DAHLIA SOLAR PROJECT
SPECIAL USE PERMIT APPLICATION SUPPLEMENT

Prepared for:

Cochise County Planning and Zoning Division
1415 Melody Lane, Building F – Bisbee, Arizona 85603

Prepared by:

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And

HORUS ENERGY

August 21, 2024

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Exhibits

(follow text)

1. PROJECT UPDATE

Horus Energy AZ 1 LLC (the Applicant) evaluated possible changes in the Dahlia Solar Project (the Project) by assessing local power demands and opportunities to further optimize the Project layout in response to public input and discussions with Arizona Public Service (APS). The Applicant has committed to numerous Project environmental protection measures[1] to address nuances (dust, visual impacts) and maximize the wildlife corridor/open space area as much as possible.

The Applicant considered reducing the total megawatts generated onsite and replacing that site acreage with battery storage onsite. However, it was determined this would not be a viable option based on anticipated local power demand and the existing transmission infrastructure. As Cochise County continues to grow, especially near the Douglas port of entry, additional power demands are likely, though difficult to predict with certainty. The Applicant is now considering various power purchase opportunities including an interconnect agreement with APS, an agreement with another local power provider, and/or providing power directly to a customer with a high-power demand. The final product being provided (electric power) has not changed.

2. CONCEPT SITE PLAN UPDATE

The Concept Site Plan has been revised (**Exhibit 1**) in response to public engagement. The undeveloped open space along the Project perimeter has been further expanded to provide increased wildlife connectivity and open space to minimize visual impacts for existing and future neighbors. The Applicant directed project engineers to revisit the layout after the Special Use Permit application was submitted and tighten the spacing between the panels to provide additional open space setbacks along the perimeter of the Project while 1) preserving the functionality of the panels and 2) complying with the Arizona Game and Fish Department (AGFD) recommended panel spacing specifications to install racks at a low ground cover ratio and space tracker rows no less than 12 feet apart. Concept Site Plan updates include the following:

- The distance between the outer edge of the panels was previously 14 feet, 6 inches from panel edge to panel edge. It is now 12 feet, 1 inch. The low ground cover ratio was also preserved, changing from 34 to 38 percent. Although the panels were spaced more closely together, this is still within the recommendations for panel spacing provided by AGFD.
- Open space/wildlife corridor width was increased significantly along the west and north boundary of west parcel and the east boundary of the east parcel. **Exhibit 2** (Project Limits) provides a comparison of the layout boundaries from the previous Concept Site Plan and the revised Concept Site Plan.
- There are large, open space areas preserved on the northeast corner of both the eastern and western parcels. The large open space area on the northeast corner of the eastern parcel was

[1] See the Biological Evaluation, Section 4, previously provided with Special Use Permit application (within Narrative and Supporting Documents- Appendix D).

increased along with modest increases to the north and south open space corridors of the eastern parcels as well.

3. ADDITIONAL PROJECT INFORMATION AND RESPONSE TO COMMENTS

The Project complies with the provisions of Solar Energy Power Plant regulations in Cochise County and requires no modification in development standards. We understand that Solar Energy Power Plants are only permitted in RU Zones by Special Use Authorization, allowing for additional public engagement and possible project conditions to mitigate concerns for nuisances. A Solar Energy Power Plant is considered a low impact use and is a low water user. The Applicant would like to address additional comments/questions about the Project since the application was submitted. It is the Applicant's intention to provide reliable clean power, while being a be a good neighbor in the community. **Table 1** addresses the additional questions/comments submitted in response to the Special Use Permit application submittal.

Table 1. Response to Additional Project Comments

Comment	Response
3.1. Requested Conditions	
Minimum of 300 ft buffer/ wildlife corridor is requested between the Project boundary and Mule Deer Place.	The northeast corner of the Project site preserves open space which has been expanded from 906 feet wide to 1,073 feet wide. The remaining open space corridor along Mule Deer Place was expanded to approximately 380 feet wide in response to comments. South of Mule Deer Place, the east open space corridor will be approximately 265 feet wide.
3.2. Design Considerations	
All access for the Project should be off North Central Highway.	This is the plan for access based on previous public comments.
Mule Deer is a private road and should not be used for the Project. Price Road is the only ingress and egress for Mule Deer and must never be blocked.	The Applicant acknowledges and concurs with this comment.
Central Highway is subject to flooding, especially during the summer monsoons and can be closed for hours/days at a time.	Construction would be suspended during flooding events and construction delays would be expected if construction coincides with significant rainfall.
3.3. Insurance Information	
Per Cochise County zoning regulation 2.52.220 - Solar Energy Power Plants, does the County mandate liability and/or any other protective insurance for solar farm/power companies? For instance, is the solar power company required to carry insurance to cover losses in the event of fire, hail, and/or flood damage?	Even if Cochise County does not mandate insurance, the Applicant will have insurance for the Project in place. This is required by the Project financers and would include liability insurance. Events such as fire, hail and flood damage would cover the cost of cleanup and repair. Financial assurances are required by Cochise County for decommissioning/restoration costs. They must be in place before construction and are determined by a qualified independent engineer and must be updated at no more than 5-year intervals to address equipment value and site restoration, adjusted for inflation. The Applicant understands financial assurance may further be utilized by Cochise County for the costs of correcting any other acts of non-compliance.
Are nearby residents financially protected via liability insurance from contamination damage from such events?	If there were harm to adjacent landowners from the Project site, the site owner/operator is insured to cover loss and liability.
Are property owners who live adjacent to such solar facilities eligible for liability insurance?	Based on discussions with insurance carriers, the Applicant does not believe proximity to a solar facility is a factor in rating landowner insurance. Every company/policy can have its own exclusions/limitations but living next to a solar generation facility would not generally impact premiums or the ability to make a claim.

Comment	Response
3.4. Environmental	
Endangered animals will be affected by the Project, specifically, cactus ferruginous pygmy owl which would be killed if they fly over the panels.	Instances of avian mortality are associated with heat from concentrating solar power (CSP) plants; however, this is not a concern with PV arrays such as this Project. The known range of cactus ferruginous pygmy owl (*Glaucidium brasilianum*), as mapped by the U.S. Fish and Wildlife Service (USFWS), does not include the Project site. The USFWS planning tool was used to identify those special status species that had the potential to occur in the vicinity of the Project, and those results were in the Project's Biological Evaluation. The USFWS determined that cactus ferruginous pygmy owl had no potential to occur within the Project site, as the site is outside the known range of this species and lacks suitable habitat. Modern records for this species primarily occur in Pima County including the Altar Valley, Avra Valley, Tohono O'odham tribal lands and Organ Pipe Cactus National Monument (Corman 2005, USFWS 2011)[2,3]. Additionally, this species occurs near Oracle Junction, Pinal County (Corman 2005). The AGFD Environmental Review Tool was reviewed for this Project and no records of this species occur within 5 miles of the Project site. Pursuant to a detailed Biological Evaluation provided to Cochise County, endangered species will not be impacted by the Project.
Project will result in loss of habitat for animals including frogs and toads underground and birds. Deer, javalina, rabbits, etc. will no longer be present.	While construction activities are expected to temporarily disrupt wildlife at the Project site, there are numerous environmental protection measures that will be taken to minimize impacts to wildlife, conserve natural resources, and mitigate potential environmental impacts. During operation, wildlife is anticipated to use the site to some level. Some of the environmental protection measures the Project applicant has committed to include, but are not limited to: pre-construction nesting bird surveys if construction occurs during nesting season, following Edison Electric Institute's Avian Power Line Interaction Committee (APLIC) recommendations including adequate separation (spacing or covers) of energized equipment to prevent electrocutions from powerline conductors and substation equipment, wildlife-friendly fencing to prevent ungulates from becoming trapped in the site while allowing small vertebrate and meso-carnivore permeability, a wildlife corridor where native vegetation will remain in its current condition to allow opportunities for wildlife to cross the Project site while avoiding traffic along Central Highway, removal of trees and bushes in development areas while herbaceous plants will remain in panel areas, mowing and treatment of herbaceous plants to maintain vegetative perennial cover that not only reduces fugitive dust and erosion but minimizes potential impacts to small mammals, raptors, mesocarnivores, lagomorphs, and box turtles. If revegetation is required in temporary construction areas, the seed mix will include flowering annual and perennial flowers including local varieties of milkweed to help create suitable foraging habitat for monarch butterflies and bolster potential reproductive habitat (Asclepias spp.). As suitable habitat and connectivity to adjacent habitat will be maintained within the Project site, it is anticipated that rodents, lagomorphs, and herptiles will acclimate to the habitat modification and continue to use the Project site and vicinity as habitat.

[2] Corman, Troy E. 2005. "Ferruginous Pygmy-Owl (*Glaucidium brasilianum*)." In *Arizona Breeding Bird Atlas*, edited by Troy E. Corman and Cathryn Wise-Gervais. Albuquerque, New Mexico: University of New Mexico Press. p. 218-219.

[3] U.S. Fish and Wildlife Service. 2011. Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List the Cactus Ferruginous Pygmy-Owl as Threatened or Endangered with Critical Habitat; Proposed Rule. U.S. Department of the Interior. October 5, 2011. *Federal Register*, 76(193):61856-61894.

Comment	Response
Request to preserve in place, transplant or replace all trees in Project development area over 12 ft tall.	There are designated areas onsite where natural vegetation will remain completely intact and not be trimmed down (i.e., the NE corner of each parcel and natural open space corridors along the Project boundaries). Vegetation growing where roads and panels are planned will need to be trimmed/removed for operation of the solar generation facility. The Applicant did review the layout to explore the feasibility of avoiding mature tress onsite, however, it was determined it would not be practical to leave trees onsite due to shade, the potential for root systems damaging the solar system, and the manner in which these systems are typically installed. Where trees or other vegetation is removed in the developed area, herbaceous ground cover will be seeded. This measure is expected to be a condition of the Special Use Permit. Relocating large trees is often unsuccessful and would require water for multiple years of irrigation not otherwise needed for the Project.
The Applicant has not shown real concern for the environment, including the people.	The Applicant suggests referring to the numerous environmental protection measures planned for the Project, including site-specific environmental protection measures developed in coordination with AGFD. The Applicant appreciates the community's concern for preserving the character of the environment and has aimed to minimize visual impacts by preserving setbacks and wildlife corridors, especially near neighbors. This measure is intended to help the area maintain its rural feel. In addition, lighting will be minimized to preserve dark skies at night. The Applicant prioritizes being a good neighbor and developing positive relationships with residents long-term. Where feasible, this effort will include using local resources and workers during construction.
Property values are expected to decrease due to the Project.	There are studies suggesting property values can be affected in either direction or not affected at all by utility scale solar projects. Lawrence Berkeley National Laboratory (LBNL) partnered with the University of Texas at Austin to research solar energy markets and economics.[4] The researchers surveyed approximately 400 property value assessors nationwide, asking if the assessor believed there was an impact on home prices, the scale and direction of those impacts, and the source of those impacts. The results indicate that most respondents believe that proximity to a solar installation has either no impact or a positive impact on home values. Incorporating vegetation to block the visibility of solar panels, keeping panels low to the ground, or using land with a previously unappealing use, such as an animal feedlot, may prove helpful. Furthermore, as the expected lifetime of a solar facility is at least thirty years, residents have assurance the nearby land will not be redeveloped for a less favorable use. Marous & Company[5] conducted an in-depth analysis of recent residential sales near existing solar farms in Minnesota, North Carolina, Indiana, Arizona, and Illinois. The analysis concluded that proximity of a solar farm does not have any measurable negative impact on surrounding residential property values.
The Project should preserve dark skies.	To avoid disruption to wildlife and minimize light pollution, lighting will be limited to only that which is needed for human safety. All lighting fixtures will be hooded, shielded, and directed down toward the interior of the Project site except where necessary for safety. To further minimize the impacts of lighting, Project facilities will utilize motion sensors at most fixtures.

[4] Al-Hamoodah, Leila; Koppa, Kavita; Schieve, Eugenie; Reeves, D. Cale; Hoen, Ben; Seel, Joachim; and Rai, Varun. 2018. An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations. Policy Research Project (PRP), LBJ School of Public Affairs, The University of Texas at Austin, May 2018. Accessed at https://www.efsec.wa.gov/sites/default/files/210011/admitted/EXH-1015.pdf

[5] Marous & Company. 2021. Market Impact Analysis: Koshkonong Solar Energy Center Dane County, Wisconsin. April 13, 2021. Accessed at https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=409444 .

Comment	Response
There is a problem with traffic from illegals in this area; however, we do not want additional lighting added to combat this.	New fencing will be installed, and surveillance will likely be located near substation equipment. Lighting will be minimized as described above.
Do solar facilities have any measurable increase in temperatures? Could the large number of solar panels effect the weather (i.e. increase the frequency of strong winds and microbursts) due to panels heating the surrounding air compared to the surrounding cooler natural vegetation?	Photovoltaic (PV) panels to be used for the Project will employ anti-reflectivity coating, integral to the panel to avoid glare/potential impacts to wildlife. These panels are not known to increase heat and/or weather patterns at this facility scale. Heat Island Effects from solar farms have been studied (Fthenakis and Yu 2013))[6] that describe how field data and simulations from their study show that the annual average of air temperatures in the center of PV field can reach up to 1.9°C (35.4°F above the ambient temperature, and that this thermal energy completely dissipates to the environment at heights of 5 to 18 m (16-60 ft). The study states that: "This PV solar farm did not induce a day-after-day increase in ambient temperature, and therefore, adverse micro-climate changes from a potential PV plant are not a concern." The dissipation of thermal energy is favored by cooling at night, also by existing roads between the fields, and additionally mitigated by the vegetation buffers.
3.5. Health and Safety	
There are airports located in the vicinity of the Project site. Will the Project compromise safety of aircraft due to glare?	Modern solar panels incorporate low-glare technology into the panels. Spacing the solar panel rows also breaks up the potential for glare. Solar panels are designed to capture, and not reflect, as much light as possible. Glass from solar panels can produce some glare; however, studies indicate that the potential glare from solar arrays is comparable to glare from a body of smooth water and modern PV panels reflect as little as two percent of incoming sunlight, which is about the same as water and less than soil or even wood shingles.[7] The Applicant is coordinating with the Dept. of Defense Military Aviation and Installation Assurance Siting Clearinghouse and intends to file an obstruction evaluation/airport airspace analysis (OE/AAA) with the Federal Aviation Administration regarding the Project. These entities will then evaluate the Project in connection with aviation. Fort Huachuca has two utility scale solar developments located at the base, just two miles from the runway. Solor project summaries are available on Tucson Electric Power's website: https://www.tep.com/fort-huachuca-phase-ii/ and https://www.tep.com/fort-huachuca-phase-i/. Davis Monthan Airforce Base in Tucson has multiple solar installations at and near the base on the north, west and south sides of the runway (**Exhibit 3**).
Why is a solar project being permitted in a flood zone?	The Project is outside the 100-year floodplain as mapped by FEMA. It is mapped within Zone A, an area of minimal flood risk (Flood map 04003C2575F). However, the Applicant understands from neighbors that the area is often flooded after rain events and plans to review hydrology on the Project site during development plan review in coordination with Cochise County. The Applicant does not plan to alter stormwater management onsite.

[6] Fthenakis, V. and Yu, Y. 2013. "Analysis of the potential for a heat island effect in large solar farms," *2013 IEEE 39th Photovoltaic Specialists Conference (PVSC)*, Tampa, FL, USA, 2013, pp. 3362-3366

[7] National Renewable Energy Laboratory. Research and Analysis Demonstrate the Lack of Impacts of Glare from Photovoltaic Modules. July 2018. https://www.nrel.gov/state-local-tribal/blog/posts/research-and-analysis-demonstrate-the-lack-of-impacts-of-glare-from-photovoltaic-modules.html

Comment	Response
How will the potential for fires be managed? The Project is in an unincorporated town without dedicated fire station. There have been fires at solar plants in the past and the chemicals involved are highly flammable. Will there be a fire suppression system in place; HazMat team; Fire Risk Assessment?	The Applicant has drafted an Emergency Management Plan. This draft plan was provided to the Cochise County Emergency Management contact in March 2024 but has not been finalized yet since the details of the equipment to be used are not yet finalized. The Emergency Management Plan addresses points of contact, communication, training, medical care, fire prevention, special hazards associated with solar systems, fire response for small, large and wildfires, welding and open flame work, site maintenance and housekeeping, fire safety prevention, plan amendments and distribution, and incident reporting. The Applicant will work with the local emergency response groups to update and finalize the plan and discuss emergency procedures and training. The Applicant acknowledges that there are special considerations for substations and power equipment and concur that safety is the priority for emergency responders. A battery energy storage system (BESS) would have an integrated fire suppression system, but a PV system would rely on manual fire extinguishers. The Applicant can incorporate underground water storage on-site for dealing with fires by emergency responders. The switchgear in the substation enables the plant to be isolated from the transmission network, sections of the plant can also be isolated at the inverter stations, however solar PV panels always produce electricity if they are in sunlight.
What is the risk of electrocution for workers, neighbors or emergency responders if the Project site is flooded.	All electrical components and connections will be placed at out of flood risk areas and are all above ground level. A loose electrical cable would cause an earth fault and automatically cause the section of the plant to isolate. While solar panels produce DC power, that is inverted to AC power at the inverters, so the plant contains both AC and DC electricity. Most of the DC cables for the project are at a high level, fixed directly under the panels and to the mounting structure. A fault in the DC cable will trigger an alert in our monitoring equipment and the O&M team would then resolve.

Comment	Response
There is concern that the solar energy power plant will use hazardous materials that could be released into the environment, specifically: 1. Cadmium that could be present in the steel posts supporting the solar racks. There is concern that in certain soil conditions, because there will be so many posts used, that chemical leaching/releases into soil would add up. 2. Material in the panels themselves are toxic and have potential to be released if damaged, "According to cancer biologist David H. Nguyen, PhD, toxic chemicals in solar panels include cadmium telluride, copper indium selenide, cadmium gallium (di)selenide, copper indium gallium (di)selenide, hexafluoroethane, lead and polyvinyl fluoride." There are general concerns with potential toxicity and safety of PV systems.	The Applicant recognizes that hazardous materials such as those listed in the comment may pose serious threats to humans and the environment. However, the Project will not release hazardous materials: 1. Posts for the racking are comprised of galvanized steel, which is a common and benign building material. The Applicant usually uses up to 4.9 mm hot dip galvanized steel. It does not "leech" into the ground. The HDG Coating | American Galvanizers Association (galvanizeit.org) provides further information on the process. There is no cadmium involved in the galvanization process. 2. The Project will NOT use cadmium telluride panels, the Project will use crystalline-silicon panels. According to the Environmental Protection Agency (EPA; 2023),[8] the two most common types of solar panels are crystalline-silicon and thin film solar panels. Crystalline-silicon are the most common; they contain solar cells made from a crystal silicon structure and typically contain small amounts of valuable metals embedded within the panel, including silver and copper. Thin-film solar cells contain thin layers of semiconductor material, such as cadmium telluride (CdTe) or copper indium gallium (di)selenide (CIGS), layered on a supporting material such as glass, plastic, or metal. CdTe is the second-most common PV material after silicon. Any amount of hazardous materials contained in the modules will be in conformance with standard regulations. If the panels are damaged during regular operation (due to hail, etc.), the damage would be identified during regular inspections and replaced. Failure of a panel, or any disconnection will alert the operator via the remote monitoring station. Additionally, the entire facility is regularly inspected in person (approximately five times a month) to ensure the system is in good condition. Once the panels are no longer in use (or, in the event that panels are damaged), and subsequently considered a waste, they will be disposed of properly or recycled (offsite) in accordance with relevant regulations. The solar panel removal will be included in the Decommissioning and Restoration Plan for the Project, which will be bonded with Cochise County for financial assurances. Solar PV technology does not result in emissions or contamination to the air, water, or soil. Concerns of public health and safety are evaluated in a study completed by N.C. State University (2017)[9]. In this published study, the negative health and safety impacts of utility scale PV development were shown to be negligible.
Electromagnetic fields are a danger to neighbors and the surrounding area.	PV systems do generate electromagnetic fields (EMF). However, people are exposed to EMF in daily life. Background electromagnetic field levels in the home are mainly caused by the transmission and distribution facilities for electricity or by electrical appliances. There are no drastic differences in exposure between life in rural areas and life in the city. Even the exposure of people living near high voltage power lines differs very little from the average exposure in the population.[10]. A person's exposure varies depending on the source, distance from the source, and the amount of time exposed. EMF from the Project would be very localized; considering the Project setbacks, someone outside of the Project property would not be expected to be exposed to EMF from the solar facility.

[8] EPA, 2023. End-of-Life Solar Panels: Regulations and Management. Available at: https://www.epa.gov/hw/end-life-solar-panels-regulations-and-management#Types%20of%20Solar%20Panels

[9] N.C. Clean Energy Technology Center at N.C. State University. 2017. Health and Safety Impacts of Solar Photovoltaics. Available at: https://content.ces.ncsu.edu/static/publication/js/pdf_js/web/viewer.html?slug=health-and-safety-impacts-of-solar-photovoltaics

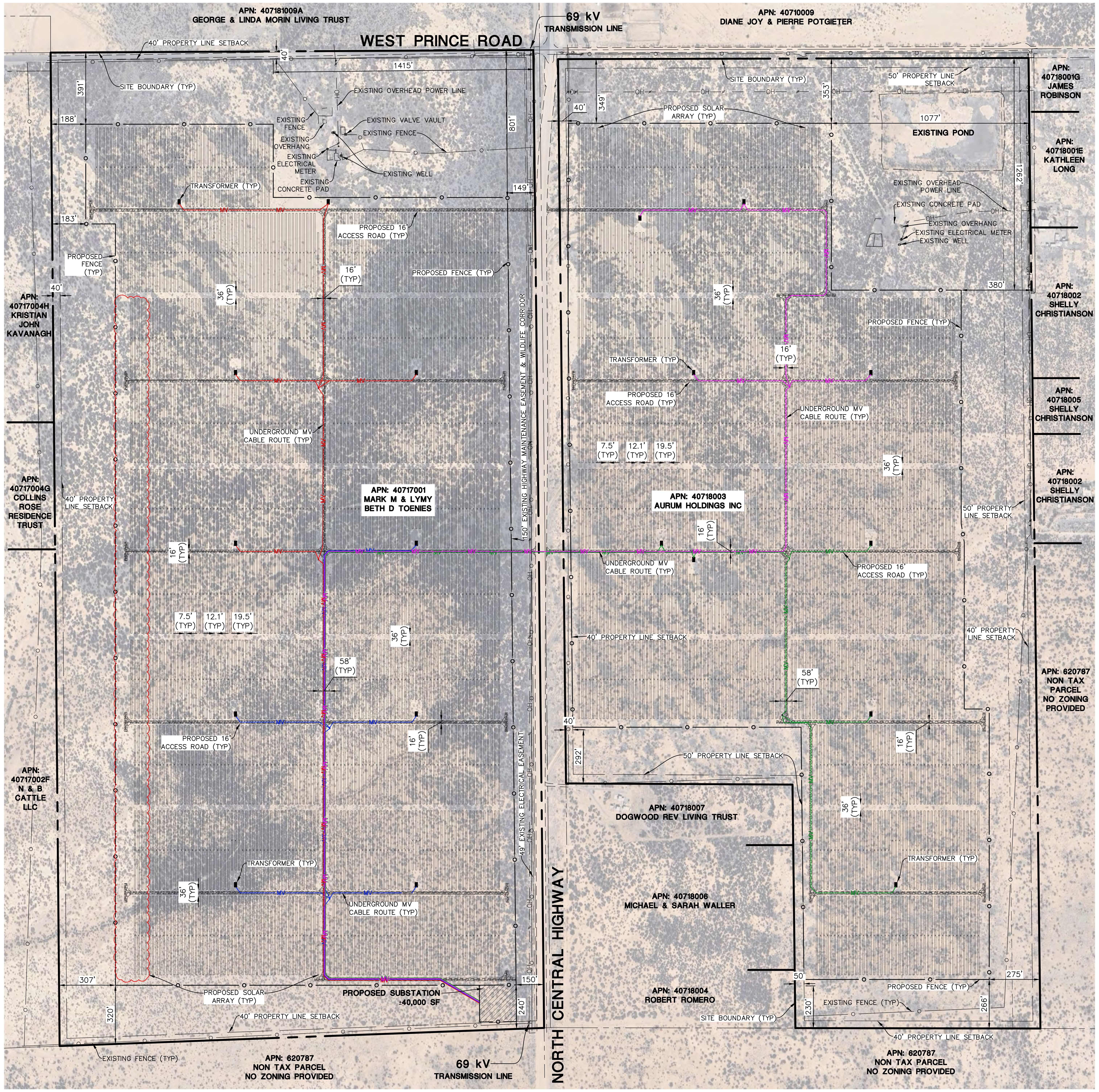
[10] World Health Organization (WHO). Radiation: Electromagnetic fields. 2016. Available at: https://www.who.int/news-room/questions-and-answers/item/radiation-electromagnetic-fields

Comment	Response
An industrial solar power plant was found liable for contaminating a rancher's water in the case H&L Farms LLC v. Silicon Ranch Corp. (Civil action 4:21-cv-00134-CDL).	To clarify, this case is not associated with pollution from hazardous materials, rather the contamination was due to rainfall that caused silt and sediment to flow from the solar project property onto Plaintiffs' property following mass grading on the solar site which resulted in silt and sediment pollution of the Plaintiffs' wetlands, streams, and 21-acre fishing lake. The Applicant is proposing several best industry practices to avoid a similar scenario. Mass grading will not be completed for the Project. Vegetation will be mowed or removed for the majority of the site except for internal roadways and substation yards which must be graded. The Applicant will be required to secure development permits and undergo engineering review for the Project including drainage analysis and any necessary erosion controls. The Applicant is happy to discuss concerns with downstream/cross gradient landowners to understand any specific concerns that they have. Perennial vegetation is also required under the solar arrays which will reduce dust and assist in preventing erosion. The Project will also comply with the National Pollutant Discharge Elimination System (NPDES). Because grading is expected to impact over one acre a detailed Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to construction to secure coverage under the Construction General Permit (CGP) to manage stormwater during construction through the Arizona Dept of Environmental Quality (ADEQ). Regular SWPPP inspections are conducted during construction (typically every two weeks or once a week during the rainy season with additional visits after rain events). A notice to ADEQ is required prior to start of construction (NOI) and a notice is required following ground stabilization (NOT). Stormwater complaints may be made with the state if there are concerns with stormwater management during construction. A SWPPP sign will be posted on the Project site during construction with contact information for the Project and regulators.
Concern that solar projects result in Per- and polyfluoroalkyl substances (PFAS) contamination.	PFAS have a carbon-fluorine bond that is strong and does not degrade easily. The widespread use of PFAS and their persistence in the environment means that PFAS from past and current uses have resulted in increasing levels of contamination of the air, water, and soil[11] No studies have shown the presence or leaching of PFAS from PV panels—either while they are in active use or at the end of their life. The solar panels for this Project will be recycled during the decommissioning phase.
3.6. Decommissioning	
Commentor believes that Cochise County's requirements for decommissioning plans are inadequate. State law regarding insurance and liabilities should be followed to ensure the costs of reclaiming the property are in place. Commentor recommended a decommissioning escrow fund.	Cochise County addresses the state requirements for solar energy power plants in the zoning regulations and the conditions for approved Special Use Permits. Cochise County requires a Decommissioning [and Restoration] Plan to be submitted prior to a building permit application for new Solar Energy Power Plants and it requires financial assurances. The owner/operator must continuously maintain financial assurance in the amount of the decommissioning costs (e.g., performance bond, surety bond, trust instrument, cash, escrow, or irrevocable letter of credit, or other form approved by Cochise County). This must be in place before the commencement of construction and the costs shall be updated by a licensed professional engineer and updated at no more than 5-year intervals by the owner/operator to ensure an accurate estimation of costs associated with equipment value and site restoration, adjusted for inflation. It can also be used by Cochise County for the costs of correcting any acts of non-compliance with the regulations or directives of Cochise County.

[11] U.S. Food and Drug Administration (US FDA). Per- and Polyfluoroalkyl Substances (PFAS). Updated 06/26/2024 Available at: https://www.fda.gov/food/environmental-contaminants-food/and-polyfluoroalkyl-substances-pfas#:~:text=Per%2D%20and%20polyfluoroalkyl%20substances%20(PFAS)%20are%20chemicals%20that%20resist,packaging%2C%20and%20food%20processing%20equipment

Comment	Response
3.7. Power Interconnection	
Based on calls placed by this commentor, no one they spoke with at APS knows about the Dahlia Project or an agreement with Horus, why?	The Applicant has had numerous conversations with personnel at APS and with other utilities in the area. However, early solar developer discussions with local power companies are often limited in their early phases because many utilities prefer to review interconnection applications after a project has achieved a level of "project readiness," including approval of zoning such as Special Use Permits.
The power generated will not even supply the valley but be sold to APS to power Bisbee.	There are various service areas and power providers in the vicinity of the Project. In fact, the north half of the subject Project parcels (407-18-003 & 407-17-001) are located within SSVEC service territory. However, a 69kV APS line runs along Central Highway and the boundary of the Project site. In general, power generated at the Project site could be used by APS within their SE AZ service territory. Available power would likely serve the closest load need if an interconnect agreement were finalized. However, any utility provider who has transmission rights on the connecting system can also buy the power. Where and when the power is used will depend on several factors beyond the Applicant's control. Power is expected to be used in the immediate area when power is being generated. The Applicant has yet to finalize an interconnect agreement with APS and is evaluating multiple options.

Exhibit 1. Revised Concept Site Plan



N

0 150 300 600

SCALE: 1"=300'

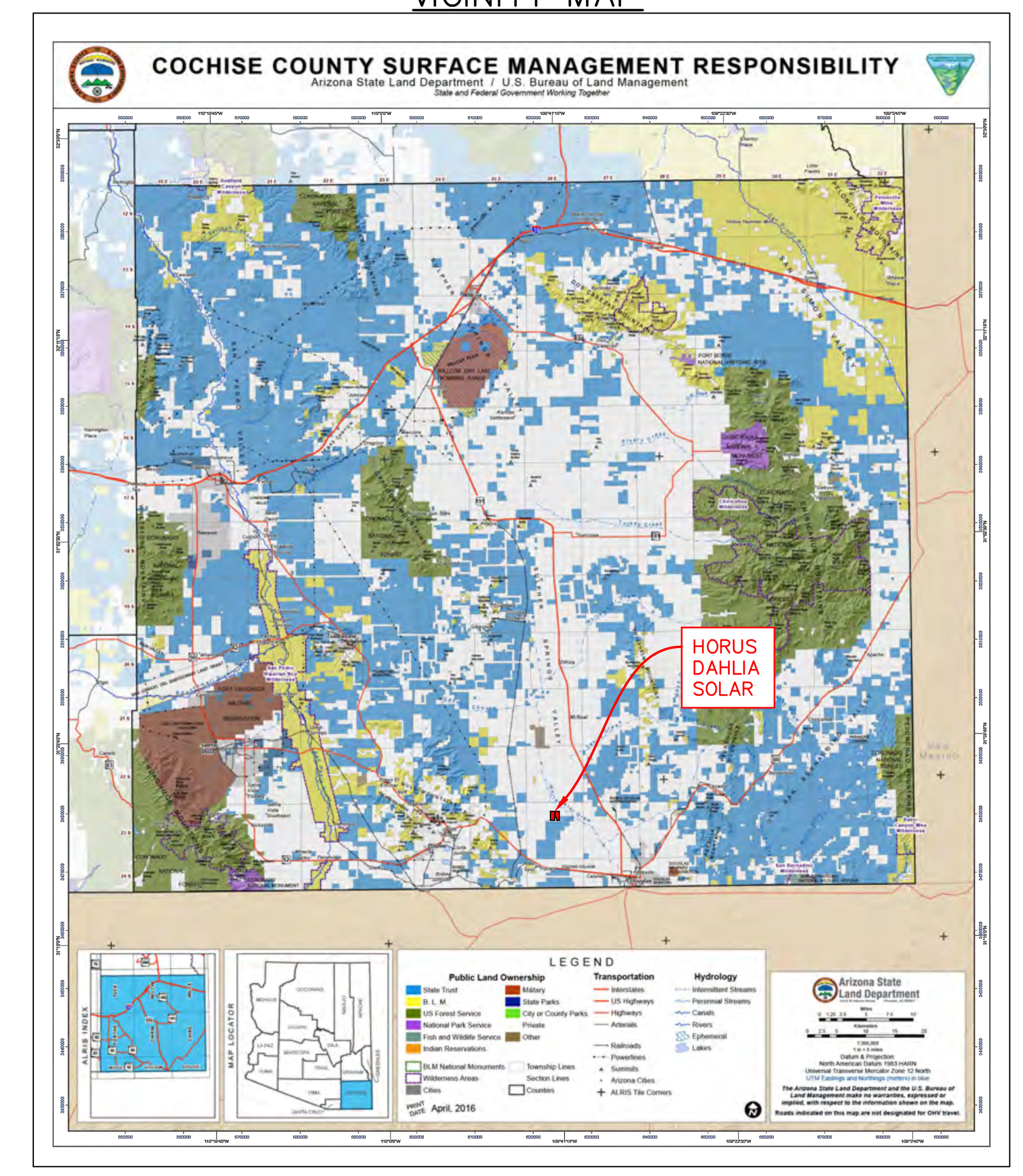
LINETYPE LEGEND:			
PROPOSED FENCE		MV FEEDER 100	MV
16' ACCESS ROAD		MV FEEDER 200	MV
SITE BOUNDARY		MV FEEDER 300	MV
		MV FEEDER 400	MV

GENERAL NOTES:

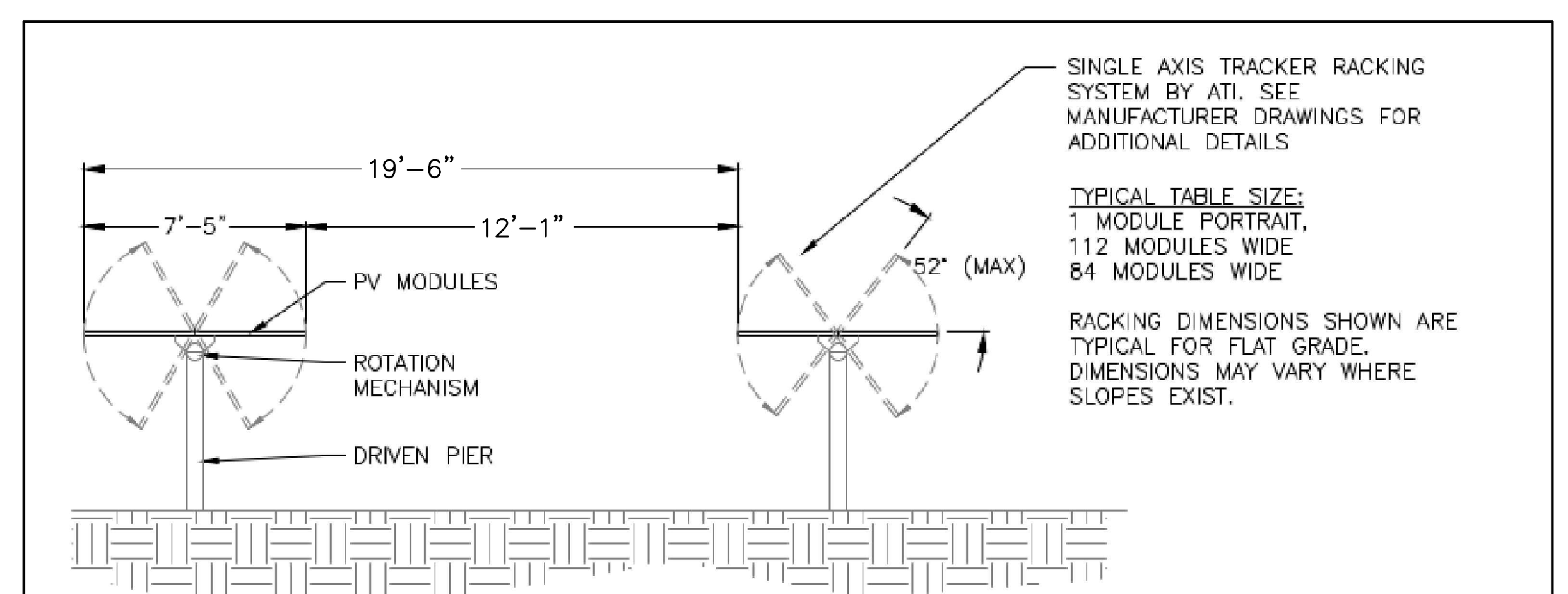
1. PROPERTY LINE BOUNDARIES WERE TAKEN FROM ALTA/NSPS LAND TITLE SURVEY OF HORUS DAHLIA SOLAR PREPARED BY BLEW INC. DATED: 02/12/2024.
2. THIS PROJECT CONSISTS OF THE DESIGN AND INSTALLATION OF A 83 MWAC (NAMEPLATE), 75 MWAC (POI) SOLAR PHOTOVOLTAIC SYSTEM. BIFACIAL PV MODULES 1 IN PORTRAIT ARE TO BE MOUNTED ON SINGLE AXIS TRACKERS, WHICH FOLLOW FROM EAST TO WEST THROUGHOUT THE DAY. INTERCONNECTION TO BE COORDINATED WITH LOCAL UTILITY.
3. PER FEMA FLOOD MAP 04003C2575F DATED 08/28/2008, SUBJECT PROPERTY IS NOT LOCATED IN A FLOOD HAZARD ZONE.
4. PROPOSED ACCESS POINTS AND ROAD IMPROVEMENTS ARE TO BE COORDINATED WITH HIGHWAY AUTHORITY.
5. THE PROJECT WILL COMPLY WITH ALL ZONING AND COCHISE COUNTY REQUIREMENTS.
6. LOCATIONS OF ALL PROPOSED FACILITIES ARE SUBJECT TO CHANGE DUE TO PERMITTING CONSTRAINTS, SITE CONDITIONS, EQUIPMENT SPECIFICATIONS AND UTILITY COORDINATION.

PROJECT SITE DETAILS	
LATITUDE	31.442248
LONGITUDE	-109.692282
INTERCONNECTION VOLTAGE	34.5 kV AC
PROJECT AREA	596.595 ACRES
PARCEL ID'S	40717001, 40718003
OWNER	HORUS CAPITAL
EXISTING ZONING	RU-4 (RURAL ZONING)
EXISTING USE	N/A
PROPOSED USE	SOLAR PV GENERATION
FENCED AREA	±401.4 ACRES
FENCE LENGTH	±28,438 LF
16' ACCESS ROAD	±29,423 LF

VICINITY MAP



PROJECT SITE DETAILS	
AC SIZE- POI LIMIT (MWAC)	75.00
AC SIZE- NAMEPLATE (MWAC)	83.60
OVERBUILD %	111.47%
DC SIZE (MWDC)	105.49
AC POI VOLTAGE (kV)	34.5
DC VOLTAGE (VDC)	1500
AVERAGE DC/AC RATIO (NAMEPLATE)	1.26
AVERAGE DC/AC RATIO (POI LIMIT)	1.41
INVERTER OUTPUT VOLTAGE (V)	645 (INV) / 34.5k (XFMR)
(QTY) INVERTERS	(19) SUNGROW SG4400UD-MV-US
(QTY) MODULES- TYPE 1	(193,564) JINKO JKM545M-72HL4-TV (545W BIFACIAL)
MODULES PER STRING	28
(TOTAL QTY) STRINGS	6,913
(QTY) 4-STR TABLE	1,636
(QTY) 3-STR TABLE	123
RACKING	ATI DURATRACK HZ (1P TRACKER)
AZIMUTH (DEG)	180
PITCH (FT/M)	19.52/5.95
MODULE ORIENTATION	PORTRAIT (1P)
RACKING ROTATION (DEG)	± 52
GROUND COVER RATIO	38.00%
NEC YEAR	2020
SITE DESIGN PARAMETERS	
ASHRAE WEATHER STATION	BISBEE DOUGLAS INTL, AZ, USA (WMO: 722720)
MAX TEMPERATURE (°C)	35
MIN TEMPERATURE (°C)	-9.9



2 RACKING DETAIL
SCALE: NONE

PUREPOWER ENGINEERING
ELECTRICAL ENGINEER - PURE POWER ENGINEERING

August 20, 2024 - 14:45 Dwg Name: \\mcl-la-nas\Projects-VH\Horcca01\dwg\Eng\Preliminary\Exhibits Eng\Concept Site Plan.dwg Updated By: DTalag

DRAWN BY | REVISIONS | DATE

Manhard CONSULTING
1 East Wacker Drive, Suite 2700, Chicago, IL 60601 ph:312.624.3801 fx:847.634.0095 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

HORUS DAHLIA SOLAR
COCHISE COUNTY, ARIZONA
CONCEPT SITE PLAN

PROJ. MGR.:	KJC
PROJ. ASSOC.:	MSP
DRAWN BY:	SB
DATE:	8/20/2024
SCALE:	1"=300'

SHEET
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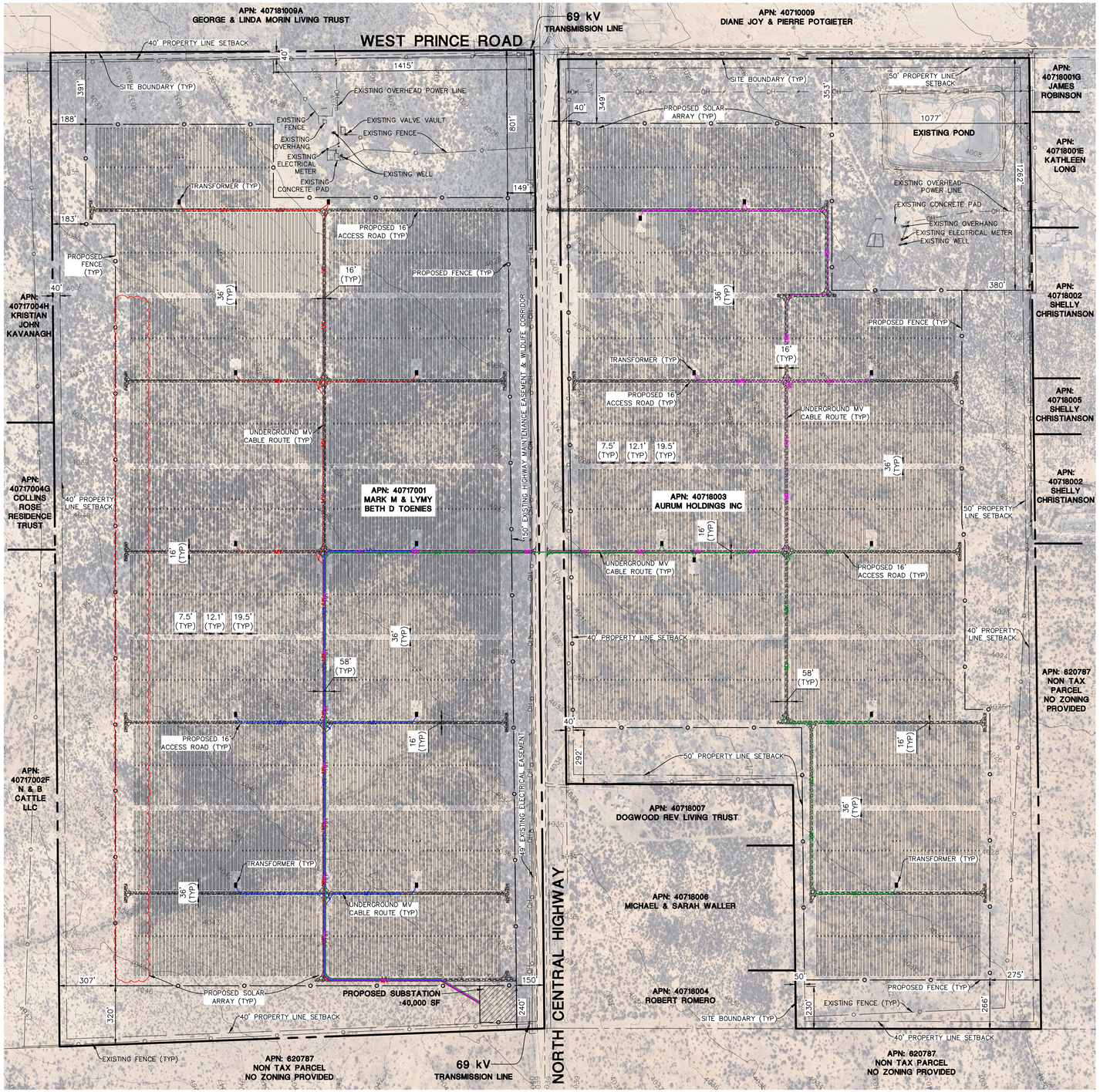
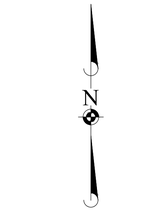




LINETYPE LEGEND:

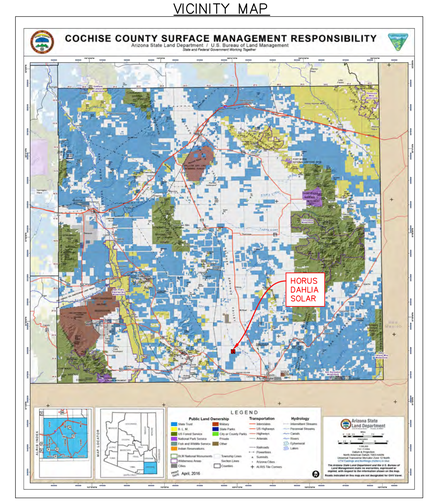
PROPOSED FENCE		MV FEEDER 100	MV
16' ACCESS ROAD		MV FEEDER 200	MV
SITE BOUNDARY		MV FEEDER 300	MV
		MV FEEDER 400	MV

GENERAL NOTES:

1. PROPERTY LINE BOUNDARIES WERE TAKEN FROM ALTA/NSPS LAND TITLE SURVEY OF HORUS DAHLIA SOLAR PREPARED BY BLEW INC. DATED: 02/12/2024.
2. THIS PROJECT CONSISTS OF THE DESIGN AND INSTALLATION OF A 83 MWAC (NAMEPLATE), 75 MWAC (POI) SOLAR PHOTOVOLTAIC SYSTEM. BIFACIAL PV MODULES 1 IN PORTRAIT ARE TO BE MOUNTED ON SINGLE AXIS TRACKERS, WHICH FOLLOW FROM EAST TO WEST THROUGHOUT THE DAY. INTERCONNECTION TO BE COORDINATED WITH LOCAL UTILITY.
3. PER FEMA FLOOD MAP 04003C2575F DATED 08/28/2008, SUBJECT PROPERTY IS NOT LOCATED IN A FLOOD HAZARD ZONE.
4. PROPOSED ACCESS POINTS AND ROAD IMPROVEMENTS ARE TO BE COORDINATED WITH HIGHWAY AUTHORITY.
5. THE PROJECT WILL COMPLY WITH ALL ZONING AND COCHISE COUNTY REQUIREMENTS.
6. LOCATIONS OF ALL PROPOSED FACILITIES ARE SUBJECT TO CHANGE DUE TO PERMITTING CONSTRAINTS, SITE CONDITIONS, EQUIPMENT SPECIFICATIONS AND UTILITY COORDINATION.

PROJECT SITE DETAILS	
LATITUDE	31.442248
LONGITUDE	−109.692282
INTERCONNECTION VOLTAGE	34.5 kV AC
PROJECT AREA	596.595 ACRES
PARCEL ID'S	40717001, 40718003
OWNER	HORUS CAPITAL
EXISTING ZONING	RU−4 (RURAL ZONING)
EXISTING USE	N/A
PROPOSED USE	SOLAR PV GENERATION
FENCED AREA	±401.4 ACRES
FENCE LENGTH	±28,438 LF
16' ACCESS ROAD	±29,423 LF

VICINITY MAP



PROJECT SITE DETAILS	
AC SIZE− POI LIMIT (MWAC)	75.00
AC SIZE− NAMEPLATE (MWAC)	83.60
OVERBUILD %	111.47%
DC SIZE (MWDC)	105.49
AC POI VOLTAGE (kV)	34.5
DC VOLTAGE (VDC)	1500
AVERAGE DC/AC RATIO (NAMEPLATE)	1.26
AVERAGE DC/AC RATIO (POI LIMIT)	1.41
INVERTER OUTPUT VOLTAGE (V)	645 (INV) / 34.5k (XFMR)
(QTY) INVERTERS	(19) SUNGROW SG4400UD−MV−US
(QTY) MODULES− TYPE 1	(193,564) JINKO JKM545M−72HL4−TV (545W BIFACIAL)
MODULES PER STRING	28
(TOTAL QTY) STRINGS	6,913
(QTY) 4−STR TABLE	1,636
(QTY) 3−STR TABLE	123
RACKING	ATI DURATRACK HZ (1P TRACKER)
AZIMUTH (DEG)	180
PITCH (FT/M)	19.52/5.95
MODULE ORIENTATION	PORTRAIT (1P)
RACKING ROTATION (DEG)	± 52
GROUND COVER RATIO	38.00%
NEC YEAR	2020
SITE DESIGN PARAMETERS	
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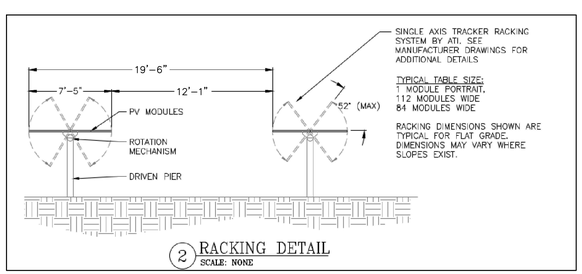

2 RACKING DETAIL
SCALE: NONE

PUREPOWER ENGINEERING
ELECTRICAL ENGINEER - PURE POWER ENGINEERING

DRAWN BY | REVISIONS | DATE

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HORUS DAHLIA SOLAR
COCHISE COUNTY, ARIZONA
CONCEPT SITE PLAN

PROJ. MGR.: KJC
PROJ. ASSOC.: MSP
DRAWN BY: SB
DATE: 8/20/2024
SCALE: 1"=300'

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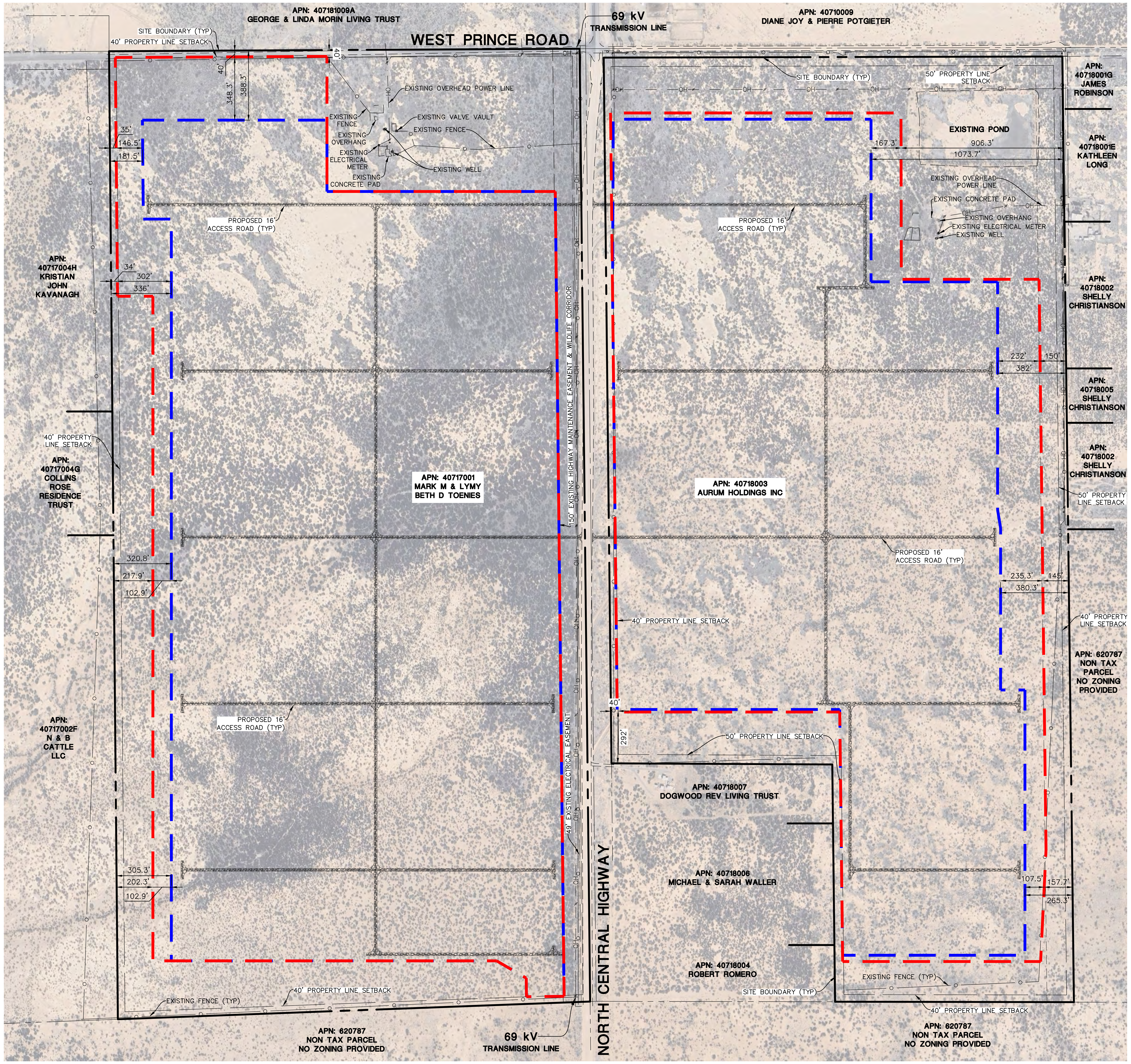
August 20, 2024 - 14:45 Dwg Name: \\mcl-to-nas\Projects-VA\Horcca01\Dwg\Eng\Preliminary\Exhibits\Eng\Concept Site Plan.dwg Updated By: DTaig

Exhibit 2. Project Limits
(Comparing Previous and New Project Limits)



LINETYPE LEGEND:

PREVIOUS PROJECT LIMITS	(red dashed)
NEW PROJECT LIMITS	(blue dashed)
SITE BOUNDARY	(black solid)

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HORUS DAHLIA SOLAR
COCHISE COUNTY, ARIZONA
PROJECT LIMITS EXHIBIT

PROJ. MGR.:	KJC
PROJ. ASSOC.:	MSP
DRAWN BY:	OMT
DATE:	8/20/2024
SCALE:	1"=300'

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Exhibit 3. Davis Monthan Air Force Base Relative to Photovoltaic Solar Generation Sites

PimaMaps Davis Monthan Air Force Base and surrounding solar generation facilities

Legend

Blue Polygons represent solar array areas.

8,000.0 0 4,000.00

Feet

PIMA COUNTY GEOGRAPHIC INFORMATION SYSTEMS

8/13/2024