2.12 Wildfire

This section describes the existing setting of the Project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the JVR Energy Park Project (Proposed Project). Potential wildfire impacts resulting from construction, operation, and decommissioning of the Proposed Project were evaluated based on a review of existing resources, technical data, and applicable laws, regulations, guidelines, and standards, as well as the following technical reports prepared for the Proposed Project:

- Fire Protection Plan – JVR Energy Park (Appendix N)
- Construction Fire Prevention Plan – JVR Energy Park (Appendix A of the Fire Protection Plan)
- Proposed Project Revisions Technical Memorandum (Appendix R)

Technical Report for Fire Personnel – JVR Energy Park (Appendix G of the Fire Protection Plan) Comments received in response to the Notice of Preparation (NOP) included concerns regarding the potential for wildfire risk and the potential temperature rise related to solar facilities. These concerns are addressed in this section. For a discussion of fire protection services, please refer to Section 3.1.6, Public Services. A copy of the NOP and comment letters received in response to the NOP is included in Appendix A of this EIR.

The Proposed Project area has been revised by increasing the Project's setbacks and realignment of an existing water main, a net reduction of 17 acres (see Section 1.2 Project Description of Final EIR). As described in the Proposed Project Revisions Technical Memorandum (Appendix R to the Final EIR), these changes will result in wildfire impacts that are equal to or less than those presented in the Draft EIR and will not change any significance determinations in this Section 2.12 Wildfire. Accordingly, the text Section has been updated to account for this changed Project area.

2.12.1 Existing Conditions

2.12.1.1 Regional Overview

The 1,356-acre Project site is located in unincorporated southeastern San Diego County at the convergence of the California Peninsular Ranges and desert regions. The elevation within the Project site ranges from approximately 2,745 feet above mean sea level (amsl) to 3,365 feet above mean sea level. The Project site includes the eastern portion of Round Mountain, which is located within the northwestern area of the Project site. A moderately sloped mesa landform is located to the south of Round Mountain at an elevation of approximately 2,743 feet amsl. North of Interstate (I)-8, Grey and Table Mountains are located north and northeast of the Project site and reach elevations of 3,780 feet amsl and 4,089 feet amsl, respectively. Lastly, Jacumba Peak, a conical peak with an approximate

elevation of approximately 3,365 feet amsl, is located approximately 1 mile east of the Project site (see Figure 2.12-1, Topographic Features in the Proposed Project Area).

The properties to the west of the Project site were recently transferred from the Anza Borrego Foundation to the California Department of Parks and Recreation for inclusion as part of Anza-Borrego Desert State Park. An existing easement for the San Diego and Arizona Eastern Railway enters the southwestern portion of the Project site at the western boundary, running generally east/west then turning northward and exiting the northwestern corner of the property near I-8. An existing San Diego Gas & Electric (SDG&E) easement also traverses the central portion of the site from east to west. Several large-scale SDG&E transmission towers are present within this easement. Old Highway 80 traverses the southern portion of the Project site.

The majority of the lands surrounding the Project site are largely undeveloped. The town of Jacumba Hot Springs is located southwest of the Project site and consists of residential uses and small-scale commercial uses. The Jacumba Valley Airport is located just south of Old Highway 80, and directly south and east of the southernmost portion of the Project site. The U.S./Mexico international border lies just south of the Project site. Two gas stations are located along Carrizo Gorge Road, adjacent to the northeastern property boundary and south of I-8.

Further to the east is the existing SDG&E East County Substation (within Carrizo Gorge Road and Old Highway 80 right-of-way) and a 20-megawatt (MW) solar facility (Jacumba Solar) located south of the SDG&E East County Substation.

2.12.1.2 Fire Hazard Severity Zones

The California Department of Forestry and Fire Protection (CAL FIRE) uses Fire Hazard Severity Zones (FHSZ) to classify the anticipated fire-related hazard for state responsibility areas. The classifications include Non-Wildland Non-Urban, Moderate, High, and Very High. Fire hazard measurements take into account the following elements: vegetation, topography, weather, crown fire production, and ember production and movement. The very high fire hazard severity designation can be attributed to a variety of factors including highly flammable, dense, drought-adapted desert chaparral vegetation, seasonal, strong winds, and a Mediterranean climate that results in vegetation drying during the months most likely to experience Santa Ana winds.

Figure 2.12-2, Fire Hazard Severity Zones in the Proposed Project Area, identifies the CAL FIRE FHSZ designations in the vicinity of the Project site. The majority of the ~~643~~ 623-acre solar facility would be constructed in areas classified as a High FHSZ by CAL FIRE (CAL FIRE 2007a). The western portion of the development footprint is classified as Moderate FHSZ. A small portion along the western boundary of the development footprint is classified as a Very High FHSZ. Additionally, the lands adjacent to the west of the Project site are classified as very high FHSZ

and the lands adjacent to the east are classified as moderate FHSZ and include Federal Responsibility Areas (CAL FIRE 2005). Within the development footprint, the existing vegetation would be cleared and the site would be graded.

The existing vegetation within the remainder of the Project site would be undisturbed. The area to remain undisturbed along the western boundary of the Project site is classified as Very High FHSZ. The land between the northern boundary of the proposed development footprint and I-8 is classified as Moderate and High FHSZ. The land to remain undeveloped within the eastern portion of the Project site is classified as High FHSZ. Other areas outside of the Project site that would border the proposed solar facility are classified as High to Very High FHSZ. The land in Mexico is not classified by CAL FIRE. Thus, the land surrounding the proposed solar facility is classified predominantly as Very High FHSZ to the west and High FHSZ to the east.

CAL FIRE also maps and ranks areas of fire threat, which indicates the level of fire threat based on the potential fire behavior (fuel rank) and expected fire frequency (fire rotation) at a given location (CAL FIRE 2005). Figure 2.12-3, Fire Threat Ranking in Proposed Project Area, identifies the CAL FIRE Threat zone designations in the vicinity of the Proposed Project. The solar facility development footprint is classified primarily as moderate fire threat (CAL FIRE 2005). The western boundary of the Project site is classified as either moderate, high, or very high. Thus, areas surrounding the proposed solar facility are primarily classified as moderate fire threat.

2.12.1.3 Project Site

Vegetation/Fuels

The Project site is generally an arid semi-desert environment that supports a limited range of habitats and biological communities. Nine vegetation communities and/or land cover types occur on the Project site, as summarized in Table 2.3-1, Vegetation Communities/Land Covers on the Project Site in Section 2.3, Biological Resources. Sonoran Mixed Woody Scrub, Sonoran Mixed Woody and Succulent Scrub, Big Sagebrush Scrub, Desert Saltbush Scrub, Desert Sink Scrub, Mesquite Bosque, Disturbed Habitat, Urban/Developed, and Non-Vegetated Floodplain or Channel communities are the most common vegetation communities and/or land cover types that currently occur on the Project site. Detailed descriptions of the vegetation types on the Project site are provided in Section 2.3, Biological Resources, and the Biological Resources Technical Report (Appendix D). The distribution of vegetation communities and land cover types on the Project site is shown on Figure 2.3-2, Biological Resources in Section 2.3.

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material),

physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, grass dominated plant communities become seasonally prone to ignition and produce lower intensity, higher spread rate fires. In comparison, chaparral can produce higher heat intensity and higher flame lengths under strong, dry wind patterns, but does not typically ignite or spread as quickly as light, flashy grass fuels.

Another important factor is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes disrupts plant succession, setting plant communities to an earlier state where less fuel is present for a period of time as the plant community begins its succession again. High-frequency fires tend to convert shrublands to grasslands or maintain grasslands, while fire exclusion tends to convert grasslands to shrublands, over time. In general, biomass and associated fuel loading will increase over time, assuming that disturbance (fire, farming, or grading) or fuel reduction efforts are not implemented. It is possible to alter successional pathways for varying plant communities through manual alteration.

Topography

Located in southeastern San Diego County, the Project site is situated in a valley at the northeast edge of an unnamed, mountain range that extends south into Mexico. The Project site lies between two major drainage divides: the Tecate Divide to the west and the In-Ko-Pah Mountains to the east. The Project site includes the eastern portion of Round Mountain that is located within the northwestern area of the Project site. Gray Mountain lies just north of I-8. Topography within the proposed development footprint includes primarily level terrain and gently rolling slopes. Round Mountain and steeper slopes are located within the western portion of the Project site which would remain undisturbed. Site elevations range from approximately 3,365 feet amsl in the highest portions near Round Mountain to the northwest to 2,745 feet amsl in the lower northwestern corner of the Project site.

The Project site is located within the Anza Borrego watershed, Colorado River Hydrologic Basin Region 7 Planning Area. The contributing watersheds to the Project site cover an area of approximately 70,868 acres (111 square miles), with 76% located in Baja California, Mexico. The majority of flow from Mexico north into the Jacumba Valley is derived from the Flat Creek subwatershed, which includes the Blue Angel Peak subwatershed and an unnamed subwatershed, as defined by the U.S. Geological Survey. The subwatersheds predominantly located in the United States are the Boundary Creek and Walker Canyon-Carrizo Creek subwatersheds. Precipitation that falls in the Jacumba Valley Hydrologic Sub-Area and the aforementioned subwatersheds either infiltrates into the subsurface or enters Carrizo Creek and drains north through a narrow constriction known as the Carrizo Gorge. During significant precipitation events, Carrizo Creek flows northeast towards the Salton Sea.

Climate

Eastern San Diego County, including the Project site, is influenced by the Pacific Ocean and are frequently under the influence of a seasonal, migratory subtropical high-pressure cell known as the "Pacific High" (WRCC 2019a). Wet winters and dry summers with mild seasonal changes characterize the Southern California climate. This climate pattern is occasionally interrupted by extreme periods of hot weather, winter storms, or dry, easterly Santa Ana winds (WRCC 2019a). The average high temperature for the Project site is approximately 76.3°F, with average highs in the summer and early fall months (July–October) reaching 93.8°F. The average precipitation for the area is approximately 14.82 inches per year, with the majority of rainfall concentrated in the months of December (2.06 inches), January (3.04 inches), February (2.77 inches), and March (2.30 inches), while smaller amounts of rain are experienced during the other months of the year (WRCC 2019b).

The prevailing wind pattern is from the west (on-shore), but the presence of the Pacific Ocean causes a diurnal wind pattern known as the land/sea breeze system. During the day, winds are from the west–southwest (sea), and at night, winds are from the northeast (land). During the summer season, the diurnal winds may average slightly higher than the winds during the winter season due to greater pressure gradient forces. Surface winds can also be influenced locally by topography and slope variations. The highest wind velocities are associated with downslope, canyon, and Santa Ana winds.

The Project site's climate has a large influence on the fire risk as drying vegetation during the summer months becomes available wildfire fuel should an ignition be realized. Typically, the highest fire danger is produced by the high-pressure systems that occur in the Great Basin, which result in the Santa Ana winds of Southern California. Sustained wind speeds recorded during recent major fires in San Diego County exceeded 30 miles per hour (mph) and may exceed 50 mph during extreme conditions. The Santa Ana wind conditions are a reversal of the prevailing southwesterly winds that usually occur on a region-wide basis during late summer and early fall. Santa Ana winds are winds originating from the Great Basin that create extreme fire weather conditions characterized by low humidity, sustained high speeds, and extremely strong gusts. Santa Ana winds typically blow from the northeast over the Peninsular Range. As the air is forced through coastal mountain passes, wind speeds of 40 mph can be maintained for hours with gusts from 70 to 115 mph possible (Schroeder et al. 1964). Winds can exceed 100 mph, particularly near the mouth of canyons oriented along the direction of airflow; this situation can lead to serious fire suppression problems, resulting in temporary closure of sections of main highways (BLM 2007). The Project site is affected by Santa Ana winds.

Fire History

Fire history allows for an understanding of fire frequency, fire type, most vulnerable facilities areas, and significant ignition sources, amongst others. The fire history was determined using the Fire and Resource Assessment Program (FRAP) database. FRAP summarizes fire perimeter data dating to the late 1800s, which is incomplete due to the fact that it includes only fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century. However, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred within the Project site, which indicates whether they may be possible in the future. Fire history recorded for the Project site is presented in Table 2.12-1, Historic Fires within 3 Miles of the Project Site. A map depicting historic fire locations is presented in Figure 2.12-4, Fire History Map. Refer to the Fire Protection Plan (FPP) (Appendix N) for the Proposed Project for further discussion of the fire history.

As presented in the Table 2.12-1, there have been 16 fires recorded since 1911 by CAL FIRE in their FRAP database[1] within 3 miles of the Project site over the past 76 years. A total of three fires, ranging from 29 acres (2003 Range Fire) to 40 acres (2005 Railroad Fire) are noted to have burned within one mile of the Project site. No recorded fires have burned on the Project site. Based on this data, the average interval between wildfires was calculated to be 6 years with intervals ranging between 0 (multiple fires in the same year) and 30 years. Based on this analysis, it is expected that wildfire could impact the Project site, if weather conditions coincide, roughly every 6 years with the realistic possibility of shorter interval occurrences, as observed in the fire history records. Further, the large expanses of undeveloped land surrounding the Project site and potential ignition sources along I-8, Old Highway 80, existing transmission lines, and the San Diego and Arizona Eastern Railroad contribute to increased potential risk and wildfire hazard in the area.

2.12.1.4 Environmental Effects of Fires

Although fire can benefit natural ecosystems that have evolved with occasional fire and that benefit from the stimulation of growth through the reproduction of plants and wildlife habitat, fire can also be detrimental to biological and other natural resources, such as air quality and water quality.

Biological Resources

Flora. Grassland communities, usually non-native grasses, will readily establish after wildfires in chaparral and scrub communities. With repeated burning at short intervals of up to several years, it is possible to convert chaparral and scrub to non-native grasslands. Chaparral and scrub

[1] Based on polygon GIS data from CAL FIRE's FRAP, which includes data from CAL FIRE, USDA Forest Service Region 5, BLM, NPS, Contract Counties and other agencies. The data set is a comprehensive fire perimeter GIS layer for public and private lands throughout the state and covers fires 10 acres and greater between 1911–2018.

vegetation communities will typically re-sprout and absent fire or other disturbances will return to pre-fire conditions. Chaparral communities also tend to repopulate many of the San Diego County forest types following stand-replacing fire. The chaparral may establish for the first several years after the fire event, whereupon the tree cover will begin to establish (USDA 2000a). Because vegetation communities can be converted following fire, these changes in dominant vegetation communities can drastically affect plant and animal habitat and can affect the prevalence of special-status species.

Fauna. Generally speaking, fires injure or kill a relatively small proportion of wild animals. For example, birds and larger mammals can flee wildfire and small mammals and reptiles can seek refuge in subterranean burrows. Habitat changes resulting from fires have a much more profound impact on faunal populations and communities than does the fire itself. Fires can result in short-term increases in vegetation productivity and the availability and nutrient content of forage and browse (USDA 2000b). These increases can in turn lead to increases in herbivore populations.

However, any increase in population size is highly dependent upon the population's ability to survive in the post-fire environment (USDA 2000b). In general, fires that devastate a landscape featuring many shrubs and trees reduce habitat cover for species requiring cover and increase habitat for species (such as raptors) that prefer open areas (USDA 2000b).

Desert Ecosystems. Weedy species have been known to invade desert and semi-desert habitats in areas where fires have occurred infrequently because of scant fuels sources. When fires occur in these areas, vegetation can change (such as converting to non-native grasses) and become more susceptible to ignition. Animals within desert ecosystems are ill-suited to avoid fire and often struggle to use resources and prosper in post-fire communities.

Air Quality

Carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, and other constituent materials are all present in wildfire smoke. The specific composition of smoke depends largely on the fuel type (vegetation types contain different amounts of cellulose, oils, waxes, and starches, which when ignited produce different compounds). In addition, hazardous air pollutants and toxic air contaminants, such as benzene and formaldehyde, are also present in smoke. However, the principal pollutant of concern from wildfire smoke is particulate matter. In general, particulate matter from smoke is very small in size and can be inhaled into the deepest recesses of the lungs, presenting a serious health concern (Stone et al. 2016).

Factors including weather, stage of fire, and terrain can all dictate fire behavior and the impact of smoke on the ground. Wind, for instance, generally results in lower smoke concentrations because wind causes smoke to mix with a larger volume of air. Regional weather systems, such as the Santa

Ana winds of Southern California, on the other hand, can spread fire quickly and result in numerous devastating impacts. The Santa Ana winds effectively work to reverse the typical onshore flow patterns and blow winds from dry, desert Great Basin areas westward toward the coast. As a result, coastal communities can be impacted by fires originating in inland areas (Stone et al. 2016).

Large quantities of pollutants can be released by wildland fires over a relatively short period of time. Air quality during large fires can become hazardous and can remain impaired for several days after the fire is ignited.

Water Quality

Fire can impact water quality by increasing potential for erosion and sedimentation in areas where vegetation has been burned by fire, resulting in increased water temperature through removal or modification of shade-providing trees and vegetation. Water chemistry can also be altered through the introduction of pollutants and chemical constituents. Aquatic environments may also be impacted through the introduction of fire retardant chemicals used during firefighting activities.

Erosion and Sedimentation. Watersheds severely burned by wildfire are vulnerable to accelerated rates of soil erosion and can experience large amounts of post-fire sediment deposits. Increases in post-fire suspended sediments in streams and lakes (in addition to possible increases in turbidity) can result from erosion and overland flow, channel scouring, and creep accumulations in stream channels after an event (USDA 2005). While less is known regarding the effect of fire on turbidity, it has been observed that post-fire turbidity levels in stream water are affected by the steepness of the devastated watershed (USDA 2005). The little data available regarding post-fire turbidity levels has indicated that U.S. Environmental Protection Agency (EPA) water quality standard for turbidity can be exceeded after a fire event (USDA 2005). The threat to water quality from erosion following wildfire was analyzed by CAL FIRE (2009). This analysis estimates an expected erosion rate if an area experiences a high severity fire and considers information on fire rotation to better identify locations that are more likely to experience frequent high severity fires (CAL FIRE 2010). Mapping data generated from this analysis indicates that the majority of the 1,356-acre Project site is classified as primarily having low to no post-fire erosion potential, although a small area in the northwest portion of the Project site is classified as having moderate post-fire erosion potential (CAL FIRE 2009).

Water Temperature. When fire burns stream bank vegetation and shade trees, water temperature can rise, which in turn can lead to thermal pollution, which leads to increased biological activity in the stream. Increased activity levels place a greater demand on the dissolved oxygen content of the water and can affect the survivability and sustainability of aquatic populations and

communities (USDA 2005). Water temperature increases up to 62°F have been recorded in stream flows following fires in which the stream bank vegetation was burned (USDA 2005).

Water Chemistry. Ash deposits generated by a fire can affect the pH of water immediately after the event, potentially increasing to levels that violate water quality standards. In addition, increases in the pH of nearby soil can also cause increases in stream flow pH (USDA 2005). Dissolved nitrogen levels can increase after fires as a result of accelerated mineralization and nitrification (dissolved nitrogen is commonly studied as an indicator of fire disturbance), but these levels do not typically exceed established water quality standards (USDA 2005). Dissolved phosphorous, sulfur, chloride, and total dissolved solids levels can increase after a fire, but studies have shown that these increases typically do not result in violation of drinking water quality standards (USDA 2005).

Fire Retardant. The use of fire retardants to protect communities, sensitive resources, or other assets has proven highly effective, but it can have a direct effect on aquatic environments. The use of ammonium-based retardants can affect water quality and, in some instances, they can be toxic to aquatic biota (USDA 2005). Nitrogen-containing retardants can potentially affect drinking water quality, and retardants containing sodium ferrocyanide (YPS) can potentially be lethal for aquatic organisms (USDA 2005).

2.12.2 Regulatory Setting

This section discusses federal, state, and local regulations, plans, and standards applicable to the Proposed Project.

2.12.2.1 Federal Regulations

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission requires utilities to adopt and maintain minimum clearance standards between vegetation and transmission voltage power lines. These clearances vary depending on voltage. In most cases, the minimum clearances required in state regulations are greater than the federal requirement. In California for example, the state has adopted General Order 95 rather than the North American Electric Reliability Corporation (NERC) Standards as the electric safety standard for the state (California Public Utilities Commission [CPUC]). Federal Energy Regulatory Commission is not discussed further.

National Fire Protection Association Codes, Standards, Practices, and Guides

National Fire Protection Association (NFPA) codes, standards, recommended practices, and guides, are developed through a consensus standards development process approved by the American National Standards Institute (ANSI). This process brings together professionals

representing varied viewpoints and interests to achieve consensus on fire and other safety issues. NFPA standards are recommended guidelines and nationally accepted good practices in fire protection but are not law or "codes" unless adopted as such or referenced as such by the California Fire Code or the Local Fire Agency.

- NFPA 10, Standard for Portable Fire Extinguishers (2018): A long-standing standard, which specifies the types, sizes, rating, and locations for portable fire extinguishers. It also provides information on how to calculate the number and size of portable fire extinguishers needed.
- NFPA 11, Standard for Low-, Medium-, and High-Expansion Foam (2016): NFPA 11 is a longstanding standard, which provides recommendations for design and installation of firefighting foam systems and portable equipment. It also provides recommendations regarding calculating the amount of foam concentrate and solution needed on a flammable or combustible liquid fire.
- NFPA 13, Standard for Installation of Sprinkler Systems (2019): NFPA 13 is the standard for design and installation of automatic fire sprinkler systems in a building. It provides the requirements for the type of system needed in a particular occupancy, water supply, sprinkler head flow and pressures, the locations of sprinkler heads, and installation of the system. This standard is referenced by the California Fire Code.
- NFPA 22, Standard for Water Tanks for Private Fire Protection (2018): Provides recommendations for the design, construction, installation, and maintenance of tanks and accessory equipment that supply water for private fire protection.
- NFPA 30, Flammable and Combustible Liquids Code (2018): This standard provides safeguards to reduce the hazards associated with the storage, use, and handling of flammable and combustible liquids. It provides detailed information regarding tank storage, spacing, dispensing of liquids, portable containers, and other related operations. NFPA 30 is referenced by the California Fire Code.
- NFPA 70, National Electrical Code (2017): NFPA 70 is the standard for the design, installation, and inspection of electrical hazards. It includes recommendations for various types of occupancies and also provides recommendations and criteria for the location and installation of "explosion proof" electrical systems.
- NFPA 72, National Fire Alarm and Signaling Code (2019): NFPA 72 is the standard for the design, installation, and operation of fire alarm systems in various occupancies. This standard is used by fire alarm system designers when designing and installing a system. It is utilized also by fire agencies when reviewing plans for new systems.
- NFPA 497, Classification of Flammable Liquids, Gases, or Vapors, and of Hazardous Locations for Electrical Installations in Chemical Process Areas (2017): NFPA 497 is the

standard, which is utilized along with NFPA 70 to determine flammable gas, flammable liquid, and combustible liquid hazards and to recommend the areas that require explosion-proof electrical systems. It also sets forth the extent of the classified areas. Although the title says chemical process areas, it is used as a standard for explosion-proof electrical as it defines various risks and contains numerous diagrams to help the electrical system designer.

- NFPA 850, Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations (2015): NFPA 850 was prepared for the guidance of those charged with the design, construction, operation, and protection of electric generating plants and high voltage direct current converter stations that are covered by the scope of this document. This document provides fire hazard control recommendations for the safety of construction and operating personnel, the physical integrity of plant components, fire protection systems and equipment, and the continuity of plant operations.

National Electric Safety Code 2017

The National Electric Safety Code covers basic provisions related to electric supply stations, overhead electric supply and communication lines, and underground electric supply and communication lines. The code also contains work rules for construction, maintenance, and operational activities associated with electric supply and communication lines and equipment. The code, which must be adopted by states on an individual basis, is not applicable in the State of California. As stated previously, the State of California has adopted its own standard (General Order 95) rather than a general national standard. The National Electric Safety Code is not discussed further.

North American Electric Reliability Corporation Standards

The NERC is a nonprofit corporation comprising 10 regional reliability councils. The overarching goal of NERC is to ensure the reliability of the bulk power system in North America. To achieve its goal, the NERC develops and enforces reliability standards, monitors the bulk power systems, and educates, trains, and certifies industry personnel (NERC 2019). To improve the reliability of regional electric transmission systems and in response to the massive widespread power outage that occurred on the Eastern Seaboard, NERC developed a transmission vegetation management program that is applicable to all transmission lines operated at 200 kilovolts (kV) and above to lower voltage lines designated by the Regional Reliability Organization as critical to the reliability of the electric system in the region. The plan, which became effective on April 7, 2006, establishes requirements of the formal transmission vegetation management program, which include identifying and documenting clearances between vegetation and any overhead, ungrounded supply conductors, while taking into consideration transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, fire risk, line terrain and elevation,

and the effects of wind velocities on conductor sway (NERC 2006). The clearances identified must be no less than those set forth in the Institute of Electrical and Electronics Engineers Standard 516-2009, *Guide for Maintenance Methods on Energized Power Lines* (NERC 2006).

Institute of Electrical and Electronics Engineers Standard 516-2009

The Institute of Electrical and Electronics Engineers is a leading authority in setting standards for the electric power industry. Standard 516-2009, *Guide for Maintenance Methods on Energized Power Lines*, establishes minimum vegetation-to-conductor clearances in order to maintain electrical integrity of the electrical system.

Federal Wildland Fire Management Policy

The Federal Wildland Fire Management Policy was developed in 1995 and updated in 2001 by the National Wildfire Coordinating Group, a federal multi-agency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions. An important component of the Federal Wildland Fire Management Policy is the acknowledgment of the essential role of fire in maintaining natural ecosystems. The Federal Wildland Fire Management Policy and its implementation are founded on the following guiding principles (WFLC 2009):

- Firefighter and public safety is the first priority in every fire management activity.
- The role of wildfire as an essential ecological process and natural change agent will be incorporated into the planning process.
- Fire management plans, programs, and activities support land and resource management plans and their implementation.
- Sound risk management is a foundation for all fire management activities.
- Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
- Fire management plans and activities are based upon the best available science.
- Fire management plans and activities incorporate public health and environmental quality considerations.
- Federal, state, tribal, local, interagency, and international coordination and cooperation are essential.
- Standardization of policies and procedures among federal agencies is an ongoing objective.

National Fire Plan

The National Fire Plan was a Presidential directive in 2000 as a response to severe wildfires that had burned throughout the United States. The National Fire Plan focuses on reducing fire impacts on rural communities and assurance for sufficient firefighting capacity in the future. It is a long-term investment that will help protect natural resources in addition to communities, as well as a long-term commitment based on cooperation and communication among federal agencies, states, local governments, tribes, and interested members of the public. There are five key areas addressed under the National Fire Plan:

- Firefighting and Preparedness
- Rehabilitation and Restoration
- Hazardous Fuels Reduction
- Community Assistance
- Accountability

International Fire Code

Created by the International Code Council, the International Fire Code addresses a wide array of conditions hazardous to life and property including fire, explosions, and hazardous materials handling or usage (although not a federal regulation, but rather the product of the International Code Council). The International Fire Code places an emphasis on prescriptive and performance-based approaches to fire prevention and fire protection systems. Updated every 3 years, the International Fire Code uses a hazards classification system to determine the appropriate measures to be incorporated in order to protect life and property (often these measures include construction standards and specialized equipment). The International Fire Code uses a permit system (based on hazard classification) to ensure that required measures are instituted.

2.12.2.2 State Regulations

State regulations are also applicable to the Proposed Project.

California Fire Code

The California Fire Code (CFC) is Chapter 9 of Title 24 of the California Code of Regulations (CCR). It was created by the California Building Standards Commission and is based on the International Fire Code created by the International Code Council. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use,

handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazards classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.

California Health and Safety Code

State fire regulations are set forth in Section 13000 et seq. of the California Health & Safety Code, which include regulations concerning building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training. The state fire marshal enforces these regulations and building standards in all state-owned buildings, state-occupied buildings, and state institutions.

Title 14 Division 1.5 of the California Code of Regulations

Title 14 of the CCR, Division 1.5, establishes the regulations for CAL FIRE and is applicable in all State Responsibility Areas—areas where CAL FIRE is responsible for wildfire protection. Most of the unincorporated area of the County is a State Responsibility Area, and any development in a State Responsibility Area must comply with these regulations. Among other things, Title 14, Section 1270 et seq. establishes minimum standards for emergency access, fuel modification, setback to property lines, signage, and water supply.

California Public Utilities Commission General Order 95: Rules for Overhead Transmission Line Construction

General Order 95 was initially adopted in 1941 and was most recently updated in 2009 for Southern California. General Order 95 governs the design, construction, and maintenance of overhead electrical lines. Rule 31.1 generally states that design, construction, and maintenance of overhead electrical lines should be done in accordance with accepted good practices for the given location conditions known at the time by the persons responsible for the design, construction, and maintenance of the overhead electrical lines and equipment. Rule 35 of General Order 95 (Tree Trimming) requires the following:

- 4 feet radial clearances for any conductor of a line operating at 2,400 volts or more, but less than 72,000 volts
- 6 feet radial clearances for any conductor of a line operating at 72,000 volts or more, but less than 110,000 volts

- 10 feet radial clearances for any conductor of a line operating at 110,000 volts or more, but less than 300,000 volts (this would apply to the Proposed Project)
- 15 feet radial clearances for any conductor of a line operating at 300,000 volts or more.

Under California Public Utilities Code Section 1708.5, interested persons are permitted to petition the CPUC to adopt, amend, or repeal a regulation. In response to the 2007 wildfires in San Diego County, on November 6, 2007, SDG&E submitted a petition to the CPUC requesting that the CPUC issues an Order Instituting Rulemaking to determine whether General Order 95 should be amended or if more rules should be adopted to address disaster preparedness, including damage from Santa Ana wind-driven firestorms (CPUC and BLM 2008). According to SDG&E, the petition requested that the CPUC consider several items, including the following:

- Operating rural electrical lines differently during severe fire weather
- Mitigating potential hazards associated with rural lines including undergrounding line, using steel poles in place of wood, and shortening spans between poles
- Better coordinating disaster management efforts among agencies, municipalities, local jurisdictions, and utilities
- Maintaining electrical line rights-of-way (ROWs) free of vegetation
- Adopting a state-wide Disaster Management Plan

California Department of Forestry and Fire Protection (CAL FIRE)

CAL FIRE is tasked with reducing wildfire-related impacts and enhancing California's resources. CAL FIRE responds to all types of emergencies including wildland fires and residential/commercial structure fires. In addition, CAL FIRE is responsible for the protection of approximately 31 million acres of private land within the state and, at the local level, is responsible for inspecting defensible space around private residences. CAL FIRE is responsible for enforcing State of California fire safety codes included in the CCR and California Public Resources Codes. Public Resources Code 4291 states generally that any person operating any structure located on brush-covered lands or land covered with flammable material is required to maintain defensible space around the structure. CCR Title 14 Section 1254 identifies minimum clearance requirements required around utility poles. In state responsibility areas within the jurisdiction of CAL FIRE, the Fire Safety Inspection Program is an important tool for community outreach and enforcement of state fire codes.

CAL FIRE also inspects utility facilities and makes recommendations regarding improvements in facility design and infrastructure. Joint inspections of facilities by CAL FIRE and the utility owner are recommended by CAL FIRE so that each entity may assess the current state of the facility and

the successfully implement fire prevention techniques and policies. Violations of state fire codes discovered during inspections are required to be brought into compliance with the established codes. If a CAL FIRE investigation reveals that a wildfire occurred as a result of a violation of a law or negligence, the responsible party could face criminal and/or misdemeanor charges. In cases where a violation of a law or negligence has occurred, CAL FIRE has established the Civil Cost Recovery Program, which requires parties liable for wildfires to pay for wildfire-related damages.

In the section of Southern California where the project is proposed, the power line hazard reduction standards are applicable year-round due to the scope of the fire season. More detailed descriptions of the applicable codes and regulations and images of exempt and non-exempt power line structures may be found in the *CAL FIRE Power Line Fire Prevention Field Guide* (CAL FIRE 2008).

- **Public Resource Code 4291** requires a reduction of fire hazards around buildings, requiring 100 feet of vegetation management around all buildings, and is the primary mechanism for conducting fire prevention activities on private property within CAL FIRE jurisdiction.
- **Public Resources Code 4292** states a that a minimum firebreak of 10 feet in all directions from the outer circumference of such pole or tower be established around any pole which supports a switch, transformer, lightning arrester, line junction, or end or corner pole. All vegetation shall be cleared within the firebreak.
- **Public Resources Code 4293** establishes the minimum vegetation clearance distances (between vegetation and energized conductors) required for overhead transmission line construction. Minimum clearances are discussed as follows:
    - A minimum radial clearance of 4 feet shall be established for any conductor of a line operating at 2,400 or more volts but less than 72,000 volts.
    - A minimum radial clearance of 6 feet shall be established for any conductor of a line operating at 72,000 or more volts but less than 110,000 volts.
    - A minimum radial clearance of 10 feet shall be established for any conductor of a line operating at 110,000 or more volts but less than 300,000 volts.
    - A minimum radial clearance of 15 feet shall be established for any conductor of a line operating at 300,000 or more volts.

Specific requirements applicable to the construction and operation of the Proposed Project include those from Public Resources Code, Division 4, Chapter 6:

- **Section 4427 –** Operation of fire-causing equipment
- **Section 4428** – Use of hydrocarbon-powered engines near forest, brush, or grass-covered lands without maintaining firefighting tools

- **Section 4431** – Gasoline-powered saws, etc.; firefighting tools
- **Section 4442** – Spark arrestors of fire prevention measures, requirements, exemptions.

Title 14 Division 1.5, Sections 1252, 1253, and 1254 of the California Code of Regulations

CCR Title 14 Division 1.5, Sections 1252 and 1253 state that in San Diego County, power line hazard reduction standards are applicable year round. Power lines reduction strategies includes pole brush clearing and in southeastern San Diego County, and CAL FIRE is responsible for inspecting local implementation of these strategies.

CCR Title 14 Section 1254 states that the fire break minimum clearance requirements of California Public Resources Code 4292 are applicable within an imaginary cylindroidial space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached. The radius of the cylindroid is 3.1 meters (10 feet) measured horizontally from the outer circumference of the specified pole or tower with height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid with the ground to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole of tower. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:

- At ground level: remove flammable materials, including but not limited to, ground liter, duff, and dead or desiccated vegetation that will allow fire to spread.
- From 0–2.4 meters (0–8 feet) above ground level: remove flammable trash, debris, or other materials, including grass, herbaceous, and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 meters (8 feet).
- From 2.2 meters (8 feet) to horizontal plane of highest point of conductor attachment: remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

Emergency Response

California Emergency Services Act

The California Emergency Services Act was adopted to establish the state's roles and responsibilities during human-caused or natural emergencies that result in conditions of disaster and/or extreme peril to life, property, or resources of the state. This act is intended to protect health and safety by preserving the lives and property of the people of the state.

California Natural Disaster Assistance Act

The California Natural Disaster Assistance Act provides financial aid to local agencies to assist in the permanent restoration of public real property, other than facilities used solely for recreational purposes, when such real property has been damaged or destroyed by a natural disaster. The California Natural Disaster Assistance Act is activated after a local declaration of emergency and the California Emergency Management Agency gives concurrence with the local declaration, or the governor issues a proclamation of a state emergency. Once the act is activated, local government is eligible for certain types of assistance, depending on the specific declaration or proclamation issued.

2.12.2.3 Local Regulations

Local regulations are applicable to the Proposed Project.

County of San Diego General Plan

Updated (and adopted) in August 2011, the County of San Diego General Plan guides future growth in the unincorporated areas of the County, and considers projected growth anticipated to occur within various communities. Policies relevant to emergencies, hazards, and hazardous materials that may occur within the Project site are listed below (County of San Diego 2011a, 2011b).

Land Use Element

- **Policy LU-6.10: Protection from Hazards**. Require that development be located and designed to protect property and residents from the risks of natural and [hu]man- induced hazards.

Safety Element

- **Policy S-3.1: Defensible Development.** Require development to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life safety resulting from wildland fires.
- **Policy S-3.3: Minimize Flammable Vegetation**. Site and design development to minimize the likelihood of a wildfire spreading to structures by minimizing pockets or peninsulas, or islands of flammable vegetation within a development.
- **Policy S-3.4: Service Availability**. Plan for development where fire and emergency services are available or planned.
- **Policy S-3.5: Access Roads.** Require development to provide additional access roads when necessary to concurrently provide for safe access of emergency equipment and civilian evacuation.

- **Policy S-3.6: Fire Protection Measures**. Ensure that development located within fire threat areas implement measures that reduce the risk of structural and human loss due to wildfire.
- **Policy S-3.7: Fire Resistant Construction.** Require all new, remodeled, or rebuilt structures to meet current ignition resistance construction codes and establish and enforce reasonable and prudent standards that support retrofitting of existing structures in high fire threat areas.
- P**olicy S-4.2: Coordination to Minimize Fuel Management Impacts.** Consider comments from CAL FIRE, U.S. Forest Service, local fire districts, and wildlife agencies for recommendations regarding mitigation for impacts to habitat and species into fuel management projects.
- **Policy S-6.1: Water Supply.** Ensure that water supply systems for development are adequate to combat structural and wildland fires.
- **Policy S-6.3: Funding Fire Protection Services.** Require development to contribute its fair share towards funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.
- **Policy S-6.4: Fire Protection Services for Development.** Require that development demonstrate that fire services can be provided that meet the minimum travel times identified in Table S-1 (Travel Time Standards)
- **Policy S-6.5: Concurrency of Fire Protection Services.** Ensure that fire protection staffing, facilities and equipment required to serve development are operating prior to, or in conjunction with, the development. Allow incremental growth to occur until a new facility can be supported by development.

Subregional Plans

The Project site is located within the Mountain Empire Subregional Plan and Jacumba Subregional Group Area Community Plan planning area boundaries. There are no policies relevant to wildfire in the Mountain Empire Subregional Plan or Jacumba Subregional Group Area (County of San Diego 2011c).

County of San Diego Code of Regulatory Ordinances

The following sections of the County Code of Regulatory Ordinances would be applicable to the Proposed Project.

Title 6, Division 8, Chapter 4: Removal of Combustible Vegetation and Other Flammable Materials Ordinance (Ordinance No. 9633, Sections 68.401–68.406)

The Removal of Combustible Vegetation and Other Flammable Materials Ordinance establishes that combustible vegetation, dead, dying or diseased trees, green waste, rubbish, and other materials on private property can create fire hazards resulting in conditions that are potentially injurious to the health, safety, and welfare of the public. The ordinance goes on to state that combustible vegetation and other materials are public nuisances that must be abated and the requirements for abatement must be enforced in all County Service Areas and in the unincorporated areas of the County outside of a fire protection district or municipal water district. Fire protection districts and municipal water districts either have adopted their own combustible vegetation abatement programs or have adopted the county ordinance.

Clearance requirements and combustible vegetation removal protocols are established in Section 68.404 and 68.406 of the Ordinance. Section 68.404 states that "no responsible party shall permit on a parcel any accumulation of combustible vegetation, dead, dying or diseased trees, green waste, rubbish, or other flammable materials within thirty (30) feet of the property line when such accumulation endangers property or the health, safety, or welfare of residents of the vicinity" and that "no responsible party shall permit on a parcel any accumulation of combustible vegetation, dead, dying or diseased trees, green waste, rubbish, or other flammable materials within ten (10) feet of each side of the improved width of highways, private roads and driveways" (County of San Diego 1985). Section 68.406 requires that combustible vegetation removal be conducted so as to leave the plant root structure intact to stabilize the soil and prevent erosion and that areas where combustible vegetation removal has occurred may be replanted with fire-resistant shrubbery and planting materials (County of San Diego 1985). The ordinance also requires that vegetation removal be conducted in conformance with all federal, state, and local environmental laws and regulations.

County of San Diego Code of Regulatory Ordinances, Removal of Fire Hazards

Per the County Code of Regulatory Ordinances, Sections 96.1.005 and 96.1.202, Removal of Fire Hazards, the San Diego County ~~Fire Authority (SDCFA)~~ Fire Protection District (SDCFPD), in partnership with CAL FIRE, the Bureau of Land Management, and the U.S. Forest Service, is responsible for the enforcement of defensible space inspections. Inspectors from CAL FIRE are responsible for the initial inspection of properties to ensure an adequate defensible space has been created around structures. If violations of the program requirements are noted, inspectors provide a list of required corrective measures and provide a reasonable timeframe to complete the task. If the violations still exist upon re-inspection, the local fire inspector forwards a complaint to the County for further enforcement action.

Title 9, Division 6, Chapter 1: County Fire Code (Section 96.1.4703)

Section 96.1.4703 states that the County Department of Planning and Land Use or the applicable fire protection district may require an applicant for a parcel map, specific plan, or major use permit located in a wildland–urban interface fire area to prepare and submit an FPP as part of the approval process. According to the County Fire Code, wildland–urban interface fire area is a geographic area identified by the state as a "Fire Hazard Severity Zone" (the Proposed Project would be located within a Moderate to Very High Fire Hazard Severity Zone). The FPP, which requires that the topography, combustible vegetation, and fire history (among other factors) be considered during development of the plan, addresses water supply, vehicular and emergency apparatus access, travel time to the nearest fire station, structure setback from property lines, ignition-resistant building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management.

County of San Diego Consolidated Fire Code

The County, in collaboration with the local fire protection districts, created the first Consolidated Fire Code in 2001. The 2020 Consolidated Fire Code (CFC) contains the County's and fire protection districts' amendments to the 2019 CFC. The purpose of consolidation of the County's and local fire districts' adoptive ordinances is to promote consistency in the interpretation and enforcement of the CFC for the protection of public health and safety, which includes permit requirements for the installation, alteration, or repair of new and existing fire protection systems, and penalties for violations of the code. The CFC provides the minimum requirements for access, water supply and distribution, construction type, fire protection systems, and vegetation management. Additionally, the CFC regulates hazardous materials and provides associated measures to ensure that public health and safety are protected from incidents relating to hazardous substance releases. San Diego County's 2020 CFC is the most recently adopted version (County of San Diego 2020).

County of San Diego Multi-Jurisdictional Hazard Mitigation Plan

The County Multi-Jurisdictional Hazard Mitigation Plan is implemented by the County of San Diego Office of Emergency Services. The Multi-Jurisdictional Hazard Mitigation Plan is a County-wide plan that identifies risks posed by natural and human-caused disasters, and discusses ways to minimize potential damage occurring as a result of these disasters. The plan is intended to serve many purposes, including enhancing public understanding and awareness of potential hazardous situations, creating a decision tool for managing hazards, promoting compliance with state and federal program requirements, enhancing local policies for hazard mitigation capability, providing inter-jurisdictional coordination, and achieving regulatory compliance (County of San Diego 2017).

Operational Area Emergency Operations Plan

The Office of Emergency Services also implements the Operational Area Emergency Operations Plan (Emergency Operations Plan) in collaboration with the Unified San Diego County Emergency Services Organization. The Emergency Operations Plan is for use by the County and all of the cities within the County to respond to major emergencies and disasters. It describes the roles and responsibilities of all County departments (including many city departments), and the relationship between the County and its departments and the jurisdictions within the County. The Emergency Operations Plan contains 16 annexes detailing specific emergency operations for different emergency situations (County of San Diego 2018).

San Diego Fire Chiefs Association Defensible Space Memorandum of Understanding

In response to the Harmony Grove Fire in 1997, the San Diego County Fire Chief's Association and the Fire District's Association of San Diego County entered into a Memorandum of Understanding with the California Department of Fish and Game, U.S. Fish and Wildlife Service, and CAL FIRE (San Diego Fire Chiefs Association 2007). The removal of flammable vegetation within 100 feet of any structure and 30 feet from any roadway without a biological survey is permitted by the Memorandum of Understanding. The intent of the Memorandum of Understanding was to establish guidelines by which CAL FIRE, cities, and fire districts can continue to protect lives and property from the threat of fires by requiring the flammable vegetation abatement pursuant to applicable state and local regulations. The Memorandum of Understanding is also intended to establish a cooperative mechanism through which the U.S. Fish and Wildlife Service and California Department of Fish and Game may "assess, minimize, and help account for potential adverse impacts to sensitive species and habitats resulting from vegetation abatement activities" (San Diego County Fire Chiefs Association 2007).

2.12.3 Analysis of Project Effects and Determination as to Significance

For the purposes of this EIR, the Proposed Project is analyzed at a project level to discuss potential impacts from wildfires. The Proposed Project includes approximately 300,000 photovoltaic (PV) modules, an underground collection system, a battery energy storage system, an on-site collector substation, ~~a switchyard~~ Switchyard Facilities~~.~~ ~~a~~ which includes the 138 kV transmission line tie-in, a control system, and meteorological weather stations. These components are described in Chapter 1, Project Description, of this Final EIR.

The Proposed Project is a solar energy generation and storage facility, which includes ~~a switchyard~~ the Switchyard Facilities that would be transferred to SDG&E after construction. For the purposes of this analysis, the ~~switchyard~~ Switchyard Facilities (as described in Chapter 1 of this Final EIR) is a component of the Proposed Project and has been analyzed as part of the whole of the action.

However, the EIR highlights the specific analysis of the ~~switchyard~~ Switchyard Facilities under each threshold of significance in the event that responsible agencies have California Environmental Quality Act (CEQA) obligations related to the ~~switchyard~~ Switchyard Facilities.

The County's Guidelines for Determining Significance are generally intended to address the questions posed in Appendix G of the CEQA Guidelines. In 2018, the CEQA Guidelines were updated and several of the questions listed in Appendix G were revised, deleted or modified. The County's Guidelines for Determining Significance have yet to be updated to address these amendments. Accordingly, this EIR analyzes the impacts from the Proposed Project using the County's Guidelines for Determining Significance and the questions posed in Appendix G. Where the questions in Appendix G have not been revised, only the County's Guidelines for Determining Significance are identified and analyzed. Where the questions in Appendix G have been significantly altered or additional questions have been posed, the Project's impacts are analyzed as against the questions in Appendix G and, to the extent they remain consistent with Appendix G, the County's Guidelines for Determining Significance.

CEQA Guidelines

The significance criteria used to evaluate the project impacts associated with wildfire are outlined in Appendix G of the CEQA Guidelines. According to these Guidelines, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, a significant impact related to wildfire would occur if the project would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

County Guidelines for Determining Significance

In addition, San Diego County's *Guidelines for Determining Significance and Report Format and Content Requirements: Wildland Fire and Fire Protection* (County of San Diego 2010) applies to both the direct impact analysis and the cumulative impact analysis. An affirmative response to, or confirmation of any one of the following Guidelines, will generally be considered a significant

impact related to Wildland Fire and Fire Protection as a result of the Proposed Project, in the absence of evidence to the contrary:

- The project cannot demonstrate compliance with all applicable fire codes.
- A comprehensive Fire Protection Plan has been accepted, and the project is inconsistent with its recommendations.
- The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

As identified in the Proposed Project's FPP (Appendix N in the Final EIR), the Proposed Project demonstrates compliance with applicable fire codes. Additionally, the FPP is being evaluated concurrent with this EIR. The Proposed Project is consistent with its recommendations. For these reasons, the first two County Guidelines listed above are not discussed further in this section. Potential impacts associated with emergency response are addressed in the following section.

2.12.3.1 Emergency Response/Evacuation Plans

Guidelines for the Determination of Significance

This impact analysis considers the following CEQA Appendix G Guideline:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

In addition, this impact analysis considers the following County Guideline:

- The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

Analysis

Adopted Plans

To better establish Mutual Aid capabilities and improve communications between jurisdictions and agencies, as well as assist the County and cities in developing emergency plans and exercising those plans, the San Diego County Operational Area (OA) was formed. The OA Emergency Operations Plan (EOP) is used by the County and all of the cities within the San Diego County to respond to major emergencies and disasters, including wildfire. The OA EOP describes the roles and responsibilities of all departments and the relationship between the County and its departments and the jurisdictions within the County. The OA EOP has been adopted and is complete with 16

functional annexes, including an Evacuation Annex (Annex Q). The OA Evacuation Annex is intended to be used as a template for the development of other jurisdictional evacuation plans and describes how emergencies are managed and how the evacuation of residents and their pets are implemented. The OA Evacuation Annex outlines strategies, procedures, recommendations, and organizational structures that can be used to implement a coordinated evacuation effort in the OA (County of San Diego 2018.)

In addition, the County has contracted with an independent fire operations consulting firm (Rohde and Associates) which has been preparing regional Wildland Urban Interface emergency response plans for certain areas in the County to encapsulate the County's pre-fire planning for wildfire emergencies. However, a Wildland Urban Interface plan has not been prepared for the Jacumba area. Thus, there is no adopted plan specific to the Project site.

The Proposed Project would be a solar energy generation and storage facility with no on-site staff; therefore, the Proposed Project would not result in increased population or housing in the Project area. During operations, there would at times be a minimum number of workers (up to five workers) for maintenance activities as needed. Therefore, during operations the Proposed Project would not increase the number of people and vehicles needing to evacuate the area during a wildfire emergency.

During construction of the Proposed Project there would be up to 500 workers on site. The construction period is anticipated to last up to 13 months. Thus, the construction period would include the highest daily on-site population and potential for additional vehicles. The addition of up to 500 vehicles in the area during construction would increase the number of vehicles evacuating the Jacumba community area during this period. During decommissioning, it is anticipated up to 250 workers would be onsite.

Measures to reduce fire risk during the construction period are included in the Construction Fire Protection Plan of the FPP (Appendix N in the Final EIR). Informing on-site workers of their evacuation alternatives and that the route to the east to Carrizo Gorge Road will be the priority and preferred route unless it is compromised. Within the Project site, evacuation routes shall be maintained and free of obstructions. Unavoidable evacuation route blockages within the Project site shall be coordinated such that a secondary route is identified and available.

In addition, emergency response agencies managing wildfire evacuations know that wildfires are fluid events and San Diego County has developed a sophisticated approach to tracking and predicting wildfire spread and behavior with corresponding technology to phase evacuation notifications of down-wind communities. Situation awareness during a wildfire is important and the combined resources available to emergency managers are robust, providing these agencies with appropriate and essential evacuation control, which can evolve and include mid-evacuation changes.

The Proposed Project would not conflict with an adopted emergency response plan or evacuation plan; thus, there would be **no impact** to an adopted plan. Further, the Proposed Project would have no full-time on-site personnel; operations and maintenance personnel would be on-site only as needed. The increase in up to 500 workers on site would be temporary during the construction period.

Emergency Response

An increase in demand for fire protection and emergency services would occur at the Project site due to increased activity during construction and decommissioning leading to higher amounts of fuel on the site, and a greater number of ignition sources on the site, including equipment and human activities. In addition, during operations and maintenance, the Proposed Project would introduce potential ignition sources that do not currently exist on the Project site.

The County's General Plan requires that fire protection services be provided that meet the minimum travel time standards identified in Table S-1 of the Safety Element (Policy S-6-4) (County of San Diego 2011b). The travel time standards are based on the Regional Category and/or land use designations. The Project site has a Regional Category of Rural Village and the vast majority of the acreage within the proposed development footprint (approximately 627 acres) is designated as Specific Plan.

Based on these land use categories, the travel time standard from the closest fire station is 10 minutes. The Jacumba Fire Station 43 is approximately 3.6 miles from the most remote areas of the proposed development footprint with a calculated travel time of less than 6.8 minutes.[2] Therefore, the Proposed Project would comply with the County General Plan for the travel time from the closest fire station (Appendix N). In addition, the Proposed Project would also have additional fire protection services from the Boulevard Fire Station that is located approximately 10.6 miles to the most remote portion of the Project site with a calculated travel time of approximately 18.7 minutes. In addition to these responding fire stations, there are resources available through automatic or mutual aid agreements. Thus, the Proposed Project meets the General Plan travel time standards.

Once operational, the Proposed Project would have access driveways, a perimeter drive and interior driveways within the solar facility. Access to the solar facility from Carrizo Gorge Road

[2] Travel distances were derived from Google Earth road data and driving on the access roads to fire stations from Project site while travel times were calculated applying the nationally recognized Insurance Services Office (ISO) Public Protection Classification Program's Response Time Standard formula (T=0.65 + 1.7 D, where T= time and D = distance). The ISO response travel time formula discounts speed for intersections, vehicle deceleration and acceleration, and does not include turnout time.

and Old Highway 80 would be established through construction of six driveways that would be located at the following five locations:

- Access 1 – Full access driveway along Carrizo Gorge Road (east leg), approximately 1,000 feet southeast of the I-8 interchange;
- Access 2 – Full access driveway along Carrizo Gorge Road (west leg), approximately 1,450 feet southeast of the I-8 interchange;
- Access 3 – Full access driveway along Carrizo Gorge Road (east leg), approximately 2,100 feet southeast of the I-8 interchange;
- Access 4 – Full access driveway along Carrizo Gorge Road (west leg), approximately 2,800 feet southeast of the I-8 interchange;
- Access 5 – Full access driveway along Old Highway 80 (north and south leg), approximately 1,200 feet east of Campo Street.

These access driveways would be paved, would be a minimum of 24 feet in width, and would be fully accessible to emergency services via a Knox Box placed at each access driveway. The Proposed Project does not propose any to changes to the design of Carrizo Gorge Road or Old Highway 80.

Within the fenced solar facility, the perimeter access driveway would be constructed to a minimum improved width of approximately 24 feet. The interior access would be constructed to a minimum improved width of 20 feet. All access would be arranged to provide a minimum inner turning radius of 28-feet, would be graded and maintained to support the imposed loads of a fire apparatus (not less than 75,000 pounds), and would be designed and maintained to provide all-weather driving capabilities. Minimum vertical clearance of 13 feet 6 inches from the driving surface shall be maintained for the interior access. Thus, the Proposed Project has been designed to allow ease of access for emergency responders both externally and internally.

The Proposed Project would also implement a project design feature (see **PDF-TR-1** in Section, 3.1.7, Transportation) that would require the preparation of the County-required traffic control plan during Proposed Project construction and decommissioning. **PDF-TR-1** would provide safe and efficient traffic flow in the Project area and on-site during construction and decommissioning activities, which would also ensure safe access to the site and surrounding properties by emergency responders.

During the operations phase of the Proposed Project, no full-time personnel are proposed to be located on site, but the site may include up to five people at a time as needed for inspections, maintenance, and repair activities. The Proposed Project is estimated to add fewer than 0.2 calls per year to Jacumba Fire Station 43 and the co-located CAL FIRE and County Boulevard Fire Station 47 during operation of the Proposed Project facilities (Appendix N).

During the construction phase, which would occur over approximately 13 months, there would be up to 500 people on the Project site on any given day. The short duration of the construction phase in comparison to the longer-term operational period is considered not significant in terms of its overall increase in annual calls. For example, assuming 500 people are on site every day for 12 months, this on-site population would be expected to result in up to 35 emergency calls, or 0.1 calls per day. Because construction would not occur during the nighttime hours, there would not be people on site for half of the day, reducing the potential calls to 0.05 calls per day. Neither of these call volume increases would be considered to impact the capabilities of the responding fire stations The addition of 0.05 calls for a short duration or 0.2 call per year long term to rural fire stations that currently respond to approximately one call per day is not considered significant and would not require the construction of additional Fire Station facilities based on that increase alone.

During decommissioning, up to 250 workers would be on site during the 10-month decommissioning period. This temporary impact on emergency response would be less than during the construction period.

For the reasons stated above, impacts to the emergency response objectives identified in the Public Facilities Element of the County General Plan as a result of the Proposed Project would be **less than significant**.

Switchyard Facilities

The ~~switchyard~~ Switchyard Facilities component of the Proposed Project is located adjacent to the on-site collector substation and would be an un-staffed facility, except in cases of maintenance and repair activities. The ~~switchyard~~ Switchyard Facilities site has a Regional Category of Rural Village and is designated as Specific Plan.

Based on these land use categories, the travel time standard from the closest fire station is 10 minutes. The Jacumba Fire Station 43 is approximately 1.5 miles from the ~~switchyard~~ Switchyard Facilities site and would require a travel time of approximately 5 minutes. Therefore, the ~~switchyard~~ Switchyard Facilities would comply with the County General Plan for the travel time from the closest fire station (Appendix N). In addition, the Proposed Project would also have additional fire protection services from the Boulevard Fire Station that is located approximately 8 miles from the ~~switchyard~~ Switchyard Facilities site with a calculated travel time of approximately 16 minutes. In addition to these responding fire stations, there are resources available through automatic or mutual aid agreements.

Construction of the ~~switchyard~~ Switchyard Facilities would be subject to the Traffic Control Plan, and when fully operational, the ~~switchyard~~ Switchyard Facilities would include an approximately 1,450-foot-long asphalt paved access driveway from Carrizo Gorge Road to the switchyard. The

access driveway would be approximately 30-feet-wide, requiring approximately 1.2 acres of land in new right-of-way and 0.3 acres of land on existing SDG&E right-of-way. The access road would be fully accessible to emergency services via a Knox Box. Thus, the Proposed Project has been designed to have ease of access by emergency responders.

During construction of the ~~switchyard~~ Switchyard Facilities, up to 41 people may be on the site at one time, and during the operations and maintenance of the ~~switchyard~~ Switchyard Facilities, no full-time personnel are proposed to be located on site except for periodic visits from up to four workers at a time during operations inspections, maintenance, and repair activities. Thus, the amount of calls the ~~switchyard~~ Switchyard Facilities would add per year to the Jacumba Fire Station 43 and the co-located CAL FIRE and County Boulevard Fire Station 47 during construction and operation of the ~~switchyard~~ Switchyard Facilities would not be substantial.

Therefore, impacts to the emergency response objectives identified in the Public Facilities Element of the County General Plan would be **less than significant**.

Because there are no officially adopted evacuation plans for the area, impacts to an adopted emergency response plan or emergency evacuation plan would be **less than significant**.

2.12.3.2 Wildfire Risk

Guidelines for the Determination of Significance

This impact analysis considers the following CEQA Appendix G Guideline, which asks whether the Proposed Project would:

- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Analysis

During construction, operation, and decommissioning of the Proposed Project, there would be increased human activity and ignition sources at the Project site, including equipment that could create a spark or be a source of heat.

Operation and Maintenance

During operations and maintenance, the Proposed Project would introduce potential ignition sources that do not currently exist on the Project site. With these additional ignition sources, the risk of wildfire would be increased. The lack of steep terrain within the development footprint is beneficial and results in reduced fire intensity and slower fire spread rates. However, Santa Ana

wind events have the potential to increase fire spread rates and these weather periods will be a focused fire prevention period whenever they occur, subject to onsite activity limitations that reduce the potential for accidental ignitions. Potential causes of wildfire associated with operations and maintenance of the Proposed Project include the following:

- Explosion/Arcs, arc flashing, electrical shorts, sparking, motor or other machinery fire, wiring and harnessing fire, overheated junction boxes, rodents chewing on wires and causing arcing.
- Switchyard Facilities
- Employee and maintenance vehicles
- Collapse of supporting structures causing electrical shorts and fire
- Overgrown vegetative fuel under and around the array – the Proposed Project would minimize this potential fire hazard by managing its fuels
- Unauthorized equipment and supplies stored under arrays for shading – the Proposed Project would restrict storage under arrays
- Fire in an inverter
- Short circuit and fire of components in or on a panel
- Potential for sun reflection from panels igniting vegetation
- Illegal target practice or other vandalism or arson in a rural area
- Switchgear and cable fire

Fire risk associated with Proposed Project operations may result from the addition of new electrical equipment on site. Equipment such as the collector substation, ~~switchyard~~ Switchyard Facilities, battery energy storage system, and other solar facility related infrastructure would be implemented for the Proposed Project. The Proposed Project facilities have been designed to minimize the risk of fire hazard as much as feasible as described below.

Battery Energy Storage System Design

Potential hazards associated with battery energy storage systems are primarily associated with the possibility of thermal runaway (similar to overheating) occurring from a malfunctioning or damaged battery. Newer battery technologies have minimized the occurrence of thermal runaway through a system of protections including internal cell monitoring and partitioning; use of non-flammable chemicals; container design and features; ventilation, and air-conditioning systems; and inert gas fire suppression systems.

The Proposed Project's battery energy storage system would have a maximum capacity of up to 90 MW AC, ~~180~~ 360 megawatt hours (MWh) and would to be located throughout the proposed solar facility. The battery energy system would include a total of up to 75 containers distributed at 25 locations within the solar facility (three containers at each location adjacent to inverter/transformer platforms). Figure 1-2 in Chapter 1 of the Final EIR~~, Project Description~~, shows the location of the containers within the proposed solar facility. The battery system would be direct current (DC) coupled with the PV system, connecting electrically at the DC bus of the inverters. The same inverters, transformers, medium voltage equipment, and alternating current (AC) wiring would all serve both the battery energy storage system and the PV system.

The Proposed Project proposes the use of customized steel containers to store banks of Lithium-ion batteries, which will enable on-site storage of solar energy produced by the Proposed Project. There are various types of Lithium-ion batteries available for use in this application. The specific battery type proposed for the Proposed Project is a Lithium-ion nanophosphate cell. Available data indicates that this particular type of Lithium-ion battery has proven to be less vulnerable to fire occurrences than typical Lithium-ion batteries. Lithium-ion nanophosphate batteries include a stable cathode chemistry that substantially reduces the possibility of thermal runaway and provides for reduced reaction from abuse (Sandia National Laboratories 2012).

The Proposed Project's battery storage would also include multiple levels of protections against overcharge. All battery components would be contained within an enclosed structure, avoiding contact with ignition sources and would not include liquids that could spill. The Proposed Project's steel containers would each hold Lithium-ion nanophosphate battery packs on racks throughout a large percentage of the container. Each container would have underground wiring connecting it to a 600-kilowatt skid mounted DC:DC converter, which would bring the voltage from the strings of batteries in the containers up to match the voltage of the PV energy entering into the inverter's DC bus. The containers are typically made from the 12- to 14-gauge steel in shipping containers that measure approximately 55-feet-long, 19-feet-wide, and 10-feet-high. Each container would be separated from neighboring containers by approximately 10 feet.

The proposed batteries and containers would also include the following important monitoring and safety components:

- Modular battery racks designed for ease of maintenance
- Integrated heat and fire detection and suppression system
- Integrated air conditioning system
- Integrated battery management system

The heat and fire detection system would be linked to an automatic inert gas suppression system within each container. The containers would also have a basic interior sprinkler system with several sprinkler heads for coverage and an external dry standpipe for fire fighters to connect and pump water.

Critical information from the battery system, equipment data from the DC:DC converters and inverters would be monitored by the battery monitoring system inside the containers, at the LV (1500 V) metering at the inverter cabinets and at the power plant controller measured along with the solar plant performance with the Supervisory Control and Data Acquisition control system. The battery management system would track the performance, voltage and current, and state of charge of the batteries, proactively searching for changes in performance that could indicate impending battery cell failure. If an event is identified, the system powers down and isolates those battery strings in order to avoid potential failures and fire risks. If a fire event does occur, the battery energy storage system would activate its fire suppression system. The batteries would be located in a manner to avoid contact with other flammable sources; therefore, the most efficient way to control any fire would be to let it burn in place. Therefore, the battery energy storage system has been designed to minimize the risks of starting a fire.

Site Access

Site access driveways are necessary for the Proposed Project's development, but would also facilitate access by fire agencies. Access to the site has been designed per the County Fire Code. The Project site entrance off Old Highway 80 would be 24 feet wide and paved, and the access road to the ~~switchyard~~ Switchyard Facilities site off Carrizo Gorge Road would be 30 feet wide and paved. The perimeter vehicle access within the fenced area would be constructed as suitable for fire access roads and would be constructed to a minimum width of approximately 24 feet. The interior on-site vehicle access would be constructed to a minimum improved width of 20 feet. All on-site vehicle access would be designed to provide a minimum inner turning radius of 28 feet, would be graded and maintained to support the imposed loads of fire apparatus (not less than 75,000 pounds), and would be designed and maintained to provide all-weather driving capabilities. The purpose of the internal access is to allow for two-way access of fire apparatus throughout the solar facility in order to reach all of the inverter/transformer pads and battery storage containers. The non-load-bearing surface material of the fire access roads would consist of an all-weather surface capable of supporting 75,000 pounds as required by County Fire Code. An access-controlled gate would be installed at all access driveways to allow ease of access for fire authorizes.

Defensible Space and Fuel Management

Targeted fire prevention measures would be implemented within the solar facility to reduce the potential for ignitions, and defensible space and fuel management would be provided. For

example, the perimeter of the solar facility would be fenced and all vegetation within the fenceline would be managed to reduce fire risk, substantially reducing the fuels available to be ignited within the fenced facility. The Proposed Project would provide defensible space by setting back all PV modules a minimum of 30 feet from the solar facility's perimeter fence. The perimeter Fuel Modification Zone (FMZ) buffer will include at least 30 feet of modified fuels and the perimeter fire access. Fuels throughout the solar facility would be maintained to a six-inch height. Defensible space around all electrical equipment would be provided by an FMZ buffer of 100 feet surrounding the collector substation pad area and 100 feet surrounding the adjacent Ss~~s~~witchyard pad.

After construction of the Proposed Project, fires from off-site sources would not have continuous fuels across the solar facility and would therefore be expected to burn around and/or over the site via spotting. Burning vegetation embers may land on Proposed Project structures but are not likely to result in ignition based on ember decay rates and the types of non-combustible and ignition resistant materials that would be used on site. Ignition resistant materials of glass, steel, aluminum, and decomposed granite would provide resistance to ignitions from embers. Understory fuels beneath the PV modules would be maintained at roughly 6 inches, so ignitions in the ground cover from embers would produce a fast moving, but low intensity fire through the highly compartmentalized fuel modification areas beneath the PV modules. Further, six 10,000-gallon water storage tanks with fire department connections would be provided on site; one tank would be provided at each driveway entrance to the solar panel areas as defined by geographic isolation from other sections and one tank would be provided near the substation (see Figure 2.12-5, Fire Response Access and Water Tank Locations Plan).

While the Proposed Project has been designed to minimize the risk of fire hazards to the extent feasible and will have minimal occupation during operation, the Proposed Project does propose new electrical equipment that could exacerbate wildfire risks and thereby expose Proposed Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, the Proposed Project's operational-related impacts would be **potentially significant (Impact WF-1)**.

Construction and Decommissioning

An increase in the risk of wildland fire on the Project site would occur during construction and decommissioning when there is the largest amount of fuel on the site and increased activity combined with a greater number of ignition sources on the site. Potential ignition sources during construction and decommissioning related activities include the following:

- Earth-moving equipment – create sparks, heat sources, fuel or hydraulic leaks
- Chainsaws – may result in vegetation ignition from overheating, spark, fuel leak; chainsaws should be fueled and maintained only in areas away from combustible fuels.

- Vehicles – heated exhausts/catalytic converters in contact with vegetation may result in ignition
- Welders – open heat source may result in metallic spark coming into contact with vegetation
- Wood chippers – include flammable fuels and hydraulic fluid that may overheat and spray onto vegetation with a hose failure
- Compost piles – large piles that are allowed to dry and are left on-site for extended periods may result in combustion and potential for embers landing in adjacent vegetation
- Grinders – sparks from grinding metal components may land on a receptive fuel bed
- Torches – heat source, open flame, and resulting heated metal shards may come in contact with vegetation
- Other human-caused accidental ignitions – ignitions related to discarded cigarettes, matches, temporary electrical connections, inappropriately placed generators, poor maintenance of equipment, and others.

All Proposed Project components would be decommissioned except the ~~switchyard~~ Switchyard Facilities ~~and connection to the SDG&E transmission line~~ that would be owned and operated by SDG&E. All decommissioning would occur within the development footprint and disturbance limits of the Proposed Project. The ~~aboveground (detachable)~~ equipment and structures would be disassembled and removed from the site, ~~. Detachable elements include,~~ including all PV modules and support structures, the underground collection system, battery storage units, inverters, transformers, and associated controllers. Removal of the perimeter fencing, substation, and aboveground conductors on the transmission facilities would also be implemented. Similar to construction of the Proposed Project, during decommissioning of the Proposed Project, there would be increased human activity and ignition sources, including equipment that could create spark, be a source of heat, or leak flammable materials on the Project site.

Thus, impacts to wildfire risks exposing Proposed Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire during construction and decommissioning of the Proposed Project would be **potentially significant (Impact WF-2).**

Switchyard Facilities

The ~~switchyard~~ Switchyard Facilities component of the Proposed Project is located adjacent to the on-site collector substation and would be an un-staffed facility, except in cases of maintenance and repair activities. At the end of the construction phase, the operation and maintenance of the ~~switchyard~~ Switchyard Facilities would be transferred to SDG&E, where the ~~switchyard~~ Switchyard Facilities would be subject to fire prevention measures consistent with SDG&E. In addition, a robust fire prevention program that focuses on minimizing the potential for fire ignitions would be followed.

While the switchyard operation would be designed to minimize the risk of wildfire to the extent feasible, the amount of electrical equipment that would be present of the site would be increased as compared to existing conditions. Therefore, the operational impacts to wildfire risk would be **potentially significant (Impact WF-1**). In addition, during the ~~switchyard's~~ Switchyard Facilities' construction, the amount of ignition sources on the ~~switchyard~~ Switchyard Facilities site would be increased, exposing Proposed Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and impacts would be **potentially significant (Impact WF-2)**.

2.12.3.3 Infrastructure Contribution to Increased Wildfire Risk

Guidelines for the Determination of Significance

This impact analysis considers the following CEQA Appendix G Guideline, which asks whether the Proposed Project would:

- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

Analysis

Infrastructure necessary for development of the Proposed Project includes the following components:

- Approximately 300,000 PV modules mounted on support structures (single-axis solar trackers)
- A ~~1,000- to~~ 1,500-volt DC underground collection system linking the modules to the inverters
- 25 inverter/transformer platforms, located throughout the solar facility, to convert the power generated by the modules into a compatible form for use with the transmission network
- Approximately 5,000 feet of 34.5-kV underground AC collection system and 50 feet of overhead AC feeders, approximately 30-feet-tall linking the inverters to the on-site collector substation
- An on-site collector substation located within an approximately 27,360-square-foot area (152-foot by 180-foot)
- A 138 kV, 220-foot-long 65-foot-high overhead slack span transmission line to connect the on-site collector substation to the switchyard
- ~~A 138 kV switchyard~~ Switchyard Facilities within an approximately 8.1 acre area adjacent to the on-site collector substation to transfer power from the on-site collector substation to the existing SDG&E 138 kV transmission line. ~~A 138 kV, 220-foot-long 65-foot-high overhead~~

~~slack span transmission line to connect the on-site collector substation to the switchyard.~~ The Switchyard Facilities include ~~F~~five 138 kV transmission poles ranging in height from 70 to 115 feet, with approximately 1,860 feet overhead transmission lines (tie-in) to loop the switchyard into the existing SDG&E Boulevard – East County transmission line.

- A battery energy storage system of up to 90 MW AC (or ~~180~~ 360 MWh) comprised of battery storage containers located adjacent to the inverter/transformer pads (up to three (3) containers at each location for a total of 75 containers on site)
- Fiber optic line
- Control system
- Five meteorological weather stations
- Site access driveways
- Internal access
- Improvements within SDG&E Transmission Corridor
- Perimeter ~~S~~security fencing and signage
- Lighting
- Fuel modification zones (FMZs)
- Landscaping (visual screening) along specified sections of the perimeter fence
- Six 10,000-gallon water tanks dedicated for firefighting purposes

The construction period for the Proposed Project is anticipated to last up to 13 months. The Proposed Project would have a lifespan of 35 years of operation, after which, all Proposed Project components, with the exception of the Switchyard Facilities ~~switchyard and connection to the SDG&E transmission line~~, would be decommissioned over a 10-month period.

Potential ignition sources during construction and decommission-related activities would include the following:

- Earth-moving equipment – create sparks, heat sources, fuel or hydraulic leaks
- Chainsaws – may result in vegetation ignition from overheating, spark, fuel leak; chainsaws should be fueled and maintained only in areas away from combustible fuels.
- Vehicles – heated exhausts/catalytic converters in contact with vegetation may result in ignition
- Welders – open heat source may result in metallic spark coming into contact with vegetation
- Wood chippers – include flammable fuels and hydraulic fluid that may overheat and spray onto vegetation with a hose failure

- Compost piles – large piles that are allowed to dry and are left on-site for extended periods may result in combustion and potential for embers landing in adjacent vegetation
- Grinders – sparks from grinding metal components may land on a receptive fuel bed
- Torches – heat source, open flame, and resulting heated metal shards may come in contact with vegetation
- Other human-caused accidental ignitions – ignitions related to discarded cigarettes, matches, temporary electrical connections, inappropriately placed generators, poor maintenance of equipment, and others.

With the installation and maintenance of this infrastructure, the primary wildfire ignition risks of the Proposed Project would include:

- Explosion/Arcs, arc flashing, electrical shorts, sparking, motor or other machinery fire, wiring and harnessing fire, overheated junction boxes, rodents chewing on wires and causing arcing
- Switchyard Facilities
- Employee and maintenance vehicles
- Collapse of supporting structures causing electrical shorts and fire
- Overgrown vegetative fuel under and around the array – the Proposed Project would minimize this potential fire hazard by managing its fuels
- Unauthorized equipment and supplies stored under arrays for shading – the Proposed Project would restrict storage under arrays
- Fire in an inverter
- Short circuit and fire of components in or on a panel
- Potential for sun reflection from panels igniting vegetation
- Illegal target practice or other vandalism or arson in a rural area
- Switchgear and cable fire

The Proposed Project would increase the potential for a wildfire and could impact the public and environment by exposure to wildfire due to installation of a solar energy generation and storage facility and its associated infrastructure. However, the Proposed Project has also been designed to prevent this infrastructure from exacerbating a fire risk to the extent feasible as discussed below.

The approximately ~~643~~ 623-acre solar facility would be fenced along the entire facility boundary for security. The fencing would meet National Electrical Safety Code requirements for protective

arrangements in electric supply stations. Fencing would be 7 feet in height total, with a 6-foot-high chain-link perimeter fence and 1 foot of three strands of barbed wire along the top. Breakaway fencing or flow-through fencing would be installed where necessary. Signage in Spanish and English for electrical safety would be placed along the perimeter of the solar facility on the fence, warning the public of the high voltage and the need to keep out, and ~~Motion censored~~ low level lights would be installed at all site access driveway entrances.

The Proposed Project facilities would be designed and constructed in accordance with current fire codes and several of the Proposed Project components have been designed to minimize or reduce wildfire risk. Six water tanks are proposed throughout the Project site to provide water specifically for firefighting purposes. One tank would be provided at each entrance to a site section as defined by geographic isolation from other sections, and one tank would be provided near the substation.

As discussed in Section 2.12.3.2, Wildfire Risk, site access driveways are necessary for Proposed Project development, but would be designed per the County Fire Code to facilitate access by fire agencies. Minimum improved 24-foot wide perimeter access would be constructed to provide for maintenance and fire access. Interior access would be a minimum of 20 feet in width.

Defensible space and fuel management would also be provided as discussed in Section 2.12.3.2 above. The Proposed Project would provide defensible space by setting back all PV modules a minimum of 30 feet from the solar facility's perimeter fence. The perimeter FMZ buffer would include at least 30 feet of modified fuels and the perimeter fire access. Fuels throughout the solar facility would be maintained to a 6-inch height. Defensible space around all electrical equipment would be provided by an FMZ buffer of 100 feet surrounding the collector substation pad area and 100 feet surrounding the adjacent switchyard pad. The defensible spaces and FMZs would minimize potential fires and damage to Proposed Project facilities that would exacerbate wildfires.

Although the Proposed Project's components and infrastructure have been designed to minimize risk, installation of Proposed Project infrastructure would result in a **potentially significant impact (Impact WF-3)** to wildfire risk.

Switchyard Facilities

The switchyard pad area would be free of vegetation around all electrical equipment. The cleared area surrounding the site and the area inside the switchyard pad fence would be covered in gravel. An asphalt-paved access driveway would be constructed from Carrizo Gorge Road to the ~~switchyard~~ Switchyard Facilities. The access driveway will be approximately 30-feet-wide, requiring approximately 1.2 acres of land in new right-of-way and 0.3 acres of land on existing SDG&E right-of-way. Therefore, installation or maintenance of associated infrastructure, including such as access and fuel breaks, emergency water sources, transmission line connection)

that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment would be **less than significant.**

2.12.3.4 Post-Fire Impacts

Guidelines for the Determination of Significance

This impact analysis considers the following CEQA Appendix G Guideline, which asks whether the Proposed Project would:

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Analysis

Topography within the Project site includes primarily level land and gently rolling slopes in the proposed development footprint. Round Mountain and steeper slopes are located within the western portion of the Project site and would not be disturbed. Additionally, as presented in the Landslide section of Section 2.5.1, Geology and Soils, of this EIR, the Project site is not within a landslide susceptibility area as identified in the County's Geologic Hazards Guidelines, landslides have not been mapped on or adjacent to the site, and evidence of landsliding was not observed. As stated in the Geotechnical Report prepared for the Project site (Appendix F), the potential for landsliding or slope instability to impact the Proposed Project is considered low. The Proposed Project would also conform to design requirements associated with proper site preparation and grading practices.

Considering the topographic conditions of the development footprint, lack of landslide evidence, and implementation of surface drainage recommendations, potential impacts associated with post-fire flooding, runoff, or slope instability would be **less than significant**.

Switchyard Facilities

As presented in Section 2.5.2 (Geology and Soils), the ~~switchyard~~ Switchyard Facilities site is not within a landslide susceptibility area as identified in the County's Geologic Hazards Guidelines, landslides have not been mapped on or adjacent to the site, and evidence of landsliding was not observed. As stated in the Geotechnical Report prepared for the Project site (Appendix F), the potential for land sliding or slope instability to impact the ~~switchyard's~~ Switchyard Facilities' development is considered low. The ~~switchyard~~ Switchyard Facilities are not expected to increase site or downstream flooding, as it does not include significant alterations to existing hydrological conditions. The ~~switchyard~~ Switchyard Facilities component of the Proposed Project would also conform to design requirements associated with proper site preparation and grading practices.

Considering the topographic conditions of the ~~switchyard~~ Switchyard Facilities' site, lack of landslide evidence, minimal alterations to existing hydrological conditions and implementation of surface drainage recommendations, potential impacts associated with post-fire flooding, runoff or slope instability would be **less than significant**.

2.12.4 Cumulative Impact Analysis

Emergency Response~~/Evacuation Plans~~

For emergency response, the cumulative study area would be the SDCFPD ~~SDCFA~~, and CAL FIRE jurisdictional boundaries. The Proposed Project and other projects may have a cumulative impact on the ability of local agencies to protect residents, workers and structures from wildfires. These facilities and other development in the cumulative study area would increase the population and/or activities and ignition sources in the Project area, which may increase the chances of a wildfire and increase the number of people and structures exposed to risk of loss, injury, or death.

The potential cumulative impacts from multiple projects in a specific area can cause fire response service decline and must be analyzed for each project. The Proposed Project along with other solar and/or wind projects in the Proposed Project region represent an increase in potential service demand along with challenges regarding rescue or firefighting within or adjacent to electrical facilities.

Despite the generally low calculated increase in number of calls per year anticipated from the Proposed Project, it contributes to the cumulative impact on fire services, when considered with other anticipated projects in the study area. The cumulative impact results in a situation where response capabilities may erode and service levels may decline. Therefore, the Proposed Project, in combination with cumulative projects, **would result in a cumulatively considerable impact** to emergency response ~~an adopted emergency response and emergency evacuation plan~~ (**Impact WF-CU-1)**

Wildfire Risk

The wildfire risk in the vicinity of the Project site has been analyzed and it has been determined that wildfires are likely occurrences, as discussed in the FPP (Appendix N). It is also possible that construction schedules for other projects, should they be approved, would overlap with the Proposed Project's construction schedule. As described above, Proposed Project construction and operation introduces potential ignition sources and additional electrical equipment that does not currently exist on the Project site. Equipment on the Project Site that may be ignition sources during the Proposed Project's construction, operation and decommissioning represents a risk of sparking or igniting nearby fuels, particularly with off-site flammable vegetation and during high wind conditions. Therefore, the Proposed Project, in combination with cumulative projects, **would result in a cumulatively considerable impact to wildfire risk** (**Impact WF-CU-2**).

Infrastructure Contribution to Increased Wildfire Risk

While several of the Proposed Project's components (such as access, fuel breaks, and emergency water sources) have been designed to minimize wildfire risk or contribute to reducing wildfire risk, the Proposed Project would place new electrical equipment and infrastructure in a high wildfire risk location. The Proposed Project and other potential projects occurring in the area, may have a cumulative impact on the ability of local agencies to protect neighboring residents and structures from wildfires. These facilities and other development in the study area would increase the population and/or facilities and ignition sources in the Jacumba area, which may increase the chances of a wildfire and increase the number of people and structures exposed to risk of loss, injury, or death. The Proposed Project along with other solar and/or wind projects in the greater Jacumba region represent an increase in potential service demand along with challenges regarding rescue or firefighting within or adjacent to electrical facilities. Therefore, the installation of Proposed Project infrastructure, in combination with cumulative projects, **would result in a cumulatively considerable impact associated with wildfire risk** (**Impact WF-CU-3**).

Post-Fire Impacts

The Proposed Project would not expose people or structures to significant risks due to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The Proposed Project does not include any structures that would be permanently occupied. The Proposed Project would not be located in area at risk of landslides. Therefore, the Proposed Project **would not result in a cumulatively considerable impact** associated with post-fire impacts.

2.12.5 Significance of Impact Prior to Mitigation

While the Proposed Project has been designed to minimize the risk of fire hazards to the extent feasible and will have minimal occupation during operation, the Proposed Project does propose new electrical equipment that could exacerbate wildfire risks and thereby expose Proposed Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, the Proposed Project's operational-related impacts would be **potentially significant (Impact WF-1)** and mitigation would be required.

Impacts to wildfire risks exposing Proposed Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire during construction and decommissioning of the Proposed Project would be **potentially significant (Impact WF-2)** and mitigation would be required**.**

The Proposed Project's operation and maintenance would increase the amount of electrical infrastructure on a site that is in a high wildfire risk location; therefore, the installation of the

Proposed Project infrastructure would result in a **potentially significant impact (Impact WF-3)** to wildfire risk and mitigation would be required.

The Proposed Project, in combination with cumulative projects, **would result in a cumulatively considerable impact** to emergency response ~~an adopted emergency response and emergency evacuation plan~~ (**Impact WF-CU-1).**

The Proposed Project, in combination with cumulative projects, would result in a **cumulatively considerable impact to wildfire risk (Impact WF-CU-2**).

Therefore, the installation of Proposed Project infrastructure, in combination with cumulative projects, **would result in a cumulatively considerable impact associated with wildfire risk** (**Impact WF-CU-3**).

Post fire impacts would be **less than significant**.

2.12.6 Mitigation Measures

M-WF-1 Fire Protection Plan

Fire Protection Measures

The Project's Fire Protection Plan (FPP) provides customized measures that address the identified potential fire hazards on the site. The measures are independently established but will work together to result in reduced fire threat and heightened fire protection. The following measures identified in Section 7 of the FPP will be implemented:

- Fuel Modification throughout the solar facility site from boundaries inward, including beneath PV modules, around the collector substation and adjacent switchyard, with restrictions on plant species, heights, densities, and locations (Required measure).
- Provide a technical report indicating special precautions for firefighting response (included as Appendix G of the FPP) (Code-exceeding measure).
- Minimum 20-foot interior on-site inverter fore access driveways and a minimum improved 24-foot wide perimeter on-site driveways would be constructed (Required measure).
- Participation in a County Fire Protection and Mitigation Agreement, for funding firefighting and emergency medical resources of which the details will

be determined in the Project Fire Protection and Mitigation Agreement (Required measure).

- Project funded annual fuel modification inspections to ensure compliance with this FPP (Code-exceeding requirement).
- ~~Motion sensor I~~ Illuminated (and/or reflective) signage at main entrance with inverter and contact information for a 24-hour remote operations center for the Project ~~electrical grid disconnect and isolation information and identification~~ (Required measure).
- Training program for local fire agencies on the deenergizing process that is controlled by the California Independent System Operator (CAISO), as described in Section 5.2.3 of the FPP. (Required measure).
- Training program for local fire agencies including preparation of a technical training video with County input and customized for this facility that can be easily viewed by new firefighters who rotate through the local fire stations (Code-exceeding measure).
- Preparation of a construction fire prevention plan (CFPP) for this project to be implemented by all contractors working on this project (CFPP included as Appendix A of the FPP) (Code-exceeding measure).
- Portable carbon dioxide (CO2) fire extinguishers mounted at the inverters and medium voltage transformer units.
- Six (6) 10,000-gallon water tanks dedicated for firefighting purposes; one tank will be provided at each driveway entrance to the solar panel areas as defined by geographic isolation from other sections and one tank will be provided near the substation (Required measure).
- System contact information with local fire agencies/stations to assist responding firefighters during an emergency (Required measure).
- Committed on-going maintenance of all facility components for the life of the project (Required measure).
- Maintenance logs to be kept and made available upon request to SDCFPD ~~SDCFA~~/CAL FIRE (Required measure).
- Consistent placarding and labeling of all components for fire safety/response (Required measure).

Defensible Space and Fuel Modification

The Project would provide defensible space by setting back all PV modules a minimum 30-feet from the solar facility's perimeter fence and modifying the fuels on-site by removing and grading them to a height of 6 inches, or, in the case of perimeter areas, drivable surfaces and vegetation free areas. The perimeter Fuel Modification Zone (FMZ) buffer will include at least 30 feet of modified fuels and will include the 30-foot wide perimeter fire access road, and cleared, contiguous modified fuel areas from the perimeter fence to the outermost panel racks. This area seamlessly meets the modified fuel areas that occur throughout the site where fuels are maintained at a 6-inch height. Defensible space around all electrical equipment would be provided by an FMZ buffer of 100 feet surrounding the project collector substation pad area and 100 feet surrounding the adjacent switchyard.

The entire solar facility site would include modified fuels with fire access roadways and service roads compartmentalizing the low-growing (less than 6-inch) maintained areas beneath all PV modules, surrounding the collector substation pad area, and surrounding the adjacent switchyard.

Fuel modification requirements are detailed in the Project FPP.

M-WF-2 Construction Fire Protection Plan

Risk Reduction Measures

Risk Reduction Measures as identified in the Project Construction Fire Protection Plan (included as Appendix A to the Fire Protection Plan) will be implemented, as appropriate, during the construction phase of the Project to reduce the risk of ignitions. These measures will be enforced through the Site Safety Officer (SSO) and ongoing worker safety training:

- Fire rules shall be posted on the Project bulletin board at the contractor's field office and areas visible to employees. This shall include all contractors and subcontractors if more than one.
- All internal combustion engines used at the Project site shall be equipped with spark arrestors that are in good working order.
- Once initial two-track roads have been cut and initial fencing completed, light trucks and cars shall be used only on roads where the roadway is cleared of vegetation. Mufflers on all cars and light trucks shall be maintained in good working order.

- The Project will be equipped with at least ~~one and up to~~ two water trucks each of 4,000- gallon capacity. Each truck will be equipped with 50 feet of 0.25-inch fast response hose with fog nozzles. Any hose size greater than 1.5 inches shall use National Hose (NH) couplings[3].
- ~~During construction, the project site will have at a minimum two pick-up trucks outfitted with Type-6 Skid-Mounted Units, including fire pump, hose, and nozzle, that are staffed with personnel properly trained to use the equipment.~~
- A cache of shovels, McLeods, and Pulaskis shall be available at staging sites. The amount of equipment will be determined by consultation between SSO and SDCFPD~~SDCFA~~/CAL FIRE. Additionally, on-site pickup trucks will be equipped with first aid kits, fire extinguishers, and shovels. Contractor vehicles will be required to include the same basic equipment.
- Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials and provided with a gravel surface.
- A fire watch (i.e., person responsible for monitoring for ignitions) shall be provided during hot work and shall occur for up to one hour following completion of the hot work activities.
- Smoking will not be permitted on the site.
- Each Project construction site, if construction occurs simultaneously at various locations on the site, shall be equipped with fire extinguishers and firefighting equipment sufficient to extinguish small fires.
- The on-site contractor or Project staff shall coordinate with SDCFPD~~SDCFA~~/CAL FIRE to create a training component for emergency first responders to prepare for specialized emergency incidents that may occur at the Project site.
- All on-site employees shall participate in fire prevention and response training exercises with the SDCFPD~~SDCFA~~ /CAL FIRE.
- The Project shall implement ongoing fire patrols during the fire season as defined by local and state agencies. The SSO will be assigned as fire patrol to monitor work activities when an activity risk exists for fire compliance. The SSO shall verify proper tools and equipment are on site, assess any fire agency work restrictions, and serve as a lookout for fire starts, including staying behind (e.g., a fire watch) to make certain no residual fire exists. Fire watch may be performed by any site personnel. A SSO shall perform routine patrols of the Project site during the fire season equipped with a portable fire extinguisher and

[3] These measures have been revised to avoid redundancy in the CFPP.

communications equipment. The Project staff shall notify SDCFPD~~SDCFA~~/CAL FIRE of the name and contact information of the current SSO in the event of any change.

- Fires ignited on site shall be immediately reported via SDCFPD ~~SDCFA~~ and CAL FIRE.
- The engineering, procurement, and construction contracts for the Project shall clearly state the fire safety requirements that are the responsibility of any person who enters the site, as described in this CFPP.

Daily Fire Prevention Measures

To limit the risk of fires, all site staff, employees, and contractors shall take the following precautions during Project construction:

- Fire safety shall be a component of daily tailgate meetings. Foremen will remind employees of fire safety, prevention, and emergency protocols on a daily basis.
- Smoking will not be permitted in the project site. Combustible materials shall be stored in areas away from native vegetation. Whenever combustibles are being stored in the open air, the SSO shall be informed of the situation.
- Evacuation routes shall be maintained and free of obstructions. Unavoidable evacuation route blockages shall be coordinated such that a secondary route is identified and available.
- Disposal of combustible waste in accordance with all applicable laws and regulations shall be required.
- Use and storage of flammable materials in areas away from ignition sources shall be required.
- Proper storage of chemicals such that incompatible (i.e., chemically reactive) substances would be separated appropriately shall be required.
- Performance of hot work (i.e., welding or working with an open flame or other ignition sources) in controlled areas under the supervision of a fire watch shall be required. Fire watch may be any site personnel who would watch for accidental ignitions. Hot work permits are required and shall be reviewed and granted by the SSO for all hot work.
- Equipment shall be kept in good working order by inspecting electrical wiring and appliances regularly and maintaining motors and tools free of excessive dust and grease.

- Ensuring that heating units are safeguarded shall be required.
- Immediate reporting of fuel or petroleum leaks. The site mechanic shall ensure that leaks are repaired immediately upon notification.
- Immediate repair and cleanup of flammable liquid leaks shall be required.
- Construction work areas shall be kept free of combustible materials.
- Extension cords shall not be relied on if wiring improvements are needed, and overloading of circuits with multiple pieces of equipment shall be prohibited.
- Turning off and unplugging electrical equipment when not in use.

Red Flag Warning Protocol

Red Flag Warnings are issued by the National Weather Service and indicate that conditions are such (low humidity, high winds) that wildfire ignitions and spread may be facilitated. To ensure compliance with Red Flag Warnings restrictions, the National Weather Service website shall be monitored at the site (http://www.srh.noaa.gov/ridge2/fire/briefing.php). During Red Flag Warnings, construction activities shall be limited and precautions may be taken onsite during periods of a Red Flag Warning, when conditions such as low humidity and high winds are present. Upon announcement of a Red Flag Warning, red flags shall be prominently displayed at the entrance gate and main office, indicating to employees and contractors that restrictions are in place. Additionally, any hot work, grading, or other work that could result in heat, flame, sparks, or may cause an ignition to vegetation shall be limited to low fire hazard, non-hot work, unless within an ignition resistant structure until the Red Flag Warning has been lifted. Areas may be evacuated where personnel may be exposed to higher risks. If vehicles are required to be used during Red Flag Warning conditions, vehicles shall remain only on designated access roads on the site.

M-WF-3 Fire Protection and Mitigation Agreement

As a condition to providing service and pursuant to the Safety Element of the General Plan, the applicant shall enter into a Fire Protection and Mitigation Agreement with the San Diego County Fire ~~Authority~~ Protection District (SDCFPD) prior to approval of a Major Use Permit to make a fair share contribution toward local emergency response capabilities. The funding shall be used by the SDCFPD ~~SDCFA~~ to mitigate risks of wildfires and to enhance fire suppression and emergency services capabilities for the Proposed Project and the southeast portion of CSA 135.

2.12.7 Conclusion

This section provides a synopsis of the conclusions reached in each of the impact analyses, and the level of impact that would occur after mitigation measures are implemented.

Emergency Response/Evacuation Plans

As presented in Section 2.12.3.1, Emergency Response/Evacuation Plans, the Proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The Proposed Project would meet the emergency response objectives identified in the County General Plan and would not impair an adopted emergency evacuation plan in the Jacumba area. For the reasons stated above, impacts to an adopted emergency response plan or evacuation plan would be **less than significant.**

Wildfire Risk

As presented in Section 2.12.3.2, anticipated impacts to wildfire risk during Proposed Project operations (**Impact WF-1**) would be potentially significant. With the implementation of **M-WF-1** (Fire Protection Plan) and **M-WF-3** (Fire Protection and Mitigation Agreement), as discussed further below, potential impacts to operational wildfire risk would be **less than significant**.

The FPP would ensure compliance with applicable fire codes and wildfire-related regulations and provides fire protection measures to minimize fire risk. Further, a Technical Report for Fire Personnel has been developed and is included as Appendix G of the FPP (Appendix N). This Report provides information about the Proposed Project such that responding fire agency personnel and other first responders have an understanding of potential hazards associated with PV solar facility. The Technical Report provides basic facility information for responding personnel so that they understand the potential site risks and what strategies, tools and equipment, and precautions are required for safely responding to emergencies.

The Proposed Project developer will be required to participate in a Fire Protection and Mitigation Agreement with San Diego County/SDCFPD ~~SDCFA~~. The Fire Protection and Mitigation Agreement ensures funding for firefighting and emergency resources to comply with General Plan Safety Element Policy S-6.3 for new development, which requires development projects to contribute fair-share funding toward fire services. Funding provided by projects result in capital that can be used toward firefighting and emergency response improvements so that the County's firefighting agencies are able to perform their mission into the future at levels consistent with the General Plan.

Anticipated impacts during construction and decommissioning of the Proposed Project would be potentially significant (**Impact WF-2**). Implementation of mitigation measure **M-WF-2** (CFPP) would reduce this impact to **less than significant**. The CFPP is included as Appendix A of the

FPP (Appendix N). The specific risk reduction measures and daily fire prevention measures to be implemented during construction are listed in **M-WF-2**.

Infrastructure Contribution to Increased Wildfire Risk

As presented in Section 2.12.3.3, Infrastructure Contribution to Increased Wildfire Risk, anticipated impacts to wildfire risk associated with Proposed Project-related infrastructure would be potentially significant (**Impact WF-3**). With implementation of mitigation measures **M-WF-1** (FPP) and **M-WF-3** (Fire Protection and Mitigation Agreement), the impact would be **less than significant**.

Post-Fire Impacts

As presented in Section 2.12.3.4, Post-Fire Impacts, anticipated impacts associated with post-fire erosion, flooding, or landslides would be **less than significant**.

Cumulative Impacts

Emergency Response ~~and Emergency Evacuation~~

As discussed in Section 2.12.4 above, Cumulative Impact Analysis, the Proposed Project, in combination with other cumulative projects, would have a cumulatively considerable impact related to emergency response ~~and emergency evacuation~~ (**Impact WF-CU-1**). With implementation of mitigation measures **M-WF-1** (FPP), **M-WF-2** (CFPP) and **M-WF-3** (Fire Protection and Mitigation Agreement), the Project would result in a **less than significant cumulative impact.**

Wildfire Risk

As presented in Section 2.12.4 above, the Proposed Project, in combination with cumulative projects, would result in a cumulatively considerable impact to wildfire risk (**Impact WF-CU-2**). With implementation of mitigation measures **M-WF-1** (FPP), **M-WF-2** (CFPP), and **M-WF-3** (Fire Protection and Mitigation Agreement), the Proposed Project would result in a **less than significant cumulative impact.**

Infrastructure Contribution to Increased Wildfire Risk

As presented in Section 2.12.4, the installation of Proposed Project infrastructure, in combination with cumulative projects, would result in a cumulatively considerable impact associated with wildfire risk (**Impact WF-CU-3**). With implementation of mitigation measures **M-WF-1** (FPP), **M-WF-2** (CFPP), and **M-WF-3** (Fire Protection and Mitigation Agreement), the Proposed Project would result in a **less than significant cumulative impact.**

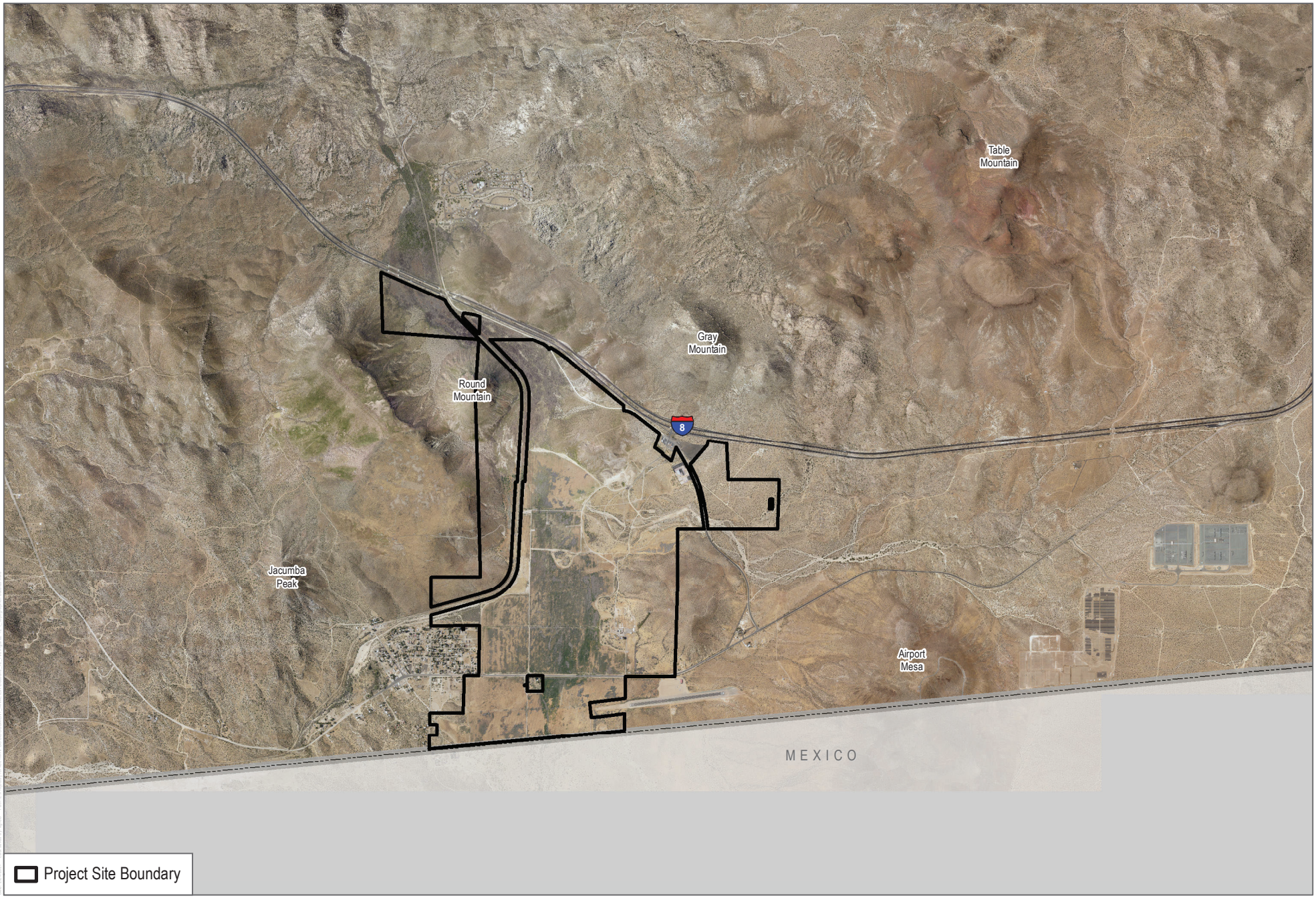
Post-Fire Impacts

As presented in Section 2.12.3.4, Post-Fire Impacts, anticipated impacts associated with post-fire erosion, flooding, or landslides would **not result in a cumulatively considerable impact**.

Table 2.12-1
Historic Fires within 3 Miles of the Project Site

Fire Year	Fire Name	Total Area Burned (acres)
1941	Unnamed fire	94
1971	Unnamed fire	22
1972	Unnamed fire	676
1980	In-Ko-Pah Fire	25
1982	Tule Fire	4,645
1983	Carrizo Fire	665
2003	Range Fire	29
2003	Jewell Fire	42
2005	Railroad Fire	38
2006	Gunn 2 Fire	7
2008	Carrizo Fire	47
2008	Carrizo Fire	12
2012	Border 6 Fire	62
2012	Border 12 Fire	121
2013	Border Fire	62
2014	Jacumba Fire	27

Source: Cal Fire 2017



SOURCE: SANGIS 2017, 2021

DUDEK

0 2,000 4,000 Feet

FIGURE 2.12-1

Topographic Features in the Proposed Project Area

JVR Energy Park Project

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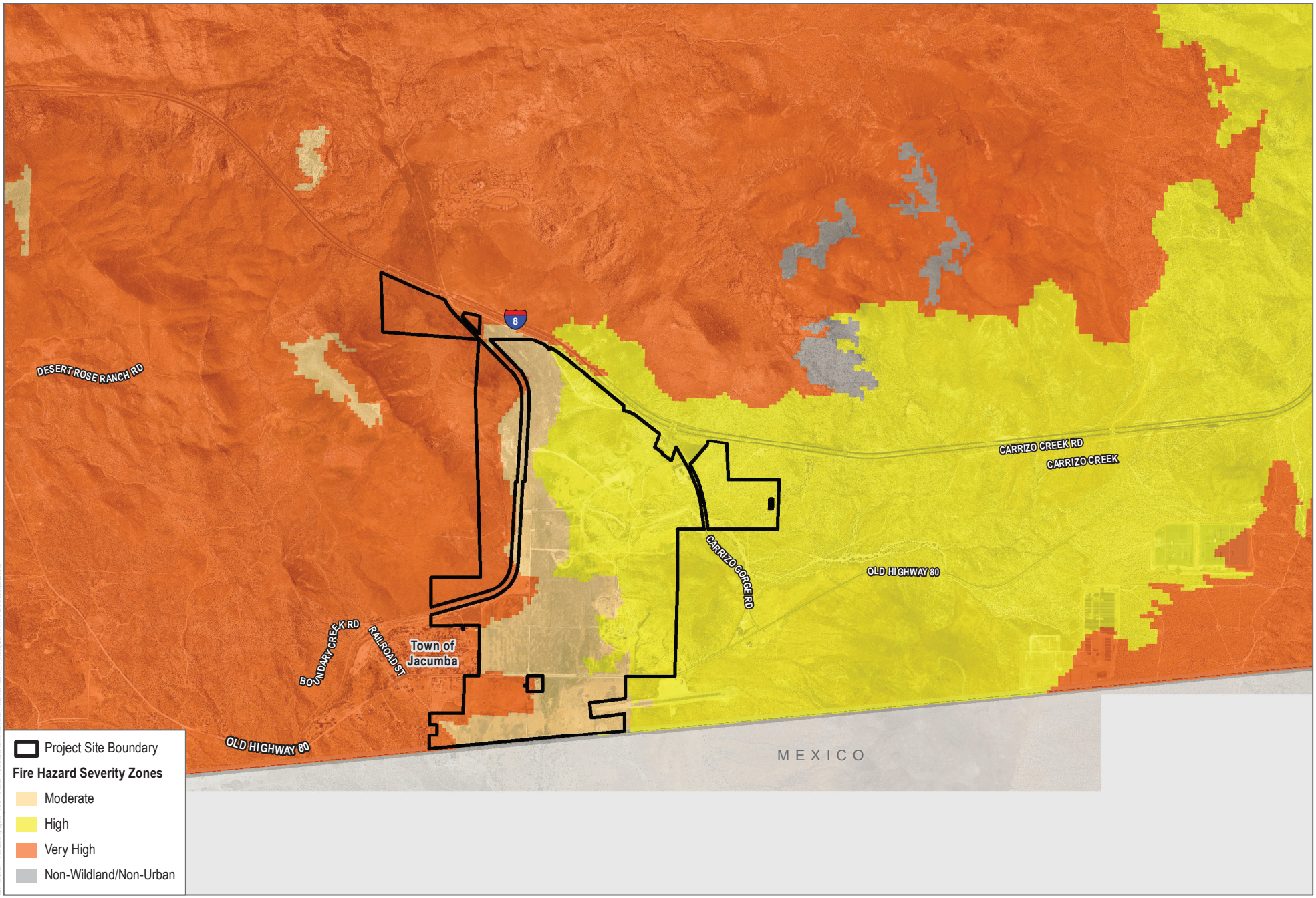

SOURCE: CALFIRE 2019; SANGIS 2017, 2020

DUDEK

0 2,000 4,000 Feet

FIGURE 2.12-2

Fire Hazard Severity Zones in Proposed Project Area

JVR Energy Park Project

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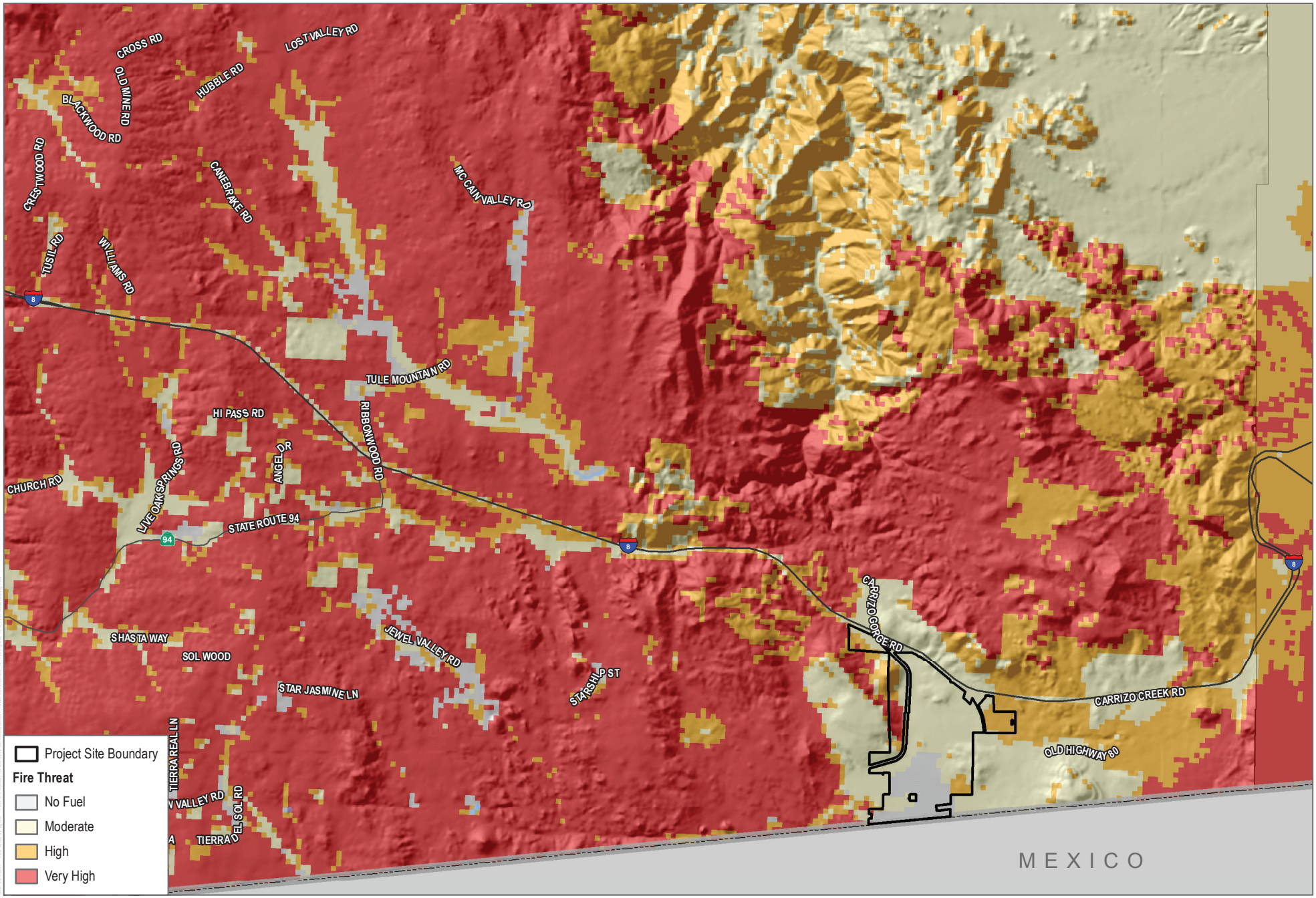

SOURCE: CALFIRE 2019; SANGIS 2017, 2020

DUDEK

0 1 2 Miles

FIGURE 2.12-3

Fire Threat Ranking in Proposed Project Area

JVR Energy Park Project

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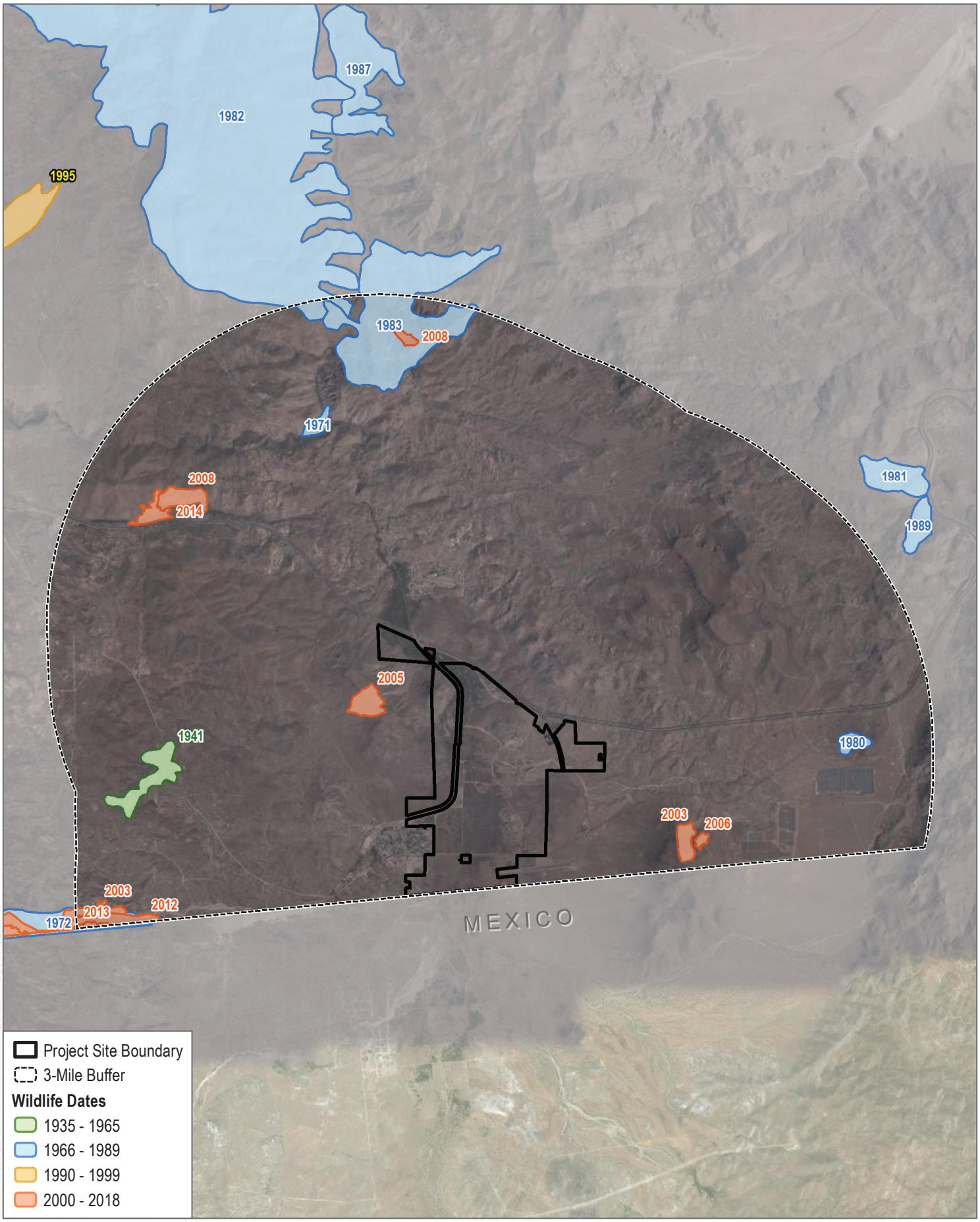

SOURCE: CalFire 2017; Bing Maps

DUDEK

0 1 2 Miles

FIGURE 2.12-4

Fire History Map

JVR Energy Park Project

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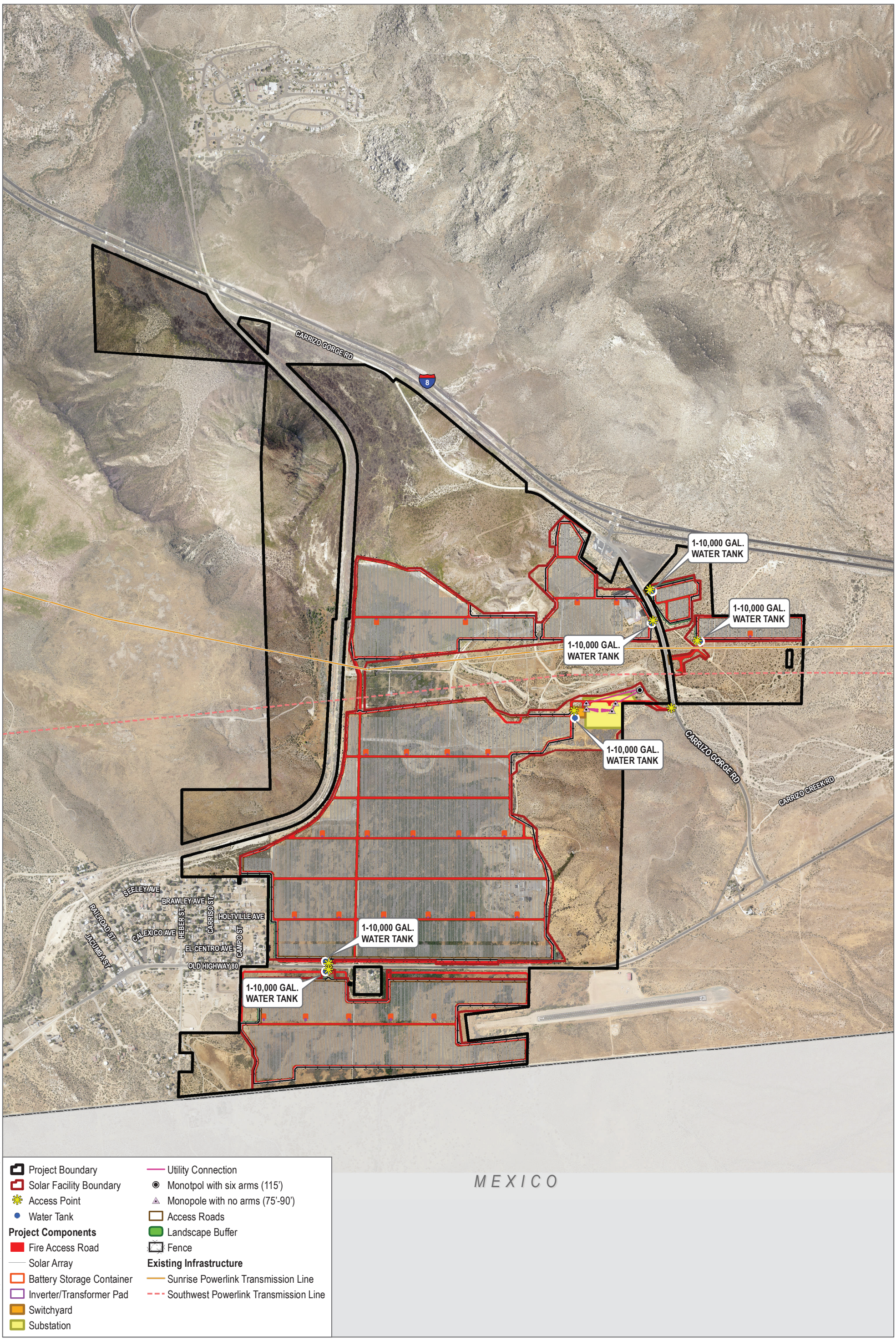

SOURCE: Kimley-Horn 2021; SANGIS 2017, 2020

DUDEK

0 500 1,000 Feet

FIGURE 2.12-5

Fire Response Access and Water Tank Locations Plan

JVR Energy Park Project

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