Variance Factors Analysis

Rough Hat Clark County Solar Project
N-99406

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for
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Abbreviations and Acronyms

AC	alternating current
ACEC	Area of Critical Environmental Concern
AF	acre-feet
AFY	acre-feet per year
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	Best Management Practices
BO	Biological Opinion
CHAT	crucial habitat assessment tools
DAQ	Division of Air Quality
DC	direct current
DOE	Department of Energy
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GIG	Macquarie Green Investment Group
HMA	Herd Management Area
IBAs	Important Birds Areas
kV	kilovolt
LCCs	Landscape Conservation Cooperatives
LVFO	Las Vegas Field Office
MW	megawatt
NCA	National Conservation Area
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHT	National Historic Trail
NPS	National Park Service
NWP	Nationwide Permit
O&M	operations and maintenance
PCS	Power Conversion Stations
PEIS	Programmatic Environmental Impact Statement
PFYC	Potential Fossil Yield Classification
POD	Plan of Development
POI	Point of Interconnection
PPA	Power Purchase Agreement
PV	photovoltaic
RMP	Resource Management Plan
RPS	Renewable Portfolio Standard
ROD	Record of Decision
ROW	right-of-way
SEZ	solar energy zone
SHPO	State Historic Preservation Office
SRMA	Special Recreation Management Area
TCP	Traditional Cultural Property

USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management
WGA	Western Governors' Association
WOTUS	Waters of the U.S.

1.0 Introduction

In 2012, the Bureau of Land Management (BLM) and the United States Department of Energy (DOE) issued the Record of Decision (ROD) for the Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in six Southwestern States (Arizona, California, Colorado, Nevada, New Mexico, and Utah) (Solar PEIS) (BLM/DOE 2012). The ROD for the PEIS amended the Las Vegas Resource Management Plan (LVRMP). The comprehensive Solar Energy Program facilitates the permitting of solar energy development projects on federal public land in a more efficient, standardized, and environmentally responsible manner. The Solar Energy Program designated Solar Energy Zones (SEZs) that are well suited for utility-scale production of solar energy. The Solar Energy Program identified five SEZs in Nevada including Amargosa Valley SEZ, Dry Lake SEZ, Dry Lake Valley North SEZ, Gold Point SEZ, and Millers SEZ.

The Solar Energy Program also designated variance areas on BLM-administered lands that are outside of the SEZs and not otherwise excluded by the Solar Energy Program. Variance areas are available for utility-scale solar energy development through the BLM's variance process. The BLM will consider right-of-way (ROW) applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach.

Candela Renewables, LLC (Candela Renewables or Applicant), is proposing the construction, operation, and eventual decommissioning of the Rough Hat Clark County Solar Project (Rough Hat Clark or Project), a photovoltaic (PV) solar power plant project located in a designated variance area in Clark County, Nevada (**Figure 1**). The Project would include the construction of an up to 400 megawatt (MW) solar and battery storage facility and a gen-tie line on federal lands managed by the BLM Las Vegas Field Office (LVFO). To develop the Project, Candela Renewables has applied for a ROW grant with the BLM LVFO, which would provide the necessary land and access for the construction and operation of the proposed solar facility and interconnection to the regional transmission system.

As part of the variance process, the Applicant must demonstrate that the proposed Project would avoid, minimize, and/or mitigate the impacts to sensitive resources, according to standards set out by the Solar PEIS (Appendix C of Solar PEIS, BLM/DOE 2012b). The Applicant must also demonstrate that the Project is compatible with state and local plans, that it can acquire all required permits and approvals to implement the Project, and that any potential conflicts with sensitive resources have been assessed. This Variance Factors Analysis provides this information to the BLM LVFO for the Project ROW grant application evaluation/variance review.

2.0 Project Description

The Applicant is proposing to construct, operate, and eventually decommission the Project - an up to 400 MW alternating current (AC) solar PV power generating facility with energy storage on approximately 2,400-acres of federal land managed by the BLM LVFO located in Clark County, Nevada. The Project would interconnect to the electrical transmission system via a 230 kilovolt (kV) transmission line (gen-tie) to the BLM-approved Gridliance Trout Canyon Substation pursuant to an Interconnection Agreement. (**Figure 2**).

As shown on **Figure 3**, the 2,400-acre Project site and the proposed gen-tie route are designated as solar variance areas by the BLM's Solar PEIS and Record of Decision (BLM/DOE 2012) and the LVRMP, as amended. The proposed action (ROW Grant) would provide the necessary land and access for the construction and operation of the PV solar generating facility, battery storage facility, and proposed gen-tie interconnection. The Project area is located in the Pahrump Valley in Clark County immediately adjacent to the Clark County / Nye County border and approximately 38 miles west of Las Vegas and southeast of the Town of Pahrump. **Table 2-1** identifies the BLM-managed lands included in the solar field and along the gen-tie line.

Table 2-1
ROUGH HAT CLARK PROJECT LAND DESCRIPTION

Township	Range	Sections	Quarter Sections / Lots
Solar Field			
21 South	55 East	Section 18	SW¼SE¼, SE¼SW¼, Lots 3 and 4
		Section 19	SE¼, NE¼, E ½ NW¼, E ½ SW¼, Lots 1, 2, 3, and 4
		Section 20	SW¼, SE¼SE¼, NW¼SE¼, SW¼SE¼, SW¼NW¼
		Section 27	SW¼SW¼
		Section 28	SW¼, SE¼, SW¼NE¼, SE¼NW¼, NW¼NW¼, SW¼NW¼
		Section 29	All
		Section 30	All
Gen-Tie Line			
21 South	55 East	Section 34	NE¼NW¼, NE¼SE¼, SE¼NE¼, NW¼NE¼, SW¼NE¼, NW¼NW¼
		Section 35	NW¼SW¼, SW¼SW¼
22 South	55 East	Section 2	SW¼NW¼, Lot 4
Based on Mount Diablo Meridian			

The Project would include PV modules that convert sunlight into direct current (DC) electricity that would be collected and converted to AC electricity through a system of inverters. Transformers would step up the AC electricity to 34.5 kV and the energy would be delivered to an onsite substation where the electricity would be stepped up to 230 kV and then delivered to the BLM-approved Trout Canyon Substation - the Point of Interconnection (POI) - via a new 230 kV generation gen-tie. The physical specifications of the Project are outlined in **Table 2-2**.

Table 2-2 ROUGH HAT CLARK COUNTY SOLAR PROJECT Project Characteristics	
Solar Project	
Power Output Capacity	Up to 400 MWs
Solar Field Footprint	Up to 2,400-acres
Technology	PV panels arranged in arrays
Panel Mounting	Fixed or Single-axis trackers
Energy Collection System	DC collection lines, inverters/transformers, AC collection lines
Battery Energy Storage System	Up to 120 MWs
Project Substation	Up to 5-acres
O&M Building / Area	Up to 5-acres
Site Access	Driveways from adjacent SR-160
Gen-Tie Line	
Line length	Approximately 1.5 miles all on BLM-managed land
Type of Structure	Steel monopoles
Typical structure height	80 to 120-feet
Typical span lengths	600 to 1,000-feet
Right-of-way width	150-feet
Access roads	Access road located within ROW
Voltage	230,000 volts or 230 kV
Circuit configuration	Single or double circuit 230 kV (three phase per circuit)
Pole foundation depth/diameter	15 to 50-feet / 6 to 12-feet

Major components of the solar generating facility include the following:

- Solar arrays consisting of solar PV modules on fixed-tilt or single-axis horizontal tracker mounting systems attached to steel posts or other foundations. Each solar array would connect to Power Conversion Stations (PCS) which includes inverter(s) that convert DC power to AC Power and transformer(s) that step up the voltage to 34.5 kV. The Project could have arrays of 2 MW AC; and
- Above ground and underground 34.5 kV collection system from each PCS to the on-site substation; and
- One on-site substation with one or more 34.5 kV to 230 kV transformers; and
- Energy storage system and associated equipment; and
- Operations and maintenance (O&M) area/building; and
- Communications facilities; and
- Two or more permanent meteorological stations; and
- Site security and fencing.

Ancillary components would include the following:

- 1.5-mile single or double circuit 230 kV gen-tie; and
- Interconnection facilities at the Trout Canyon Substation; and
- Access driveway(s) from SR-160, interior site perimeter road, and PCS access.

Temporary facilities would include areas for construction trailers and parking; storage areas for equipment, materials, recycling, and waste; laydown and assembly areas; pulling/tensioning areas along the gen-tie; and water storage (tanks or ponds), septic system, generators/power service, and communications used during the construction phase. These areas would be located within the solar facility fence except for those areas associated with the gen-tie line.

Vegetation would be removed only where needed in the solar array for localized ground contouring and for construction and maintenance of access roads, buildings, equipment enclosures, the site substation, met stations, and where it could interfere with facility operations. In other areas, vegetation would be trimmed or mowed as needed for construction safety and allowed to re-grow to a height that would not interfere with facility operations or create a fire risk. Vegetation and weed management plans would be prepared for BLM review and approval prior to the start of construction.

The Project would require water during construction primarily for dust control, fire protection, and some minor consumptive use for concrete and other needs. Water consumption during operation would be relatively low and primarily for potable uses by site personnel and periodic washing of panels. Construction water needs are estimated to be up to approximately 800 acre-feet (AF) and estimated operational water requirements would be up to 16 acre-feet per year (AFY). Water would be provided by either developing a well on-site or delivering water from a local provider to the site via truck or pipeline.

The site would drain naturally via sheet flow and several ephemeral washes that cross the Project area flowing to the southwest. These drainages appear to terminate in a closed basin along the Nevada/California state line. A detailed hydrology study and erosion control plan would be prepared prior to construction as part of final design. The Project could include permanent or temporary drainage improvements to manage site flows. Project-specific Best Management Practices (BMPs) would be provided in the erosion control and hydrology/drainage plans.

The Project proposes to interconnect into the BLM-approved Gridliance Trout Canyon Substation at the intersection of SR-160 and Tecopa Road via a 230 kV on-site substation and a single or double circuit 230 kV gen-tie line to the POI. The gen-tie would also include overhead and/or underground fiber optic communication lines as required by the Interconnection Agreement and/or Power Purchase Agreement (PPA). The gen-tie would include an access road within the ROW for construction and maintenance.

3.0 Factors to Be Considered

The BLM will consider the factors described in this section, as appropriate, when evaluating ROW applications in BLM-designated variance areas. The factors described in this section are specific to the Project variance application.

3.1 Public Input on Variance Process

The BLM considers right-of-way applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach. Information was gathered during a public input process to inform the variance process as well as the BLM's associated determination.

During the public input period, the BLM informed the public, landowners, Federal, State, and local government agencies, tribes, and interested stakeholders about the proposed Rough Hat Clark County Solar Project and solicited their input. The BLM announced the Project and the initiation of the public input process, held public information forums, and invited the public to comment and ask questions. The public information forums were publicized on the Project website and BLM social media accounts, in letters mailed to interested stakeholders, and through public notices/news releases.

The issues identified through this outreach process are summarized in Appendix B. A report that provides more detail on the input received through this process has been developed and is available for review.

3.2 Land Availability

The availability of lands in a SEZ that could meet the applicant's needs—including access to transmission.

There are no designated SEZs in the vicinity of the Project. The nearest designated SEZ is the Dry Lake SEZ is located about 55 miles from the Project and approximately 25 miles northeast of Las Vegas near the intersection with I-15 and Highway 93 (BLM/DOE 2012a). In June 2014, the BLM held a competitive leasing auction for six parcels in the Dry Lake SEZ, selecting three potential developers. In December 2014, the BLM announced the availability of Environmental Assessments for three proposed PV projects in the Dry Lake SEZ. The BLM announced the approval of the three solar energy projects within the Dry Lake SEZ in June 2015.

There are four other SEZs in Nevada (Amargosa Valley, Dry Lake Valley North, Gold Point, and Millers). Of these, Amargosa Valley is the closest SEZ location approximately 58 miles northwest of the Project site. The Project is sited in its proposed location due to the combination of proximity to, and transmission capacity of, the Trout Canyon Substation. The Applicant has determined that the Nevada SEZs do not have comparable transmission availability and proximity.

There are approximately 966,00-acres of solar variance lands located in the BLM Southern Nevada District planning area (BLM 2012a). The Project (solar site and gen-tie) is located entirely on BLM variance lands.

3.3 Current Land Use Plan Conformance

Documentation that the proposed project will be in conformance with decisions in current land use plan(s) (e.g., visual resource management class designations and seasonal restrictions) or, if necessary, represents an acceptable proposal for a land use plan amendment.

The Project is located within the BLM LVFO planning area and is managed under the Las Vegas Resource Management Plan (LVRMP) (BLM 1998), as amended by the Solar PEIS ROD. The amended 1998 LVRMP is the framework for the management of public lands administered by the BLM in Southern Nevada.

Through the Solar PEIS ROD, the BLM replaced certain elements of its solar energy policies with a comprehensive Solar Energy Program that would allow the permitting of future solar energy development projects to proceed in a more efficient, standardized, and environmentally responsible manner. The Solar PEIS ROD amended the land use plans for BLM-administered lands in six southwestern states including Nevada and the LVRMP. These plan amendments help establish the processing of ROW applications for utility-scale solar energy projects.

A review of the LVRMP objectives relevant for the project area identified the following visual resource management objective that it may not be possible for the project to conform with. The BLM's Visual Resource Management (VRM) classification system is designed to minimize the visual impacts of surface-disturbing activities and maintain scenic values for the long term. The objectives of VRM in the VRM classification system rank from Class I (preserve the existing character of the landscape with little to no apparent visual change) to Class IV (provide for major modifications of existing landscape character with the application of mitigation measures). These class rankings provide for different levels of management activities within an area, from very limited (Class I), to activities that may dominate the view and be the major focus of viewer attention (Class IV).

The VRM classes for BLM land in the planning area were established through the LVRMP (BLM 1998). All BLM lands located within the Project area and gen-tie are managed as VRM Class III. Class IV lands are located southwest of the site. The objective for Class III lands is to partially retain the existing character of the landscape with the level of change to be moderate. Based on the VRM Class III designation, BLM has determined that consideration of a land use plan amendment would be needed.

3.4 Landscape Conservation Objectives Consistency

Documentation that the proposed project will be consistent with priority conservation, restoration, and/or adaptation objectives in the best available landscape-scale information (e.g., landscape conservation cooperatives, rapid ecological assessments, and state and regional-level crucial habitat assessment tools [CHATs]).

Landscape Conservation Cooperatives (LCCs) were established to provide science capacity and technical expertise for meeting shared natural and cultural resource priorities. These LCC collaborative partnerships leverage resources, share scientific expertise, fill needed science gaps, identify best practices, and prevent duplication of efforts through coordinated conservation planning and design. The proposed Project lies within the Desert LCC. According to the website (https://lccnetwork.org/lcc) the Desert LCC area includes the Mojave, Sonoran, and Chihuahuan deserts, grasslands and valley bottoms, and isolated mountain ranges, with elevations ranging from near sea level to more than 10,000-feet.

There are no specific conservation planning guidance or conservation priorities that have been identified for the Desert LCC.

The Nevada Department of Wildlife (NDOW) partnered with the Western Governors' Association (WGA) and 16 other western states' wildlife agencies to develop CHATs. NVCHAT is an online mapping application that present wildlife and habitat data for improved multi-state planning and integration of wildlife resource priorities throughout land use planning processes. NVCHAT incorporates data from NDOW's extensive wildlife resource GIS and other agency and partner data sources.

"Crucial habitat" and Landscape Condition is ranked using a relative, six-level prioritization scheme, where 1 represents areas "most crucial" and 6 representing areas "least crucial." According to CHAT data (WAFWA 2021), the Project area contains natural vegetation and CHAT species of concern rankings, and crucial habitat rankings in the project area is 4 to 5. Landscape Condition is ranked at 6. While crucial habitat values only imply the relative broad probability or risk that a high-priority species or habitat would be encountered in a given area (NVCHAT 2021), the rankings of 4 to 5 for this area indicate a moderate to unlikely probability of impacts to high-priority species. The BLM recognizes the desert tortoise is present and considered a high-priority species. A more detailed site-specific assessment of impacts to federally listed and BLM sensitive species and habitats will be completed as part of the NEPA process for this Project.

The Project area does not contain Audubon-designated Important Birds Areas (IBAs), the U.S. Fish and Wildlife Service (USFWS) designated or proposed critical habitat or refuges or mapped riparian corridors. The nearest IBA is about 4.3 miles east-northeast of the site in the Spring Mountains National Recreation Area administered by the US Forest Service. The nearest USFWS wildlife refuge is the Ash Meadows National Wildlife Refuge about 26 miles northwest of the proposed site.

3.5 Programmatic Design Features

Documentation that the proposed project can meet applicable programmatic design features adopted in the Record of Decision (ROD) (see Appendix A, Section A.4.1 of the ROD).

The Project will be required to meet the programmatic design features (PDFs) identified in the Solar PEIS ROD (BLM/DOE 2012). The Applicant has committed to addressing the PDFs from the Solar PEIS that are applicable to the Rough Hat Clark County Project. Below includes an initial review of those resources identified in the PDFs related to the Rough Hat Clark County Solar Project. A thorough review of the PDFs would be completed during the NEPA process, if a favorable variance determination is made.

The project-specific plans necessary to address the applicable PDFs in the Solar PEIS ROD and amended LVRMP will be developed in coordination with the BLM LVFO as part of the project-specific NEPA process, should the variance application be approved.

Alternative designs, design features, and mitigation measures developed during the NEPA process would be incorporated into the final POD that would be included as part of the final BLM decision.

3.5.1 Lands and Realty

There are other proposed solar projects and existing and proposed electrical line ROWs near the Project area. Notifications required by the BLM would be provided to individuals or other parties that may be affected by the Project, including existing BLM ROW authorization holders to inform them that an application that might affect their existing ROW has been filed and request their comments (pursuant to Title 43, Part 2807.14 of the Code of Federal Regulations (43 CFR 2807.14).

3.5.2 Specially Designated Areas and Lands with Wilderness Characteristics

There are no special land use designations on the lands that would be directly affected by the Project or gen-tie line or in the immediate vicinity.

The nearest Area of Critical Environmental Concern (ACEC) is Stump Spring located about 6.6 miles south of the Project site. There are no nearby Special Recreation Management Areas (SRMAs) with the closest being the Red Rock Canyon SRMA about 13.9 miles east. The Red Rock Canyon area is also National Conservation Area (NCA).

There are no wilderness and wilderness study areas on BLM-managed lands in the immediate vicinity of the Project area. There are wilderness and wilderness study areas on BLM-managed land west of the site and on National Forest lands north and east of the site. The closest is the Mt. Charleston wilderness area on National Forest about 3.8 miles north the site. The Nopah Range wilderness area is about 8.1 miles west of the proposed site across the California border.

The National Park Service (NPS) identified areas that could be sensitive to the development of utility-scale solar in the vicinity of Death Valley National Park which is located about 25 miles west of the proposed Project site in California. These potential sensitive areas are discussed in more detail in Section 3.15.

There is a designated utility corridor that abuts the western boundary of the solar site (see **Figure 3**).

3.5.3 Rangeland Resources-Grazing

A portion of the Rough Hat Clark County project does overlap with the Wheeler Wash grazing allotment. The Wheeler Wash grazing allotment has not had an active permittee in over a decade. There are no active permits associated with the allotment. If the BLM received an application for the allotment, BLM would have to go through the NEPA process to consider future authorization of use.

3.5.4 Wild Horses and Burros

Populations of wild horses or burros could occur on the Project site but are known to occur north of the Project site and north of SR-160. The area north of SR-160 is managed by the BLM for wild horses or burros as the Wheeler Pass Herd Management Area (HMA). This HMA covers a very large area consisting of 273,898-acres of BLM land and 1,677-acres of a mix of private and other public lands located both north and south of the mountains around Mt. Charleston (Figure 4).

3.5.5 Public Access and Recreation

No existing formal roads are on the BLM lands impacted by the Project. Public access to the site would be closed to public use by the Project and restricted by the planned perimeter fence around the facility. SR-160 that abuts the northern boundary of the site would allow for continued access to surrounding areas.

The Project is located within the Southern Nevada Extensive Recreation Management Area which covers the BLM-managed lands within the Southern Nevada District office not within Special Recreation Management Areas. The project area is designated as Limited for OHV use and motorized vehicle travel is subject to restrictions and limited to existing routes. There are no Southern Nevada District Office designated trails and no Clark County trail systems within the project area. The Project is not located within a Special Recreation Management Area.

3.5.6 Military and Civilian Aviation

There are no airports, helipads or airbases in the immediate vicinity of the site. The nearest private airstrips are located 5 to 6 miles south and west of the Project area. The nearest heliports are located about 9 miles northwest in Pahrump. None of the facilities being planned would exceed 200-feet in height and would not pose a safety hazard to military or civilian flights. The Applicant would coordinate with the BLM, military personnel, and civilian airspace managers early in the project planning process to identify any potential conflicts with overhead airspace use.

3.5.7 Soil Resources and Geologic Hazards

As shown on **Figure 5**, the Project area is moderately flat with a relatively uniform slop to the west-southwest elevation ranges from nearly 3,420-feet at the southeast corner of the Project to around 3,110 at the southwest corner. Slopes are less than five percent on most of the site.

The site and surrounding area are characterized by alluvial fans cut by shallowly incised drainages. Soils in the analysis area are predominantly composed of well-drained finer textured soils (loam to silt loam) to extremely gravelly sandy loam and cemented materials (i.e., petrocalcic horizons), with some smaller areas containing badlands. The site soils have a low susceptibility to water erosion and a low to moderate susceptibility to wind erosion erodibility.

The Pahrump Valley fault zone is part of the Stateline fault complex along the California-Nevada border. It includes a wide band of slip faults through the center of the Pahrump Valley and extending northwest. The area is subject to ground shaking from earthquakes originating from these faults. A 4.5 magnitude earthquake hit the Pahrump Valley in 2018.

3.5.8 Water Resources

3.5.8.1 Surface Waters

Several unnamed, intermittent drainages cross the Project area (**Figure 5**) and discharge southwest to the existing dry lake playa along the state border. Data from the USFWS National Wetland Inventory

(NWI) indicate that these drainages could potentially be considered jurisdictional waters of the U.S. (WOTUS) by the U.S. Army Corps of Engineers (USACE).

The Project will be conducting a thorough jurisdictional delineation and seeking a jurisdictional determination from the USACE. If determined to be jurisdictional, it is possible that impacts to WOTUS could be covered under Nationwide Permits (NWPs) if impacts are below the allowable thresholds. NWPs are permits already issued by the USACE for common minimal impacts to WOTUS.

3.5.8.2 Erosion and Sediment Control

Watershed protection and erosion control design would be prepared for the Project area during the engineering and civil design phase of the Project. Precipitation over most of the Project area is expected to drain naturally as sheet flow and in the small ephemeral drainages on the site southwest to the existing dry lake playa along the state border.

A water management plan would be prepared to meet state and federal requirements for site drainage, erosion, sedimentation, and other stormwater runoff related issues.

3.5.8.3 FEMA Floodplain Mapping

Data from the Federal Emergency Management Agency (FEMA) was reviewed to confirm whether any designated floodplains occur on or adjacent to the Project. As shown on **Figure 6**, a FEMA floodplain crosses the extreme northern corner of the site near Highway SR-160. This is a 100-year floodplain, which is defined as “areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies”. Because detailed hydraulic analyses have not been performed, no Base Flood Evaluations or flood depths are known. Clark County floodplain management standards could apply if development were to occur within the designated floodplains.

3.5.9 Ecological Resources

General vegetation in the region consists mainly of Sonora-Mojave Creosote bush-White Bursage Desert Scrub. The creosote-bursage occurs in broad valleys, lower bajadas, plains, and low hills in the Mojave Desert and lower Sonoran Desert. The BLM and the State of Nevada have protections for cactus and yucca species. The BLM and State also regulate and manage invasive plant species.

The Project is located within suitable habitat for the federally threatened desert tortoise (Gopherus agassizii). Construction and O&M of the Project could negatively impact individual desert tortoises. A Biological Assessment (BA) in accordance with Section 7 of the Endangered Species Act (ESA) would be developed in consultation with the USFWS to address the potential effects to the desert tortoise. The BA would include mitigation measures designed to minimize impacts to the desert tortoise. The USFWS would issue a Biological Opinion (BO) for the project identifying all required mitigation and conservation measures. A key measure of the assessment and BO for desert tortoise would be a translocation plan that would identify the details of handling and moving tortoises that would be affected.

The BLM is responsible for managing the biological resources on these federal lands and designates some species as sensitive requiring special management consideration. BLM special status species are 1) species listed or proposed for listing under the ESA, and 2) species requiring special management

consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA. The BLM provides policy and guidance for the conservation of BLM special status species and habitat on BLM-administered lands. Many of these same species are identified by the NDOW as species of conservation priority. The potential for each of these species to occur on the site is summarized in Appendix C, and these would be evaluated as part of the NEPA process.

BMPs and PDFs will be applied to avoid work in migratory bird nesting season or if any ground-disturbing activities occurs during the nesting season. Additional environmental information and survey data collected (including wildlife surveys and sensitive plant surveys) will be incorporated as part of the final NEPA analysis and approval process. Construction activities would be coordinated with the BLM to establish appropriate monitoring and mitigation protocol within sensitive species habitat, including wildlife habitat, which may allow for construction to proceed. Preconstruction resource surveys would be conducted depending upon the timing of construction and species potentially present. If construction activities occur within active raptor nest buffer zones, construction activities would be coordinated with the BLM to establish monitoring and mitigation protocols, as appropriate.

3.5.10 Air Quality and Climate

The Clark County Department of Environment and Sustainability – Division of Air Quality (DAQ) regulates air quality throughout the County and is responsible for monitoring air quality and developing and monitoring control measures. The air quality designations relative to the National Ambient Air Quality Standards for Clark County within this geographic area (outside of the Las Vegas metro area) is in attainment/unclassifiable for all criteria pollutants. During construction, operations, and decommissioning of the Project, emissions of regulated air pollutants from specific types of area sources (i.e., fugitive dust and vehicles / equipment) have the potential to affect air quality. Wind-driven emissions of fugitive dust would be generated by construction activities, including mobile sources traveling on paved and unpaved roadway surfaces. DAQ regulates non-vehicular sources including construction sources of fugitive dust. According to Section 17 of Clark County's Air Quality Regulations, a plan-specific permit is required for construction activities involving surface disturbances greater than 0.25-acre, such as grading and trenching. This will apply to Project actions on BLM-managed lands and will include conditions requiring control of fugitive dust emissions.

3.5.11 Visual Resources

The primary potential viewers of this Project would be motorists traveling on SR-160 where there are existing transmission lines and other proposed solar projects. VRM classes for the Project area are discussed under Section 3.2 Current Land Use Plan Conformance. All BLM lands located within the Project area and gen-tie are managed as VRM Class III. The objective for Class III lands is to partially retain the existing character of the landscape with the level of change to be moderate. Based on the VRM Class III designation, BLM has determined that consideration of a land use plan amendment would be needed.

3.5.12 Noise

Noise at the Project area would be generated by initial construction, maintenance, and decommissioning activities. The day-to-day operation of the solar facility is expected to generate only low levels of noise and the site has no nearby sensitive receptors. Noise generated by the solar facility

will likely be inaudible against the ambient noise generated by the adjacent highway (SR-160).

3.5.13 Paleontological Resources

The Project area is mapped as Quaternary Alluvium. The Potential Fossil Yield Classification (PFYC) System used by BLM has identified this geologic unit as PFYC Class 2, having low potential to contain paleontological resources. Because of this classification and the limited depth of subsurface disturbance associated with PV development, there would be a very low potential of impact to paleontological resources.

3.5.14 Cultural Resources

The Project area is located in the Pahrump Valley. The valley contains many springs that were most likely used by prehistoric groups, later supporting agricultural and ranching activities historically. Generally, prehistoric sites across the Great Basin and the greater American Southwest exhibit the presence of humans during the late Pleistocene, 15,000 years ago. Around 1,500 years ago, the Ancestral Puebloan inhabitants of the greater southwest (in this case the Southern Paiutes) came into the vicinity.

The Old Spanish Trail crossed the Pahrump Valley between 1830 and 1848, to connect the trade route linking Santa Fe, New Mexico and Los Angeles, California. The Old Spanish National Historic Trail is located about 7 miles south of the site. There are no resources listed on the national or state registers of historic places in the immediate area. To comply with permitting requirements, a cultural resources records search would be conducted through the State Historic Preservation Office's (SHPO) Nevada Cultural Resource Information System to identify previous cultural resource projects and archaeological sites within the Project Area. A Class III Cultural Resources Inventory would be completed in consultation with the BLM to identify the cultural resources that occur within the Project's area of potential effect. The resulting information would be utilized by the BLM to determine project-specific measures necessary to reduce potential impacts to cultural resources. To the extent feasible, significant cultural resources would be avoided and, if they cannot be avoided, appropriate mitigation would be developed. Consultation with the SHPO would be required in compliance with Section 106 of the National Historic Preservation Act. Cultural resource impacts and mitigation will be included in the NEPA analysis and approval process.

3.5.15 Native American Concerns

There are no federally designated Native American tribal reservations or individual Indian allotted lands in the immediate Project area or vicinity. However, many Native American tribes have a continued cultural interest in the area. BLM LVFO will conduct government-to-government consultation with all tribes with a potential interest in this area to consider the effect of Project actions on traditional Native American religious and cultural values and practices including Traditional Cultural Properties (TCPs).

3.5.16 Socioeconomic Impacts

Socioeconomic impacts generated from the Project would primarily be positive. The Project would create jobs for the local and regional population during construction and, to a lesser extent, during operation. There would be short-term traffic impacts on SR-160 generated by the transportation of workers and equipment to the site during construction.

Development of the Project would support jobs, local economic activity, and tax revenues. In addition to the direct employment and spending generated, indirect economic activity would also occur as a result of the Project.

Construction would support over 400 jobs for the up to 18-month construction period. The Applicant would also pay a range of taxes during construction and operation.

3.5.17 Transportation Impacts

Temporary traffic impacts could occur on SR-160 during construction. Prior to construction as part of the final POD, the Applicant would develop a traffic plan for review and approval by the BLM and other appropriate agencies such as the Nevada Department of Transportation and Clark County.

3.5.18 National Scenic and Historic Trails, Suitable Trails, and Study Trails

The alignment of the Old Spanish National Historic Trail (NHT), which is jointly administered by the National Park Service (NPS) and BLM, is located approximately 9 miles south of the Project area at its closest point.

3.5.19 Mineral Resources

As of December 9, 2021, there are no active mining claims or known critical minerals within the proposed Rough Hat Clark County project area. The lands within the project right-of-way application were segregated from appropriation under the public land laws, including the Mining Law, for a period of two years on October 20, 2021. Once the lands are segregated, they are not subject to appropriation under the public land laws, including the Mining Law, but would still remain open under the Mineral Leasing Act or the Materials Act. The segregation is subject to valid existing rights, including existing mining claims located before the notice of segregation is published in the Federal Register.

3.6 Coordination with Agencies/Governments

Documentation that the applicant has coordinated with state and local (county and/or municipal) governments, including consideration of consistency with officially adopted plans and policies (e.g., comprehensive land use plans, open space plans, and conservation plans) and permit requirements (e.g., special use permits).

All the Project (solar site, energy storage, and gen-tie) is located on BLM-administered public lands. Applicant's representatives held meetings with the BLM LVFO on multiple occasions regarding the Project and the variance process.

This Project could serve electricity users in Nevada and/or California. Nevada has recently updated its Renewable Portfolio Standard (RPS) to require that 25 percent of all electricity generated in Nevada be derived from renewable sources by 2025 and 50 percent by 2030. Also, the State of California has updated its RPS to a requirement for California's electric utilities to have 50 percent of their retail sales provided by renewable energy resources by 2030. In September 2018, Senate Bill (SB) 100 further increased the overall RPS requirement from 50 percent to 60 percent by 2030. This legislation also adopted a goal of 100 percent from renewable energy and zero-carbon resources by 2045.

Regarding local governments, the Project is in Clark County, Nevada adjacent to the Clark/Nye County line. Clark County has a current well developed comprehensive plan and zoning in place for the County. The County has no specific plans identified for this area – the site and surrounding area is designated Open Land in the comprehensive plan and is zoned as Rural Open Land. The Project appears to be consistent with the current and applicable local ordinances for Clark County.

The unincorporated community of Pahrump is located approximately 2 miles west of the Project area in Nye County and also has a land use plan. The proposed Project is outside this planning area.

The applicant has had several communications with the BLM and relevant state and local authorities and is committed to regular and consistent ongoing communications with them. The BLM has also conducted outreach to agencies with potential jurisdiction or interest in the project as part of the variance review process and their comments are summarized in Appendix B and included in an input summary report (BLM 2022). The Applicant also expects to adhere to applicable officially adopted plans, policies, and permit requirements.

The list below identifies the other federal, state, and local permits and approvals could be required for the Rough Hat Clark County Solar project.

FEDERAL, STATE, AND LOCAL PERMITS / APPROVALS ROUGH HAT CLARK COUNTY SOLAR PROJECT	
Agency	**Permit / Approval**
Federal	
BLM	ROW Grant under Title V of FLPMA
	EIS to comply with NEPA, NHPA, ESA
US Fish and Wildlife Service (USFWS)	Biological Opinion, Incidental Take Permit under Section 7 of ESA
US Army Corps of Engineers (USACOE)	404 Permit under Section 404 of CWA
National Park Service (NPS)	Consultation on potential impacts to Old Spanish National Historic Trail
Federal Aviation Administration (FAA)	Determination of No Hazard
Advisory Council on Historic Preservation	Consultation under Section 106 of the NHPA
DoD Clearinghouse, Nellis Air Force Base	Consultation for potential conflicts with military uses
State	
Nevada State Historic Preservation Office (SHPO)	Consultation under Section 106 of the NHPA
Nevada Department of Wildlife (NDOW)	Consultation, Take Permit
Nevada Department of Transportation (NDOT)	Occupancy Permit for facilities/activities within SR 160 ROW

FEDERAL, STATE, AND LOCAL PERMITS / APPROVALS ROUGH HAT CLARK COUNTY SOLAR PROJECT	
Agency	**Permit / Approval**
Public Utilities Commission (PUC)	Utilities Environmental Protection Act (UEPA) Permit
Nevada Division of Forestry	Cacti and Yucca Salvage Permit
Local	
Clark County Department of Air Quality	Dust Control Permit
Clark County Regional Flood Control District	Drainage study review
Clark County Department of Comprehensive Planning	Special Use Permit
Clark County Building Department	Grading Permit, Building Permit

3.7 Financial and Technical Capability

Documentation of the financial and technical capability of the applicant, including but not limited to: (i) the international or domestic experience with solar projects on federal or nonfederal lands; and (ii) sufficient capitalization to carry out development, monitoring, and decommissioning, including the preliminary study phase of the project and the environmental review and clearance process.

When processing an application or permitting use of the public lands, the BLM must evaluate the technical and financial capabilities of an applicant or holder of a ROW grant or lease per the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1764(J)).

The Project is being developed by a team of experienced solar and energy developers with decades of experience developing similar projects including projects in BLM-administered land. The Applicant has several other active applications for solar energy projects on BLM-administered lands in Nevada and Arizona, including the proposed Rough Hat Nye Solar Project (NV), Vulcan Solar Project (AZ), and Vulcan 2 Solar Project (AZ). The Applicant's team's experience also includes development of several landmark solar projects, including the Silver State North and South Solar Projects (NV), the Switch Station 1 and 2 Solar Projects (NV), the first utility-scale projects on BLM-administered lands, and the Desert Sunlight Solar Farm Project (CA), which was the largest project in the United States at the time of its construction.

The Applicant has developed a partnership with Naturgy Energy Group (Naturgy), a global energy company based in Spain with over 175 years of experience, an approximately $20 billion market capitalization, and service to 18 million customers in over 20 countries. Naturgy brings its extensive global experience and capital in support of the Project.

The Applicant, and its technical and advisory team, is technically and financially capable of completing the Project as described in this application.

3.8 Potential Resource Conflicts

Documentation that the proposed project is in an area with low or comparatively low resource conflicts and where conflicts can be resolved (as demonstrated through many of the factors that follow).

Potential conflicts with resources of concern are expected to be low as documented in the prioritization worksheet that was completed for this Project. The proposed site is very flat with no slopes over five percent. Identified cultural sites and special status species locations would be avoided or mitigated as required. Grading would be conducted only as necessary and site vegetation would be mowed in most areas to minimize soil disturbance. There is very little current public use of the Project area that would be displaced by the Project.

3.9 Existing Roads

Documentation that the proposed project will optimize the use of existing roads.

No new roads outside the Project area are required to gain access to the Project. The Project would construct primary access points from SR-160 which is adjacent to and parallels the northern boundary of the site. These short driveways would be 20-feet wide with a paved surface or as required. The Project may also construct driveway access off of SR-160 and new access roads within the Project's proposed gen-tie ROW to provide gen-tie access separate from the site access.

The Project would have a perimeter road and/or other primary access roads inside project fence. Typically, these roads would be up to 20-feet wide with compacted soil surface. Gravel could be installed as needed. Within the solar arrays, the Project would have access ways to each PCS. Typically, these would be a minimum of 12-feet wide with a compacted soil surface.

3.10 Transmission Infrastructure and Duplicity

Documentation that the proposed project will optimize the capacity of existing and new transmission infrastructure and avoid duplication in the use of or need for existing and new transmission and transmission interconnection facilities.

The Project was sited near the planned Trout Canyon Substation to optimize existing transmission and substation infrastructure. As proposed, the Project would interconnect to the BLM-approved Trout Canyon Substation via a short 1.5-mile gen-tie line. An interconnection request has been made to Gridliance to interconnect at this facility. A System Impact Study for the interconnection application has been initiated.

This proposed Project is planning to share its proposed transmission infrastructure (gen-tie line) with the proposed Rough Hat Nye County Solar Project if both projects would be built. The gen-tie line from this Project would be built as a double-circuit line capable of carrying two circuits on the proposed structures between the solar site and the Trout Canyon Substation. This would avoid the need for duplicate lines and would minimize the associated impacts.

3.11 Project Land Use

Documentation that the proposed project will make efficient use of the land considering the solar resource, the technology to be used, and the proposed project layout.

The expected annual mean daily solar radiation measured in Direct Normal Irradiance (DNI) for the Rough Hat Clark County Solar project area is 7.5 to 7.6 (NREL 2021). This amount of solar radiation is relatively high compared to other parts of the country. The solar field would be constructed in 2.0 MW blocks. Each block would contain solar modules, a set of inverters, and a medium-voltage transformer. The proposed PV technology to be used is a low impact technology and easy to build and the use of multiple, parallel rows of PV modules on single-axis tracking structures would make the most efficient and flexible use of the solar resource. The proposed PV technology is highly reliable, low maintenance, and requires little to no water for operations.

The Project is expected to generate electrical energy at this site using approximately 4.3 acres to generate each MW of DC energy (5.1 acres for each MW AC). This would be very efficient land use for solar energy production.

3.11.1 Other (if applicable)

If applicable, documentation that the proposed project will be located in an area identified as suitable for solar energy development in an applicable BLM land use plan and/or by another related process such as the California DRECP (e.g., Development Focus Areas) or Arizona Restoration Design Energy Project (e.g., Renewable Energy Development Areas).

> This area is designated as a variance area for solar development by the 2012 PEIS and ROD and amended LVRMP. Additionally, in 2020 the BLM SNDO determined this Project to be a High Priority Project in accordance with the screening criteria in 45 CFR § 2804.35 (BLM 2020).

If applicable, special circumstances associated with an application such as an expansion or repowering of an existing project or unique interagency partnership.

> Not applicable

If applicable, opportunities to combine Federal and nonfederal lands for optimum siting (e.g., combining BLM- administered land with adjacent previously disturbed private lands).

> Not applicable

If applicable, documentation that the proposed project will be located in, or adjacent to, previously contaminated or disturbed lands such as brownfields identified by the EPA's RE-Powering America's Land Initiative (http://www.epa.gov/renewableenergyland) or state, local and/or tribal authorities; mechanically altered lands such as mine-scarred lands and fallowed agricultural lands; idle or underutilized industrial areas; lands adjacent to urbanized areas and/or load centers; or areas repeatedly burned and invaded by fire- promoting non-native grasses where the probability of restoration is determined to be limited. Preference will be given to proposed projects that are located in, or adjacent to, previously contaminated or disturbed lands under the variance process, assuming all other factors are adequately considered.

Not applicable.

3.11.2 Recreational Use/Access

Documentation that the proposed project will minimize adverse impacts on access and recreational opportunities on public lands (including hunting, fishing, and other fish- and wildlife-related activities).

The project area is located within the 2,243,358-acre Southern Nevada Extensive Recreation Management Area (ERMA), which includes most public lands managed by BLM in southern Nevada east and west of Las Vegas (excluding the Red Rock Canyon National Conservation Area). This ERMA is managed by the BLM for dispersed and diverse recreation opportunities and the project area is categorized as having relatively modified environments where the sights and sounds of human use predominate. There are no designated access points, roads, recreation sites, or trails within the project area. Existing recreational uses in the area include site-seeing along SR-160 and some dispersed recreation activities. Off-highway vehicle use in this area is limited to existing roads, trails, and dry washes in this area.

There are no SRMAs located in the vicinity of the Project. The closest SRMA is the Red Rock Canyon SRMA about 18 miles east.

Recreation impacts will be further evaluated in the NEPA process for the Project and any identified mitigation could be incorporated into the final Plan of Development (POD).

3.11.3 Wildlife Habitat and Migration Corridors

Documentation that the proposed project will minimize adverse impacts on important fish and wildlife habitats and migration/movement corridors (e.g., utilizing the Western Wildlife CHAT, administered by the Western Governor's Wildlife Council [http://www.westgov.org/wildlife/380-chat] and coordinating with state fish and wildlife agencies).

The Project would be required to minimize any adverse impacts on wildlife habitats and migration/movement corridors, to the extent feasible. Potential impacts to wildlife habitat and corridors will be further evaluated in the NEPA process through ongoing coordination with BLM, USFWS, NDOW, and other appropriate agencies.

Movement of wildlife in the area is currently affected by SR-160, the existing four-lane highway that abuts the northern boundary of the proposed site.

As mentioned above, the Project is located within suitable habitat for the federally threatened desert tortoise and the Project could negatively impact individual desert tortoises. Through development of the required BA and BO, the Applicant will continue to work with BLM and USFWS biologists to implement avoidance and mitigation measures to minimize potential impacts.

3.11.4 Wilderness Values

Documentation that the proposed project will minimize impacts on lands with wilderness characteristics and the values associated with these lands (e.g., scenic values, recreation, and wildlife habitat).

Being adjacent to the SR-160 highway, the Project area does not contain wilderness characteristics as defined in BLM Manual 6340: Management of BLM Wilderness (BLM 2012b). No lands with wilderness characteristics have been proposed on BLM-managed lands in the vicinity of the Project. There are wilderness and wilderness study areas on National Forest lands northeast of the site. The closest is the Mt. Charleston wilderness area about 3.8 miles from the site.

3.11.5 Surface Water Impacts

Documentation that the proposed project will be designed, constructed, and operated to optimize their specific generation technology's efficiencies with respect to water impacts.

PV technology minimizes the amount of water required to support the Project. The Project would require a temporary water source for construction to provide dust control and fire protection. Water is expected to be provided from available local sources. Any proposed development of water for the Project would be coordinated and permitted through the appropriate State and local authorities, as needed.

3.11.6 Groundwater Impacts

Documentation that any groundwater withdrawal associated with a proposed project will not cause or contribute to withdrawals over the perennial yield of the basin or cause an adverse effect on ESA-listed or other special status species or their habitats over the long term. However, where groundwater extraction may affect groundwater-dependent ecosystems, and especially within groundwater basins that have been over appropriated by state water resource agencies, an application may be acceptable if commitments are made to provide mitigation measures that will provide a net benefit to that specific groundwater resource over the duration of the project. Determination of impacts on groundwater will likely require applicants to undertake hydrological studies using available data and accepted models.

Project water would be provided by either developing a well on-site or delivering water from a local provider to the site via truck or pipeline. If a water well is developed, it would be installed per State of Nevada requirements by a licensed well driller. Construction water needs are estimated to be up to approximately 800 AF over the up to 18-month construction period. Estimated operational water requirements would be up to 16 AFY.

All permitted wells within the Pahrump Basin draw groundwater from alluvial basin deposits (Belcher et al., 2019). Groundwater withdrawals from the Pahrump Basin of all permitted and exempt wells for calendar year 2019 were less than the estimated annual perennial yield, permit allocations greatly exceed the annual yield. As a result, the Nevada Division of Water Resources has classified the Pahrump Basin as a "designated groundwater basin," meaning that all water rights in the sub-basin have been appropriated. As a result, acquiring new water rights will not be available for the Project but the Project water demand is short-term and below the available remaining Pahrump Basin water budget. Project construction, operation and maintenance, and decommissioning water requirements will be satisfied with groundwater acquired from existing sub-basin allocations. Modeling and assessment of surface and groundwater hydrology would be conducted as described in the Solar PEIS PDFs.

3.11.7 Impacts to Protected Lands

Documentation that the proposed project will not adversely affect lands donated or acquired for conservation purposes or mitigation lands identified in previously approved projects such as translocation areas for the desert tortoise.

The Project area does not contain and is not adjacent to any donated or acquired conservation or mitigation lands. The BLM and USFWS have designated the Stump Springs and Trout Canyon Desert Tortoise translocation areas in the immediate vicinity of the Project. The Trout Canyon area is east of the site on the north side of Highway 160 and the Stump Springs area is southeast of the site on the south side of Highway 160. The impacts on desert tortoise from the proposed Project will be confirmed in the Biological Assessment and Biological Opinion for the Project. This assessment and the NEPA analysis will confirm whether the Project could impact these areas.

3.12 Cumulative Impacts

Documentation that significant cumulative impacts on resources of concern should not occur as a result of the proposed project (i.e., the exceedance of an established threshold such as air quality standards).

Cumulative impacts will be analyzed for all resources and appropriate minimization and mitigation measures would be identified as part of the NEPA process for the Project.

3.13 Desert Tortoise Habitat Connectivity Concerns

The desert tortoise occurs in this area and is expected to inhabit the site. It is protected by both by the ESA and the State of Nevada is a covered species under Clark County's Multiple Species Habitat Conservation Plan and is considered a sensitive species by the BLM. This area is located within the Eastern Mojave Recovery Unit as revised in the most recent recovery plan (USFWS 2011), though it is not located in or near any critical habitat units or ACECs designated for desert tortoise. The nearest critical habitat unit is approximately 30 miles to the south.

There is potential that desert tortoise could be impacted by development of a solar project on this site. A habitat assessment and detailed field protocol surveys would support development of a BA and BO issued by the USFWS.

Connectivity for desert tortoise is an important concern and connectivity corridors were identified for in the Solar PEIS based on landscape-scale modeling. In the Project area, this modeling identified the Project and surrounding areas as Priority 2 connectivity habitat (**Figure 7**). BLM has coordinated with USFWS regarding desert tortoise connectivity habitat presence for the Rough Hat Clark County Solar Project, which is detailed and included in the BLM variance documentation. In addition, the desert tortoise connectivity issue will be evaluated in detail as part of the NEPA analysis conducted for the Project.

3.14 Greater Sage-Grouse Concerns

The Project area and vicinity do not have a known greater sage-grouse (Centrocercus urophasianus) or GSG population. Within Nevada, sage grouse distribution is associated with sagebrush habitat in the northern two-thirds of the state. No greater sage-grouse populations and Priority Areas of Conservation are known to occur in Clark County or the southern part of the State.

3.15 Potential Adverse Impacts to National Park System Resources and Values

Protecting Resources and Values of Units of the National Park System and Other Special Status Areas under National Park Service Administration

The National Park Service (NPS) provided input to the Solar PEIS to identify potential sensitive areas for the development of utility-scale solar in the six-state Solar PEIS study area near units of the National Park System and national historic trails administered by the NPS. The NPS identified solar program lands having the potential for direct and landscape scale impacts on NPS values and resources and these were referred to as Areas of High Potential for Resource Conflict (AHPRCs).

AHPRCs were identified for the area around Death Valley National Park located about 25 miles west of the site in California. The BLM has coordinated with NPS and documentation was provided related to the AHPRCs in this area, which is detailed and included in the BLM variance documentation. As shown on **Figure 8**, there is an AHPRC identified just west of the proposed site.

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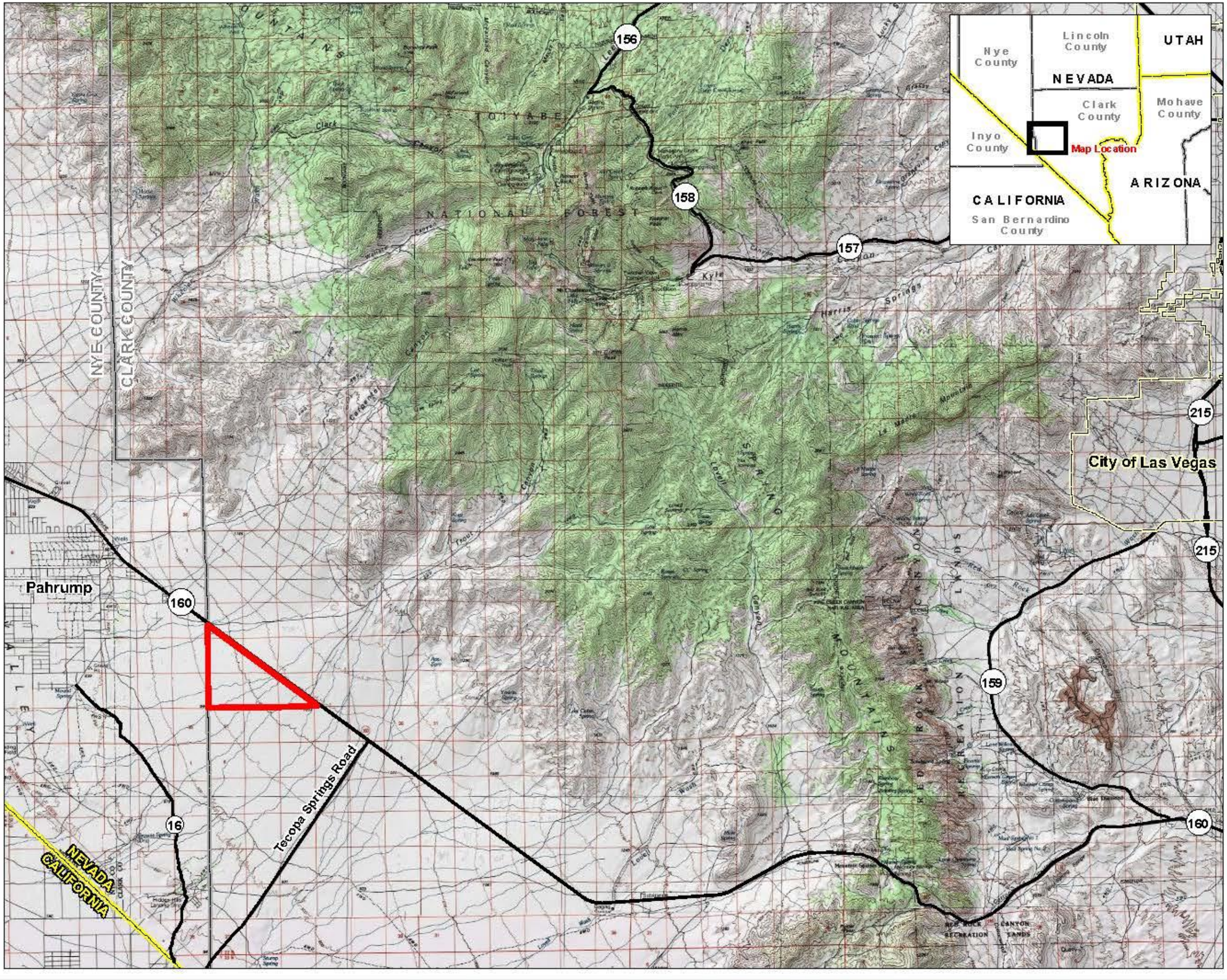
Appendix A

Maps



Legend

- State Highway
- Rough Hat Clark County Project Site
- State Boundary
- County Boundary
- Incorporated City Boundary

0 1 2 3 4 5
Miles

Universal Transverse Mercator
North American Datum 1983
Zone 11 North, Meters

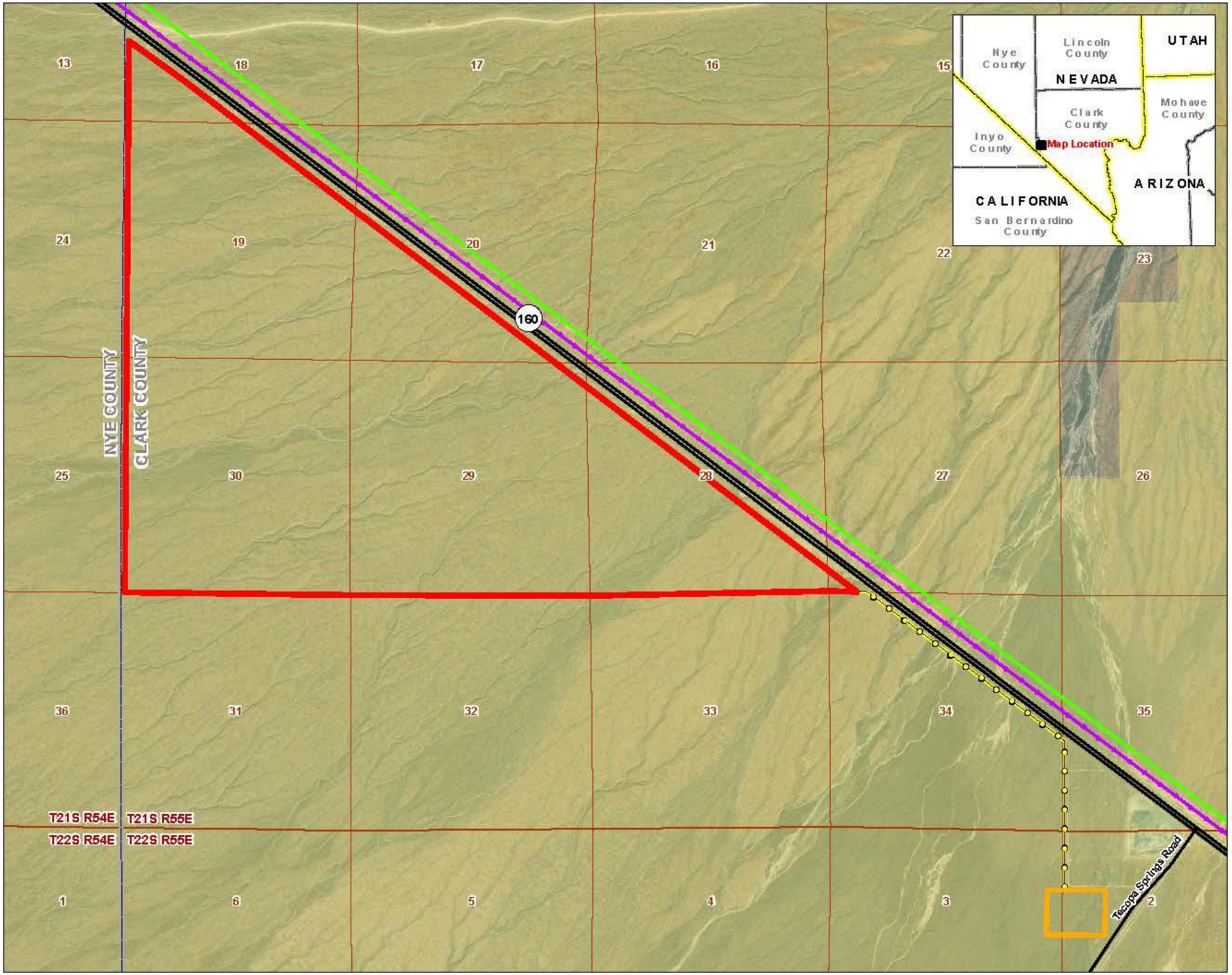
Rough Hat Solar Project

Figure 1
REGIONAL LOCATION

Map Extent: Nye & Clark Counties, Nevada

Date: 02-02-22 | Author: sjw

F:Project\Rough Hat\MXDs\RH Regional Location 020222.mxd



Legend

- Existing 230 kV Transmission Line
- Existing 138 kV Transmission Line
- Proposed Project Gen-Tie
- State Highway
- Rough Hat Clark County Project Site
- Proposed Trout Canyon Substation
- State Boundary
- County Boundary
- Township / Range Boundary
- Section Boundary

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Private Land (No Shading)

0 0.25 0.5 0.75 1

Miles

State Plane Coordinate System
NAD 83, Nevada East
Feet

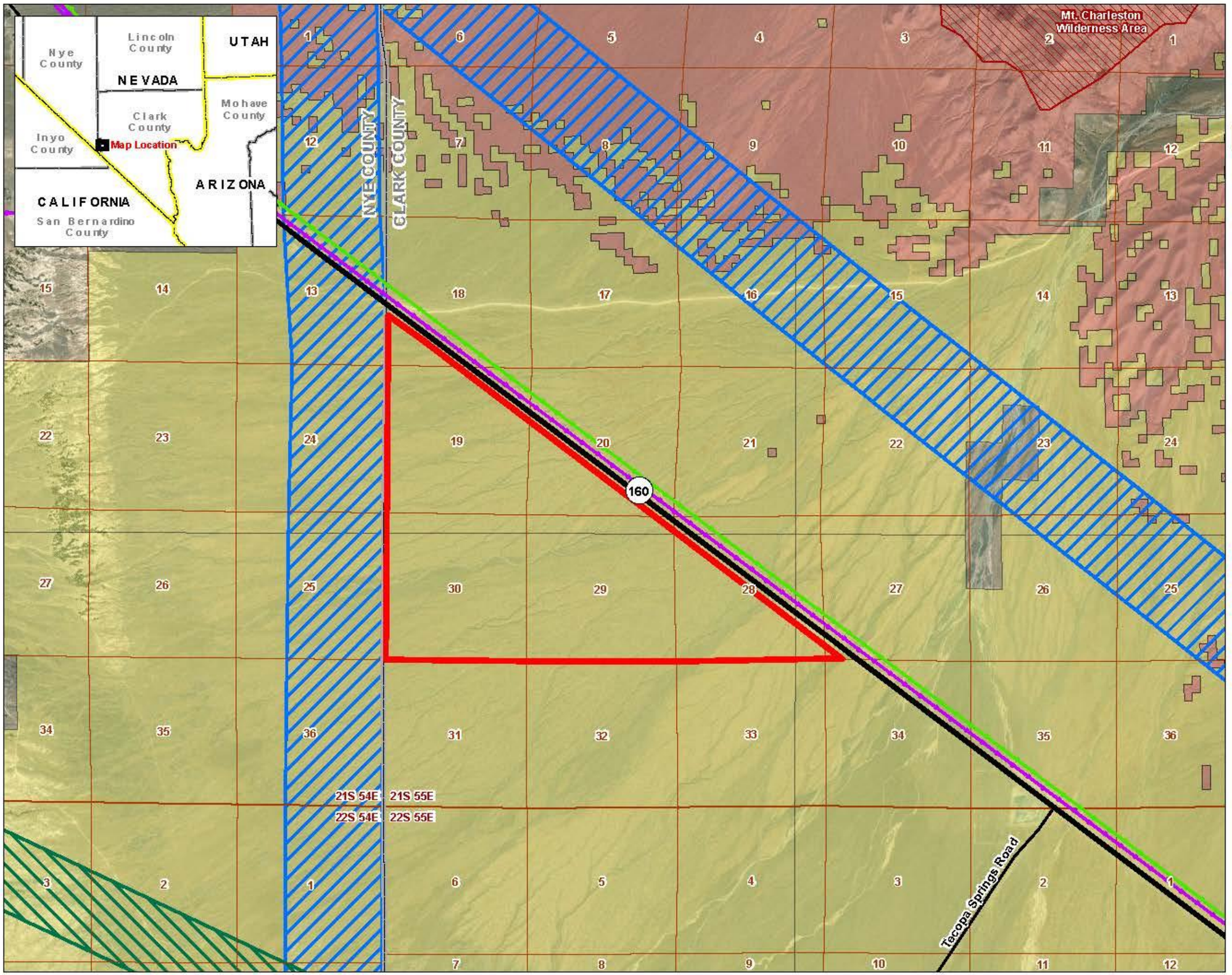
Rough Hat Solar Project

Figure 2
PROPOSED PROJECTt

Map Extent: Clark County, Nevada

Date: 02-02-22 | Author: sjw

F:Project\RH\MXDs\Fig 2 Rough Hat Proposed Project 020222.mxd



Legend

- Existing 230 kV Transmission Line
- Existing 138 kV Transmission Line
- Major Road
- Rough Hat Clark County Project Site
- State Boundary
- County Boundary
- Township / Range Boundary
- Section Boundary
- Private Land (No Shading)
- SNDO Designated Utility Corridor

BLM Land Uses Designations

- Section 368 Energy Corridor
- Wilderness Area
- Variance Area
- Exclusions to Solar Energy Development

0 0.25 0.5 0.75 1
Miles

State Plane Coordinate System
NAD 83, Nevada East
Feet

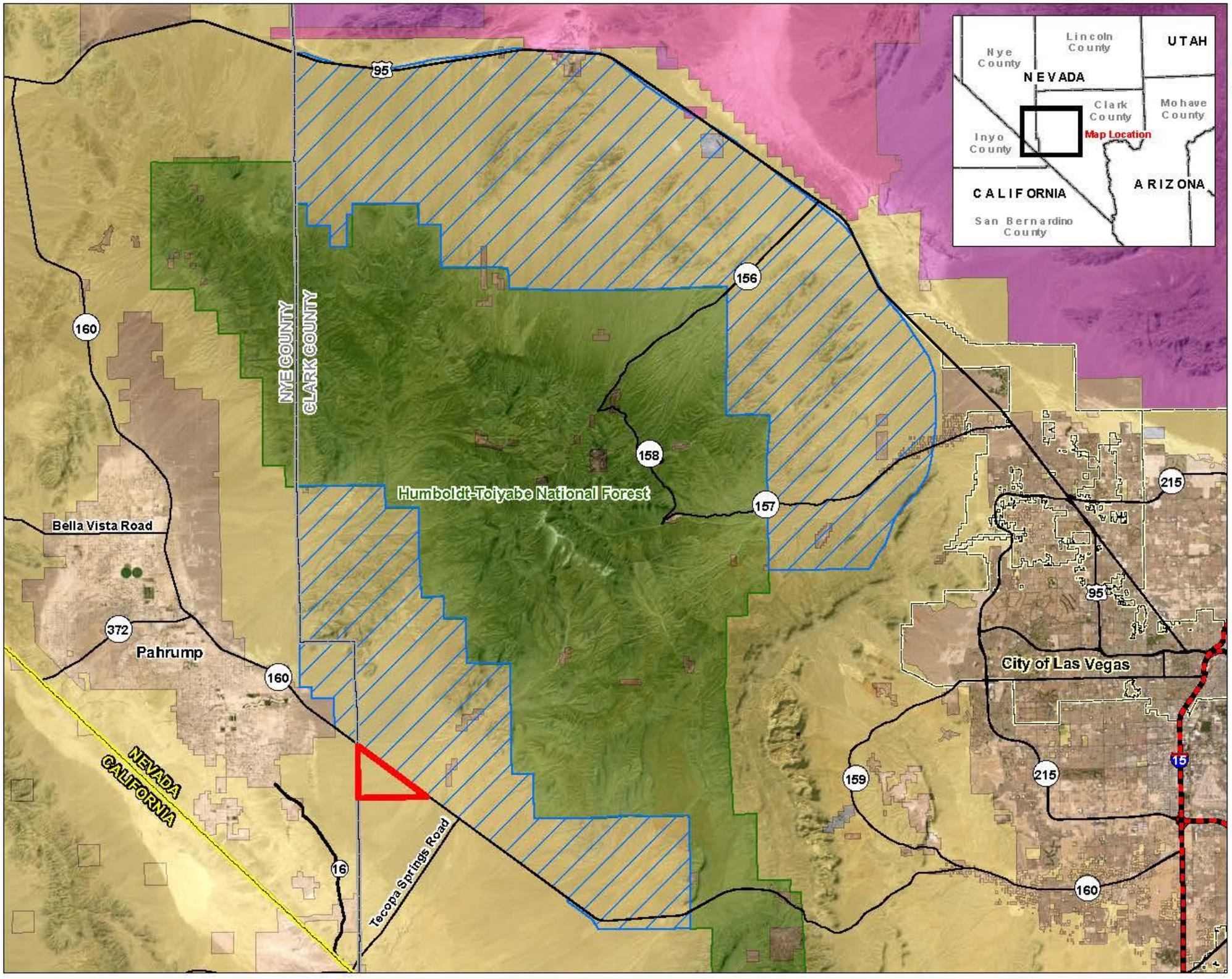
Rough Hat Solar Project

Figure 3
BLM SOLAR DESIGNATIONS

Map Extent: Clark County, Nevada

Date: 02-02-22 | Author: sjw

F:Project\RH\MXDs\RH Clark BLM Solar Designations 020222.mxd



Legend

- State Highway
- Rough Hat Clark County Project Site
- National Forest Boundary
- State Boundary
- County Boundary
- Incorporated City Boundary

Herd Management Area

- Wheeler Pass Herd Management Area

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Department of Defense Land
- US Fish & Wildlife Service Land
- US Forest Service Land
- State Land
- Private Land (No Shading)

0 2 4 6 8 10
Miles

Universal Transverse Mercator
North American Datum 1983
Zone 11 North, Meters

Rough Hat Solar Project

Figure 4
WHEELER PASS HMA

Map Extent: Nye & Clark Counties, Nevada

Date: 02-06-22		Author: sjw

F:\Project\Rough Hat\MXDs\Fig 6 Wheeler Pass HMA 020622.mxd

NYE COUNTY

CLARK COUNTY

160

Tacopa Springs Road

21S 54E | 21S 55E

22S 54E | 22S 55E

Legend

- Existing 230 KV Transmission Line
- Existing 138 KV Transmission Line
- Major Road
- Rough Hat Clark County Project Site
- State Boundary
- County Boundary
- Township / Range Boundary
- Section Boundary

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Private Land (No Shading)

0 0.25 0.5 0.75 1
Miles

State Plane Coordinate System
NAD 83, Nevada East
Feet

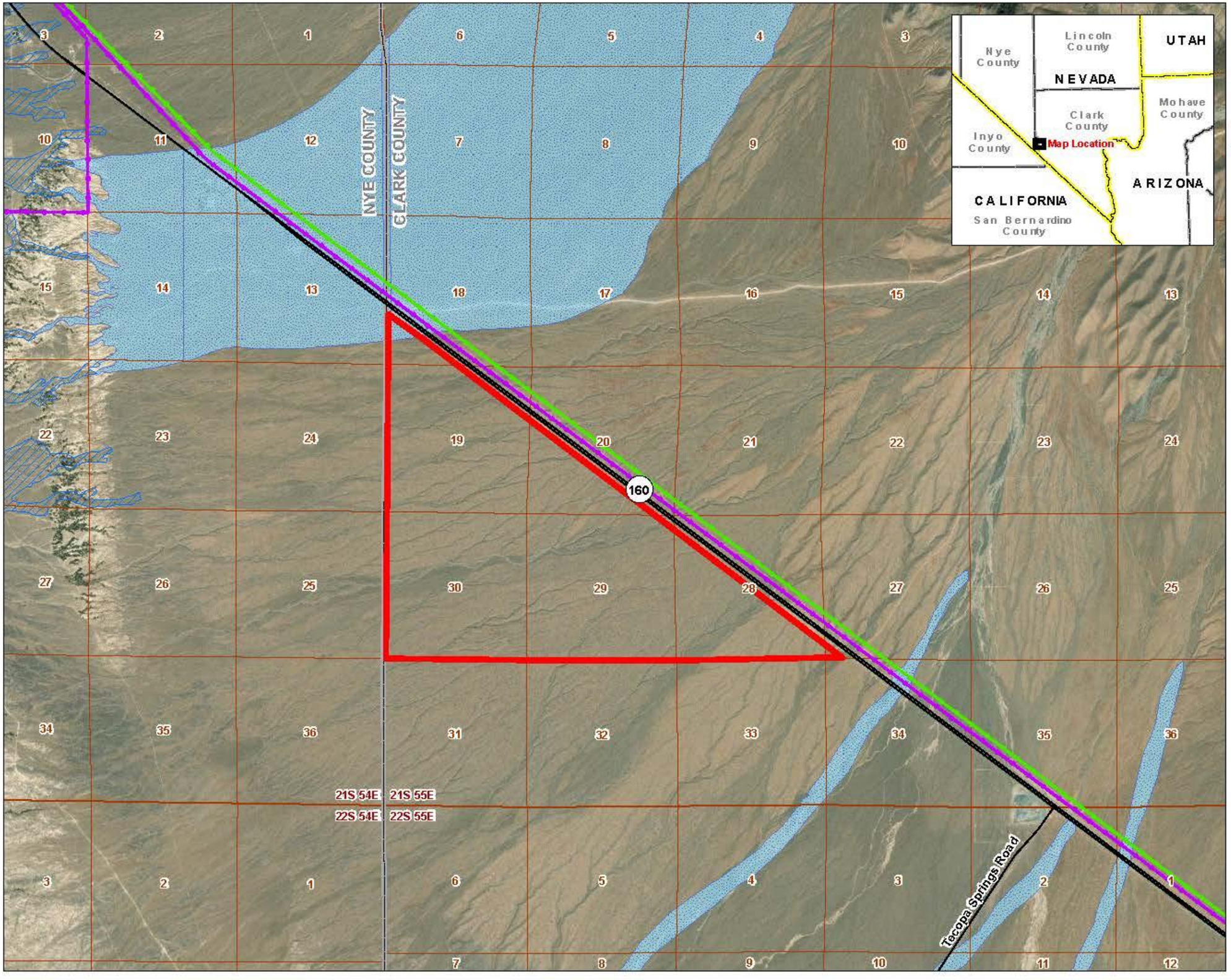
Rough Hat Solar Project

Figure 5
SITE TOPOGRAPHY

Map Extent: Clark County, Nevada

Date: 02-02-22 | Author: sjw

F:\Project\R Hat\MXDs\Fig 4 RH Clark Site Topo 020222.mxd



Legend

- Existing 230 KV Transmission Line
- Existing 138 KV Transmission Line
- Major Road
- Rough Hat Clark County Project Site
- State Boundary
- County Boundary
- Township / Range Boundary
- Section Boundary

FEMA Floodplains

- 100-Year Floodplain
- 500-Year Floodplain
- Area of Minimal Flood Hazard (No Shading)

0 0.25 0.5 0.75 1
Miles

State Plane Coordinate System
NAD 83, Nevada East
Feet

Rough Hat Solar Project

Figure 6
FEMA FLOODPLAINS

Map Extent: Clark County, Nevada

Date: 02-02-22 | Author: sjw

F:Project\RH\MXDs\Fig 5 RH Clark FEMA Floodplains 020222.mxd

NYE COUNTY

CLARK COUNTY

160

Tecopa Springs Road

21S 54E | 21S 55E

22S 54E | 22S 55E

Legend

- Existing 230 kV Transmission Line
- Existing 138 kV Transmission Line
- Major Road
- Rough Hat Clark County Project Site
- State Boundary
- County Boundary
- Township / Range Boundary
- Section Boundary

FWS-Identified Priority Desert Tortoise Connectivity Areas

- Priority 1 Potential Habitat Linkages
- Priority 2 Potential Habitat Linkages

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Private Land (No Shading)

0 0.25 0.5 0.75 1

Miles

State Plane Coordinate System
NAD 83, Nevada East
Feet

Rough Hat Solar Project

Figure 7 FWS-IDENTIFIED PRIORITY DESERT TORTOISE CONNECTIVITY AREAS

Map Extent: Clark County, Nevada

Date: 02-06-22 | Author: sjw

F:\Project\RH\MXDs\RH Clark FWS DT Connectivity 020622.mxd

BLM Southern Nevada District Office

- Rough Hat Clark (proposed)
- National Park Service Area of High Potential Resource Conflict
- State Highways
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Department of Energy
- Fish and Wildlife Service
- Forest Service
- National Park Service
- Nevada State
- Local Government
- Private

Figure 8

NPS-Identified Areas of High Potential Resource Conflict (AHPRCs)

0 0.5 1 2

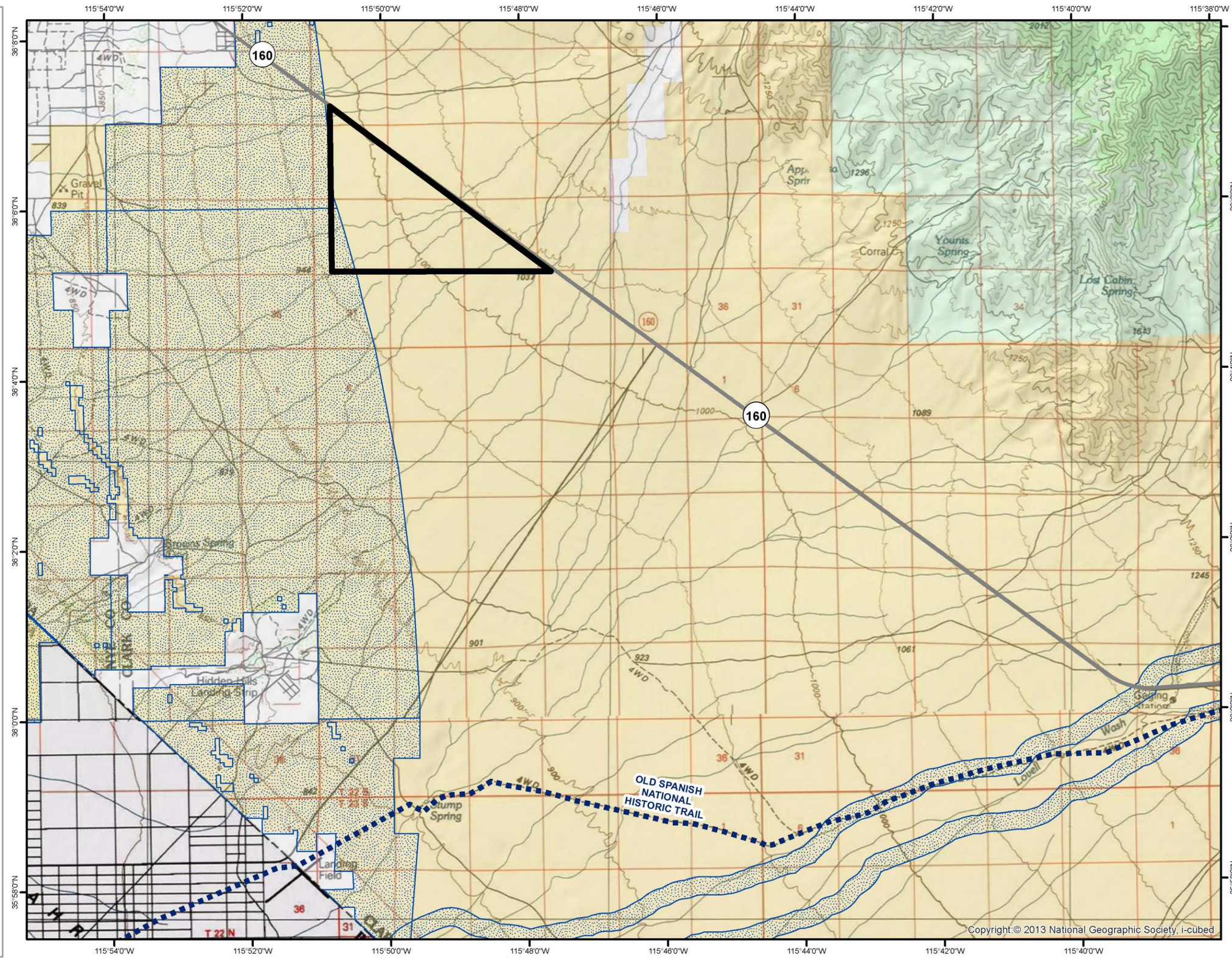
Miles

N

Lat Long Grid - UTM Zone 11, NAD 1983 Degrees Minutes Seconds

Prepared By: SNDO E&I Staff on 2/2/2022

No warranty is made by the BLM as to the accuracy, reliability, or completeness of these datafor individual use or aggregate use with other data.



Appendix B

Summary of Identified Issues from Statkeholder Input Process

SUMMARY OF IDENTIFIED ISSUES
FROM
STAKEHOLDER OUTREACH PROCESS

ROUGH HAT CLARK SOLAR PROJECT

Variance Process

- The BLM should add local people, entities, or groups to the list of planning partners and consult with businesses and local entities.
- The BLM should consider having in-person forums and explain the 'low conflict' label.
- Questions on how BLM is reviewing the projects in the Pahrump Valley area, reviewing case by case or looking at all the projects together in the area.
- Input submitted suggested the project should be moved to formally contaminated lands, landfills, or mine sites, or placed on private rooftops and parking areas.
- Questions were submitted in regard to distribution of the generated electricity, solar panel replacement, project decommissioning, and reclamation.

Public Access/Traffic/New Construction/Rights-of-Way

- The BLM should provide to the public a plan and cost for new construction of roads, loss of public lands and expected traffic impacts on rights-of-way.

Recreation

- The BLM should engage and partner with local knowledge experts in the OHV community, local tourism, and chambers of commerce during this process.
- The BLM needs to consider the loss of area hiking trails, dispersed camping sites, horseback riding, and non-motorized vehicle trails as well as impacts to National Park land.
- The BLM needs to consider visual impacts to the area and local communities from the proposed project solar panels.
- The BLM needs to take into account how the proposed project will impact the peaceful nature and enjoyment of the proposed project area by the local communities.
- Concerns were expressed about access being restricted to trails that are currently being used for recreation and business purposes. Access restrictions to trails in the area may impact organized events for trails tides and races, and in turn impact economics of the local communities.

Cultural and Historical Resources

- The BLM needs to ensure adequate tribal consultation and consider impacts to spiritual land and the Old Spanish National Historic Trail.

Wildlife and Vegetation

- The BLM should consider the loss of sensitive desert soil crust, deterioration of biologically diverse vegetation such as buckwheat, Mojave Yucca, Joshua Trees, Parish club cholla, and other rare plants, including how the potential impacts Joshua Trees would be mitigated. Comments about the removal of vegetation in the area impacting carbon-sequestration and global climate change.
- The BLM should be aware of the prior desert tortoise relocation efforts.
- The BLM should consider the loss of habitat and general harm to all area wildlife, including desert tortoises, kit fox, desert iguana, burrowing owl, bird species, and coyote. The project proponent needs to resurvey the project area for desert tortoise based on the conditions in which the previous surveys were completed.
- The proposed project will impact 100,000 years old biological soil crusts and desert pavement within the area.

Socioeconomics

- The BLM should consider the public's concern about loss of property values.
- Comments expressed concern that the local communities will not benefit from solar projects, which are located very close to homes and residences.
- Comments were received that suggested proposed job creation from the project will not offset impacts to environment.

Air Quality and Climate

- The BLM needs to consider impacts from dust pollution, fine particulate matter, and asbestos (mesothelioma, Valley Fever) and climate change issues. Comments were made on the removal of the desert surface which would result in uncontrollable fugitive dust.
- The BLM needs to consider impacts to temperature in the valley from the construction of solar panels.

Public Health and Safety

- The BLM needs to consider plans for construction traffic around schools and residential neighborhoods to ensure safety in these areas.

Water Resources

- The BLM should engage and partner with local knowledge experts to ensure water resources are adequate for this project without it being a detriment to the community of Pahrump and that water resources will not be affected.

SUMMARY OF IDENTIFIED ISSUES
FROM
AGENCY OUTREACH PROCESS

ROUGH HAT CLARK SOLAR PROJECT

- Concerns about potential impacts, including visual impacts, to the Old Spanish National Historic Trail, south of the proposed Project area.

- The proposed Project will have minimal impact on military operations conducted in the area.

- There is the potential for Gila monster and western burrowing owls within the Project area; both are BLM Nevada sensitive species.

- If the Project proceeds, the BLM should consider potential impacts from desert tortoise translocation into nearby habitat.

- Request for more information on the proposed Project related to native vegetation species and communities, as well as mitigation for those effects to sensitive biological resources and ecosystems.

- Potential impacts to Mojave yucca, Joshua tree, and cacti, and additional information on how these species would be impacted under the proposal.

- Concerns that reflection from the proposed solar arrays may increase impacts to birds and nighttime migrant species. More information on potential monitoring programs for bird recovery is needed.

- Impacts to climate change from the proposed Project.

- Potential water impacts to the basin from the proposed Project.

- Impacts from the proposed Project to recreation use, including impacts to recreationists and users moving to other surrounding areas, if the Project is constructed.

Appendix C

Sensitive Species in the Project Area

Table 1 SPECIAL STATUS SPECIES AND POTENTIAL TO OCCUR ON PROJECT SITE								
Species		**Protection Status**						**Potential to Occur in Project Study Area (Justification)[6]**
Common name	**Scientific name**	**ESA[1]**	**BLM[2]**	**NV[3]**	**NDOW[4] (SoCP)**	**NNHP[5]**		
						Global	**State**	
FEDERALLY LISTED SPECIES								
Desert Tortoise	*Gopherus agassizii*	T	N/A	TR	May occur	G3	S2S3	May occur (Potentially suitable sandy-gravel soils with gently sloping terrain and sparse cover of low-growing shrubs; historic occurrences within and near the Project).
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E	N/A	N/A	May occur	G5T2	S1B	No (Habitat - No wetlands or perennial waters).
Yuma Ridgways (clapper) Rail	*Rallus obsoletus*	E	N/A	N/A	No	G3T3	S1B	No (Habitat - No perennial water, riparian or wetland habitat).
BLM AND STATE SENSITIVE SPECIES								
Birds								
Bald Eagle	*Haliaeetus leucocephalus*	N/A	S	E	May occur	G5	S2B,S4N	No (Habitat - there are no permanent waterbodies or human-made water sources, or cliffs located near the Project).
Bells Vireo	*Vireo bellii*	N/A	N/A	N/A	May occur	G5	S2B	No (Habitat - No riparian habitat present).
Bendire's Thrasher	*Toxostoma bendirei*	N/A	S	N/A	May occur	G4	S1B	May occur (Potentially suitable habitat includes Joshua tree woodlands).
Black-chinned Sparrow	*Spizella atrogularis*	N/A	N/A	N/A	May occur	G5	S3B	May occur (Potentially suitable habitat including arid desert).
Brewer's Sparrow	*Spizella breweri*	N/A	S	N/A	May occur	G5	S3B	May occur (No suitable nesting habitat but potential foraging habitat, known occurrence approximately 1.5 miles from Project).
Crissal Thrasher	*Toxostoma crissale*	N/A	S	N/A	No	G5	S3	No (Habitat - no permanent water features or streams).

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						Global	**State**	
Ferruginous Hawk	*Buteo regalis*	N/A	S	N/A	May occur	G4	S3B, S4N	May occur (Potentially suitable foraging habitat; no suitable nesting habitat).
Flammulated Owl	*Psiloscops flammeolus*	N/A	S	N/A	May occur	G4	S3	No (Habitat - no mountain or pine forest habitat).
Golden Eagle	*Aquila chrysaetos*	N/A	S	N/A	May occur	G5	S4	May occur (No suitable nesting habitat but could nest in mountains to the east and could forage).
Le Conte's Thrasher	*Toxostoma lecontei*	N/A	S	N/A	May occur	G4	S2	May occur (Potentially suitable nesting and foraging habitat including desert flats with sparse growth of saltbush, and on creosote flats with occasional mesquite or cholla cactus; known occurrences approximately 1.5 miles from Project).
Loggerhead Shrike	*Lanius ludovicianus*	N/A	S	N/A	May occur	G4	S3	May occur (Potentially suitable nesting and foraging habitat including open country with short vegetation and well- spaced shrubs or low trees; known occurrences approximately 1.5 miles from Project).
Northern Goshawk	*Accipiter gentilis*	N/A	S	S	May occur	G5	S3	May occur (Potential suitable foraging habitat but no suitable nesting habitat).
Peregrine Falcon	*Falco peregrinus*	N/A	S	E	May occur	G4	S3	May occur (No suitable nesting habitat but may forage).
Phainopepla	*Phainopepla nitens*	N/A	S	N/A	No	G5	S3	May occur (Potentially suitable foraging and nesting habitat).
Pinyon Jay	*Gymnorhinus cyanocephalus*	N/A	S	N/A	May occur	G3	S3	No (Habitat - No pinyon habitat within the Project).

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						Global	**State**	
Prairie Falcon	*Falco mexicanus*	N/A	N/A	N/A	May occur	G5	S4	May occur (No nesting habitat but suitable foraging habitat; species observations approximately 5.5 miles from Project).
Rufous Hummingbird	*Selasphorus rufus*	N/A	N/A	N/A	May occur	G5	S3M	May occur (Potentially suitable foraging habitat during migration; not within breeding range).
Sage Thrasher	*Oreoscoptes montanus*	N/A	N/A	N/A	May occur	G4	S4B	No (Habitat - No sagebrush within the Project).
Scott's Oriole	*Icterus parisorum*	N/A	N/A	N/A	May occur	G5	S3S4B	May occur (Foraging and breeding habitat includes arid deserts; species observations within 5.5 miles from Project).
Swainson's Hawk	*Buteo swainsoni*	N/A	S	N/A	No	G5	S3B	No (Habitat - No tall trees for nesting or grassland or agricultural fields for foraging within or near the Project).
Western Burrowing Owl	*Athene cuniclaria*	N/A	BCC	N/A	May occur	G4T4	S3B	May occur (Potentially suitable foraging and nesting habitat in arid deserts with sparse vegetation; species known to occur in the vicinity).
Western Snowy Plover	*Charadrius nivosus nivosus*	N/A	S	N/A	May occur	G3T3	S3B	No (Habitat - No alkali playa habitat or agricultural fields).
Reptiles								
Gila Monster	*Heloderma suspectum cinctum*	N/A	N/A	N/A	May occur	G4T4	S2	May occur (Potentially suitable habitat including gravelly and sandy soils with shrubs).

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						Global	**State**	
Desert Horned Lizard	*Phrynosoma platyrhinos*	N/A	S	N/A	May occur	G5	S4	May occur (Potentially suitable desert scrub habitat; species is known to occur adjacent to Project).
Desert Iguana	*Dipsosaurus dorsalis*	N/A	S	N/A	May occur	G5	S3	May occur (Potentially suitable arid, sandy desert habitat).
Glossy Snake	*Arizona elegans*	N/A	N/A	N/A	N/A	G5	S4	May occur (Potentially suitable sandy and gravelly desert and semidesert).
Long-nosed Leopard Lizard	*Gambelia wislizenii*	N/A	N/A	N/A	May occur	G5	S4	May occur (Potentially suitable sandy and gravelly desert and semidesert habitats with scattered shrubs or other low plants).
Sidewinder	*Crotalus cerastes*	N/A	N/A	N/A	May occur	G5	S4	May occur (Potentially suitable open desert terrain habitat with fine windblown sand, desert flats with sandy washes, or sand dunes sparsely vegetated with creosote bush or mesquite).
Shovel-nosed Snake	*Chionactis occipitalis*	N/A	N/A	N/A	May occur	G5	S4	May occur (Potentially suitable habitat including sparsely vegetated mesquite-creosote bush, desert grasses, cactus desert, including rocky slopes, dunes, washes, and sandy flats).
Mammals								
Allen's Big-eared Bat	*Idionycteris phyllotis*	N/A	S	P	May occur	G4	S1	No (Habitat - No cliffs, mountainous areas, caves, abandoned mines, or large abandoned structures).
Big Brown Bat	*Eptesicus fuscus*	N/A	S	N/A	N/A	G5	S3S4	May occur (Potentially suitable roosting habitat including mesquite).

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						Global	**State**	
Big Free-tailed Bat	*Nyctinomops macrotis*	N/A	S	N/A	N/A	G5	S1	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).
Brazilian Free-tailed Bat	*Tadarida brasiliensis*	N/A	S	P	N/A	G5	S4	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).
California Myotis	*Myotis californicus*	N/A	S	N/A	N/A	G5	S3S4	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).
Canyon Bat	*Parastrellus hesperus*	N/A	S	N/A	N/A	G5	S3S4	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).
Fringed Myotis	*Myotis thysanodes*	N/A	S	P	May occur	G4	S2	May occur (Potentially suitable roosting habitat including mesquite).
Hoary Bat	*Lasiurus cinereus*	N/A	S	N/A	May occur	G5	S3N	May occur (Potentially suitable roosting habitat including mesquite).
Long-eared Myotis	*Myotis evotis*	N/A	S	N/A	May occur	G5	S4	May occur (Potentially suitable roosting habitat including mesquite).
Long-legged Myotis	*Myotis volans*	N/A	S	N/A	N/A	G4G5	S3S4	May occur (Potentially suitable roosting habitat including mesquite).
Mexican Free-tailed Bat	*Nyctinomops macrotis*	N/A		N/A	N/A	G5	S4	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).
Pallid Bat	*Antrozous pallidus*	N/A	S	P	N/A	G4	S3	May occur (Potentially suitable roosting habitat including mesquite).
Silver-haired Bat	*Lasionycteris noctivagans*	N/A	S	N/A	May occur	G5	S3B	May occur (Potentially suitable roosting habitat including mesquite).
Spotted Bat	*Euderma maculatum*	N/A	S	T	N/A	G4	S2	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).

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						Global	**State**	
Western Red Bat	*Lasiurus blossevillii*	N/A	S	S	May occur	G5	S1M	No (Habitat - No riparian habitat).
Western Small-footed Myotis	*Myotis ciliolabrum*	N/A	S	N/A	May occur	G5	S3	No (Habitat - No cliffs, caves, abandoned mines, or large abandoned structures).
Yuma Myotis	*Myotis yumanensis*	N/A	S	N/A	N/A	G5	S3	May occur (Potentially suitable roosting habitat including mesquite).
Plants								
Armored Hedgehog Cactus	*Echinocereus engelmannii var. armatus*	N/A	N/A	Protected	N/A	G5T2Q	S1	May occur (Potentially suitable habitat including gravel, sand, and rocky hills in creosote bush scrub).
Ash Meadows Blazing Star	*Mentzelia leucophylla*	N/A	N/A	N/A	N/A	G1	S1	No (Habitat- the species is endemic to Ash Meadows Area in Nye County, Nevada).
Ash Meadows Gumplant	*Grindelia fraxinopratensis*	N/A	N/A	N/A	N/A	G2	S1	No (Habitat – the species is endemic to the Ash Meadows Area in Nye County, Nevada).
Ash Meadows Milkvetch	*Astragalus phoenix*	N/A	N/A	N/A	N/A	G2	S1	May occur (Potentially suitable habitat including dry, hard, white, barren saline, clay flats, knolls, and slopes).
Ash Meadows Mousetails	*Ivesia kingii var. eremica*	N/A	N/A	N/A	N/A	G4T1	S1	No (Habitat – species only occurs in alkali washes in the Ash Meadows Area in Nye County, Nevada).
Ash Meadows Sunray	*Enceliopsis nudicaulis var. corrugata*	N/A	N/A	N/A	N/A	G5T1T2Q	S1	No (Habitat – species only occurs in alkaline soils in dry washes and on barren bluffs along the eastern edge of Ash Meadows Area in Nye County, Nevada).

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						Global	**State**	
Blaine Pincushion	*Sclerocactus blainei*	N/A	N/A	Protected	N/A	G1G2Q	S1	No (Elevation).
Blue Diamond Cholla	*Cylindropuntia multigeniculata*	N/A	N/A	Protected	N/A	G4T2Q	S2	May occur (Potentially suitable habitat including dry, well-drained gravelly and rocky slopes on upper bajadas and moderate slopes).
Desert Pincushion	*Coryphantha chlorantha*	N/A	N/A	Protected	N/A	G3	S2S3	May occur (Potentially suitable habitat including dry, well-drained gravelly and rocky soils).
Great Basin Fishhook Cactus	Sclerocactus pubispinus	N/A	N/A	Protected	N/A	G3	S2	No (Habitat - Rocky hillsides of woodland and upper desert mountains).
Hermit Cactus	*Sclerocactus polyancistrus*	N/A	N/A	Protected	N/A	G3	S2S3	May occur (Potentially suitable habitat including rocky alluvial, often alkaline soils, on basalt rock hillsides, limestone hillsides and desert pavement).
Joshua Tree	*Yucca brevifolia*	N/A	N/A	Protected	N/A	G4G5	S4	May occur (Potentially suitable habitat including alluvial fans, slopes, ridges, bajadas, mesas, or foothills).
Las Vegas Bearpoppy	*Arctomecon californica*	N/A	S	Protected	N/A	G3	S3	May occur (Potentially suitable habitat including open, dry, spongy or powdery, often dissected (“badland”) or hummocked soils with high gypsum content, often with well-developed soil crust, in areas of generally low relief on all aspects and slopes, with a sparse cover of other gypsum-tolerant species surrounded by *Larrea tridentata*).

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						Global	**State**	
Las Vegas Catseye	*Cryptantha insolita*	N/A	N/A	Protected	N/A	GH	SH	No (Habitat - only two species observations made north of Las Vegas, in Clark County).
Mojave Barrel Cactus	*Ferocactus cylindraceus var. lecontei*	N/A	N/A	Protected	N/A	G5T4Q	S4	May occur (Potentially suitable habitat including alluvial fans, wash margins or sandy flats).
Mojave Mound Cactus	*Echinocereus mojavensis*	N/A	N/A	Protected	N/A	G5T4	S3S4	May occur (Potentially suitable habitat including gravelly soil in creosote bush scrub).
Mountain Cactus	*Pediocactus simpsonii*	N/A	N/A	Protected	N/A	G5	S4	No (Elevation).
Pahrump Valley Buckwheat	*Eriogonum bifurcatum*	N/A	S	N/A	N/A	G3	S2	May occur (Potentially suitable habitat including saline, clay or silt hardpan soils on and near dry playa margins, and on adjacent shore terraces, stabilized sand dunes, and sandy slopes; known occurrences 2.5 miles east of Project).
Sand Cholla	*Grusonia pulchella*	N/A	N/A	Protected	N/A	G3G4	S3	May occur (Potentially suitable habitat includes sand dunes, river bottoms, washes, and sandy to rocky flats or slopes).
Schlesser Pincushion	*Sclerocactus schlesseri*	N/A	N/A	Protected	N/A	G1Q	S1	No (Elevation).
Spring-Loving Centaury	*Centaurium namophilum*	N/A	N/A	N/A	N/A	G2Q	S2	No (Habitat – found in moist to wet clay soils along the banks of streams or in seepage areas).
Sticky Buckwheat	*Eriogonum viscidulum*	N/A	S	N/A	N/A	G2	S2	No (Habitat - species doesn't occur this far west).
Sunnyside Green Gentian	*Frasera gypsicola*	N/A	N/A	Protected	N/A	G2	S2	No (Habitat - limited to White River Valley in Nye County).

Table 1
SPECIAL STATUS SPECIES AND POTENTIAL TO OCCUR ON PROJECT SITE

Species		Protection Status						Potential to Occur in Project Study Area (Justification)[6]
Common name	Scientific name	ESA[1]	BLM[2]	NV[3]	NDOW[4] (SoCP)	NNHP[5] Global	NNHP[5] State	
Threecorner Milkvetch	*Astragalus geyeri var. triquetrus*	N/A	N/A	Protected	N/A	G4T2T3	S2S3	May occur (Habitat includes open or deep sandy soils or dunes).
Insects								
Monarch Butterfly	*Danaus plexippus plexippus*	N/A	S	N/A	N/A	G4	SNRB	May occur (Potentially suitable habitat including nectar providing plants such as milkweed).
Northern Mojave Blue	*Euphilotes mojave virginensis*	N/A	S	N/A	N/A	G3T1T2	S1	May occur (Potentially suitable dry desert wash and sandy habitat).

[1] ESA – Endangered Species Act, E=Endangered, T=Threatened, PT = Proposed Threatened, C=Candidate, EP, NE=Experimental Population, Non-Essential.
[2]BLM – Bureau of Land /Management, S-Sensitive Species.
[3] NV-Nevada P-Protected and T-threatened Species.
[4] NDOW SoCP- Nevada Department of Wildlife, Species of Conservation Priority.
[5] NNHP-Nevada Natural Heritage Program, Global and State Species Rankings.
[6]Elevation means the species does not have the potential to occur because the Project Site is not within its elevation requirements. Habitat means the Project Site is within the species elevation requirements but there is no suitable or potential habitat for the species. References are provided in the References Section.