

Five previously recorded cultural resource sites were identified (**Table 2** and **Confidential Appendix A**) within the 1-mile buffer of the Project route. Two of the sites, AZ AA:1:129 (Midway Road) and AZ AA:1:251 (historic-era irrigation canal), intersect the Project APE and are detailed below.

Table 2. Cultural Resources				
Site #	Site Type	Site Description	NRHP Status	Location
AZ AA:1:90(ASM)	Historic	Trash scatter	Recommended ineligible	Within 1-mile buffer
AZ AA:1:129(ASM)	**Historic**	**Midway Road**	**Determined ineligible (SHPO 2009-1226)**	**Within APE**
AZ AA:1:134(ASM)	Historic	Montgomery Road	Determined ineligible (SHPO 2009-1226)	Within 1-mile buffer
AZ AA:1:159(ASM)	Historic	Montgomery Road Irrigation Canal	Recommended ineligible	Within 1-mile buffer
AZ AA:1:251(ASM)	**Historic**	**Irrigation canal**	**Determined ineligible (SHPO 2017-1460)**	**Within APE**

AZ AA:1:129(ASM) – Midway Road

This resource was originally recorded by SWCA Environmental Consultants in 1999 during the El Paso to Los Angeles Fiber Optics Cable Project. It is commonly known as Midway Road, a north-south trending, crowned and ditched, dirt section line road running south from Highway 84, 5.0 miles east of Stanfield, Arizona. It is located on the section line between Range 4 East and Range 5 East and provides local access to farms and ranches. It is shown on the 1924 Casa Grande 15' USGS quadrangle map but not the 1889 General Land Office (GLO) map. It was in use and maintained at the time of recording. The resource was determined ineligible for listing on the NRHP (SHPO 2009-1226).

AZ AA:1:251(ASM) – Irrigation canal

This resource was originally recorded by Logan Simpson in 2017 during the Midway Road, Ash Avenue Alignment to Cornman Road Project (Ferland 2017). It consists of an abandoned irrigation canal lateral located along the west side of Midway Road. It is a 300-foot-long concrete-lined ditch almost entirely filled with sediment, likely constructed in the first half of the 20th century and abandoned in the early 2000s. The resource was determined ineligible for listing on the NRHP (SHPO 2017-1460).

Historic Document Review

Review of historic maps and aerials confirms the historic research. The Project area is shown on GLO plat maps from 1889, 1914, 1917, and 1929 (BLM 2024). Maps from 1889 to 1917 show no development of roads or habitation. The Papago Indian Reservation is shown approximately 4.25 miles south of the Project area. The Green River Wash runs through the entire study area from the southeast to the northwest. On the 1924 topographic map, the Green River Reservoir has been created from the Green River Wash. The levee of the reservoir runs parallel to the Project APE along its southern edge. By 1956, Interstate 8 is shown approximately 0.2 miles south of the Project APE, with a two-lane extension shown on the 1965 topographic map (USGS 2024). Aerial and topographic maps from 1961 and 1963 show the Project area divided into agricultural parcels for orchards and field crops. However, by 1983 aerials show that most agriculture within the Project area has been abandoned (NETROnline 2024).

5.0 MANAGEMENT RECOMMENDATIONS

The Class I cultural inventory identified four cultural resources within the 1-mile buffer of the Project area. Two of these intersect the Project footprint. AZ AA:1:129(ASM), historic-era Midway Road, and AZ AA:1:251(ASM), a historic-era irrigation canal, have been determined ineligible for listing on the NRHP. Approximately 12 percent of the proposed Project footprint has been surveyed. We recommend that Pinal County Energy Center conduct a Class III survey of the remainder of the proposed Project footprint, where feasible, prior to construction.

6.0 REFERENCES

Abbott, David R. 2021. Conclusions for the GARP Ceramic Analysis. In *The Grewe Archaeological Research Project: Vol. 2 Material Culture, Part I: Ceramic Studies*, edited by D.R. Abbott, pp. 263-272. Anthropological Papers No.99-1 Northland Research, Inc., Flagstaff and Tempe, Arizona.

Ballenger, Jesse A.M., Vance T. Holliday, Andrew K. Howler, William T. Reitze, Mary M. Prasciunas, Shane Miller, Jason D. Windingstad. 2011. Evidence for Younger Dryas global climate oscillation and human response in the American Southwest. *Quaternary International* 242 502-519.

Bayham, Frank E, Donald H. Morris, M. Steven Shackley. 1986 *Prehistoric Hunter-Gatherers of South Central Arizona: The Picacho Reservoir Archaic Project.* Anthropological Field Series No. 13. Office of Cultural Resource Management, Department of Anthropology, Arizona State University, Tempe

Bolton, Herbert E. 1936 *Rim of Christendom: A Biography of Eusebio Francisco Kino, Pacific Coast Pioneer.* Macmillan, New York.

Bureau of Land Management (BLM) 2024. *General Land Office Records: Survey Plats and Field Notes.* Accessed at: https://glorecords.blm.gov.

Cable, John S. and David E. Doyel. 1987. Pioneer Period Village Structure and Settlement Pattern in the Phoenix Basin. In *The Hohokam Village: Site Structure and Organization*, edited by D.E. Doyel, pp. 21 70. American Association for the Advancement of Science, Glenwood Springs, Colorado.

Casa Grande Chamber of Commerce. 2015. *Casa Grande History.* Accessed at: http://www.casagrandechamber.org/area_information/cghistory.htm.

Clark, Caven. 2000. *Archaeological Investigations at AZ V:13:201, Town of Kearny, Pinal County, Arizona.* Cultural Resources Report No. 114. Archaeological Consulting Services, Ltd., Tempe Arizona.

Craig, Douglas B. (editor). 2001. *The Grewe Archaeological Research Project, Vol. 1: Project Background and Feature Descriptions.* Anthropological Papers No. 99-1. Northland Research, Inc., Tempe, Arizona.

Doelle, William H., David A. Gregory, and Henry D. Wallace. 1995. Classic Period Platform Mound Systems in Southern Arizona. In *The Roosevelt Community Development Study: New Perspectives on Tonto Basin* Prehistory, edited by M. D. Elson, M. T. Stark and D. A. Gregory, pp. 385-440. Anthropological Papers No. 15. Center for Desert Archaeology, Tucson.

Doyel, David. E. 1991. Hohokam Cultural Evolution in the Phoenix Basin. In *Exploring the Hohokam: Prehistoric Desert Peoples of the American Southwest*, edited by G.J. Gumerman, pp. 231 278. University of New Mexico Press, Albuquerque, New Mexico.

Elson, Mark D. 1998. *Expanding the View of Hohokam Platform Mounds: An Ethnographic Perspective.* Anthropological Papers No. 63. University of Arizona Press, Tucson.

Fish, Paul R. 1967. Gila Dunes: A Chiricahua Stage Cochise Site near Florence, Arizona. Ms on file, Department of Anthropology, Arizona State University, Tempe.

Fish, *Suzanne* K., and Paul R. Fish. 1992. The Marana Community in Comparative Context. In *The Marana Community in the Hohokam World,* edited by S. K. Fish, P. R. Fish, and J. H. Madsen, pp. 97-106. Anthropological Papers No. 56. University of Arizona Press, Tucson.

Fish, Suzanne K., Paul R. Fish, and John H. Madsen. 1992. Early Sedentism and Agriculture in the Northern Tucson Basin. In *The Marana Community in the Hohokam World,* edited by S. K. Fish, P. R.

Fish, and J. H. Madsen, pp. 11-19. Anthropological Papers No. 56. University of Arizona Press, Tucson.

Francisco Grande. 2013. *History.* Accessed at: http://www.franciscogrande.com/history.asp.

Gasser, Robert E. 1990. Addressing the Project's Research Objectives: The Prehistory and History of Ak-Chin. In *Archaeology of the Ak-Chin Indian Community, West Side Farms Project,* Vol *5,* compiled by R. E. Gasser, C. K. Robinson and C. D. Breternitz, pp. 24.1-24.24. Publications in Archaeology No. 9. Soil Systems, Inc., Phoenix.

Gregory, David A. 1987. The Morphology of Platform Mounds and the Structure of Classic Period Hohokam Sites. In *The Hohokam Village: Site Structure and Organization,* edited by D. E. Doyel, pp. 183-210. Southwestern and Rocky Mountain Division, American Association for the Advancement of Science, Glenwood Springs, Colorado.

Gregory David A., and Gary A. Huckleberry. 1994. *An Archaeological Survey in the Blackwater Area: Vol I. The History of Human Settlement in the Blackwater Area.* Cultural Resources Report No. 86. Archaeological Consulting Services, Ltd., Tempe Arizona

Gregory David A., and Fred L. Nials. 1985. Observations Concerning the Distribution of Classic Period Hohokam Platform Mounds. In *Proceedings of the 1983 Hohokam Symposium,* part I, edited by A. E. Dittert, Jr., and D. E. Dove, pp. 373-388. Occasional Papers No. 2. Archaeological Society, Phoenix.

Guerrero, Vladimir. 2006. *The Anza Trail and the Settling of California*. Heyday Press, Berkeley, California.

Halbirt, Carl D., and T. Kathleen Henderson (editors).1993. *Archaic Occupation on the Santa Cruz Flats: The Tator Hills Archaeological Project.* Northland Research Inc., Arizona.

Haury, Emil W. 1976. *The Hohokam: Desert Farmers & Craftsmen. Excavations at Snaketown, 1964-1965.* University of Arizona Press, Tucson.

Haynes, C. Vance Jr. 2011. Distribution of Clovis Points in Arizona and the Clovis Exploration of the State. *Kiva* 76(3):343-367.

Henderson, T. Kathleen. 1987. *Structure and Organization at La Ciudad.* Anthropological Field Studies No. 18. Office of Cultural Resource Management, Department of Anthropology, Arizona State University, Tempe.

Henderson, T. Kathleen. 1995. *The Prehistoric Archaeology of Heritage Square.* Anthropological Papers No. 3. Pueblo Grande Museum, City of Phoenix Parks, Recreation and Library Department, Phoenix.

Henderson, T. Kathleen, and Tiffany C. Clark. 2004. Changing Perspectives: Considerations of Past Agricultural Use of the Salt River Floodplain. In *Hohokam Farming on the Salt River Floodplain: Refining Models and Analytical Methods,* edited by T. K. Henderson, pp. 167-186. Anthropological Papers No. 43. Center for Desert Archaeology, Tucson and Anthropological Papers No. 10. Pueblo Grande Museum, City of Phoenix Parks, Recreation and Library Department, Phoenix.

Hill, J. Grett, Jeffery J. Clark, William H. Doelle and Patrick D. Lyons 2004. Prehistoric Demography in the Southwest: Migration Coalescence, and Hohokam Population Decline. American Antiquity 69(4):689-716.

Howard, Ann V. 1991. System Reconstruction: The Evolution of an Irrigation System. In *The Operation and Evolution of an Irrigation System: The East Papago Canal Study,* by J. B. Howard and G. Huckleberry, pp. 5.1-5.33. Publications in Archaeology No. 18. Soil Systems, Inc., Phoenix.

Janus Associates, Inc. (Janus). 1989. *Transcontinental Railroading in Arizona, 1878-1940: A Context for Preserving Railroad Related Properties.* Arizona State Historic Preservation Office, Phoenix, Arizona.

Leong, Karen. 2019. "Gila River", *Densho Encyclopedia.* Accessed at: http://encyclopedia.densho.org/Gila_River/.

Lindeman, Michael W., T. Kathleen Henderson, and Tiffany Clark.2009. Data Recovery Plan for Archaeological Sites on Private Lands along the SRP Pinal West to Dinosaur Extra-high Voltage Transmission Line, Pinal County, Arizona. Desert Archaeology, Inc., *doc 2009-06*.

Loendorf, Chris and Barnaby Lewis. 2011. Continuity and Change from the Prehistoric to Historic Periods along the Middle Gila River in Southern Arizona. Paper presented at the Society of American Archaeology Annal Meeting, Sacramento, California.

Loendorf, Chris and G.E. Rice. 2004. *Projectile Point Typology, Gila River Indian Community, Arizona.* Gila River Indian Community Anthropological Research Paper No. 2. Cultural Resource Management Program, Gila River Indian Community, Sacaton, Arizona.

Mabry, Jonathan B. 1998. Chronology. In *Las Capas: Early Irrigation and Sedentism in a Southwestern Floodplain,* edited by J. B. Mabry, pp. 55-76. Anthropological Papers No. 28. Center for Desert Archaeology, Tucson.

Marshall, John T. and Douglas B. Craig. 2010. Phase II Archaeological Data Recovery within the prehistoric Horvath site (AZ U;14:115[ASM]) located northeast of the intersection of State Route 87 and Arizona Boulevard, Pinal County, Arizona. Report No. 94-24. Northland Research, Inc., Tucson.

Museum of Casa Grande. 2024. *Beginnings.* Accessed at: https://www.tmocg.org/collections/beginnings1.

Myrick, David F. 1980. *Railroads of Arizona, Vol. II: Phoenix and the Central Roads.* Howell-North, San Diego, California.

NETROnline. 2024. *Historic Aerials.* Accessed at: https://www.historicaerials.com/viewer.

Orsi, Richard J. 2005. *Sunset Limited: The Southern Pacific Railroad and the Development of the American West, 1850-1930.* University of California Press, Berkeley, California.

Sheridan, Thomas E. 2008. *Landscape of Fraud: Mission Tumacacori, The Baca Float and the Betrayal of the O'odam.* University of Arizona Press, Tucson.

Sides, Hampton. 2006. *Blood and Thunder: The Epic Story of Kit Carson and the Conquest of the American West.* Anchor Books, New York, New York.

Steely, James W., and Dennis Gilpin. 2004. *Lifeline to the Desert: Water Utilization and Technology in Arizona's Historic Era, 1540-1960.* SWCA Environmental Consultants for Arizona State Historic Preservation Office and USDI Bureau of Reclamation.

Tohono O'odham Nation. 2016. *Tohono O'odham History.* Accessed at: http://www.tonation-nsn.gov/tohono-oodham-history/.

United States Geological Survey (USGS). 2024. *USGS Historical Topographic Map Explorer*. Accessed at: https://livingatlas.arcgis.com/topoexplorer/index.html.

Spicer, Edward H. 1962. *Cycles of Conquest: The Impact of Spain, Mexico and the United States on the Indians of the Southwest, 1533-1960*. University of Arizona Press, Tucson.

Thiel, J. Homer and Michael Diehl. 2006. Cultural History of the Tucson Basin and the Project Area. In *Rio Nuevo Archaeology, 2000-2003: Investigations at the San Agustín Mission and Mission Gardens, Tucson Presidio, Tucson Pressed Brick Company and Clearwater Site,* edited by J. H. Thiel and J. B. Mabry, pp. 3.1-3.12, Technical Report No. 2004-11. Desert Archaeology, Inc.

Walace, Henry D., and Michael W. Lindeman. 2012. Hohokam Village in the Phoenix and Tucson Basins. In *The Foundations of Southwest Communities: Variation and Change in Pithouse Villages between A.D. 200-900,* edited by L. C. Young and S. A. Herr. University of Arizona Press, Tucson.

Wallace, Henry D., James M. Heidke, and William H Doelle. 1995. Hohokam Origins. *Kiva* 60:575-618.

Wells, E. Christian. 2006. *From Hohokam to O'odham: The Protohistoric Occupation of the Middle Gila River Valley, Central Arizona.* Gila River Indian Community Anthropological Research Paper No. 3. Gila River Indian Community Resources Management Program, Sacaton, Arizona.

Wilcox, David R. 1991. Hohokam Social Complexity. In *Chaco & Hohokam: Prehistoric Regional Systems in the American Southwest*, edited by P. L. Crown and W. J. Judge, pp. 253-276. School of American Research Press, Santa Fe.

Wilcox, David R., Thomas R. McGuire, and Charles Sternberg. 1981. *Snaketown Revisited.* Archaeological Series No. 155. Arizona State Museum, University of Arizona, Tucson.

Wilcox, David R. and Charles Sternberg. 1983. *Hohokam Ballcourts and Their Interpretation.* Archaeological Series No. 160. Arizona State Museum, University of Arizona, Tucson.

Woodson, Kyle. 2010. Re-Drawing the Map of the Hohokam Canals in the Middle Gila River Valley. *Journal of Arizona Archaeology* 1(1):1-59.

Appendix — Figures

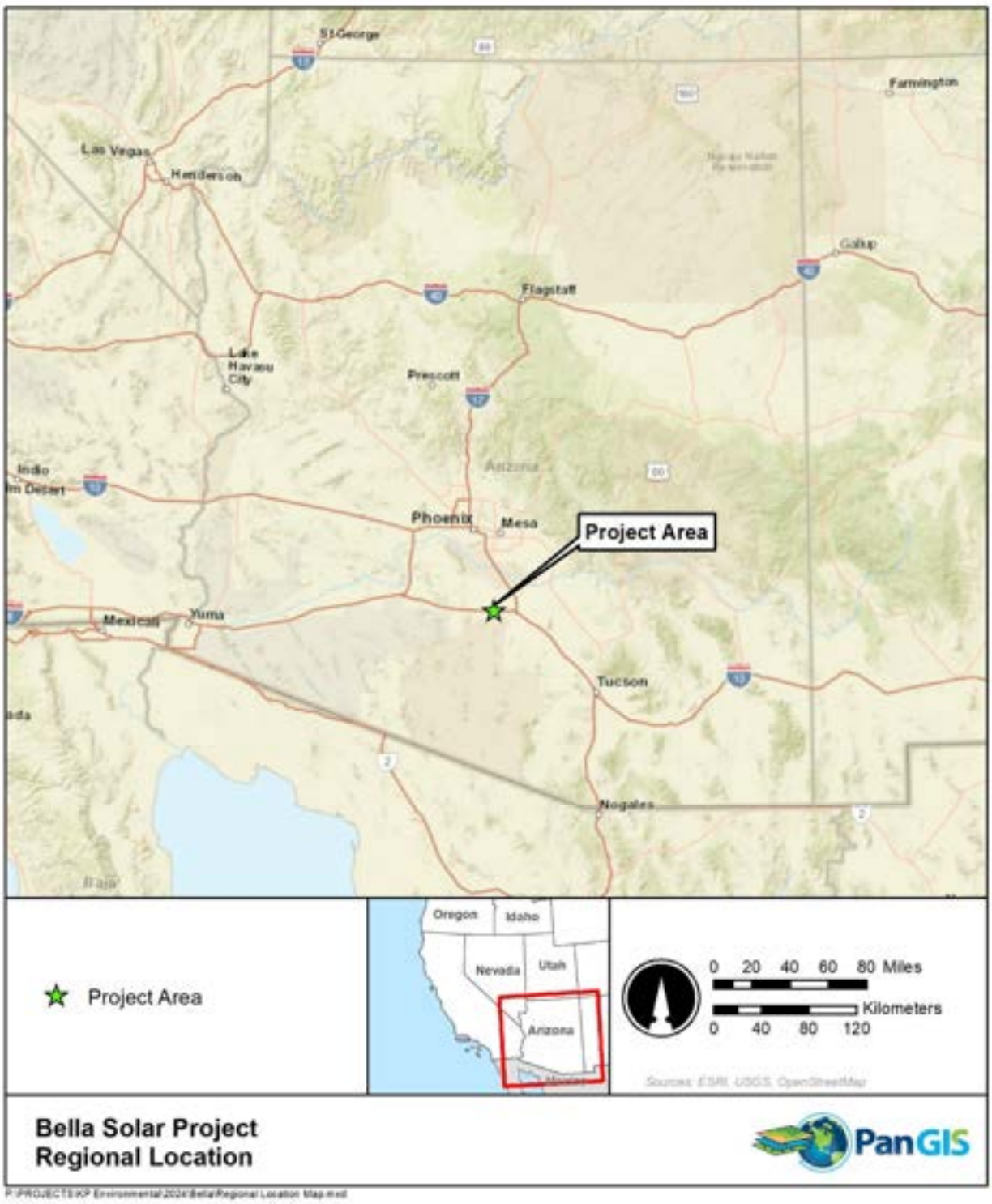


Figure 1. Regional Location

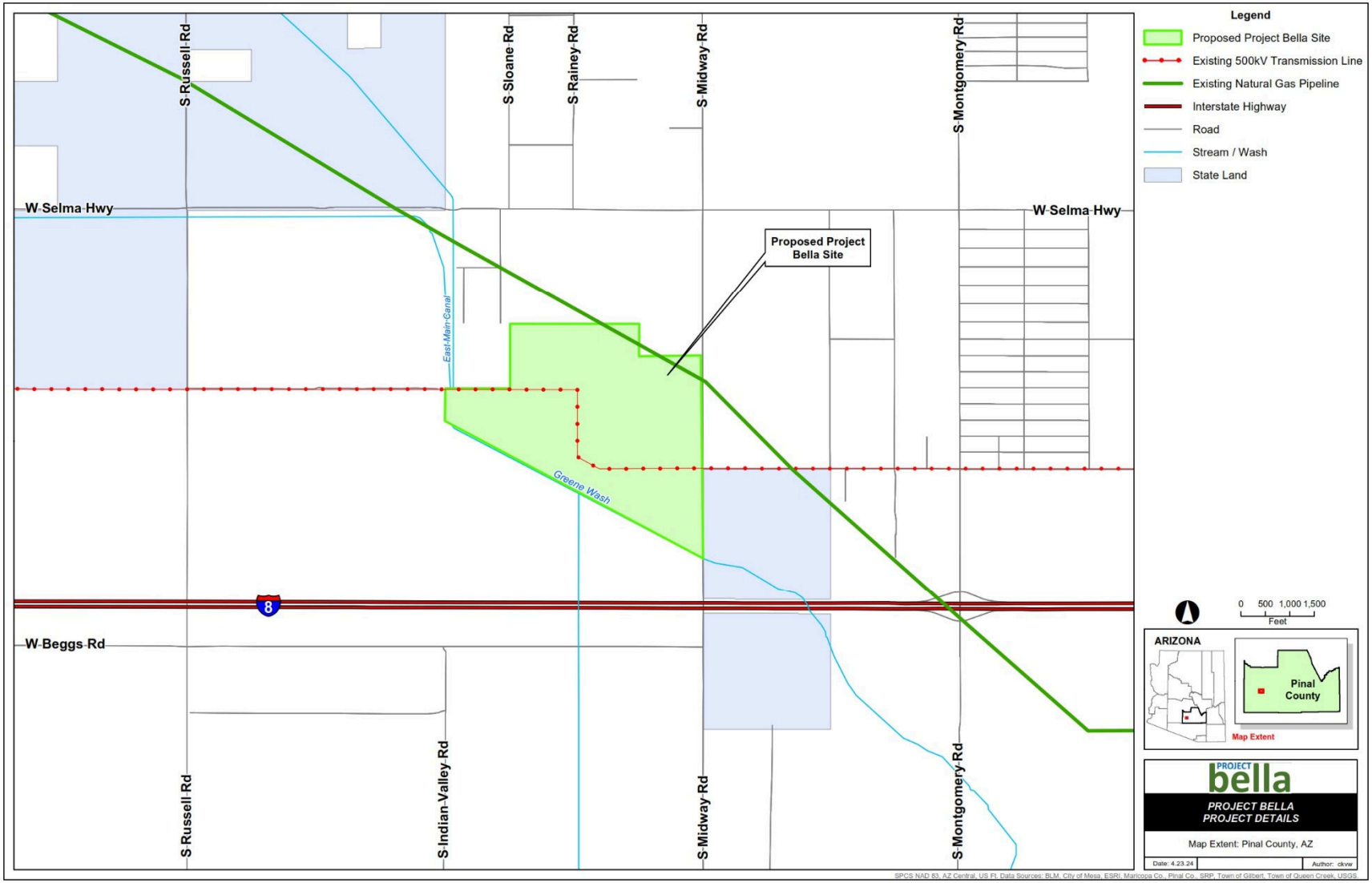


Figure 2. Project Location

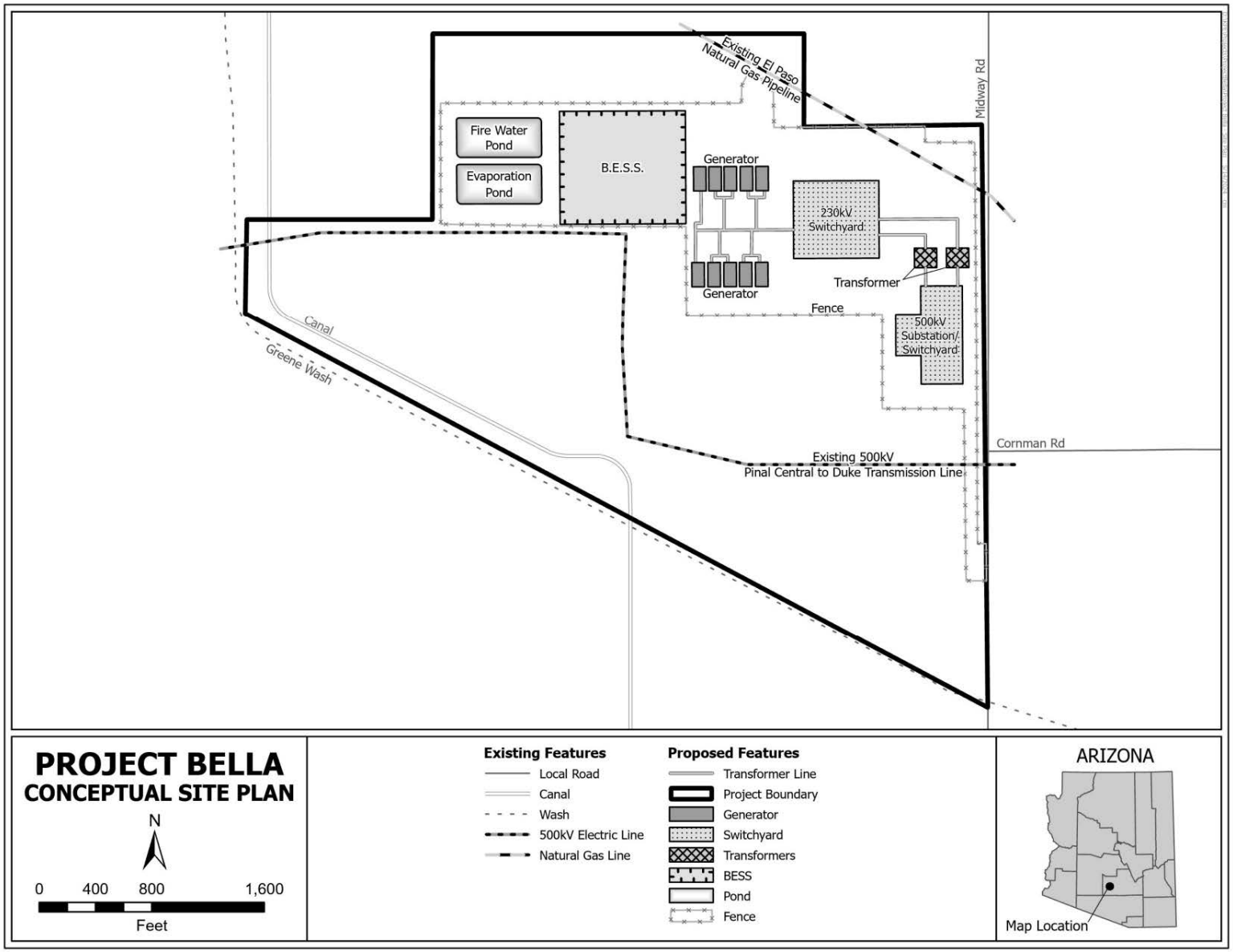


Figure 3. Site Plan

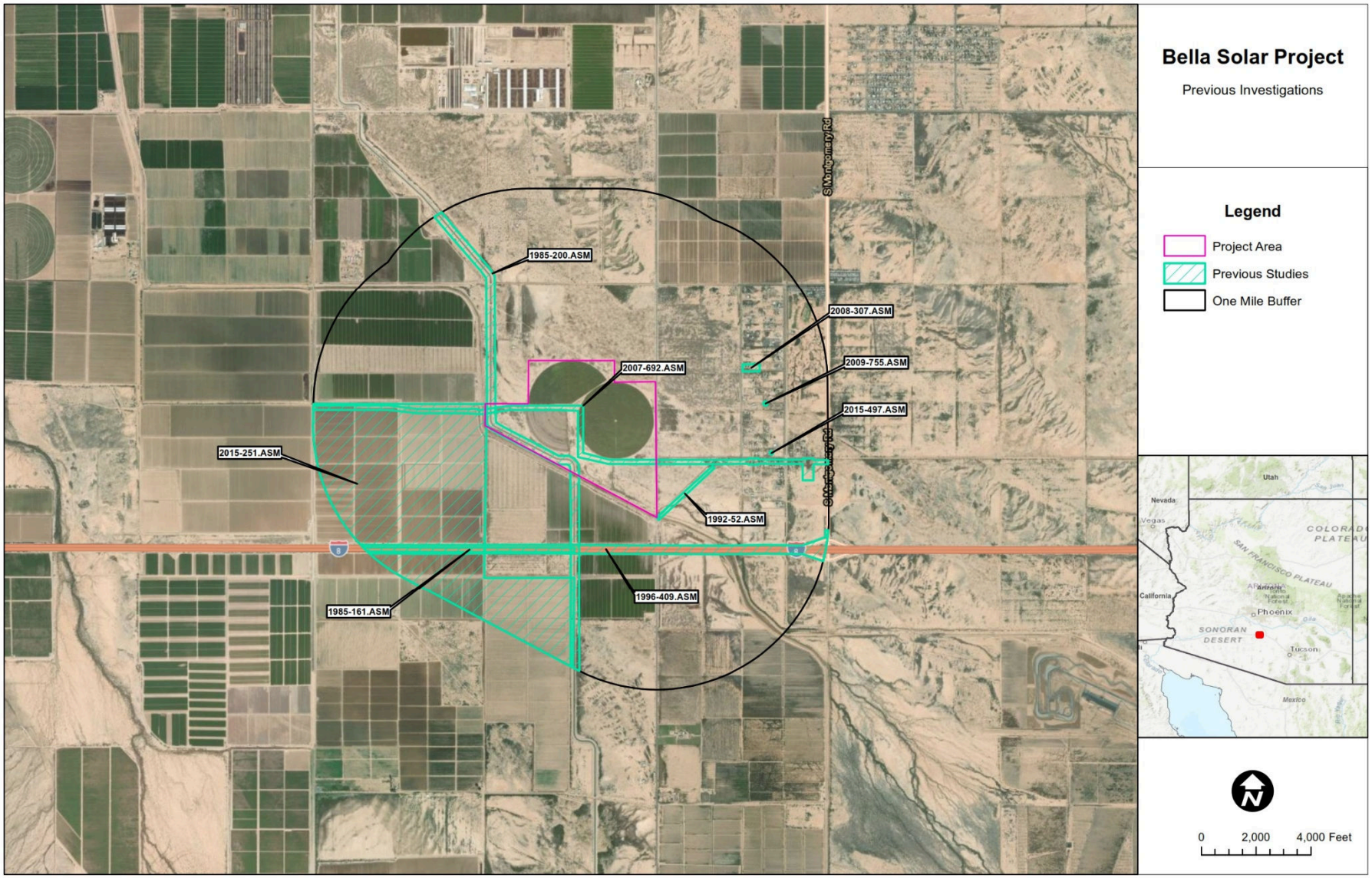


Figure 4. Previous Investigations

EXHIBIT E-2
TRIBAL CORRESPONDENCE

From:	Steve Morgan
To:	RMiguel@ak-chin.nsn.us
Subject:	RE: Project Bella Thermal Generation and Energy Storage Project - Cultural Resources
Date:	Wednesday, June 5, 2024 12:43:00 PM
Attachments:	image002.png

Hello,

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I**

Cultural Resources Report. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Thanks,

Steve Morgan, Project Manager
280 Melba Road
Encinitas, CA 92024
603.557.8974
smorgan@kpenvironmental.com
www.kpenvironmental.net

From:	Steve Morgan
To:	larry.benalliejr@gric.nsn.us; barnaby.lewis@gric.nsn.us
Subject:	Project Bella Thermal Generation and Energy Storage Project - Cultural Resources
Date:	Wednesday, June 5, 2024 12:45:00 PM
Attachments:	image002.png ProjectBella_Class_I_Report_DRAFT_AB.pdf CONF APPX_AB.pdf

Hello,

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Thanks,

Steve Morgan, Project Manager
280 Melba Road
Encinitas, CA 92024
603.557.8974
smorgan@kpenvironmental.com
www.kpenvironmental.net

From:	Steve Morgan
To:	kdongoske@gmail.com
Subject:	RE: Project Bella Thermal Generation and Energy Storage Project - Cultural Resources
Date:	Wednesday, June 5, 2024 12:44:00 PM
Attachments:	image002.png ProjectBella_Class_I_Report_DRAFT_AB.pdf CONF APPX_AB.pdf

Hello,

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Thanks,

Steve Morgan, Project Manager
280 Melba Road
Encinitas, CA 92024
603.557.8974
smorgan@kpenvironmental.com
www.kpenvironmental.net

From:	Steve Morgan
To:	shane.anton@srpmic-nsn.gov; angela.garcia-lewis@srpmic-nsn.gov; martha.martinez@srpmic-nsn.gov; sunday.eiselt@srpmic-nsn.gov
Subject:	Project Bella Thermal Generation and Energy Storage Project - Cultural Resources
Date:	Wednesday, June 5, 2024 12:48:00 PM
Attachments:	image002.png ProjectBella_Class_I_Report_DRAFT_AB.pdf CONF APPX_AB.pdf

Hello,

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Thanks,

Steve Morgan, Project Manager
280 Melba Road
Encinitas, CA 92024
603.557.8974
smorgan@kpenvironmental.com
www.kpenvironmental.net

June 5, 2024

Stephen Roe Lewis, Governor
P.O. Box 97
Sacaton, AZ 85147

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Gila River Indian Community
Tribal Historic Preservation Office
P.O. Box 2193
Sacaton, AZ 85147

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Timothy L. Nuvangyaoma, Chairman
P. O. Box 123
Kykotsmovi, AZ 86039

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Stewart Koyiyumptewa
Tribal Historic Preservation Officer
Hopi Tribe Cultural Preservation Office
P.O. Box 123

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Thora Walsh Padilla
President
Mescalero Apache Tribe
P.O. Box 227
Mescalero, NM 88340

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

June 5, 2024

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Ms. Holly Houghten
Tribal Historic Preservation Officer
Mescalero Apache Tribe
P.O. Box 227
Mescalero, NM 88340

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

June 5, 2024

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Mr. Peter Yucupicio
Chairman
Pascua Yaqui Tribe
7474 S. Camino de Oeste
Tucson, AZ 85746

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

June 5, 2024

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Dr. Karl A. Hoerig
Tribal Historic Preservation Officer
Pascua Yaqui Tribe
5100 W. Calle Tetakusim, Room 130
Tucson, AZ 85757

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

June 5, 2024

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Mr. Arden Kucate
Governor
Pueblo of Zuni
P. O. Box 339
Zuni, NM 87327

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

June 5, 2024

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

President Martin Harvier
10005 E Osborn Road
Scottsdale, AZ 85256

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Cultural Resources Department
Cultural Preservation Program
10005 E Osborn Road
Scottsdale, AZ, 85256

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Mr. Peter Steere and Mr. Jefford Francisco
Tribal Historic Preservation Office
Tohono O'odham Nation
Cultural Affairs Office
P. O. Box 837
Sells, AZ 85634

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Dear Messrs. Steere and Francisco,

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White

Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Chairman Kasey Velasquez
White Mountain Apache Tribe
P.O. Box 700
Whiteriver, AZ 85941

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Mr. Mark Altaha
Tribal Historic Preservation Officer
White Mountain Apache Tribe
Historic Preservation Office, P.O. Box 1032
Fort Apache, AZ 85926

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

June 5, 2024

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

June 5, 2024

Mr. Chris Coder
Yavapai-Apache Nation
2400 W. Datsi St.
Camp Verde, AZ 86322

RE: Project Bella Thermal Generation and Energy Storage Project Cultural Resources

Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona (see **Figure 1**). The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

FIGURE 1. PROJECT LOCATION

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Consulting parties for this Project are the Arizona State Historic Preservation Officer, the Pueblo of Zuni, Gila River Indian Community, Tohono O'odham Nation, Yavapai Apache Nation, White Mountain Apache Tribe, Pascua Yaqui Tribe, Hopi Tribe, Mescalero Apache Tribe, Ak-Chin Indian Community, and the Salt River Pima-Maricopa Indian Community.

Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The Class I inventory

search covers the entirety of the Proposed Project area, as shown in **Attachment 1: Previous Class I Inventory Areas**.

The results of the Class I inventory search can be found in **Attachment 2: Project Bella – Class I Cultural Resources Report**. Five previously recorded cultural sites have been identified within one mile of the Project Area of Potential Effect (APE) (see **Table 1**, below). Two of those sites were identified within the disturbance footprint of the Project (AZ AA:1:129 and AZ AA:1:251). Overlay maps showing the Project components and the Class I inventory search results can be found in **Attachment 3: Overlay of Project Components on Class I Inventory Results**. Additional documentation can be provided at your request. All cultural resource locational information, including maps, will be redacted from any copies of the document available to the general public.

Table 1: Summary of Previously Recorded Sites in or Within 1 Mile of the Proposed Project Bella APE

Site/Property Number	Property Type	Eligibility	References
AZ AA:1:90(ASM)	Historic trash scatter	Recommended ineligible	Stone 1992
AZ AA:1:129(ASM)	Historic road (Midway Road)	Determined ineligible (SHPO 2009-1226)	Tucker 2001
AZ AA:1:134(ASM)	Historic road (Montgomery Road)	Determined ineligible (SHPO 2009-1226)	Vaughn 2009
AZ AA:1:159(ASM)	Historic canal (Montgomery Road Irrigation Canal)	Recommended ineligible	Rago 2011
AZ AA:1:251(ASM)	Historic irrigation canal	Determined ineligible (SHPO 2017-1460)	Ferland 2017

We are inquiring whether you have any concerns regarding cultural resources as well as any sites of traditional, religious, cultural, or historical importance to your community within the Project vicinity. Pinal County Energy Center will be filing the CEC Application in late June and hearings with the Arizona Power Plant and Transmission Line Siting Committee will start August 12, 2024. We would greatly appreciate your comments prior to our hearing date. Your correspondence will be included as part of the Project record that is filed with the ACC. If you have any further questions or would like to discuss this document, please do not hesitate to contact me. Please provide comments by mail or email at the information listed below.

Sincerely,

Steve Morgan
Project Manager, KP Environmental Inc.
280 Melba Rd
Encinitas, CA 92024
smorgan@kpenvironmental.com

Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Steve Morgan
Project Manager
280 Melba Road
Encinitas, CA 92024

DATE: 6/13/2024

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Project Bella Thermal Generation and Energy Storage Project

Dear Manager Morgan

The Salt River Pima-Maricopa Indian Community Tribal Historic Preservation Office (SRPMIC THPO) has received your consultation documents dated June 5, 2024. Pinal County Energy Center, LLC (a subsidiary of Seguro Energy Partners, LLC) is developing the proposed Project Bella (Project) which includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage on approximately 350 acres in Pinal County, Arizona. The facilities will utilize a shared transmission interconnection to the existing 500 kilovolt (kV) Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

The Arizona Corporation Committee (ACC) requires that the Project obtain a Certificate of Environmental Compatibility (CEC) as a new energy generation facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Pinal County Energy Center retained KP Environmental, Inc. (KPE) as the environmental consultant to summarize previously conducted cultural resource surveys within the Project area. The results of this inventory are documented in the report titled, *Project Bella Thermal Generation and Energy Storage Project: Class I Cultural Resources Report, Pinal County, Arizona* (Mengers and Eckhardt 2024). The Class I inventory search covers the entirety of the Proposed Project area.

Five previously recorded cultural sites were identified within one mile of the Project Area of Potential Effect (APE). Two cultural resources were identified within the disturbance footprint of the Project. AZ AA:1:129(ASM) (Midway Road) and AZ AA:1:251(ASM) (historic-era irrigation canal) have been determined ineligible for listing on the National Register of Historic Places (NRHP).

The Class I inventory indicates that approximately 12 percent of the Project route has been surveyed. A total of four surveys have been conducted within the APE to date. Three of the surveys were conducted more than 10 years ago. The Arizona State Historic Preservation Office (SHPO) guidance for relying on old archaeological survey data recommends new survey for all projects that were conducted more than 10 years ago, owing to updates in professional standards and reporting requirements for archaeology (https://azstateparks.com/shpo-guidance-points).

KPE recommends that Pinal County Energy Center, LLC, conduct a Class III survey of the proposed facilities and transmission line, where feasible, prior to construction. The SRPMIC THPO agrees with this recommendation, to include previously surveyed areas that were surveyed more than ten years ago, but defers to the Gila River Indian Community THPO as lead in the consultation process.

The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; *Ak-Chin* Indian Community and the *Tohono O'Odham* Nation). The SRPMIC THPO will continue to participate in this undertaking. Thank you for consulting with the SRPMIC THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Sincerely,

Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd., Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

GILA RIVER INDIAN COMMUNITY
POST OFFICE BOX 2193, SACATON, AZ 85147

TRIBAL HISTORIC PRESERVATION OFFICE (520) 562-7162

June 20, 2024

Steve Morgan
Project Manager
KP Environmental Inc.
280 Melba Road
Encinitas, California 92024

RE: Project Bella Thermal Generation and Energy Storage Project, Class I Cultural Resources Report, Pinal County, Arizona

Dear Manager Morgan,

The Gila River Indian Community Tribal Historic Preservation Office (GRIC-THPO) has received your consultation documents via electronic mail on June 5, 2024. The Pinal County Energy Center, LLC is developing the proposed Project Bella that includes 480 megawatts (MW) of thermal gas-fired generation and 440 MW of Battery Energy Storage. The transmission interconnect tie-in will be to the existing 500 kilovolt (KV) Duke-Pinal County transmission line. The project area is located on 350 acres of land between Stanfield and Casa Grande, Pinal County, Arizona.

The Arizona Corporation Committee (ACC) requires that Project Bella obtain a Certificate of Environmental Compatibility (CEC) as a new energy facility. Pinal County Energy Center anticipates filing the CEC in late June 2024. Pinal County Energy Center retained KP Environmental, Inc. as the environmental consultant to summarize previously conducted archaeological surveys within the project area. Report *Project Bella Thermal Generation and Energy Storage Project: Class I Cultural Resources Report, Pinal County, Arizona* for review and comment.

The Class I (Records Review) survey identified two historic properties located within the project area: 1) AZ AA:1:129(ASM) identified as the Midway Road. The road is not Register eligible; and 2) AZ AA:1:251(ASM) identified as a historic irrigation canal. The canal is not Register eligible. KP Environmental, Inc. recommends that the Pinal County Energy Center conduct a Class III archaeological survey of the proposed facilities and transmission line, prior to construction of the Project Bella project.

The GRIC-THPO agrees with recommendation to conduct Class III archaeological survey of the Project Bella project area. The GRIC-THPO will continue to participate in the consultation process for this undertaking. The project occurs within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; Ak-Chin Indian Community and the Tohono O'Odham Nation).

Thank you for consulting with the GRIC-THPO. If you have any questions please do not hesitate to contact our office at 520-562-7162.

Respectfully,

Reylynne Williams

Reylynne Williams
Interim Tribal Historic Preservation Officer
Gila River Indian Community

EXHIBIT F
RECREATIONAL PURPOSES AND ASPECTS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-Exhibit 1, the intent of this exhibit is to:

State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route.

Existing Conditions

Regional recreation information near the proposed Project Bella (Project) site and surrounding areas was gathered from Pinal County. Regionally, Pinal County has a diverse geography which offers a multitude of recreational opportunities. The terrain within the county ranges from the broad, sloping alluvial plain east of the Phoenix metropolitan area to rugged mountain formations within areas of the eastern portion of the county, like the Aravaipa Canyon Wilderness, and in the northern portion of the county within the Tonto National Forest. Within the large area encompassed by Pinal County, there also exists regional and local parks associated with various mountain ranges such as the Superstition Mountains, Tortilla Mountains, Gailuro Mountains, Pinal Mountains, Tortolita Mountains, Mescal Mountains, and the Dripping Springs Mountains.

Within one mile of the Project, the recreational activities include developed activities in residential areas and dispersed, undeveloped trails through private lands, as shown in **Figure F-1**, *Recreation*.

Specifically, one mile northeast of the Project, is Desert Springs Ranch, a 55+ RV Resort and Golf Community. The property includes a pool, hot tub, pickleball courts, open spaces designated for walking and hiking, and a golf course, that consists of an 18-hole putting course and executive nine-hole golf course.

Within the 1,000-foot buffer of the Project, Greene Wash is located along the southwest boundary of the Project, and state land is located to the west of the southern portion of the Project. Through the public process people have identified that Greene Wash and adjacent state land can be used for walking, biking, off-roading, and other activities.

Potential Effects

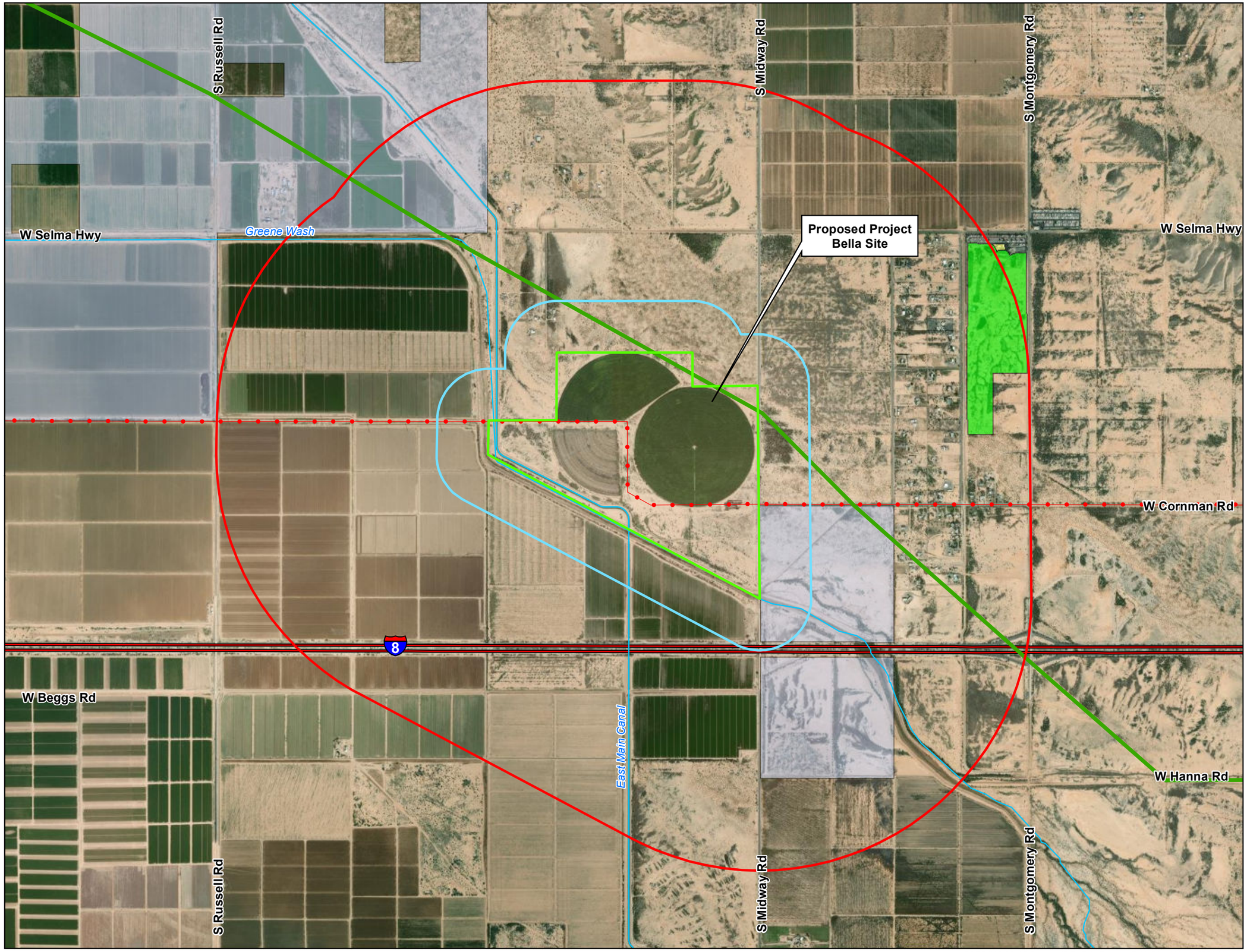
The Project will not be available for public recreation purposes, but it will not preclude recreational uses in the surrounding area. Desert Springs Ranch, Greene Wash, and state lands will not be impacted by the development of the Project.

The Applicant will work with Pinal County throughout the development of the Project to remain consistent with the County's Comprehensive Plan.

References

Desert Springs Ranch. 2024. Available at: https://www.desertspringsranch.com/. Accessed April 2024.

Pinal County. 2007. Open Space and Trails Master Plan. Available at: https://www.pinalcountyaz.gov/OpenSpaceTrails/Documents/FINAL%20Open%20Space%20and%20Tra ils%20Master%20Plan.pdf. Accessed November 2021.



Legend

Project Bella Components

- Proposed Project Bella Site
- 1,000-Foot Buffer of Project Site
- 1-Mile Buffer of Project Site

Other Components

- Existing 500kV Transmission Line
- Existing Natural Gas Pipeline
- Interstate Highway
- Stream / Wash

Recreation

- Recreational Facility
- Golf Course

Jurisdictional Land Ownership

- State Land

0 0.2 0.4
Miles

PROJECT bella

PROJECT BELLA
FIGURE F-1 RECREATION

Map Extent: Pinal County, AZ

Date: 5.15.24 | Author: ckvw

SPCS NAD 83, AZ Central, US Ft. Data Sources: BLM, City of Mesa, ESRI, Maricopa Co., Pinal Co., MAG, SRP, Town of Gilbert, Town of Queen Creek, USGS

EXHIBIT G
CONCEPTS OF TYPICAL FACILITIES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

Attach any artist's or architect's conception of the proposed plant or transmission line structures and switchyards, which applicant believes may be informative to the committee.

Exhibits G-1 through **G-3** demonstrate the site plan showing the proposed layout of Project components as well as the general arrangement for a typical General Electric LM-6000 thermal energy generating unit.

Exhibit G-1 – Conceptual Site Plan

Exhibit G-2 – Detailed Site Plan

Exhibit G-3 – General Arrangement of Typical LM-6000

Exhibit G-4 – Generator Site Section Views

EXHIBIT G-1
CONCEPTUAL SITE PLAN

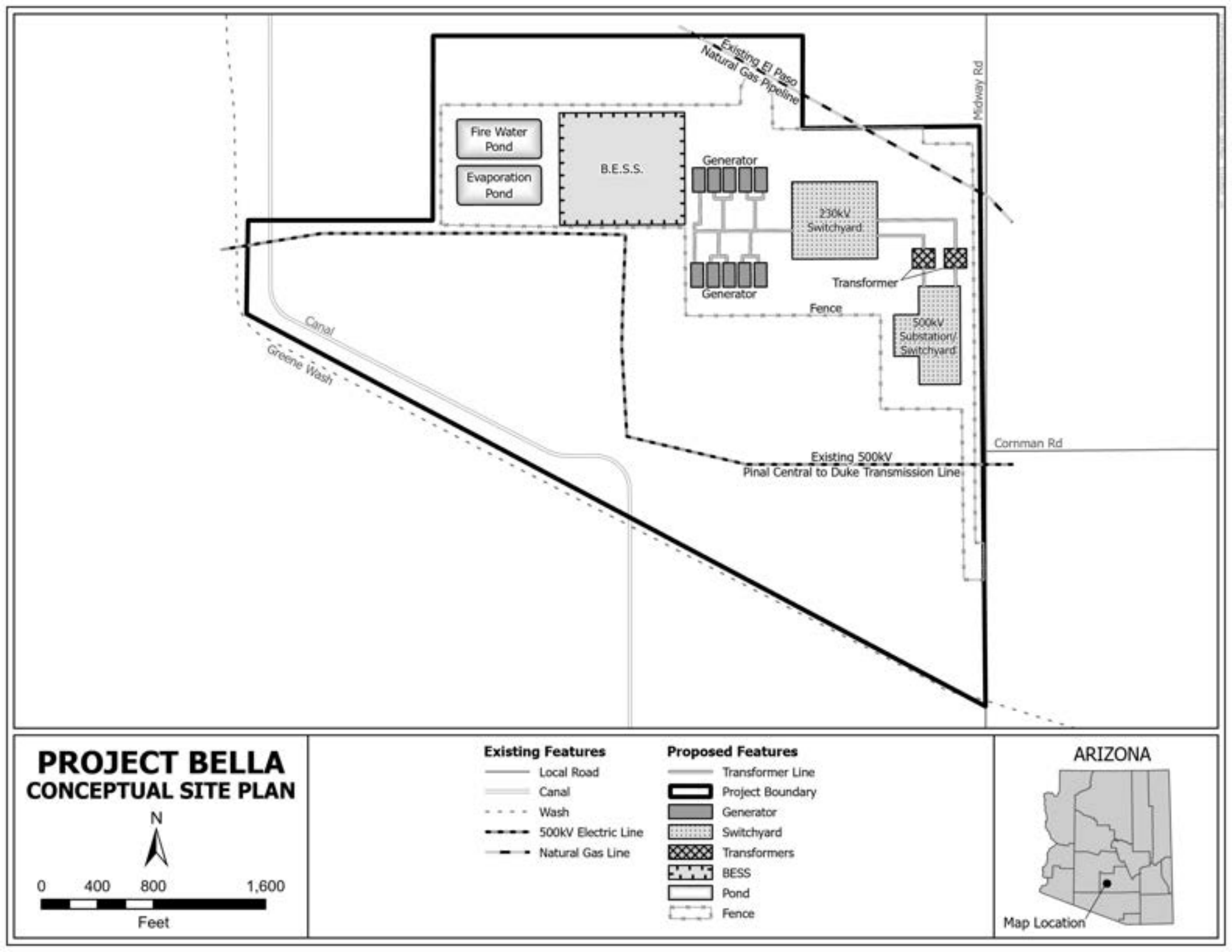
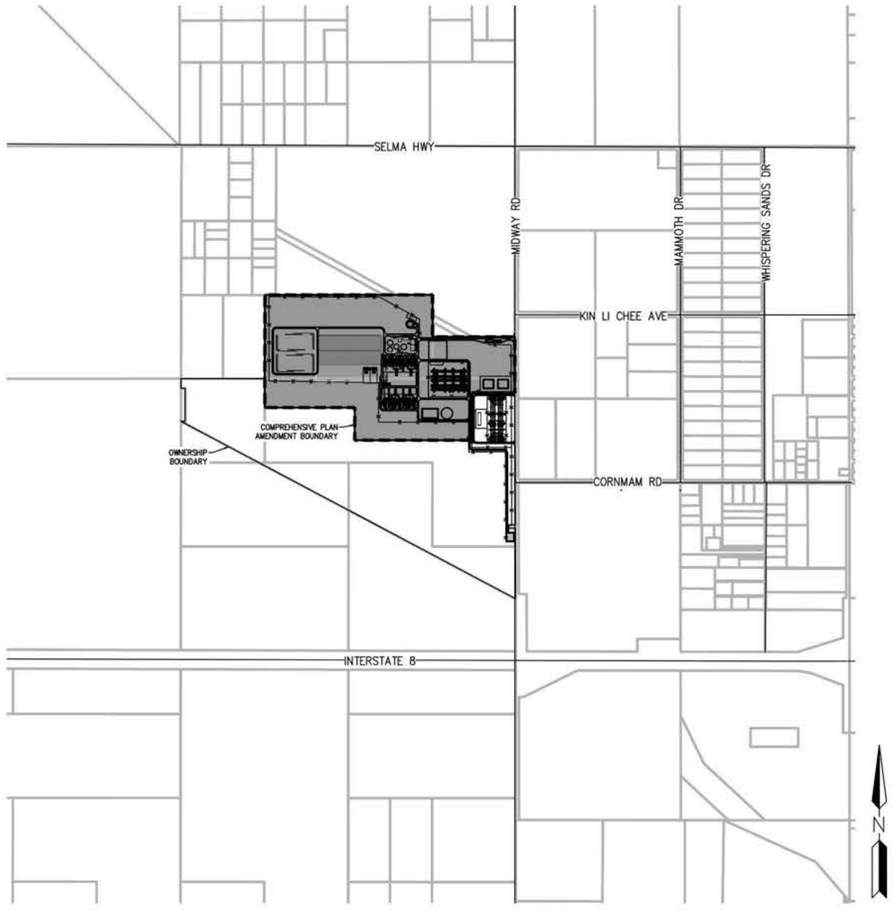

Existing El Paso Natural Gas Pipeline
Midway Rd
Fire Water Pond
Evaporation Pond
B.E.S.S.
Generator
230kV Switchyard
Transformer
Generator
Fence
500kV Substation/ Switchyard
Canal
Greene Wash
Comman Rd
Existing 500kV Pinal Central to Duke Transmission Line
PROJECT BELLA
CONCEPTUAL SITE PLAN
N
0
400
800
1,600
Feet
Existing Features
Local Road
Canal
Wash
500kV Electric Line
Natural Gas Line
Proposed Features
Transformer Line
Project Boundary
Generator
Switchyard
Transformers
BESS
Pond
Fence
ARIZONA
Map Location

EXHIBIT G-2
DETAILED SITE PLAN

LEGAL DESCRIPTION

CONCEPTUAL SITE PLAN
PROJECT BELLA
PINAL COUNTY, ARIZONA

A PORTION OF SECTIONS 1 AND 12, TOWNSHIP 7 SOUTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA



OVERALL DEVELOPMENT
NTS

FLOOD ZONE DESIGNATION

THE SUBJECT PROPERTY LIES WITHIN UNSHADED ZONE "X" WITH A DEFINITION OF: AREAS OUTSIDE THE 0.2-PERCENT-ANNUAL-CHANCE FLOODPLAIN. NO BFES OR DEPTHS ARE SHOWN IN THIS ZONE, AND INSURANCE PURCHASE IS NOT REQUIRED. DESIGNATION DETERMINED BY FEMA FLOOD ZONE MAP 04021C1525E, PANEL NUMBER 1525 OF 2575, EFFECTIVE DATE DECEMBER 4, 2007.

A PORTION OF THE SUBJECT PROPERTY LIES WITHIN ZONE "A" WITH A DEFINITION OF: 1-PERCENT-ANNUAL-CHANCE (BASE FLOOD) FLOODPLAINS THAT ARE DETERMINED FOR THE FLOOD INSURANCE STUDY (FIS) BY APPROXIMATE METHODS OF ANALYSIS. BECAUSE DETAILED HYDRAULIC ANALYSES ARE NOT PERFORMED FOR SUCH AREAS, NO BASE FLOOD ELEVATIONS (BFES) OR DEPTHS ARE SHOWN IN THIS ZONE. DESIGNATION DETERMINED BY FEMA FLOOD ZONE MAP 04021C1525E, PANEL NUMBER 1525 OF 2575, EFFECTIVE DATE DECEMBER 4, 2007.

INDEX OF DRAWINGS

CIVIL ENGINEER

HILGARTWILSON
2141 E. HIGHLAND AVE. SUITE #250
PHOENIX, ARIZONA, 85016
PHONE: (602) 490-0535
CONTACT: AUBREY THOMAS

OWNER/CLIENT

SEGURO ENERGY PARTNERS
9004 S 230TH AVENUE
BUCKEYE, ARIZONA 85326
CONTACT: MR. MARK D. THOMPSON

BASIS OF BEARING

BASIS OF BEARING IS N00°11'08"E ALONG THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 6, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA, BETWEEN THE MONUMENTS AS SHOWN HEREON.

BENCHMARK

SITE DATA

GROSS AREA: 6,927,515 SF
GROSS AREA: 159.032 AC

EXISTING COMPREHENSIVE PLAN DESIGNATION: GR

PROPOSED COMPREHENSIVE PLAN DESIGNATION: I-3 PAD

DEVELOPMENT DATA		
	SQUARE FOOTAGE	PERCENTAGE
LOT AREA	6,927,515 SF	
BUILDING AREA	28,920 SF	.4%
COVERAGE AREA	3,670,949 SF	53%

PARKING DATA		
	REQUIRED	PROVIDED
PARKING RATIO PER SQUARE FOOTAGE OF BUILDING	1/1,000 SF	
PARKING STALLS	29	29
HANDICAPPED-ACCESSIBLE STALLS	2	3

BUILDING DATA		
	DIMENSIONS	SQUARE FOOTAGE
R.O. BUILDING	80' X 50'	5,000 SF
WAREHOUSE AND SHOP BUILDING	100' X 50'	5,000 SF
CONTROL ROOM	70' X 77'	5,390 SF
PUMP BUILDING	102' X 70'	7,140 SF
SECURITY AND SITE SAFETY TRAINING BUILDING	24' X 60'	1,440 SF
NATURAL GAS TRANSFER STATION	110' X 45'	4,950 SF

STRUCTURE HEIGHTS	
	HEIGHTS (FT)
R.O. BUILDING	24 FT
WAREHOUSE AND SHOP BUILDING	24 FT
CONTROL ROOM	12 FT
PUMP BUILDING	24 FT
SECURITY AND SITE SAFETY TRAINING BUILDING	12 FT
DEMINALIZED WATER STORAGE TANK	34 FT
WELL RAW WATER STORAGE TANK	34 FT
CTG LM6000 POWER ISLAND STACK	65 FT
CHILLING SYSTEM TANK	52 FT

I-3 DEVELOPMENT STANDARDS	
	REQUIRED
MINIMUM LOT AREA	NONE
MINIMUM LOT WIDTH	NONE
MINIMUM FRONT SETBACK	20 FT
MINIMUM SIDE SETBACK RESIDENTIAL	25 FT
MINIMUM SIDE SETBACK OTHER DISTRICT	0 FT
MINIMUM REAR SETBACK	10 FT
MINIMUM REAR SETBACK ABUTTING PROPERTY ZONED RURAL OR RESIDENTIAL	25 FT
MAXIMUM HEIGHT	50 FT

INDUSTRY ABUTS PROPERTY ZONED RURAL OR RESIDENTIAL OR ARTERIAL OR COLLECTOR STREETS, SUCH INDUSTRIAL SHALL PROVIDE A SETBACK BUFFER OF NOT LESS THEN TEN PERCENT OF THE LOT DEPTH OR WIDTH ON THE SIDE OR SIDES ABUTTING SAID USE, BUT SUCH SETBACK BUFFER NEED NOT EXCEED 50FT. SUCH SETBACK SHALL BE IMPROVED WITH ONE OR MORE OF THE FOLLOWING:

A. LANDSCAPING.

B. PARKING LOT,WHEREIN A MINIMUM WIDTH OF TEN FEET ALONG THE LOT LINE CLOSEST TO THE RESIDENTIAL PROPERTY OR ARTERIAL OR COLLECTOR STREETS SHALL BE LANDSCAPED; AND A DECORATIVE SCREENING DEVICE OF OPAQUE FENCING, WALLS, LANDSCAPED EARTH BERMS OR ANY COMBINATION THEREOF SHALL BE INSTALLED BETWEEN THE LANDSCAPED AREA AND THE PARKING LOT, TO A MINIMUM HEIGHT OF THREE FEET.

C. RECREATIONAL SPACE FOR EMPLOYEES, WHEREIN A MINIMUM WIDTH OF TEN FEET ALONG THE LOT LINE CLOSEST TO THE RESIDENTIAL PROPERTY OR ARTERIAL OR COLLECTOR STREETS SHALL BE LANDSCAPED.

MANAGING ENGINEERING / SURVEYOR: HILGARTWILSON
PROJECT COORDINATOR: AUBREY THOMAS, P.E.
DESIGN LAYOUT: AT | DRAFTED: DM | CHECKED: AT
FIELD SURVEY: = | DRAFTED: - | CHECKED: -
DRAWING SCALE: NTS

PLAN TYPE: CONCEPTUAL SITE PLAN
COVER SHEET

ENGINEER INFORMATION

HILGARTWILSON
HAS JOINED COLLIERS ENGINEERING & DESIGN
2141 E. HIGHLAND AVE., STE. 250 | P: 602.490.0535 / F: 602.368.2436
PHOENIX, AZ 85016 www.hilgartwilson.com

PROJECT:
PROJECT BELLA
N.W.C. OF INTERSTATE 8 & MIDWAY ROAD
PINAL COUNTY, ARIZONA

COB PROJECT PLAN STICKER

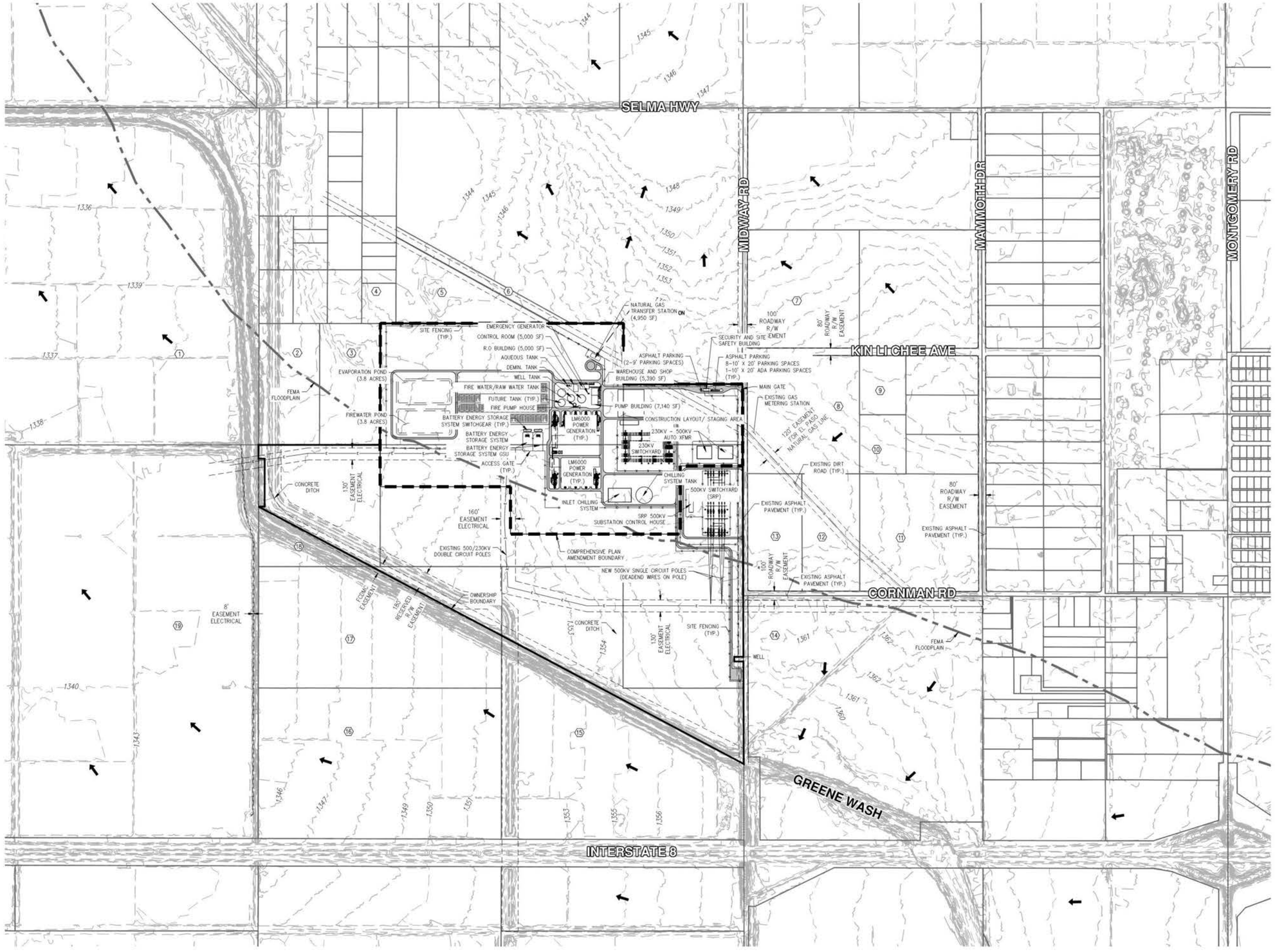
REVISIONS:

Call at least two full working days before you begin excavation.
ARIZONA 811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

ORIGINAL PLAN DATE	LATEST REVISION DATE
-	APRIL 2024
PROJECT NUMBER	SHEET NUMBER
2648	SHT. 1 OF 4

SUBMITTAL:

U:\2600\2648\ENGR\Plan\2648 - G01 - COVER.dwg 4/8/2024 2:36 PM



LEGEND

- COMPREHENSIVE PLAN AMENDMENT BOUNDARY
- OWNERSHIP BOUNDARY
- FEMA FLOODPLAIN
- ADJACENT PROPERTIES
- BARB WIRE FENCE
- EASEMENT LINE
- ELECTRICAL (E)
- NATURAL GAS (G)
- FLOW ARROW
- ADJACENT PROPERTY ID (X)
- RIGHT-OF-WAY R/W
- OVERHEAD WIRE OHW

ADJACENT PROPERTIES

NO.	APN NUMBER	OWNER
1.	500-13-0010	KZAZ LLC
2.	500-12-0050	PHAN LY T & VO NHIY
3.	500-12-0060	HICKS STANLEY J
4.	500-12-004H	CASARES ANTONIO
5.	500-12-001B	SELMA & MIDWAY LLC
6.	500-12-001A	EL PASO NATURAL GAS CO
7.	511-66-0060	ROYAL ESTATES AT MIDWAY LLC
8.	511-66-0080	ROYAL ESTATES AT MIDWAY LLC
9.	511-66-009B	TRIPLE R-5422 LLC
10.	511-66-009E	SHELBRACK RICHARD M REV FAM TRUST ETAL
11.	511-66-0110	ROYAL ESTATES AT MIDWAY LLC
12.	511-66-010A	ROYAL ESTATES AT MIDWAY LLC
13.	511-66-010B	ROYAL ESTATES AT MIDWAY LLC
14.	N/A	STATE TRUST LAND
15.	500-17-0030	CHRISTY FAMILY TRUST
16.	500-17-002A	CHRISTY FAMILY TRUST
17.	500-17-002B	CHRISTY FAMILY TRUST
18.	500-17-002C	CHRISTY FAMILY TRUST
19.	500-18-001A	JORDE HACIENDA INC

N

500 0 500 1000
SCALE FEET

Call at least two full working days before you begin excavation.
ARIZONA 811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

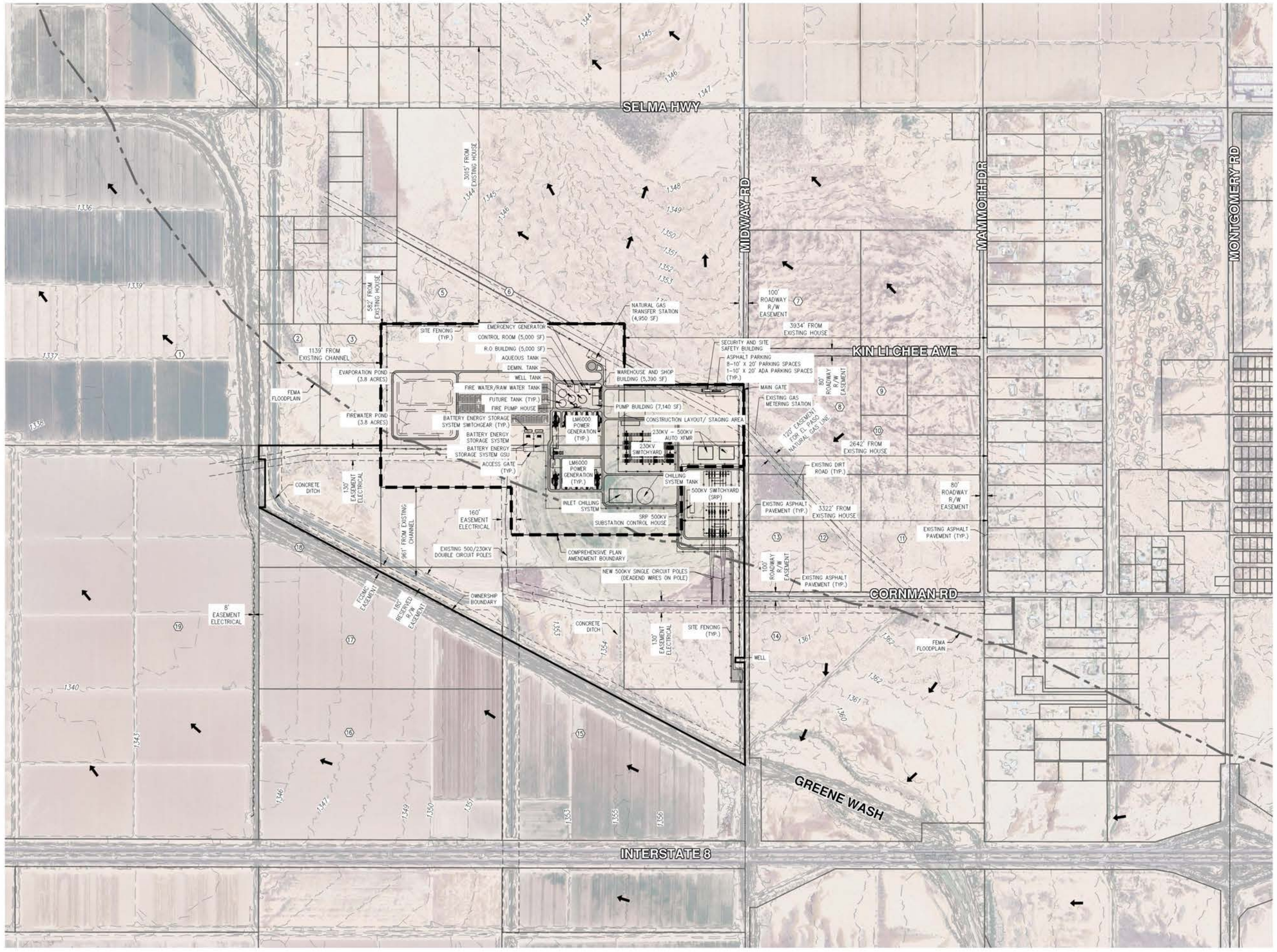
PLAN NAME
PROJECT BELLA
N.W.C. OF INTERSTATE 8 & MIDWAY ROAD
CONCEPTUAL SITE PLAN (NO AERIAL)

ENGINEER INFORMATION
HILGARTWILSON
HAS JOINED COLLIERS ENGINEERING & DESIGN

ORIGINAL PLAN DATE –	
DRAWING SCALE 1" = 500'	LATEST REVISION DATE APRIL 2024
PROJECT NUMBER 2648	SHEET NUMBER SHT. 2 OF 4

SUBMITTAL:

U:\2600\2648\ENGR\Plan\2648 – C02 – CONCEPT GRADING PLAN (No Aerial).dwg 4/4/2024 11:15 AM



LEGEND

- COMPREHENSIVE PLAN AMENDMENT BOUNDARY
- OWNERSHIP BOUNDARY
- FEMA FLOODPLAIN
- ADJACENT PROPERTIES
- BARB WIRE FENCE
- EASEMENT LINE
- ELECTRICAL (E)
- NATURAL GAS (G)
- FLOW ARROW
- ADJACENT PROPERTY ID (X)
- RIGHT-OF-WAY (R/W)
- OVERHEAD WIRE (OHW)

ADJACENT PROPERTIES

NO.	APN NUMBER	OWNER
1.	500-13-0010	KZAZ LLC
2.	500-12-0050	PHAN LY T & VO NHIY
3.	500-12-0060	HICKS STANLEY J
4.	500-12-004H	CASARES ANTONIO
5.	500-12-001B	SELMA & MIDWAY LLC
6.	500-12-001A	EL PASO NATURAL GAS CO
7.	511-66-0060	ROYAL ESTATES AT MIDWAY LLC
8.	511-66-0080	ROYAL ESTATES AT MIDWAY LLC
9.	511-66-009B	TRIPLE R-5422 LLC
10.	511-66-009E	SHELBRACK RICHARD M REV FAM TRUST ETAL
11.	511-66-0110	ROYAL ESTATES AT MIDWAY LLC
12.	511-66-010A	ROYAL ESTATES AT MIDWAY LLC
13.	511-66-010B	ROYAL ESTATES AT MIDWAY LLC
14.	N/A	STATE TRUST LAND
15.	500-17-0030	CHRISTY FAMILY TRUST
16.	500-17-002A	CHRISTY FAMILY TRUST
17.	500-17-002B	CHRISTY FAMILY TRUST
18.	500-17-002C	CHRISTY FAMILY TRUST
19.	500-18-001A	JORDE HACIENDA INC

N

500 0 500 1000
SCALE FEET

Call at least two full working days before you begin excavation.
ARIZONA 811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

PLAN NAME

PROJECT BELLA

N.W.C. OF INTERSTATE 8 & MIDWAY ROAD
CONCEPTUAL SITE PLAN (WITH AERIAL)

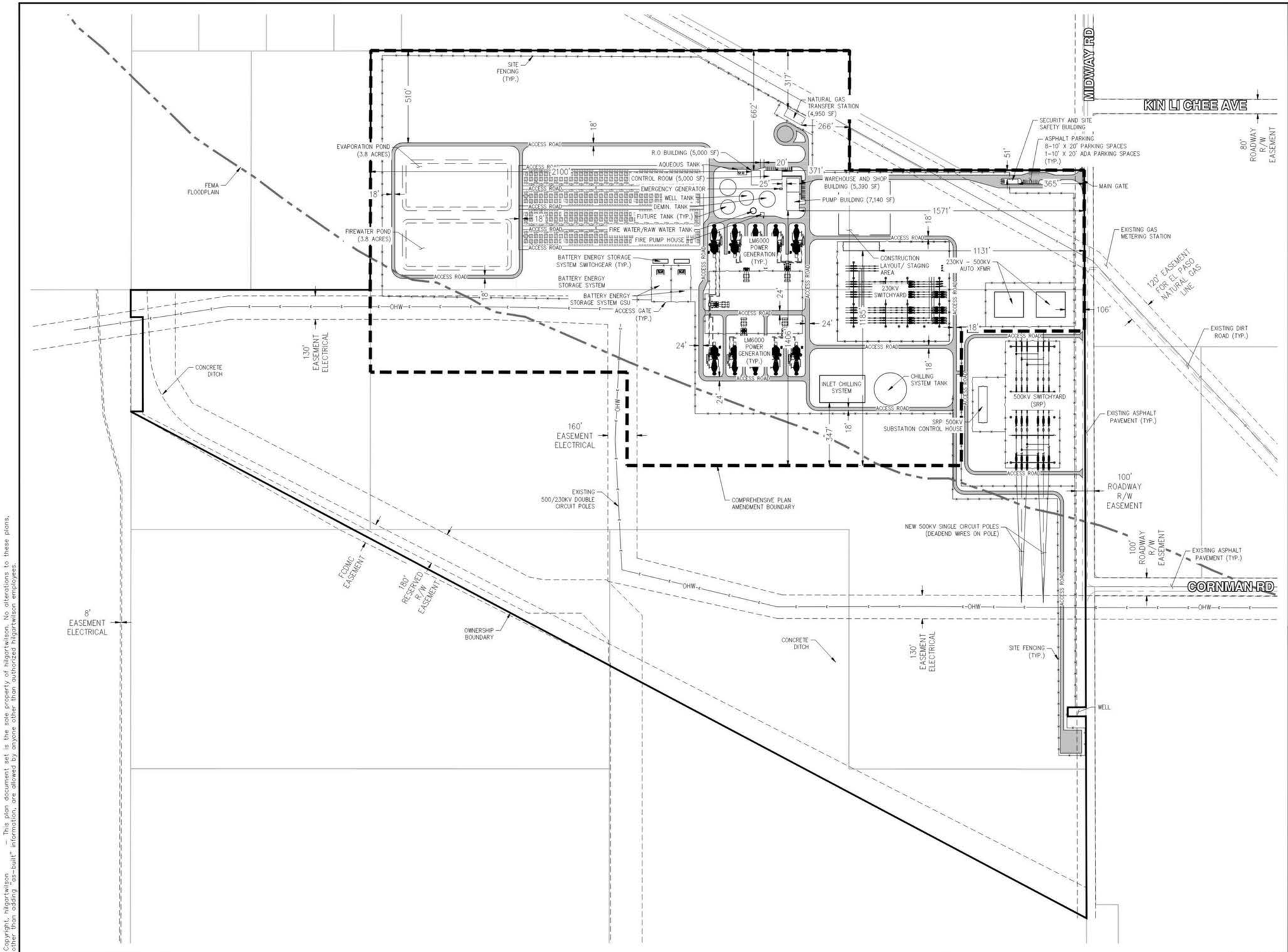
ENGINEER INFORMATION

HILGARTWILSON
HAS JOINED COLLIERS ENGINEERING & DESIGN

ORIGINAL PLAN DATE: –	
DRAWING SCALE: 1" = 500'	LATEST REVISION DATE: APRIL 2024
PROJECT NUMBER: 2648	SHEET NUMBER: SHT. 3 OF 4

SUBMITTAL:

U:\2600\2648\ENGR\Plan\2648 – C03 – CONCEPT GRADING PLAN (With Aerial).dwg 4/4/2024 11:12 AM



LEGEND

- COMPREHENSIVE PLAN AMENDMENT BOUNDARY
- OWNERSHIP BOUNDARY
- FEMA FLOODPLAIN
- ADJACENT PROPERTIES
- BARB WIRE FENCE
- EASEMENT LINE
- ELECTRICAL (E)
- NATURAL GAS (G)
- RIGHT-OF-WAY (R/W)
- OVERHEAD WIRE (OHW)

N

250 0 250 500

SCALE: 1" = 250'

Call at least two full working days before you begin excavation.
ARIZONA 811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

PLAN NAME

PROJECT BELLA

N.W.C. OF INTERSTATE 8 & MIDWAY ROAD

CONCEPTUAL SITE PLAN (ZOOM VIEW)

ENGINEER INFORMATION

HILGARTWILSON

HAS JOINED COLLIERS ENGINEERING & DESIGN

ORIGINAL PLAN DATE	
–	
DRAWING SCALE	LATEST REVISION DATE
1" = 250'	APRIL 2024
PROJECT NUMBER	SHEET NUMBER
2648	SHT. 4 OF 4

SUBMITTAL:

U:\2600\2648\ENGR\Plan\2648 – C04 – 0A SITE PLAN (Zoom View).dwg 4/4/2024 11:10 AM

EXHIBIT G-3
GENERAL ARRANGEMENT OF TYPICAL LM-6000

NOTES:

1. TOLERANCE ON FLANGE CONNECTIONS ±1/8" [3]
   TOLERANCE ON ELECTRICAL CONNECTIONS ±1/8" [3]
   TOLERANCE ON BOLT HOLES ±1/16" [2] TRUE POSITION.
2. DIMENSIONS AND VALUES IN [ ] ARE SI UNITS AND ARE GIVEN FOR REFERENCE ONLY. EQUIPMENT SHALL BE DESIGNED AND MANUFACTURED USING U.S. CUSTOMARY UNITS.
3. ADDITIONAL EXTERIOR LIGHTING TO BE SUPPLIED BY CUSTOMER.
4. MAXIMUM LOAD ON EACH ENGINE REMOVAL FOOT PAD IS 12,000 LBS [5443 kg], (24000 LBS [10886 kg] TOTAL ENGINE REMOVAL LOAD).
5. AUXILIARY SKID & FIRE PROTECTION SKID FOUNDATIONS MUST BE AT THE SAME ELEVATION AS THE MAIN SKID FOUNDATION.
6. CUSTOMER DRAWING NUMBERS CONSIST OF: (ORDER NUMBER)–(STANDARD DRAWING NUMBER), AND ARE REFERENCED AS X–(STANDARD DRAWING NUMBER), WHERE X = ORDER NUMBER.
7. PIPING AND/OR TUBING MATERIAL SPECIFICATION LISTED IN CONNECTION LEGEND SHALL BE USED BY CUSTOMER AS A RECOMMENDATION IN DESIGN OF THEIR PLANT INTERCONNECT PIPING SYSTEM.
8. EXTERNAL SKIDS SHOWN AS REFERENCE. FOR SPECIFIC SKID CONFIGURATION REFER TO SKID GENERAL ARRANGEMENT DRAWING.
9. PRECAUTION MOST BE TAKEN WHEN OPENING ENGINE REMOVAL DOORS TO AVOID SURROUNDING EQUIPMENT DAMAGE.
10. FINAL LOCATION OF CO2 SKID SHALL CONSIDER THAT EACH LINE OF INTERCONNECT PIPING BETWEEN CO2 SKID AND PACKAGE SHALL NOT EXCEED 98 FEET [30 METERS] LENGTH HAVING A MAXIMUM OF 10 ELBOWS. PIPE SIZE MUST BE 1 INCH SCH80.

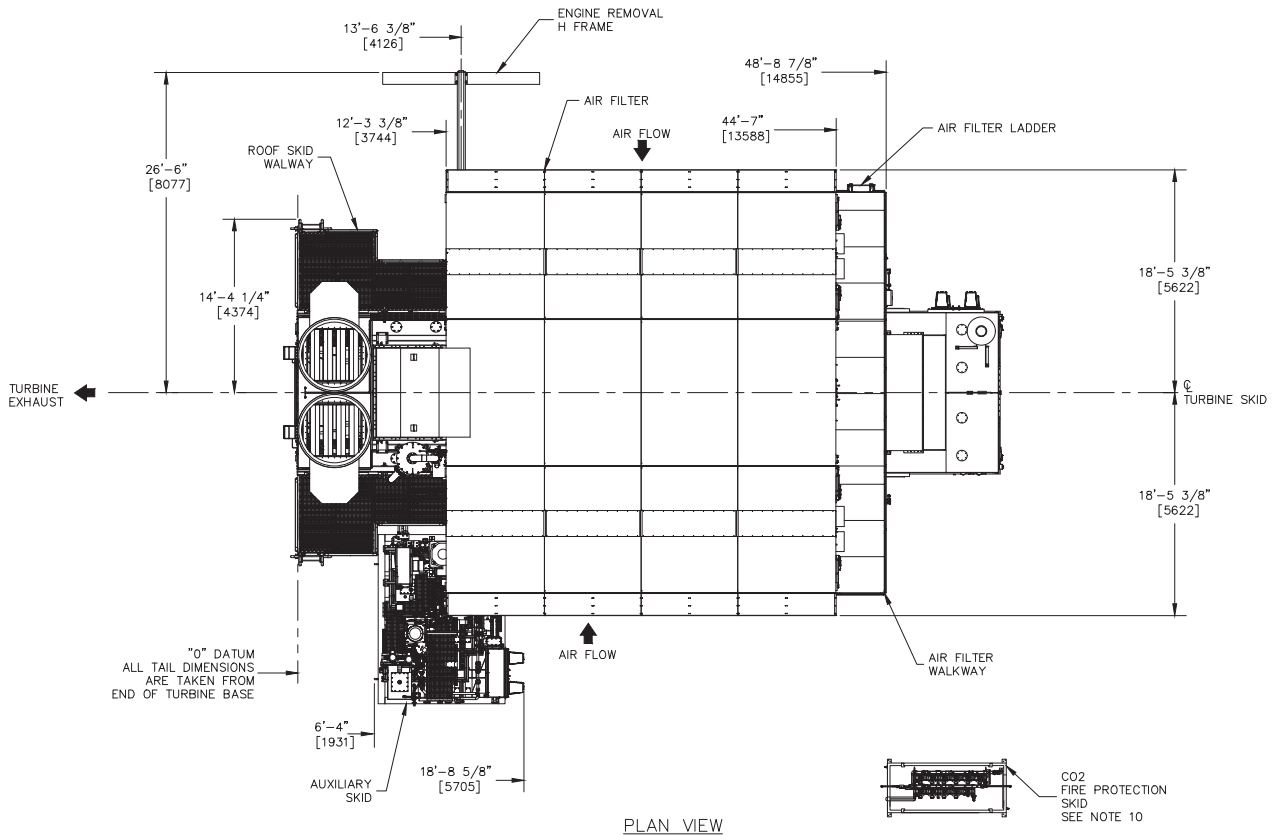
SAFETY NOTE: CAUTION

1. GEPPLP SHALL NOT BE LIABLE FOR DAMAGE CAUSED BY EXCESSIVE FLANGE LOADS OR INADEQUATE EXPANSION JOINT DESIGN. FAILURE TO PROVIDE FOR ADEQUATE THERMAL EXPANSION OR EXCEEDING ALLOWABLE FLANGE LOADS MAY RESULT IN DAMAGE TO OR DESTRUCTION OF FASTENERS AND ENGINE/EXHAUST SYSTEM RELATED HARDWARE RESULTING IN EXHAUST LEAKS AND ACCELERATED WEAR ON THE EXHAUST DIFFUSER ASSEMBLY. IT IS THE CUSTOMER'S RESPONSIBILITY TO ALLOW A CONSERVATIVE AMOUNT OF EXPANSION CAPABILITY TO ACCOMMODATE INSTALLATION ERRORS AND TOLERANCE STACK–UPS FOR THE COMPLETE EXHAUST SYSTEM.
2. IN THE REMOTE CHANCE OF A HP ROTOR FAILURE THE ENGINE CASING MAY NOT CONTAIN THE ENTIRE FAILURE. IT IS HIGHLY RECOMMENDED THAT NO PERMANENTLY MANNED SPACES BE LOCATED IN THE PLANE OF THE HP TURBINE. IT IS ALSO HIGHLY RECOMMENDED THAT ALL POTENTIALLY HAZARDOUS LINES (i.e. FUEL) OR EQUIPMENT (i.e. SHUTOFF VALVES, CONTROL VALVES) ALSO BE LOCATED OUTSIDE THE PLANE OF THE HP TURBINE.

REFERENCE DRAWINGS:

X–504204 GENERAL ARRANGEMENT, AIR FILTER
X–504218 GENERAL ARRANGEMENT, AUXILIARY SKID
XXXXXXXX GENERAL ARRANGEMENT, CO2 FIRE PROTECTION SKID

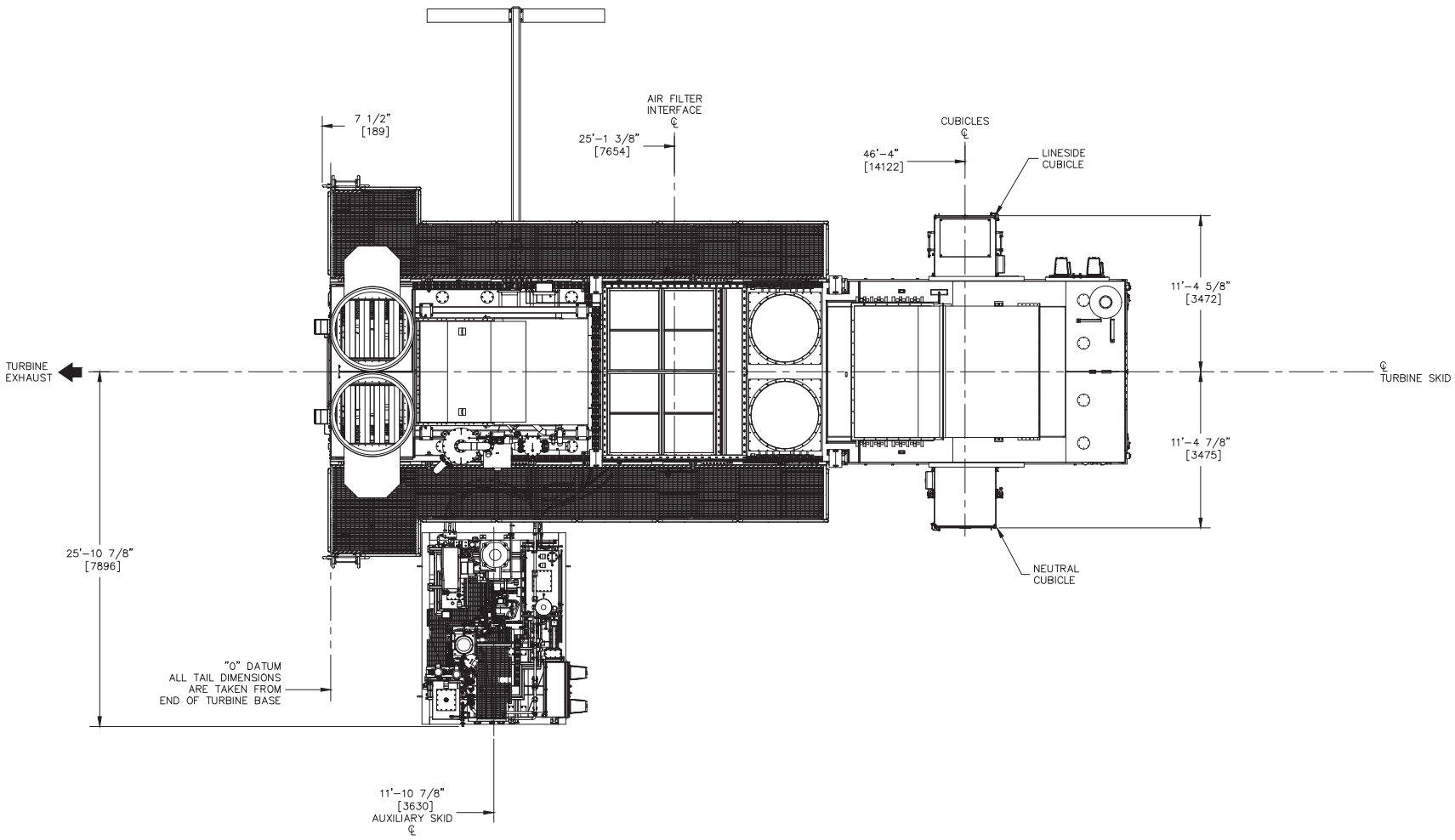
REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
–	ORIGINAL ISSUE		DRAWN ENGINEER



PLAN VIEW

THIRD ANGLE PROJECTION

SIMILAR TO LM6000®	CREATED BY: D.VEGA	MLI No.
FIRST MADE FOR:	APPROVED BY: E.TEJEDA	IEC61355 No.
GE Gas Power	DOCUMENT TYPE: GENERAL ARRANGEMENT	REVISION –
	TITLE: MAIN UNIT – LH	
CREATION DATE 2022–03–18	SHEET SIZE D / DWG NO. 7312300–504201	SHEET 1 OF 18



PLAN VIEW

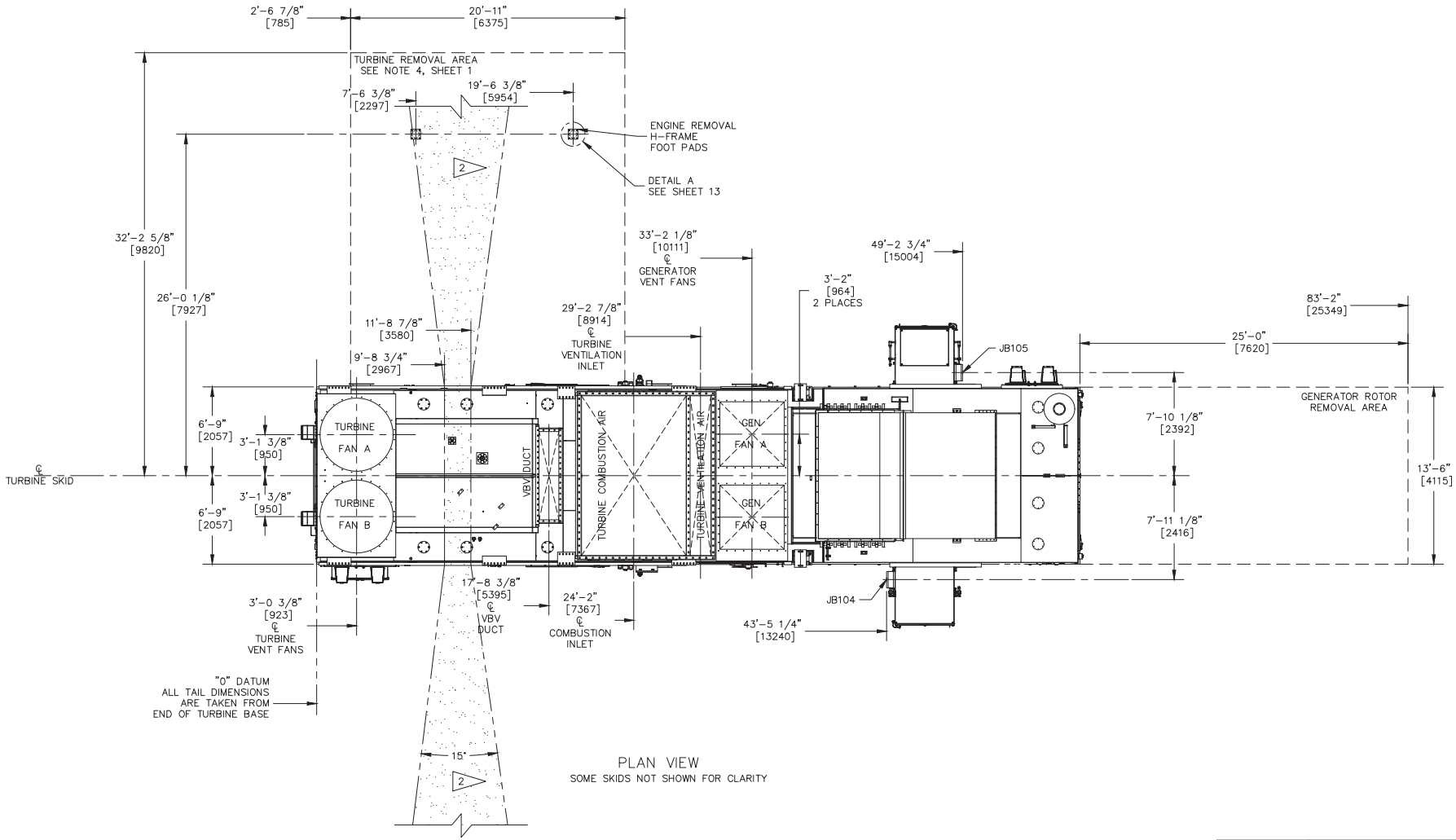
SOME SKIDS NOT SHOWN FOR CLARITY

GE Gas Power

DOCUMENT TYPE:	REVISION
GENERAL ARRANGEMENT	–

TITLE: MAIN UNIT – LH

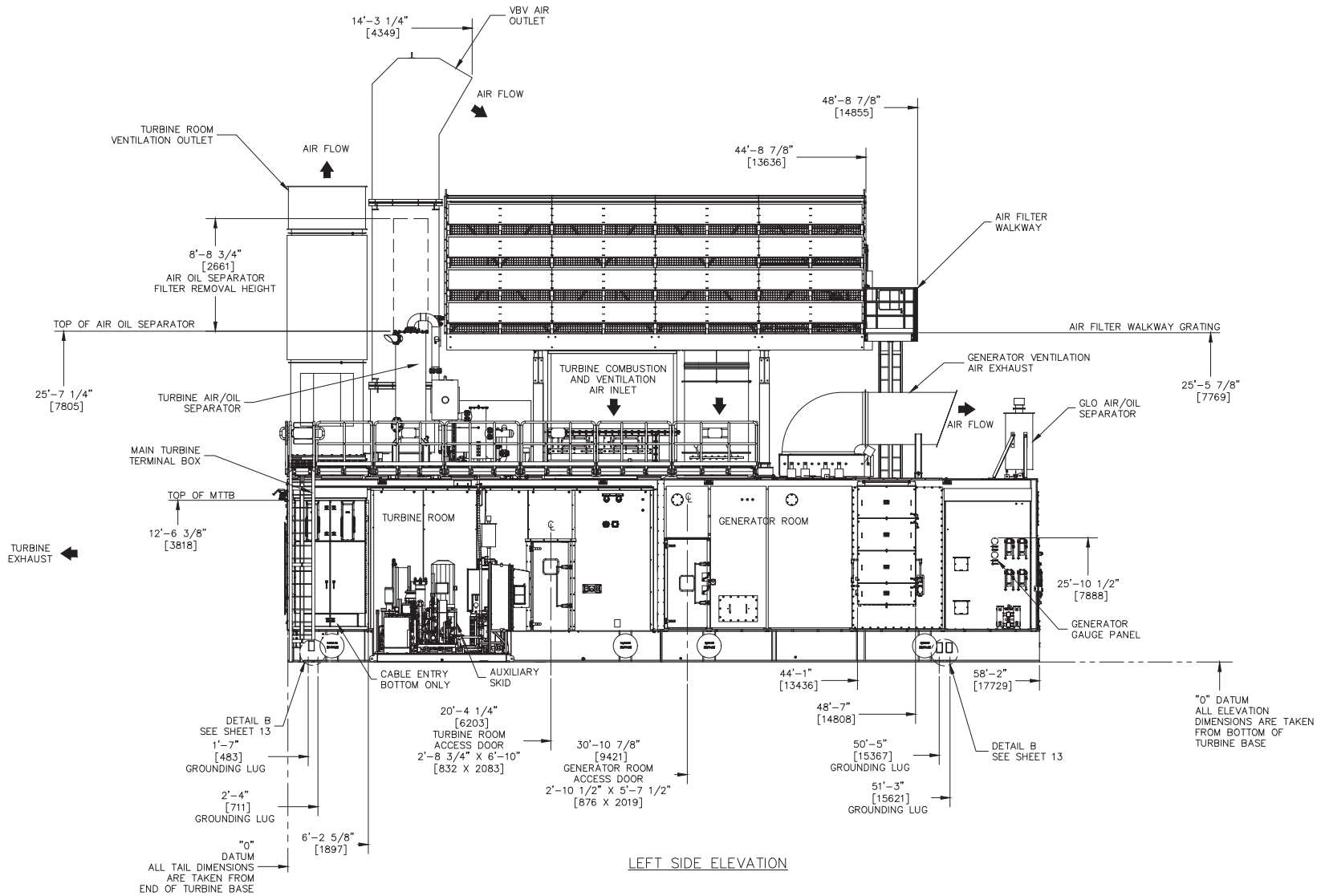
CREATION DATE	SHEET SIZE	DWG NO.	SHEET
2022-03-18	D	7312300-504201	2 OF 18



PLAN VIEW
SOME SKIDS NOT SHOWN FOR CLARITY

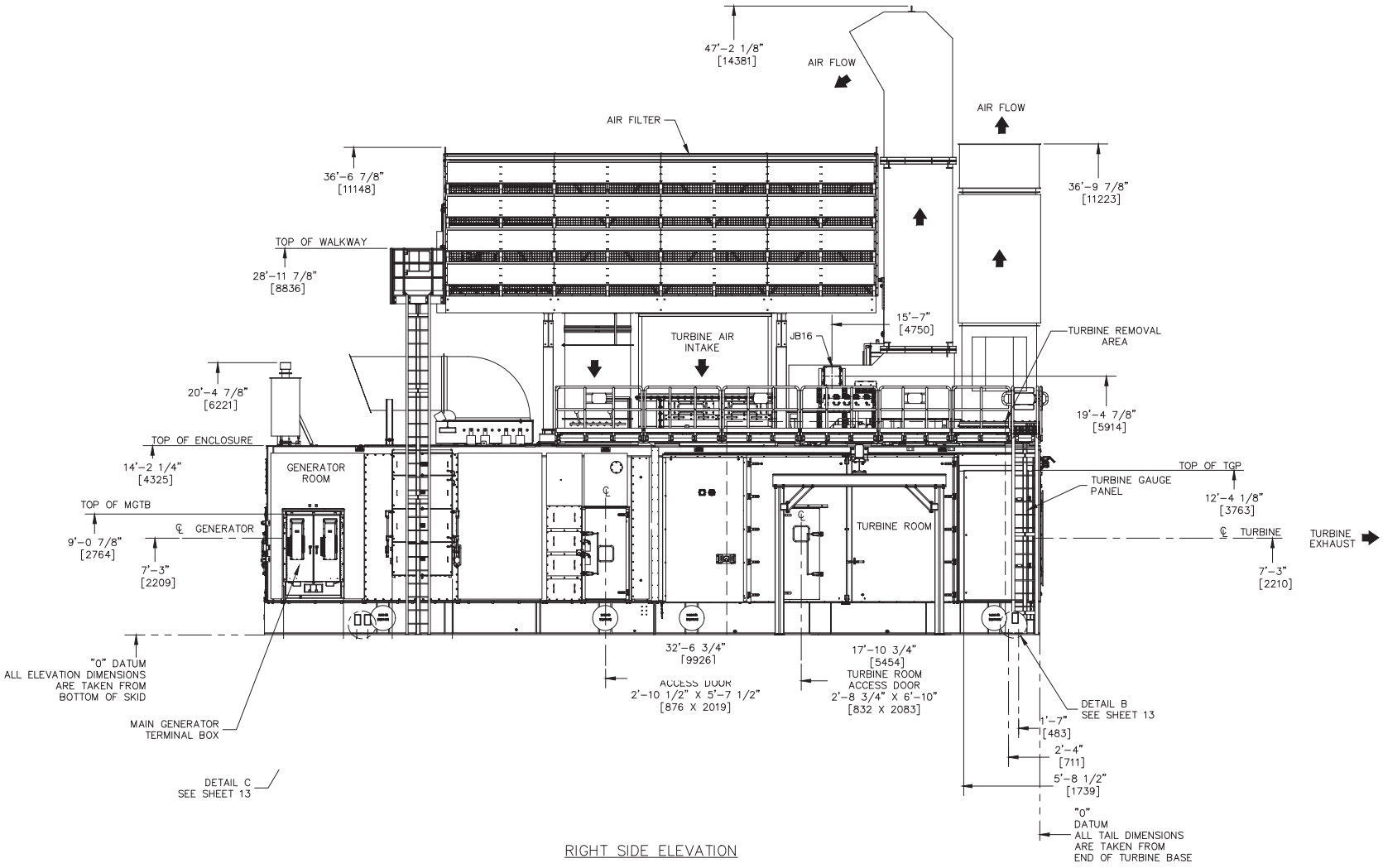
GE Non-Public – (Class II) – NLR

GE Gas Power	DOCUMENT TYPE: GENERAL ARRANGEMENT		REVISION –
	TITLE: MAIN UNIT – LH		
CREATION DATE 2022-03-18	SHEET SIZE D	DWG NO. 7312300-504201	SHEET 3 OF 18



LEFT SIDE ELEVATION

GE Gas Power	DOCUMENT TYPE: GENERAL ARRANGEMENT		REVISION –
	TITLE: MAIN UNIT – LH		
CREATION DATE 2022-03-18	SHEET SIZE D	DWG NO. 7312300-504201	SHEET 4 OF 18



RIGHT SIDE ELEVATION

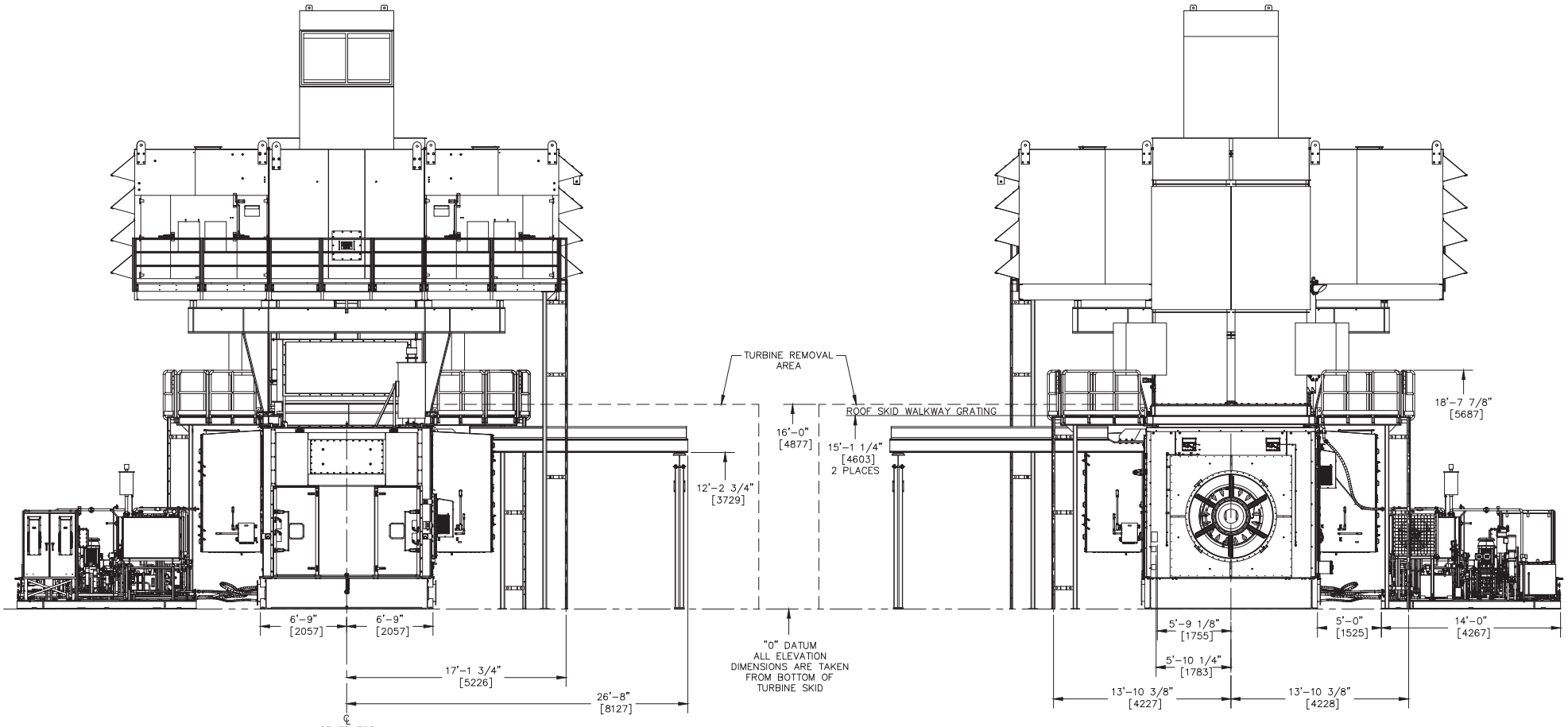
GE Non-Public – (Class II) – NLR

GE Gas Power

DOCUMENT TYPE:	REVISION
GENERAL ARRANGEMENT	–

TITLE: MAIN UNIT – LH

CREATION DATE	SHEET SIZE	DWG NO.	SHEET
2022-03-18	D	7312300-504201	5 OF 18



GENERATOR END VIEW

SOME SKIDS NOT SHOWN FOR CLARITY

EXHAUST END VIEW

SOME SKIDS NOT SHOWN FOR CLARITY

GE Non-Public – (Class II) – NLR

GE Gas Power	DOCUMENT TYPE: GENERAL ARRANGEMENT		REVISION –
	TITLE: MAIN UNIT – LH		
CREATION DATE 2022-03-18	SHEET SIZE D	DWG NO. 7312300-504201	SHEET 6 OF 18

EXHIBIT G-4
GENERATOR SITE SECTION VIEWS

SECTION “A-A” LOOKING NORTH

SECTION “B-B” LOOKING WEST

PROJECT bella

PROJECT BELLA

GENERATOR SITE SECTION VIEWS

THIS RENDERING IS BASED ON CURRENT INFORMATION AS OF THIS DATE AND IS SUBJECT TO CHANGE.

Visual Environments
WWW.VISENV.COM

6/14/24

EXHIBIT H
EXISTING PLANS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

To the extent applicant is able to determine, state the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route.

Land uses surrounding Project Bella (Project) are discussed in Exhibit A and shown in **Figures A-3**, **A-4** and **A-5**. As part of the land use analysis, the Pinal County Comprehensive Plan was evaluated to identify land uses and development plans in the Project vicinity. Information regarding Planned Area Developments (PADs) was gathered from the Pinal County Economic Development Asset Tool and the Maricopa County Association of Governments (MAG) data. The Applicant is currently in the process of applying for a Comprehensive Plan Amendment (CPA) and Rezone from Pinal County and has consulted various representatives of the county to support that process. The Applicant will continue to work with the county throughout the development of the Project.

Local Government Plans

Pinal County has jurisdiction over the lands in the vicinity of the proposed Project site. As described in **Exhibit A**, the Applicant is currently applying for a major CPA from Pinal County to change the future land use from Moderate Low Density Residential to General Public Facilities/Services so the Project will comply with land use regulations. Additionally, the Applicant is undergoing a Rezone of the Project site from General Rural (GR) to Industrial (I-3) to accommodate the development of the Project.

Private Entity Plans

Planned Area Developments

Information regarding PADs was gathered from the Pinal County Economic Development Asset Tool, which identified the closest PAD being 4.6 miles east of the Project, and as well as data from MAG, which identified the PADs displayed on **Figure H-1**, *Planned Area Developments*. PADs included in this exhibit are defined as proposed developments that have filed an application for a permit or have been permitted but not built completely.

As depicted in **Figure H-1**, there are no PADs within the Project site. Additionally, Pinal County has no identified PADs within a 1,000-foot buffer of the Project, as outlined in red on **Figure H-1**. This buffer allows room for any PADs that may be encroaching on the Project.

Figure H-1 identified two known PADs from MAG data in the vicinity of the Project. PAD 1, Morado Hills, is the closest PAD and is located just outside the one-mile buffer to the east of the Project. Based on research, there is no confirmed timing for the development of Morado Hills and it is unclear whether the project will be developed. The other PAD in the vicinity of the Project is the Attesa Motorsports Park Complex, listed as PAD 2 on **Figure H-1**. PAD 2 is located just outside the one-mile buffer to the southeast of the Project and relates to the plans to expand the

facilities surrounding the existing Attesa racetrack. The Project would not interfere with either of the PADs depicted in **Figure H-1**.

Planned Road Improvements

The Arizona Department of Transportation (ADOT) and the Federal Highway Association (FHWA) have proposed an expansion of the existing Interstate 11 (I-11), and the "Preferred Alternative" route is located approximately one mile east of the Project. A Record of Decision (ROD) was published in November 2021, which identified the "Preferred Alternative" as a route that follows the existing Montgomery Road, approximately one mile east of the Project site (ADOT 2021). The construction of this segment of I-11 would not interfere with the Project. There are no road improvements planned by Pinal County Department of Transportation within one mile of the Project.

Potential Effects

There will be no impacts on the PADs listed in **Figure H-1.** No PADs are within the 1,000-foot buffer of the Project and the two closest PADs are over one-mile away. The Project will have no impact on the proposed expansion of I-11.

Conclusion

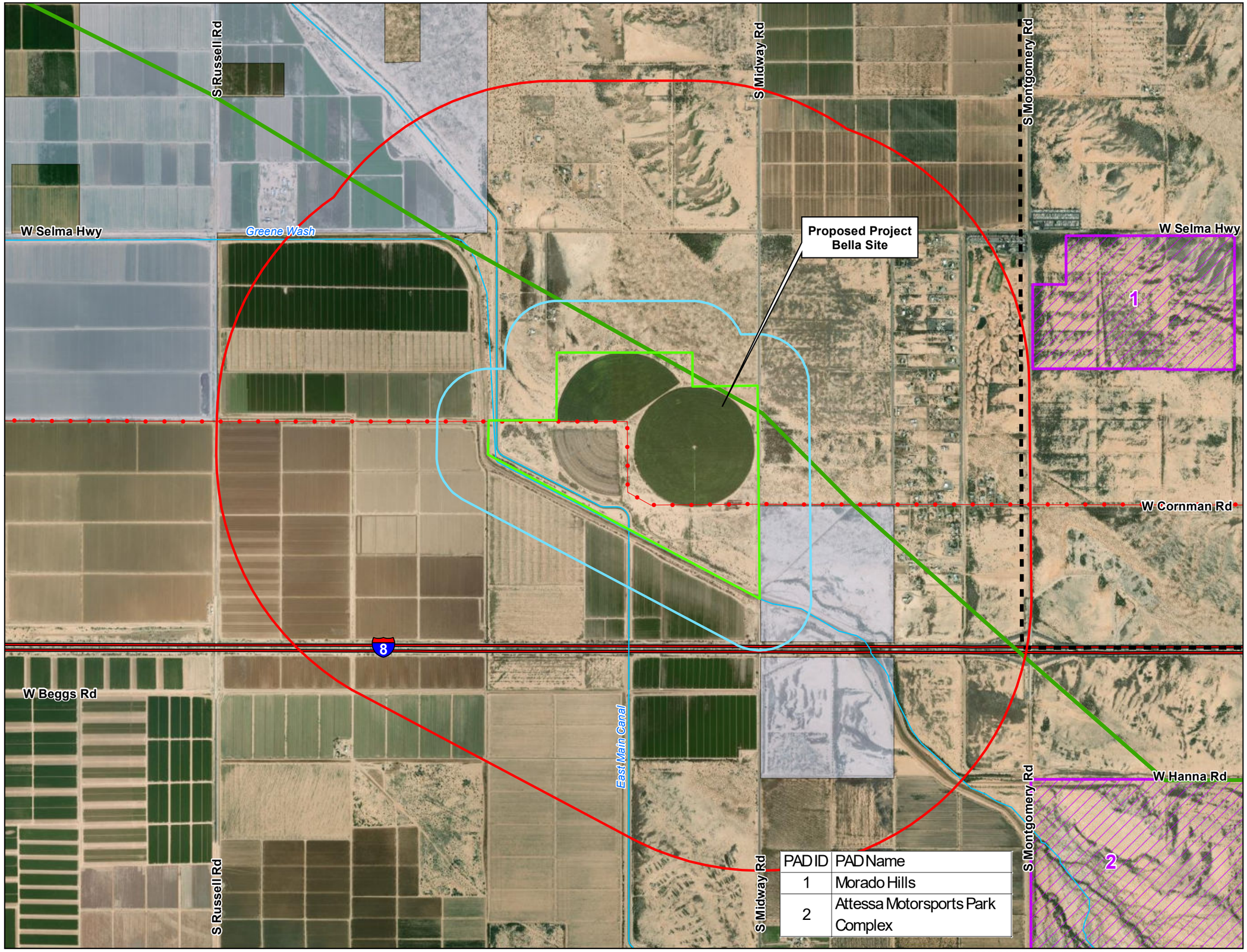
The Project would be consistent with the existing plans of the state and local governments and private entities for other developments within the Project area. The Applicant is currently in the process of applying for a CPA and Rezone from Pinal County and will continue to work with the county throughout the development of the Project.

References

Arizona Department of Transportation. 2021. *Tier 1 Environmental Impact Statement: Record of Decision and Final Preliminary Section 4(f) Evaluation.* Available at: Record of Decision and Final Preliminary Section 4(f) Evaluation (i11study.com). Accessed May 2024.

Maricopa Association of Governments. 2023. *Developments in Maricopa and Pinal counties, Arizona, 2023 through Q2.* Available at: https://geodataazmag.opendata.arcgis.com/datasets/38c73f8b810c4064bbc1095a81e31492_0/explore?location=32.843106%2C-111.862707%2C15.87. Accessed May 2024.

Pinal County. 2021. *Pinal County Economic Development Asset Tool.* Available at: https://pinal.maps.arcgis.com/apps/webappviewer/index.html?id=157e83d00102405e8327c20ae9ca5416. Accessed May 2024.



PAD ID	PAD Name
1	Morado Hills
2	Attessa Motorsports Park Complex

Legend

Project Bella Components

- Proposed Project Bella Site
- 1,000-Foot Buffer of Project Site
- 1-Mile Buffer of Project Site

Other Components

- Existing 500kV Transmission Line
- Existing Natural Gas Pipeline
- Interstate Highway
- Proposed Interstate-11
- Stream / Wash

Planned Area Developments

- Planned Area Development

Jurisdictional Land Ownership

- State Land

0 0.2 0.4
Miles

PROJECT bella

PROJECT BELLA
FIGURE H-1 PLANNED AREA DEVELOPMENTS

Map Extent: Pinal County, AZ

Date: 5.02.24 | Author: ckvw

SPCS NAD 83, AZ Central, US Ft. Data Sources: BLM, City of Mesa, ESRI, Maricopa Co., Pinal Co., MAG, SRP, Town of Gilbert, Town of Queen Creek, USGS

EXHIBIT I
ANTICIPATED NOISE/INTERFERENCE WITH COMMUNICATION SIGNALS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, the intent of this exhibit is to:

Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities.

Introduction

A noise study was conducted to determine the potential noise impacts that would result from construction and operation of the proposed Project Bella (Project). The study involved conducting a noise survey to determine the current ambient noise levels. Noise due to construction and operation of Project was then modeled to determine additional noise impacts.

This exhibit provides background information on environmental sound, including descriptions of the sound metrics used throughout the report; applicable noise standards and regulations; the results of the ambient sound measurement program; and an assessment of the potential noise impacts from development and operation. Interference with communication signals is also evaluated.

Existing Sound Levels

The ambient noise in the vicinity of the Project Site is typical of a rural agricultural area, with the observed sources of noise contributing to the existing sound levels including birds, insects, rustling vegetation and airplanes. To determine reasonable estimates for the existing noise levels in the vicinity of the Project, noise monitoring was conducted at locations in the surrounding area.

Ambient sound measurements were conducted from May 7 through May 9, 2024, to determine the existing soundscape in the vicinity of the Project. All the sound measurements were collected using two Larson Davis Model 831c precision integrating sound-level meters that meet the ANSI Standards for Type 1 precision instrumentation at two long-term monitoring sites and one short-term monitoring sites. During the measurement program, microphones were fitted with windscreens, set upon a tripod approximately 5 feet above ground, and located out of the influence of any reflecting surfaces. The sound analyzer was calibrated at the beginning and end of the measurement period. The sound level meters were programmed to sample and store A-weighted (dBA) and octave band-specific sound level data, including Equivalent Sound Level (L_{eq}) and Day-Night Average Sound Level (L_{dn}) sound levels.[1,2]

1 The Leq is defined as the single sound pressure level that, if constant over the stated measurement period, would contain the same sound energy as the actual monitored sound that is fluctuating in level over the measurement period.

2 The Ldn represents a 24-hour A-weighted sound level average where sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dB weighting.

Results of the ambient sound survey indicate that daytime L_{eq} sound levels at the measurement locations ranged from 40.8 dBA in proximity to the west edge of the Project and 42.8 dBA at the east edge of the Project. The complete noise technical report for the Project, titled *Project Bella Noise Technical Report* and dated June 2024, is included as **Exhibit I-1**. Please refer to **Exhibit I-1** for a complete list of all monitoring results at the short-term and long-term monitoring sites.

Noise Impacts from Proposed Project

Noise levels resulting from construction and operation of the Project were evaluated with respect to noise guidelines and policies as established by Pinal County, Arizona, and federal agencies. No federal laws, regulations, or standards that directly affect this Project with respect to noise were identified. However, there are guidelines at the federal level that direct the consideration of a broad range of noise issues. For example, the U.S. Environmental Protection Agency (EPA) has published a guideline that specifically addresses issues of community noise (EPA 1974). This guideline, commonly referred to as the "levels document," recommends a threshold for noise levels affecting residential land use of L_{dn} <55 dBA for exterior levels. Additionally, the Department of Housing and Urban Development's *Noise Guidebook,* Chapter 2, Section 51.101(a)(8), proposes that exterior areas of frequent human use follow the EPA's 55 L_{dn} threshold. However, the same Section indicates that a noise level of 65 dBA L_{dn} could be considered acceptable (HUD 2009).

The Pinal County Excessive Noise Ordinance (Section 050306-ENO) prescribes noise limits along property boundaries according to the land use category as shown in **Table I-1**. The Pinal County Municipal Ordinance applies to unincorporated areas of the county. The Project is located in unincorporated land in Pinal County. As a result, the requirements contained within this ordinance would be potentially applicable to the Project.

Table I-1. Limiting Sound Levels for Land Use Districts

Zoning District Classifications	L_{eq} Limits
Residential: CR-1A, CR-1, CR-2, CR-3, CR-4, CR-5, OS, MH, RV, MHP, PM/RVP, TR	60 dBA (7 a.m.–8 p.m.) 55 dBA (8 p.m.–7 a.m.)
Commercial or Business: CB-1, CB-2	65 dBA (7 a.m.–10 p.m.) 60 dBA (10 p.m.–7 a.m.)
Industrial: CI-B, CI-1, CI-2	70 dBA (7 a.m.–10 p.m.) 65 dBA (10 p.m.–7 a.m.)
Rural: CAR, SR, SR-1, SH, GR, GR-5, GR-10	65 dBA (7 a.m.–9 p.m.) 60 dBA (9 p.m.–7 a.m.)

Source: Pinal County (2011).

Note: The L_{eq} limits specified are L_{eq} for a 2-minute time interval. Partial L_{eq} levels may be obtained as necessary to assure an accurate indication of the representative sound environment for the site.

Sound projected from property within one zoning district into property within another zoning district of a lesser sound level limit shall not exceed such lesser sound level limit.

Neighboring properties are zoned as either GR (General Rural) or a residential designation like CR-2 (Single Residential), and MHP (Manufactured Home Park).

.Power plant equipment during normal operation is exempt from these noise limits, as described in 050306-ENO Section 9 – Exemptions. However, compliance with this regulation is being made

to demonstrate that noise from the Project would be insignificant if subject to these noise limits. As a result, a demonstration is being made that Project Bella will comply with the Pinal County Excessive Noise Ordinance No. 050306-EN as Amended by 031611-ENA-01 for Zoning District associated with the Project.

Additionally, 050306-ENO does not limit noise from construction but does limit the allowed operation times for construction to occur to the following:

- Concrete Work – 5:00 a.m. to 7:00 p.m. from April 15 to October 15 and 6:00 a.m. to 7:00 p.m. from October 16 to April 14.
- Other Types of Construction – 6:00 a.m. to 7:00 p.m. from April 15 to October 15 and 7:00 a.m. to 7:00 p.m. from October 16 to April 14.
- Construction and repair work in non-residential areas, not within 500 feet of a residential property, shall not begin prior to 5:00 a.m. and must stop by 7:00 p.m. or at such other times as authorized by permit.
- Weekends and Holidays Excluded – Construction or repair work shall be limited to 7:00 a.m. to 7:00 p.m. and concrete pouring shall be limited to 6:00 a.m. to 7:00 p.m.+

Construction outside the time periods specified above is allowed if an appropriate permit has been obtained beforehand from the county.

Construction

Typical construction activities at the Project Site would result in a transient increase in the ambient noise level resulting from the operation of construction equipment, as the construction of the Project is expected to occur over a 3-year timeframe. The increase in noise level would be proportional to the distance to the noise source. The extent of the noise effects would depend on the type of construction activity, duration of the construction activity, and the distance between the noise source and receiver. It is anticipated that construction activities would take place during daylight hours (dawn to dusk) up to six days a week (Monday–Saturday).

Predicted construction-generated noise levels at nearby noise sensitive areas (NSAs) were calculated using the Federal Highway Administration's Roadway Construction Noise Model. Estimates of noise from the construction of the Project are based on a roster of the maximum amount of construction equipment used on a given day. Estimated noise levels from construction activities at the closest residential receptor from the center of the construction site were estimated to be approximately 49.7 dBA L_{eq} (56.1 dBA L_{dn}). Construction noise impacts are further discussed in the attached noise report (**Exhibit I-1**).

Operations

To determine the potential noise impact from the expected operation of the proposed Project, detailed noise modeling was conducted. **Exhibit I-1** provides detailed information on the inputs used to populate the refined model.

The SoundPlan Essential Model Version 5.1 (SoundPlan) was used to estimate sound levels from Project operation at noise sensitive receivers. SoundPlan assesses noise levels near industrial noise sources based on International Organization for Standardization (ISO) 9613-2 standard for noise propagation calculations. The SoundPlan model accounts for sound wave divergence and attenuation factors resulting from air absorption, ground coverage, and barrier and structure shielding.

Modeling included 10 GE LM6000 gas turbine generator packages and their associated noise generating equipment, 428 BESS enclosures and their associated noise generating equipment, as well as other support equipment such as water chiller systems and transformers. A complete list of equipment included in the model, assumptions, references, and calculation methods are included in **Exhibit I-1**.

The analysis showed that the maximum noise levels (including background noise), at a property boundary that neighbors a parcel zoned as residential (the eastern edge of the Project) is 53.1 dBA during daytime hours (7am-8pm), and 52.9 dBA during nighttime hours (8pm-7am), which is below the daytime threshold of 60 dBA and nighttime threshold of 55 dBA. The maximum impact (including background noise) at a property boundary that neighbors a parcel zoned as general rural (all other Project boundaries) is 58.1 dBA during daytime hours (7am-9pm), and 58.1 dBA during nighttime hours (9pm-7am), which is below the daytime threshold of 65 dBA and nighttime threshold of 60 dBA. Based on these modeling results, the need for additional noise mitigation in the form of sound attenuating walls or other design features in order to remain below the limits provided in the Pinal County Excessive Noise Ordinance. However, it is important to note that noise generated from Project equipment during normal operation is exempt from the noise limits described in Pinal County Ordinance 050306-ENO Section 7.

The projected noise levels at the closest sensitive receptor (including background noise), is estimated to be 46.4 dBA Leq, and 50.8 dBA Ldn. This is below the EPA recommended noise limit of 55 dBA Ldn. This NSA is located approximately 80 ft NW of a Project boundary and 2,140 ft NW of the nearest turbines. All other NSAs are located further away and are predicted to result in lower noise levels at the properties. There is no applicable regulation that provides noise limits at residences neighboring the Project and this data is provided here for informational purposes.

Therefore, the proposed operation would not result in a substantial permanent increase in ambient noise levels in the vicinity of the Project. More information regarding the results of the noise modeling analysis is included in **Exhibit I-1**.

Corona Noise

Audible noise associated with transmission lines as a result of corona discharge is a function of line voltage. Transmission line audible noise is characterized by crackling, frying, sputtering, and low-frequency tones which are best described as humming sounds. Audible noise from transmission lines primarily occurs during foul weather conditions.

The Project would connect to the existing 500kV transmission line. Approximately 785 feet of new transmission lines interconnect will be added to tie into an existing 500kV transmission line located within the Project site. The closest residential receptor is located approximately 3,000 feet

east of the proposed transmission line tie-in, and all residences within 1 mile of the route are closer to the existing 500kV transmission lines than they would be to the proposed Project. As a result, it is not expected that new corona noise impacts would be experienced at any residential receptor.

Communication Interference

Transmission line corona effects associated with the proposed Project could interfere with amplitude modulation (AM) radios in vehicles, but only when those vehicles travel under or near the line. Additionally, only AM receivers located very near to transmission lines that are tuned to a weak station have the potential to be affected by radio interference. AM radio frequency interference typically dissipates rapidly with increasing distance from the line. Frequency modulation (FM) radio is rarely affected by corona because corona-generated radio frequency noise currents decrease in magnitude with increasing frequency.

Television reception in local homes is not expected to change as a result of the proposed Project. It is logical to assume that if residents at any of these locations are not currently experiencing interference from the existing lines, they will not experience interference from the more distant line.

Rural residents are more likely to be receiving television by satellite than broadcast in any case. Satellite television frequencies are higher than transmission line frequencies and are not affected by transmission line operation or corona. Cable television service is equally unaffected.

Similarly, wireless computer networks such as Wi-Fi or wireless local area networks operate at high frequencies in the tens to hundreds of megahertz (MHz) or gigahertz (GHz) and use digital coding of the signals. As a result of the high frequencies used by these devices, modulation and processing techniques, effects from interference are unlikely.

Transmission lines do not interfere with cellular phone tower operations or microwave communication paths. This is demonstrated by the fact that cellular phone antennae and microwave receivers are commonly mounted on transmission structures and receive the benefits of the additional height provided by the structures.

Conclusions

Predicted Project construction noise levels may temporarily exceed 55 dBA, but activities causing these temporary elevated noise levels will operate during allowable construction process hours as presented in Section 050306-ENO of the Pinal County Municipal Ordinance or will seek a permit, if necessary.

The noise impact assessment indicated that noise generated by the Project will not be higher than 55 dBA L_{dn} at the nearest noise receptors. Additionally, though not applicable to the Project, predicted noise levels at all property boundaries will be compliant with the Pinal County Excessive Noise Ordinance.

Audible noise from transmission lines primarily occurs during foul weather conditions. Due to the distance of the small section of new transmission line from receptors, and the proximity of receptors to existing transmission lines, noise above existing ambient levels is not expected to

occur at potential receptors. No objectionable noise and/or interference with radio signals is anticipated from the proposed Project.

References

Environmental Protection Agency. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Available at: http://www.nonoise.org/library/levels/levels.htm/. Accessed October 2021.

Housing and Urban Development. 2009. HUD Noise Guidebook. Available at: https://www.hudexchange.info/resource/313/hud-noise-guidebook/. Accessed October 2021.

EXHIBIT I-1
NOISE TECHNICAL REPORT

Project Bella Noise Technical Report

JUNE 2024

PREPARED FOR

Vanderweil Power Group

PREPARED BY

SWCA Environmental Consultants

PROJECT BELLA NOISE TECHNICAL REPORT

Prepared for

Vanderweil Power Group
Boston, MA

Prepared by

SWCA Environmental Consultants
20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
www.swca.com

June 2024

CONTENTS

Appendices

Figures

Tables

1 INTRODUCTION

SWCA Environmental Consultants (SWCA) prepared this noise technical report in support of the proposed Project Bella generating facility (Project). The Project would be developed by Vanderweil Power Group and Seguro Energy Partners, LLC. The Project would be located in Pinal County, outside of the city of Casa Grande near the intersection of South Midway Road and West Cornman Road.

This report presents the analysis and noise impact estimates for the construction and operation of the Project at property boundaries and at noise sensitive areas (NSAs) to demonstrate that the proposed activities associated with this project will not result in a substantial permanent increase in ambient noise levels in the vicinity of the Project.

2 PROJECT AND STUDY DESCRIPTION

Project Bella is a greenfield natural gas-fired electrical generating station to include ten (10) GE Vernova LM6000PC or equivalent aeroderivative gas simple cycle gas turbines with battery energy storage systems (BESS) and other support equipment. The equipment and facilities will be installed on a property that is approximately 350 acres in size.

Potential noise impacts from construction and operation of the Project were evaluated by determining the projected increases over ambient conditions and potential exposure of sensitive receptors to excessive noise from the proposed noise-generating sources.

Construction of the Project will consist of earthwork (e.g., site grading, clearing & grubbing) and construction of the site buildings, mechanical and electrical work. Predicted construction-generated noise levels at nearby NSAs were calculated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). The RCNM is FHWA's national model for the prediction of construction noise.

Among Project components, the primary noise sources anticipated due to operation of the generating station are 10 GE LM6000 gas turbine generator packages and their associated noise generating equipment, 428 BESS enclosures and their associated noise generating equipment, as well as other support equipment such as transformers. Each gas turbine generator package is rated at 49 megawatt (MW) gross generation capacity, with a total plant generating capacity of 490 MW-gross (at ISO conditions).

The noise impact evaluation for the operation of the Project, provided herein, consists of computer noise modeling using SoundPLAN Essential Version 5.1 and assessment of the outputs as they pertain to the sound (noise) standards at property boundaries and at nearest NSAs (i.e., nearest residences).

3 SOUND FUNDAMENTALS – BACKGROUND

Sound is defined as a form of energy that is transmitted by pressure variations, which the animal or human ear can detect. Noise can be defined as any unpleasant or unwanted sound that is unintentionally added to a desired sound or environment. The noise effects in humans include interference with communication, learning, rest, or sleep and physiological health effects.

There are two main properties of sound: the amplitude and the frequency. Amplitude refers to the level of energy that reaches the ear (how loud we perceive the sound), while frequency is the number of cycles or oscillations per unit of time completed by the source. Frequency is normally expressed in hertz (Hz).

Sound power is defined as the measurement of the ability of a source to make sound. It is independent of the acoustic environment in which is located. The sound power level (L_{pw}) of a source is the amount of energy it produces relative to a reference value and is normally expressed in decibels. The decibel is a logarithmic scale to describe the sound pressure ratio.

Humans perceive a frequency range of about 20 Hz to about 20,000 Hz. An internationally standardized frequency weighting, the A-weighting scale, was designed to approximate the audible range of frequencies of a healthy human ear. The A-weighting scale corresponds to the fact that the human ear is not as sensitive to sound at the lower frequencies as it is at the higher frequencies.

3.1 Definition of Acoustical Terms

A number of different descriptors of time-averaged sound levels are used to account for fluctuations of sound intensity over time. The sound descriptors calculated by the sound meters and used in this report to describe environmental sound are defined below. Additionally, the following acoustical terms are used throughout this analysis:

- Ambient sound level is defined as the composite of noise from all sources near and far, the normal or existing level of environmental noise at a given location.
- Decibel (dB) is the physical unit commonly used to measure sound levels. Technically, a dB is a unit of measurement that describes the amplitude of sound equal to 20 times the base 10 logarithm of the ratio of the reference pressure to the sound of pressure, which is 20 micropascals (μPa). In acoustics, sound levels represented in dB express the true unweighted noise level.
- Sound measurement is further refined by using a decibel A-weighted sound level (dBA) scale that more closely measures how a person perceives different frequencies of sound; the A-weighting reflects the sensitivity of the ear to low or moderate sound levels.
- Equivalent noise level (L_{eq}) is the energy average A-weighted noise level during the measurement period.
- The root-mean-squared maximum noise level (L_{max}) characterizes the maximum noise level as defined by the loudest single noise event over the measurement period.
- Day-night sound level (L_{dn}) is the A-weighted equivalent sound level for a 24-hour period with an additional 10 dB weighting imposed on the equivalent sound levels occurring during night-time hours (10 p.m. [22:00] to 7 a.m. [07:00]).
- Daytime Sound Level (L_d) is defined as the equivalent sound level for a 15-hour period between 7 a.m. (07:00) and 10 p.m. (22:00).
- Nighttime Sound Level (L_n) is defined as the equivalent sound level for a 9-hour period between 10 p.m. (22:00) and 7 a.m. (07:00).

3.2 Sound Levels of Representative Sounds and Noises

The U.S. Environmental Protection Agency (EPA) has developed an index to assess noise impacts from a variety of sources using residential receptors. If L_{dn} values exceed 65 dBA, residential development is not recommended (EPA 1979). Noise levels in a quiet rural area at night are typically between 32 and 35 dBA. Quiet urban night-time noise levels range from 40 to 50 dBA.

Noise levels during the day in a noisy urban area are frequently as high as 70 to 80 dBA. Noise levels above 110 dBA become intolerable; levels higher than 80 dBA over continuous periods can result in hearing loss.

Levels above 70 dBA tend to be associated with task interference. Levels between 50 and 55 dBA are associated with raised voices in a normal conversation.

Table 1 presents sound levels for some common noise sources and the human response to those decibel levels.

Table 1. Sound Levels of Representative Sounds and Noises

Source and Distance	Sound Level (dBA)	Human Response
Jet takeoff (nearby)	150	
Jet takeoff (15 m/50 feet)	140	
50-hp siren (30 m/100 feet)	130	
Loud rock concert (near stage)	120	Pain threshold
Construction noise (3 m/10 feet)	110	Intolerable
Jet takeoff (610 m/2,000 feet)	100	
Heavy truck (8 m/25 feet)	90	
Garbage disposal (0.6 m/2 feet)	80	Constant exposure endangers hearing
Busy traffic	70	
Normal conversation	60	
Light traffic (30 m/100 feet)	50	Quiet
Library	40	
Soft whisper (4.5 m/15 feet)	30	Very quiet
Rustling leaves	20	
Normal breathing	10	Barely audible
Threshold of hearing	0	

Source: Beranek (1988).

Table 2 provides criteria that have been used to estimate an individual's perception of increases in sound. In general, an average person perceives an increase of 3 dBA or less as barely perceptible. An increase of 10 dBA is perceived as a doubling of the sound.

Table 2. Average Human Ability to Perceive Changes in Sound Levels

Increase in Sound Level (dBA)	Human Perception of Sound
2–3	Barely perceptible
5	Readily noticeable
10	Doubling of the sound
20	Dramatic change

Source: Bolt Beranek and Newman, Inc. (1973).

4 EXISTING CONDITIONS

4.1 Existing Land Use and Site Conditions

The project area is located on what is now a rural agricultural property at an elevational range of approximately 1,341 to 1,358 feet above mean sea level (amsl). The neighboring area is generally rural agricultural areas, with some rural residences as well. Properties to the north, west and south are zoned as general rural (GR). The properties to the east are zoned as residential zoning categories (CR-2 and MHP). The Project is near the intersections of South Midway Road and West Cornman Road and is approximately 745 feet north of Interstate 8 at the closest (southern) property boundary.

The mean annual temperature is 70 degrees Fahrenheit (°F) with average maximum temperatures ranging from 67°F to 104°F and average minimum temperatures from 37°F to 76°F. Average annual precipitation is only 9.3 inches. Most of the precipitation occurs during the winter from December through March and during the "monsoonal" months of July and August (U.S. Climate Data 2024).

4.2 Existing Sound Conditions

4.2.1 *Measurement Locations*

SWCA performed an ambient noise survey from May 7 through May 9, 2024. The purpose of the survey was to characterize the noise environment in the vicinity of the Project. Two long-term (approximately 51 hours in duration) and one short-term (approximately 20 minutes in duration) measurements were taken at monitoring locations within the project site. Long-term monitoring was used to characterize existing noise in the project area in the direction of neighboring properties and NSAs to the east and the west. Short-term monitoring was performed to capture existing traffic noise along South Midway Road and Interstate 8. Monitoring locations are mapped in Figure 1 and are listed below in Table 3. Figure 1 also provides the Pinal County zoning map surrounding the project site, showing the zoning classification of the project area and neighboring properties, as well as the NSAs evaluated in this document. Appendix A provides photographs of the long-term monitoring locations.

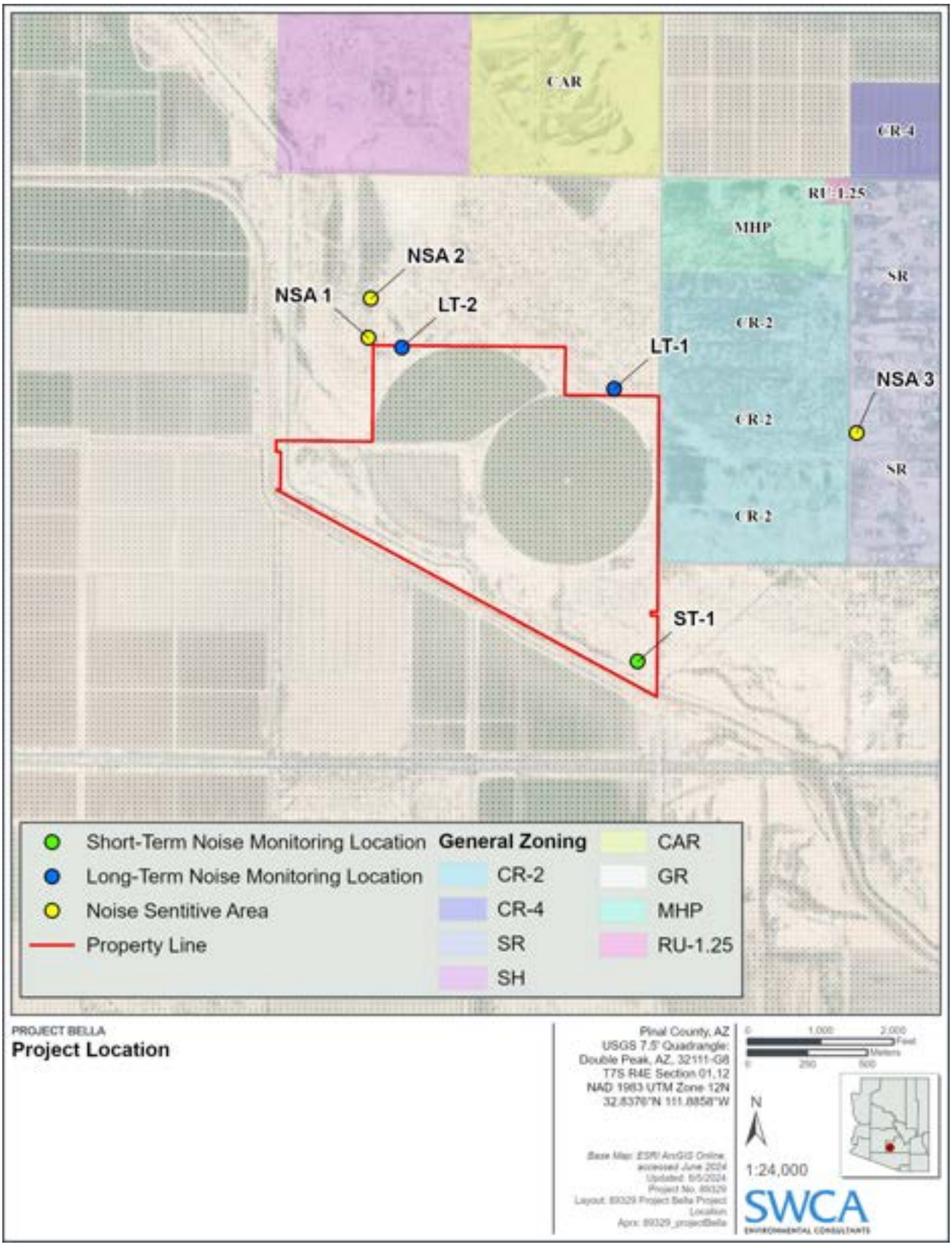


Figure 1. Project location map.

Table 3. Monitoring Locations

Monitor	Monitor Location		Elevation (feet amsl)
	Latitude	Longitude	
LT-1 – East property boundary	32.842299°	-111.879690°	1,353
LT-2 – West property boundary	32.843830°	-111.889226°	1,343
ST-1 – South property Boundary	32.831987°	-111.878531°	1,355

4.2.2 *Nearest Receptor Sites*

Noise-sensitive areas generally are defined as locations where people reside or where the presence of unwanted sound may adversely affect the existing land use. Typically, noise-sensitive land uses include residences, hospitals, places of worship, libraries, performance spaces, offices, and schools, as well as nature and wildlife preserves, recreational areas, and parks. The closest NSA appears to be trailers or recreational vehicles based on aerial imagery, though it is unclear if they are currently inhabited. For the purposes of this analysis, it was assumed that they are inhabited structures to present a worst-case scenario. This potential NSA is located approximately 80 feet to the northwest of the nearest Project boundary. A list of the NSAs specifically evaluated for this analysis is provided in Table 4. Additional NSAs exist in close proximity to the NSAs detailed in this table, however due to the further distance, the estimated noise levels would be lower.

Table 4. Selected NSA Descriptions

NSA	Receptor Type [1]	Latitude and Longitude	Distance and Direction from Nearest Project Boundary	Distance and Direction from Nearest Turbine
NSA 1	Recreational Vehicles	32.844180°, -111.890690°	80 ft NW	2,140 ft NW
NSA 2	Residence	32.845668°, -111.890599°	425 ft NNW	2,390 ft NW
NSA 3	Residence	32.840747°, -111.868845°	2,730 ft E	4,290 ft NE

[1] Receptor type was evaluated based on aerial imagery.

4.2.3 *Instrument Description*

Noise measurements were collected using two Larson Davis Precision Integrating Sound Level Meter Model 831C meeting the requirements of the American National Standards Institute (ANSI 2013), two PCB PRM831 preamplifiers, and two PCB 377B02 free-field microphones as described in Table 5.

Each microphone was fitted with an environmental windscreen and bird spikes and set up on a tripod at a height of 5 feet (1.5 m) above ground and placed as far from the influence of vertical reflective sources as possible. All cables were secured to prevent any sounds due to wire movement. All clocks associated with the sound measurement were synchronized using the Larson Davis G4 LD Utility software.

Table 5. Instrumentation

Monitoring Location	Sound Level Meter	Preamplifier	0.5-inch free-field microphone
LT-1	Larson Davis 831C (S/N 0010737)	PRM831 (S/N 58503)	377B02 (S/N 311602)
LT-2	Larson Davis 831C (S/N 0010739)	PRM831 (S/N 71107)	377B02 (S/N 311601)
ST-1	Larson Davis 831C (S/N 0010739)	PRM831 (S/N 71107)	377B02 (S/N 311601)

Note: S/N = Serial Number.

4.2.4 *Calibration Checks*

The sound level meters were calibrated at the beginning and end of the measurement period using a Larson Davis Model CAL200 Precision Acoustic Calibrator. The Larson Davis CAL200 emits a 1-kHz tone at 114 dB against which the response can be checked. The calibrator has been designed for both field and laboratory use, and the accuracy has been calibrated to a reference traceable to the National Institute of Standards and Technology.

As recommended by Larson Davis, when using a free-field microphone, the pressure level at the microphone diaphragm will be slightly different. Thus, a free field correction of -0.12 dB was applied to the 114.0-dB tone. Thus, the calibration level was set to 113.88 dB. All Larson Davis 831 models showed a response of less than the normal error of 0.50 dB. Field data sheets providing calibration results are provided in Appendix B.

4.2.5 *Existing Sound Levels*

In order to determine the baseline or ambient sound levels experienced near the Project area and at the closest noise-sensitive areas, ambient sound surveys were performed of the area. Long-term and short-term sound monitoring was conducted from May 7 to 9, 2024, to document the acoustic environment in the area surrounding the proposed Project. Noise monitoring was conducted in general accordance with the ASTM Standard Guide for Measurement of Outdoor A-Weighted Sound Levels (ASTM E1014-12, 2012). Table 6 summarizes the measured A-weighted Leq and Ldn (calculated from the measured Leq) for each of the monitoring locations.

Table 6. Summary of Ambient Sound Measurements

Monitoring Location	Monitoring Start	Monitoring End	Elapsed Time	Measured Sound Levels [1,2]			
				L_{eq}	L_{dn}	L_d	L_n
LT-1 – East property boundary	5/7/2024 15:38	5/9/2024 18:35	50:57	42.8	48.3	43.2	41.6
LT-2 – West property boundary	5/7/2024 16:21	5/9/2024 18:42	50:21	40.8	44.4	42.0	36.7
ST-1 – South property boundary	5/9/2024 18:59	5/9/2021 19:18	00:19	42.5	–	42.5	–

[1] Data derived from the average 1-hour L_{eq} calculated by logarithmic averaging the number of sound measurements taken at each specific hour.
[2] Short-term measurements were derived from second measurements, with the total duration being less than an hour.

Measurement duration was sufficient to ensure natural variation in sound levels and meteorological conditions were covered. Observed sources of background sound that contributed to the existing sound level at the monitoring locations included birds, insects, rustling vegetation and airplanes. Field data sheets were completed for each measurement and are provided in Appendix B of this report. Graphs showing hourly noise measurements for the long-term measurements are provided in Appendix D of this document.

4.2.6 *Meteorological Data*

Approximately 51 hours of noise data were collected during the survey and validated against weather data from the Casa Grande West station (KAZCASAG67) located approximately 2.2 miles northeast of the Project. Survey weather conditions are presented in Table 7.

Table 7. Weather Conditions for May 7 through May 9, 2024

Weather Station	Monitoring Start	Monitoring End	Wind Speed (mph)		Temperature (°F)		Humidity (% relative humidity)	
			Range	Avg.	Range	Avg.	Range	Avg.
Casa Grande West - KAZCASAG67	5/7/2024 15:38	5/9/2024 18:42	0 - 3.3	0.13	57.6 – 93.0	75.93	10 - 25	13.95

Note: mph = miles per hour; avg. = average.

The American Society for Testing and Materials (ASTM) Standard Guide for Measurement of Outdoor A-Weighted Sound Levels (ASTM 2012) specifies that data should not be used when steady wind speeds exceed 20 km per hour (12.4 miles per hour). No data points were removed from the long-term or short-term sound data sets due to high-wind events. Summary data for weather from this station for the duration of the survey is provided in Appendix C.

4.3 Regulatory Setting

4.3.1 *Federal*

In 1974 the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin on Safety*. In this publication, the EPA evaluated the effects of environmental noise with respect to health and safety and determined an L_{dn} of 55 dBA (equivalent to a continuous noise level of 48.6 dBA) to be the maximum sound level that will not adversely affect public health and welfare by interfering with speech or other activities in outdoor areas.

4.3.2 *State*

No applicable noise regulations were identified for the Project.

4.3.3 *Local*

4.3.3.1 PINAL COUNTY

The Pinal County Excessive Noise Ordinance (Section 050306-ENO) prescribes noise limits along property boundaries according to the land use category as shown in Table 8. The Pinal County Municipal Ordinance

applies to unincorporated areas of the County. The Project is located in unincorporated land in Pinal County. As a result, the requirements contained within this ordinance would be potentially applicable to the Project.

Table 8. Limiting Sound Levels for Land Use Districts

Zoning District Classifications	L_{eq} Limits
Residential: CR-1A, CR-1, CR-2, CR-3, CR-4, CR-5, OS, MH, RV, MHP, PM/RVP, TR	60 dBA (7 a.m.–8 p.m.) 55 dBA (8 p.m.–7 a.m.)
Commercial or Business: CB-1, CB-2	65 dBA (7 a.m.–10 p.m.) 60 dBA (10 p.m.–7 a.m.)
Industrial: CI-B, CI-1, CI-2	70 dBA (7 a.m.–10 p.m.) 65 dBA (10 p.m.–7 a.m.)
Rural: CAR, SR, SR-1, SH, GR, GR-5, GR-10	65 dBA (7 a.m.–9 p.m.) 60 dBA (9 p.m.–7 a.m.)

Source: Pinal County (2011).

Note: The L_{eq} limits specified are L_{eq} for a 2-minute time interval. Partial L_{eq} levels may be obtained as necessary to assure an accurate indication of the representative sound environment for the site.

Sound projected from property within one zoning district into property within another zoning district of a lesser sound level limit shall not exceed such lesser sound level limit.

Based on the zoning map provided as Figure 2 above, neighboring properties are zoned as either GR, CR-2, and MHP. Power plant equipment during normal operation is exempt from these noise limits, as described in 050306-ENO Section 9 – Exemptions. However, compliance with this regulation is being made to demonstrate that noise from the Project would be insignificant if subject to these noise limits. As a result, a demonstration is being made that Project Bella will comply with the Pinal County Excessive Noise Ordinance No. 050306-EN as Amended by 031611-ENA-01 for Zoning District Classification GR (rural), CR-2 (residential), and MHP (residential).

Additionally, 050306-ENO does not limit noise from construction but does limit the allowed operation times for construction to occur to the following:

- Concrete Work – 5:00 a.m. to 7:00 p.m. from April 15 to October 15 and 6:00 a.m. to 7:00 p.m. from October 16 to April 14.
- Other Types of Construction – 6:00 a.m. to 7:00 p.m. from April 15 to October 15 and 7:00 a.m. to 7:00 p.m. from October 16 to April 14.
- Construction and repair work in non-residential areas, not within 500 feet of a residential property, shall not begin prior to 5:00 a.m. and must stop by 7:00 p.m. or at such other times as authorized by permit.
- Weekends and Holidays Excluded – Construction or repair work shall be limited to 7:00 a.m. to 7:00 p.m. and concrete pouring shall be limited to 6:00 a.m. to 7:00 p.m.+

Construction outside the time periods specified above is allowed if an appropriate permit has been obtained beforehand from the County.

4.3.3.2 CITY OF CASA GRANDE

The city of Casa Grande has a noise ordinance in the Casa Grande City Code §9.24.040 Construction of Buildings or Other Projects. This ordinance provided general provisions to limit unreasonable noise, though no noise limits in terms of dBA levels are provided. Restrictions on allowable times in which construction activities may be carried out when construction is anticipated to occur within 500 feet of a residential

property. However, no residential property in Casa Grande is located within 500 feet of anticipated construction activities. Additionally, the project is located outside of the city, and is not expected to be subject to the general provisions to limit unreasonable noise.

5 NOISE IMPACTS

The following section provides results and interpretation of potential impacts from noise generated by the Project during construction and operation phases.

5.1 Noise Assessment Components

A noise assessment is based on the following components: a sound-generating source, a medium through which the source transmits, the pathways taken by these sounds, and an evaluation of the proximity to NSAs. Soundscapes are affected by the following factors:

- Source. The sources of sound are any generators of small back-and-forth motions (i.e., motions that transfer their motional energy to the transmission path where it is propagated). The acoustic characteristics of the sources are very important. Sources must generate sound of sufficient strength, approximate pitch, and duration so that the sound may be perceived and can cause adverse effects, compared with the natural ambient sounds.
- Transmission path or medium. The transmission path or medium for sound or noise is most often the atmosphere (i.e., air). For the noise to be transmitted, the transmission path must support the free propagation of the small vibratory motions that make up the sound. Atmospheric conditions (e.g., wind speed and direction, temperature, humidity, precipitation) influence the attenuation of sound. Barriers and/or discontinuities (e.g., existing structures, topography, foliage, ground cover, etc.) that attenuate the flow of sound may compromise the path. For example, sound will travel very well across reflective surfaces such as water and pavement but can attenuate across rough surfaces (e.g., grass, loose soil).
- Proximity to NSAs. An NSA is defined as a location where a state of quietness is a basis for use or where excessive noise interferes with the normal use of the location. Typical NSAs include residential areas, parks, and wilderness areas, but also include passive parks and monuments, schools, hospitals, churches, and libraries.

5.2 Construction Noise

The noise levels generated by construction equipment vary significantly and depend on a number of different parameters, such as the type, model, size, and condition of the equipment; the operation schedule; and the condition of the area being worked. Additionally, construction projects are accomplished in several different stages. Each stage has a specific equipment mix, depending on the work to be completed. Construction of the Project facility is expected to occur over a 3-year timeframe. Typical construction activities would take place during daylight hours (dawn to dusk) up to six days a week (Monday–Saturday). The following sections estimate noise levels related to the construction of the Project.

5.2.1 *Equipment and Machinery*

Construction is expected to occur in phases. These phases are expected to include initial sitework and mobilization, material deliveries, earthwork and underground utilities, foundation work, equipment and mechanical work, electrical work, startup/commissioning, operational testing, and final grading/paving. During these construction phases, different equipment will be required on-site that will result in varying

emission rates due to construction activities. Noise levels for typical construction equipment that would likely be used at the Project are in the approximately 70 to 90 dBA range at a distance of 50 feet, as shown in Table 9.

Table 9. Noise Levels for Common Construction Equipment

Equipment Type	Typical Maximum Noise Levels at 50 Feet (dBA)
Backhoe	80
Belly Dump	76
Compactor	83
Concrete Telebelt	81
Crane	81
Drill Rig	79
Dozer	82
Excavator	81
Forklift	85
Flatbed	74
Grader	85
Generator	81
Loader	79
Scraper	84
Tractor	84
Trencher	80
Truck	75

Source: RCNM Software Version 1.1 (FHWA 2011). Table based on EPA report and measured data.

Construction noise levels were estimated using the RCNM. The RCNM is FHWA's national model for the prediction of construction noise. This software is based on actual sound level measurements from various equipment types taken during the Central Artery/Tunnel Project conducted in Boston, Massachusetts, during the early 1990s (FWHA 2011).

Estimates of noise from the construction of the Project are based on a roster of the maximum amount of construction equipment used on a given day. Table 9 showed a list of typical construction equipment and the noise level at 50 feet. The RCNM has noise levels for various types of equipment preprogrammed into the software; therefore, the noise level associated with the equipment is typical for the equipment type and not based on any specific make or model.

The RCNM assumes that the maximum sound level for the Project (L_{max}) is the maximum sound level for the loudest piece of equipment. The approximate noise generated by the construction equipment used at the facility has been conservatively calculated based on an estimated Project construction equipment roster projected to be used at the construction site, and not considering further attenuation due to atmospheric interference or intervening structures.

The equipment and activities on-site would vary throughout the Project, depending on various stages of construction. The predicted noise from construction activity is presented as a worst-case (highest noise level) scenario (initial site work), where it is assumed that all equipment is present and operating

simultaneously on-site for the construction phase. The equipment considered in this scenario includes up to 2 mowers, 2 bulldozers, 2 dump trucks, 4 pickup trucks, 10 portable generators and 1 jackhammer. Noise levels at various distances from the center of the construction site can be predicted and are shown in Table 10.

Table 10. Predicted Construction Noise Levels

Distance (feet)	Construction L_{eq} (dBA)	Construction L_{max} (dBA)*
25	97.2	97.0
50	91.2	91.0
100	85.2	85.0
200	79.1	79.0
250	77.2	77.0
500	71.2	71.0
1,000	65.2	65.0
2,000	59.1	59.0
4,000	53.1	52.9
5,000	51.2	51.0

* Calculated L_{max} is the loudest individual value.

Estimated noise levels from construction activities at the closest NSA, located approximately 1,800 feet from the center of the anticipated construction area, were estimated to be approximately 49.7 dBA L_{eq} and 56.1 dBA L_{dn}.

Construction is transient in nature and noise levels vary depending on the activity in progress. Noise impacts to residents due to the construction of the Project would be temporary and intermittent and mainly limited to daytime hours.

5.3 Operational Noise

To determine the potential noise impact from these sources, detailed noise modeling was conducted. The noise levels at the identified NSAs in the vicinity of the Project from the operation of the of noise generating equipment associated with the Project during both daytime and nighttime hours have been predicted and compared with the relevant noise criteria, including the Pinal County Excessive Noise Ordinance at property lines. Noise levels at residential NSAs were also evaluated for informational purposes, though no applicable regulation governing this noise exists.

5.3.1 *Operational Activities*

The primary noise sources anticipated due to operation of the proposed power plant are 10 GE LM6000 gas turbine generator packages and their associated noise generating equipment, 428 BESS enclosures and their associated noise generating equipment, as well as other support equipment such as water chiller systems and transformers. The combustion turbines are housed in a metal enclosure to protect the units from the elements and for noise reduction.

5.3.2 *Noise Profile*

The sound power level (L_{pw}) for each equipment noise source is listed in Table 11. These equipment sound level specifications are provided from the vendors based on standard GE LM6000 combustion turbine generator packaged equipment. All equipment sound levels were estimated based on available data from the equipment manufacturers or obtained from other sources or calculations where manufacturer's data were not available.

Table 11. Equipment Sound Power Levels

Quantity	Name	Sound Power Level PWL Day (dB(A))									Total, +/- 2 dBA
		31.5	63	125	250	500	1000	2000	4000	8000	
10	GLO [1]	36.6	47.8	58.9	66.4	72.8	72.0	72.2	66.0	54.9	77.9
10	AUX Skid [1]	36.4	48.4	53.8	64.2	77.0	73.0	74.3	74.2	72.5	81.6
10	Finfan Cooler [1]	68.6	82.8	85.9	90.4	93.8	93.0	91.2	87.0	77.9	99.0
10	Air Filter House [1]	73.8	81.6	82.4	97.8	99.0	99.8	96.6	99.5	81.9	105.7
10	Gen Base [1]	55.7	68.6	85.5	82.8	79.8	84.3	80.0	71.3	63.4	90.1
10	Gen Exhaust Silencer [1]	66.0	66.1	81.6	91.8	83.2	79.5	87.3	75.5	65.8	94.0
10	Gen Inlet Fan [1]	54.0	71.8	82.0	97.9	95.3	98.1	93.1	84.0	65.0	102.7
10	Gen Enclosure [1]	56.9	74.4	85.4	85.3	84.4	87.8	82.8	76.8	63.9	92.7
10	Turbine Base [1]	57.1	66.4	76.4	86.5	93.0	88.8	85.6	82.7	73.8	95.8
10	Turbine Exhaust Fan [1]	64.2	77.9	88.3	95.0	94.3	93.7	92.1	89.0	79.1	100.6
10	Turbine Enclosure [1]	59.0	71.4	79.0	86.6	92.2	89.9	87.2	86.3	80.7	96.3
10	Exhaust Expansion Joint [2]	60.6	74.8	87.9	88.4	91.8	92.0	90.2	88.0	76.9	97.6
10	Stack Casing [2]	65.1	78.0	84.2	87.5	82.6	72.6	69.8	66.7	54.2	90.5
10	Stack Exhaust Exit [3]	82.9	93.1	91.2	83.7	74.1	73.3	71.5	78.3	73.2	96.0
6	Autovoltage Transformers [4]	51.6	69.3	80.4	82.7	87.7	85.1	81.6	86.0	68.4	91.0
10	Trane Air Cooled Water Chillers [5]	-	68.8	91.9	94.4	107.8	104	102.2	93.0	83.9	110.4
428	BESS Enclosures [6]	-	47.5	66.7	63.1	71.0	70.6	73.2	74.0	67.8	79.2

[1] GE Vernova 2024

[2] ATCO (2008)

[3] Vanderwall (2024)

[4] Fuji Electric Co., Ltd. (2024)

[5] ACR 550 Sound Data (2024)

[6] SolBank (2023)

5.3.3 *Assessment Methodology*

Based on the sound power levels for each of the sources, SoundPLAN estimates noise contours of the overall project in accordance with a variety of standards, primarily International Standards Organization (ISO) 9613-2:1996, Acoustics, standards for noise propagation calculations. All sound propagation losses, such as geometric spreading, air absorption, ground absorption, and barrier shielding, are calculated in accordance with these recognized standards.

The model accounts for reflection, from adjacent structures and the ground. The model uses industry-accepted propagation algorithms and accepts sound power levels (in dB) provided by the manufacturer and other sources. The calculations account for classical sound wave divergence, plus attenuation factors resulting from air absorption, basic ground effects, and barrier/shielding. SoundPLAN does not account for noise modulation or refraction.

The sound propagation model considers the following influences:

- sound power levels and locations of noise sources
- distance between noise sources and receivers

- topography of the area
- influence of the absorption provided by the ground
- shielding from structures or vegetation
- air absorption
- meteorological conditions

The ISO 9613-2 methodology provides tables and equations for estimating the atmospheric absorption coefficient corresponding to various temperatures and humidity levels. Topographic inputs were also included in the model. Calculations were performed using octave band sound power spectra as inputs for each noise source.

The ISO 9613-2 standard estimates sound pressure levels at a specified distance by subtracting the attenuation factors from the source sound power level for each source in octave frequency bands. Attenuation factors include geometrical divergence, atmospheric attenuation, ground effect, and barrier attenuation. These terms are defined as follows.

Geometrical divergence occurs as the source sound power is spread out over an increasing surface area (i.e., as the distance from the source increases). The estimated loss rate is the same for all frequencies. This is considered the most significant loss associated with propagation. Attenuation due to geometrical divergence is highly dependent on the distance between the source and the receiver. Direction also affects the noise level; 0° direct line of sight noise level will be higher than 90° direction line of sight to a stack emission point. Therefore, the differences in ground elevation and receiver height and hub height (source height) are important parameters. Losses due to atmospheric attenuation occur as the energy in the sound wave is transformed to heat. As this attenuation is frequency dependent and high frequencies are more readily attenuated than low frequencies, these losses are highly influenced by humidity and temperature. Ground effect is described according to the parameter Ground Factor, which varies between 0 for surfaces with low porosity (“hard” ground) and 1 for “soft” ground (surfaces including loose dirt, grass, crops, and other vegetation). This factor describes the effect of sound waves reflected off the ground. Parameters influencing the ground effect are the source height, receiver height, and propagation distance between the source and receiver and the ground conditions. Barrier attenuation describes the effect of sound waves refracted around an imperforate element or barrier. A barrier could include human-made objects such as structures, buildings, and fences, as well as topographical features. Therefore, the differences in ground elevation, source height, receiver height, dimensions, and location absorption and reflection coefficients of human-made structures and topographic features are important parameters when estimating barrier attenuation in SoundPLAN.

The following assumptions were made when running SoundPLAN:

- Noise impact calculations were performed using octave band data from 31 Hz to 8 kHz.
- The model assumed all proposed noise-generating sources operated concurrently.
- Noise impacts at the NSAs and depicted in the isopleths were estimated assuming a receiver height of 5 feet above ground level.
- Elevations of the sources and of the receptors examined in the modeling were determined from U.S. Geological Survey Digital Elevation Map (DEM) and are based on North American Datum of 1927. The DEM files each had a 100-foot resolution (7.5-minute DEM providing coverage of 7.5 × 7.5-minute blocks).
- Atmospheric attenuation was modeled using SoundPLAN default parameters (i.e., temperature of 50°F, 70% humidity and pressure of 1013 mbar). These parameters are more conservative than

annual average conditions in Casa Grande and better account for more unfavorable weather conditions in terms of noise attenuation.

- To better represent the actual conditions of the proposed Project and to ensure that both hard and soft ground absorption were considered, acoustically hard sites including surfaces such as pavement and bare hard ground were assumed to have high reflectivity properties and a ground absorption coefficient of 0.0 was used. Ground cover in the vicinity of the Project was analyzed using satellite imagery from Google Earth. A higher ground factor of 1.0 was defined for more absorptive ground, such as vegetation and loose soil. Semi-hard materials such as gravel and sand were assumed to have a ground absorption coefficient of 0.6.
- The Project is designed to operate to provide grid reliability and energy during net peak demand periods.

5.3.4 *Operational Noise Impacts*

Calculations were performed using linear octave band power levels as inputs from each noise source. Summaries of the sound propagation model results are presented in the following sections.

5.3.4.1 SOUND LEVELS AT THE NEAREST RECEPTORS

The acoustic model calculated the sound propagation from the Project site to the surrounding area based on the sound power levels listed in Table 11. The noise impact of the Project at the closest property lines and at receptors as described in Section 4.2.2 is presented in this section. A comparison of modeled operational noise to the noise limits contained in the Pinal County Excessive Noise Ordinance is presented in Table 12.

Table 12. Estimated Operational Sound Levels at Project Boundaries Compared to Pinal County Noise Limits

Property Boundary	Predicted Sound Levels from Project [1] L_{eq}, dBA	Measured Background Noise [2] L_{eq}, dBA	Cumulative Noise Levels L_{eq}, dBA	Pinal County Noise Limit L_{eq}, dBA
Maximum Estimated Noise at Property Line Adjacent to CR-2 or MHP Zoned Property (day, 7am-9pm)	52.6	43.2	53.1	60
Maximum Estimated Noise at Property Line Adjacent to CR-2 or MHP Zoned Property (night, 9pm-7am)	52.6	41.6	52.9	55
Maximum Estimated Noise at Property Line Adjacent to GR Zoned Property (day, 7am-8pm)	58	43.2	58.1	65
Maximum Estimated Noise at Property Line Adjacent to GR Zoned Property (night, 8pm-7am)	58	41.6	58.1	60

[1] Predicted Sound Levels from Project is based on the worst-case operational scenario.
[2] The LT-1 monitoring location was deemed to be more representative of background noise than LT-2 due to the proximity of the monitoring locations to the predicted maximum noise impact locations.

As demonstrated in Table 12, the maximum noise levels (including background noise), at a property boundary that neighbors a parcel zoned as residential (the eastern edge of the Project) is 53.1 dBA during daytime hours (7am-8pm), and 52.9 dBA during nighttime hours (8pm-7am), which is below the daytime threshold of 60 dBA and nighttime threshold of 55 dBA. The maximum impact (including background noise) at a property boundary that neighbors a parcel zoned as general rural (all other Project boundaries)

is 58.1 dBA during daytime hours (7am-9pm), and 58.1 dBA during nighttime hours (9pm-7am), which is below the daytime threshold of 65 dBA and nighttime threshold of 60 dBA. Based on these modeling results, the need for additional noise mitigation in the form of sound attenuating walls or other design features in order to remain below the limits provided in the Pinal County Excessive Noise Ordinance. However, it is important to note that noise generated from Project equipment during normal operation is exempt from the noise limits described in Pinal County Ordinance 050306-ENO Section 7.

The predicted sound levels at select NSAs where maximum noise impacts are predicted in different compass directions from the Project area are provided in Table 13.

Table 13. Estimated Sound Levels at NSAs

Receptor	Distance and Direction from Nearest Project Boundary	Predicted Sound Levels from Project [1]		Measured Background Noise [2]		Cumulative Noise Levels	
		Leq, dBA	Ldn dBA	Leq, dBA	Ldn, dBA	Leq, dBA	Ldn, dBA
NSA 1 (32.844180°, -111.890690°)	80 ft NW	45.0	49.7	40.8	42.0	46.4	50.8
NSA 2 (32.845668°, -111.890599°)	425 ft NNW	43.5	48.4	40.8	42.0	45.4	49.5
NSA 3 32.840747°, -111.868845°)	2,730 ft E	39.1	43.7	42.8	43.2	44.3	49.6

[1] Predicted sound levels from project account for two scenarios in which turbines operate and chillers do not operate, and the chillers operate and turbines do not operate.
[2] Background noise levels at NSAs to the northwest and north northwest were estimated using the measured sound levels at the LT-2 monitoring location due to proximity to the NSAs in that direction. Background noise levels at NSAs to the east were estimated using the measured sound levels at the LT-1 monitoring location due to proximity to NSAs in that direction. It is expected that residences to the east would likely experience higher ambient noise levels due to the number of residences and potential noise generating sources associated with them.

The projected noise levels at the closest sensitive receptor (including background noise), is estimated to be 46.4 dBA Leq, and 50.8 dBA Ldn. This is below the EPA recommended noise limit of 55 dBA Ldn. This NSA is located approximately 80 ft NW of a project boundary and 2,140 ft NW of the nearest turbines. All other NSAs are located further away and are predicted to result in lower noise levels at the properties. There is no applicable regulation that provides noise limits at residences neighboring the Project and this data is provided here for informational purposes.

Contour (isopleth) grid maps generated by SoundPLAN software are presented in Appendix E. The maps depicts the extent of noise propagation from the SoundPLAN models that were developed for the noise impact assessment. The noise contour maps illustrate the extent of noise associated with the proposed development. It is important to note that the extent of the impacts depicted in these figures does not include the contribution of the existing background noise.

5.3.5 *Mitigation Measures*

The project is in compliance with the Pinal County Noise Ordinance at all property boundaries under an assumed worst-case continuous operation of all project noise sources. However, power plant equipment during normal operation is exempt from these noise limits, as described in 050306-ENO Section 9 - Exemptions.

If noise levels were observed to be in excess of any applicable noise standard based on the results of a post-construction noise survey, mitigation measures can be employed at the Project to further reduce noise impacts associated with its operation.

Some of the mitigation options employed may include the construction of a noise attenuating wall or earthen berms to block the line of sight between noise source and potential noise receptors, as well as the installation of noise attenuating components to operational noise sources. The air cooled chillers in particular have readily available sound blankets that could be installed to mitigate noise. Options that might be considered could result in between 3 and 8 dBA noise reductions from the chillers.

Similar noise mitigating components could potentially be evaluated for the LM6000s, as well as the BESS enclosures. However, based on predicted Project noise levels, the requirement for additional mitigation measures to be employed is not anticipated.

5.3.6 *Corona Noise*

The project would connect to the existing 500kV transmission line. Approximately 785 feet of new transmission lines interconnect will be added to tie into an existing 500-kV transmission line located within the project site. The closest residential receptor is located approximately 3,000 feet east of the proposed transmission line tie-in, and all residences within 1 mile of the route are closer to the existing 500-kV transmission lines than they would be to the proposed project.

Operation noise outputs of transmission lines are minimal and generally limited to corona noise and the occasional maintenance vehicle surveying the transmission line. Corona is the ionization of the air that occurs at the surface of the energized conductor and suspension hardware because of very high electric field strength at the surface of the metal during certain conditions.

Corona generates audible noise during operation of high-voltage transmission lines. Under certain conditions, the localized electric field near an energized conductor can be sufficiently concentrated to produce a tiny electric discharge that can ionize air close to the conductors. This partial discharge of electrical energy is called corona discharge, or corona. Several factors, including conductor voltage, shape, diameter, and surface irregularities such as scratches, nicks, dust, or water drops, can affect a conductor's electrical surface gradient and its corona performance. Corona is the physical manifestation of energy loss and can transform discharge energy into very small amounts of sound, heat, and chemical reactions of the air components.

Audible noise from the line can barely be heard in fair weather conditions on higher voltage lines. During wet weather conditions (such as rain or fog), water drops collect on the conductor and increase corona activity so that a crackling or humming sound may be heard near the line. This noise is caused by small electrical discharges from the water drops. However, during heavy rain, the ambient noise generated by the falling raindrops will typically be greater than the noise generated by corona.

5.3.7 *Communication Interference*

Transmission line corona effects associated with the proposed project could interfere with amplitude modulation (AM) radios in vehicles, but only when those vehicles travel under or near the line. Additionally, only AM receivers located very near to transmission lines that are tuned to a weak station have the potential to be affected by radio interference. AM radio frequency interference typically dissipates rapidly with increasing distance from the line. Frequency modulation (FM) radio is rarely affected by corona because corona-generated radio frequency noise currents decrease in magnitude with increasing frequency.

Television reception in local homes is not expected to change as a result of the proposed Project. It is logical to assume that if residents at any of these locations are not currently experiencing interference from the existing lines, they will not experience interference from the more distant line.

Rural residents are more likely to be receiving television by satellite than broadcast in any case. Satellite television frequencies are higher than transmission line frequencies and are not affected by transmission line operation or corona. Cable television service is equally unaffected.

Similarly, wireless computer networks such as Wi-Fi or wireless local area networks operate at high frequencies in the tens to hundreds of megahertz (MHz) or gigahertz (GHz) and use digital coding of the signals. As a result of the high frequencies used by these devices, modulation and processing techniques, effects from interference are unlikely.

Transmission lines do not interfere with cellular phone tower operations or microwave communication paths. This is demonstrated by the fact that cellular phone antennae and microwave receivers are commonly mounted on transmission structures and receive the benefits of the additional height provided by the structures.

6 LITERATURE CITED

American National Standards Institute (ANSI). 2013. *Quantities and Procedures for Description and Measurements with an Observer Present – Part 3: Short-term Measurements with an Observer Present, ANSI/ASA S12.9-2013/Part 3.* American National Standards Institute, Inc.

American Society for Testing and Materials (ASTM). 2012. *E1014-12, Standard Guide for Measurement of Outdoor A-Weighted Noise levels*. West Conshohocken, Pennsylvania: American Society for Testing and Materials International.

ATCO. 2008. *Noise Impact Assessment, Coolidge Generating Station, Coolidge, Arizona.* ATCO. June.

Beranek, L.L. (ed.). 1988. *Noise and Vibration Control*. Washington, D.C.: Institute of Noise Control Engineering

Bolt Beranek and Newman, Inc. 1973. *Fundamentals and Abatement of Highway Traffic Noise*. Report Number PB-222-703. Prepared for U.S. Department of Transportation, Federal Highway Administration. Bolt Beranek and Newman, Inc.

Federal Highway Administration (FHWA). 2011. Roadway Construction Noise Model (RCNM). Software Version 1.1. Federal Highway Administration.

Fuji Electric Co., Ltd. 2024. Auto Transformers Pages from 08A1-E-0001.

General Electric Vernova (GE Vernova). 2024. UG3 LM6000 85dBA Average 60hz Air Cool_SPL_prj_1655925_v2.xlsx.

Pinal County. 2011. Municipal Ordinance No. 050306-ENO: Regulation of Excessive Noises.

SolBank. 2023. 0.5P-0.67P_SolBank Noise Level Testing Report.

U.S. Climate Data. 2021. *Climate Casa Grande – Arizona*. Available at: https://www.usclimatedata.com/climate/casa-grande/arizona/united-states/usca0028. Accessed May 5, 2024.

U.S. Environmental Protection Agency (EPA). 1979. Protective Noise Levels, Condensed Version of EPA Levels Document. Available at: http://www.nonoise.org/library/levels/levels.htm.

APPENDIX A

Long-Term Monitoring Location Photographs

Photo A-1. Monitoring Location LT-1.

Photo A-2. Monitoring Location LT-2.

APPENDIX B

Daily Field Data Sheets

Project Bella Baseline Noise
Survey Field Data Sheet
LT-1 Monitoring Location

Location Coordinates:

Lat: 32.842299°

Lon: -111.879690°

Elevation (ft):

File: CG.001

Unedited Data Summary:

Overall Leq: 42.8 dBA

Ld: 43.2 dB

Ln: 41.6 dB

Ldn: 48.3 dB

Measurement Information:

Start Date: 5/8/2024

Time Start: 15:38

Stop Date: 5/9/2024

Time Stop: 18:35

Total Time Recorded: 50:57

Edited Data Summary:

Overall Leq:

Ld:

Ln:

Ldn:

Calibrations:

Pre-Test: △ 0.18 dB

Post-Test: △ -0.34 dB

Amplifier Model/SN: PRM 831 / 058503

Microphone Model/SN: 377B02 / 311602

Noise Meter Model/SN: 831 C / 10737

Calibrator Model/SN: CAL 200 / 16651

Location Description
Meter is located towards northeast corner of project area. Meter is north of circular agricultural field, located off of access road inside of property. Location is approximately 600 ft west of S Midway Rd.

Description of Background Noise Sources
No significant noise sources observed while on site. Birds, rustling vegetation and aircraft in distance were observed.

Event Log:

Event Number	Day	Time	Comment (Dominant Background Noise Source)

Log of Data Removed:

Event Number	Day	Time	Length Removed	Explanation for Removing Data

Project Bella Baseline Noise
Survey Field Data Sheet
LT-2 Monitoring Location

Location Coordinates:

Lat: 32.843830°

Lon: -111.889226°

Elevation (ft):

File: CG.002

Unedited Data Summary: Overall Leq: 40.8 dBA

Ld: 42.0 dB

Ln: 36.7 dB

Ldn: 44.4 dB

Measurement Information:

Start Date: 5/8/2024

Time Start: 16:21

Stop Date: 5/9/2024

Time Stop: 18:42

Total Time Recorded: 50:21

Edited Data Summary: Overall Leq:

Ld:

Ln:

Ldn:

Calibrations: Pre-Test: △ 0.07 dB

Post-Test: △ -0.02 dB

Amplifier Model/SN: PRM 831 / 071107

Microphone Model/SN: 377B02 / 311601

Noise Meter Model/SN: 831 C / 10739

Calibrator Model/SN: CAL 200 / 16651

Location Description
Meter is located towards northwest corner of project area, with residences in view. Meter is north of circular agricultural field, located off of access road inside of property. Location is approximately 785 ft east of visible residence.

Description of Background Noise Sources
No significant noise sources observed while on site. Birds, rustling vegetation and aircraft in distance were observed.

Event Log:

Event Number	Day	Time	Comment (Dominant Background Noise Source)

Log of Data Removed:

Event Number	Day	Time	Length Removed	Explanation for Removing Data

APPENDIX C

Weather Summary Data

Date	Time	Temperature	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
5/7/2024	3:39 PM	91.8 °F	--	WSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	3:44 PM	91.8 °F	--	West	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	3:49 PM	91.9 °F	--	SSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	3:54 PM	92.1 °F	--	SW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	3:59 PM	92.6 °F	--	West	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:04 PM	92.9 °F	--	NW	0.0 mph	0.3 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:09 PM	93.0 °F	--	WSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:14 PM	93.0 °F	--	South	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:19 PM	93.0 °F	--	WSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:24 PM	92.9 °F	--	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:29 PM	92.8 °F	--	WNW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:34 PM	92.7 °F	--	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:39 PM	92.7 °F	--	South	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	4:44 PM	92.7 °F	--	SE	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	4:49 PM	92.5 °F	--	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	4:54 PM	92.5 °F	--	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	4:59 PM	92.3 °F	--	SW	0.7 mph	1.2 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:04 PM	92.2 °F	--	WNW	0.1 mph	0.5 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:09 PM	91.9 °F	--	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:14 PM	91.9 °F	--	SSW	0.1 mph	0.3 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:19 PM	92.0 °F	--	WSW	0.1 mph	0.4 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:24 PM	91.9 °F	--	SSW	0.2 mph	0.5 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:29 PM	91.8 °F	--	West	0.0 mph	0.0 mph	28.37 in	0.00 in	0.00 in
5/7/2024	5:34 PM	91.6 °F	--	SW	0.0 mph	0.4 mph	28.37 in	0.00 in	0.00 in
5/7/2024	5:39 PM	91.4 °F	--	SSW	0.0 mph	0.1 mph	28.37 in	0.00 in	0.00 in
5/7/2024	5:44 PM	91.2 °F	--	West	0.1 mph	0.7 mph	28.38 in	0.00 in	0.00 in
5/7/2024	5:49 PM	91.0 °F	--	WSW	0.2 mph	0.8 mph	28.37 in	0.00 in	0.00 in
5/7/2024	5:54 PM	90.8 °F	--	WSW	0.3 mph	1.7 mph	28.37 in	0.00 in	0.00 in
5/7/2024	5:59 PM	90.6 °F	--	South	0.0 mph	0.2 mph	28.37 in	0.00 in	0.00 in
5/7/2024	6:04 PM	90.3 °F	--	West	0.0 mph	0.1 mph	28.37 in	0.00 in	0.00 in
5/7/2024	6:09 PM	90.1 °F	--	SW	0.1 mph	0.6 mph	28.37 in	0.00 in	0.00 in
5/7/2024	6:14 PM	89.8 °F	--	SW	0.3 mph	0.9 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:19 PM	89.3 °F	--	SW	0.1 mph	0.7 mph	28.37 in	0.00 in	0.00 in
5/7/2024	6:24 PM	89.0 °F	--	SW	0.2 mph	0.5 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:29 PM	88.5 °F	--	WSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:34 PM	88.0 °F	--	WSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:39 PM	87.4 °F	1 %	WSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:44 PM	86.9 °F	2 %	SW	0.0 mph	0.1 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:49 PM	86.3 °F	2 %	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:54 PM	85.7 °F	2 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	6:59 PM	85.2 °F	2 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:04 PM	84.6 °F	3 %	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:09 PM	84.0 °F	3 %	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:14 PM	83.4 °F	4 %	South	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:19 PM	82.8 °F	4 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:24 PM	82.2 °F	4 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:29 PM	81.7 °F	4 %	WSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in

5/7/2024	7:34 PM	81.1 °F	5 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:39 PM	80.7 °F	5 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/7/2024	7:44 PM	80.3 °F	5 %	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	7:49 PM	79.9 °F	5 %	SW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	7:54 PM	79.5 °F	5 %	South	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	7:59 PM	79.0 °F	7 %	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	8:04 PM	78.4 °F	8 %	South	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/7/2024	8:09 PM	77.7 °F	8 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:14 PM	76.8 °F	9 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:19 PM	75.9 °F	8 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:24 PM	75.1 °F	7 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:29 PM	74.5 °F	6 %	SSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:34 PM	74.2 °F	6 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:39 PM	73.9 °F	6 %	SSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:44 PM	73.8 °F	6 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/7/2024	8:49 PM	73.8 °F	6 %	SSW	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/7/2024	8:54 PM	73.6 °F	6 %	South	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/7/2024	8:59 PM	73.5 °F	6 %	South	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/7/2024	9:04 PM	73.2 °F	5 %	South	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/7/2024	9:09 PM	73.2 °F	4 %	SW	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/7/2024	9:14 PM	73.4 °F	4 %	South	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:19 PM	73.7 °F	5 %	South	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:24 PM	73.8 °F	5 %	South	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:29 PM	73.9 °F	5 %	SSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:34 PM	73.8 °F	6 %	SSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:39 PM	73.6 °F	6 %	SSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:44 PM	73.1 °F	7 %	South	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/7/2024	9:49 PM	72.6 °F	7 %	South	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	9:54 PM	72.1 °F	8 %	South	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	9:59 PM	71.5 °F	8 %	South	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:04 PM	71.0 °F	8 %	SSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:09 PM	70.5 °F	8 %	South	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:14 PM	70.1 °F	8 %	South	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:19 PM	69.8 °F	8 %	SSE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:24 PM	69.8 °F	8 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:29 PM	69.7 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:34 PM	69.8 °F	9 %	SSE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:39 PM	69.8 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:44 PM	69.8 °F	8 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:49 PM	69.9 °F	8 %	SSE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:54 PM	70.0 °F	8 %	SSE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	10:59 PM	70.2 °F	8 %	SSE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	11:04 PM	70.3 °F	7 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	11:09 PM	70.6 °F	7 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	11:14 PM	70.8 °F	7 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	11:19 PM	70.9 °F	7 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/7/2024	11:24 PM	70.9 °F	7 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/7/2024	11:29 PM	70.9 °F	6 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/7/2024	11:34 PM	70.9 °F	6 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in

5/7/2024	11:39 PM	70.9 °F	6 %	SE	0.0 mph	0.1 mph	28.44 in	0.00 in	0.00 in
5/7/2024	11:44 PM	70.9 °F	6 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/7/2024	11:49 PM	70.9 °F	6 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/7/2024	11:54 PM	70.9 °F	7 %	SSE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/7/2024	11:59 PM	70.8 °F	7 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:04 AM	70.5 °F	7 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:09 AM	70.0 °F	8 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:14 AM	69.4 °F	8 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	12:19 AM	68.8 °F	8 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:24 AM	68.2 °F	9 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:29 AM	67.6 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	12:34 AM	66.9 °F	10 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:39 AM	66.3 °F	10 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:44 AM	65.7 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:49 AM	65.3 °F	10 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	12:54 AM	64.8 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	12:59 AM	64.5 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:04 AM	64.2 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:09 AM	64.0 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:14 AM	64.0 °F	10 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	1:19 AM	63.9 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:24 AM	63.7 °F	10 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:29 AM	63.7 °F	10 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	1:34 AM	63.9 °F	9 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:39 AM	64.0 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	1:44 AM	64.1 °F	9 %	ESE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	1:49 AM	64.2 °F	9 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:54 AM	64.2 °F	9 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	1:59 AM	64.2 °F	9 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	2:04 AM	64.2 °F	9 %	ESE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:09 AM	64.2 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:14 AM	64.2 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:19 AM	64.3 °F	9 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	2:24 AM	64.5 °F	9 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:29 AM	64.7 °F	10 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	2:34 AM	64.9 °F	10 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:39 AM	65.0 °F	10 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:44 AM	65.1 °F	10 %	South	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	2:49 AM	64.9 °F	11 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	2:54 AM	64.8 °F	11 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	2:59 AM	64.7 °F	11 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:04 AM	64.4 °F	12 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:09 AM	64.1 °F	12 %	East	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:14 AM	63.9 °F	12 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:19 AM	63.7 °F	13 %	South	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:24 AM	63.3 °F	13 %	SSE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	3:29 AM	63.0 °F	13 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:34 AM	62.7 °F	13 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:39 AM	62.4 °F	13 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in

5/8/2024	3:44 AM	62.2 °F	13 %	SE	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	3:49 AM	62.1 °F	13 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:54 AM	61.9 °F	14 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	3:59 AM	61.7 °F	14 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:04 AM	61.5 °F	14 %	South	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:09 AM	61.3 °F	14 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:14 AM	61.1 °F	15 %	SSE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:19 AM	60.7 °F	15 %	SSE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	4:24 AM	60.4 °F	15 %	SE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	4:29 AM	60.2 °F	15 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:34 AM	60.0 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	4:39 AM	59.9 °F	15 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:44 AM	59.9 °F	15 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	4:49 AM	60.1 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	4:54 AM	60.2 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	4:59 AM	60.3 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:04 AM	60.5 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:09 AM	60.7 °F	15 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	5:14 AM	60.8 °F	15 %	SE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:19 AM	60.8 °F	15 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	5:24 AM	60.8 °F	15 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	5:29 AM	60.8 °F	15 %	ESE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	5:34 AM	60.8 °F	15 %	SE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:39 AM	60.7 °F	16 %	SE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:44 AM	60.5 °F	16 %	SE	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	5:49 AM	60.4 °F	15 %	SE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:54 AM	60.4 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	5:59 AM	60.6 °F	15 %	ESE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	6:04 AM	60.8 °F	15 %	South	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	6:09 AM	61.1 °F	15 %	SE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	6:14 AM	61.4 °F	15 %	SSE	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	6:19 AM	61.9 °F	15 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:24 AM	62.3 °F	15 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:29 AM	62.7 °F	15 %	SSE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:34 AM	63.0 °F	15 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:39 AM	63.4 °F	14 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:44 AM	63.8 °F	14 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:49 AM	64.2 °F	13 %	South	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:54 AM	64.7 °F	13 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	6:59 AM	65.2 °F	13 %	East	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:04 AM	65.8 °F	12 %	East	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:09 AM	66.4 °F	12 %	ESE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:14 AM	66.9 °F	12 %	ESE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:19 AM	67.5 °F	12 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:24 AM	68.1 °F	11 %	ESE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:29 AM	68.6 °F	11 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	7:34 AM	69.1 °F	11 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	7:39 AM	69.5 °F	10 %	ESE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	7:44 AM	70.1 °F	10 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in

5/8/2024	7:49 AM	70.6 °F	10 %	SSE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	7:54 AM	71.2 °F	10 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	7:59 AM	71.9 °F	9 %	SE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:04 AM	72.6 °F	9 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:09 AM	73.4 °F	9 %	SSE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:14 AM	74.1 °F	9 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:19 AM	74.8 °F	8 %	SE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:24 AM	75.5 °F	8 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:29 AM	76.0 °F	8 %	SE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:34 AM	76.5 °F	8 %	ESE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:39 AM	76.9 °F	7 %	South	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	8:44 AM	77.4 °F	7 %	SE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	8:49 AM	77.8 °F	7 %	ESE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	8:54 AM	78.1 °F	7 %	SSW	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	8:59 AM	78.4 °F	7 %	SSW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:04 AM	78.8 °F	7 %	SSW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:09 AM	79.3 °F	6 %	SSE	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:14 AM	79.8 °F	5 %	SSW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:19 AM	80.6 °F	4 %	SSW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:24 AM	81.1 °F	6 %	SW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:29 AM	81.5 °F	6 %	SW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:34 AM	81.6 °F	6 %	SSW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:39 AM	81.8 °F	5 %	North	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	9:44 AM	82.0 °F	5 %	SSW	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	9:49 AM	81.9 °F	6 %	WSW	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	9:54 AM	81.9 °F	6 %	South	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	9:59 AM	82.1 °F	5 %	WSW	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:04 AM	82.6 °F	5 %	South	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:09 AM	83.1 °F	4 %	West	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:14 AM	83.3 °F	5 %	WSW	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:19 AM	83.5 °F	5 %	NW	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:24 AM	84.1 °F	5 %	South	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:29 AM	84.6 °F	5 %	West	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:34 AM	84.7 °F	5 %	SSW	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:39 AM	84.6 °F	5 %	NW	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:44 AM	84.7 °F	5 %	SSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	10:49 AM	84.7 °F	6 %	WNW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	10:54 AM	84.5 °F	5 %	NNW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	10:59 AM	84.2 °F	5 %	WSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:04 AM	84.2 °F	6 %	SSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:09 AM	84.2 °F	5 %	South	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:14 AM	84.3 °F	5 %	WNW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:19 AM	84.7 °F	5 %	SW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:24 AM	84.9 °F	5 %	NW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:29 AM	85.1 °F	5 %	SW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	11:34 AM	85.3 °F	5 %	WNW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	11:39 AM	85.5 °F	5 %	SSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	11:44 AM	85.5 °F	5 %	SSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	11:49 AM	85.5 °F	5 %	WSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in

5/8/2024	11:54 AM	85.5 °F	5 %	SSE	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	11:59 AM	85.5 °F	5 %	NE	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	12:04 PM	85.6 °F	5 %	South	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/8/2024	12:09 PM	85.7 °F	5 %	SSE	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/8/2024	12:14 PM	85.7 °F	5 %	West	0.0 mph	0.4 mph	28.41 in	0.00 in	0.00 in
5/8/2024	12:19 PM	86.0 °F	5 %	WSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:24 PM	86.3 °F	5 %	SW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:29 PM	86.6 °F	4 %	WNW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:34 PM	86.9 °F	4 %	WSW	0.7 mph	1.5 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:39 PM	87.2 °F	4 %	SW	0.4 mph	1.2 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:44 PM	87.4 °F	4 %	South	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:49 PM	87.4 °F	5 %	SSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:54 PM	87.6 °F	4 %	SSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	12:59 PM	87.8 °F	5 %	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/8/2024	1:04 PM	87.8 °F	5 %	WSW	0.1 mph	0.4 mph	28.39 in	0.00 in	0.00 in
5/8/2024	1:09 PM	87.9 °F	4 %	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/8/2024	1:14 PM	88.0 °F	5 %	SW	0.1 mph	0.2 mph	28.39 in	0.00 in	0.00 in
5/8/2024	1:19 PM	88.2 °F	5 %	South	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/8/2024	1:24 PM	88.2 °F	5 %	WSW	0.5 mph	1.9 mph	28.38 in	0.00 in	0.00 in
5/8/2024	1:29 PM	88.0 °F	4 %	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	1:34 PM	88.2 °F	5 %	SE	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	1:39 PM	88.2 °F	5 %	SW	0.4 mph	1.2 mph	28.38 in	0.00 in	0.00 in
5/8/2024	1:44 PM	88.2 °F	5 %	SW	0.4 mph	1.4 mph	28.39 in	0.00 in	0.00 in
5/8/2024	1:49 PM	88.2 °F	6 %	West	0.1 mph	0.6 mph	28.38 in	0.00 in	0.00 in
5/8/2024	1:54 PM	88.3 °F	5 %	West	0.3 mph	1.3 mph	28.38 in	0.00 in	0.00 in
5/8/2024	1:59 PM	88.4 °F	5 %	West	0.0 mph	0.1 mph	28.38 in	0.00 in	0.00 in
5/8/2024	2:04 PM	88.5 °F	5 %	NW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	2:09 PM	88.6 °F	5 %	West	0.7 mph	1.8 mph	28.38 in	0.00 in	0.00 in
5/8/2024	2:14 PM	88.6 °F	5 %	NW	0.0 mph	0.0 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:19 PM	88.7 °F	5 %	West	0.0 mph	0.0 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:24 PM	88.7 °F	4 %	WNW	0.0 mph	0.1 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:29 PM	89.0 °F	4 %	South	0.0 mph	0.0 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:34 PM	89.3 °F	4 %	West	0.3 mph	0.9 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:39 PM	89.7 °F	4 %	SSW	0.0 mph	0.4 mph	28.36 in	0.00 in	0.00 in
5/8/2024	2:44 PM	90.1 °F	5 %	WSW	0.4 mph	1.0 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:49 PM	90.3 °F	5 %	West	0.0 mph	0.1 mph	28.37 in	0.00 in	0.00 in
5/8/2024	2:54 PM	90.5 °F	4 %	WNW	0.3 mph	0.8 mph	28.36 in	0.00 in	0.00 in
5/8/2024	2:59 PM	90.5 °F	5 %	NW	0.1 mph	0.8 mph	28.36 in	0.00 in	0.00 in
5/8/2024	3:04 PM	90.3 °F	5 %	West	0.2 mph	0.9 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:09 PM	90.1 °F	4 %	SW	0.5 mph	1.8 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:14 PM	90.0 °F	4 %	SW	0.6 mph	1.7 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:19 PM	89.8 °F	4 %	SW	0.8 mph	2.1 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:24 PM	89.8 °F	4 %	West	0.1 mph	0.5 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:29 PM	89.8 °F	4 %	South	0.0 mph	0.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:34 PM	90.0 °F	3 %	SSW	0.1 mph	0.8 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:39 PM	90.1 °F	3 %	SW	0.9 mph	2.9 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:44 PM	90.1 °F	4 %	SSW	0.5 mph	1.8 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:49 PM	90.2 °F	3 %	West	0.2 mph	0.9 mph	28.35 in	0.00 in	0.00 in
5/8/2024	3:54 PM	90.5 °F	3 %	SW	1.0 mph	3.4 mph	28.35 in	0.00 in	0.00 in

5/8/2024	3:59 PM	90.4 °F	3 %	WSW	0.3 mph	1.4 mph	28.35 in	0.00 in	0.00 in
5/8/2024	4:04 PM	90.2 °F	4 %	WSW	0.7 mph	2.2 mph	28.35 in	0.00 in	0.00 in
5/8/2024	4:09 PM	90.0 °F	3 %	WSW	0.2 mph	0.9 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:14 PM	90.0 °F	3 %	SW	0.1 mph	0.9 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:19 PM	90.1 °F	3 %	WSW	1.3 mph	4.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	4:24 PM	90.0 °F	4 %	South	0.0 mph	0.2 mph	28.35 in	0.00 in	0.00 in
5/8/2024	4:29 PM	90.0 °F	4 %	SW	0.2 mph	1.2 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:34 PM	89.8 °F	4 %	SW	0.8 mph	3.2 mph	28.35 in	0.00 in	0.00 in
5/8/2024	4:39 PM	89.7 °F	4 %	WSW	0.8 mph	3.0 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:44 PM	89.5 °F	4 %	WSW	0.1 mph	0.7 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:49 PM	89.2 °F	4 %	SW	0.1 mph	0.9 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:54 PM	89.1 °F	3 %	WSW	0.2 mph	0.7 mph	28.34 in	0.00 in	0.00 in
5/8/2024	4:59 PM	89.0 °F	3 %	SW	0.5 mph	1.5 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:04 PM	88.9 °F	4 %	SSW	2.9 mph	5.7 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:09 PM	88.7 °F	4 %	SW	0.1 mph	0.8 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:14 PM	88.7 °F	3 %	SSW	0.3 mph	1.2 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:19 PM	88.5 °F	3 %	SW	0.6 mph	3.0 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:24 PM	88.3 °F	3 %	SSW	1.9 mph	4.4 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:29 PM	88.0 °F	3 %	SW	1.9 mph	4.6 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:34 PM	87.8 °F	3 %	SW	0.8 mph	2.3 mph	28.33 in	0.00 in	0.00 in
5/8/2024	5:39 PM	87.6 °F	3 %	SW	1.7 mph	4.0 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:44 PM	87.4 °F	3 %	WSW	3.3 mph	7.7 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:49 PM	87.1 °F	3 %	SW	1.7 mph	3.9 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:54 PM	86.9 °F	3 %	WSW	0.1 mph	0.7 mph	28.34 in	0.00 in	0.00 in
5/8/2024	5:59 PM	86.8 °F	3 %	SW	1.1 mph	3.5 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:04 PM	86.6 °F	3 %	SW	0.3 mph	1.4 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:09 PM	86.4 °F	3 %	SW	0.1 mph	0.4 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:14 PM	86.3 °F	3 %	SW	0.3 mph	1.4 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:19 PM	86.2 °F	3 %	SSW	0.1 mph	0.5 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:24 PM	86.0 °F	4 %	SSW	0.0 mph	0.1 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:29 PM	85.6 °F	3 %	WSW	0.1 mph	0.9 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:34 PM	85.4 °F	4 %	SSW	0.0 mph	0.0 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:39 PM	85.0 °F	4 %	South	0.0 mph	0.0 mph	28.34 in	0.00 in	0.00 in
5/8/2024	6:44 PM	84.6 °F	4 %	SW	0.0 mph	0.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	6:49 PM	84.2 °F	5 %	WSW	0.0 mph	0.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	6:54 PM	83.7 °F	5 %	SSW	0.0 mph	0.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	6:59 PM	83.2 °F	5 %	SW	0.1 mph	0.3 mph	28.35 in	0.00 in	0.00 in
5/8/2024	7:04 PM	82.8 °F	5 %	SSW	0.0 mph	0.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	7:09 PM	82.3 °F	4 %	SSE	0.0 mph	0.0 mph	28.35 in	0.00 in	0.00 in
5/8/2024	7:14 PM	81.8 °F	4 %	SW	0.0 mph	0.0 mph	28.36 in	0.00 in	0.00 in
5/8/2024	7:19 PM	81.3 °F	5 %	SSW	0.0 mph	0.0 mph	28.36 in	0.00 in	0.00 in
5/8/2024	7:24 PM	80.9 °F	5 %	SW	0.0 mph	0.0 mph	28.36 in	0.00 in	0.00 in
5/8/2024	7:29 PM	80.3 °F	5 %	WSW	0.0 mph	0.0 mph	28.36 in	0.00 in	0.00 in
5/8/2024	7:34 PM	79.9 °F	5 %	WSW	0.0 mph	0.1 mph	28.37 in	0.00 in	0.00 in
5/8/2024	7:39 PM	79.4 °F	5 %	SSW	0.0 mph	0.0 mph	28.37 in	0.00 in	0.00 in
5/8/2024	7:44 PM	78.8 °F	5 %	SW	0.0 mph	0.0 mph	28.37 in	0.00 in	0.00 in
5/8/2024	7:49 PM	78.4 °F	4 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	7:54 PM	78.0 °F	4 %	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	7:59 PM	77.7 °F	4 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in

5/8/2024	8:04 PM	77.4 °F	4 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	8:09 PM	76.9 °F	4 %	SW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	8:14 PM	76.5 °F	5 %	SSW	0.0 mph	0.0 mph	28.38 in	0.00 in	0.00 in
5/8/2024	8:19 PM	76.0 °F	5 %	South	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/8/2024	8:24 PM	75.5 °F	5 %	SSW	0.0 mph	0.0 mph	28.39 in	0.00 in	0.00 in
5/8/2024	8:29 PM	75.1 °F	4 %	SSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	8:34 PM	74.8 °F	4 %	SW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	8:39 PM	74.7 °F	4 %	WSW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	8:44 PM	74.7 °F	4 %	SW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	8:49 PM	74.5 °F	5 %	SW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	8:54 PM	74.5 °F	5 %	SW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	8:59 PM	74.4 °F	5 %	SW	0.0 mph	0.0 mph	28.40 in	0.00 in	0.00 in
5/8/2024	9:04 PM	74.1 °F	4 %	SW	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/8/2024	9:09 PM	73.7 °F	5 %	SW	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/8/2024	9:14 PM	73.2 °F	5 %	SW	0.0 mph	0.0 mph	28.41 in	0.00 in	0.00 in
5/8/2024	9:19 PM	72.7 °F	6 %	SSW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	9:24 PM	72.1 °F	7 %	WSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	9:29 PM	71.4 °F	7 %	SW	0.0 mph	0.0 mph	28.42 in	0.00 in	0.00 in
5/8/2024	9:34 PM	70.7 °F	7 %	SSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	9:39 PM	70.3 °F	7 %	WSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	9:44 PM	69.9 °F	8 %	SSW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	9:49 PM	69.4 °F	9 %	SW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	9:54 PM	69.0 °F	9 %	SW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	9:59 PM	68.6 °F	8 %	SW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	10:04 PM	68.3 °F	7 %	SW	0.0 mph	0.0 mph	28.43 in	0.00 in	0.00 in
5/8/2024	10:09 PM	68.1 °F	6 %	WSW	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:14 PM	68.0 °F	6 %	West	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:19 PM	68.0 °F	6 %	West	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:24 PM	68.3 °F	5 %	West	0.0 mph	0.1 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:29 PM	68.7 °F	5 %	SW	0.0 mph	0.0 mph	28.44 in	0.00 in	0.00 in
5/8/2024	10:34 PM	69.0 °F	6 %	WNW	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:39 PM	69.1 °F	8 %	West	0.0 mph	0.3 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:44 PM	68.8 °F	8 %	WSW	0.1 mph	0.6 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:49 PM	68.5 °F	8 %	West	0.0 mph	0.0 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:54 PM	68.1 °F	8 %	West	0.0 mph	0.1 mph	28.45 in	0.00 in	0.00 in
5/8/2024	10:59 PM	67.7 °F	8 %	West	0.0 mph	0.1 mph	28.45 in	0.00 in	0.00 in
5/8/2024	11:04 PM	67.4 °F	7 %	West	0.0 mph	0.1 mph	28.46 in	0.00 in	0.00 in
5/8/2024	11:09 PM	67.1 °F	8 %	West	0.0 mph	0.1 mph	28.46 in	0.00 in	0.00 in
5/8/2024	11:14 PM	67.0 °F	7 %	SW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	11:19 PM	66.9 °F	8 %	SW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	11:24 PM	66.8 °F	8 %	SSW	0.0 mph	0.0 mph	28.46 in	0.00 in	0.00 in
5/8/2024	11:29 PM	66.5 °F	9 %	SW	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	11:34 PM	66.0 °F	9 %	SE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	11:39 PM	65.5 °F	8 %	ENE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	11:44 PM	65.0 °F	7 %	SE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/8/2024	11:49 PM	64.8 °F	7 %	SE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/8/2024	11:54 PM	64.9 °F	6 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/8/2024	11:59 PM	65.0 °F	6 %	ENE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/9/2024	12:04 AM	65.3 °F	6 %	SW	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in

5/9/2024	12:09 AM	65.7 °F	6 %	South	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/9/2024	12:14 AM	66.2 °F	4 %	WSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:19 AM	66.8 °F	3 %	SSE	0.0 mph	0.0 mph	28.47 in	0.00 in	0.00 in
5/9/2024	12:24 AM	67.3 °F	3 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:29 AM	67.6 °F	3 %	South	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:34 AM	67.9 °F	4 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:39 AM	68.2 °F	3 %	South	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:44 AM	68.2 °F	4 %	South	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:49 AM	67.9 °F	4 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:54 AM	67.5 °F	4 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	12:59 AM	67.3 °F	3 %	WSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:04 AM	67.1 °F	4 %	South	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:09 AM	66.9 °F	4 %	South	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:14 AM	66.6 °F	4 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:19 AM	66.3 °F	5 %	SW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:24 AM	65.9 °F	5 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:29 AM	65.7 °F	4 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:34 AM	65.5 °F	4 %	SSW	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:39 AM	65.1 °F	6 %	South	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:44 AM	64.4 °F	8 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:49 AM	63.7 °F	8 %	SE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:54 AM	62.9 °F	8 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	1:59 AM	62.1 °F	8 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:04 AM	61.4 °F	8 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:09 AM	60.8 °F	6 %	East	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:14 AM	60.4 °F	8 %	SE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:19 AM	60.0 °F	8 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:24 AM	59.7 °F	8 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:29 AM	59.5 °F	7 %	SE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:34 AM	59.5 °F	7 %	SE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:39 AM	59.3 °F	7 %	SSE	0.0 mph	0.0 mph	28.48 in	0.00 in	0.00 in
5/9/2024	2:44 AM	59.0 °F	7 %	ESE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	2:49 AM	59.1 °F	7 %	ESE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	2:54 AM	59.2 °F	8 %	East	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	2:59 AM	59.1 °F	8 %	SE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:04 AM	58.7 °F	8 %	ESE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:09 AM	58.6 °F	7 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:14 AM	58.6 °F	7 %	SE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:19 AM	58.6 °F	7 %	ESE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:24 AM	58.5 °F	8 %	SSE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:29 AM	58.5 °F	8 %	SE	0.0 mph	0.0 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:34 AM	58.6 °F	8 %	SSE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:39 AM	58.5 °F	8 %	SSE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:44 AM	58.3 °F	8 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:49 AM	58.1 °F	8 %	ESE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:54 AM	58.1 °F	8 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:59 AM	58.2 °F	7 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:04 AM	58.4 °F	7 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:09 AM	58.7 °F	7 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in

5/9/2024	4:14 AM	59.0 °F	7 %	SSE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:19 AM	59.3 °F	7 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:24 AM	59.5 °F	7 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:29 AM	59.5 °F	7 %	SSE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:34 AM	59.5 °F	8 %	ESE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:39 AM	59.3 °F	8 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:44 AM	59.1 °F	8 %	SE	0.0 mph	0.1 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:49 AM	58.7 °F	8 %	ESE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:54 AM	58.5 °F	8 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:59 AM	58.3 °F	9 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:04 AM	58.1 °F	10 %	SE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:09 AM	57.9 °F	12 %	SE	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:14 AM	57.8 °F	17 %	SE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:19 AM	57.9 °F	20 %	SE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:24 AM	58.1 °F	22 %	SSE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:29 AM	58.4 °F	22 %	SSE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:34 AM	58.6 °F	23 %	SE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:39 AM	58.8 °F	24 %	SE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:44 AM	58.8 °F	24 %	SE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:49 AM	58.8 °F	25 %	SSE	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:54 AM	58.6 °F	25 %	SW	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	5:59 AM	58.3 °F	23 %	West	0.0 mph	0.1 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:04 AM	57.9 °F	21 %	SSW	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:09 AM	57.6 °F	19 %	SSW	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:14 AM	57.6 °F	19 %	SSW	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:19 AM	57.7 °F	18 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	6:24 AM	57.9 °F	17 %	ESE	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:29 AM	58.4 °F	16 %	South	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:34 AM	59.0 °F	15 %	SE	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:39 AM	59.7 °F	14 %	ESE	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:44 AM	60.4 °F	13 %	SE	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:49 AM	61.1 °F	12 %	SE	0.0 mph	0.0 mph	28.53 in	0.00 in	0.00 in
5/9/2024	6:54 AM	61.8 °F	12 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	6:59 AM	62.3 °F	11 %	SE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:04 AM	62.9 °F	10 %	SE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:09 AM	63.5 °F	9 %	ESE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:14 AM	64.1 °F	9 %	SE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:19 AM	64.7 °F	10 %	SE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:24 AM	65.4 °F	10 %	SE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:29 AM	66.1 °F	9 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:34 AM	66.9 °F	8 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:39 AM	67.5 °F	8 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:44 AM	68.4 °F	5 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:49 AM	69.3 °F	5 %	SE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:54 AM	70.0 °F	5 %	SSE	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	7:59 AM	70.6 °F	5 %	SSE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:04 AM	71.1 °F	3 %	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:09 AM	71.6 °F	1 %	SSE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:14 AM	72.0 °F	1 %	SSE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in

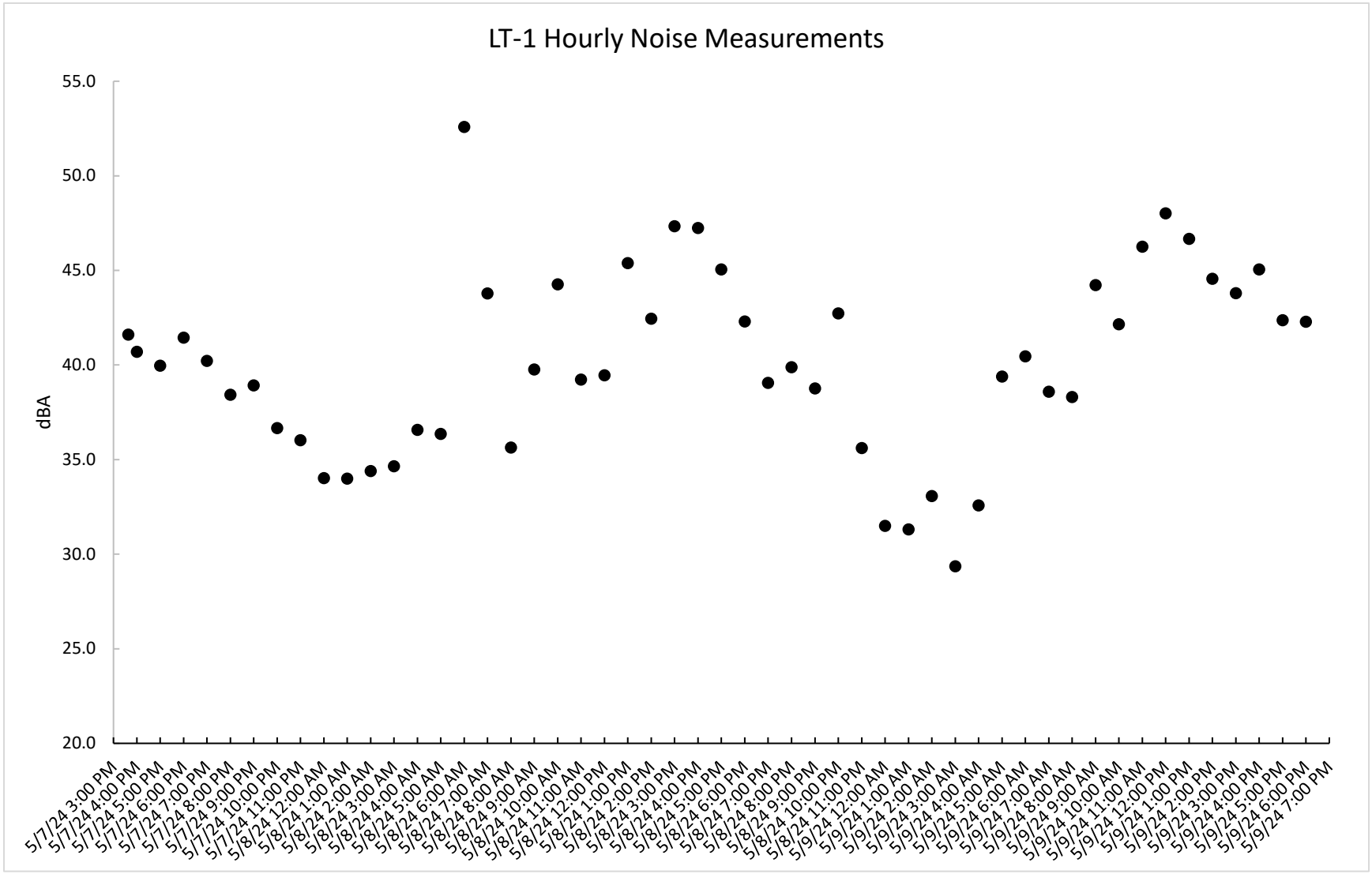
5/9/2024	8:19 AM	72.2 °F	--	SSE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:24 AM	72.7 °F	1 %	ESE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:29 AM	73.0 °F	1 %	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:34 AM	73.4 °F	1 %	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:39 AM	73.8 °F	--	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:44 AM	74.1 °F	--	South	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:49 AM	74.4 °F	--	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:54 AM	74.8 °F	--	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	8:59 AM	75.2 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:04 AM	75.6 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:09 AM	76.1 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:14 AM	76.4 °F	--	South	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:19 AM	76.7 °F	--	South	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:24 AM	77.1 °F	--	SW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:29 AM	77.4 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:34 AM	77.8 °F	--	SE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:39 AM	78.0 °F	--	South	0.0 mph	0.0 mph	28.56 in	0.00 in	0.00 in
5/9/2024	9:44 AM	78.5 °F	--	SSE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:49 AM	79.1 °F	--	ESE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:54 AM	79.4 °F	--	SW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	9:59 AM	79.7 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:04 AM	79.9 °F	--	WSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:09 AM	80.1 °F	--	SW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:14 AM	80.1 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:19 AM	80.0 °F	--	SSE	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:24 AM	80.2 °F	--	WSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:29 AM	80.5 °F	--	West	0.2 mph	0.9 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:34 AM	80.7 °F	--	West	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:39 AM	81.1 °F	--	West	0.0 mph	0.1 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:44 AM	81.5 °F	--	WSW	0.1 mph	0.2 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:49 AM	82.0 °F	--	WSW	0.1 mph	0.5 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:54 AM	82.4 °F	--	SSW	0.0 mph	0.0 mph	28.55 in	0.00 in	0.00 in
5/9/2024	10:59 AM	82.6 °F	--	West	0.0 mph	0.3 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:04 AM	82.7 °F	--	NW	0.1 mph	0.4 mph	28.55 in	0.00 in	0.00 in
5/9/2024	11:09 AM	82.6 °F	--	West	0.0 mph	0.4 mph	28.55 in	0.00 in	0.00 in
5/9/2024	11:14 AM	82.6 °F	--	SW	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:19 AM	82.5 °F	--	SW	0.0 mph	0.2 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:24 AM	82.6 °F	--	WSW	0.5 mph	2.2 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:29 AM	82.6 °F	--	West	0.2 mph	1.4 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:34 AM	82.7 °F	--	SW	0.0 mph	0.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:39 AM	83.0 °F	--	SW	0.0 mph	0.3 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:44 AM	83.4 °F	--	WNW	0.4 mph	1.4 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:49 AM	83.5 °F	--	SW	0.0 mph	0.2 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:54 AM	83.6 °F	--	WSW	0.2 mph	0.7 mph	28.54 in	0.00 in	0.00 in
5/9/2024	11:59 AM	83.8 °F	--	SSW	0.2 mph	1.0 mph	28.54 in	0.00 in	0.00 in
5/9/2024	12:04 PM	84.1 °F	--	SSW	0.1 mph	0.7 mph	28.54 in	0.00 in	0.00 in
5/9/2024	12:09 PM	84.4 °F	--	SW	0.5 mph	1.9 mph	28.54 in	0.00 in	0.00 in
5/9/2024	12:14 PM	84.4 °F	--	WSW	0.8 mph	3.3 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:19 PM	84.6 °F	--	SSW	0.7 mph	1.6 mph	28.53 in	0.00 in	0.00 in

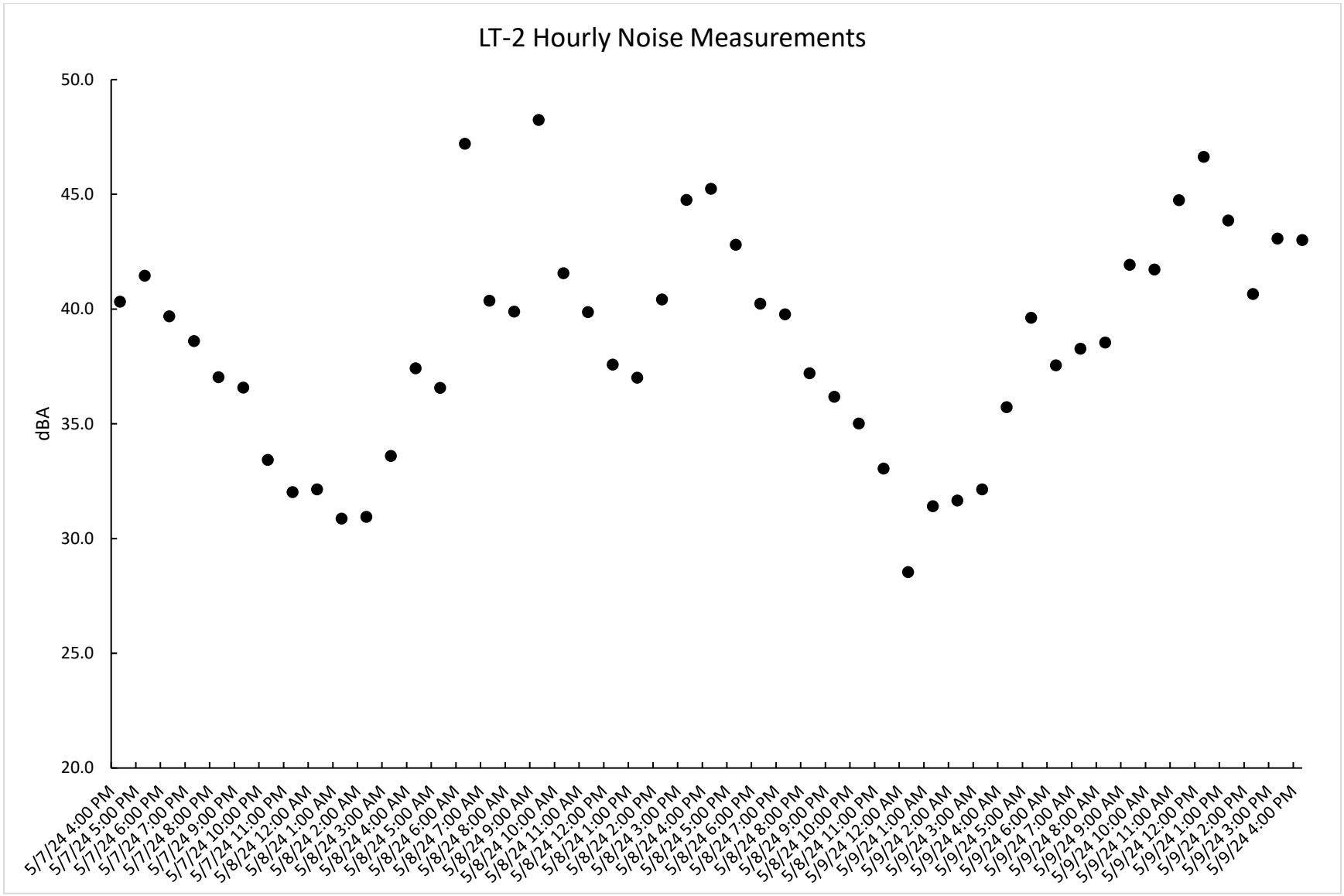
5/9/2024	12:24 PM	84.7 °F	--	WSW	0.8 mph	3.2 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:29 PM	84.8 °F	--	SSW	2.1 mph	4.6 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:34 PM	84.9 °F	--	SSW	2.8 mph	6.5 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:39 PM	84.8 °F	--	SSW	0.4 mph	1.8 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:44 PM	84.9 °F	1 %	SW	1.9 mph	5.3 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:49 PM	84.9 °F	--	SW	1.2 mph	3.7 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:54 PM	85.0 °F	--	SSW	1.0 mph	2.5 mph	28.53 in	0.00 in	0.00 in
5/9/2024	12:59 PM	85.1 °F	--	SW	1.0 mph	2.3 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:04 PM	85.2 °F	--	SSW	2.0 mph	5.3 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:09 PM	85.3 °F	--	SW	1.0 mph	2.7 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:14 PM	85.3 °F	--	SSW	1.5 mph	3.7 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:19 PM	85.4 °F	--	SSW	3.2 mph	7.3 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:24 PM	85.4 °F	--	SW	2.6 mph	5.8 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:29 PM	85.4 °F	--	SSW	1.0 mph	2.6 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:34 PM	85.4 °F	--	SW	2.6 mph	6.6 mph	28.53 in	0.00 in	0.00 in
5/9/2024	1:39 PM	85.3 °F	--	SW	0.4 mph	0.8 mph	28.52 in	0.00 in	0.00 in
5/9/2024	1:44 PM	85.3 °F	--	SW	0.0 mph	0.1 mph	28.52 in	0.00 in	0.00 in
5/9/2024	1:49 PM	85.5 °F	--	SSW	0.5 mph	1.4 mph	28.52 in	0.00 in	0.00 in
5/9/2024	1:54 PM	85.6 °F	--	SW	0.2 mph	0.7 mph	28.52 in	0.00 in	0.00 in
5/9/2024	1:59 PM	85.7 °F	--	SW	1.0 mph	2.8 mph	28.52 in	0.00 in	0.00 in
5/9/2024	2:04 PM	85.8 °F	--	SW	0.7 mph	2.7 mph	28.52 in	0.00 in	0.00 in
5/9/2024	2:09 PM	85.8 °F	--	SSW	0.0 mph	0.0 mph	28.52 in	0.00 in	0.00 in
5/9/2024	2:14 PM	85.8 °F	--	SW	0.0 mph	0.2 mph	28.52 in	0.00 in	0.00 in
5/9/2024	2:19 PM	85.6 °F	--	SSW	0.0 mph	0.1 mph	28.52 in	0.00 in	0.00 in
5/9/2024	2:24 PM	85.6 °F	--	WSW	0.8 mph	2.5 mph	28.52 in	0.00 in	0.00 in
5/9/2024	2:29 PM	85.5 °F	--	WSW	0.2 mph	0.8 mph	28.51 in	0.00 in	0.00 in
5/9/2024	2:34 PM	85.7 °F	--	West	0.1 mph	0.3 mph	28.51 in	0.00 in	0.00 in
5/9/2024	2:39 PM	86.1 °F	--	SW	0.0 mph	0.4 mph	28.51 in	0.00 in	0.00 in
5/9/2024	2:44 PM	86.4 °F	--	SW	1.7 mph	4.3 mph	28.51 in	0.00 in	0.00 in
5/9/2024	2:49 PM	86.5 °F	--	SSW	0.8 mph	1.6 mph	28.51 in	0.00 in	0.00 in
5/9/2024	2:54 PM	86.5 °F	--	SSW	0.0 mph	0.1 mph	28.51 in	0.00 in	0.00 in
5/9/2024	2:59 PM	86.5 °F	--	SW	0.4 mph	1.6 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:04 PM	86.5 °F	--	SW	0.3 mph	0.9 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:09 PM	86.5 °F	--	SSW	0.1 mph	0.8 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:14 PM	86.4 °F	--	West	1.2 mph	2.6 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:19 PM	86.4 °F	--	West	0.4 mph	1.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:24 PM	86.5 °F	--	West	0.1 mph	0.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:29 PM	86.7 °F	--	WSW	0.0 mph	0.5 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:34 PM	86.7 °F	--	SW	0.0 mph	0.2 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:39 PM	87.0 °F	--	SW	0.0 mph	0.1 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:44 PM	87.3 °F	--	WSW	0.5 mph	1.6 mph	28.49 in	0.00 in	0.00 in
5/9/2024	3:49 PM	87.4 °F	--	SSW	1.1 mph	3.1 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:54 PM	87.4 °F	--	WSW	0.4 mph	1.1 mph	28.50 in	0.00 in	0.00 in
5/9/2024	3:59 PM	87.4 °F	--	SSW	0.4 mph	1.2 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:04 PM	87.4 °F	--	SW	0.5 mph	1.6 mph	28.49 in	0.00 in	0.00 in
5/9/2024	4:09 PM	87.4 °F	--	WSW	0.1 mph	0.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:14 PM	87.2 °F	--	WSW	0.1 mph	0.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:19 PM	87.1 °F	--	SW	0.5 mph	2.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:24 PM	86.9 °F	--	SW	0.0 mph	0.3 mph	28.50 in	0.00 in	0.00 in

5/9/2024	4:29 PM	86.9 °F	--	West	0.2 mph	0.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:34 PM	86.9 °F	--	SSW	0.1 mph	0.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:39 PM	86.9 °F	--	SW	0.4 mph	1.4 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:44 PM	86.9 °F	--	SSW	0.8 mph	2.2 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:49 PM	86.9 °F	--	SW	0.1 mph	0.5 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:54 PM	87.0 °F	--	SSW	0.0 mph	0.1 mph	28.50 in	0.00 in	0.00 in
5/9/2024	4:59 PM	87.0 °F	--	WSW	0.6 mph	1.6 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:04 PM	86.8 °F	--	West	0.3 mph	1.2 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:09 PM	86.7 °F	--	West	0.1 mph	0.7 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:14 PM	86.7 °F	--	South	0.0 mph	0.2 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:19 PM	86.7 °F	--	SW	0.0 mph	0.1 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:24 PM	86.6 °F	--	SW	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:29 PM	86.5 °F	--	West	0.5 mph	1.9 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:34 PM	86.4 °F	--	West	0.5 mph	1.7 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:39 PM	86.2 °F	--	West	0.0 mph	0.3 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:44 PM	86.0 °F	--	West	0.3 mph	1.6 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:49 PM	85.8 °F	--	WSW	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:54 PM	85.6 °F	--	WNW	0.1 mph	0.4 mph	28.50 in	0.00 in	0.00 in
5/9/2024	5:59 PM	85.5 °F	--	WSW	0.5 mph	1.8 mph	28.50 in	0.00 in	0.00 in
5/9/2024	6:04 PM	85.3 °F	--	WSW	0.1 mph	0.4 mph	28.50 in	0.00 in	0.00 in
5/9/2024	6:09 PM	85.2 °F	--	SSW	0.0 mph	0.0 mph	28.50 in	0.00 in	0.00 in
5/9/2024	6:14 PM	85.0 °F	--	WSW	0.0 mph	0.1 mph	28.51 in	0.00 in	0.00 in
5/9/2024	6:19 PM	84.8 °F	--	WSW	0.0 mph	0.3 mph	28.51 in	0.00 in	0.00 in
5/9/2024	6:24 PM	84.5 °F	--	WSW	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	6:29 PM	84.1 °F	--	South	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	6:34 PM	83.8 °F	--	WSW	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in
5/9/2024	6:39 PM	83.4 °F	--	WSW	0.0 mph	0.0 mph	28.51 in	0.00 in	0.00 in

APPENDIX D

Long-Term Measurement Data Hourly Graphs


LT-1 Hourly Noise Measurements
dBA
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
5/7/24 3:00 PM
5/7/24 4:00 PM
5/7/24 5:00 PM
5/7/24 6:00 PM
5/7/24 7:00 PM
5/7/24 8:00 PM
5/7/24 9:00 PM
5/7/24 10:00 PM
5/7/24 11:00 PM
5/8/24 12:00 AM
5/8/24 1:00 AM
5/8/24 2:00 AM
5/8/24 3:00 AM
5/8/24 4:00 AM
5/8/24 5:00 AM
5/8/24 6:00 AM
5/8/24 7:00 AM
5/8/24 8:00 AM
5/8/24 9:00 AM
5/8/24 10:00 AM
5/8/24 11:00 AM
5/8/24 12:00 PM
5/8/24 1:00 PM
5/8/24 2:00 PM
5/8/24 3:00 PM
5/8/24 4:00 PM
5/8/24 5:00 PM
5/8/24 6:00 PM
5/8/24 7:00 PM
5/8/24 8:00 PM
5/8/24 9:00 PM
5/8/24 10:00 PM
5/8/24 11:00 PM
5/9/24 12:00 AM
5/9/24 1:00 AM
5/9/24 2:00 AM
5/9/24 3:00 AM
5/9/24 4:00 AM
5/9/24 5:00 AM
5/9/24 6:00 AM
5/9/24 7:00 AM
5/9/24 8:00 AM
5/9/24 9:00 AM
5/9/24 10:00 AM
5/9/24 11:00 AM
5/9/24 12:00 PM
5/9/24 1:00 PM
5/9/24 2:00 PM
5/9/24 3:00 PM
5/9/24 4:00 PM
5/9/24 5:00 PM
5/9/24 6:00 PM
5/9/24 7:00 PM


LT-2 Hourly Noise Measurements
dBA
50.0
45.0
40.0
35.0
30.0
25.0
20.0
5/7/24 4:00 PM
5/7/24 5:00 PM
5/7/24 6:00 PM
5/7/24 7:00 PM
5/7/24 8:00 PM
5/7/24 9:00 PM
5/7/24 10:00 PM
5/7/24 11:00 PM
5/8/24 12:00 AM
5/8/24 1:00 AM
5/8/24 2:00 AM
5/8/24 3:00 AM
5/8/24 4:00 AM
5/8/24 5:00 AM
5/8/24 6:00 AM
5/8/24 7:00 AM
5/8/24 8:00 AM
5/8/24 9:00 AM
5/8/24 10:00 AM
5/8/24 11:00 AM
5/8/24 12:00 PM
5/8/24 1:00 PM
5/8/24 2:00 PM
5/8/24 3:00 PM
5/8/24 4:00 PM
5/8/24 5:00 PM
5/8/24 6:00 PM
5/8/24 7:00 PM
5/8/24 8:00 PM
5/8/24 9:00 PM
5/8/24 10:00 PM
5/8/24 11:00 PM
5/9/24 12:00 AM
5/9/24 1:00 AM
5/9/24 2:00 AM
5/9/24 3:00 AM
5/9/24 4:00 AM
5/9/24 5:00 AM
5/9/24 6:00 AM
5/9/24 7:00 AM
5/9/24 8:00 AM
5/9/24 9:00 AM
5/9/24 10:00 AM
5/9/24 11:00 AM
5/9/24 12:00 PM
5/9/24 1:00 PM
5/9/24 2:00 PM
5/9/24 3:00 PM
5/9/24 4:00 PM

APPENDIX E

SoundPLAN Isopleth and Single Point Maps

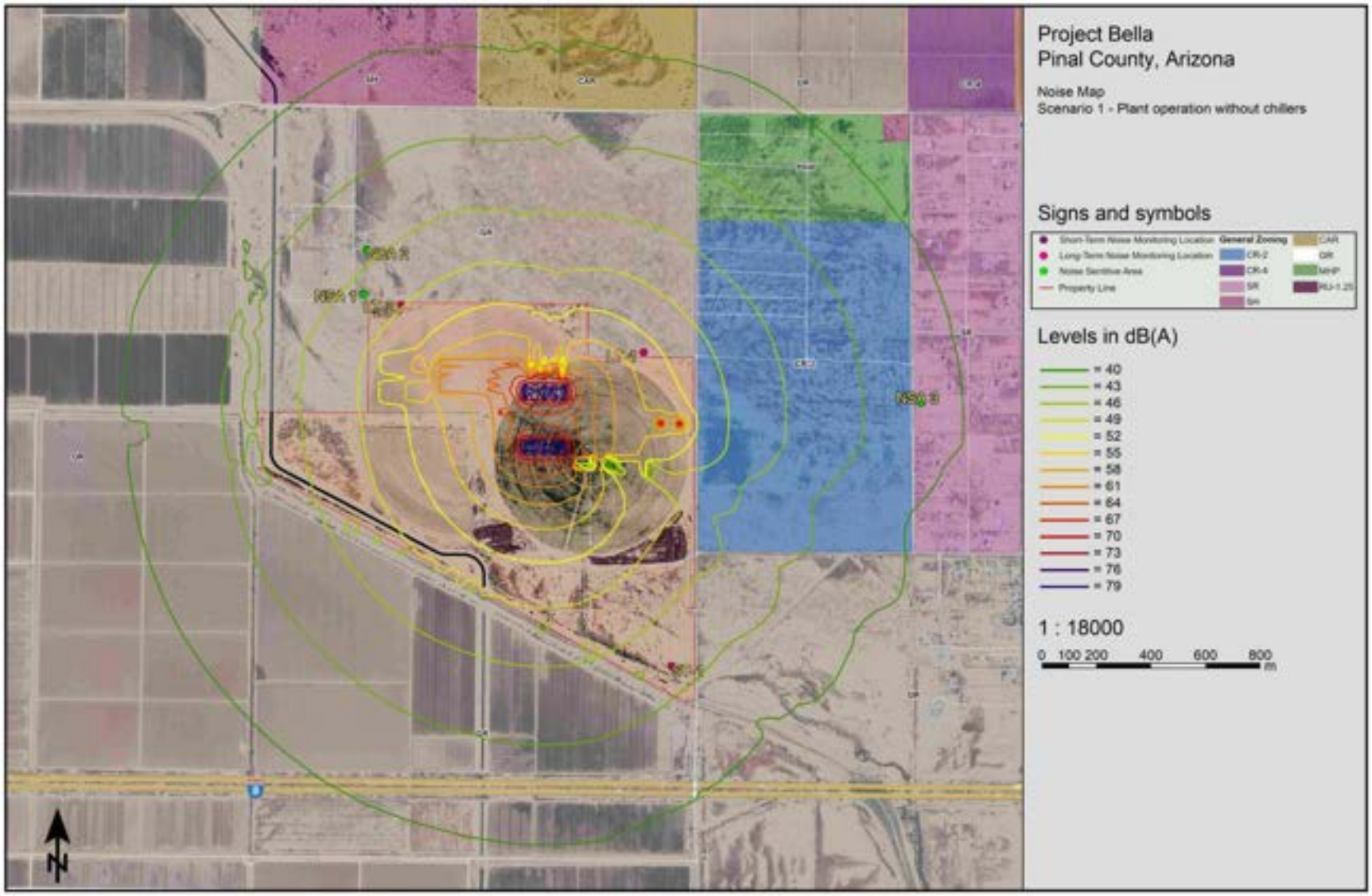


Figure E-1. Project operation noise isopleth – Scenario 1: Project Operations without Chillers.

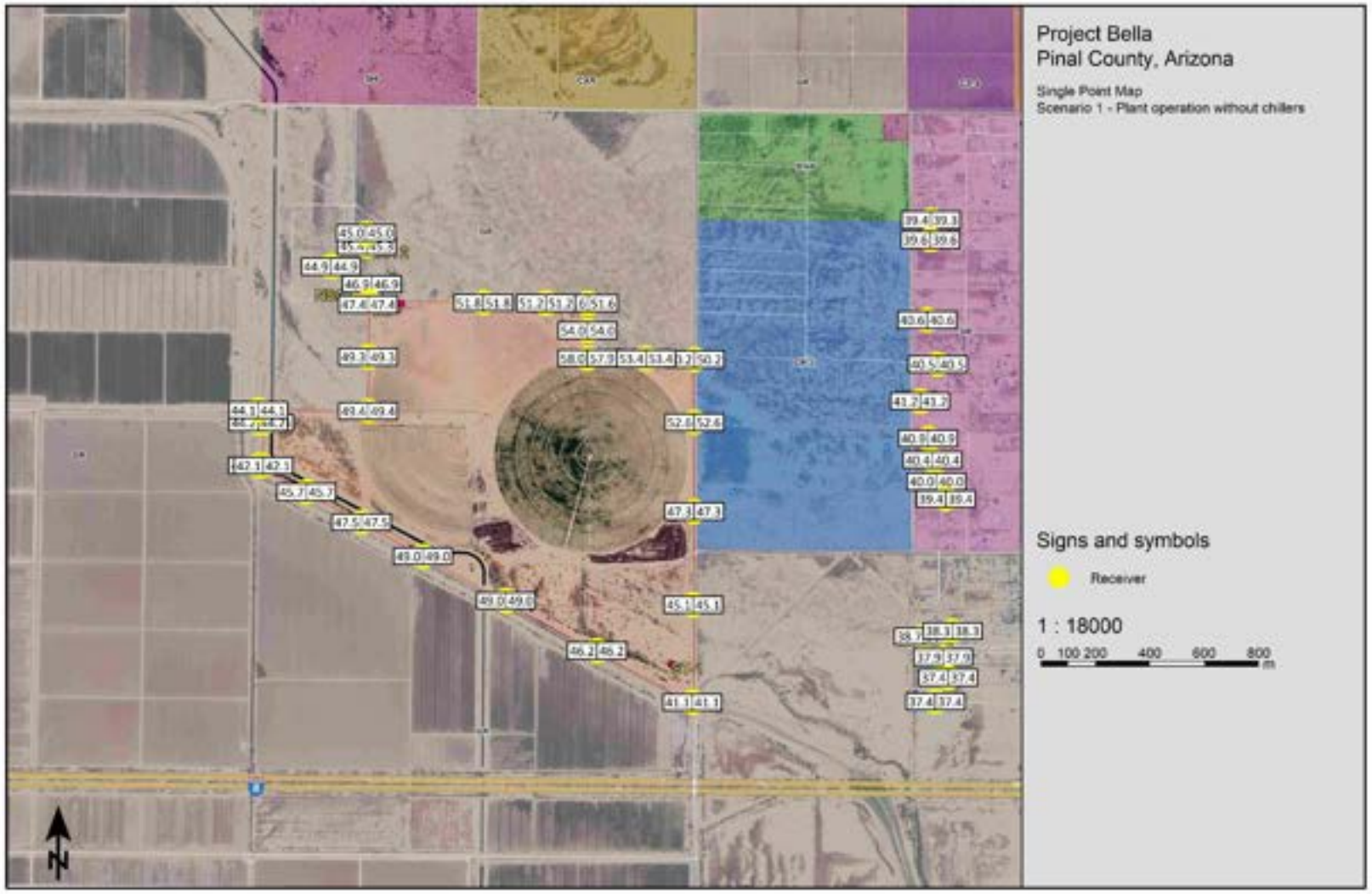


Figure E-2. Project operation noise – single point map (Scenario 1: Plant Operations without Chillers).

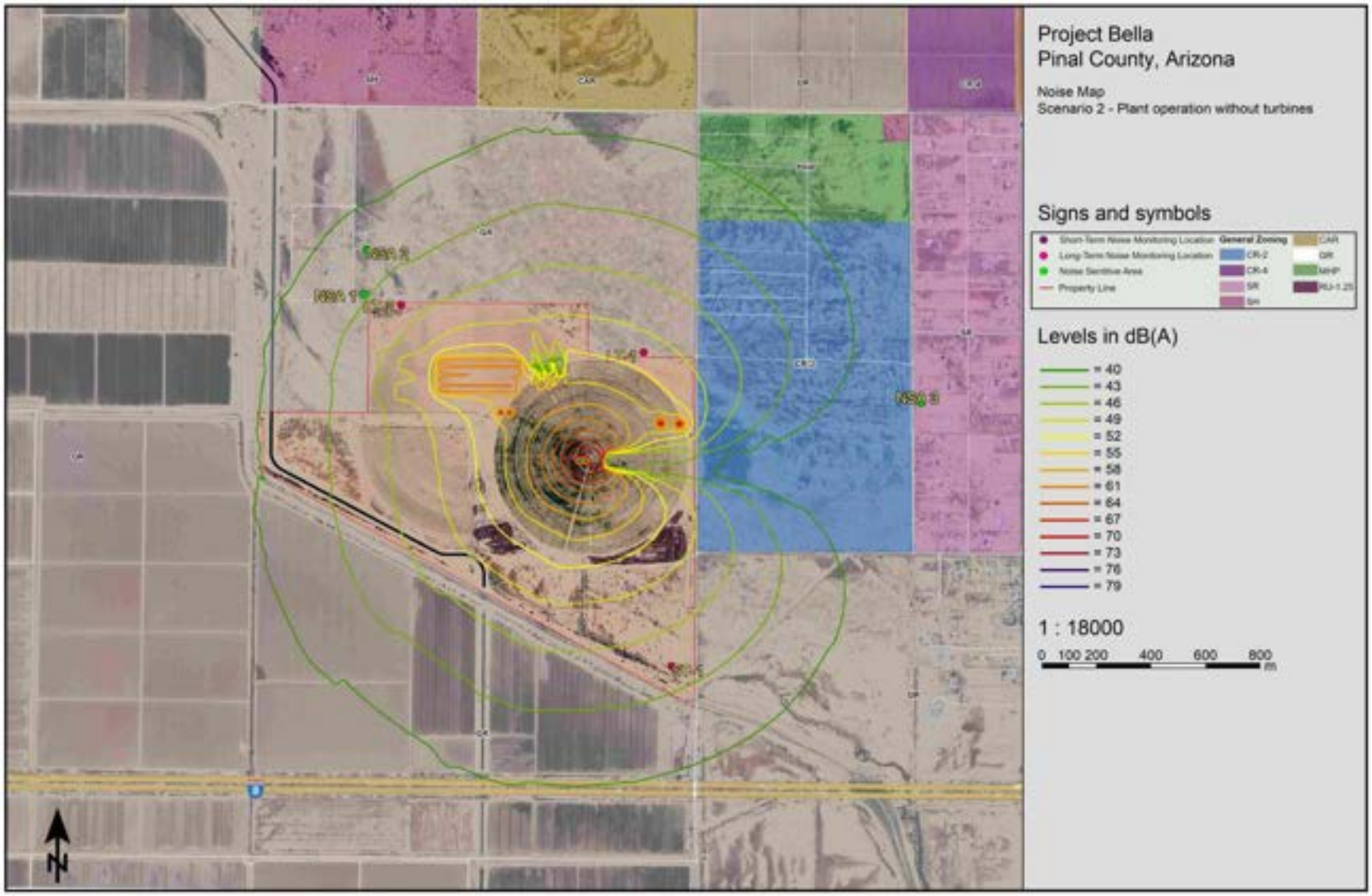


Figure E-3. Project operation noise isopleth- Scenario 2: Plant Operations without Turbines.

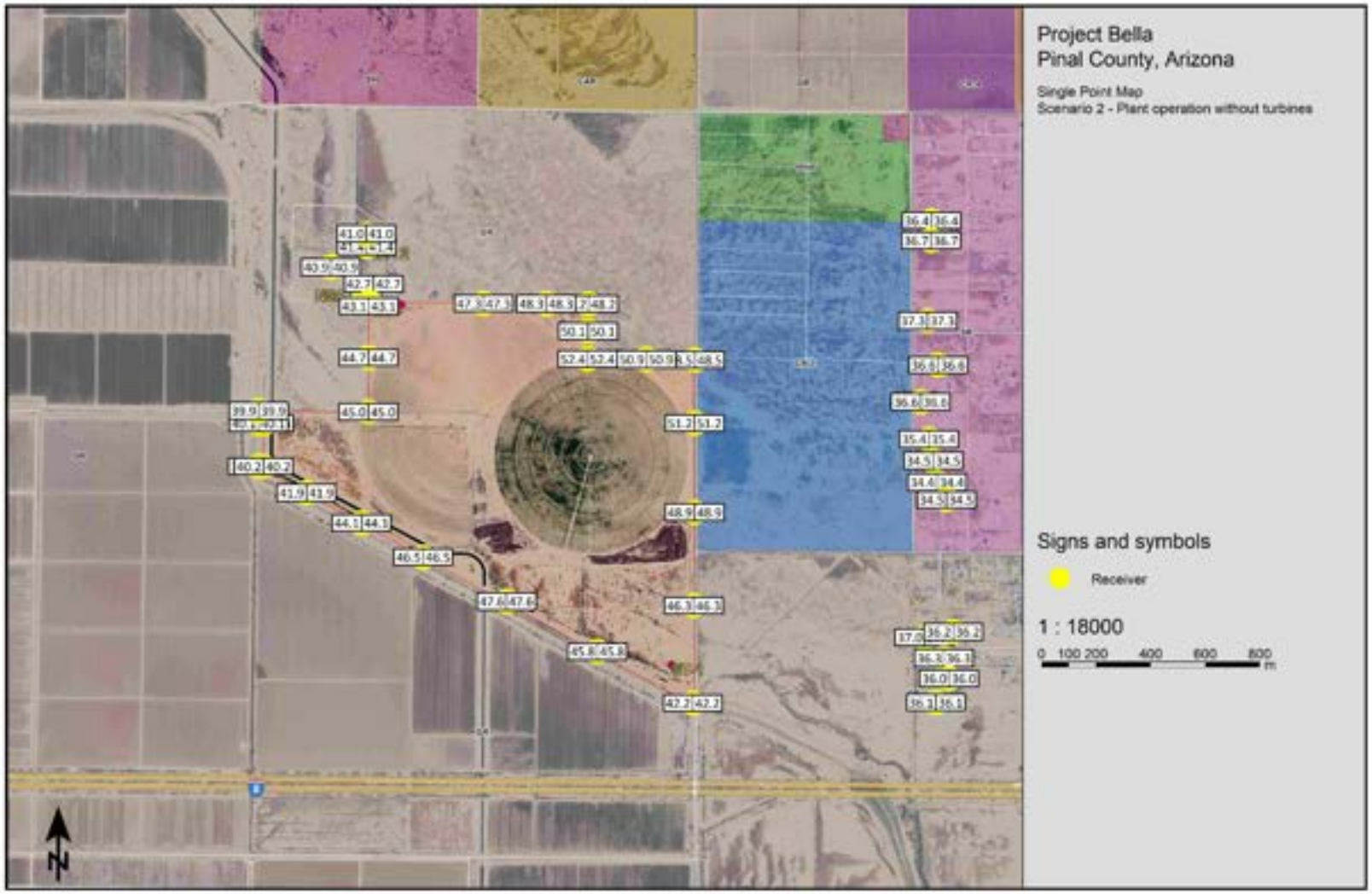


Figure E-4. Project operation noise – single point map (Scenario 2: Plant Operations without Turbines).

EXHIBIT J
SPECIAL FACTORS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application.

Introduction

This exhibit includes information on the public engagement and stakeholder outreach efforts that have been conducted for Project Bella (Project). The outreach program provided information to members of the public as well as stakeholders, solicited feedback, and helped identify community concerns related to the Project.

Public Involvement Program Summary

The public involvement program was conducted to provide local jurisdictions, relevant agencies, and community residents or property owners with the opportunity to receive information about the Project and communicate their feedback.

To contact the potentially affected residents and agencies, the Applicant developed a multipronged approach to public outreach that included informational postcard mailers, door hangers, a Project website, social media ads, a telephone information line and in-person and virtual open houses.

Informational Postcard Mailers

The Applicant sent an informational postcard mailer to all property owners and residents within one-mile of the Project to initiate the public involvement process. The postcard was mailed on April 12, 2024, and included an introduction to the Project, announced the date and time of the virtual and in-person open houses, and provided links to the Project website and informational phone line. The notifications are shown in **Exhibit J-1**.

A second phase will be conducted in July of 2024, after the filing. This includes information about the Project and the second round of virtual and in-person open houses to be held in July, as well as links to the Project website and informational phone line. In addition, it notifies of the hearing dates and location.

Informational Door Hangers

On April 24, 2024, representatives of the Applicant physically delivered door hangers to residents in the Project vicinity. The door hangers included an introduction to the Project, announced the date and time of the virtual and in-person open houses, and provided links to the Project website and informational phone line in both English and Spanish. A total of 100 door hangers were

delivered to residences in the vicinity of the Project. Phase 1 door hangers are included in **Exhibit J-1**.

A second door hanger will be hand delivered in early July of 2024, and will include information about the Project and the second round of virtual and in-person open houses, as well as links to the Project website and informational phone line.

Website and Social Media

The Project website (https://projectbellaaz.com/) was created as a central location to provide stakeholders and interested parties with updates, general Project information, and opportunities for public comment. The website included Project information in maps and frequently asked questions (FAQs).

Interested parties were able to visit and review materials at their convenience and submit comments and questions through an embedded comment form. Materials on the website were also made available in Spanish. **Exhibit J-1** includes screenshots from the website.

There were targeted social media ads prior to the first open house to notify the public of the meeting. A sample of a Facebook page is included in **Exhibit J-1**.

Telephone Line

The Applicant provided an additional opportunity for members of the public to leave comments or questions by creating a telephone information line. The telephone number was provided in the informational notification postcards, door hangers, and on the Project website. The telephone line informed callers about where to find Project information online and invited questions and comments. All voice messages requesting further information were returned within approximately 24 hours by a Project team member.

Agency and Local Official Briefings

Throughout the Project process, team members held meetings with local jurisdiction and agency representatives, including elected officials and planning staff, and others to relay information about the Project, answer questions, and request feedback. These meetings enabled the Project team to identify stakeholder issues and relay information about developments in the Project. Agency and other stakeholder meetings are included in **Table J-1**.

Table J-1. Stakeholder Meetings		
Agency/Entity	**Attendees**	**Meeting/Date/Location**
Pinal County Supervisors	Supervisor Steve Miller Supervisor Jeffrey McClure Supervisor Jeff Serdy Supervisor Mike Goodman Supervisor Kevin Cavanaugh	Project Introduction, April 15, 2024, Virtual
ACC Commissioners	Commissioner Jim O'Connor Commissioner Lea Marquez Peterson Commissioner Kevin Thompson Commissioner Nick Myers Commissioner Anna Tovar	Project Introduction, April 15, 2024, Virtual
Pinal County Air Quality Control District	Anu Jain, Director Nelda Day, Administrative Manager	Public Hearing for Bella Air Permit, April 1, 2024, virtual
Pinal County Air Quality Control District	Anu Jain, Director Scott Dibiase, Former Director	Pre-Application Meeting, January 10, 2023, Virtual
Pinal County Development Services	Brent Billingsley, Director of Community Development Gilbert Olgin, Planning Manager Sangeeta Deokar, Planner	Project Introduction, February 14, 2024, Virtual
Pinal County Development Services	Sangeeta Deokar, Planner	Pre-Application Meeting, February 27, 2024, Virtual
Casa Grande Chamber of Commerce	Renee Lauzon-Benn, Executive Director	Enrollment as member, May 29, 2024
Electrical District No. 3	Brian Yerges, General Manager	Project Introduction, March 23, 2024

Community Event and Open Houses

The Applicant hosted a series of open houses and has included the information in **Exhibit J-2. Exhibit J-2** includes all open house boards, open house sign-in sheets, a summary of the open houses, photos from the open houses, and copies of the original comment forms.

April 2024 Virtual Open House

The Applicant hosted two virtual open houses on April 29, 2024—one at 12:00 PM and another at 5:30 PM. These meetings consisted of detailed presentations introducing the Project and Project

components as well as question and answer sessions. A total of four members of the public attended the first virtual open house on April 29, 2024, at 12:00 PM, with a total of seven live chat questions/comments submitted. On April 29, 2024, at 5:30 PM, three members of the public attended and a total of eight live chat questions/comments were submitted

April 2024 In-Person Open House

An in-person open house was held on April 30, 2024, at the Francisco Grande Hotel and Golf Resort. At the open house, Project information and Project team members were accessible for two hours, with 65 members of the public attending. The open house format provided an opportunity for attendees to have one-to-one conversations with the Project team members. The team addressed questions and listened to attendee comments. The Applicant created a series of poster boards that were placed around the room with information about various aspects of the Project. The content from the open house posters is included in **Exhibit J-2**.

The community members who attended were very engaged and came prepared with questions, comments, and concerns regarding aspects of the Project. Attendees were encouraged to fill out comment cards expressing their issues, concerns, or general statements. Comment forms received by the Applicant are included in **Exhibit J-2**

July 2024 Open Houses

The Applicant will host two virtual open houses in July 2024.

The Applicant will also host a second in-person open house in July 2024.

Public Comment

Throughout the public involvement process, comments from the public were solicited and considered in the planning process. As part of the public involvement program, comments from multiple individuals, agencies, or jurisdiction representatives were received. Comments were submitted either by written comment form, email, voicemail, or made verbally during meetings and briefings. All requests for response or additional information were addressed by a Project team member.

Comments received are included in **Exhibit J-2**.

EXHIBIT J-1
PUBLIC MEETING MATERIALS

PROJECT INFORMATIONAL POSTCARD MAILERS

PROJECT bella

Seguro Energy is developing the proposed Project Bella (Project) which includes 480 MW of thermal gas-fired generation and 440 MW of Battery Energy Storage utilizing a shared transmission interconnection to the existing 500 kV Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

This Project is designed to provide reliable capacity for integration of renewable energy and deficits impacted by near-term coal retirements while exceeding the sustainability goals identified by SRP and TEP. The proposed Project is expected to reach commercial operations in late 2027 to early 2028.

Seguro Energy will be hosting the following:

In-Person Open House
April 30, 2024, 4:30-6:30 p.m.
Francisco Grande Hotel and Golf Resort, Ocotillo Room
12684 W Gila Bend Hwy, Casa Grande, AZ 85193

Virtual Open House (two sessions)
April 29, 2024, 12:00 p.m. and 5:30 p.m.
Please visit **www.signupgenius.com/go/10C0C45ABA622A1FAC25-48838410-project** to register for the virtual open house. The information presented will be the same for all open house sessions.

Please visit https://projectbellaaz.com/ or call 1-833-815-4853 for more information.

280 Melba Rd
Encinitas, CA 92024

Seguro Energy is also preparing an application for a Certificate of Environmental Compatibility (CEC) to be filed with the Arizona Corporation Commission (ACC) in July 2024. The CEC process includes public hearings with the Arizona Power Plant and Transmission Line Siting Committee before seeking final approval from the ACC. Hearings before the Committee will occur in August 2024.

Information about the Project, the CEC filing, and the hearings will be posted to the website as information becomes available.

For more information:

Please visit https://projectbellaaz.com/ or call 1-833-815-4853

Stamp

Mailing Label

PROJECT bella

PROJECT bella

Seguro Energy is developing the proposed Project Bella (Project) which includes 480 MW of thermal gas-fired generation and 440 MW of Battery Energy Storage utilizing a shared transmission interconnection to the existing 500 kV Duke – Pinal Central transmission line. The transmission interconnection to the 500 kV system will provide deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting.

Seguro Energy will be hosting the following:

In-Person Open House

April 30, 2024, 4:30-6:30 p.m.

Francisco Grande Hotel and Golf Resort, Ocotillo Room
12684 W Gila Bend Hwy, Casa Grande, AZ 85193

For those that cannot attend in person:

Virtual Open House (two sessions)

April 29, 2024, 12:00 p.m. and 5:30 p.m.

Please visit this link to register for the virtual open house:

www.signupgenius.com/go/10C0C45ABA622A1FAC25-48838410-project

For more information:

Please visit https://projectbellaaz.com/

or call 1-833-815-4853

Español

Seguro Energy está desarrollando la propuesta para el proyecto "Project Bella" que incluye 480 MW de generación térmica con base en gas natural y 440 MW de Almacenamiento de Energía en Baterías utilizando una interconexión de transmisión compartida en la línea de transmisión existente de 500kV Duke – Pinal. La interconexión al sistema de transmisión de 500 kV brindará capacidad de entrega a la demanda ubicada en Arizona durante los períodos de alta demanda y utilizará el exceso de energía solar renovable de la red durante los períodos de baja demanda para cargar las baterías y *poder hacer la entrega de esta cuando se necesite load shifting*.

Seguro Energy será el anfitrión de lo siguientes eventos:

Presencial

Abril 30, 2024, 4:30-6:30 p.m.

Francisco Grande Hotel and Golf Resort, Ocotillo Room
12684 W Gila Bend Hwy, Casa Grande, AZ 85193

Para quienes no pueden asistir en persona:

Virtual (dos sesiones)

Abril 29, 2024, 12:00 p.m. y 5:30 p.m.

Por favor visitar el siguiente enlace para registrarse en el evento virtual: www.signupgenius.com/go/10C0C45ABA622A1FAC25-48838410-project

Para más información:

Favor de visitar https://projectbellaaz.com/

o llamar 1-833-815-4853

Project Overview

The total site, located on approximately 350 acres in Pinal County Arizona, will consist of two independent generation facilities, Cazador del Sol, 480 MW of thermal gas-fired generation; Arroyo Solar, 440 MW of Battery Energy Storage in which the facilities will utilize a common, shared

bella

Project Overview

The total site, located on approximately 350 acres in Pinal County Arizona, will consist of two independent generation facilities, Cazador del Sol, 480 MW of thermal gas-fired generation; Arroyo Solar, 440 MW of Battery Energy Storage in which the facilities will utilize a common, shared interconnection to the 500 kV Duke – Pinal Central line. The interconnection to the 500 kV system will provide ideal deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid during low demand periods for battery charging and load shifting. The project may be developed in phases to accommodate the capacity and associated energy requirements of the off-takers. Commercial Operation is planned for late 2027 or early 2028.

FREQUENCY REGULATION

The Projects will provide system reliability through quick dispatch and automatic generation control technology.

PEAK SHAVING

The Projects maintain reliable capacity that can be deployed to provide low-cost electricity and minimize wholesale market price risk.

LOAD SHIFTING

The Projects are specifically designed to manage electricity demand and assist with efficient intra-day balancing.

Cazador del Sol

Cazador del Sol consists of ten (10) GE LM6000 PC natural gas turbines with a total installed capacity of approximately 490 MW. The highly reliable aeroderivative units are designed for quick start, ramping and efficient heat rate. The quick ramping capability is ideal for renewable energy integration and local reliability purposes via direct control or AGC. Commercial Operation Date – Fall 2027 to Spring 2028.

Atrapa Soles

Atrapa Soles, designed specifically for the SW conditions, will consist of a total 440 MW / 1,760 MWH of grid-charged battery energy storage with liquid cooled cabinets and self-contained fire suppression systems. The quick deployment of charge and discharge to and from the grid can provide essential load shifting, renewable integration, frequency regulation and peak energy supply to compliment local reliability. Commercial Operation Date – Spring 2027 to Fall 2027.

bella

Home Filings & Resources Integral Support Contact Us

Natural Gas fired capacity and associated energy attributes including thermal energy storage optimization and AGC control.

- Capacity / Energy: 490 MW with up to 4,300 hours per year of dispatch
- Minimum Up: 4 hours
- Minimum Down: 2 hours
- Availability: 98% (Peak Period)

Grid-Charged Battery Energy Storage System with liquid cooling and AGC control.

- Capacity / Energy: 440 MW / 1,760 MWH per cycle
- Discharge: 4 Hours
- Cycles per Year: 365
- Availability: 98 %

Electrical and Natural Gas Interconnection

The Project maintains directly proximately to the Pinal to Duke 500 kV and WAPA 230 kV electrical transmission and EPNG natural gas interconnection.

The Project Site runs parallel to the Duke / Pinal Central 500 kV line, which is part of the Pinal West to Pinal Central transmission corridor. Transmission owners include SRP, TEP, WAPA and AEPCO. In addition, WAPA's 230 kV line runs on the same towers.

The Project site includes direct proximity and easement for the El Paso Natural Gas Pipeline (EPNG). EPNG maintains adequately suitable capacity

bella

Home Filings & Resources Integral Support Contact Us

Electrical and Natural Gas Interconnection

The Project maintains directly proximately to the Pinal to Duke 500 kV and WAPA 230 kV electrical transmission and EPNG natural gas interconnection.

The Project Site runs parallel to the Duke / Pinal Central 500 kV line, which is part of the Pinal West to Pinal Central transmission corridor. Transmission owners include SRP, TEP, WAPA and AEPCO. In addition, WAPA's 230 kV line runs on the same towers.

The Project site includes direct proximity and easement for the El Paso Natural Gas Pipeline (EPNG). EPNG maintains adequately suitable capacity to deliver sufficient quantities and pressure as required for the sustainable operation of the site. In addition, the Transwestern Natural Gas Pipeline is approximately 6 miles from the site, if additional gas pipeline supply redundancy is desired.

bella

Copyright © 2024 - All rights reserved

bella

Home Filings & Resources Integral Support Contact Us

Filings & Resources

Project Bella – Site Map

Download

Project Bella – Site Plan

Download

Project Bella – Air Permit Draft

Project Bella Open House #1

Project Bella – Air Permit Draft

Download

Project Bella Open House #1

Download

Seguro Energy Project Bella Pinal County Air Quality Control District Public Notice (English)

Seguro Energy Project Bella Pinal County Air Quality Control District Public Notice (Spanish/Español)

bella

Home Filings & Resources Integral Support Contact Us

Download

Download

ACC Filing for CEC

Download

Integral Support

bella

Home Filings & Resources Integral Support Contact Us

Download

Download

project bella

Home Filings & Resources Integral Support Contact Us

Contact Us

—

Name Required

First Last

Email Required

Phone Required

Message Required


project bella
Home
Filings & Resources
Integral Support
Contact Us
Phone
Message
CAPTCHA
SUBMIT
project bella

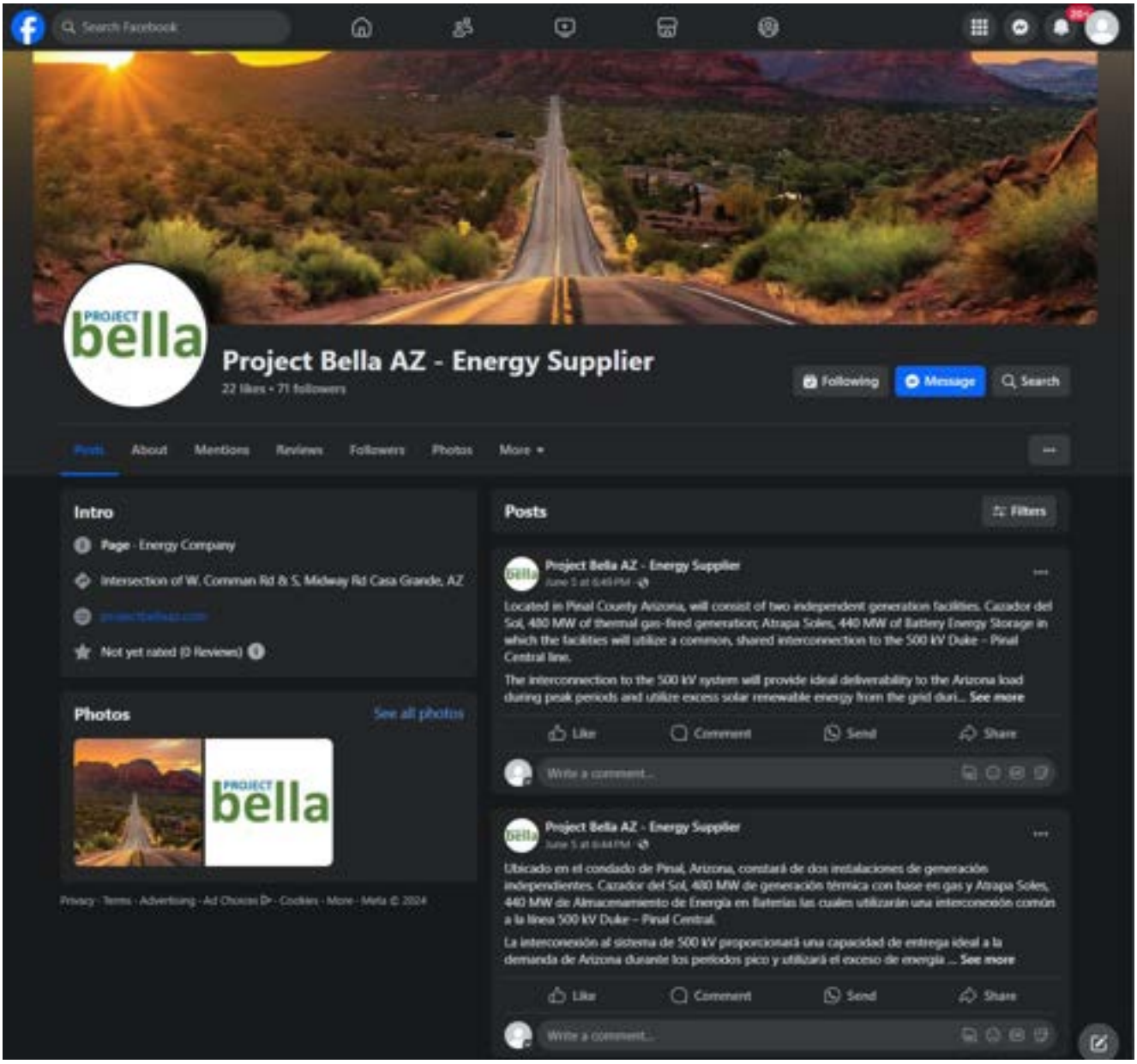
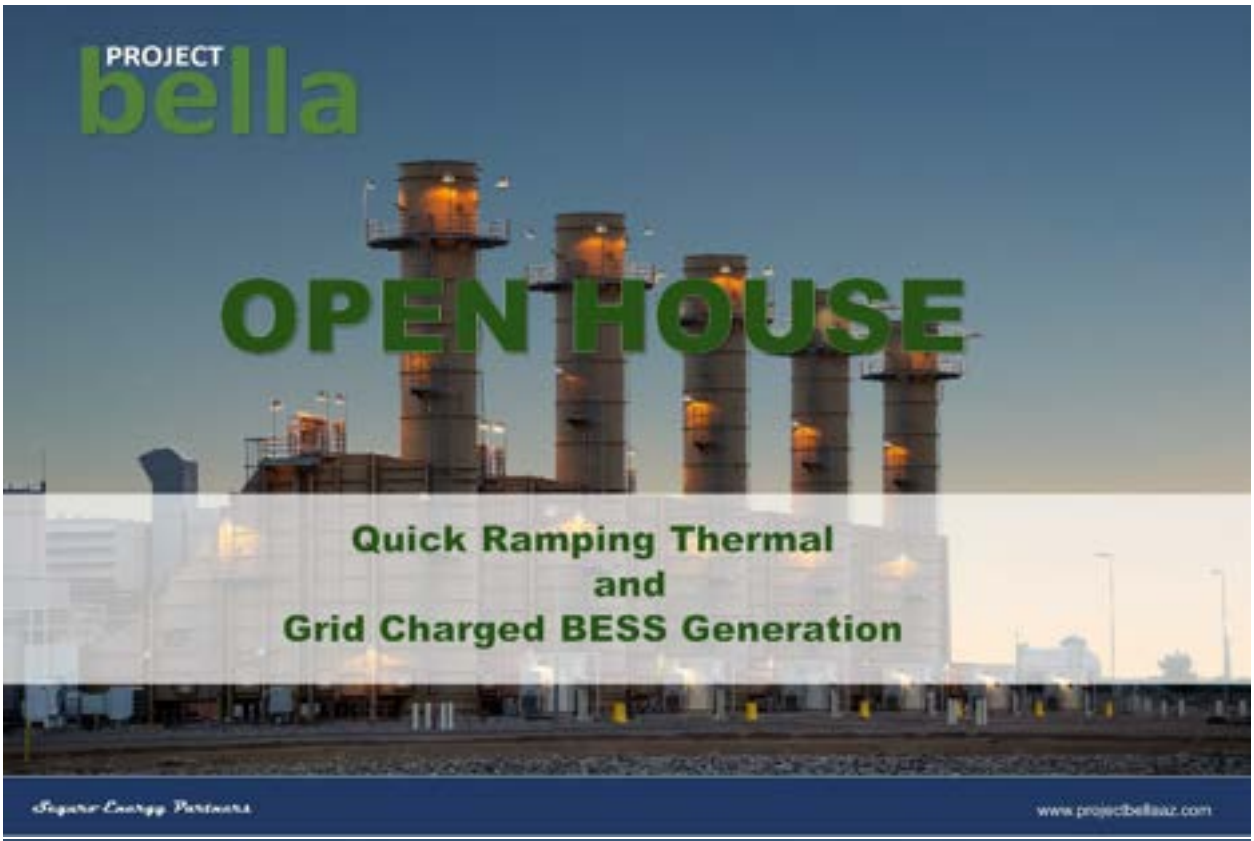

Search Facebook
Project Bella AZ - Energy Supplier
22 likes • 71 followers
Following
Message
Search
Posts
About
Mentions
Reviews
Followers
Photos
More
Intro
Page · Energy Company
Intersection of W. Comman Rd & S. Midway Rd Casa Grande, AZ
Not yet rated (0 Reviews)
Photos
See all photos
Posts
Filters
Project Bella AZ - Energy Supplier
Located in Pinal County Arizona, will consist of two independent generation facilities. Cazador del Sol, 480 MW of thermal gas-fired generation; Atrapa Soles, 440 MW of Battery Energy Storage in which the facilities will utilize a common, shared interconnection to the 500 kV Duke - Pinal Central line.
The interconnection to the 500 kV system will provide ideal deliverability to the Arizona load during peak periods and utilize excess solar renewable energy from the grid duri... See more
Like
Comment
Send
Share
Write a comment...
Project Bella AZ - Energy Supplier
Ubicado en el condado de Pinal, Arizona, constará de dos instalaciones de generación independientes. Cazador del Sol, 480 MW de generación térmica con base en gas y Atrapa Soles, 440 MW de Almacenamiento de Energía en Baterías las cuales utilizarán una interconexión común a la línea 500 kV Duke – Pinal Central.
La interconexión al sistema de 500 kV proporcionará una capacidad de entrega ideal a la demanda de Arizona durante los períodos pico y utilizará el exceso de energía ... See more
Like
Comment
Send
Share
Write a comment...
Privacy · Terms · Advertising · Ad Choices · Cookies · More · Meta © 2024

EXHIBIT J-2
OPEN HOUSE INFORMATION AND RESULTS


PROJECT
bella
OPEN HOUSE
Quick Ramping Thermal
and
Grid Charged BESS Generation
Sequent Energy Partners
www.projectbellaaz.com


PROJECT
bella
Welcome and Sign-In
Sequent Energy Partners
www.projectbellaaz.com

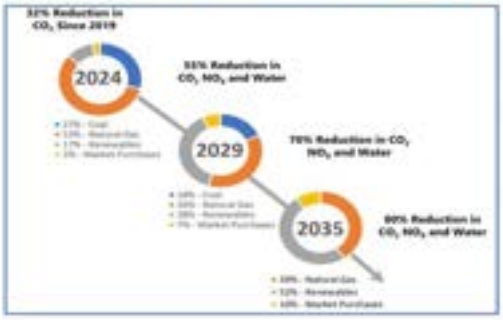
Two Projects – One Efficient Solution

Frequency Regulation | Peak Shaving | Load Shifting

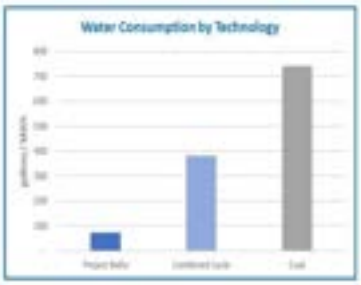
Cazador del Sol consists of ten (10) GE LM6000 PC natural gas turbines with every two units sharing a 13.8 to 230 kV step-up transformer. The highly reliable aeroderivative units are designed for quick start, ramping and efficient overall heat rate. The quick ramping structure is ideal for renewable energy integration and local reliability purposes. Commercial Operation Date – Spring 2027

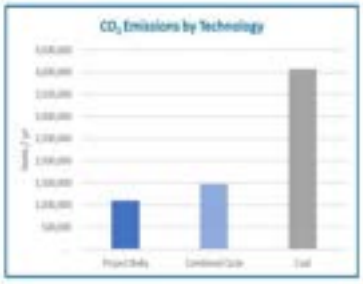
Atrapa Soles, designed specifically for the SW conditions, will consists of a total 440 MW AC of grid-charged battery energy storage with liquid cooled cabinets and self-contained fire suppression systems. The quick deployment of charge and discharge to and from the grid can provide essential load shifting, renewable integration, frequency regulation and peak energy supply to compliment local reliability. Commercial Operation Date – Spring 2027.

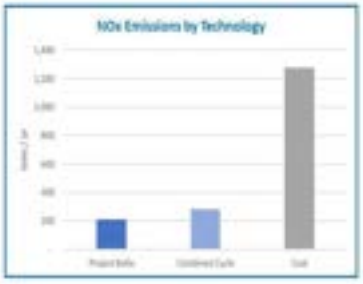
Project Bella's Significant Sustainability Contribution



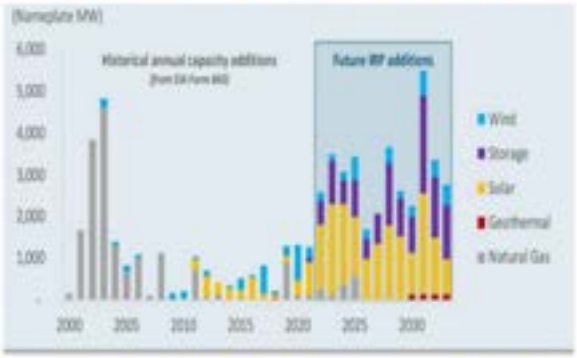
- ✓ Minimal Water Consumption - 78 % less than a CCGT
- ✓ Low Emissions (NOx and CO Control Systems)
- ✓ Compliments the Priority Utilization of Renewable Energy
- ✓ Provides Reliable Capacity and Energy Storage
- ✓ Air Cooled Chillers Reduces Water consumption
- ✓ Lower Stack (65 ft) – visual and noise mitigation
- ✓ Electrical Transmission and Natural Gas Pipeline On-Site







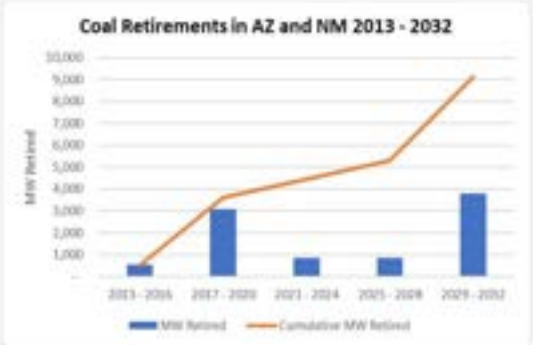
Historical Resource Additions are Offset by Coal Retirements



Source: Resource Adequacy in the Desert Southwest, Energy+Environmental Economics, 2022. Includes all balancing areas in AZ and NM.

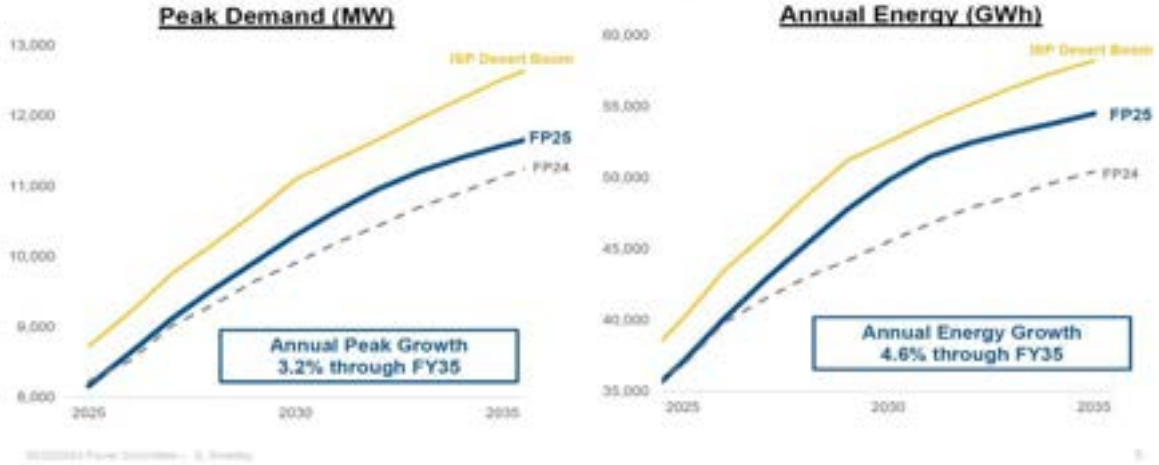
Source: TEP 2023 IRP Figure 2. A Historical Perspective on the Rate of New Capacity Additions in the Desert Southwest

The Western Energy Crisis of 2001 was followed by one of the most rapid periods of new resource development in the history of the Western Interconnection. Nearly 10,000 MW of new, clean natural gas generation mitigated the acute reliability concerns was constructed between 2001-2004, nearly 20 years ago. While most of these resources continue to operate today in support of utilities' resource adequacy and reliability requirements, the capacity has been completly offset by coal retiremetns. Therefore, ignoring capaicty required for reliable load growth and economic sustainability.



SRP Demand Forecast

Load Forecast Continues to Trend Higher



General Project Timeline (Post NTP)

Two Projects - One Clear Focus

Achieve Sustainability Goals with Reliable and Efficient Capacity.

- ✓ Accommodates Renewable Energy Integration
- ✓ Compliments the Retirement of Coal Generation
- ✓ Responsibly Meets Local Energy Supply Requirements.

Project Overview

- Two quick deployment capacity and energy Projects
- Proven efficiency and performance to meet:
  - increasing electrical demand
  - renewable resource integration
  - coal retirements in the region
- 335 acres site in Pinal County (Project requires 150 acres)
- Interconnection to the 500 kV Duke – Pinal Central transmission line for reliable deliverability to SRP, TEP and APS load centers.

Statutory Requirements: Environmental

Statutory Requirements: Environmental

Next Steps

Arizona Corporation Commission (ACC)

Transmission Line Siting Committee Process

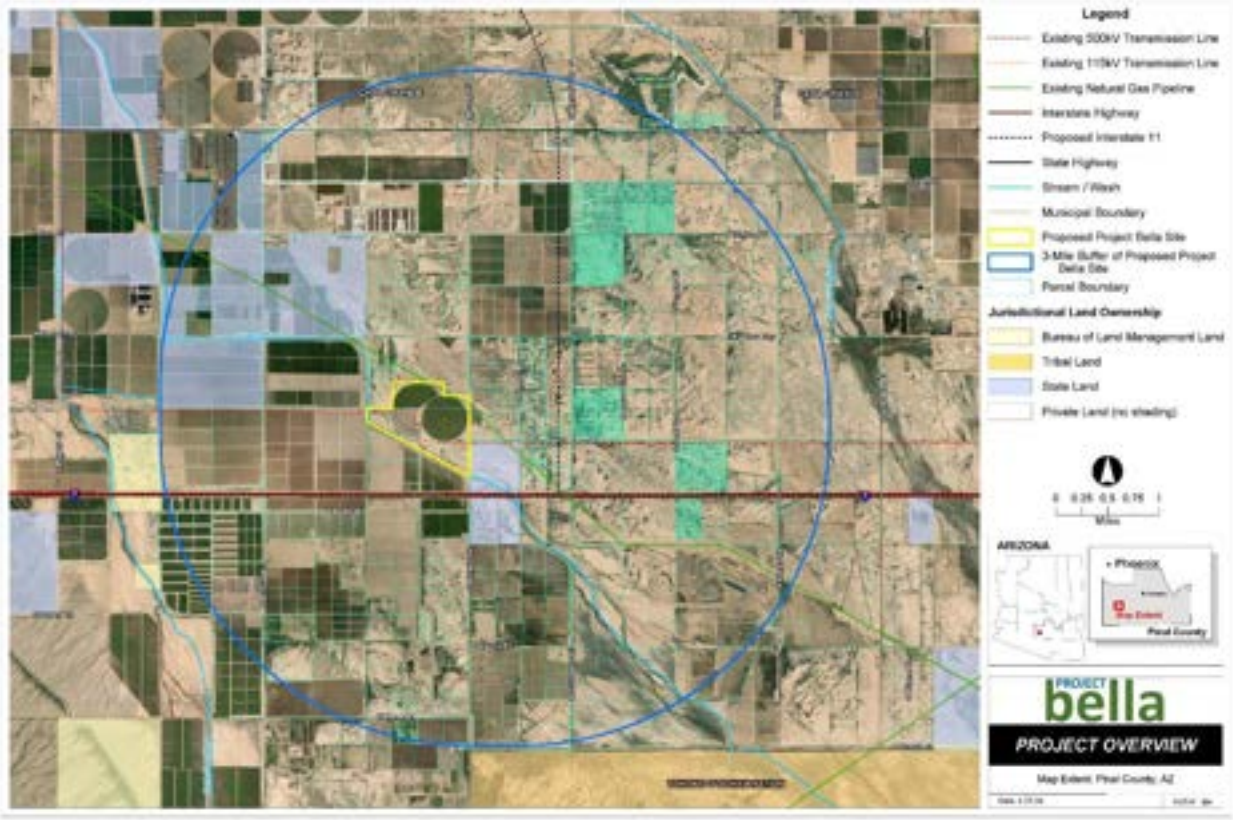
- File CEC Application
- Siting Committee Public Hearings
  - August 12-16, 2024
  - *Special Public Comment Session will be held*
- ACC Public Hearings (minimum 30 days after Siting Committee Decision)

Statutory Requirements: Environmental

For More Information:

- Informational Hotline
  - **1-833-815-4853**
- Project Website
  - https://projectbellaaz.com/
- Project Social Media
  - https://www.facebook.com/ProjectBellaAZ
- Open Houses
  - Virtual Open House April 29th
  - In-Person Open House April 30th
  - Virtual Open House June/July TBD
  - In-Person Open House June/July TBD
- ACC Siting Committee Hearings
  - August 12-16th, 2024
  - Francisco Grande Hotel and Golf Resort
- ACC Public Hearings
  - Minimum 30 days after the ACC Committee Hearings

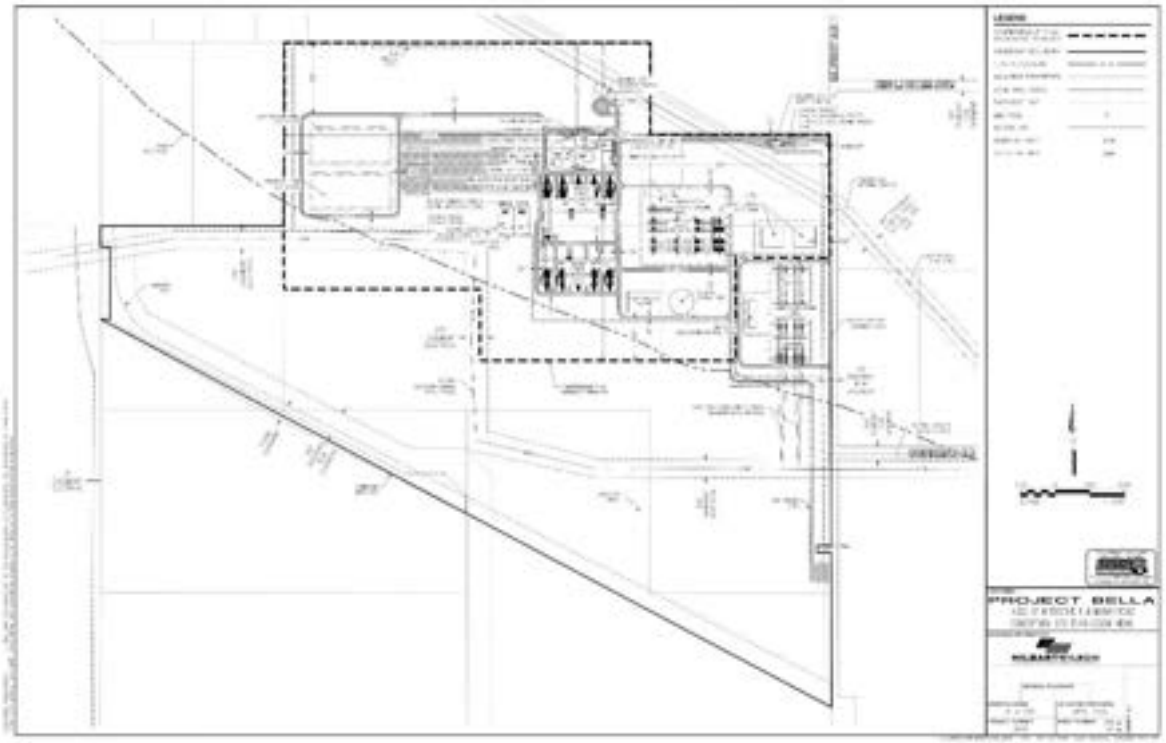

PROJECT
bella
Comments
Sapere Energy Partners
www.projectbellaaz.com

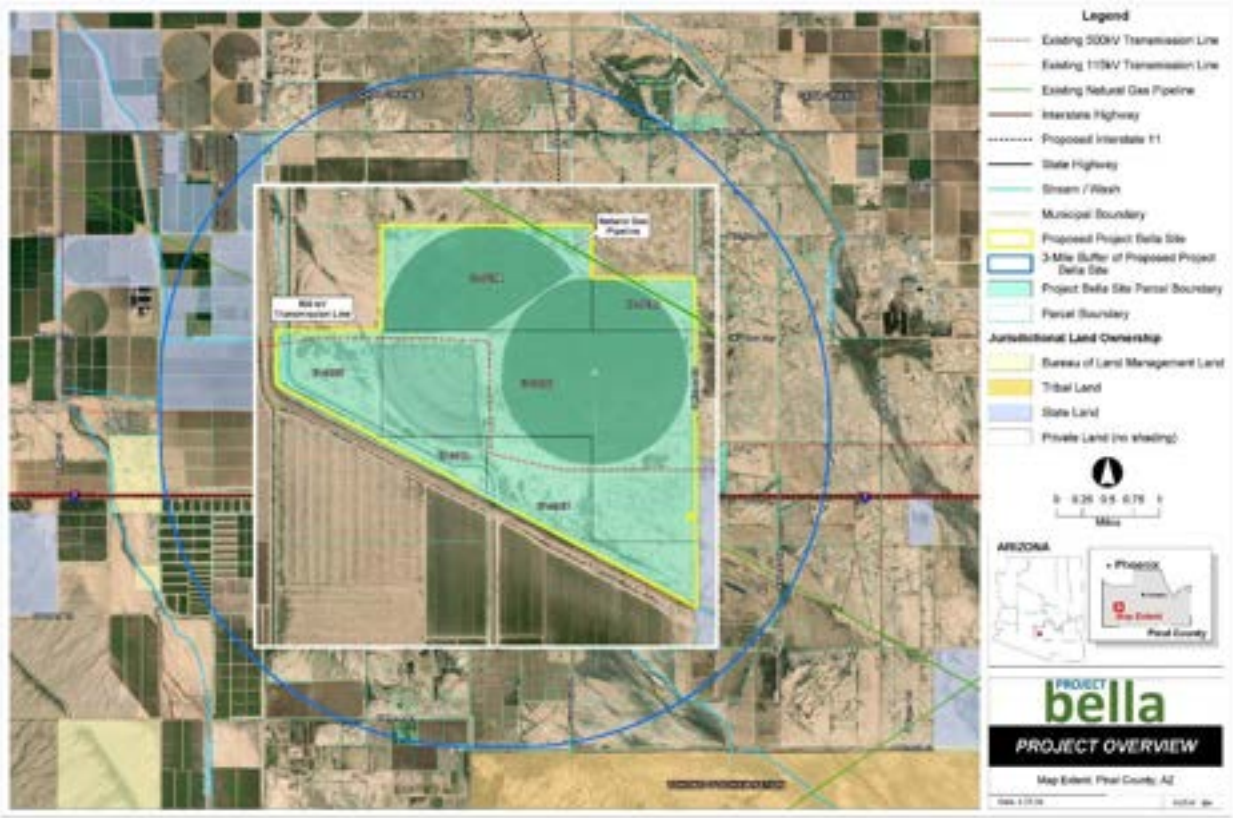

Legend
Existing 500kV Transmission Line
Existing 115kV Transmission Line
Existing Natural Gas Pipeline
Interstate Highway
Proposed Interstate 11
State Highway
Stream / Wash
Municipal Boundary
Proposed Project Bella Site
3-Mile Buffer of Proposed Project Bella Site
Parcel Boundary
Jurisdictional Land Ownership
Bureau of Land Management Land
Tribal Land
State Land
Private Land (no shading)
0 0.25 0.5 0.75 1
Miles
ARIZONA
PROJECT
bella
PROJECT OVERVIEW
Map Extent: Pinal County, AZ

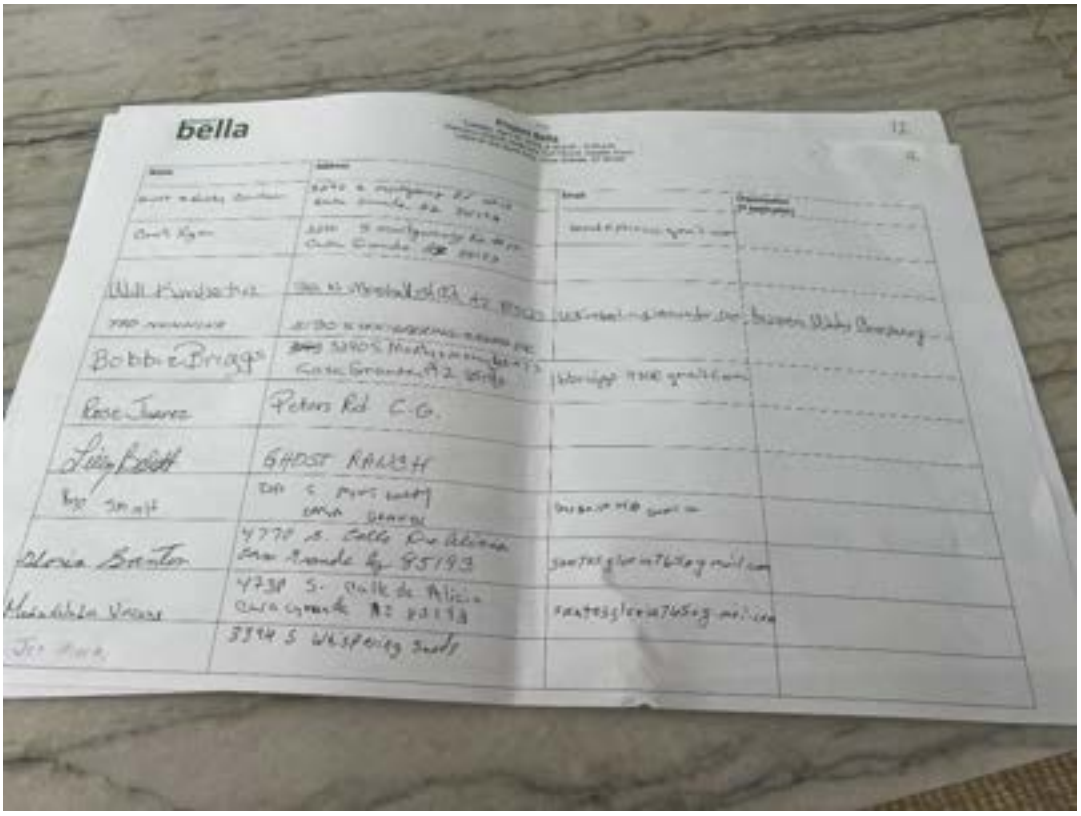

LEGAL DESCRIPTION
CONCEPTUAL SITE PLAN
PROJECT BELLA
PINAL COUNTY, ARIZONA
CIVIL ENGINEER
OWNER/CLIENT
BASIS OF BEARING
BENCHMARK
SITE DATA
OVERALL DEVELOPMENT
FLOOD ZONE DESIGNATION
INDEX OF DRAWINGS
CONCEPTUAL SITE PLAN
COVER SHEET
HILGARTWILSON
PROJECT BELLA

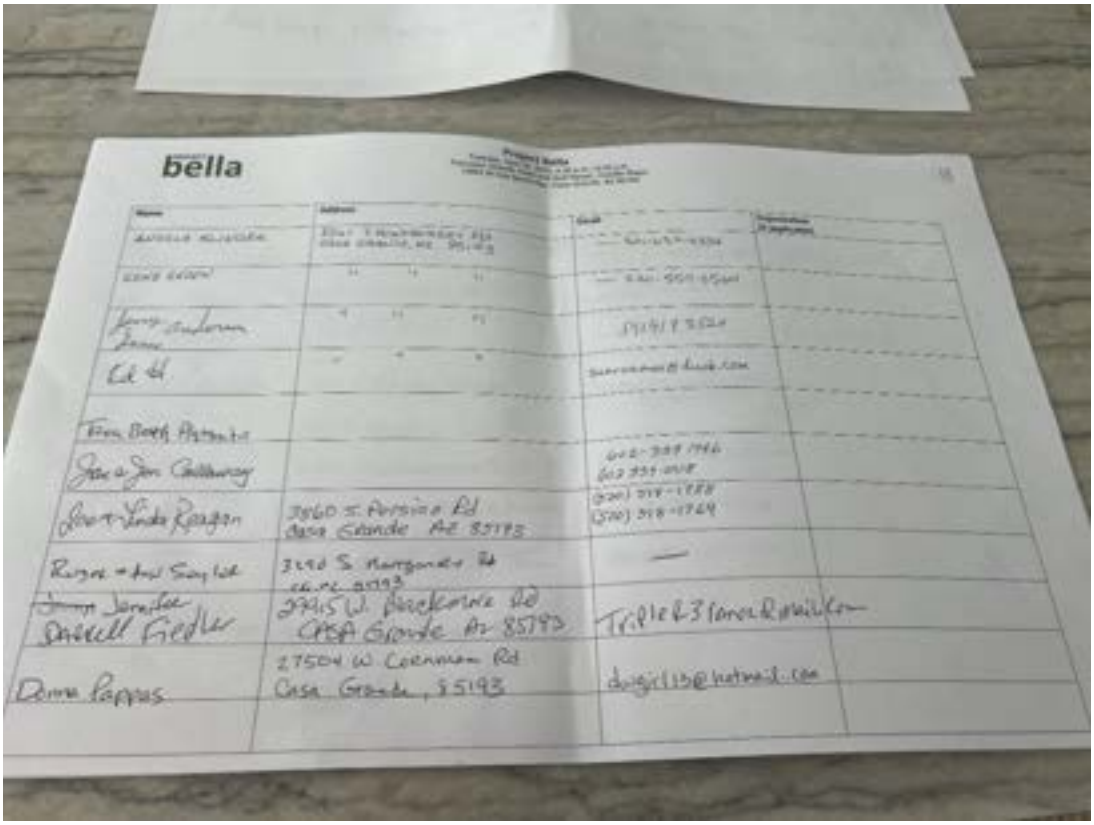

LEGEND
ADJACENT PROPERTIES
PROJECT BELLA
HILGARTWILSON

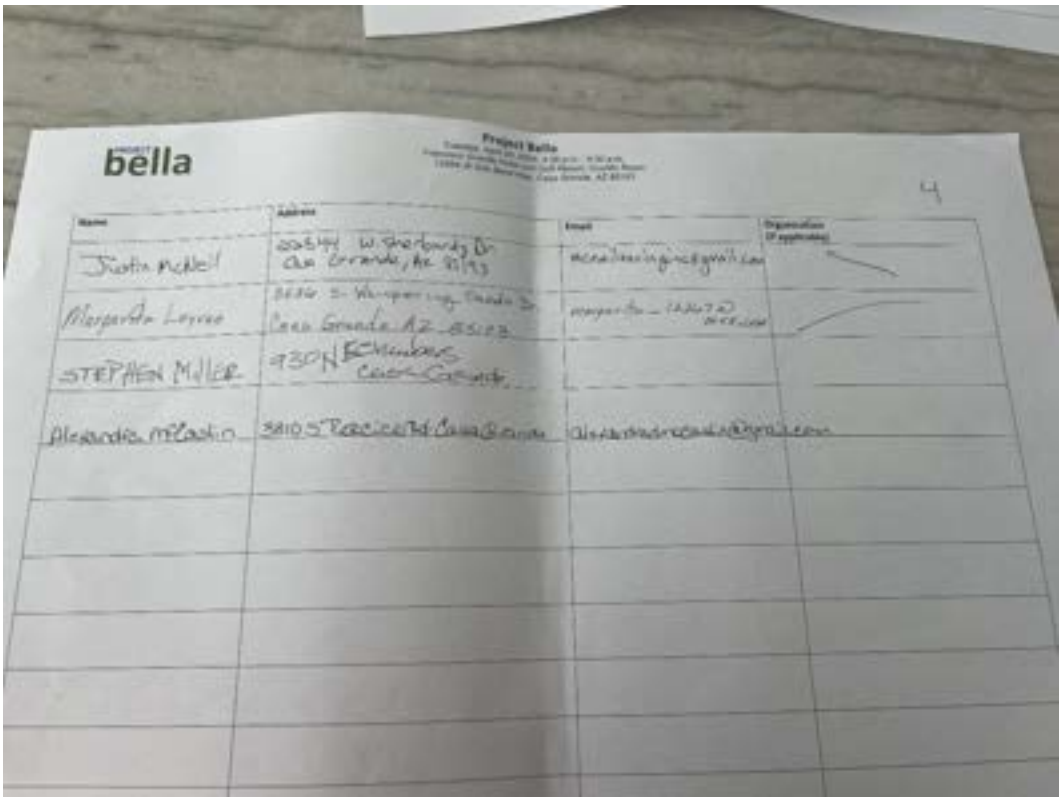

LEGEND
ADJACENT PROPERTIES
PROJECT BELLA


LEGEND
PROJECT BELLA


Legend
Existing 500kV Transmission Line
Existing 115kV Transmission Line
Existing Natural Gas Pipeline
Interstate Highway
Proposed Interstate 11
State Highway
Stream / Wash
Municipal Boundary
Proposed Project Bella Site
3-Mile Buffer of Proposed Project Bella Site
Project Bella Site Parcel Boundary
Parcel Boundary
Jurisdictional Land Ownership
Bureau of Land Management Land
Tribal Land
State Land
Private Land (no shading)
0 0.25 0.5 0.75 1
Miles
ARIZONA
Phoenix
Pinal County
PROJECT bella
PROJECT OVERVIEW
Map Extent: Pinal County, AZ


bella
Bobbie Bragg
Peters Rd C.G.
GHOST RANCH
4778 S. Calle De Alicia
Casa Grande AZ 85193
4738 S. Calle de Alicia
Casa Grande AZ 85193
3394 S Whispering Sands


bella
3960 S. Persian Rd
Casa Grande AZ 85193
3490 S. Montgomery Rd
Casa Grande AZ 85193
2715 W. Rockcrest Rd
Casa Grande Az 85193
Triple B Farms Realty
27504 W Coleman Rd
Casa Grande, AZ 85193

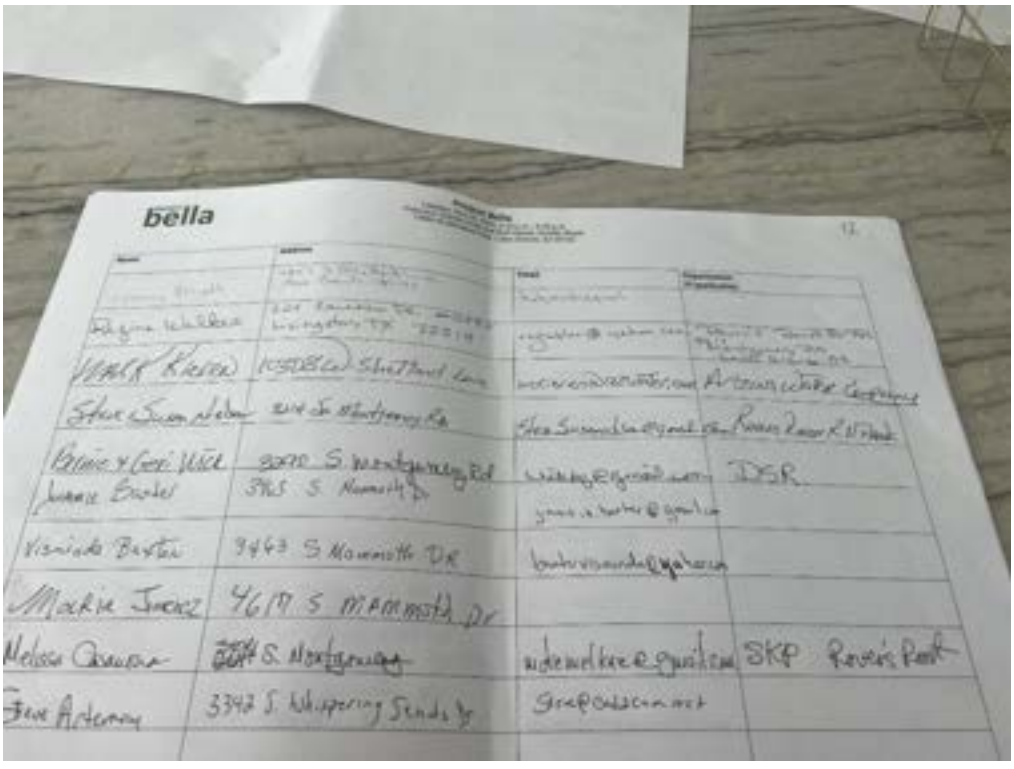


bella

Project Bella

4

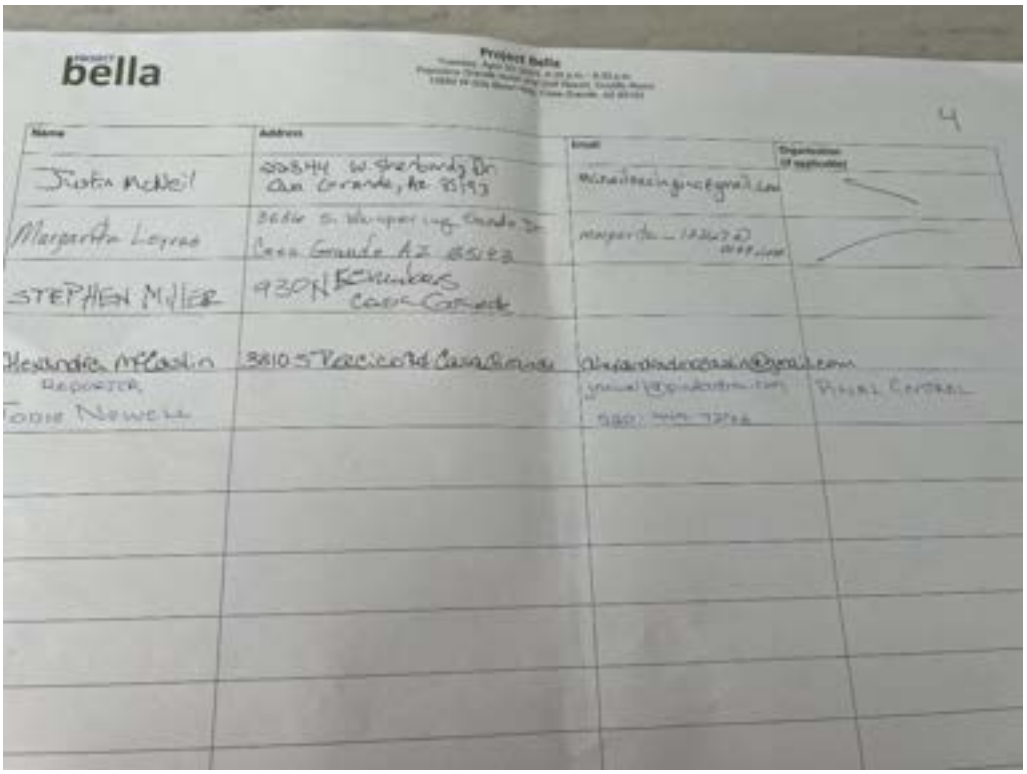
Name	Address	Email	Organization (if applicable)
Justin McNeil	22534 W. Sherbourne Dr Casa Grande, AZ 85193		
Margarita Lerma	3836 S. Whispering Sands Dr Casa Grande AZ 85193		
STEPHEN MILLER	930 N Echo Mountain Casa Grande		
Alexandra Martin	3810 S Percival Rd Casa Grande		



bella

12

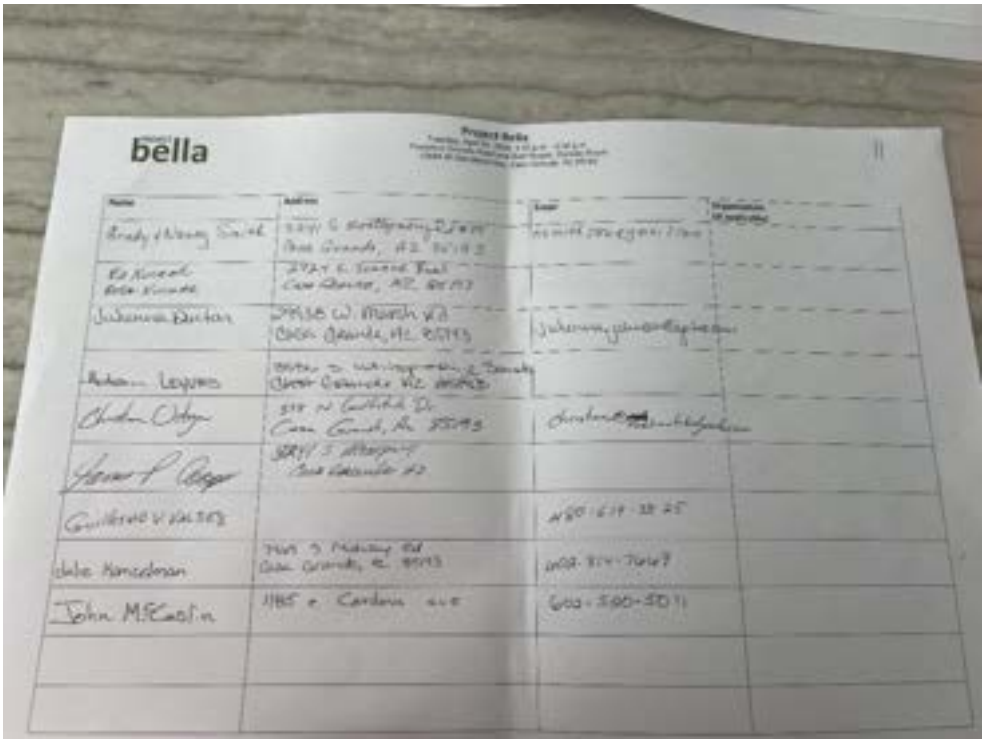
Name	Address	Email	Organization (if applicable)
Regina Walker	224 Kansas Dr Livingston TX 77351		
MARK RIVERA	10585 E Shettland Casa Grande		
Steve Swanson	814 S Montgomery Rd		
Bernie & Geri Hill	3870 S Montgomery Rd		DSR
Jennie Baxter	3965 S Mammoth Dr		
Virginia Baxter	3963 S Mammoth DR		
Mackie Juarez	4619 S MAMMOTH DR		
Melissa Quintana	3844 S Montgomery		SKP Rover's Rest
Jean Anderson	3342 S. Whispering Sands Dr		



Project Bella

4

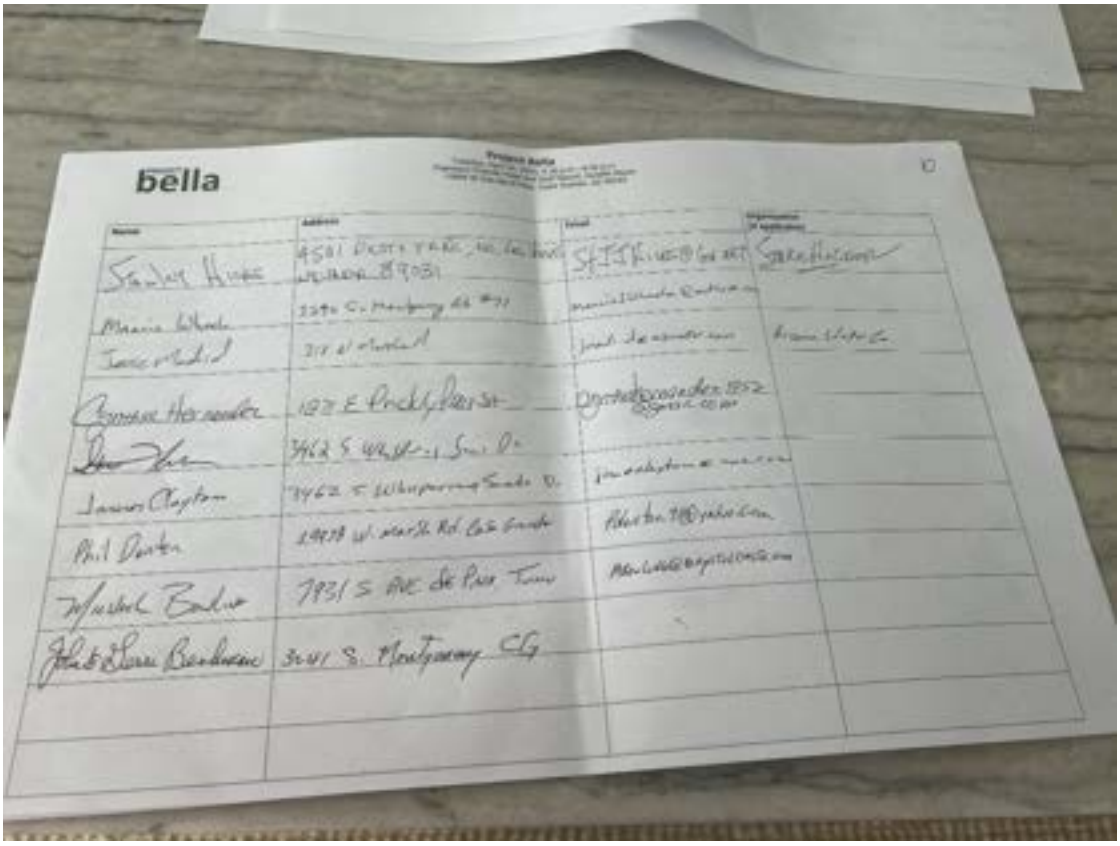
Name	Address	Email	Organization (if applicable)
Justin McNeil	22834 W. Shetland Dr Casa Grande, AZ 85193		
Margarita Lopez	3666 S. Whispering Sands Dr Casa Grande AZ 85193		
STEPHEN MILLER	930N [illegible] Casa Grande		
Alexandra McCaslin	3810 S Peridot Rd Casa Grande		
REPORTER			
Todd Newell			Pinal Central



Project Bella

11

Name	Address	Email	Organization (if applicable)
Andy Abney Saint	[illegible] Casa Grande, AZ 85193		
Ed Kozak	2724 E. Sierra Trail Casa Grande, AZ 85193		
Johanna Burton	2938 W. Marsh Rd Casa Grande, AZ 85193		
Antonio Lopez	[illegible] Casa Grande AZ 85193		
Charles Odegy	518 N Cottonwood Dr Casa Grande, AZ 85193		
Yesenia Aldaco	3891 S Mockingbird Casa Grande AZ		
Guillermo Valdez		480-619-3825	
Wade Henderson	7441 S Mockingbird Rd Casa Grande, AZ 85193	602-814-7667	
John McCaslin	1185 e Cardona ave	602-390-5071	


bella

April 29, 2024, 12:00 PM

Online Open House

Start time: 12:00 PM

Total Number of registered: 7

Total Number of attendees: 4

Number of questions submitted: 7

Question Summary: Most questions raised concerns about aesthetics, water, noise and light pollution.

End time: 12:50 PM

Questions submitted in Zoom chat/Q&A (verbatim):

- Estimated how many gallons of water annually would this project require in this 10 year projection
- You mentioned buffers on the west side, your site plan shows a barbed wire fence immediately adjacent to our property with no buffer at all
- How will that water draw effect the neighboring homes that rely on wells for their homes? Which many have seen over 40ft in drop in just the past few years.
- Is there a new Pinal City Comprehensive Plan including your project
- You mentioned the CEC and ACC will be addressing: noise, light, egress, environmental impacts on your property. What about surrounding properties.
- Who is financing the project
- A R/W for a future road is shown on the south side of our property aligned with Carranza Rd. will property have access

Online Open House

Start time: 5:30 PM

Total Number of registered: 5

Total Number of attendees: 3

Number of questions submitted: 8

Question Summary: Most of the questions concerned water, waste, and renewable energy.

End time: 6:07 PM

Questions submitted in Zoom chat/Q&A (verbatim):

- Are the ponds filled with effluent? What is left in the evaporation pond residue/
- How exactly are you offsetting water? Are you actually returning clean water to our aquifer? You realize wells are drying up within 5 miles of this proposed site? How many acre feet and or gallons of water will you be using annually?

- What happens to the salts and "solids" residue after evaporation? What do the "solids" include? What about mosquitoes and other insects/animals?
- Where is the potential to access to renewables, like solar and wind, located
- But the water has been depleted. The credits are meaningless. As a land owner we can't use our own banked water credits.
- Have you already gotten approval for a Type 1 to Type 2 conversion of water resources. From Agriculture to Industrial
- Where is the transfer from renewable energies to batteries happening
- I can't attend tomorrow and you're not answering my questions. i need to add comments.

April 30, 2024, 4:30 PM – 6:30 PM

In-Person Open House

Francisco Grande Hotel and Golf Resort

Start time: 4:30PM

Total Number of registered: 6

Total Number of attendees: 65

Number of Comment Forms submitted: 10

Comment Summary: Overall, respondents were concerned about light, water use, and noise pollution as a result of this Project. Additional concerns were made regarding wildlife in the area.

Project representatives included Mark Thompson, Steve Morgan, Ian Calkins, Garen Demirchian, Jason Moyes, Leslie McFadden and Stan Barnes. Attendees were provided the opportunity to view poster boards describing and displaying aspects of the Project, as well as maps and FAQ's about the permitting process. The Project representatives were available for questions and provided feedback to the attendees. Explained that the electricity is designed to stay local. We will not contract with any entity in California.


PROJECT
bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Jennifer Fiedler PHONE: 623-434-6882

ADDRESS: 29915 W. Blackmore RD Casa Grande

ORGANIZATION: I Live here

EMAIL: Triller3ranch@mail.com

COMMENTS:

I Don't WANT You Here

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Josh & Kathy Cadsow PHONE: 248-884-174

ADDRESS: 3990 S. Montgomery Rd CASA GRANDE AZ 8

ORGANIZATION:

EMAIL: SANDKPLANC@Gmail.com

COMMENTS: We Do not like the FACT that there WAS no Presentation or A Proper Explantion of what your proposing. We will Do Everything within our Power to stop this Project. We Live in the Country and want it to Stay this WAY!! This must not Happen to our Home!!

Thank you for your time and interest!

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Marcia Wheeler PHONE: 602 722-7712

ADDRESS: 3290 S. Montgomery Road #71, Casa Grande AZ 85

ORGANIZATION:

EMAIL: MarciaJWheeler@outlook.com

COMMENTS: Concern: How Bright will this Be?
Water usage?

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Linda Reagan PHONE: (520) 518-1764

ADDRESS: 3860 S. Persico Rd

ORGANIZATION:

EMAIL: dragon42@cgmailbox.com

COMMENTS: 1. if my well goes dry are you going to fix it? I am sharing a corner of my + your property.

2. Lights at nite. We have no lights pollution at this time and we can use a telescopy.

3. Wild Life. We have a lot of free roaming Wild life, including birds + coyotes, pigs - javi You will disrupt there routes.

Linda Reagan

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

PROJECT bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Bobbie Briggs PHONE: 801-541-5757

ADDRESS: 3390 S Montgomery #12

ORGANIZATION: Desert Spring Ranch

EMAIL:

COMMENTS: Where is water coming from, toxins that will be released in the air. Fire hazard. lights will ~~be~~ interfere with star watching.

Thank you for your time and interest!

Please visit https://www.projectbellaz...

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Darrell Fiedler PHONE: 520-759-0787

ADDRESS: 23815 W. Blacknote Rd Casa Grande

ORGANIZATION: I Live Here

EMAIL:

COMMENTS: I enjoy the Quiet, NO light pollution, NO industrial Buildings to block my view.

I DO NOT WANT YOU HERE

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

project bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Jan & Jon Callaway **PHONE:** _____

ADDRESS: 30043 W. Blackhorse Rd

ORGANIZATION: _____

EMAIL: _____

COMMENTS: This plant is a hazard: fire, water, emmisions. Lower our property values, Raise our homowners insurance. Move somewhere people aren't !!!!

Go away.

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

PROJECT bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Melissa Casanova PHONE: 928-920-7820

ADDRESS: 3241 S. Montgomery

ORGANIZATION: SKP COOP, ROVER'S ROOST

EMAIL: MikeMelKaz@gmail.com

COMMENTS:

Very informative

Everybody answered all of my questions

Very helpful

Thank you.

Please keep the website updated for new issues, such as the noise study & new legislation on CO^2 capt

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

PROJECT bella

Thank you

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: ANGELA KLINGER PHONE: 301-639-4334

ADDRESS: 3241 S. MONTGOMERY RD CASA GRANDE

ORGANIZATION: ___

EMAIL: ___

COMMENTS: None right now, but I will be at the next meeting. Thank you for having this meeting for the community

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

3-17-16

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Rose Juarez PHONE: 520-450-0424

ADDRESS: 25981 W Peters Rd Casa Grande, AZ 85193

ORGANIZATION: homesteader

EMAIL: roseinarizona@gmail.com

COMMENTS: I am not happy about this plant moving into my area. We have a water well & that is the only water we have. I am worried about our well going dry or more chemical contamination. Worried about air pollution. We live out of town to stay away from air, noise & light polutions.

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Alexandra McCaslin PHONE: 520-635-1331

ADDRESS: 3810 S Pericon Rd, Casa Grande, AZ

ORGANIZATION:

EMAIL: alexandrademccaslin@gmail.com

COMMENTS: I Strongly protest the building of this power plant. This will contaminate the air and land potentially the water. Our livestock, and crops will die or be damaged beyond use. Our property values will fall and would be detrimental to our livelyhood.

- NO Power Plant -

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: Boyd Smith **PHONE:** 801-718-5622

ADDRESS: [redacted] Montgomery rd

ORGANIZATION:

EMAIL: BOYDSMITH24@GMAIL.COM

COMMENTS: This project is not a good fit. The pollution it will cause added with the trees & light pollution should be built elsewhere.
- property values will decline
- water usage
- pollution
- visual impacts
- Build this in town in the industrial area or in a community that doesn't care about air pollution or resources.

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: GERALYNN Wick PHONE: 972 984-9324

ADDRESS: 3290 S. MONTGOMERY Rd #15 CASA GRANDE AZ 85193

ORGANIZATION:

EMAIL: Wickbg@gmail.com

COMMENTS: We would just like to understand this Project & why you are choosing to put it here.

How is this going to affect our water supplies?

How is the public going to be notified of any emergencies at the facility

What is the effect on our environment both air pollution and light pollution?

what or how does this possitively affect Pinal county & Casa Grande?

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: John McCaslin PHONE: 520-560-5011

ADDRESS: 3810 S. Pessica Rd.

ORGANIZATION:

EMAIL: superwrench29@gmail.com

COMMENTS: My property is next to the project. I am concerned about contamination to the air and water. I am concerned about the water table dropping. I am concerned noise and lights for my animals. I am concerned about my property value. I am concerned about fishers being opened. I am concerned about my property taxes. I am concerned about the natural wildlife.

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

bella

Project Bella
Open House (4/30/2024)
Comment Form

Thank you for your interest in this Project. Please complete this form and provide any comments about the Project.

PLEASE PRINT

NAME: ROGER + ANN SEYLER PHONE: 5124619006

ADDRESS: 3290 S. MONTGOMERY RD

ORGANIZATION: N/A.

EMAIL: ROGER.SEYLER@SBCGLOBAL.NET

COMMENTS:

1) WHAT SYSTEM WILL BE UTILIZED TO CHARGE THE BATTERIES? SOLAR, WIND, POWER GRID, OR?

2) WHAT ARE THE SAFETY CONCERNS FOR PEOPLE, ANIMALS, VEGETATION + AT WHAT RADIUS FROM THE BATTERY SYSTEM.

3) WHAT AMOUNT OF WATER WILL BE CONSUMED OR NEEDED FOR POWER STORAGE? WILL THE BATTERY SYSTEM BE PRIORITIZED FOR WATER AS NEEDED TO MAINTAIN THE OPERATIONAL SAFETY OF THE SYSTEM?

4) WHY PINAL COUNTY + AT THIS LOCATION?

Thank you for your time and interest!

Please visit https://www.projectbellaarizona.com for more information

bella