

MEMORANDUM

To: Desert Hot Springs Wind LLC
From: Josh Saunders, AICP, Dudek
Subject: Visual Resources Study for the Desert Hot Springs Wind Energy Repowering Project
Date: April 18, 2018
cc: Collin Ramsey, Dudek
Attachment(s): Figures 1–12B

Dudek is pleased to present Desert Hot Springs Wind LLC (Project Applicant) with our visual resource study prepared for the proposed Desert Hot Springs Wind Energy Repowering Project (Project). The study is presented in a memorandum format and provides an analysis of visual changes associated with development of the Project within northwestern Coachella Valley.

1 INTRODUCTION

1.1 Purpose of Study

Dudek was contacted by the Project Applicant to prepare a visual resources study to evaluate the Project. The purpose of the study is to assess the potential visual contrast and impacts resulting from construction and operation of the Project. For the visual resources study, “Project site” refers to the footprint of the Project facilities, including turbines, access roads, and other ancillary components.

1.2 Key Issues

Key issues to be evaluated in this study include potential effects to existing visual quality and views associated with Project development as viewed from key observation points (KOPs) within the Project area, effects to scenic vistas, and anticipated visual contrast experienced by motorists on State Route (SR-) 62 (an officially designated state scenic highway) and local roads. In addition, this study will evaluate the overall compatibility of the Project within the existing visual landscape.

2 PROJECT DESCRIPTION

The Project would produce up to approximately 17 megawatts (MW) of wind energy. As proposed by the Project Applicant, the repowering component of the Project would consist of up to four new wind turbines with a range of approximately 2.0 to 4.2 MW in nameplate capacity per wind turbine generator (WTG). In addition to the new wind turbines, the Project includes the following primary components:

- Decommissioning of approximately 69 existing wind turbines and the appropriate ancillary equipment.
- Connection to an existing substation (Southern California Edison (SCE) Venwind Substation located on Assessor Parcel Number 516030014) through either a new underground or overhead collection line or use of an existing SCE 12-kilovolt overhead collection line.
- Installation of one new temporary and one new permanent meteorological tower (“met tower”), each up to 309 feet tall. The temporary met tower would be constructed at one of the four turbine locations and then removed prior to turbine erection.
- Decommissioning of the new wind turbines at the end of their useful life cycle.

To operate the existing wind energy facilities, the Project Applicant and its affiliates employ approximately 10 people in the broader Project vicinity. Once repowered, a similarly sized operations team would continue to work on the Project and on the Project site. The wind turbines are capable of operating 24 hours per day, depending on wind and meteorological conditions.

The location of the Project within the City of Desert Hot Springs (City) is illustrated on Figure 1, Project Location. A site plan of the Project is depicted on Figure 2, Site Plan. Figure 2 depicts a potential alignment of the collection line because a preferred collection route has not been identified, and the Project Applicant may elect to install an underground collection line.

Proposed Wind Turbines

Since wind turbine technology is continually improving, and the cost and availability of specific types of turbines vary from year to year, representative turbines for the Project include up to four wind turbines ranging from approximately 2.0 to 4.2 MW in nameplate capacity per turbine. Turbines would consist of tubular steel towers with an estimated rotor diameter of up to 427 feet and a total height (turbine base to top of turbine blade in the twelve o’clock position) of up to 500 feet.

All turbines would be three-bladed, upwind, horizontal-axis wind turbines. Each turbine would be mounted on a concrete pedestal supported by a permanent concrete foundation. All turbines would have a turbine rotor and nacelle mounted on top of its tubular steel tower.

The turbines would be grouped in a single row and connected by an underground or overhead electrical cable system. Turbines would be arranged in the row in accordance with applicable industry siting recommendations for optimum energy production and minimal land disturbance.

Supervisory Control and Data Acquisition System

Each wind turbine would be connected to an off-site supervisory control and data acquisition (SCADA) system. The SCADA system would allow for controlling and monitoring individual wind turbines, as well as the Project as a whole, from a central operations center. If problems occur, the SCADA system could send signals to a cell phone, tablet, computer, or other personal communication device to alert operations staff. The SCADA system would also be connected to the California Independent System Operator and SCE.

The Project would use wind turbines designed with several levels of built-in safety measures to comply with Occupational Safety and Health Administration and American National Standards Institute requirements. Personnel located at an off-site operations and maintenance facility would monitor the wind turbines with the SCADA system.

Access Roads

Where feasible, the existing network of permanent access roads will be retained and reused for the new wind turbines. In addition to the existing roads, permanent access and maintenance roads will be constructed to provide access and circulation within the Project. These access roads will consist of up to 16-foot-wide permanent roads to provide access to each wind turbine and ancillary equipment. These same permanent access roads will be used during construction, although the width of these roads may be temporarily increased to up to 36 feet wide to accommodate cranes and larger construction equipment.

Access roads will consist of compacted native material but may also require approximately 4 to 6 inches of aggregate and/or geosynthetic material to provide the soil strength needed for construction. The disturbed areas outside the final roadway width will be graded and compacted for use during construction and then de-compacted and stabilized at the conclusion of construction. New permanent access road layout will incorporate applicable federal and local standards regarding internal road design and circulation, particularly those provisions related to emergency vehicle access.

Temporary Laydown and Parking

While an existing, on-site laydown area may be temporarily expanded and used to provide construction parking and stage wind turbine components, construction equipment, and construction materials, (See Figure 2) it is more likely that an existing, off-site laydown area would be used to stage these materials and provide construction parking. Steel construction containers would be used to securely store specialized equipment inside the perimeter of the laydown area. If on-site, the temporary laydown and parking area would be placed strategically within the Project to optimize construction activities while also minimizing off-site visual impacts to the extent feasible. After construction, all containers associated with the laydown area would be removed.

A temporary work area for each wind turbine site will be used for the crane pad, equipment laydown, and other construction-related needs. Within this temporary work area, a crane pad is required for supporting the large tower erection crane. The crane pad will consist of a compacted native soil or compacted aggregate base gravel area. The topsoil from the crane pads, if any, will be used at adjacent locations during restoration activities.

2.1 Land Use Designations

The Project site encompasses lands designated Industrial Energy-Related (I-E). According to the City's Municipal Code, the Industrial Energy-Related district is intended to promote "the developing and harvesting of the City's wind and other energy resources in the western areas, while ensuring their compatibility with adjacent land uses" (City of Desert Hot Springs 2018). Additionally, Industrial Energy-Related districts provide for the development of interim uses, which do not impair the long-term ability to develop and harvest wind and other energy resources. The City's Municipal Code refers to wind turbines as wind energy conversion systems (WECS).

Properties to the north, west, and south are designated Open Space/Mountain Reserve (OS/MR). The purpose of the Open Space/Mountain Reserve district is primarily preservation; however, a variety of recreational uses (e.g., education facilities, museums, playgrounds, and trails) and other uses including antennae and utility facilities are either allowed, conditionally permitted, or permitted (trails). Properties to the east and south are designated Open Space/Mountain Reserve and Public Uses (P). The Public Uses district applies to institutional uses and public utility facilities.

2.2 Regulatory Framework

Federal

Federal Aviation Administration (FAA) Advisory Circular AC 70/7460-1K: Obstruction Marking and Lighting

According to Chapter 2, Structures to be Marked and Lighted, of AC 70/7460-1K, temporary or permanent structures that exceed an overall height of 200 feet above ground level should typically be marked and/or lighted (FAA 2007). Preparation of an FAA aeronautical study may reveal that the absence of marking and/or lighting would not impair aviation safety (in these instances, marking and/or lighting would not be required), but wind turbines and met towers that exceed an overall height of 200 feet above ground level are typically required to be marked or lighted. While the advisory circular mentions that marking and/or lighting may be employed to achieve consistency with FAA requirements, lighting is more commonplace than marking in the current wind turbine development landscape.

Chapter 4 of the advisory circular details the various lighting systems used to identify structures. Acceptable lighting systems include aviation red obstruction lights (i.e., flashing beacons and/or steady burning lights that operate during the night), medium-intensity flashing white obstruction lights, high-intensity flashing white obstruction lights, and dual lighting (i.e., red lights for nighttime and high-/medium-intensity flashing white lights for daytime and twilight). In addition to operational obstruction lighting systems, obstruction lights during construction are required once the structure exceeds a height of 200 feet above ground level.

State

California Environmental Quality Act

The City uses the following aesthetics significance thresholds included in Appendix G of the California Environmental Quality Act (CEQA) Guidelines to assess impacts to aesthetics:

- Would the proposed project have a substantial adverse effect on a scenic vista?
- Would the proposed project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?
- Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?
- Would the proposed project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

California Scenic Highway Program

The California Department of Transportation administers the California Scenic Highway Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways (California Streets and Highways Code, Section 260 et seq.). The California Scenic Highway Program includes a list of officially designated highways and highways that are eligible for designation. If a highway is listed as eligible for official designation, it is part of the Scenic Highway Program, and care must be taken to preserve its eligibility status.

There is an officially designated highway and an eligible state scenic highway in the Project area. SR-62 (from Interstate (I-) 10 north to the San Bernardino County line) is an officially designated state scenic highway and is located as close as 0.75 miles to the Project site (Caltrans 2018a). From I-10 near Whitewater to SR-74 near Palm Desert, SR-111 is an eligible state scenic highway that is located as close as 3.5 miles from the Project site.

Local

City of Desert Hot Springs General Plan

The City's General Plan was developed to guide the future land use and development patterns within the City's planning area, which includes lands contained in the City boundary and unincorporated lands adjacent to the City's borders identified as areas likely to be serviced or annexed by the City in the future.

Land Use Element

The Land Use Element provides a comprehensive plan of the general allocation and distribution of land uses throughout the City. In addition, the Land Use element identifies areas planned for commercial and industrial uses, and areas of existing and planned public and quasi-public uses. Relevant policies and goals of the Land Use Element are listed as follows:

- Land Use Element Industrial Policy 1: Provide adequate and appropriate lands designated for industrial uses to provide a broad range of industrial development.
- Land Use Element Open Space and Conservation Goal 2: A land use pattern, which preserves the City's resort residential atmosphere, including scenic resources such as hillside and mountain vistas, waterways, and native desert communities.

Energy and Mineral Resources Element

According to the General Plan, the City has substantial renewable energy resources including abundant sunshine and the San Gorgonio Wind Resource Area that extends into the City and its sphere of influence (City of Desert Hot Spring 2000). Further, the Energy and Mineral Resources Element states that approximately 160 acres of windfarm development is located in the City, and extensive windfarm development occurs in the west sphere area. Relevant policies and goals of the Energy and Mineral Resources Element are listed as follows:

- Energy and Mineral Resources Element Goal 1: Conservation and thoughtful management of energy sources and mineral deposits, assuring the long-term viability of limited and non-renewable resources.
- Energy and Mineral Resources Element Policy 5: Support public and private efforts to develop and operate alternative systems of thermal and electrical production, which take advantage of local renewable resources.

Community Design Element

The Community Design Element defines, directs, and guides coherent and satisfying patterns of development in the City and is meant to assure that new development is balanced with the existing built and natural environments. This element helps to establish basic criteria, promote good and thoughtful design, and enhance community cohesiveness and coherence. Relevant policies and goals of the Community Design Element are listed as follows:

- Goal 1: City-wide design and development which enhances the community's distinctive character as a desert-oriented resort residential community and preserves and enhances the natural scenic resources in harmony with the built environment.
- Policy 10: Lighting shall be limited to the minimum height, number and intensity of fixtures needed to provide security and identification in residential, commercial and industrial development, taking every reasonable measure to preserve the community's night skies.
- Policy 12: Development proposed along designated scenic highways, roadways and corridors shall be reviewed for compatibility with the natural and built environments to assure maximize viewshed protection and pedestrian and vehicular safety.
- Policy 16: All grading and development proposed within scenic highway viewsheds, including hillsides, entry and focal points, shall be regulated to minimize adverse impacts to these viewsheds.

City of Desert Hot Springs Municipal Code

WECS are addressed in Section 17.16.140 of the City's Municipal Code. A conditional use permit is required for commercial WECS on lands designated Industrial. Relevant standard and development criteria applicable to WECS are listed in Section 17.16.140 (E) and are as follows (City of Desert Hot Springs 2018):

Section 17.16.140 (E). Standard and Development Criteria.

1. Height Limits.
 - a. No commercial WECS shall exceed 200 feet in height, measured at the top of the blade in the twelve o'clock position. Where unusual conditions warrant, a lower height limit may be imposed as a condition of a Conditional Use Permit.
 - b. No other building or structure shall exceed 30 feet in height, except for meteorological towers permitted by subsection (C) (2) of this section.
2. Setbacks. All commercial WECS shall meet these general setback requirements as well as the other setbacks set forth below.
 - a. No building or structure shall be located closer than 50 feet from any lot line.
 - b. No WECS shall be located closer than 1,200 feet from any residence, hotel, hospital, school, library or convalescent home unless the owner of such structure waives, in writing, the setback requirement.
 - c. Notwithstanding the 1,200-foot setback requirement specified above, a lesser setback may be permitted where due to factors of topography or the characteristics of the proposed WECS project, the approving entity finds that the noise, aesthetic or other environmental impacts of the project on adjacent properties will not be any more significant than if the 1,200-foot setback were applied. In the case of the replacement of WECS, pursuant to subsection (F) (3) of this section, the standard for determining whether a reduction shall be approved is whether the replacement WECS will have a substantially reduced cumulative impact on surrounding property, as compared to the existing project, and whether adhering to the 1,200-foot setback will be an unreasonable economic hardship to the applicant. Wherever a setback reduction is proposed pursuant to this subsection, the setback reduction shall be included in all notices, and, if granted, the WECS permit shall specifically state the required setback.

3. Safety Setbacks.

- a. No commercial WECS shall be located where the center of the tower is within a distance of 1.25 times the total WECS height from any above-ground electrical transmission line of more than 12kV.
- b. No commercial WECS shall be located where the center of the tower is within a distance of 1.25 times the total WECS height from any public highway or road, railroad or off-site building. The setback herein specified shall be measured from the boundary of the public right-of-way or railroad right-of-way.
- c. No commercial WECS shall be located where the center of the tower is within a distance of 1.25 times the total WECS height from any lot line. No commercial WECS shall be located where the center of the tower is within a distance of 1,200 feet from any lot line of a lot which contains a dwelling.

4. Scenic Setbacks.

- a. No commercial WECS shall be located where the center of the tower is within 1,320 feet (1/4 mile) of State Highway 62.
- b. No commercial WECS shall be located where the center of the tower is within 500 feet of Indian Avenue.
- c. No commercial WECS shall be located where the center of the tower is within 500 feet of Interstate 10.
- d. No commercial WECS shall be located where the center of the tower is within 1.25 times the total WECS height from Dillon Road.
- e. The setbacks specified in the subsections above shall be measured from the nearest boundary of the public right-of-way.
- f. Notwithstanding the provisions of subsections (E) (5) (a) through (e) of this section, the setbacks therein specified may be reduced if the Planning Commission determines that the characteristics of the surrounding property eliminate or substantially reduce considerations of scenic value. Whenever a setback reduction is proposed pursuant to this subsection, the setback reduction shall be included in all notices regarding the Conditional Use Permit, and, if granted, the Conditional Use Permit shall specifically state the required setback.

5. Safety and Security.

- a. Fencing, or other appropriate measures, shall be required to prevent unauthorized access to the WECS or WECS array.

3 VISUAL ENVIRONMENT OF THE PROJECT

3.1 Methodology

The following section describes the methodology used to document the existing visual resources within the Project area and describes the regional setting, Project site, surrounding area, and viewer groups provided views to the Project site. Existing sources of lighting and glare are also identified.

The visual resource inventory focused on visual resources, viewer groups, and views that could be potentially affected by construction and operation of the Project. Because CEQA has no established guidelines for conducting visual resource inventories, the methodology used in this study is loosely based on the process established by the Bureau of Land Management's (BLM) Visual Resource Management (VRM) System. The inventory for visual resources considered the existing visual character of the landscape within the context of the regional setting, Project site, and surrounding area, viewers groups, and KOPs within the Project area. These concepts are described in detail as follows.

Visual character is defined by descriptive attributes in the landscape. Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with development, such as massed structures, roads, utilities, earthworks, and the results of other concentrated human activity. The perception of visual character can vary significantly seasonally, and even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic elements used to describe visual character for most visual assessments are the form, line, color, and texture of landscape features. The appearance of the landscape is described in terms of the dominance of these components.

Viewer groups consist of individuals that frequent public viewpoints in the Project area. The three viewer groups identified in the Project area are motorists, residents and recreationist. For each viewer group, sensitivity to visual change is identified and is based on type of use, volume of use, duration of use, expected concern for aesthetics, and special status or designation of roadways or recreational areas. Viewer groups and potential viewing locations were initially identified during a desktop study of the Project area. Photographs from potential viewing locations to the Project site were taken during a field visit conducted by Dudek on January 23, 2018. Photographs were taken in the Project area between 11:00 a.m. and 2:30 p.m., and the

weather was warm (approximately 75°F). Visibility was clear. Photographs toward the Project site were taken from sensitive viewing areas, scenic areas/corridors, local roads, and other locations that offered representative views of the Project area. Photographs were taken with a location services-enabled iPhone 6s.

KOPs were selected as representative vantage points in the landscape offering viewer groups views to the Project site. Factors considered in the selection of KOPs included proximity to the Project site, angle of observation, volume of viewer, and length of time the Project is in view.

3.2 Regional Setting

The Project is located in northwestern Coachella Valley, approximately 2.2 miles north of the I-10 and SR-62 interchange and approximately 6 miles from the downtown area of the City. The Project site is located within the western extent of City boundaries. Coachella Valley is approximately 15 miles wide and 45 miles long and stretches from approximately SR-62 on the west to the Salton Sea on the east. The San Jacinto Mountains and the Santa Rosa Mountains abut Coachella Valley on the west and south, and the San Bernardino Mountains and Little San Bernardino Mountains border Coachella Valley on the north and west.

The flat to gently rolling terrain of Coachella Valley is regularly crossed by watercourses. More specifically, numerous washes and streams traverse the Coachella Valley floor; however, the washes and streams are typically dry throughout the year. Traveling east and south from Coachella Valley, the flat to gently rolling terrain climbs and creates low foothills that eventually rise to become rugged, jagged slopes and peaks of surrounding mountain ranges.

Cultural modifications in the Project area include residential development, energy development, and roadway infrastructure. Rural residential development is located to the south and east of the Project site (west of SR-62), and planned residential neighborhoods are located approximately 2 miles to the northeast along Pierson Boulevard. Numerous wind turbine developments are located east and west of the SR-62 corridor and north and south of the I-10 corridor in the western extent of Coachella Valley. In addition, relatively small photovoltaic solar installations are installed to the east of SR-62, to the south of Dillon Road, and to the north and south of I-10, near the North Indian Canyon Road interchange. Power generated by wind and solar facilities are transmitted to local electrical substations, including SCE's 500-kilovolt Devers Substation (located east of SR-62 at Powerline Road and Oasis Drive). The CPV Sentinel Energy Project, a large 850 MW natural gas fired electrical generating facility, is located adjacent to SCE's Devers Substation. Lastly, roadway infrastructure including SR-62, I-10, and local paved and dirt roads traverse the Project area and provide local access to residential areas and energy facilities.

3.3 Project Site

The approximately 160-acre Project site is immediately bounded by primarily undeveloped land to the north, south, west, and east. Dirt access roads including Oleander Drive, Super Creek Road, and Painted Hills Road are located to the east and south of the Project site. Primary access to the Project site would continue to be provided through an existing private dirt access road off Windhaven Road. The Project site is located on Assessor Parcel Number 667-160-001. SR-62 is located approximately 0.70 miles to the east of the Project site (see Figure 1).

The Project site encompasses sloping terrain and relatively low ridgelines traversed by dirt access roads and topped with three parallel rows of wind turbines. Approximately 69 wind turbines are located on sloping terrain and atop a low ridgeline located in the eastern portion of the Project site. Predominant wind turbine features include three approximately 40-foot-long blades attached to a whitish or greyish nacelle supported by a tall, approximately 75-foot-high greyish steel tower. Each row of wind turbines is accessible through a linked system of north-south dirt access roads. While most of the existing wind turbines are still in operation and currently produce energy, the turbines are old (many have been in operation for roughly 30 years) and less efficient than current wind turbine technology. The existing wind turbines are also generally reaching the end of their intended lifespan.

The Project site is currently highly developed with wind turbines, associated access roads, and an electrical distribution line. The Project site is covered with tan soils and speckled with small rocks and boulders. Tufts of low golden grasses and low, mounded, and drab scrub shrubs are scattered throughout the Project site.

Photos of the Project site are included on Figure 3, Existing Visual Conditions: Project Site.

3.4 Surrounding Area

The area surrounding the Project site consists of existing wind turbine developments, rural residential development, undeveloped desert and mountainous terrain, planned residential development, electrical substations, a natural gas fired electrical generating facility, power lines, roadway infrastructure, and solar development.

Existing wind turbine developments are generally located to the southeast, south, southwest, and west of the Project site. As with wind turbines on the Project site, wind turbines in the surrounding area are typically installed in linear rows that are connected by dirt access roads that traverse the Coachella Valley floor. An assortment of makes and models of wind turbines are present in the surrounding area, including wind turbines supported by tall, tubular, greyish-white colored towers and wind turbines supported by shorter steel-lattice towers. Wind turbines are

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generally installed on the flat Coachella Valley floor or elevated mesas; however, several larger wind turbine towers (including several located on the Project site) are installed on sloping terrain. Existing wind turbine development in the surrounding area is illustrated on Figure 4 (see Photographs A and B).

The unincorporated Painted Hills community is located west of SR-62 and east and south of the Project site. The community consists of approximately 60 primarily single-story single-family residences accessible through SR-62 and Painted Hills Road/Old Morongo Road. The residences tend to be concentrated along Old Morongo Road and display a range of styles and building materials. While residences are typically visible from Old Morongo Road, others are partially obscured by desert shrubs and landscaping (see Figure 4, Photographs C and D). An additional residential neighborhood is located approximately 0.60 miles to the northeast of the Project site (see Figure 5, Photographs E and F). Approximately 45 residences compose the neighborhood that is accessible through Pierson Boulevard and Salton View Road. In addition to one- and two-story homes on properties featuring moderate to minimal landscaping (primarily trees), vacant and undeveloped properties are scattered throughout the neighborhood.

An additional rural residential community, Bonnie Bell, is located approximately 2 miles west of the Project site. The small, unincorporated community is located adjacent to the braided and vegetated Whitewater River and within a relatively narrow canyon bordered by rising terrain to the east and west. Residential development consists of single-story structures on properties featuring fencing and landscaping, including tall palm and pine trees. The approximately 15 homes within the community are accessible from I-10 through Whitewater Canyon Road.

The nearest planned residential development is located off Pierson Boulevard and approximately 2 miles to the north of the Project site. The Skyborne residential neighborhood is marked by a series of tall, rectangular, tile and stone-decorated signs supported by a collection of stacked rocks (see Figure 5, Photograph F). The signs are installed in a circular pattern that borders the main entry roundabout located off Pierson Boulevard. The single-family residential neighborhood is gated and surrounded by approximately 6-foot-high concrete masonry unit walls that are setback from Pierson Boulevard and Skyborne Drive. Desert landscaping is also installed along the southern and western boundaries of the neighborhood.

Electrical substations and power lines are scattered throughout the Project area. For example, two substations associated with wind turbine developments are located to the south of the Project site (see Figure 5, Photograph G) and tend to contribute to the developed character of the Project area landscape. East of SR-62 and near Diablo Road, SCE operates two electrical substations. The larger of the two, the 100-acre, 500-kilovolt Devers Substation, contains a vast assortment of metallic bays and racks and incoming and outgoing electrical lines. The smaller substation, West

of Devers, is located west adjacent to the Devers Substation. The West of Devers Substation is approximately 5 acres in size and similarly features an assortment of tall and tubular steel poles, thin power lines, low cylindrical tanks, and a single one-story, rectangular building. Both the Devers and West of Devers Substations are lined by 6-foot-high chain-link fencing around the facility boundaries. Lastly, the CPV Sentinel Energy Project is located adjacent to SCE's Devers Substation. Notable visual features of the facility include four approximately 60- to 75-foot-tall cylindrical tanks (diameters of 115, 70, 70, and 70 feet, respectively), a long, two-story operations building, and eight approximately 90-foot high cylindrical exhaust stacks that support the eight natural gas-fired combustion turbine generators.

3.5 Viewer Groups

Motorists

Motorists are the largest viewer group by volume that are provided views to the Project site. Included in this group are travelers on SR-62, I-10, Dillon Road, Pierson Boulevard, Old Morongo Road/Painted Hills Drive, and numerous local roadways. Due to the presence of mountainous terrain surrounding the Coachella Valley, SR-62, I-10, and local roads provide opportunities for occasionally long and broad scenic views of the Coachella Valley landscape and mountain peaks.

Designated scenic roads in the Project area are depicted on Figure 6, Scenic Roads in the Project Area. Existing views toward the Project site from roads adjacent to SR-62, Pierson Boulevard, Old Morongo Road/Painted Hills Drive, and Seely Road are included on Figures 7A and 7B.

SR-111 is also located in the Project area; however, due to distance from the Project site and intervening wind turbine development and terrain, the Project site is indiscernible in views from the westbound travel lanes of the highway. Therefore, SR-111 and views from SR-111 are not further considered in this analysis.

SR-62

A four-lane, divided highway, SR-62 provides local access to the desert communities of Morongo Valley, Yucca Valley, and Twentynine Palms from I-10. Approximately 20,000 vehicles travel on SR-62 daily between the I-10 interchange and Pierson Boulevard to the north (Caltrans 2018b). In Riverside County, SR-62 is an officially designated state scenic highway (Caltrans 2018a). Due to the scenic designation, motorists on SR-62 are considered highly sensitive to changes in the visual landscape. The SR-62/I-10 interchange is located approximately 2.2 miles south of the Project site. From northbound SR-62, the Project site is generally visible between Dillon Road to approximately 0.65 miles south of Pierson Road (a distance of approximately 1.85 miles). From southbound SR-62, the Project site is within the

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normal (i.e., non-peripheral) field of vision of motorists from approximately Mission Creek Road to Fairview Road (approximately 2.7 miles). Existing views from the state highway near the Project area are generally open but occasionally obstructed by tall, yet isolated, shrubs and trees that are scattered along the corridor. Wind turbine development in the Coachella Valley (including wind turbines on the Project site) are visible from both north- and southbound SR-62; however, views from the southbound travel lanes are long and wide and encompass a significant portion of development along the I-10 corridor.

Due to safety concerns associated with vehicles traveling at high speeds on the highway, photographs toward the Project site were not taken from SR-62; however, photographs were taken from Salton View Road (parallels SR-62 on the west; see Figure 7A, Photograph A) and Worsley Road (parallels SR-62 on the east; see Figure 7A, Photograph B). Due to their proximity to the state highway, the photographs approximate the quality of views from SR-62 toward the Project site.

I-10

An eight-lane, east–west interstate, I-10 provides access to the regional highway network, including I-215 and SR-111 and SR-62. At its nearest point, the Project site is located approximately 2.2 miles south of the eastbound travel lanes of I-10 at the SR-62 interchange. According to the California Department of Transportation annual average daily traffic (ADT) counts, approximately 87,000 vehicles travel on I-10 between the SR-62 north junction and Indian Canyon Drive each day (Caltrans 2018c). I-10 is not a state-designated scenic highway, but the portion of the interstate within the City of Palm Springs boundary (i.e., between SR-111 and Whitewater Canyon Road and Diablo Road and North Gene Autry Lane) is a designated city-wide scenic corridor (City of Palm Springs 2007; see Figure 9-4, Citywide Scenic Corridors and Enhanced Landscape Streets). Therefore, motorists on I-10 are considered highly sensitive to changes in the visual landscape. The Project site is not within the normal field of vision of eastbound travelers on I-10. From westbound I-10 generally between North Indian Canyon Drive and the Wall Road bridge spanning the interstate, the Project site is indistinct, and existing wind turbines are not difficult to detect. Wind turbines located in closer proximity to the interstate are visually prominent along this segment, and wind turbines in the middle-ground viewing distance (i.e., between 0.5–4 miles away from the observer) are inconspicuous.

Because wind turbines on the Project site are inconspicuous in northwesterly views from westbound I-10, photographs from the interstate are not provided.

Dillon Road

A paved, east–west, two-lane road, Dillon Road runs perpendicular to SR-62 and generally parallels I-10 through the Coachella Valley. Near the Project area, Dillon Road is classified by the City as a Major Arterial. Current traffic counts for Dillon Road are not available; however, in their 2015 Traffic Census Report, the Coachella Valley Association of Governments listed the ADT on the road west of North Indian Canyon Drive as 2,318 vehicles (CVAG 2015). While Dillon Road is identified as an “entry to the community” in the City’s General Plan, the road has not been designated scenic by the City. Therefore, motorists on Dillon Road are considered moderately sensitive to changes in the visual landscape.

While eastbound motorists are not provided views to the Project site, westbound motorists on Dillon Road, generally east of North Indian Canyon Drive, are provided views. Wind turbines on the Project site are detectable in views from Dillon Road west of Valley View Drive (approximately 1.8 miles away) but due to distance and scale, the features are not visually prominent. Further, on the approach to SR-62, numerous tall and visually prominent wind turbines are located to the west and tend to command the attention of westbound Dillon Road motorists.

Pierson Boulevard

A paved, east–west, two-lane road, Pierson Boulevard parallels Dillon Road for approximately 6 miles and provides local access from SR-62 to the City’s downtown. East of SR-62 Pierson Boulevard is classified as a Major Arterial (City of Desert Hot Springs 2000). In 2015, ADT on Pierson Boulevard (west of Palm Drive) was 4,771 vehicles (CVAG 2015). Similar to Dillon Road, Pierson Boulevard is identified as an “entry to the community” in the City’s General Plan; however, the road has not been designated scenic by the City. Therefore, Pierson Boulevard motorists are considered moderately sensitive to changes in the visual landscape.

Westerly views from the westbound travel lanes of Pierson Boulevard are generally open; however, an existing transmission corridor parallels the southern side of the road. As a result, tall and thin support poles are regularly installed along the road. Tall and arching traffic light poles are occasionally installed on Pierson Boulevard. The Project site is visible from Pierson Boulevard; however, the greyish poles support whitish nacelles and blades that are viewed against the backdrop of darkly colored mountainous terrain.

An existing view from Pierson Boulevard at SR-62 toward the Project site is provided on Figure 7B.

Worsley Road

Worsley Road is a paved, two-lane north–south road that parallels SR-62 from I-10 north to North Indian Canyon Drive. Classified as a Major Collector by the City’s General Plan, the 2015 ADT on Worsley Road south of Pierson Boulevard was 176 (CVAG 2015). While views to mountainous terrain including San Jacinto Peak and San Gorgonio Mountain are available, Worsley Road is not designated scenic by the City. Therefore, motorists on the road are considered moderately sensitive to changes in the visual landscape.

Westerly views to the Project site from Worsley Road are typically open and unencumbered by intervening features. Tall trees installed adjacent to SR-62 occasionally obstruct views; however, these features are relatively limited along the corridor. Worsley Road is located at a lower elevation than the SR-62 travel lanes; however, because the Project site encompasses sloping terrain, highway vehicles do not block the Project site from view. Existing wind turbines are viewed against the backdrop of tan colored mountainous terrain, and as a result, the thin, lightly colored line displayed by support poles is somewhat muted in views.

An existing view from Pierson Boulevard at SR-62 toward the Project site is provided on Figure 7B.

Old Morongo Road

A paved, unmarked, two-lane road that provides local access from SR-62 to the Painted Hills residential community and wind turbine developments, Old Morongo Road is located south of the Project site. Old Morongo Road and local area residences located west of SR-62 are outside of the City’s sphere of influence. Therefore, the residences are located on unincorporated County of Riverside lands. Old Morongo Road is not designated scenic by the County of Riverside (County of Riverside 2015) and is expected to experience low daily viewer volume. Therefore, Old Morongo Road motorists are considered to be moderately sensitive to changes in the visual landscape.

Views to the existing wind turbines on the Project site from Old Morongo Road range from unobscured to partially obscured views. Utility poles and landscape trees are occasionally installed to the north of the road; however, these features tend to be thin and do not substantially block Project site wind turbines from view. Both the light color and line displayed by nacelles and blades is visible, and towers also appear light in color from Old Morongo Road. As motorists travel west on the road, terrain to the immediate south of the Project site partially screens wind turbine components from view. In addition to wind turbines on the Project site, wind turbine developments are located to the south and west of Old Morongo Road and are commonplace in views.

In addition to Photographs C and D on Figure 4, existing views from Old Morongo Road to the Project site are provided on Figure 7C.

Residents

As previously described in Section 3.4, Surrounding Area, residential development within the Project area consists of planned and dispersed rural residential communities and planned residential neighborhoods. The rural residential communities located closest to the Project site, Painted Hills and Bonnie Bell, are located on unincorporated County of Riverside lands. Located on Pierson Boulevard approximately 2 miles from the Project site, the Skyborne residential development is within the City limits.

While considered private, views from residences in Painted Hills to the Project site range from open and relatively unencumbered to partially screened. For example, Painted Hills homes located to the northeast, east, and southeast of the Project site are generally provided clear views to existing wind turbines; however, private yard landscaping may hinder the length of available views from private property. Hilly terrain to the immediate south of the Project site partially screens the easterly and lower elevation rows of wind turbines from views of residences to the south. Existing views from residences in the Painted Hills community are similar to those provided on Figure 4 (see Photographs C and D), Figure 5 (see Photograph E), and Figure 7C. Due to their familiarity with the landscape and proximity, residents of Painted Hills are considered highly sensitive to changes in the visual environment.

Due to intervening terrain and dense vegetation associated along the Whitewater River corridor, the Project site is not visible to residents in the community of Bonnie Bell.

Views from the Skyborne residential development to the Project site are relatively distant, and existing wind turbines are difficult to detect. Private yard landscaping is commonplace on properties within the development and tends to limit the length of westerly views from backyards and shared community spaces. Further, wind turbines are viewed against the backdrop of mountainous terrain that routinely casts dark shadows on slopes and canyon, making it difficult to detect the greyish wind turbine towers. Due to distance, screening elements, and diminished visibility to the Project site, residents of the Skyborne neighborhood are considered to have moderate to low sensitivity to changes in the visual environment.

Recreationists

Palm Springs Aerial Tramway and Mount San Jacinto State Park

The Palm Springs Aerial Tramway travels over 2.5 miles from Valley Station (elevation 2,643 feet) in the foothills of the San Jacinto Mountains to Mountain Station at an elevation of 8,516 feet. The tramway travels along and among the cliffs of Chino Canyon. Tramway parking lots are located at the terminus of Tram Way in Chino Canyon and approximately 7 miles southeast

of the Project site. The tramway and Mountain Station (located approximately 9.3 miles from the Project site) is a major gateway to Mount San Jacinto State Park and State Wilderness, Santa Rosa and San Jacinto Mountains National Monument, and San Bernardino National Forest. These areas provide recreational opportunities including hiking, camping, and guided nature walks in the summer and cross-country, skiing, snowshoeing, and snow camping in the winter (Palm Springs Aerial Tramway 2018).

Due to the prominent vantage point available to viewers and the seemingly unbounded views available from the Mountain Station observation deck and prominent peaks in the state park, these views are considered scenic vistas for purposes of this analysis. Regarding the Project site, with the exception of the views from tramcars, Mountain Station observation deck and prominent peaks in the state park and state wilderness areas, views to the Project site from recreational areas including trails, picnic areas and campgrounds within the state park and state wilderness boundary are completely obstructed by intervening terrain and vegetation. Views from tramcars, observation decks, and prominent peaks are partially obstructed by intervening terrain or vegetation.

Approximately 18 million visitors have taken the 2.5-mile journey on the tramway since its opening in 1963 (Palm Springs Aerial Tramway 2018). There are also two restaurants, observation decks, a small history museum, and two theatres at Mountain Station. Due to year-round use of the tramway and state park, volume of visitors, federal and state designations, and availability of superior views of the Coachella Valley and points beyond, recreationists/visitors to the Mountain Station observation decks highly sensitive to changes in the visual landscape.

An existing view from the tramway and Mountain Station observation deck toward the Coachella Valley floor, the SR-62 corridor, and mountainous terrain to the north is provided on Figure 8.

3.6 Lighting and Glare

Existing sources of lighting in the Project area primarily consist of exterior and interior lighting on rural residential properties in the community of Painted Hills and residences in the City. The larger wind turbines in the Project area, including several installed east of SR-62 and along the I-10 corridor, are affixed with required FAA obstruction lighting that pulses a red light during the night and early morning hours. In addition, commercial and industrial business along the I-10 corridor near the North Indian Canyon Drive interchange contribute nighttime lighting to the existing visual environment as does development in the City's downtown and other nearby communities (e.g., Cathedral City, Thousand Palms).

With the exception of lighting previously described and sources of glare commonly associated with residential development (i.e., glass, metal building materials) that is generally concentrated

along Old Morongo Drive and Pierson Boulevard, sources of glare in the Project area are generally limited. Two operating solar installations are located north of I-10, west of North Indian Drive, south of Dillon Road, and east of SR-62. These single-axis panel facilities may generate localized glare throughout the day that could be temporarily experienced by I-10 and Worsley Road motorists. In addition, the solar installation located on Worsley Road may generate glare capable of being received during afternoon hours by a limited number of residents located on elevated terrain to the west of SR-62 and south of Seeley Road.

4 ENVIRONMENTAL IMPACTS

4.1 Visual Resource Impact Methodology

The purpose of this study is to assess the potential visual impacts resulting from construction and operation of the Project. In this analysis, visual impacts and change to the existing landscape is described in terms of visual contrast. As described in the BLM's Handbook H-8431-1, Visual Resource Contrast Rating, the VRM System analysis stage involves comparing Project features (i.e., landform, vegetation, and structures) in the existing landscape using the basic design elements of form, line, color, and texture (BLM 1986). More specifically, at each sensitive viewing location for the identified viewer groups, visual change is described and assessed and the anticipated degree of contrast (i.e., none, weak, moderate, and strong) is disclosed. The following general criteria are used by the BLM when rating the degree of contrast:

- None: The element contrast is not visible or perceived.
- Weak: The element contrast can be seen but does not attract attention.
- Moderate: The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- Strong: The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

Consistent with the BLM's VRM System, factors considered in determining degree of contrast include distance, angle of observation, view exposure, relative size or scale, and spatial relationships.

4.1.1 Photographic Simulations

Photographic simulations that depict the Project and potential visual change to the landscape were created from three KOPs. The simulations were used to illustrate the level of contrast associated with implementation of the Project and help determine the significance of anticipated visual change. The simulations include existing site photographs as background images and true-

scale 3-D models for the proposed solar facilities rendered onto the existing photographs. The photographs were taken during the January 2018 field visit from KOPs. The selection of KOPs was conducted by Dudek following the field visit. KOPs include the following three locations:

- KOP 1: Pierson Boulevard (also approximates views from SR-62)
- KOP 2: Worsley Road (also approximates views from SR-62)
- KOP 3: Old Morongo Road (also approximates views from nearby residential uses)

The location of the three KOPs is illustrated on Figure 9, Key Observation Points.

4.2 Visual Resource Impact Analysis

4.2.1 Project Visibility and Contrast from Travel Routes, Residences, and Recreational Areas

Motorists

SR-62

Outside of the foreground viewing distance (i.e., greater than 0.5 miles from the Project site), the removal of existing wind turbines on the Project site would largely be seen by SR-62 motorists as a reduction in dark vertical lines protruding from the local mountainous terrain. While the scale and color of the four new turbines to be installed would be greater and lighter than existing wind turbines on the Project site, the visual clutter and line contrast associated with the approximately 69 existing and outdated wind turbines would no longer be experienced by motorists. In addition, details of new wind turbines would be difficult to discern from more distant locations on the highway and would not generally attract the attention of motorists located greater than 1 mile from the Project site.

As proposed, up to four three-bladed, upwind, horizontal-axis wind turbines would be installed on the Project site's low north-south ridgeline. The increased scale and color contrast associated with the new turbines would be most apparent to highway motorists prior to the SR-62 paralleling the site's eastern boundary. As viewed from the approach to the site on SR-62, new wind turbines atop a low but elevated ridgeline would attract attention. In addition, turbine tower segments, nacelles, and circulating blades would rise above the dark background terrain and be viewed against the backdrop of the sky. Even from these relatively close viewing locations, overall contrast associated with wind turbine removal and replacement would be somewhat subdued. New wind turbines would be installed where existing turbines have operated and marked the landscape for years. Up to four modern wind turbines would replace the approximately 69 existing wind turbines on the

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Project site and would result in reduced visual clutter and line contrasts. Further, new wind turbines would generally display a similar tall form, vertical line, and white color as existing wind turbine development in the area. Existing wind turbine developments are located to the south of the Project site and to the east of the SR-62 corridor. Wind turbine development contributes to and tends to dominate the existing visual character of the Project site and surrounding Coachella Valley landscape. For example, from the southbound lanes of the highway (south of Little Morongo Canyon), visible wind turbine development along the I-10 corridor dominates views of the Coachella Valley floor. Therefore, when viewed from SR-62, visual contrast associated with the Project would be weak to moderate.

A photograph illustrating an existing southwesterly view toward the Project site from Pierson Boulevard at SR-62 is provided as Figure 10A. A visual simulation of the Project from the same location is included as Figure 10B. While not located on SR-62, KOP 1 (i.e., Pierson Boulevard at SR-62) approximates a view from SR-62 to the Project site from approximately 2 miles away. KOP 2 (Worsley Road) also approximates the existing view and simulated view of the Project from a closer location on SR-62. Figures 11A and 11B depict the existing and simulated view of the Project site and Project as viewed from Worsley Road.

I-10

As stated in Section 3.5, the Project site is not visible from eastbound I-10, and from westbound I-10, existing wind turbines on the Project site are inconspicuous in views to the northwest. At Diablo Road, the Project site is nearly 3 miles away from westbound interstate motorists, and due to intervening terrain that rises to the north of the interstate, the Project site is not generally visible to westbound motorists west of Diablo Road. East of Diablo Road, the removal of the existing turbines from the Project site would create weak visual contrast as the lattice towers and white nacelles and blades of existing wind turbines are not visually prominent in views from the westbound travel lanes. In addition, and due to closer proximity, modern wind turbines installed to the south of the interstate and south of Dillon Road to the north tend to attract the attention of motorists. While the new turbines would display greater scale and a lighter color than existing wind turbines on the Project site, the color and apparent scale of new wind turbines would be muted and seemingly reduced by distance. Therefore, anticipated visual change related to form, line, and color on the Project site as experienced from I-10 would create overall weak visual contrast.

Dillon Road

The Project site is not visible in the normal field of vision of westbound motorists, and therefore, this analysis focuses on anticipated visual contrast as experienced from eastbound Dillon Road.

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Existing electrical transmission and distribution infrastructure, antiquated and modern wind turbine development, and rural residences mark the existing landscape as viewed from westbound Dillon Road. The Project site is detectable in existing views from the road but operable and modern wind turbines installed to the north of the road routinely obscured existing wind turbines on the Project site from view. In addition, the comparatively short form of wind turbines on the Project site in relation to more proximate wind turbines makes them relatively inconspicuous in existing views from east of Diablo Road. West of Diablo Road, wind turbine development to the north of Dillon Road is noticeably reduced and is replaced by scattered single-family residences atop flat to slightly elevated terrain. Therefore, when viewed from west of Diablo Road, the removal of the existing wind turbines on the Project site would be visible to westbound motorists but would produce relatively weak visual contrast. Despite the elevated terrain of the Project site, distance between Dillon Road and the Project site reduces the apparent scale of wind turbines. In addition, the greyish color of towers supporting existing nacelles tend to be muted by distance and obscure by the dark mountainous terrain that forms the backdrops to existing views toward the Project site.

The taller form and brighter color of the new turbines on the Project site would enhance the visibility of these features as compared to existing turbines; however, new wind turbines would display similar form, color, and line as wind turbine development present in existing views. The Project would essentially extend the characteristics (i.e., tall form, vertical line, and light color) of visible wind turbines to the west to the Project site and would result in overall familiar visual effects on the landscape. Due to the pervasiveness of existing wind turbine development in existing westerly views from westbound Dillon Road and because the visual characteristics of the Project would be similar to the characteristics of wind turbines present in existing views, anticipated visual contrast as experienced from Dillon Road would be weak.

Pierson Boulevard

As stated in Section 3.5, the Project site is visible from the westbound travel lanes of Pierson Boulevard; however, due to distance, existing wind turbines are difficult to detect east of Skyborne Drive. At Skyborne Drive, the Project site is located 2 miles away, and the greyish towers supporting whitish nacelles and blades are viewed against the backdrop of darkly colored mountainous terrain. Due to the back screening of dark mountainous terrain, wind turbines on the Project site are not visually prominent. Wind turbines become more apparent in southwesterly views as motorists approach SR-62, and while the removal of existing wind turbines would reduce existing line contrasts associated turbine support towers, new wind turbines would create similar tall vertical lines on the Project site.

As viewed from Pierson Boulevard at SR-62 (1.1 miles from the Project site), the apparent scale of the four new wind turbines would be reduced. In addition, the new wind turbines would display similar form, line, and color as existing wind turbine development present in views. Installation of new and modern wind turbines with consistent characteristics as existing wind turbine development located in the surrounding area would help to create a consistent aesthetic of wind energy development in views from Pierson Boulevard. The white color of new turbines towers, nacelles, and blades would result in increased color contrast when the wind turbines are viewed against background mountainous terrain that is occasionally draped with shadows; however, the removal of the existing wind turbines and replacement with up to four new turbines would result in reduced line contrast and visual clutter. Overall visual contrast anticipated in views from Pierson Boulevard resulting from the Project would be weak.

A photograph illustrating an existing southwesterly view toward the Project site from Pierson Boulevard at SR-62 is provided as Figure 10A. A visual simulation of the Project from the same location is included as Figure 10B.

Worsley Road and Old Morongo Road

The visual effects of removal of all existing wind turbines and installation of up to four new wind turbines on the Project site would be most apparent from Worsley Road and Old Morongo Road. From both locations, the Project site is currently experienced as an elevated landform featuring the existing wind turbines. Removal of existing wind turbines would reduce visible form and line contrast on the Project site and would reduce the visual clutter currently displayed by existing development on the site. The site currently displays a chaotic assemblage of line and clutter that is heightened when rows of existing wind turbines are viewed in-line from the relatively proximate vantage points offered along segments of Worsley Road and Old Morongo Road. Following installation of up to four new, modern turbines, the spacing between each turbine would limit opportunities for a particularly cluttered appearance. Further, wind turbine spacing would improve the overall visual comprehension of the Project as viewers/motorists would experience a single row of up to four turbines that are generally located an equal distance from one another. The increased scale and brighter color of wind turbines would enhance the visibility of these features from Worsley Road and Old Morongo Road and would attract the attention of motorists; however, prominent mountainous terrain in the surrounding area (i.e., San Gorgonio Mountain and San Jacinto Peak) would continue to dominate views from these roads. Further, new wind turbines on the Project site would replicate the form, line, and color characteristics displayed by existing wind turbine development present in views from Worsley Road and Old Morongo Road. As such, new wind turbine development would display characteristics and create familiar visual effects as existing wind turbine development that is currently experienced by Worsley Road and Old Morongo Road motorists near the Project site.

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Therefore, anticipated visual contrast as experienced from Worsley Road and Old Morongo Road would be weak to moderate.

Existing and simulated views of the Project site and Project from Worsley Road are included on Figures 11A and 11B (KOP 2: Worsley Road) and Figures 12A and 12B (KOP 3: Old Morongo Road).

Residences

The visual contrasts anticipated to be experienced by Painted Hills area residences would be similar to those previously discussed for Worsley Road and Old Morongo Road. In addition to the contrasts previously described, required FAA obstruction lighting would be installed atop the permanent and temporary met towers and two to four of the new turbines. The obstruction lighting would operate during evening and nighttime hours and would likely consist of a pulsing series of red lights that would alert aircraft pilots to the presence of particularly tall objects. While the addition of pulsing red lightings to the wind turbines would represent increased color contrast compared to existing conditions, a number of existing modern wind turbines and met towers greater than 200 feet tall and located to the south and east of the Project site include required FAA lighting. Because a similar source of nighttime lighting currently operates in the area, the addition of a limited number of new lights is not anticipated to create strong contrast in the existing visual environment. Rather, the removal of the existing wind turbines and replacement with four new turbines would create weak to moderate visual contrast as viewed from residences in the nearby community of Painted Hills.

Recreationists

Palm Springs Aerial Tramway and Mount San Jacinto State Park

Because existing wind turbines on the Project site are not readily visible from the Palm Springs Aerial Tramway Mountain Station observation deck, the removal of the existing wind turbines would not result in perceptible visual contrast. The installation of up to four tall and lightly colored wind turbines would enhance the visibility of the features as viewed from the elevated vantage point offered at the Mountain Station observation deck. The new lightly colored wind turbines would be viewed against the tan colored Coachella Valley floor and surrounding terrain. Similar to existing wind turbines of similar form and color, the new wind turbines would stand out against the tan terrain prevalent in the existing landscape; however, as wind turbines are existing features in Coachella Valley landscape, including along the SR-62 corridor as viewed from the Mountain Station observation deck, the installation of up to four modern wind turbines on the Project site would not be visually prominent or attract the attention of viewers. Therefore,

resulting visual contrast would be weak to none. No visual contrast would be experienced at locations where the Project site is obscured from view by intervening terrain or vegetation/trees.

4.2.2 Nighttime Lighting and Glare

Similar to existing wind turbines and met towers taller than 200 feet in the surrounding area, the permanent and temporary met towers and two or more of the new wind turbines installed on the Project site would include FAA-required obstruction lighting. Due to the extent of wind turbine development in the Project area and along the I-10 corridor, the FAA obstruction lighting associated with these installations would create relatively weak color contrast. If the Project Applicant elects to install a new overhead collection line, the collection line (i.e., conductor) could potentially reflect inbound sunlight to create perceptible glare in the surrounding area. If installed, the new collection line would be supported by wood poles that would not generate glare.

Despite the installation of a new collection line, contrast associated with any glare generated by the line would be weak. In addition to an existing overhead collection line associated with the existing turbines that currently traverses the Project site, the Project area includes several distribution and transmission lines. These lines are construction of similar metallic materials at the potential new collection line. As such, the new collection line would not be a new source of substantial glare and the visual impacts associated with a new overhead collection line would be similar to those associated with the existing overhead collection line. In the event that the existing overhead collection line is not re-used for the benefit of the new turbines, it would be removed. Due to the number of existing transmission and collection lines in the area, including an existing collection line that traverses the Project site, the potential installation and operation of a new collection line supported by wood poles would create weak visual contrast.

4.2.3 CEQA Compliance

Guideline 1: Would the project have substantial adverse effect on a scenic vista?

Scenic views of the Coachella Valley and surrounding mountainous terrain in the area are available from regional and local roads including SR-62, Dillon Road, Worsley Road, and Old Morongo Road. In addition, scenic and superior angle views of the Coachella Valley landscape are available from the Palm Springs Aerial Tramway Mountain Station observation deck and Mount San Jacinto State Park.

The removal of the existing, antiquated wind turbines and the installation and operation of up to four new modern turbines on the Project site would be visible from regional and local roads, including but not limited to SR-62, Dillon Road, Worsley Road, and Old Morongo Road. A tall

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crane would be located on the Project site during construction and would be used to disassemble existing wind turbines and lift and install tower sections and other components associated with new wind turbines into place. The presence of a tall and potentially brightly colored crane on the elevated Project site would be apparent to SR-62, Worsley Road, and Old Morongo Road motorists in the area but would be less noticeable from more distant roadways, such as Dillon Road. Existing wind turbines on the Project site are difficult to detect in northwesterly views from Dillon Road due to distance and more prominent wind turbine development to the north and west of the road. As viewed from SR-62, Worsley Road, and Old Morongo Road, the presence of a crane on the Project site would be temporary and the thin, vertical to diagonal line displayed by the crane would not substantially affect existing scenic views from these roads. More specifically, the presence of a crane atop the low ridgeline on the Project site would be experienced briefly by motorists and tall, vertical components would not fully screen mountainous terrain from view or substantially degrade the quality existing views to these features. Because construction activities would not substantially interrupt or obstruct existing views of San Gorgonio Mountain (visible in views toward the Project site from northbound SR-62 and Worsley Road) or San Jacinto Peak (visible in views toward the Project site from southbound SR-62, Worsley Road, and Old Morongo Road), construction impacts would be less than significant.

New turbines would display thin vertical lines that would be regularly spaced on the Project site. Due to the regular space of wind turbine towers, viewing “gaps” to San Gorgonio Mountain would be available in northwesterly views from SR-62 and Worsley Road. The removal of existing wind turbines would also reduce the current cluttered appearance associated with multiple rows of wind turbines on the Project site. As northbound motorists approach and pass the Project site, the thin vertical lines displayed by existing wind turbines are continuously present in views toward San Gorgonio Mountain. Following removal of existing wind turbines from the Project site and installation of up to four new wind turbines, views to San Gorgonio Mountain from SR-62 and Worsley Road would be improved due to an overall reduction in wind turbines and creation of non-continuous vertical lines on the Project site. Removal of existing wind turbines and installation of up to four new wind turbines on the Project site would not substantially affect existing views of San Jacinto Peak from southbound SR-62 and Worsley Road. The Project site is not central in views to San Jacinto Peak from these roads (the Project site is located to the southwest and west and San Jacinto Peak is located to the south), and as such, Project activities would not obstruct or substantially interrupt or degrade existing views. The Project site is not visible in southerly views from Old Morongo Road toward San Jacinto Peak. Therefore, operation of the Project would not result in a substantial adverse effect on a scenic vista as experienced from regional and local roads, and impacts would be less than significant.

The Project site is visible from the Palm Springs Aerial Tramway Mountain Station observation deck and prominent peaks within Mount San Jacinto State Park. Due to distance, construction activities would not be readily apparent from the observation deck and in northerly views from prominent peaks in the state park. Further, the removal of the existing, antiquated wind turbines and installation of up to four new turbines and ancillary components on the Project site would not substantially affect the expansive and seemingly limitless views available from the observation deck and prominent peaks. Once constructed and operational, the height of new wind turbines would be difficult to discern from the elevated tramway and state park vantage points. The color of the new turbines would be brighter than the greyish lines displayed by existing turbines and would create noticeable color contrast when viewed against the prevalent tans of the Coachella Valley landscape. Despite enhanced visibility to wind turbines, overall visual contrast would be weak and new turbines would not attract attention in the superior angle views available from the observation deck and prominent peaks. The Project would be visually indistinct from other wind turbine development in the surrounding area and would not obstruct or substantially interrupt or degrade existing views. Lastly, new wind turbines would display an overall similar form and line as existing wind turbine development in the immediate area. Therefore, Project impacts to the expansive, scenic views of the Coachella Valley landscape available from the Palm Springs Aerial Tramway Mountain Station observation deck and prominent peaks within Mount San Jacinto State Park would be less than significant.

Guideline 2: Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

The Project would be visible from an officially designated scenic highway, but Project activities would not damage scenic resources including trees, rock outcropping, or historic buildings. Antiquated wind turbines are aligned in three parallel rows on the eastern portion of the 160-acre site. The immediate area surrounding the base of each of the approximately 69 existing wind turbines on the Project site has been cleared. Turbine rows are accessible via three, approximately 30-foot wide, dirt access roads that parallel the rows and are linked to one another. The existing turbines would be removed from these areas of previously linear disturbance and new turbines would be installed where the westernmost row of turbines currently operates on the Project site. Due to a taller form and larger tower sections, installation of new turbines would require additional disturbance around each tower base. In addition, during installation of new turbines, large cranes and other equipment would be located on the Project site and would be visible throughout the duration of construction; however, the inclusion of construction equipment in views from SR-62 toward the Project site would be temporary, and following construction, these elements would no longer be present in Project views. Due to the elevated ridgeline location of new wind turbines, disturbance of low grasses, and potentially

shrubs, near the base of new wind turbine towers would be largely screened from view of motorists on SR-62.

While antiquated, approximately 69 wind turbines are currently installed on the Project site. Further, an existing row of approximately 26 wind turbines are installed where up to four new modern turbines are proposed. Additional clearing and grading associated with tower installation along the ridgeline access road where the new wind turbines are proposed would generally be obscured from view of SR-62 motorists. Due to previous disturbance associated with the existing access road and wind turbines and the low angle view provided to highway motorists as they pass the Project site, the effects of clearing and grading would not be visually prominent or overly noticeable. As with existing conditions in which the vertical lines created by the approximately 69 wind turbines on the Project site interrupt views from northbound SR-62 to San Geronio Mountain and surrounding peaks, the installation of up to four new wind turbines would interrupt northwesterly views to the mountain. However, the Project would reduce the visual clutter present on the Project site and would substantially reduce the number of visible vertical lines in views toward the Project site and to San Geronio Mountain. Lastly, the view interruption associated with existing and proposed conditions is experienced by motorists over a relatively short duration, and uninterrupted views are available as northbound motorists pass the Project site. Therefore, the Project would not substantially damage scenery within a state scenic highway and impacts would be less than significant.

Guideline 3: Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?

As proposed, the Project intends to remove three parallel rows of antiquated wind turbines from the eastern portion of the 160-acre Project site and install up to four modern wind turbines in the same general location. A new collection line (or use of an existing line) between the Project site and the SCE-owned Venwind Substation and two meteorological towers (one temporary and one permanent) are also proposed. Existing wind turbines would be removed, and new turbines would be installed on an elevated Project site located in the Painted Hills area along the southern extent of the SR-62 corridor. In addition to rural residences that are located downslope to the south and east of the Project site, the existing landscape adjacent to the southern extent of the SR-62 corridor is marked by modern and antiquated wind turbine development. The new turbines proposed on the Project site would be approximately 500 feet tall as measured from ground to extended blade tip and would be noticeably taller than the antiquated wind turbines currently located on the Project site (existing wind turbines are approximately 100 feet high). Despite the increase in height and resulting scale contrast, the new turbines would be installed in a linear north-south row adjacent to the existing development access road. Further, new turbines would be installed at the same location (or immediately nearby) as existing wind turbines on the

Project site. In addition, the new turbines would generally display similar form, line, and color as existing wind turbines located to the south and east of the Project site in the Painted Hills area.

Construction and operation of the Project would be visible to motorists on local and regional roads, residences, and recreationists in the surrounding area. New wind turbines would be viewed in the context of existing wind turbine development and as previously detailed in Section 4.2.1, the removal of the existing wind turbines and installation of up to four modern turbines would reduce visual clutter on the Project site and result in relatively weak to moderate visual contrast from vantage points in the surrounding. Anticipated visual contrast as viewed from Pierson Boulevard at SR-62, Old Morongo Road, and Worsley Road is depicted on Figures 10A, 10B, 11A, 11B, 12A, and 12B. Also, due to past development of the site with wind turbines and ancillary facilities, the eastern portion of the Project site (i.e., where the existing turbines operate and new turbines would be installed) displays relatively low visual quality. Lastly, the Project site also does not support intact or particularly unique landforms and on-site vegetation is typical of vegetation on properties along SR-62 corridor.

The Project would create similar linear and vertical lines and visual patterns and would display similar characteristics as existing wind turbine development in the surrounding area. The removal of the existing wind turbines and installation of four modern turbines would create weak to moderate visual contrast and would not dominate the landscape. Further, the removal of numerous antiquated wind turbines on the Project site would reduce the volume of visual clutter on the elevated site and reduce existing line contrasts. Therefore, construction and operation of the Project would not substantially degrade the existing visual character or quality of the site and its surroundings, and impacts would be less than significant.

Guideline 4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Due to their height, the temporary and permanent met towers and two or more of the new wind turbines would be required to install FAA obstruction lighting. While design specifics are not yet known, obstruction lighting would operate during evening and nighttime hours and would likely consist of two slowly pulsing red lights atop the nacelle of each lighted wind turbine and at the top of each met tower. The obstruction lights would alert aircraft pilots to the presence of particularly tall objects on the Project site. The addition of slowly pulsing red lights atop new wind turbines installed on the Project site would represent increased color contrast when compared to existing conditions. Obstruction lighting would also be a regular source of nighttime lighting in the area that could be received at nearby residential properties. The closest residential property is located approximately 0.40 miles from the southernmost proposed wind turbine.

While obstruction lighting would operate near residential uses, wind turbine development is prevalent in the Painted Hills community, along the I-10 corridor, and along the southern segment of the SR-62 corridor. Modern wind turbine development is located atop prominent terrain to the south of the Project site and south of Marion Avenue. Tall and modern wind turbines characterize the Coachella Valley floor and I-10 corridor between SR-62 and North Indian Canyon Drive and two rows of tall wind turbines operate in the area east of Worsley Road and west of Diablo Road. Because existing wind turbine development near the Project site and the community of Painted Hills includes wind turbines with FAA-required obstruction lights, the addition of one temporary met tower, one permanent met tower and two to four new wind turbines with obstruction lights would not represent a new, previously unrepresented source of nighttime lighting. Due to the prevalence of existing wind turbine development in the Project area and existing occurrence of regular obstruction lighting during nighttime hours, new obstruction lighting associated with the Project is not anticipated to adversely affect existing nighttime views. Impacts would be less than significant.

Both the permanent and temporary met towers installed at the Project site will consist of steel lattice towers. At certain times of the day and depending on the angle of the sun and inbound light, these met towers could potentially reflect inbound sunlight and create perceptible glare in the surrounding area. However, several existing electrical distribution and transmission lines are located in the Project area (a high-voltage transmission corridor spans SR-62 and runs east to west along 16th Avenue through the Painted Hills community) and include similar latticed steel materials. In addition, the SCE-owned Venwind Substation is located approximately 0.70 miles south of the Project site and includes an assortment of metallic racks, bays, and other components. Given the installation of similar metallic objects in the Project site and Project area, metallic elements associated with the new temporary and permanent met towers would not adversely affect daytime views in the Project area, and impacts would be less than significant.

5 REFERENCES CITED

BLM (Bureau of Land Management). 1986. Manual 8431 – Visual Resource Contrast Rating.

Caltrans (California Department of Transportation). 2018a. List of eligible and officially designated State Scenic Highways (XLSX). <http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html>.

Caltrans. 2018b. 2016 Traffic Volumes for State Route 62. <http://dot.ca.gov/trafficops/census/volumes2016/Route60-70.html>. Accessed February 1, 2018.

Memorandum

Subject: Visual Resources Study for the Desert Hot Springs Wind Energy Repowering Project

Caltrans. 2018c. 2016 Traffic Volumes for Interstate 10. <http://dot.ca.gov/trafficops/census/volumes2016/Route7-10.html>. Accessed January 29, 2018.

City of Desert Hot Springs. 2000. City of Desert Hot Springs Comprehensive General Plan. Adopted September 5, 2000.

City of Desert Hot Springs. 2018. Municipal Code, Chapter 17.16, Industrial Districts. Accessed February 2018. <http://www.qcode.us/codes/deserthotsprings/>.

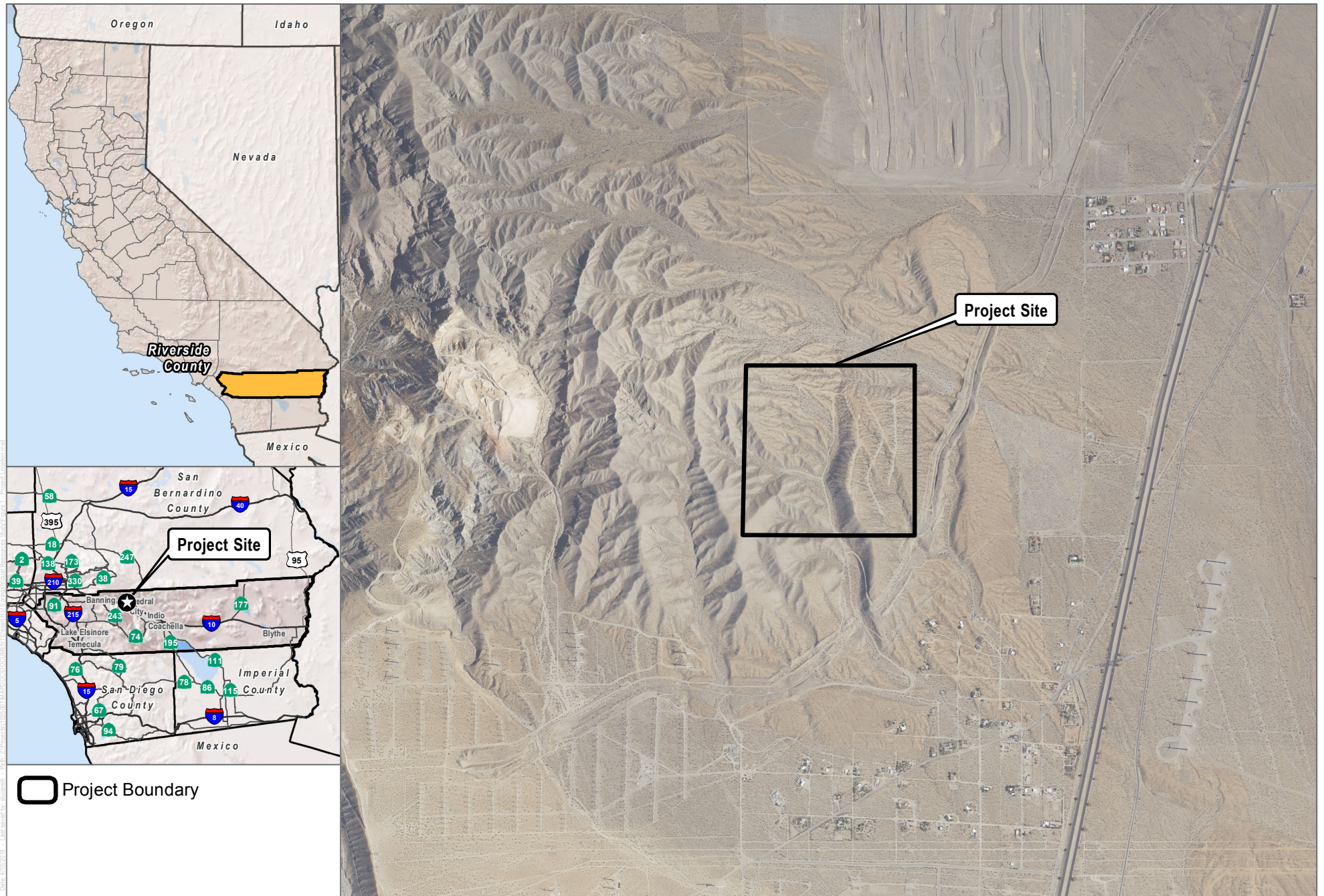
City of Palm Springs. 2007. City of Palm Springs General Plan Figure 9-4: Citywide Scenic Corridors and Enhanced Landscape Streets.

County of Riverside. 2015. County of Riverside General Plan Circulation Element. December 8, 2015.

CVAG (Coachella Valley Association of Governments). 2015. 2015 Traffic Census Report. Accessed online: <https://www.cvag.org/library.htm/>

FAA (Federal Aviation Administration). 2007. Advisory Circular AC 70/7460-1K: Obstruction Marking and Lighting. February 2007 iteration of AC 70/7460-1K.

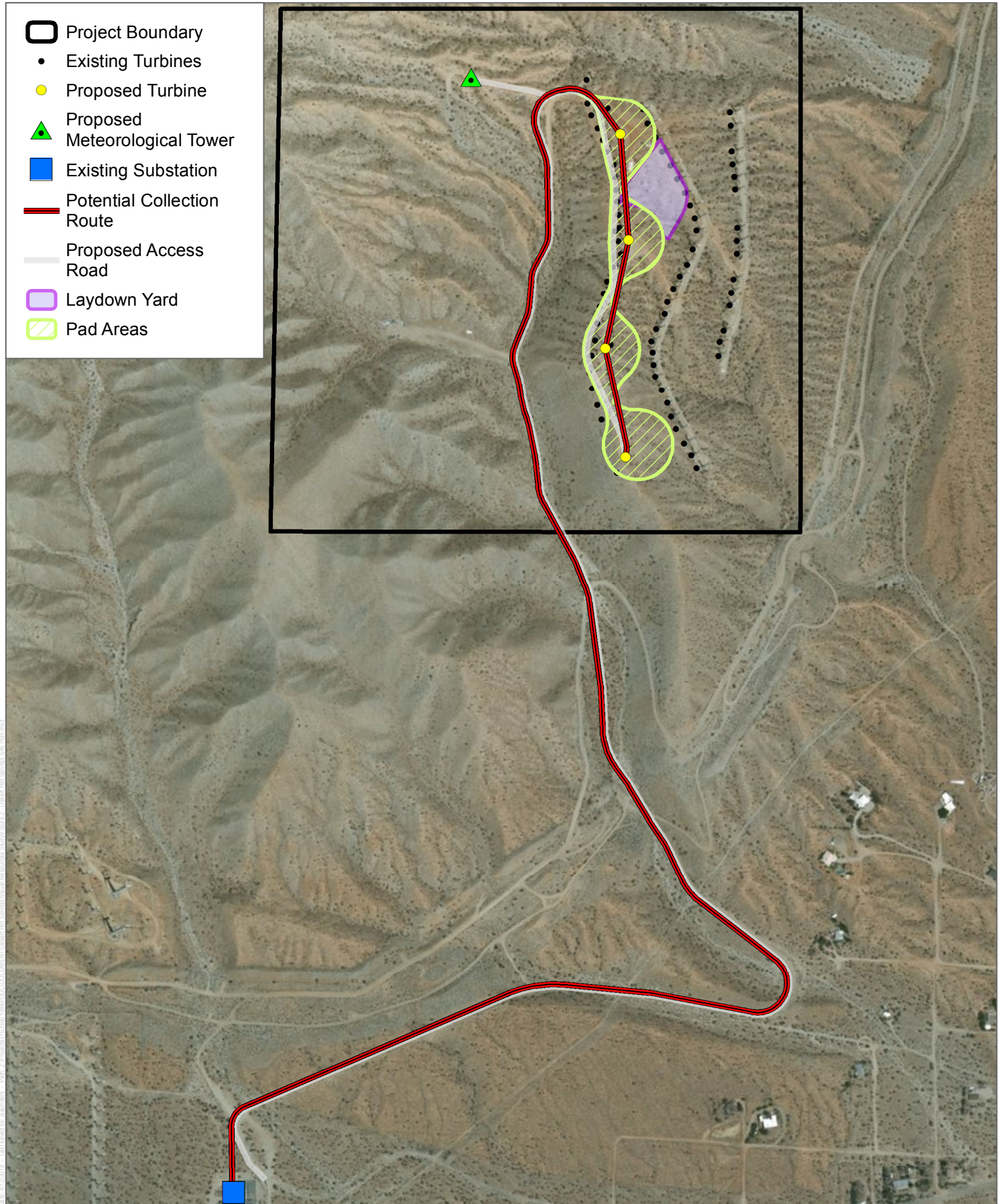
Palm Springs Aerial Tramway. 2018. “About Us – Palm Springs Aerial Tramway.” Accessed January 31, 2018. <https://www.pstramway.com/about-us/>.



SOURCE: NAIP 2016

FIGURE 1

Project Location



SOURCE: DigitalGlobe 2016

FIGURE 2
Site Plan



DUDEK

Existing Visual Conditions: Project Site

Desert Hot Springs Wind Energy Repowering Project



Photograph C: View north from Old Morongo Road towards residences and Project site



Photograph B: View from Windhaven Road east towards wind turbine development in western Coachella Valley



Photograph D: View northwest from Old Morongo Road towards residences and Project site



SOURCE: Dudek 2018

FIGURE 4

Existing Visual Conditions: Surrounding Area

Desert Hot Springs Wind Energy Repowering Project

Photograph E: View southwest from Pierson Boulevard towards residences and wind turbines on Project site



Photograph F: View northeast from Esparta Avenue towards residences



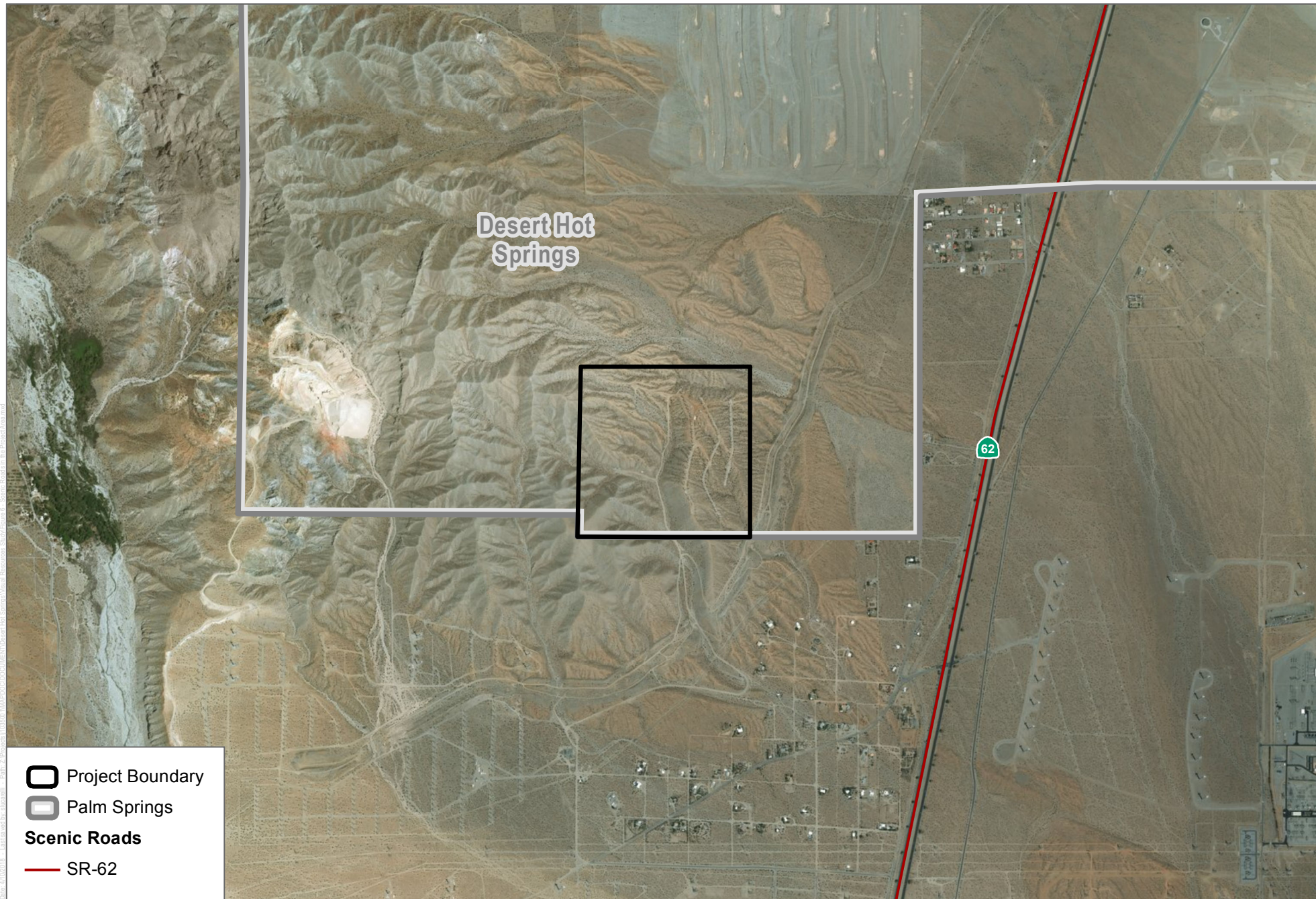
Photograph G: View northeast from Pierson Road towards main entrance to the Skyborne residential development



Photograph H: View south from Windhaven Road towards wind turbine development and small electrical substation



SOURCE: Dudek 2018



**View west from Salton View Road (approximate view from SR-62)
towards Project site (located approximately 0.65 mile away)**



**View southwest from Worsley Road near SR-62 towards
Project site (located approximately 1.2 miles away)**



SOURCE: Dudek 2018

**View southwest from Pierson Boulevard at SR-62 towards
Project site (located approximately 1 mile away)**



**View west from Worsley Road towards
Project site (located 0.75 miles away)**



SOURCE: Dudek 2018

View northwest from Old Morongo Road towards Project site (approximately 0.65 mile away)



View northeast from Old Morongo Drive towards Project site (approximately 0.65 mile away)

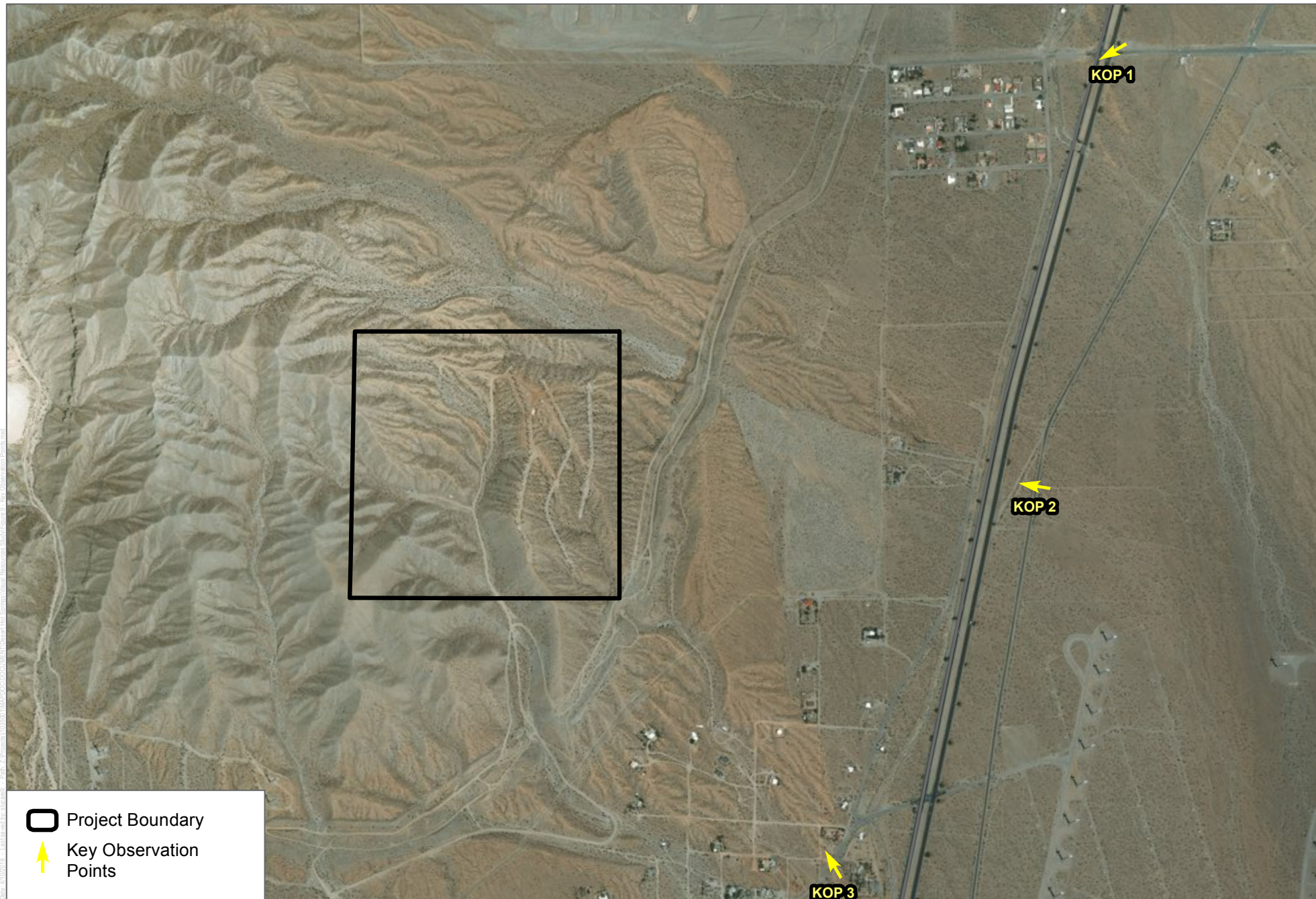


SOURCE: Dudek 2018

View northeast from Palm Springs Aerial Tramway Mountain Station towards Project site (located approximately 9 miles away)



SOURCE: Dudek 2018



SOURCE: DigitalGlobe 2016

FIGURE 9

Key Observation Points

Desert Hot Springs Wind Energy Repowering Project

Existing view from Pierson Boulevard at SR-62 southwest
towards Project site (2 miles away)



SOURCE: Dudek 2018

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FIGURE 10A

Key Observation Point 1: Pierson Boulevard

Desert Hot Springs Wind Energy Repowering Project

Visual simulation of Project



SOURCE: Dudek 2018

DUDEK

FIGURE 10B

Key Observation Point 1: Pierson Boulevard

Desert Hot Springs Wind Energy Repowering Project

Existing view from Worsley Road west towards
Project site (0.75-mile away)



SOURCE: Dudek 2018

DUDEK

FIGURE 11A

Key Observation Point 2: Worsley Road

Desert Hot Springs Wind Energy Repowering Project

Visual simulation of Project



SOURCE: Dudek 2018

DUDEK

FIGURE 11B

Key Observation Point 2: Worsley Road

Desert Hot Springs Wind Energy Repowering Project

Existing view from Old Morongo Road northwest towards
Project site (0.65-mile away)



SOURCE: Dudek 2018

DUDEK

FIGURE 12A

Key Observation Point 3: Old Morongo Road

Desert Hot Springs Wind Energy Repowering Project

Visual simulation of Project



SOURCE: Dudek 2018

DUDEK

FIGURE 12B

Key Observation Point 3: Old Morongo Road

Desert Hot Springs Wind Energy Repowering Project