

MBCA

morongo basin conservation association

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November 16, 2018

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Sent Via Email: Chris.Warrick@lus.sbcounty.gov

Reference: Ord Mountain Solar and Energy Project Draft Environmental Impact Report (EIR)
October 2018 SCH No. 2017051082 Lead Agency: County of San Bernardino (County)

Dear Mr. Warrick,

The MBCA, Brian Hammer, Chuck Bell, and Neville Slade appreciate this opportunity to review the Draft Ord Mountain Solar and Energy Project (Project) EIR. We understand as the Lead Agency that this document reflects your independent judgement regarding the impacts and level of significance of the impacts both with and without mitigation. We further understand that the purpose of this review is to allow us, as the interested public to share our expertise, check for accuracy, detect omissions and discover public concerns. We reference our letter of June 30, 2017, where points were raised but all were not addressed in the EIR. We continue to stress that the quality-of-life and economic future of the Lucerne Valley Community are based on its rural settlement pattern in a scenic basin bordered by views of close and distant mountain ranges, the air quality, the biological environment, and land use planning decisions.

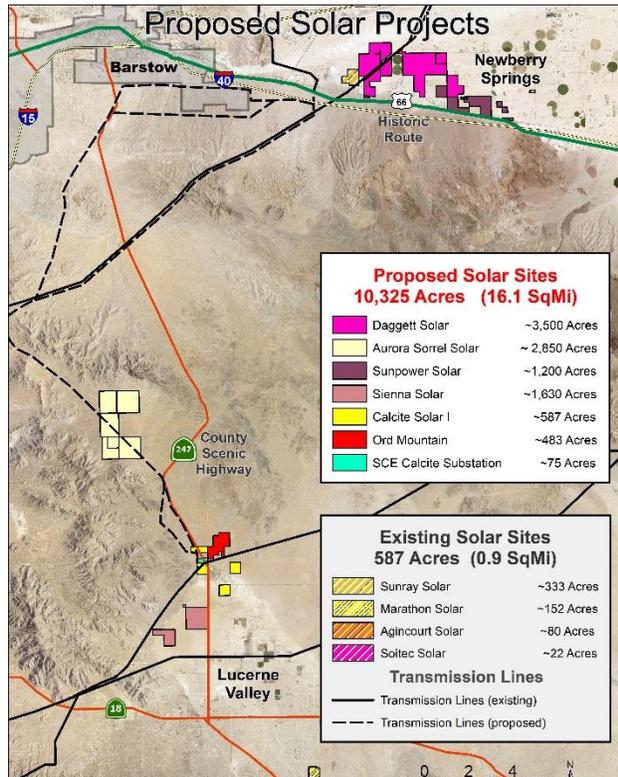
Project Description

The Ord Mountain Solar and Substation Project under review would be located on 484 acres and would produce approximately 60 MW of renewable energy annually. It includes a photovoltaic solar energy facility, which includes the solar energy generation system, on-site substation, energy storage system, generation tie line, and ancillary facilities. This Project is the first trigger need for the Calcite Substation.

The second component, the Calcite Substation, would be on an approximately 75-acre parcel of land. It includes the new regional 330-kilovolt collector station needed to support the Project solar energy facility, loop-in transmission line, telecommunications, and ancillary facilities. The Calcite Substations Would be considered for approval by the California Public Utilities Commission and they will use the Draft EIR in reaching their conclusions.

Projects considered under Cumulative Effects

The cumulative effects of the Project include the effects of the all proposed solar projects in Lucerne Valley as well as the existing and proposed solar projects in Daggett and Newberry Springs, and all new transmission lines tied into to the planned Calcite Substation. We refer to this as the Cumulative Projects throughout this letter. The regional effects will be discussed under aesthetics, air quality, geology and soils, biological environment, and land use planning.



Lucerne Valley Planned Solar Projects –

CSA 29, planning area for Lucerne Valley CP	
Ord Mtn SESP	483 acres
Calcite Solar	587 acres 3 sites
Sienna Solar	1,630 acres 2 sites
Aurora Sorrel	2,850 acres 1 site State Lands
Calcite Substation	75 acres
Existing Projects	
Marathon Solar	152 acres
Agincourt Solar	80 acres
TOTAL ACRES	5,857 acres

Mojave River Valley –

Existing and Planned Solar Projects in Daggett, Yermo, Newberry Springs CSD	
Daggett Solar	3,500 acres
Sunpower Solar	1,200 acres
Existing Projects	
Sunray Solar	333 acres
Soitec Solar	22 acres
TOTAL ACRES	5,055 acres
GRAND TOTAL	10,912 acres 17 square miles

Exhibit 1: Proposed and Existing Solar Sites

Project Objectives – (pages 2-15,16 – Ord Mountain Draft EIR)

It is important to address the following ten objectives in order to asses if they actually apply to both the proposed and cumulative Projects, which will pave the core areas of three rural communities with solar projects. The negative impacts of these projects are discussed in later sections. These objectives utterly neglect the community needs and values addressed in the goals and policies of the 2007 General Plan, 2007 Community Plan, and the 2014 Solar Ordinance. Research also shows these objectives to be irrelevant to state and county goals.

1. Construct and operate a solar energy facility capable of producing up to 60 megawatts of electricity to help meet the State-mandated Renewables Portfolio Standard (RPS) of providing 33 percent renewable energy by 2020 and 50 percent by 2030.

CPUC reports that RPS targets are surpassed.

The IOUs [Investor Owned Utilities] have already surpassed the 2017 annual RPS percentage target of 27 percent. The three large IOUs are forecasted to continue to have excess procurement for the next six years. The IOUs may choose to apply excess renewable electricity procured in prior years to meet their RPS requirements in future compliance periods. Alternatively,

*they may sell renewable energy credits associated with the excess procurement to other load-serving entities, such as CCAs or ESPs.*¹ (page 3 of RPS Annual Report, bold added)

2. Construct and operate a solar power facility with minimal impacts to the environment.

The Environmental Impacts are severe and will be addressed in later sections.

3. Develop a utility-scale solar energy facility project that improves local electricity reliability for the San Bernardino region by providing a source of local generation near the Calcite Substation.

No local benefits: This objective assumes the Calcite Substation will be approved and built; the cart is leading the horse. If there were a Calcite Substation and the Cumulative Projects received CUPs and were built then there would be local energy generation near a substation. However, which San Bernardino region would benefit is not made clear while the local region would not receive the energy directly. Further, the community would be left with unhealthful air quality and visual impacts for the 25-year duration of the project, and for the many decades needed for recovery of the land. The EIR is careful to point out that the RECE does not apply because NextEra's application was completed prior to the adoption of the element. Nonetheless, the PC and BOS must be aware that the effects of this Project, individually and cumulatively, violate the RECE Core Values, Guiding Principles, and RE Goal 3 intended to protect community quality-of-life and economy by encouraging locally generated energy. They also violate the 2007 General Plan, the 2007 Lucerne Valley Community Plan, and the 2014 Solar Ordinance.

4. Help reduce reliance on foreign sources of fuel.

The fuel is oil. The Cumulative Projects will not impact foreign sources of oil.

Somehow foreign oil got wrapped into the discussion of energy conservation. On that point we are told "*Unlike petroleum, generation of electricity is usually not tied to the location of the fuel source and can be delivered over great distances via the electrical grid.*" (Section 5.4, pages 5-6,7). But, with climate change, remote generation of energy is no longer a selling point for solar energy. Distributed generation of electricity near the point of use is the answer, not returning to the use (however small) of oil.

Fire Danger: The proposed energy that would be generated near the proposed Calcite Substation would feed into the electrical grid that crosses the mountains to the coastal cities. This remotely produced utility- scale solar is acknowledged as very unsafe because of fire danger. SCE is investigating their responsibility in the 2017 Thompson Fire. SCE acknowledges in their October 30, 2017 Press Release²

Multiple factors contribute to wildfires across SCE's service territory and throughout California. This includes the buildup of dry vegetation in areas severely impacted by years of historic drought; the failure of multiple responsible parties to clear the buildup of hazardous fuels; increasing temperatures; lower humidity; and strong Santa Ana winds. Such factors can trigger wildfires for a variety of reasons and strain or damage utility facilities, no matter how well designed, constructed and maintained. Wildfire risk is

¹ 2018 California Renewable Portfolio Standards Annual Report.

[http://cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy - Electricity_and_Natural_Gas/Renewables%20Portfolio%20Standard%20Annual%20Report%202018.pdf](http://cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Renewables%20Portfolio%20Standard%20Annual%20Report%202018.pdf)

² <https://newsroom.edison.com/releases/sce-provides-an-update-on-the-circumstances-pertaining-to-the-2017-thomas-fire>
Accessed 11/12/2018

increasing at the same time more and more residential and commercial development is occurring in some of the highest-risk areas — with over a quarter of SCE's service territory in high fire risk areas identified on the CPUC's fire risk maps. (bold added)

The CPUC launched PG&E and SCE probes after 3 deadly fires on 11/12/2018. If SCE or PG&E equipment started the respective fires in question, utilities would be on the hook for the resulting damage whether or not they were negligent, according to the state's interpretation of "inverse condemnation" laws.³ The cost of transmission will now have to include the cost of fire damage, which includes the death toll.

5. Supply on-peak power to the electrical grid in California.

Peak Power: Ivan Penn reported in the L.A. Times on June 22, 2017,⁴ California invested heavily in solar power. Now there's so much that other states are sometimes paid to take it. The reasons for the overabundance of power are complex but, again, the Community of Lucerne Valley need not hang itself for an energy source currently in oversupply.

6. Help the State of California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006).

The Goals for renewable power generation are being met. See #1 above. A local CCA would satisfy this objective as well.

Greenhouse gas reduction: The Project does not factor in the carbon released during construction or the loss of sequestration when native plants are removed and roots destroyed. This applies to any of the Cumulative Projects that would be approved.

Carbon Sequestration: The roots of desert plants, with their associated mycorrhizal fungi, can be a significant storehouse of carbon. Research done at the University of Nevada⁵ showed *significant terrestrial Carbon accumulation caused by CO2 enhancement to net ecosystem productivity in an intact, undisturbed arid ecosystem following ten years of exposure to elevated atmospheric CO2. Results provide direct evidence that CO2 fertilization substantially increases ecosystem Carbon storage and that arid ecosystems are significant, previously unrecognized, sinks for atmospheric CO2 that must be accounted for in efforts to constrain terrestrial and global Carbon cycles.* (bold added)

Caliche: The caliche layer found in the soil is essentially fossilized carbon and construction grading can release this stored carbon into the atmosphere. Caliche was found in all the bore holes at various depths reported in Appendix F Geological Resources. The research being done on how to measure the amount of carbon released with disturbance and recommendations for guarding buried inorganic soil carbon stocks is reported in the 2013 report prepared by Dr.

³ <https://www.utilitydive.com/news/report-cpuc-launches-pge-sce-probes-after-3-deadly-fires/542111/> Accessed 11/13/18

⁴ <http://www.latimes.com/projects/la-fi-electricity-solar/>

⁵ *Greater ecosystem carbon in the Mojave Desert after ten years exposure to elevated CO 2*
https://www.researchgate.net/publication/261439248_Greater_ecosystem_carbon_in_the_Mojave_Desert_after_ten_years_exposure_to_elevated_CO_2

Michael Allen, Center for Conservation Biology, UC Riverside, for the California Energy Commission.⁶

7. Contribute to San Bernardino County's economic growth and reputation as a region rich with renewable energy development.

Tourism Economy could shrink: The Cumulative Projects will industrialize County SR-247, the I-15 and I-40, and Route 66, all gateway routes into the Mojave Desert National Parks, National Monuments, and BLM conservation lands and wilderness areas. Tourism is a 5-billion-dollar industry in San Bernardino County and the degradation of 4 beautiful doors into the wild does not encourage continuing growth and economic prosperity for gateway cities. More on this later.

Reputation as a region rich with renewable energy development:

The wording of this objective clearly states that the Project focus is on building a reputation with developers for converting private land into solar fields. You can be sure that the desert unincorporated communities are not in line with this County Objective.

8. Sustain and stimulate the economy of Southern California by helping to ensure an adequate supply of renewable electrical energy while simultaneously creating additional construction and operations employment and increased expenditures in many local businesses.

Again, the energy goal is met. See #1.

Local employment and spending: Experience and demographic data shows that the local communities will not provide the labor pool and there is no housing available for the workers so they will be staying in the larger surrounding towns such as Victorville or Barstow. Local expenditures will help stores and restaurants in the short term but they are not a sustainable thread of the economy.

The objectives of SCE's proposed Calcite Substation include the following:

9. Provide transmission access to the Ord Mountain Solar Project, within close proximity to existing transmission lines and in a manner that reduces the need for additional generation interconnection collector substations.

10. Complete Calcite Substation construction in a timely fashion, in order to meet the Ord Mountain Solar Project's Large Generation Interconnection Agreement (LGIA) target dates.

The Cart before the Horse(s): The Calcite Substation must be approved by the CPUC. Hopefully the CPUC and the Public Advocates Office will discover that it is unnecessary because the solar projects relying on it will produce energy that exceeds what can be used and will travel over transmission lines that are increasingly dangerous because of forest fires. If the substation is not approved then the solar project(s) cannot be built.

Approval would be a Precedent Setting Action: The approval by the CPUC of the Project would be precedent setting because it would trigger additional projects covering over 10,250 acres (16 square miles) within the unincorporated desert communities of Lucerne Valley, Daggett and Newberry Springs. CPUC approval would justify the County approval of solar projects in locations where the communities will be burdened with significant and unmitigable aesthetic,

⁶ Carbon Balance in California Deserts: Impacts of Widespread Solar Power Generation 2013
<https://www.energy.ca.gov/2014publications/CEC-500-2014-063/CEC-500-2014-063.pdf>

air quality, and land use effects from the development of utility-scale solar projects. This issue is further discussed under Aesthetics.

Encroachment on Open Space: The Calcite Substation is designed to accommodate the interconnection of solar projects within Lucerne Valley on 5,546 acres (8.6 square miles) on abandoned agricultural land that has revegetated with the native allscale scrub plant community. The projects would permanently occlude the wildlife corridor linking the San Bernardino Mountains to the Ord Mountains and beyond. This issue is discussed under Biological Resources.

Section 3.1 Aesthetics – Scenic Vistas

The County acknowledges that aesthetic impacts are largely subjective.⁷ The description of the defining characteristics of the desert region provided in the 2007 GP EIR include *the arid landscape consisting of sparsely vegetated mountain ranges and broad valleys with expansive bajadas and scattered dry lakes. The region provides a scope of extensive open space and expansive vistas*⁸ These characteristics prompted the designation of SR-247 as a Scenic Highway. SR-247 is eligible for State designation and the process is well underway.

⁷ RESPONSE O.2 to Comments on the conclusions presented in the Draft 2007 EIR

⁸ **2007 General Plan EIR Chapter IV A Aesthetics**

*“The Desert Region is the largest geographic area within San Bernardino County. The Desert Region includes the greatest diversity of plant communities within the County including at least ten distinct plant communities that support a great diversity of biological resources. These plant communities include white fir woodland, pinion/juniper woodland, desert sage shrub, Joshua tree woodland, Mojave Desert scrub, **saltbush scrub, alkali sink, dunes and wetlands. The visual character of this Planning Region is defined by its arid landscape consisting of sparsely vegetated mountain ranges and broad valleys with expansive bajadas and scattered dry lakes. The region provides a scope of extensive open space and expansive vistas.**”*

Mitigation AES-5

*“The County desires to retain the scenic character of visually important roadways throughout the County. A **“scenic route” is a roadway that has scenic vistas and other scenic and aesthetic qualities that over time have been found to have beauty to the County.***

Therefore, the County designates the following routes as scenic highways, and applies all applicable policies to development on these routes:

- *I-15 from the intersection with I-215 northeast to the Nevada state line, excepting those areas within the Barstow Planning Area and the community of Baker where there is commercial/industrial development, those portions within the Yermo area from Ghost Town Road to the East Yermo Road overcrossing on the south side only and from First Street to the East Yermo Road overcrossing on the north side, and all incorporated areas;*
- *National Trails Highway from Oro Grande northeast to Lenwood;*
- *I-40 from Newberry Springs northeast to Needles, excepting the Highway Commercial designation at the Hector Road Interchange and the Crucero Road Interchange;*
- *SR-247 (Old Woman Springs Road/Barstow Road) from the Town of Yucca Valley to Barstow.*

The Ord Mountain Project EIR brings the subjective into play with its analysis of the visual quality of the Project site located immediately east of SR-247. The vividness, intactness, and unity of the landscape are all subjectively judged “moderately low” partly because of the scattered homesteads and the visible transmission towers. The transmission towers and homesteads were in place when the County and the State selected the scenic route.

The Project site is initially described as “fallow agricultural fields with some early succession saltbush scrub vegetation in isolated patches, which for the most part, has been degraded due to the agricultural use and livestock grazing on the site.” The dismissive “fallow agricultural land” descriptor is used 48 times in the EIR. There are also accurate descriptions “previously farmed and now fallow for over a decade” or “has been fallow for more than a decade and the landowner has not been able to sustain viable agricultural operations”⁹ and “which appears as generally undeveloped desert landscape that contributes to the scenic qualities of views from SR 247” of the abandoned and recovered farmland.

**Table 3.3-1:
Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types**

Floristic Alliance	Association	Vegetation Community	Acreage
<i>Solar and Energy Storage Project</i>			
<i>Bromus rubens–Schismus (arabicus, barbatus)</i>	Schismus playa	Schismus Playa	196.63
<i>Atriplex polycarpa</i>	N/A	Allscale Scrub	257.43
<i>Larrea tridentata</i>	N/A	Creosote Bush Scrub	13.43
N/A	N/A	Disturbed Land	13.94
N/A	N/A	Developed	2.37
Total Acreage			483.80
<i>Calcite Substation</i>			
<i>Atriplex polycarpa</i>	N/A	Allscale Scrub	56.57
<i>Larrea tridentata</i>	N/A	Creosote Bush Scrub	17.42
N/A	N/A	Developed	0.25
Total Acreage			74.25

Source: Dudek 2017
N/A = not applicable

Exhibit 2: Table 3.3-1 Biological Resources Ord Mountain Solar EIR

This site analysis provided in the Biological Resources section is quite different in that it accurately describes the vegetation on the site. In the years since the farming operations were abandoned the site has recovered to the native Allscale Scrub (saltbush). The Schismus Playa is a

⁹ **Fallow agricultural land** refers to arable land not under rotation that is set aside for a period of time ranging from one to five years before it is cultivated again; <https://stats.oecd.org/glossary/detail.asp?ID=933>
Abandoned farmland has experienced at least two changeovers, first when its natural vegetation was removed to create farmland, then again when agricultural crops no longer were cultivated.
<https://wrrc.arizona.edu/publications/arroyo-newsletter/abandoned-farmland-often-troubled-land-need-restoration>

non-native but naturalized grass¹⁰ that, along with the saltbush and creosote stabilizes the soil. See the Vegetation Communities Exhibit 3.3-1 map in the EIR Biological Resources page 3.3-5.

Is the descriptor we use significant? Yes. The intent of the *fallow* descriptor is to minimize the aesthetic and other qualities of the site – *it is just disturbed land* – so that the effects of the project are less than significant with or without mitigation. The Vegetation Communities are significant when analyzing the Project effects on the regional air quality, the loss of biological resources, and land use and planning efforts, all to follow.

Exhibit 3 demonstrates the change in vegetation cover over time as agriculture was discontinued. It is incorrect to call the site *fallow* agricultural land because it is abandoned and recovered.



Exhibit 3: USDA Showing Ord Mountain site and plant cover in 1953 and 2016

The EIR Exhibit 3.1-3 Site Photographs includes 24 site photographs in which 21 of them show *Atriplex polycarpa*, or saltbush, the mature, low gray, dominant shrub species that covers 257 acres of the Project site. Its natural habitat is the soil of old beach and lake deposits as well as dissected alluvial fans, alluvial terraces, and rolling hills. The soils may be carbonate-rich,

¹⁰ *Schismus barbatus*, a monocot, is an **annual grass** that is **not native** to California; it was introduced from elsewhere and naturalized in the wild. **Cal-IPC** rating: Limited. https://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=7381

alkaline, sandy, sandy clay loams, washes, playa lakebeds and shores.¹¹ Saltbush cues the residents and touring public to the geologic story of the area as they travel toward or away from the salt encrusted lakebed to the south. The *Larrea tridentata*, or creosote bush, grows at the same elevations, -75 to 1,400 meters, but is found on well drained, rocky soils often derived from granitic or volcanic rock. This change in the dominant vegetation continues the 'location' story indicating a different soil and that the playa edge did not extend where this community is found. The visual agreement between land forms, soils, and vegetation is an important aesthetic element for viewers traveling through a scenic natural landscape.

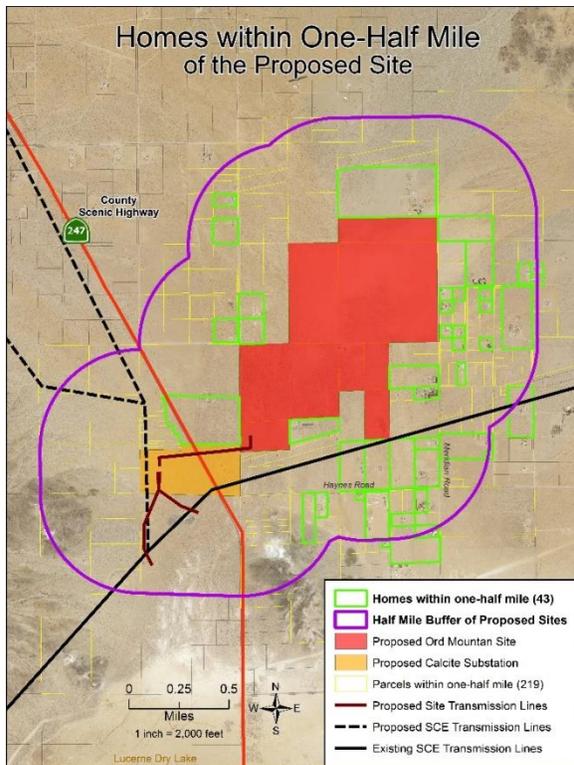


Exhibit 4: Homes within one-half mile of the Proposed Site

Location, Location, Location County Scenic Highway SR-247

“Given the existing primarily undeveloped nature of the project area and the presence of flat, low-shrub-dotted terrain that affords residents open and unencumbered views of the surrounding mountainous terrain, residents will be highly aware of and sensitive to changes occurring in the visual landscape.” (EIR page 3.1-19)
There are 43 homes within a ½ mile radius of the Project. We are told that CEQA does not consider private views an aesthetic impact.

However, SR-247 is a County Scenic Highway¹² and according to Section 263.1 of the California Streets and Highways Code, the entire length of SR 247 is included in the State Scenic Highway System. LUS staff and residents are currently working with California toward its State Scenic Highway designation. Can the County knowingly destroy the scenic values of SR-247 without penalty? This is a CEQA matter. Is this a State Regulatory matter?

We know it is a County matter. See the General Plan Open Space Element Policy OS 5.3.

“The County desires to retain the scenic character of visually important roadways throughout the County. A “scenic route” is a roadway that has scenic vistas and other scenic and aesthetic qualities that over time have been found to add beauty to the County. Therefore, the County designates the following routes as scenic highways and applies all applicable policies to development of these routes” – which includes SR-247, a route selected with the homesteads and transmission towers in place.

¹¹ Vegetation Community characteristics are found in USGS Mojave Desert Ecosystem Program: Central Mojave Vegetation Database Final Report 2004. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=13890> Accessed 11/14/18

¹² Page 5 of this document. See Mitigation AES-5. See also the Lucerne Valley Community Plan Policy LV/CO 1.1 Require future land development to be compatible with the existing topography and scenic vistas, and protect the native vegetation.

Cumulative Solar Projects a burden to communities

The General Plan Conservation Element Policy CO 8.1: "Maximize the beneficial effects and minimize the adverse effects associated with the siting of major energy facilities. The County will site energy facilities equitably to... avoid inappropriately burdening certain communities."

Lucerne Valley is burdened by over 5,000 acres of utility scale solar projects being planned for their community.¹³ The Mojave River Valley communities are also burdened from over 5000 acres of planned utility-solar in the heart of their planning areas. See Exhibit 1, this letter.

To comply with San Bernardino County Code Section 82.19.040 a topographic viewshed analysis for the project was constructed Exhibit 3.1-4, Topographical Viewshed Analysis.

The viewshed analysis indicates that the project site may be visible from the surrounding valley areas for up to approximately 3 miles to the north and up to approximately 12 miles to the south, depending on elevational differences and intervening topography. As elevation increases to the mountain ridgelines, the viewshed distances increase to approximately 15 miles in some areas. Although some portion of the project site may be visible from a relatively large area, the degree of visibility would depend on distance and view angle. Generally, the project site would be most visible from viewpoints within 1 mile; site visibility diminishes as distance increases and view angle decreases. The visibility distance from valley areas south of the project site is greater than from valley areas to the north because the northern and southern sections of Lucerne Valley tend to slope toward each other before meeting just south of the project site. "(page 3.1-27, bold added)

The following Exhibit 5: Viewshed of the Proposed Ord Mountain Site (page 14 this letter) was constructed to demonstrate that the conclusions reached with mitigations in the EIR Exhibit 3.1-4 and the following discussion are erroneous. The map and related discussion do not reflect an accurate method of calculation.

Exhibit 6: Cumulative Viewshed of the Proposed Projects (page 15 this letter) was developed to address the impacts of the Cumulative Projects with accurate methods of calculation. The methodology for all maps exhibited in these comments is found in Appendix A.

The maps were constructed by Brian Hammer, Sr.

Professional Data/GIS Analyst and
Adjunct Professor, Victor Valley Community College
AG and Natural Resources Dept.
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EIR Aesthetics Analysis

Impact 3.1-1 The project would not have an adverse effect on a scenic vista. Impacts would be less than significant.

EIR justification for Less than significant.

"The solar and energy storage site and the Calcite substation are not considered undisturbed natural areas and do not have unique or unusual features that dominate a portion of the viewshed. The solar and energy storage site was previously farmed and has been fallow for over a

¹³ See map on page 2 of this document.

decade. The site is surrounded by rural residential land uses. The proposed project area is enclosed by mountains on three sides, and the San Bernardino Mountains are visible to the south. Views of the mountain backdrops and distant vistas make the area a potential scenic vista in accordance with Policy OS 5.1.” page 3.1-34

Impact 3.1-3 The project would not substantially degrade the existing visual character or quality of the site and its surroundings. Impacts would be less than significant with mitigation.

As described previously, the existing visual quality of the proposed project sites and surrounding lands is moderately low due to the visual effects associated with fallow agricultural land, the presence of scattered rural residential properties cluttered with inoperable vehicles and trailers, the presence of abandoned or inactive residential structures, and the visual prominence of existing distribution and transmission infrastructure from much of the surrounding area. Existing views and the analysis of visual change are described below for representative local roads surrounding the site and SR 247. (page 3.1-37)

It is found that Scenic vistas do not require mitigation but the visual character of the site and its surroundings do. The mitigation will supposedly trick the viewer into not seeing:

- A solid, approximately 1-mile square, industrial feature, with
- 250,000 photovoltaic panels, mounted 12’ high on 3,000 trackers, rotating from east to west during the day and stowed facing the heavens at night so that, by the light of the moon and stars, it becomes a large body of water for birds to land and refresh.
- A 250’ by 230’ substation with components 25’ tall with lightening protection to 70’
- A deadend “H” frame structure up to 65’ tall with masts to 70 feet
- A 6’ high chain link security fence topped by a one foot of triple strand barbed wire
- Natural colored privacy/wind slats added to the fence within 0.25 miles of primary residences
- The gen-tie line from the on-site substation to the Calcite Substation would extend 0.6 miles to the southwest crossing SR-247, and contain 7 single circuits up to 150’ tall concrete or steel poles spaced every 500’. On-site poles would be 94’ tall
- Calcite Substation will be 620’ by 480’ surrounded by a concrete wall topped with a visible loop of razor wire.

The “*significant and unavoidable impacts*” of the project are later described in Chapter 5

“The project would introduce industrial electrical equipment and visual elements to the landscape, and would contribute considerable to the significant cumulative impact, adversely impacting the visual quality of the Lucerne Valley.” (page 5-1)

The fix is ludicrous (page 3.1-42) and we politely assume the writer of this EIR is unfamiliar with similar projects in the desert.

The Surface Treatment and Maintenance Plan prepared and presented 90 days before construction. The plan will identify color treatment procedures following the BLM (2008) Standard Environmental Color Chart CC-001 for the following facilities:

- *Perimeter fencing slats (Carlsbad Canyon or similar)*
- *Visible electrical equipment (Shadow Grey or similar)*
- *Battery storage building (Carlsbad Canyon or similar)*
- *Gen-tie poles*

Despite color treatments the impacts from the Ord Mountain Project and the Cumulative Projects would be significant, immediate and enduring to residents, tourists, and governmental agencies. The mitigation outlined in the EIR would fall far short and be totally ineffectual.

Comments from Brian Hammer, the creator of the viewshed exhibits 5 and 6, which are far different from that shown in the EIR Figure 3.1-4 Topographic Viewshed Analysis. The figures in this response reflect an accurate method of calculation. The essential methodology used includes an observer height based on the standing height of an average US male (with allowance for eye-level) and the proposed project structure heights as indicated in pages 2-18 and 2-20 and figures 2-3 and 2-5 of the Draft EIR.¹⁴

The mitigation indicated in the draft EIR limits its remedy to an attempt to “reduce color contrast between the project facilities and the surrounding environment”. This singular simplistic approach falls far short of what would be needed to mitigate the visual impacts of the proposed project. The human eye is well adapted to use many more factors than color to differentiate naturalness¹⁵ and aesthetics of objects in near and distant vision.

The impacts of the proposed Ord Mountain Solar and Calcite substation projects (Exhibit 5) on the viewshed would be overwhelming. At the most distant vantage points to the southeast the proposed projects would be visible for over thirty miles. The total area of visibility is over 350 square miles impacting the view of over 2,400 homes and the 4,500+ people that live there². The proposed projects would be visible to 87% of the residential homes of Lucerne Valley (CSA 29) and 100% of the residential homes of North Valley. The proposed projects would be visible for 25 miles of County Scenic Highway 247. The effects would be from approximately mile marker 33 to mile marker 61. This comprises over 30% of the Scenic Highways entire length.

The Cumulative Projects viewshed (Exhibit 6) multiplies the visual impact. The total area of visibility is over 800 square miles. The combined visual impact will be seen by over 7,700 homes and the 17,000 +people that live there. Scenic natural desert and desert community views from Historic Route 66, and Interstate Highways 15 and 40 will be replaced with a sea of solar arrays.

- Calculated visibility of proposed projects to Scenic Highway 247 is 24.83 miles (planimetric)
- The proposed projects will be visible from Scenic Highway 247 from ~ Mile marker 33 to ~ Mile marker 61
- Proposed projects will be visible from 32% of the Scenic Highway 247
- Cumulative calculated visibility of proposed projects from Historic Route 66 is 32.41 miles (planimetric)
- Cumulative visibility of proposed projects from Interstate 40 is 34.65 miles (planimetric)

¹⁴ Methodology for Viewshed. See Appendix 1, this comment letter.

¹⁵ Berman M.G., et al. (2014) The Perception of naturalness correlates with low-level visual features of environmental scenes.

- The proposed project will be visible from Interstate 40 from Mile marker 3 to ~ Mile marker 41
- Cumulative visibility of proposed projects from Interstate 15 is 20.12 miles (planimetric)
- The proposed projects will be visible from Interstate 15 from ~ Mile marker 79 to ~ Mile marker 103

Our desert scenic views are treasured locally, nationally and internationally. People travel from all over the world to drive Historic Route 66. ¹⁶ Some environmental disturbance can be remediated. Once lost to solar arrays these scenic desert views and Historic Routes can never be recreated. If these vistas are destroyed with solar projects, they are gone forever.

According to a recent County report we receive 4.5 billion dollars annually in tourism related spending. We have 54,400 tourism related jobs. Tourism accounts for 348 million dollars in tax receipts annually. ¹⁷

With this loss of scenic viewshed from seas of solar arrays there will be less tourism and less tourist dollars spent in San Bernardino County. This will then create a reduction in hospitality and tourism industry jobs which will decrease tax revenues for our County. There will be a secondary loss of community related jobs created in support of those that work in the hospitality and tourism jobs. These secondary losses would then impact tax revenues locally and at the State level.

The direct impact of solar sites and indirect damage to revenue, jobs, and tax dollars would be felt for decades.

¹⁶ Rutgers, The State University of New Jersey in collaboration with the National Park Service. And Route 66 Corridor Preservation Program and World Monuments Fund. Route 66 Economic Impact Study.

¹⁷ San Bernardino County Indicators Report 2017.

http://cms.sbcounty.gov/Portals/21/Resources%20Documents/CIR_2017_report.pdf?ver=2018-03-23-132312-883

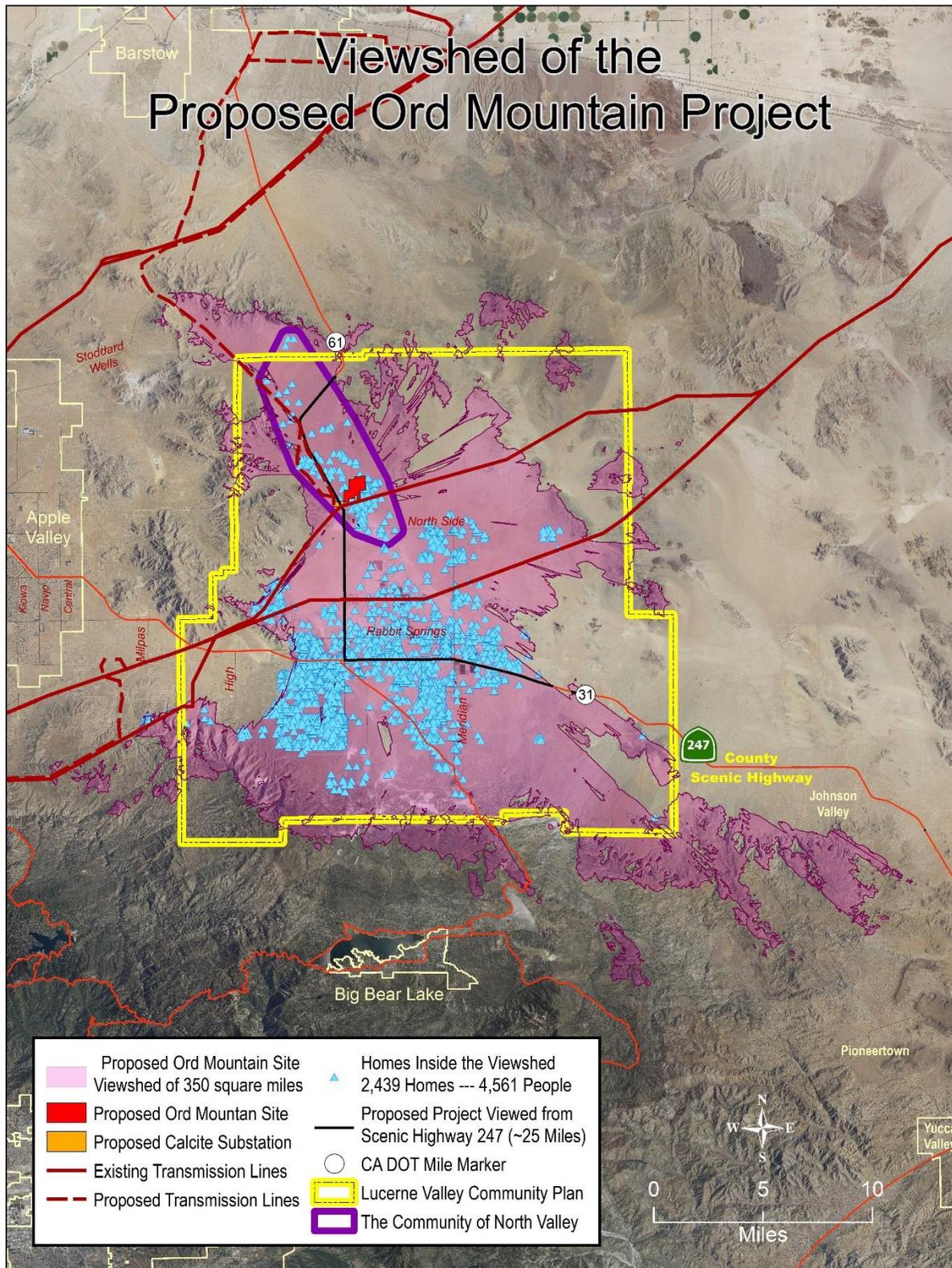


Exhibit 5: Visual Impacts of the Proposed Ord Mountain Solar Project

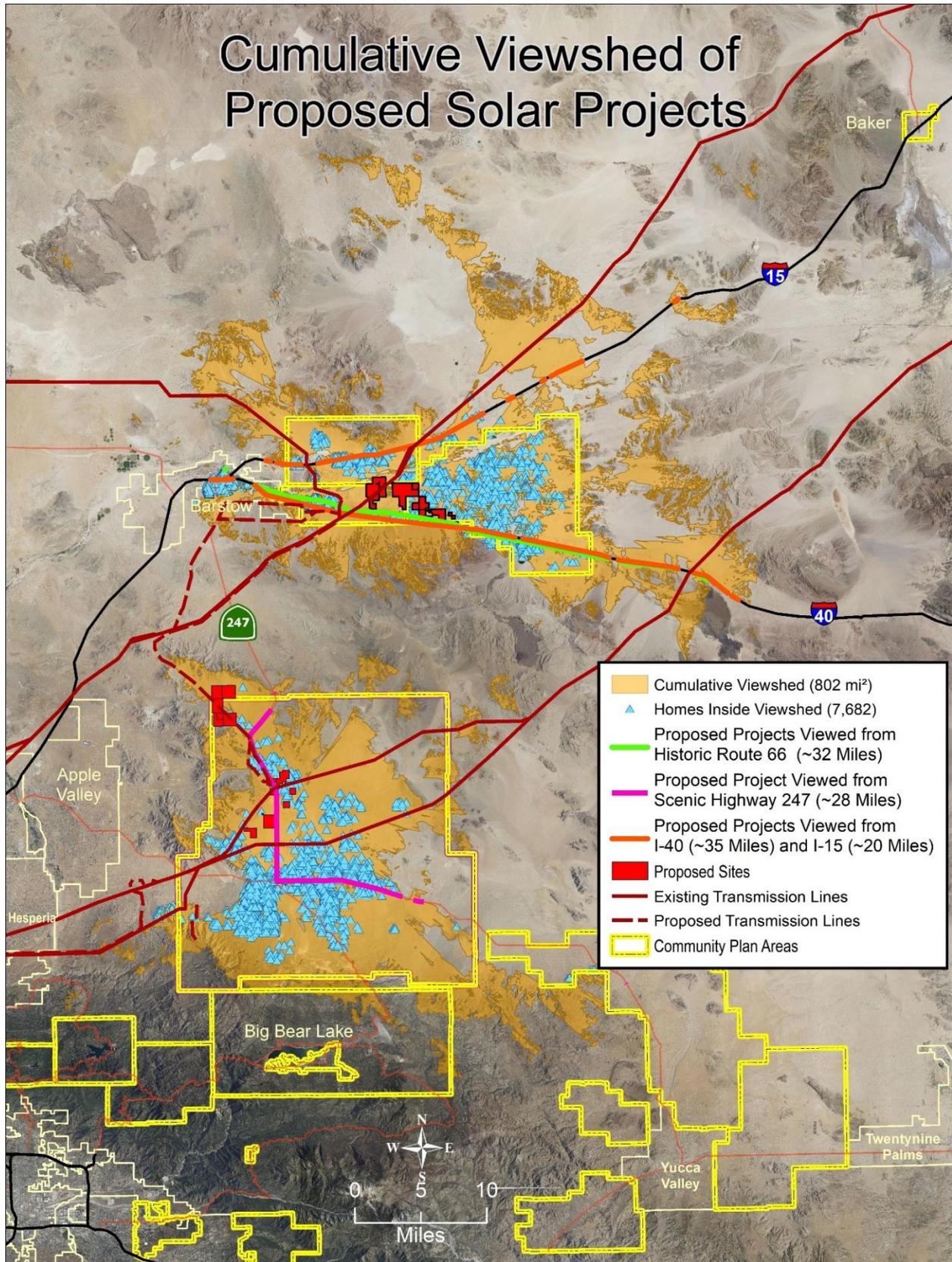


Exhibit 6: The Combined Visual Impacts of the Existing and Proposed Utility-Scale Solar Projects

The Combined Visual Impacts of the Existing and Proposed Utility-Scale Solar Projects

10,000 people will wake up and walk outside their homes in the morning and see one of more of these existing and proposed projects if they are built. The number of tourists on the four County Scenic Highways is not known – but it will be significant until they decide to choose other less encumbered scenic routes.

- The Proposed Projects will cover 17 square miles
- The Proposed Projects will be seen from 800 square miles
- 4,400 homes are located inside the 4 desert Community Plan areas
- The Proposed Projects will be visible from 4,000 homes
- The Proposed Projects will be visible to 90% of the homes in the Community Plan areas
- Tourists from all over our nation and the world will drive down Historic Route 66 and see the Proposed Projects for 32 miles
- Tourists will drive down Scenic Highway 247 and see the Proposed Projects for 28 miles. That's over 1/3 of the Scenic Highway.

Section 3.2 Air Quality

EIR chapters and sections searched to determine what would be the significant effects to air quality from project construction and operation and restoration.

Executive Summary: Summary of Significant Effects
Summary of Project Alternatives

3.0 Environmental Analysis

- 3.1 Aesthetics
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.5 Geology and Soils

5.0 Other CEQA Required Topics

- 5.1 Significant and Unavoidable Impacts

This researcher and those signing on are familiar with the criteria pollutants PM10 and PM2.5 air quality dust problem in both Lucerne Valley and the Mojave River Valley, location sites for the Ord Mountain Project and the Cumulative Projects. Areas of concern are monitoring of the pollutants, wind direction, soil types, vegetation covering the site, and grading – specifically how much and where.

EIR 3.2 Air Quality:

Victorville is the monitoring stations used to acquire annual and daily baseline data for criteria pollutants PM10 and 2.5. The station is located at 14306 Park Avenue, Victorville, California 92392, approximately 35 miles to the west of the proposed project. Unfortunately, this location is upwind from the Project site and does not provide data on air quality conditions in the Lucerne Valley or Mojave

River Valley locations except for those few times when the wind comes in from the east. The prevailing winds are from the South Southwest - see Exhibits 8 and 9.

The Dudek 2016 Air Quality Assessment (Appendix C) uses the Victorville site data for 2013, 2014, and 2015 to calculate exceedance of these pollutants during the Project construction years 2019 and 2020. See Exhibit 7 below. ND is No Data. There has been plenty of opportunity, using other approved methodology, to estimate quantities PM10 and PM2.5 in the Project site soils. This was not done. Since all Project air quality calculations for PM 10 and 2.5 are based on No Data, we are not surprised that the unmitigated annual and daily thresholds of PM 10 and 2.5 during construction do not exceeded the MDAQMD thresholds and therefore will have “Less than Significant” impacts on CEQA Air Quality issues 3.2-2 through 3.2-6 (page ES-7)

		2013	2014	2015
Coarse Particulate Matter (PM₁₀) – Victorville Monitoring Station				
Maximum 24-hour concentration (µg/m ³)	50 µg/m ³ (state)	ND	ND	ND
	150 µg/m ³ (federal)	246.2	100.8	226.5
Number of days exceeding state standard (days)		ND (ND)	ND (ND)	ND (ND)
Number of days exceeding federal standard (days)		1.0 (1)	ND (0)	2.0 (2)
Annual concentration (state method) (µg/m ³)	20 µg/m ³ (state)	ND	ND	ND
Fine Particulate Matter (PM_{2.5}) – Victorville Monitoring Station				
Maximum 24-hour concentration (µg/m ³)	35 µg/m ³ (federal)	24.1	50.2	41.5
Number of days exceeding federal standard (days)		ND (0)	6.6 (1)	1.0 (1)
Annual concentration (µg/m ³)	12 µg/m ³ (state)	7.7	6.7	7.6
	12.0 µg/m ³ (federal)	7.7	6.7	7.5

Exhibit 7: Local Ambient Air Quality Data – Appendix C page 12

Granite Mountain Wind Speed and Direction

US Bureau of Land Management, Station GAM, 11/2016 to 11/2018
 Mean Daily (730 Days) 0

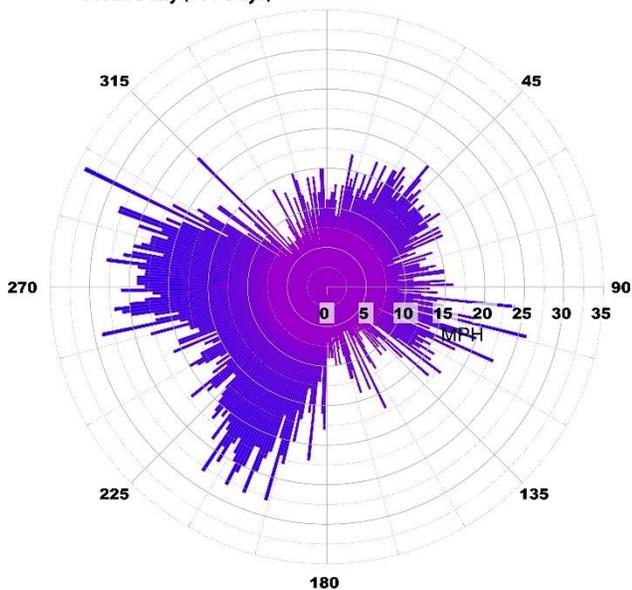


Exhibit 8: Granite Mountain Wind Speed and Direction

Granite Mountain

Monthly Average Wind Speed and Direction

US Bureau of Land Management, Station GAM, 11/2016 to 11/2018
 Mean Monthly (24 Months) 0

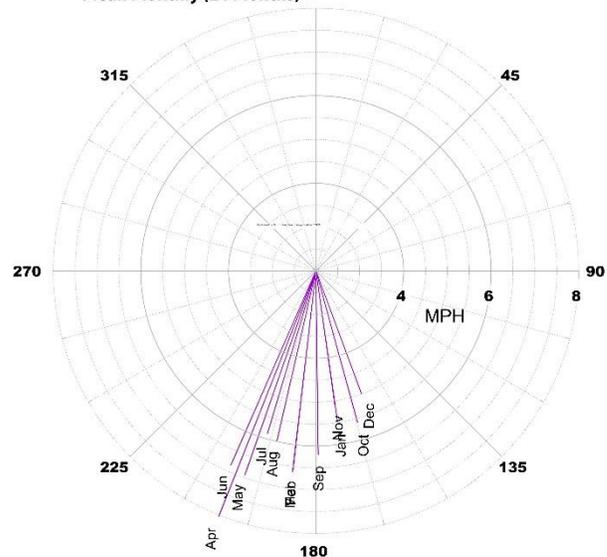


Exhibit 9: Granite Mountain Monthly Average Wind Speed and Direction

The exception is AQ-1: *Would the project violate air quality standards or contribute substantially to an existing or projected air quality violation during construction?* This is judged “Potentially Significant” and the following mitigation measure is provided.

AQ-1 Unpaved Road Vehicle Speed Limit Restrictions. The project would implement a speed limit of 25 miles per hour during the construction phase for vehicles traveling on unpaved roads.

That’s it. Mitigation AQ-1 is the only air quality mitigation required for this project. We reasonably assume the same for the Cumulative Projects.

The Dudek air quality analysis for the Ord Mountain Project and Calcite Substation, used in the EIR, is inconsistent with the experience of Lucerne Valley residents. Chuck Bell, President of the Lucerne Valley Economic Development Association (LVEDA) and Chair of the Recourse Conservation District is in frequent communication with MDAQMD providing pictures as well as reports on dust conditions.

EIR 3.5 Geology and Soils

The hazard of blowing sand and dust is related to the soil type found on the project site. The only mention of the soil types in the EIR and Appendices is on page 3.5-7.

RISK OF DEATH INVOLVING STRONG SEISMIC GROUND SHAKING

Impact 3.5-3 The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Impacts would be less than significant. (EIR bold)

“According to the UC Davis Soil Resource Laboratory (2018) and the Natural Resources Conservation Service (USDA-NRCS) (2018), five types of soil have been mapped on the proposed solar and energy storage project area: Helendale loamy sand, 0 to 2% slopes; Helendale loamy sand, 2 to 5% slopes; Cajon sand, 0 to 2% slopes; Cajon-Arizo complex, 2 to 15% slopes; and Wasco sandy loam, cool, 0 to 2% slopes. All of the mapped soil types are moderately well drained with high infiltration (RCC 2016) and are suitable for a PV solar development project.” (my bold)

True, but well drained soil with high infiltration is not the important soil characteristic to know. Death from landslides is not a consideration in a 3-mile-wide basin with 0-2% slope.

The known hazard of blowing soil and dust is not provided in the EIR and appendices. It is provided on the UC Davis Soil Resource Laboratory site.

The hazard of blowing dust and soil is not analyzed in the EIR or Appendices. Also important, the documents do not come right out and tell the reader how much grading and soil disturbance there will be either. The *Atriplex polycarpa* and *Larrea tridentata* are mature with established root systems and associated mycorrhizum that function to hold the soil in place. Brian Hammer, Lucerne Valley resident on Haynes Road, adjacent to the site, reports that the ground is stable during high winds until they exceed 50 mph. The roots of *Atriplex* are thick, twisty, and reach out as well as down.¹⁸ Plant survival following the installation of 3,000 trackers and the shade from 250,000 panels seems problematical. The USGS Mojave Desert Ecosystem Program Report¹⁹ states that unlike other *Atriplex* species, *polycarpa* is a weak root-sprouter so, without further study, we anticipate that the installation of trackers and the shade from the panels will weaken and kill the established *Atriplex*. Without

¹⁸ Brian Hammer personal communication

¹⁹ Ibid. Page 109

substantial mitigation, such as covering the disturbed site with 4 inches of ½” gravel, we know from experience that the dust will rise with winds even under the 30 mph stop work threshold.

An important mitigation for all projects in the Lucerne Valley and Mojave River Valley would be to stop work during the Spring months when the winds blow the hardest.

Exhibit 10, using NRCS soils data, displays the high, moderate, and slight hazard of blowing soil and dust as well as the three Vegetation Communities mapped on the project. As discussed above, we are in agreement with the Vegetation Communities data and mapping provided in the EIR Biological Resources Section 3.3. See Exhibit 2, this report and Biological Resources Table 3.3-1 (page 3.3-3) and the Vegetation Communities map Exhibit 3.3-1 (page 3.3-5)

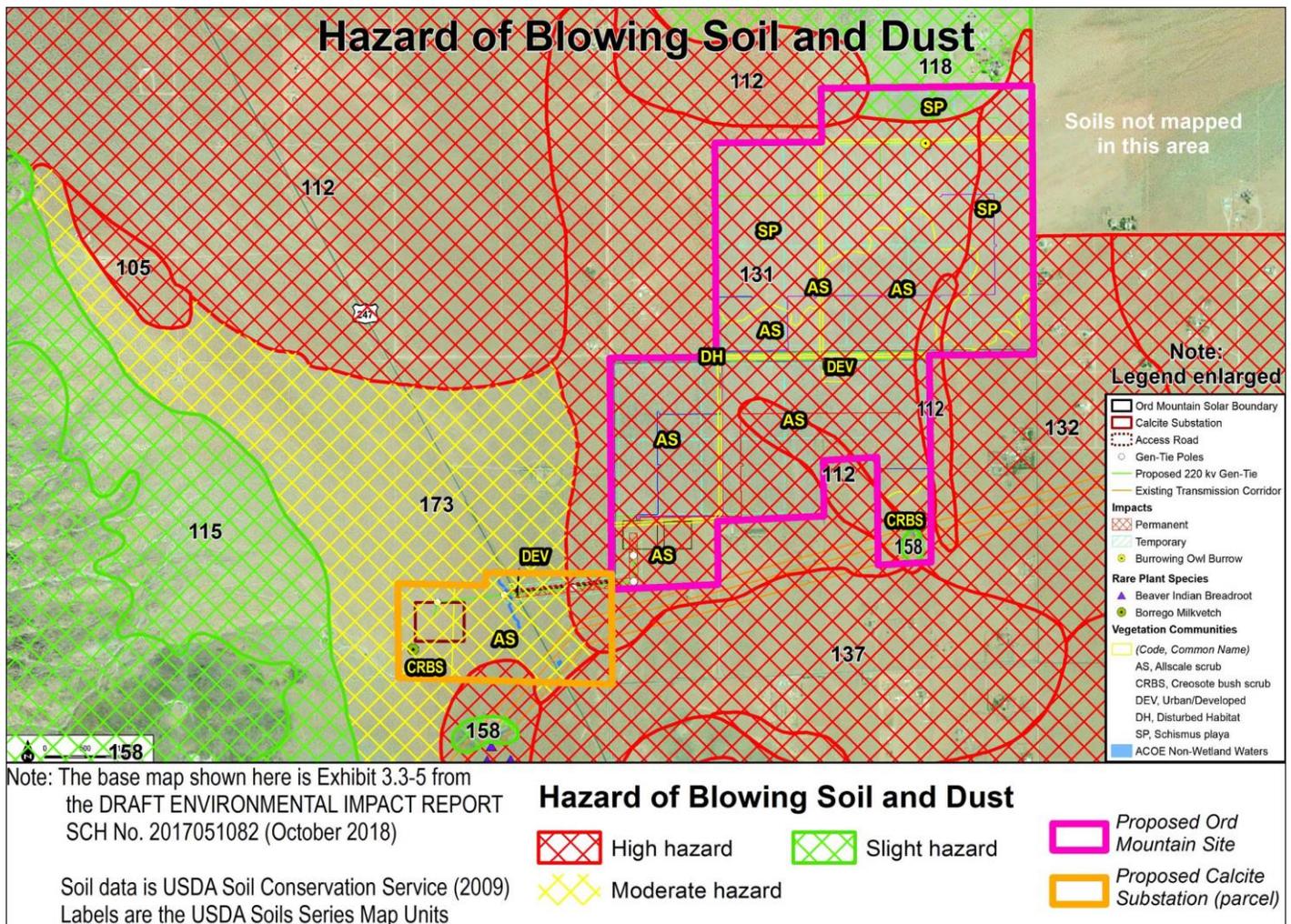
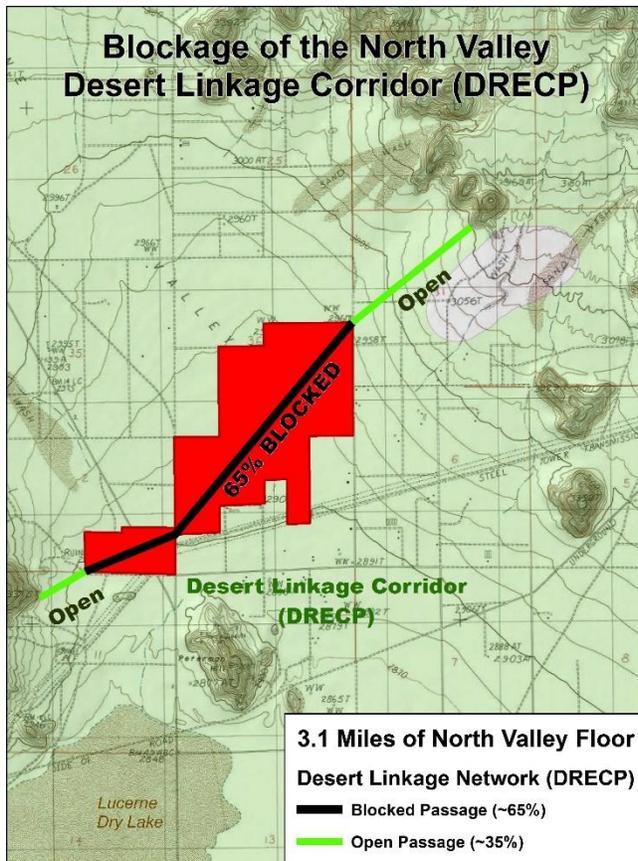


Exhibit 10: Ord Mountain Solar Project and Calcite Substation showing the Hazard of Blowing Soil and Dust with Vegetation Communities

Section 3.3 Biological Resources

Wildlife Corridors and Habitat Linkages

“The DRECP defines landscape habitat linkages (or simply “linkages”) as large open space areas on a landscape scale that contain natural habitat and provide a connection between at least two larger adjacent open spaces or habitat areas. Linkages are defined as providing a large enough area to at least support a natural habitat mosaic and viable populations of smaller terrestrial species, such as rodents, smaller carnivores (e.g., raccoons, skunks, fox, and weasels), passerine birds, amphibians, reptiles, and invertebrates and allowing for gene flow through diffusion of populations over a period of generations, as well as allowing for jump dispersal for some species between neighboring habitats. Linkages can form large tracts of natural open space and serve both as “live -in” or “resident” habitat and as connections to the larger landscape (e.g., large core habitat areas).” (page 3.3-14)



We accept this definition but take complete exception to the preceding sentence *“The main prerequisite for corridors is that they increase animal movement between habitat patches.”*

There is nothing in the rationale for connectivity and linkage designs that stipulates an increase in animal movement. The statement is misleading and deceptive.

The California Department of Fish and Wildlife is leading connectivity efforts with their ACE Version 3.0 Program – Areas of Conservation Emphasis.²⁰ Their data sets are a compilation of existing and new data which emphasize species biodiversity, significant habitats, connectivity, and climate resilience. Rather than an increase the corridors allow for movement between habitat patches and core areas.

Exhibit 11 maps the 65% blockage of the DRECP Desert Linkage network. Cumulatively, the percentage will increase with the addition of solar projects on the North Valley Floor.

Exhibit 11: Blockage of the North Valley Desert Linkage Corridor

²⁰ <https://www.wildlife.ca.gov/Data/Analysis/Ace>

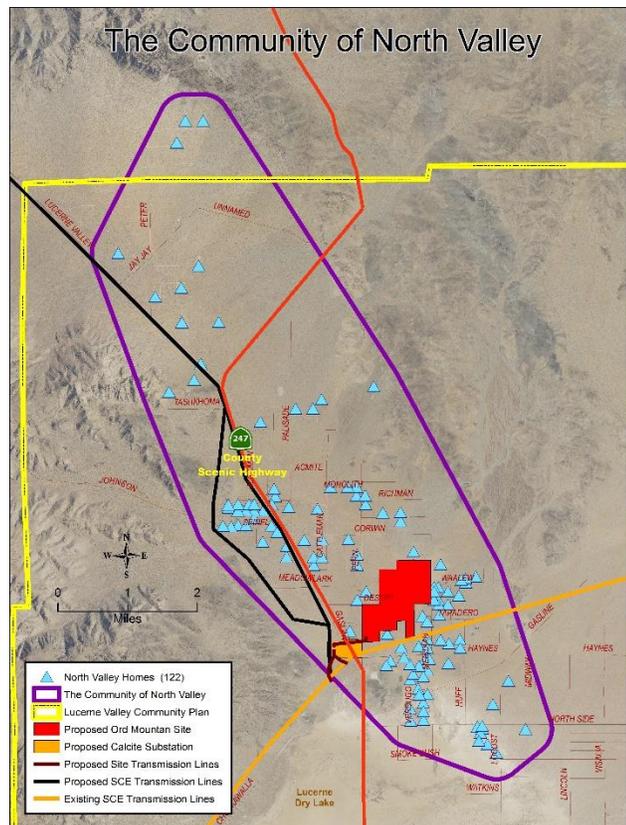
Sec. 3.8 Hydrology and Water Quality

The Air Quality section of the EIR failed to analyze for the hazard of blowing soil and dust and therefore have no doubt failed to assess the realistic amount of water required for construction of the project and the subsequent maintenance.

The completed Marathon and Agincourt Solar Projects on Camp Rock Road in Lucerne Valley cover 232 acres and are located on soils that have a moderate hazard of blowing soil and dust. Chuck Bell, President of the Mojave Desert Resource Conservation District spoke with the manager of the projects about the severe dust problems and water use. He was told that the projects used 50-acre feet for the 232 acres but should have used 70-acre feet, and possibly more.

The Ord Mountain Project is 484 acres on soil with a high hazard of blowing dust and should anticipate not only doubling the 70-acre feet during construction to account for size but to increase for the change of soil type as well. A conservative estimate might be 160-acre feet for construction with an unknown amount for maintenance, but surely higher than the anticipated 6.6-acre feet.

Sienna Solar and Calcite Solar, proposed for 2,227 acres, should also prepare to use considerably more water for construction and maintenance. These two projects are 9.6 times the size of the Camp Rock Road projects so conservatively, figuring only 70-acre feet times 9.6, the projects could use 672-acre feet plus for construction. A conservative estimate for the Cumulative Projects is 832-acre feet of water for construction. We request that calculations be redone to reflect a realistic amount of water use for the Ord Mountain Project which includes the Calcite Substation.



Section 3.9 Land Use and Planning

The Environmental Setting provided is the usual mischaracterization already addressed under the Aesthetics section. See Exhibit 5.

The Project would physically divide the established community of North Valley by altering the existing rural character to an industrial zone. The impacts would be significant.²¹

The 122 North Valley homes are within the viewshed of the Ord Mountain Project. The Project physically divides this community from itself and from the greater community of Lucerne Valley. The use of the word ‘community’ acknowledges the fact that a community is group of people with common interests living in a particular area.

We thank you for the opportunity to review the Ord Mountain Solar Energy and Storage Project Draft EIR and ask that you accept our candid and researched comments in order to improve this planning process.

Exhibit 12: Community of North Valley

²¹ Lucerne Valley Community Plan Goal LV/LU-1 and Policy LV/LU 1.1 and Impact 3.9-1

We again reference the MBCA letter of June 30, 2017. The methodology and maps are found in Appendix A.

Sincerely,



Pat Flanagan, Board Member

- President - Sarah Kennington, Pioneertown
- Vice President - David Fick, Joshua Tree
- Secretary - Marina West, Landers
- Treasurer - Steve Bardwell, Pioneertown
- Events Director - Claudia Sall, Pioneertown
- Member - Pat Flanagan, Twentynine Palms
- Member - Meg Foley, Morongo Valley
- Member - Mike Lipsitz, Landers
- Member - Ruth Rieman, Flamingo Heights
- Member - Seth Shteir, Joshua Tree
- Member - Laraine Turk, Joshua Tree

Brian G. Hammer Sr
Professional Data/GIS Analyst and
Adjunct Professor, Victor Valley Community College
AG and Natural Resources Dept.
Homeowner: 33261 Hayne Road Lucerne Valley
Mailing: P.O. Box 74 Adelanto, CA 92301

Neville Slade
Instructor | Agriculture and Natural Resources
Victor Valley College
18422 Bear Valley Road
Victorville, CA 92395

Chuck Bell Lucerne Valley resident,
Signs on for himself and as President for LVEDA -Lucerne Valley Economic Development Association
He is the President of the Mojave Desert Resource Conservation District

Also wishing to sign on to these comments
Donna Thomas, Yucca Valley California
Stephen Andrews and Lakey Kolb, Pioneertown
Sheila Bowers, Pioneertown California
Laraine Turk, Joshua Tree
Marinna Wagner and Jed Ochmanek, Yucca Valley
Southern California Video Astronomers, Joshua Tree
Michelle Meyers, Esq. Pioneertown
Paul and Wendy Hadley, Pioneertown

Appendix A GIS Methodology and Exhibits

Methodology for Viewshed Maps

Proposed Ord Mountain Viewshed calculation

A viewshed raster was created in ESRI Spatial Analyst using the “Visibility Tool”. The Input vantage point shapefile contained heights of project structures as indicated in pages 2-18 and 2-20, and figures 2-3 and 2-5 of the Draft EIR. Eleven selected points along the periphery of the 12’ solar arrays shown on figure 2.5 were added to simulate the heights of all solar arrays. Transmission line conductors between transmission structures were not included.

An interpolated thirty-foot DEM was used for ground surface elevations. For calculations inside the “Visibility Tool” structure heights were used indicated as OFFSETA [Surface offset] inside the point shapefile. A value of 5.25 (5 foot 3 inches) was used as OFFSETB [Observer offset]. The methodology used to calculate observer height was the standing height of an average US male (5 feet 9.5 inches, Centers for Disease Control and Prevention between 2007 and 2010¹) less a distance of 6.5 inches for the distance from the top of the observers head to the eyes.

The output raster image from the “Visibility Tool” was processed using the “Raster to Polygon” tool to convert the image to a vector geospatial file. That shapefile was then constrained to areas where the proposed project sites were visible using a “definition query”. This visibility subset was dissolved for use in the figures.

Cumulative Viewshed calculation

Two viewshed raster images in addition to the proposed Ord Mountain solar project viewshed raster were created in ESRI Spatial Analyst using the “Visibility Tool”. With the same methodology. The first was for additional proposed projects in Lucerne Valley Community Plan area (not including Ord Mountain) and the second was for proposed projects in Newberry Springs, Daggett, and Yermo Community Plan Areas. The Inputs used were centroid points created from a SBCO parcel dataset of proposed project parcels (36 parcels). Solar arrays from projects other than Ord Mountain were not used in this calculation as these unavailable while still in the design phase.

An interpolated thirty-foot DEM was used for ground surface elevations. A 12' value was assigned for solar arrays and was used as the OFFSETA [Surface offset]. A value of 5.25 (5 foot 3 inches) was used as OFFSETB [Observer offset] for use in the "Visibility Tool". The observer height was again calculated as the standing height was the standing height of an average US male (5 feet 9.5 inches, Centers for Disease Control and Prevention between 2007 and 2010¹) less a distance of 6.5 inches for the distance from the top of the observer's head to the eyes

The output raster images from the "Visibility Tool" were processed using the "Raster to Polygon" tool to convert the images to vector geospatial files. That shapefile was then constrained to areas where the proposed project sites were visible using a "definition query". These visibility subsets of projects (excluding Ord Mountain) were dissolved in preparation for use in the final cumulative viewshed shapefile. These two files and the proposed Ord Mountain viewshed were combined with "Append" tool to create a unified viewshed. These three features were further combined to a single feature with no overlapping areas using the "Dissolve" tool for use in figures.

Homes Geospatial File Creation

A homes shapefile was created from a centroid point shapefile created from a SBCO parcel dataset. This was done by selecting parcels with an "Improved Value"² that had a "land use" type between "500" and 600" using a "Definition Query) in the "Layer Properties". Three subsets of this shapefile were created based in homes that intersected (ESRI, ArcMap definition) the Cumulative viewshed polygon shapefile. Subsets of this point shapefile were selected using the "Select by Location" tool in ArcMap and provided the homes counted in various portions in this document.

The Community of North Valley Geospatial File Creation

A 2000' buffer polygon shapefile of homes within the North Valley Community within the Lucerne Valley Community Plan area (CSA-29) was created from a centroid point shapefile created from a SBCO parcel dataset. This was done by selecting parcels with an "Improved Value"² that had a "land use" type between "500" and 600" using a "Definition Query) in the "Layer Properties".

A best-fit polygon was then created around the homes buffer to define the North Valley Community.

Area of Visibility

The area of visibility was calculated inside ArcMap using the “Calculate Geometry” tool inside each shapefiles respective attribute tables. All calculations were done as square miles using NAD 83 (US feet) California State Plane Feet, California zone V coordinate system and are planimetric.

- The proposed Ord Mountain Solar project will be visible over an area of 351 mi²
- The cumulative proposed projects will be visible over an area of 802 mi²

Ord Mountain and Cumulative Projects Visibility to Homes and Populations

A shapefile of Census Blocks visible (998) within the cumulative viewshed was created as a subset of 2010 a US Census/American Community Survey dataset. Average household size was determined by dividing the Census Block populations by total dwelling units³. This was then spatially joined to the homes within the cumulative viewshed, using the statistics tool inside the attribute table within ArcMap the population that will see the Ord Mountain and one or more of the proposed projects was determined.

- 4,561 people in 2,439 homes will be able to see the proposed Ord Mountain Solar project.
- 3,129 homes are located inside the Lucerne Valley Community Plan area
- The proposed Ord Mountain Solar project will be visible to 78% of the homes in the Lucerne Valley Community Plan and all of the Community of North Valley
- 17,317 people in 7,707 homes one or more of the cumulative proposed projects
- Of the 8,837 homes (calculated) within the city limits of Barstow 3,868 homes will be able to see one or more of the proposed solar project sites.
- 44% of all the homes within Barstow city limits will be able to see one or more of the proposed solar project sites.

- Cumulative visibility of proposed projects from Interstate 15 is 20.12 miles (planimetric)
- The proposed projects will be visible from Interstate 15 from ~ Mile marker 79 to ~ Mile marker 103

¹ https://www.cdc.gov/nchs/data/series/sr_11/sr11_252.pdf

² Prior research by Brian Hammer (Data and GIS Analyst, Adjunct Professor GIS, Natural Resources Department at Victor Valley College) has shown a > 98% correlation between improved value and parcels that contain a habitable dwelling unit.

³ Total dwelling units were used as opposed to occupied dwelling units were used to normalize for vacancies when combined with the homes dataset.

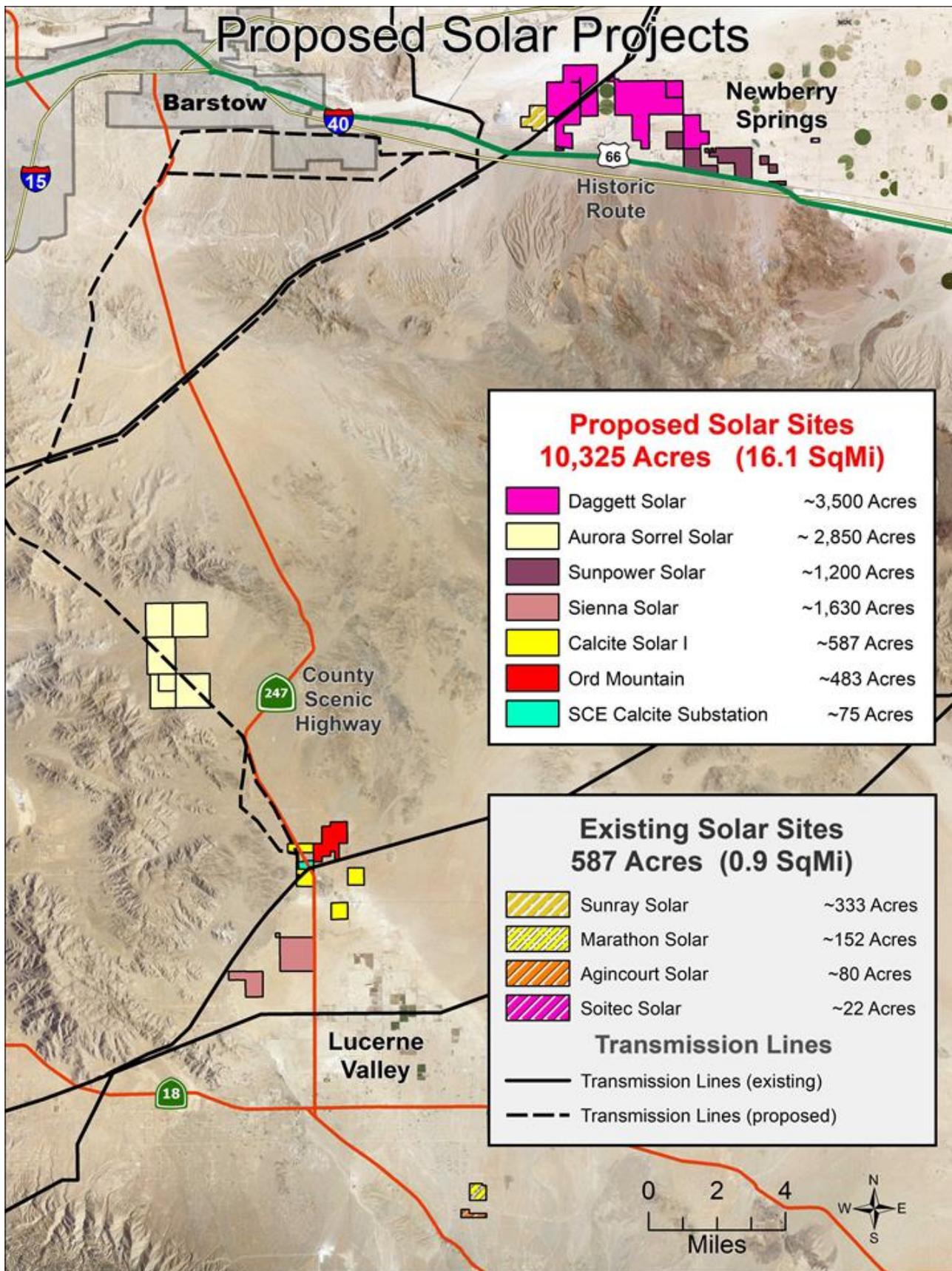


Exhibit 1: Proposed and Existing Solar Projects



Exhibit 3: USDA Showing Ord Mountain site and Plant cover in 1953 and 2016

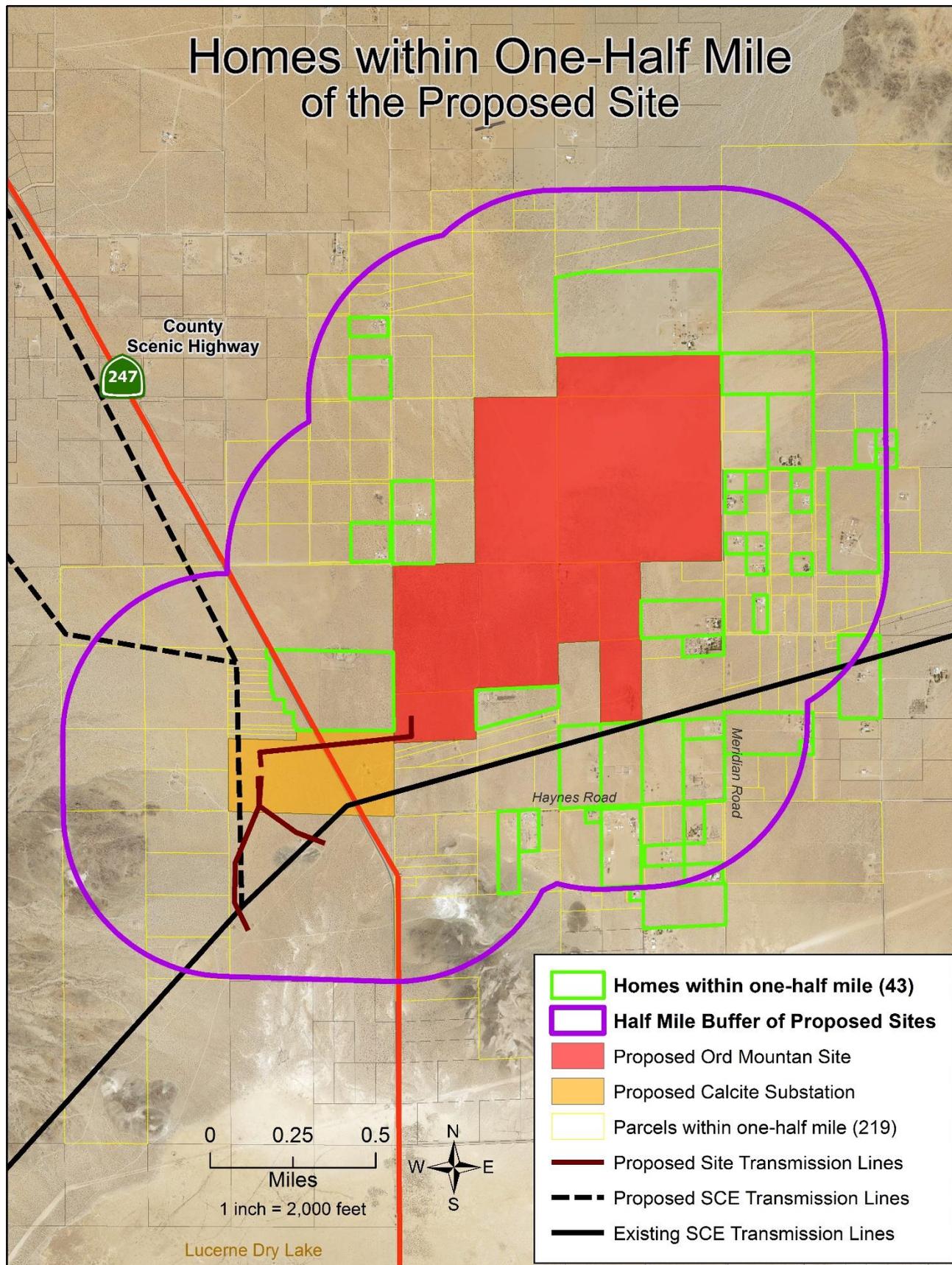


Exhibit 4: Homes within one-half mile of the Proposed Site

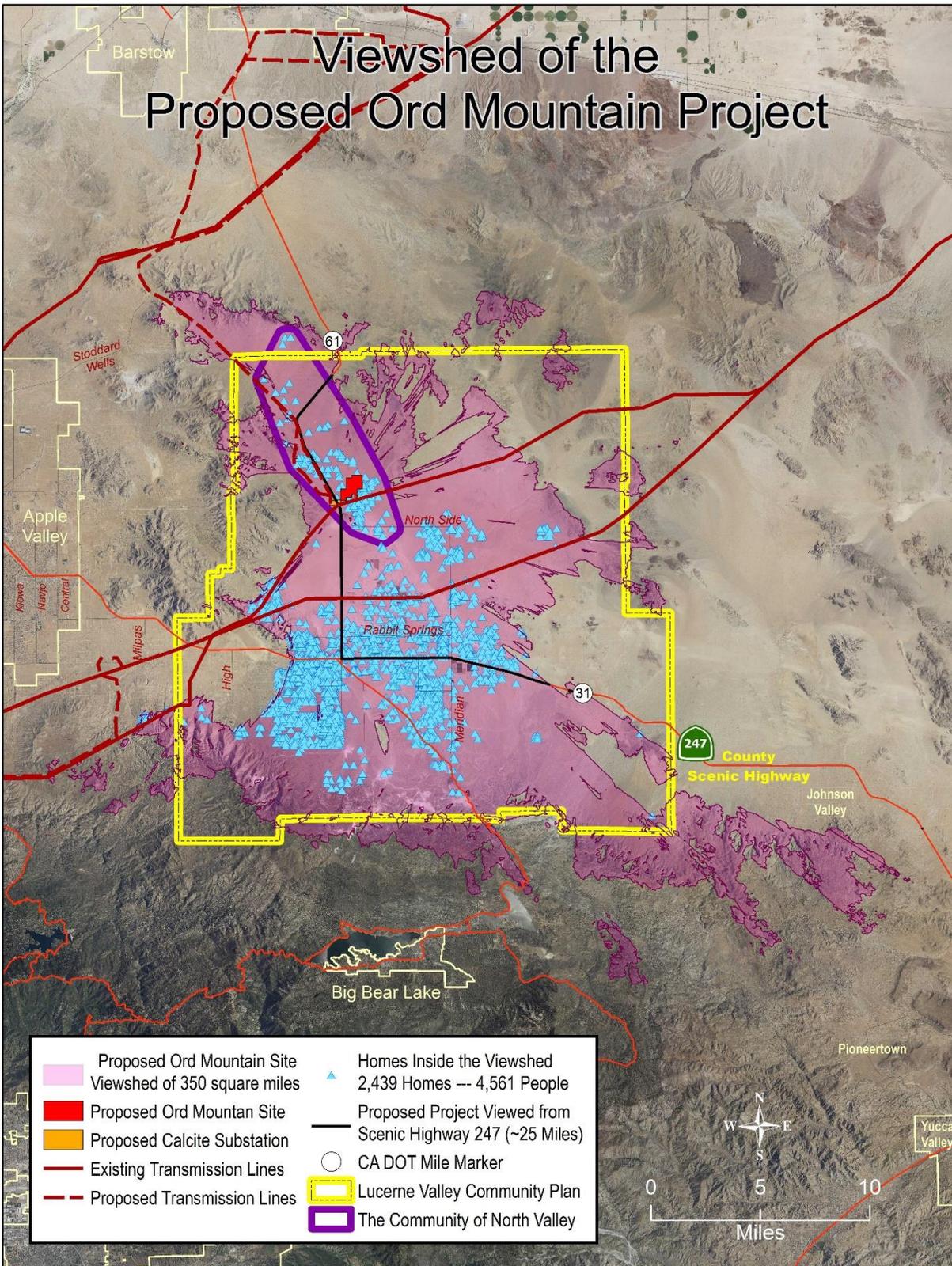


Exhibit 5: Visual Impacts of the Proposed Ord Mountain Solar Project

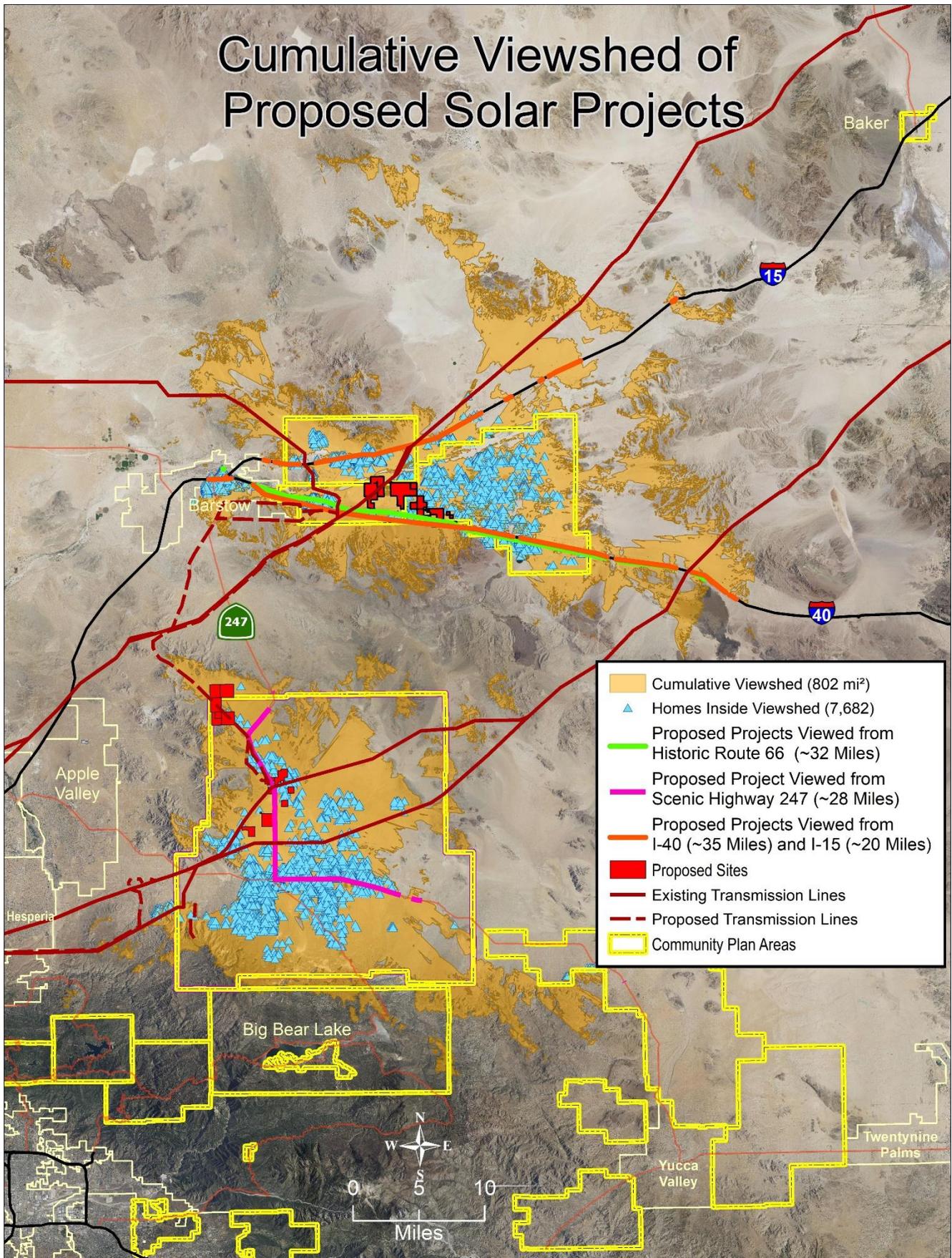


Exhibit 6: The Combined Visual Impacts of the Existing and Proposed Utility-Scale Solar Projects

Granite Mountain Wind Speed and Direction

US Bureau of Land Management, Station GAM, 11/2016 to 11/2018

Mean Daily (730 Days) 0

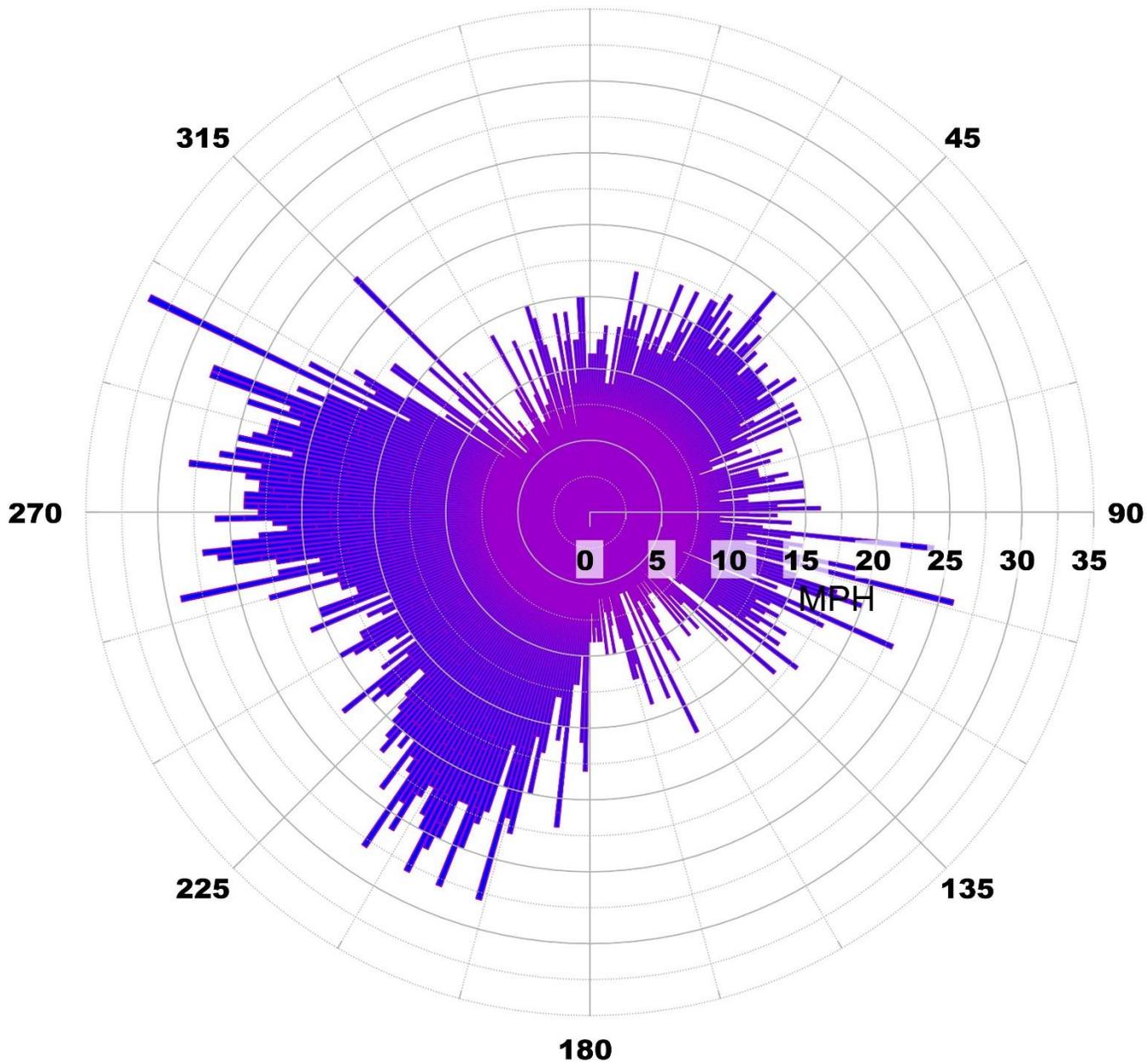


Exhibit 8: Granite Mountain Wind Speed and Direction

Granite Mountain

Monthly Average Wind Speed and Direction

US Bureau of Land Management, Station GAM, 11/2016 to 11/2018

Mean Monthly (24 Months) 0

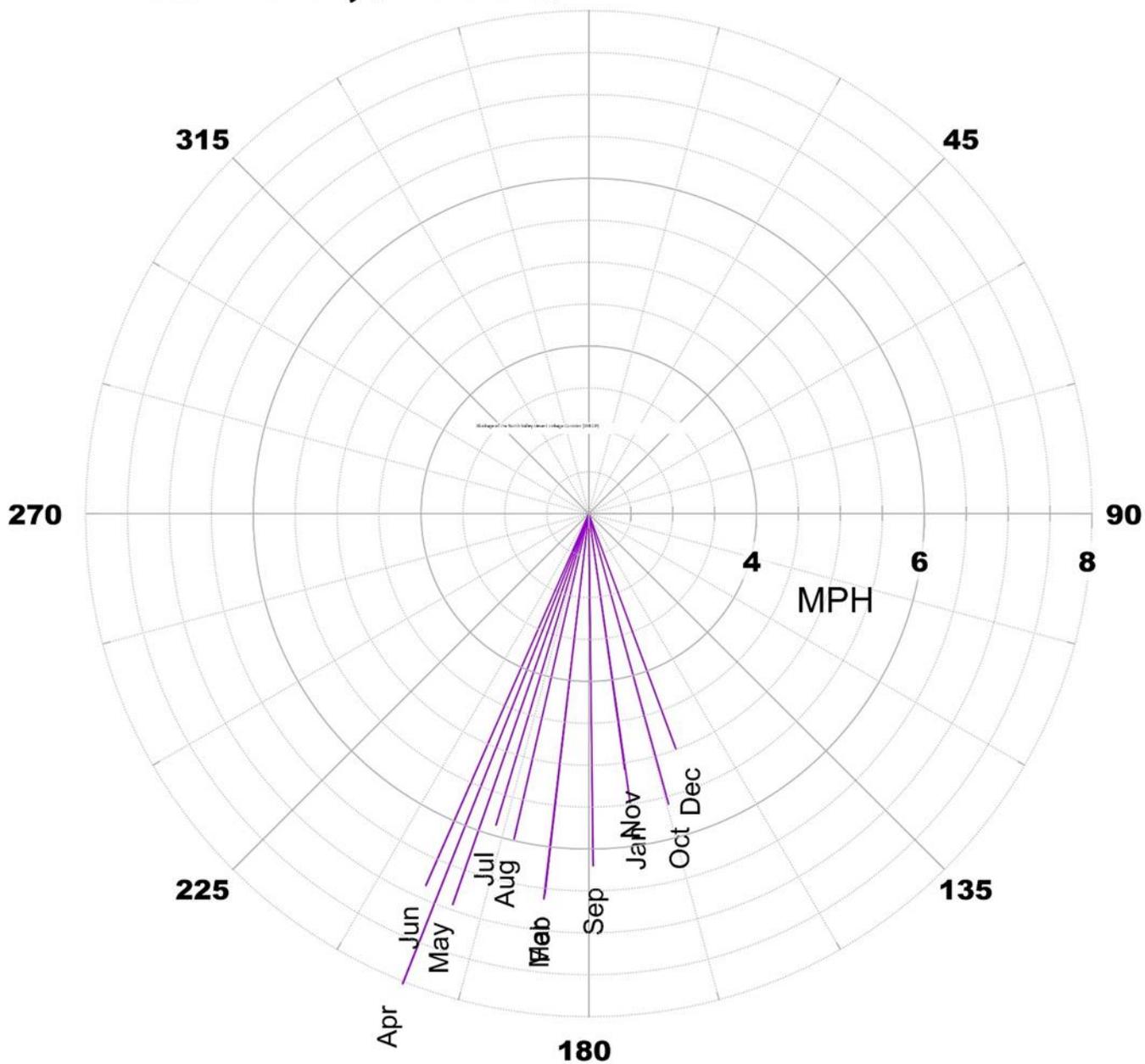


Exhibit 9: Granite Mountain Monthly Average Wind Speed and Direction

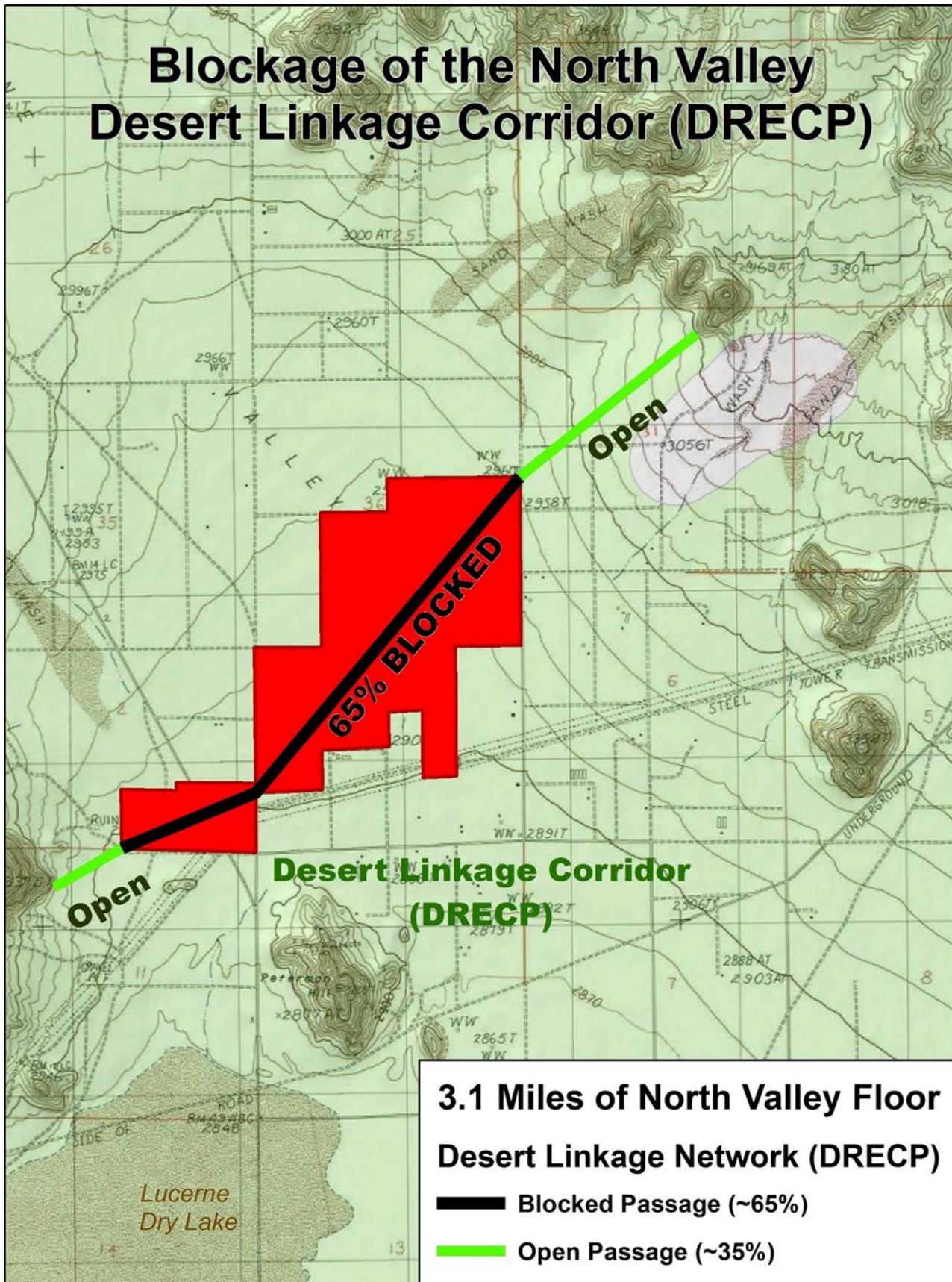


Exhibit 11: Blockage of the North Valley Desert Linkage Corridor

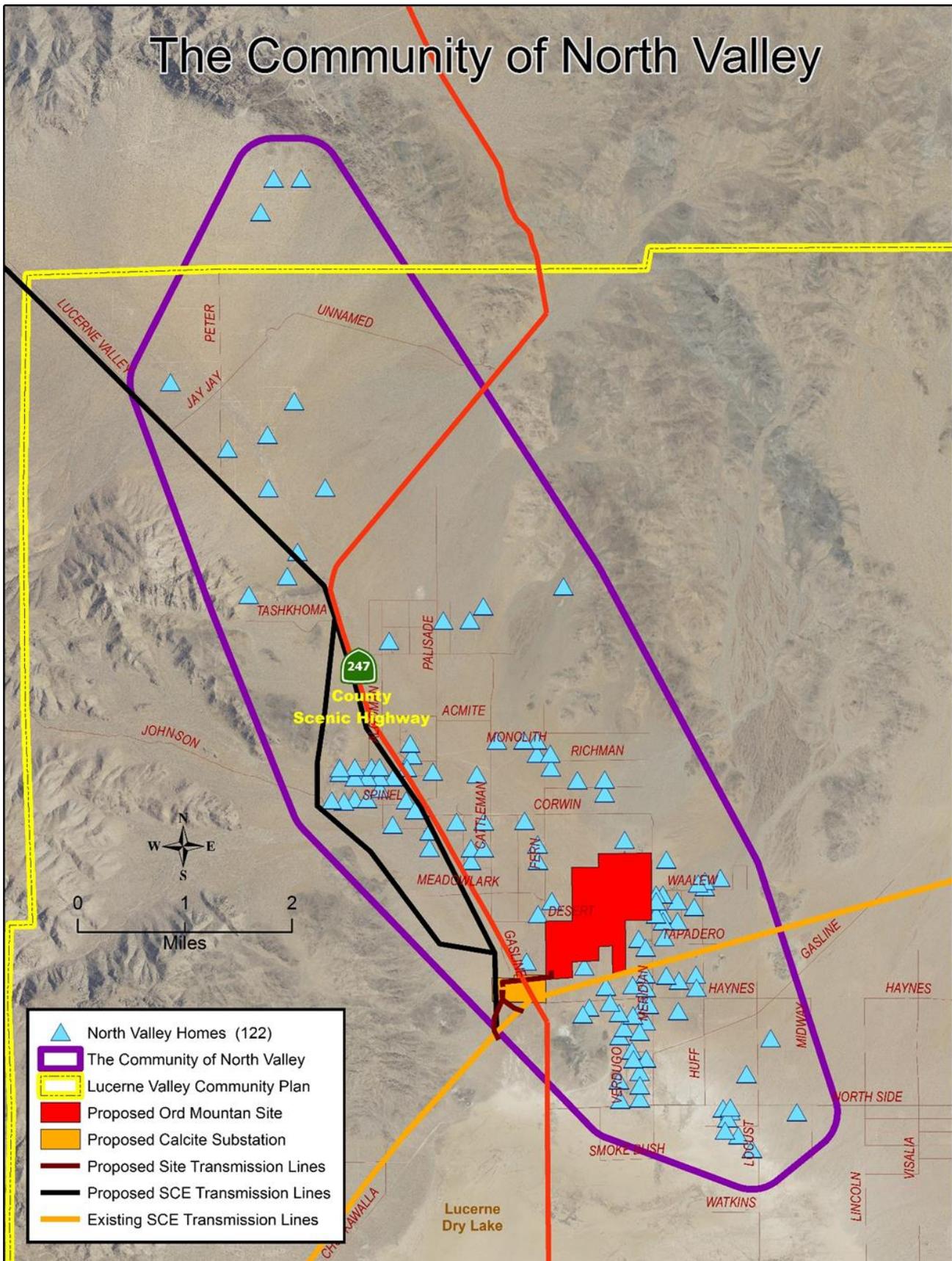


Exhibit 12: Community of North Valley