15 WILDFIRE

INTRODUCTION

Appendix G of the CEQA Guidelines requires an analysis of wildfire if a proposed project is located in or near state responsibility areas (SRAs) or lands classified as very high fire hazard severity zones. As discussed below, the project site is within an SRA.

This chapter describes wildfire conditions and wildfire behavior, identifies the California Department of Forestry and Fire Protection (CAL FIRE) fire hazard severity zones for the project site and vicinity, and describes first response to wildfires in the project area. Impacts are evaluated relative to the potential for the proposed project to exacerbate wildfire risks or expose people or structures to significant risks. In addition, this analysis identifies design features and compliance with existing safety procedures, standards, and regulations related to managing fire risk that would be part of the project.

ENVIRONMENTAL SETTING

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

Lands in the vicinity of the project site are within Battalion 1 of CAL FIRE's Amador-El Dorado Unit (CAL FIRE 2023). The CAL FIRE Amador-El Dorado Unit includes Amador, El Dorado, Alpine, and portions of Sacramento and San Joaquin counties. The total acreage in the Unit is 2,667,841, with approximately 910,589 acres served by CAL FIRE.

Battalion 1 of the Amador-El Dorado Unit consists of 587,545 acres and encompasses portions of Amador, El Dorado, and Sacramento counties. There are two CAL FIRE stations within the Battalion and two unstaffed fire lookouts. Camino Fire Station 20, located at 2840 Mount Danaher Road in Camino, staffs two Type 3 engines[1] year-round and one reserve Type 3 engine. Camino Fire Station 20 is also the location of the Unit Administrative Headquarters, the Unit Emergency Command Center, the Unit Expanded Dispatch Center, and the Regional Department of General Services Radio Technician Offices. El Dorado Station 43, located at 56660 Mother Loade Drive in Placerville, staffs two Type 3 engines and one Type 2 Fire Dozer. There are no CAL FIRE stations in Sacramento County; however, the response area for the Camino Fire Station 20 includes the American River Canyon/Highway 50 corridor and the El Dorado Fire Station 43 includes eastern Sacramento County (CAL FIRE 2023).

2022 FIRE SEASON IGNITION STATISTICS

The Amador-El Dorado Unit's Strategic Fire Plan provided a comprehensive summary of fire ignition statistics. In 2022, the Amador-El Dorado Unit experienced 214 wildland fire ignitions

[1] A Type 3 fire engine is typical equipment in a mountainous or rural community. These are usually four-wheel drive apparatus designed for rapid deployment, pick up, and relocation during wildfires. Technically, a Type 3 fire engine includes a pump operating at 120 gallons per minute, a large 500 gal/tank, 1,000 ft. 1 1/2″ hose, 800 ft. 1″, and minimum of four firefighters.

within its protection area resulting in approximately 4,830 acres burned. This was a decrease of 45 ignitions from 2021 (259 fires), and less than the 10-year annual average of 253 fires. There were 20 wildland fire ignitions in Sacramento County in 2022.

Most wildfires in the Amador-El Dorado Unit protection area have resulted from debris burning (34 percent). Other common fire causes within the Amador-El Dorado Unit protection area include equipment (13 percent), vehicle (9 percent), electrical fires (8 percent), and "other" fires (9 percent) (CAL FIRE 2023). Fourteen percent of fires had undetermined causes, and the remainder were caused by arson (8 percent), smoking (2 percent), campfires (1 percent), playing with fire (1 percent), one natural fire (less than 1 percent), and one fire is still under investigation (less than 1 percent). Two of the five largest fires in 2020 in the Amador-El Dorado Unit occurred in Sacramento County (CAL FIRE 2023):

- Grant Fire burned 73 acres of grass and ranchland in Sacramento County. The fire was caused by a subject attempting to burglarize the Boys Ranch Facility.
- Nelda Fire burned 28 acres in Sacramento County. The cause of this fire was undetermined.

Wildfire Classification and Behavior

Fires are classified by where in the fuel strata they burn: surface fires, understory fires, and crown fires (California Forest Stewardship Program 2015). Surface fires are the most common. Depending on the fuels, weather, and topography, these fires can be low to high intensity. Understory fires have flame lengths of up to 10 feet. They consume surface fuels, small trees, brush, and lower branches of overstory trees. Crown fires reach into the crowns of trees with flame lengths of more than 10 feet.

Fire season is the period when fires are expected to occur, based on knowledge of long-term climate patterns. Wildland fire behavior is based on four primary factors: topography, weather, fuels, and human influences. The following discussion briefly describes how each of these factors influences wildfire behavior within and in the vicinity of the planning site.

Topography

Topographic features such as slope and aspect influence a fire's intensity, direction, and rate of spread. Fires burning in flat or gently sloping areas tend to burn more slowly and spread in wider ellipses than fires on steep slopes. Streams, rivers, and canyons can channel local diurnal and general winds, which can accelerate a fire's speed and affect its direction, especially during foehn (warm, dry, and unusually strong) wind events (California Forest Stewardship Program 2015).

The project site is situated primarily within the gently rolling foothills at the western margin of the Sierra Nevada. The northwestern corner of the project site is situated at the eastern margin of the Sacramento Valley. Elevations range from 170 to 275 feet above mean sea level.

Weather

Weather conditions influence the potential for fire ignition, rates of spread, intensity, and the direction(s) toward which a fire burns. Temperature, relative humidity, and wind are the variables used to predict fire behavior.

The project region has a mild Mediterranean climate, with hot dry summers and cool, wet winters. Most of the precipitation falls during winter months, from November to April. About 75 percent of the annual precipitation occurs then, but measurable rain falls only on an average of nine days per month during that period (National Oceanic and Atmospheric Administration [NOAA] 2022). On average, the months with the highest rainfall are December and January, and July has the least precipitation (NOAA 2022).

The project site has average annual temperatures that range from approximately 37° to 95°F (NOAA 2022). According to data from NOAA, the total precipitation recorded from January 1, 2022, through December 31, 2022, at the Sacramento WB Station was 11.19 inches (NOAA 2022).

Wind plays a role in the flammability of fuels by removing moisture through evaporation, preheating fuels in a fire's path, and increasing spotting distances (the distance at which a flying ember might ignite a spot fire). The prevailing wind in Sacramento County is southerly except for November, when it is northerly. Topographic effects, the north-south alignment of the valley, the coast range, and the Sierra Nevada strongly influence the wind flow in the valley (NOAA 2022). In 2022, the average windspeed in Sacramento County was 5.8 miles per hour (NOAA 2022).

Fuels

Vegetation usually provides most of the fuel that feeds wildfire. The volume, character, distribution, and arrangement of vegetation all greatly influence fire behavior (California Forest Stewardship Program 2015). The site historically has been used for year-round sheep and cattle grazing Valley and foothill grassland is the dominant vegetation community present within the project site followed by blue oak woodland. The rate of spread in ungrazed grass is moderate to high, with low to moderate fireline intensity (flame length). Grazed grass produces substantially lower flame lengths and spreads slower by one-quarter to one-half the rate (Wildland Res Mgt et al, 2014).

See Chapter 6, "Biological Resources", for further discussion of habitat and vegetation types in the project site.

Human Influence

Human influence on wildfire is broad and can be substantial. It includes direct influences such as the ignition and suppression of fires, and indirect influence through climate change and alterations in land use patterns that support modified vegetative regimes. Anthropogenic influence more directly controls fire frequency than area burned because anthropogenic ignitions are responsible for a large number of ignitions, but once started, fire spread, and behavior become a function of fuel characteristics, terrain, and weather conditions. Areas where human influence is concentrated, but not so much so that the environment reflects an urban setting, greatly exacerbate the risk of wildfire due to the potential capacity for human-caused ignitions and fire spread (Balch et al. 2017).

Wildfire ignitions can be generated by either natural or human causes, the proportion of which depend on a variety of factors, including the presence of human activity and local climate and weather patterns. Human-induced wildfire ignitions have the ability change fire characteristics in two ways: (1) changing the distribution and density of ignitions, and (2) changing the seasonality

of burning activity (Balch et al. 2017). A study of wildfires in California concluded that humans account for starting approximately 95 percent of wildfires in the state (Isaacs-Thomas 2020). Circumstances in California have made the environment particularly vulnerable to human-caused fires with expansion of the wildland-urban interface and introduction of more people in areas susceptible to wildfire at all times of the year.

Fire Hazard Severity Zones

Fire hazard severity zones are measured qualitatively, based on vegetation, topography, weather, crown fire potential (a fire's tendency to burn upward into trees and tall brush), and ember production and movement within the area in question.

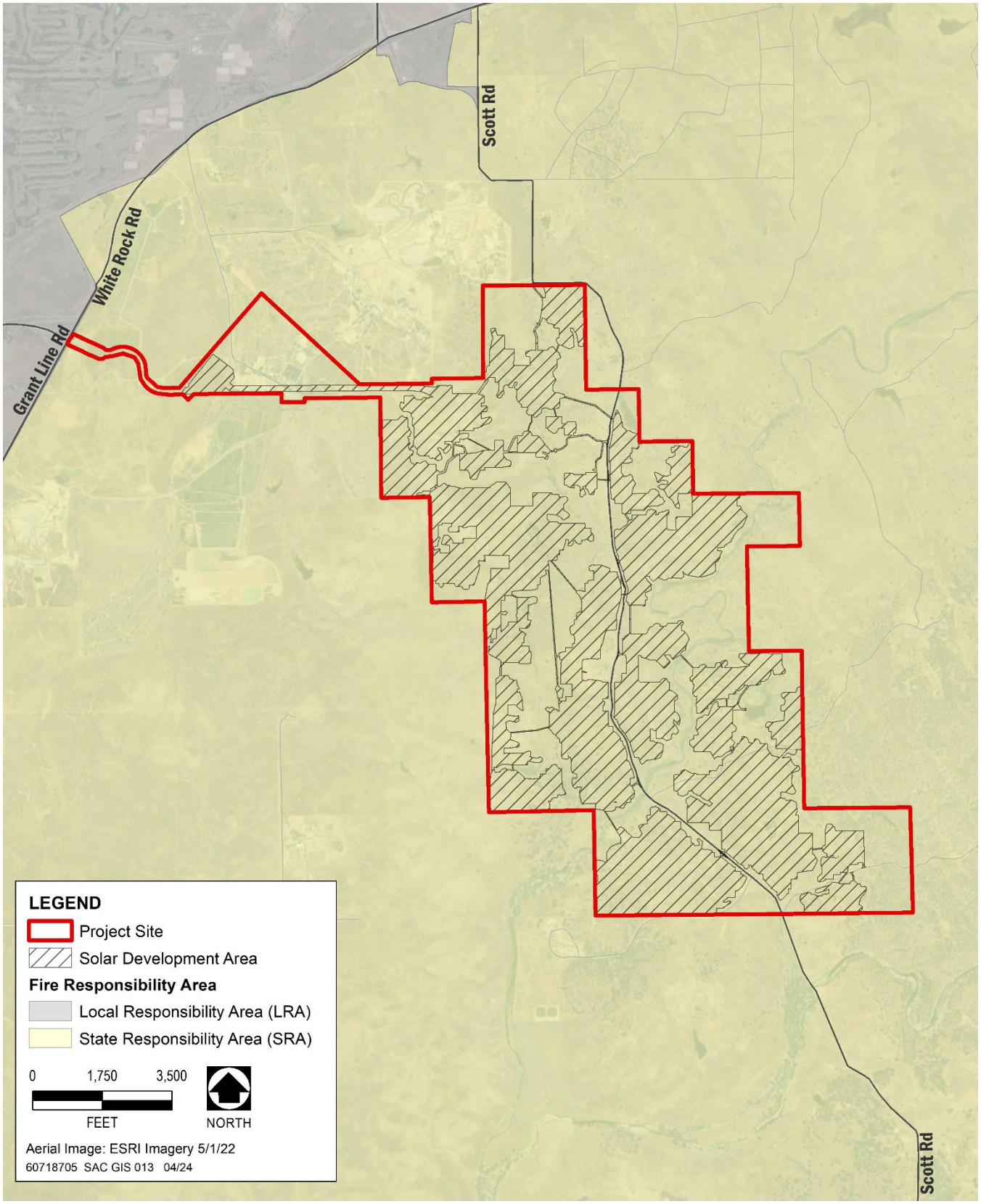
Fire prevention areas considered to be under state jurisdiction are referred to SRAs, and CAL FIRE is responsible for vegetation fires within SRA lands.[2] In general, SRA lands contain trees producing, or capable of producing, forest products; timber, brush, undergrowth, and grass, whether of commercial value or not, that provide watershed protection for irrigation or for domestic or industrial use; or lands in areas that are principally used, or are useful for, range or forage purposes.

Public Resources Code (PRC) Sections 4201–4204 and Government Code Sections 51175–51189 require identification of fire hazard severity zones within the State of California. In SRAs, CAL FIRE is required to delineate three wildfire hazard ranges: moderate, high, and very high. As shown in Plate WF-1, the project site is within an SRA (CAL FIRE 2024). Most of the project site is designated by CAL FIRE as Moderate Fire Hazard Severity Zone with a portion of the southeastern area designated as a High Fire Hazard Severity Zone (Plate WF-2). The project site is within Battalion 1 of CAL FIRE's Amador-El Dorado Unit (CAL FIRE 2024).

CAL FIRE identifies only very high fire hazard severity zones in local responsibility areas (LRAs), which are areas under the jurisdiction of local entities (e.g., cities and counties). The project site is not within an LRA. There are no very high fire hazard severity zones within or in the vicinity of the project site (Plate WF-1 and Plate WF-2) (CAL FIRE 2023).

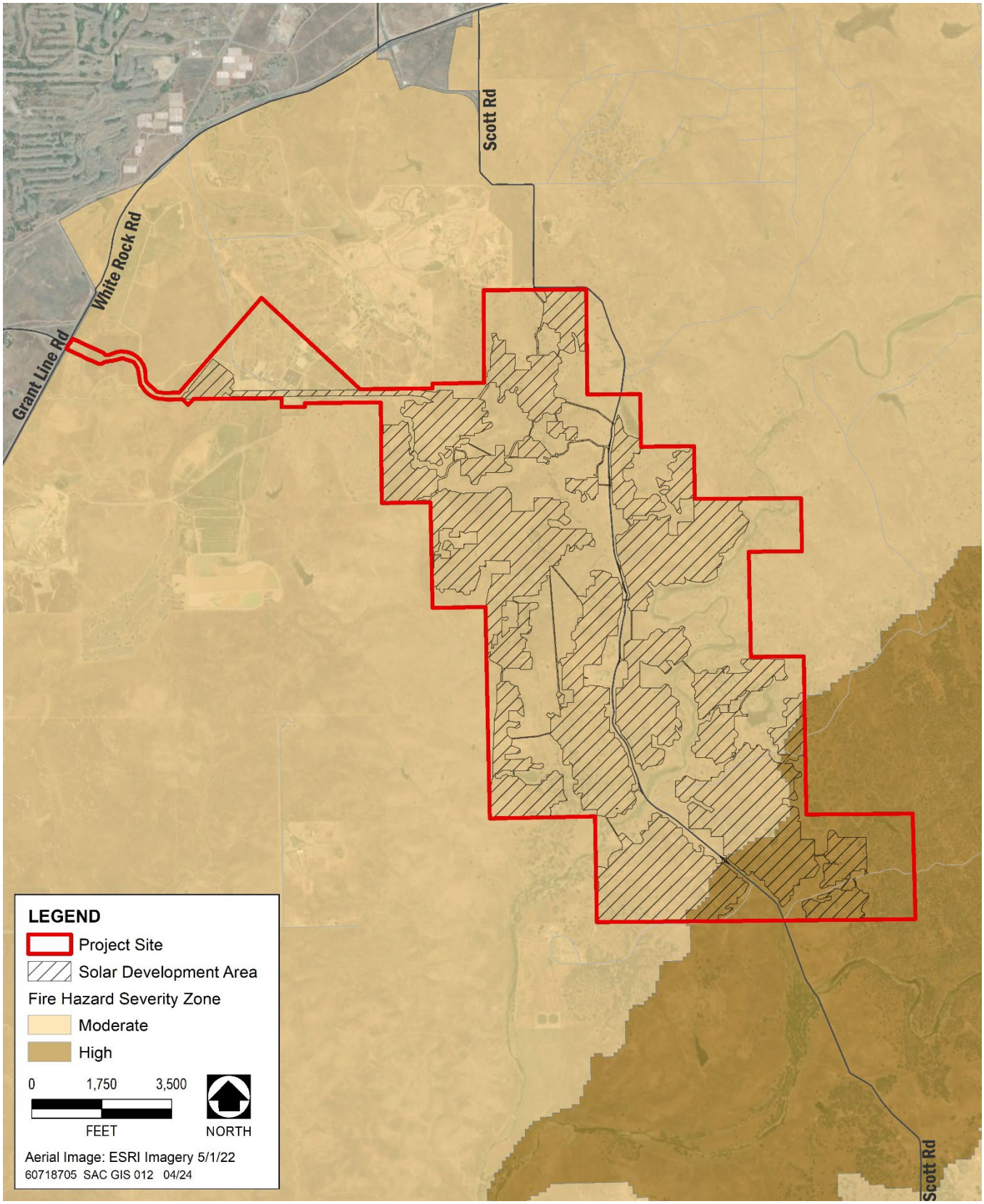
[2] California Public Resources Code (PRC) Sections 4125–4127 define a State Responsibility Area as lands in which the financial responsibility for preventing and suppressing wildland fire resides with the State of California.

Plate WF-1: Fire Responsibility Areas



Source: CALFIRE, 2024

Plate WF-2: Fire Hazard Severity Zones



Source: CALFIRE 2023

REGULATORY SETTING

FEDERAL

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. 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 70, NATIONAL ELECTRICAL CODE

NFPA 70, National Electrical Code (NEC), sets the foundation for electrical safety in residential, commercial, and industrial occupancies. It is consistently reviewed and updated, with input from active professionals in the field, to stay ahead of the constant changes in technology and safety. Article 480 (Storage Batteries), Article 690 (Solar Photovoltaic Systems), and Article 691 (Large-Scale Solar Photovoltaic Electrical Supply Stations) of the 2020 NEC edition specifically address installation and operation of Photovoltaic (PV) systems and associated facilities (NFPA 2020).

NFPA 850, FIRE PROTECTION FOR ELECTRIC GENERATING PLANTS AND HIGH VOLTAGE DIRECT CURRENT CONVERTER STATIONS

NFPA 850, Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations, 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. 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.

NFPA 855, STANDARD FOR THE INSTALLATION OF STATIONARY ENERGY STORAGE SYSTEMS

NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, provides minimum requirements for mitigating hazards associated with energy storage systems. This document provides recommendations for exhaust ventilation; smoke and fire detection; explosion control; fire protection systems and equipment; and installing, operating, maintaining, and decommissioning energy storage systems.

STATE

SENATE BILL 38: EMERGENCY RESPONSE AND EMERGENCY ACTION PLANS FOR BATTERY ENERGY STORAGE FACILITIES

Senate Bill (SB) 38 was signed into law in October 2023 and amended Section 761.3 of the California Public Utilities Code to add safety requirements for battery energy storage projects. Battery energy storage systems are regulated under Chapter 12 of the California Fire Code, which sets strict standards for installation and operation of such systems, including internal fire detection and suppression systems and require hazard assessments prior to commercial

operation. SB 38 requires every battery energy storage facility in California to have an emergency response and emergency action plan that cover the premises of the facility, consistent with Labor Code Sections 142.3 and 6401 and related regulations, including the regulatory requirements applicable to emergency action plans in Title 8 of the California Code of Regulations. Under SB 38, the owner or operator of the facility must coordinate with local emergency management agencies, unified program agencies, and local first responders to develop the plan and must submit the plan to the County and, if applicable, the city where the facility is located.

Specifically, the emergency response and action plan must:

- Establish response procedures for an equipment malfunction or failure;
- Include procedures, established in consultation with local emergency management agencies, that provide for the safety of surrounding residents, neighboring properties, emergency responders; and
- Establish notification and communication procedures between the battery storage facility and local emergency management agencies.

Additionally, the plan may consider responses to potential off-site impacts such as poor air quality, threats to municipal water supplies, water runoff, and threats to natural waterways. The plan also may include procedures for the local emergency response agency to establish shelter-in-place orders and road closure notifications when appropriate.

CALIFORNIA FIRE CODE

The California Fire Code (Title 24, Chapter 9 of the California Code of Regulations) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire safety requirements for new and existing buildings and the surrounding premises. The following sections in Chapter 12 of the 2019 California Fire Code with July 2021 Supplements contain specialized technical regulations related to energy systems.

SECTION 1204

Section 1204 (Solar Photovoltaic Power Systems) of the California Fire Code requires a clear, brush-free area of 10 feet around all ground-mounted PV arrays and a building(s) containing a rapid shutdown system with permanent labels describing the rapid shutdown process.

SECTION 1205

Section 1205 (Stationary Fuel Cell Power Systems) of the California Fire Code identifies requirements for installation and operation of stationary fuel cell power systems, including ventilation and exhaust, gas detection systems, fuel supply, and fire suppression equipment.

SECTION 1206

Section 1206 (Electrical Energy Storage Systems [ESS]) of the California Fire Code outlines construction and operation permit requirements for stationary and mobile energy storage systems, as well as installation, replacement, and maintenance requirements.

CALIFORNIA PUBLIC RESOURCES CODE

SECTION 4290

California PRC 4290 was adopted for establishing minimum wildfire protection standards in conjunction with building, construction, and development in SRAs. Under Section 4290, the future design and construction of structures, subdivisions, and developments in SRAs must provide for basic emergency access and perimeter wildfire protection measures as specified in Section 4290. These measures provide for road standards for emergency access, signing and building numbering, water supply reserves, and fuel breaks and greenbelts. Local standards that exceed those of Section 4290 supersede Section 4290.

SECTION 4291

Section 4291 of the PRC defines and describes fire protection measures and responsibilities for mountainous, forest, brush, and grass covered lands. These measures include, but are not limited to, the following:

- Maintenance of defensible space of 100 feet from each side and from the front or rear of a structure, but not beyond the property line.
- Removal of a portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe.
- Maintenance of a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood. Construction or rebuilding of a structure must comply with all applicable state and local building standards.

SECTION 4292

PRC Section 4292 sets forth the basic requirements for clearances around poles and towers. This section requires that flammable fuels be cleared for a minimum 10-foot radius from the outer circumference of certain poles and towers (nonexempt or subject poles or towers). The minimum clearance requirements are based on the type of hardware affixed to the line at the pole or tower. The distances for clearance requirements must be measured horizontally, not along the surface of sloping ground.

SECTION 4293

PRC Section 4293 sets forth the basic requirements for clearances around electrical conductors. This section requires that all vegetation be cleared for a specific radial distance from conductors, based on the voltage carried by the conductors: 4 feet for voltages between 2,400 and 72,000 volts; 6 feet between 72,000 and 110,000 volts; and 10 feet for voltages greater than 110,000 volts. In addition, this section calls for removal or trimming of trees that are dead, decadent, rotten, decayed, or diseased, and could fall into the line or cause other surrounding trees to fall into the line.

SECTION 4427

PRC Section 4427 limits the use of any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, when the equipment is located on or near land covered by forest, brush, or grass. Before such equipment may be used, all flammable material, including snags, must be cleared

away from the area around such operation for a distance of 10 feet. A serviceable round point shovel with an overall length of not less than 46 inches and a backpack pump water-type fire extinguisher, fully equipped and ready for use, must be maintained in the immediate area during the operation.

SECTION 4428

PRC Section 4428 limits industrial operations on or near any land covered by forest, brush, or grass between April 1 and December 1 of any year, or other times when ground litter and vegetation will sustain combustion permitting the spread of fire. Such operations must provide and maintain, for firefighting purposes only, suitable and serviceable tools in the following amounts, manner, and locations:

- A sealed box of tools must be located in the operating area, at a point accessible in the event of fire. The fire toolbox must contain a backpack pump-type fire extinguisher filled with water, two axes, two McLeod fire tools, and enough shovels for each employee at the operation to be equipped to fight fire.
- Each passenger vehicle used must be equipped with a shovel and an ax, and any other vehicle used must be equipped with a shovel. Each tractor used must also be equipped with a shovel.

SECTION 4431

PRC Section 4431 requires users of gasoline-fueled internal combustion–powered equipment operating within 25 feet of flammable material on or near land covered by forest, brush, or grass to have a tool for firefighting purposes at the immediate location of use. This requirement is limited to periods when burn permits are necessary. Under Section 4431, the Director of Forestry and Fire Protection specifies the type and size of fire extinguisher necessary to provide at least a minimum assurance of controlling fire caused by use of portable power tools during various climatic and fuel conditions.

SECTION 4442

PRC Section 4442 prohibits the use of internal combustion engines running on hydrocarbon fuels on any land covered by forest, brush, or grass unless the engine is equipped with a spark arrestor and is constructed, equipped, and maintained in good working order when traveling on any such land.[3]

LOCAL

SACRAMENTO COUNTY OPERATIONAL AREA EVACUATION ANNEX

The Sacramento County *Operational Area Evacuation Annex* (Sacramento County Office of Emergency Services 2018a) provides evacuation strategies that will be implemented in an affected area, including public alerts and warnings, transportation, and evacuation triggers. The Annex outlines local government (Cities and Special Districts), the Sacramento Operational

[3] A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles larger than 0.0232 inch from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the U.S. Forest Service.

Area, and State responsibilities for management of evacuation during an emergency situation. Organizations, operational concepts, responsibilities, and a documented process to accomplish an evacuation are defined within the Annex.

Sacramento County General Plan

The *Sacramento County General Plan of 2005–2030* (Sacramento County 2017) includes the following policies related to wildfire that apply to the proposed project.

Safety Element

Policy SA-23. The County shall require that all new development meets the local fire district standards for adequate water supply and pressure, fire hydrants, and access to structures by firefighting equipment and personnel.

Policy SA-24. The County shall require, unless it is deemed infeasible to do so, the use of both natural and mechanical vegetation control in lieu of burning or the use of chemicals in areas where hazards from natural cover must be eliminated, such as levees and vacant lots.

Policy SA-28. The County shall encourage and require, to the maximum extent feasible, automatic fire sprinkler systems for all new commercial and industrial development to reduce the dependence on fire department equipment and personnel.

Sacramento County Zoning Code

Though not explicitly pertaining to fire risk, solar energy facilities are required by the Sacramento County Zoning Code to meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

Impacts and Analysis

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to wildfire if it would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones and 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; or

- 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.

Issues Not Discussed Further

Downstream Runoff, Post-Fire Slope Instability, or Drainage Changes — Project-related construction would involve earthmoving activities, including excavating, grading, and drilling for pile foundations. The proposed switchyard in the northwestern corner of the project site would create approximately 8.25 acres of new impervious surfaces (600 feet x 600 feet). An infiltration basin (approximately 300 feet by 100 feet) would be constructed on the southwest side of the switchyard to control the associated stormwater flows (Kimley Horn 2023). The project applicant is required to comply with the County's Land Grading and Erosion Control Ordinance (Sacramento County Municipal Code Chapter 16.44) and Floodplain Management Ordinance Chapter 16.02, obtain a permit from the County Floodplain Administrator (if applicable), prepare a Stormwater Pollution Prevention Plan, prepare a Stormwater Pollution and Prevention Plan, and implement site-specific Best Management Practices that manage stormwater runoff and erosion. Furthermore, a preliminary drainage study has been completed to ensure the proposed project would not increase downstream flooding (Kimley Horn 2023). The results of hydrologic modeling performed for the Drainage Study confirmed that construction of the proposed solar field with proposed native surface/gravel roads and creek crossings, and the proposed substation, BESS, and maintenance yard, would not alter the existing drainage patterns (See Chapter 10, "Hydrology and Water Quality", for a detailed discussion of stormwater runoff and drainage changes). The project site is not situated in an area of the County where flood hazard evacuation zones have been designated (Sacramento County 2024a). Therefore, the proposed project would not create conditions that cause downstream runoff, post-fire slope instability, or drainage changes that would expose people or structures to significant risks, and this issue is not evaluated further in this section of the EIR. There is **no impact**.

Impact WF-1: Substantially Impair an Adopted Emergency Response Plan or Emergency Evacuation Plan

Construction

Emergency access during project construction would be provided from the new access road west of the proposed switchyard, and then along a portion of the existing Prairie City SVRA access road along the southern end of the SVRA, and from there into the project site. Emergency access would also be available from several new project access roads that would extend onto the site east and west from Scott Road.

The project applicant is required to obtain written authorization from the Sacramento County Department of Transportation (SACDOT) for construction of roadway improvements where lane closures are required, including an encroachment permit. The Right of Way Management Section acts as the lead agency in the review process and is responsible for the coordination and management of the review process. Traffic Control Plans and/or Detour Plans are reviewed and managed by the Right of Way Management Section and are required for all construction work within the road right of way which modifies vehicular, bicycle, and/or pedestrian traffic patterns. Traffic Control Plans for project-related construction of the aforementioned access roads would be prepared and implemented by the applicant and reviewed and approved by the County required to ensure the safe and efficient movement of traffic and emergency vehicles

through construction work zones. Therefore, construction of the proposed project would not impair an adopted emergency response plan or emergency evacuation plan, and construction impacts would be **less than significant**.

Operation

The project site is not situated in an area of the County where flood hazard evacuation zones have been designated (Sacramento County 2024a). In the event of an evacuation from a wildland fire hazard, the project site is situated in Evacuation Zone 84: Sloughhouse & Rancho Murietta. For this evacuation zone, Scott Road, Grant Line Road, White Rock Road, and Prairie City Road are all designated routes leading east–west and north onto U.S. 50 (Sacramento County 2024b). Any necessary emergency evacuations in the vicinity of the project site would be coordinated by Sacramento County officials through the County Office of Emergency Services (OES). Sacramento County OES has prepared and maintains the *Sacramento County Evacuation Plan* (Sacramento County OES 2018b). As discussed in the Evacuation Plan, the primary mode of transportation that would be used during an evacuation would be the evacuees' private transportation resources. Law enforcement would be the primary agency for managing the movement of people during an evacuation. Traffic conditions are monitored along evacuation routes, and operational adjustments would be made by County officials as necessary during an evacuation to maximize throughput. Project operations would be monitored remotely through the control system, with only periodic inspections and maintenance activities that could require up to 10 employees per day. Therefore, it is unlikely that any workers would be on-site even if an evacuation were necessary, but in that event, either Scott Road or the project's new access road at the intersection of Grant Line and White Rock Roads would be used for evacuation from the site. These access roads would also provide emergency vehicle access to the site, as part of the project's emergency response and emergency action plan required by SB 38. Lock boxes would be placed at all gated entrances to allow access to emergency services at all times. Therefore, operation of the proposed project would not impair an adopted emergency response plan or emergency evacuation plan, and construction impacts would be **less than significant**.

Impacts associated with the Reduced Footprint Project would be the same or reduced when compared to the original proposed project evaluated in the public review Draft EIR.

Impact WF-2: Exacerbate Wildfire Risk

As stated above, Appendix G of the CEQA Guidelines determines wildfire impacts based on whether a proposed project would occur within or near an SRA or on lands classified as very high fire hazard severity zones. The proposed project site is within an SRA and most of the project site classified as a Moderate Fire Hazard Severity Zone and a portion of the southeastern area designated as a Hight Fire Hazard Severity Zone (Plate WF-1 and Plate WF-2).

Construction

During project construction, the primary fire hazards would be from vehicles and construction equipment. Construction vehicles use flammable fuels, such as diesel and gasoline, and would be operated in proximity to dry vegetation; their hot tailpipes or sparks from chains or other metal objects could ignite dry brush, especially during the warmer, dry months between June and October. Additionally, activities such as welding and grinding could generate sparks, which would increase the likelihood of ignition. Therefore, depending on the time of year and location

of construction activities at the project site, there could be a temporary increase in exacerbated fire risk in the area.

Construction of the project would be required to comply with all applicable laws, plans, policies, and regulations related to fire safety and wildfire suppression identified above in the Regulatory Setting section, including the following requirements from the California PRC:

- PRC Section 4290, which specifies road standards for emergency access, signing and building numbering, water supply reserves, and fuel breaks and greenbelts;
- PRC Section 4292, which sets forth the basic requirements for clearances around poles and towers. This section requires that flammable fuels be cleared for a minimum 10-foot radius from the outer circumference of certain poles and towers;
- PRC Section 4427, which identifies appropriate fire suppression equipment and stipulates removal of flammable materials to a distance of 10 feet from any equipment that could produce a spark, fire, or flame on days when burning permits are required;
- PRC Section 4428, which identifies additional firefighting equipment requirements during the period of highest fire danger (April 1–December 1);
- PRC Section 4431, which prohibits the use of portable tools powered by gasoline-fueled internal combustion engines within 25 feet of flammable materials when burning permits are required; and
- PRC Section 4442, which requires engines be equipped with a spark arrestor.

Strict adherence to applicable PRC requirements would ensure that wildfire risks are minimized. The above measures would be incorporated in as a project design feature that would be included in the project Mitigation Monitoring and Reporting Program (MMRP) and made enforceable by the County.

Construction of the project would involve preparation, installation, and testing of electrical components such as cables, inverters, wiring, modules, and a transformer. Prior to wire setup, work areas would be cleared of vegetation to reduce the risk of ignition from any vehicles or equipment per PRC Section 4292. Small quantities of potentially flammable substances, such as oils, fuels, and greases, would be stored at the site during construction. These potentially flammable substances would be required to be used and stored in accordance with all applicable federal, state, and local laws, regulations, and policies (see Chapter 9, “Hazards and Hazardous Materials” for further detail). This requirement would be a project design feature that would be included in the project MMRP and made enforceable by the County. Additionally, as part of site preparation, the clearing of trees, removal of root balls, and backfilling of holes would occur. Merchantable timber would be hauled off-site for local use, and the remainder would be chipped on-site and temporarily stockpiled to assist in site stabilization and revegetation.

Operations

The facility would be primarily operated remotely through a local solar operations and maintenance company, facilitated by the project Supervisory Control and Data Acquisition system. Operations at the site are expected to require periodic inspections and maintenance, as well as panel cleaning. In addition, the landscaping installed along the perimeter of the project

site would be maintained periodically. These intermittent maintenance activities could increase the potential for ignition on-site due to the presence of vehicles and use of equipment.

Other potential causes of wildfire associated with operations and maintenance of the proposed project could include Direct Current (DC) arc faults,[4] hot spot effects, electrical shorts, sparking, motor or other machinery fire, wiring and harnessing fire, overheated junction boxes, vandalism, fire in an inverter, short circuit and fire of components in or on a panel, potential for sun reflection from panels igniting vegetation, substation and switchgear fire, thermal runaway associated with battery energy storage facilities, and construction of other internal infrastructure such as roadways.

The majority of the solar facility's equipment would consist of solar PV panels and their mounting systems, which would be assembled from noncombustible, nonflammable materials, such as steel or aluminum. The fire risk in PV systems is very low and most fires are a result of installation errors, faulty equipment, and aging facilities causing DC arc faults (TUV Rheinland Energie und Umwelt GmbH 2018, Wu et al., 2020). Panels would be washed and cleared of debris, as needed, to reduce the potential of hot spot effects.[5] Solar PV panels are specifically designed to reduce reflection, as any reflected light cannot be converted into electricity, and as a result the solar PV panels would not cause sun reflection that could ignite vegetation (Dudek 2023a). The PV system would be operated and maintained consistent with Section 1204 (Solar Photovoltaic Power Systems) of the California Fire Code and Article 690 (Solar Photovoltaic Systems) of the NEC.

Generally, gen-tie transmission structures are composed of nonflammable lattice steel structures, steel H-frames, or monopole steel structures. A variety of methods would be used for installation of underground collection lines. In other locations, aboveground collection lines would be used. Inverters, transformers, and electrical components of the switchyard may pose a risk of fire. Assembly and installation of the electrical equipment would be required to meet existing electrical and safety standards of the California Fire Code. Certified electricians and utility journeymen would be part of the construction workforce to ensure that all electrical equipment is assembled properly. All electric inverters and transformers would have a concrete mat foundation and would be tested prior to use to ensure safe operations and avoid fire risks. Ongoing maintenance would ensure all components of the project are in proper condition, thereby minimizing accidents and potential fires. The project would incorporate a centralized battery energy storage facility, as well as energy storage housed within the inverters. Potential hazards associated with battery energy storage facilities 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 nonflammable chemicals; container design and features; ventilation, and air-conditioning systems; and inert gas fire suppression systems. Because energy storage technology is rapidly

[4] DC arc faults occur wherever there are joints in the DC cables, a breakdown of cable continuity, or a breakdown of insulation. This can occur on the solar modules, the DC connectors, the DC cabling, the joints in the DC isolators or inside the inverter.

[5] The hotspot effect occurs when a solar panel is shaded by trees or blocked by dirt and debris and the current cannot flow around weak cells. Eventually, the current will concentrate in a few cells, causing them to overheat and potentially melt or ignite.

advancing, a single technology or provider has not been selected for the energy storage component of the project. The storage component would be centralized, or alternatively, the energy storage component may be distributed throughout the plant adjacent to individual power conversion centers. The storage component would be housed in modular structures similar in appearance to cargo shipping containers. The battery storage structures would be self-contained and supported on a concrete mat foundation. The energy storage equipment would have a fire rating in conformance with local fire authority and County standards. The energy storage system would be installed following all applicable design, safety, and fire standards for the installation of energy storage systems, including, but not limited to, Article 608 of the NEC, NFPA 855 (Standards for the Installation of Stationary Energy Storage Systems), SB 38, and Section 1206 of the California Fire Code, all of which includes criteria for fire prevention and suppression associated with energy storage facilities installations. The BESS would be monitored through the Emergency Management System and Battery Management System. If the Battery Management System detects abnormalities outside of safe operating parameters of voltage, state of charge, state of health, or temperature, it will shut down the unit and/or block and will alert the operator. If a user identifies a risk, a unit, block, or full system can be shut down remotely. There are also manual shutoffs on-site in case of an emergency. Implementation and compliance with these design and safety regulations would reduce potential fire risks.

Electrical components could pose a small risk of fire if they become damaged or are vandalized. The property would be fenced, security lighting installed, and high-voltage warning signs posted. The fence would be monitored periodically to detect any intrusion into the property. Access would be controlled through security gates at several entrances. Multiple gate-restricted access points would be used during operation. Lock boxes would be placed at all gated entrances to allow access to emergency services.

Additionally, fire safety measures would be implemented during operations, including having portable fire-fighting equipment available on-site, as well as additional water storage for emergency use. Emergency access and perimeter wildfire protection measures would be provided as specified in Section 4290. Defensible space of 100 feet from each side of on-site structures per PRC Section 4291 would be maintained. Clearances around poles and electrical conductors would be consistent with PRC Section 4292 and PRC Section 4293, respectively. Reduction of vegetation would further reduce the availability of flammable fuels around the project site. These safety measures would provide safe operating conditions and fire response protocols to minimize the risk of wildfire.

VEGETATION MANAGEMENT

During project operations, the project site would continue to support a combination of grassland species and non-invasive forbs. Grazing is proposed within the development area around the solar panels and the project may also require mechanical mowing and other forms of vegetation management on-site. Grazing would be governed by the project's *Agricultural Management Plan* (Dudek 202**5**~~3b~~). One primary goal of the Agricultural Management Plan is to reduce the height and density of vegetation to minimize the danger of grass fires (Dudek 202**5**~~3b~~). While actual grazing timing may vary from year to year depending on weather and forage conditions, it is assumed that short-season (60-day) grazing would likely start between March 1 and April 30 because rainfall diminishes substantially after April 30 and therefore the quality of available forage declines to the point where it cannot sustain livestock grazing (Dudek 202**5**~~3b~~). Grass would be maintained at a height of approximately six inches in accordance with the County fire

requirements (Dudek 202**5**~~3b~~). Grazing modifies the amount, height, and continuity of fuel through ingestion and trampling, and has been shown to reduce fuel load more effectively than mechanical methods (Nader 2019, University of California 2022). In addition, grazed grass produces substantially lower flame lengths and spreads slower by one-quarter to one-half the rate (Wildland Res Mgt et al, 2014).

Decommissioning

Similar to construction, the primary fire hazards during decommissioning would be from vehicles and construction equipment. During decommissioning, the project would be required to comply with all laws, plans, policies, and regulations related to fire safety and wildfire suppression identified in the discussion above under Regulatory Setting, including PRC Section 4427, PRC Section 4428, PRC Section 4431, and PRC Section 4442. Strict adherence to applicable PRCs requirements would ensure that wildfire risks are minimized.

At the end of the project's operational life, decommissioning would occur in accordance with Sacramento County's decommissioning requirements, as documented in the project's *Decommissioning and Site Restoration Plan* (Dudek 2023c). Most project components that are no longer needed would be removed from the site and recycled. At decommissioning, the energy storage components would be dismantled consistent with applicable federal and State regulations and recycled, and the prefabricated control house and electronic components of the substation equipment would be electrically disconnected and made safe for removal. The transformers, breakers, buswork, and metal dead-end structures would also be disassembled and removed. Decommissioning of the aboveground portion of the transmission line would consist of removal of the overhead conductors and removal of poles. All underground cables would be cut off and would remain in place at a depth of 12 inches below ground surface.

Impact Conclusion

The proposed project would be within an SRA on lands classified as a Moderate and High Fire Hazard Severity Zones. Wildfire risks during construction, operation, and decommissioning would be offset by compliance with fire safety and wildfire suppression measures identified in the "Regulatory Setting" discussion above. Adherence to these safety measures, when considered together, would minimize the risk of increased frequency, intensity, or size of wildfires and decrease the risk of exposure of people or structures to wildfire. All of the project facilities would be installed, operated, and maintained following all applicable design, safety, and fire standards. Many of the project components, such as the solar PV panels and their mounting systems; gen-tie transmission structures; and structures housing inverters, transformers, and battery storage facilities, would not exacerbate fire risks due to the nonflammable nature of their foundations and constituent parts.

As described above in the "Environmental Setting", the project site is currently used for year-round sheep and cattle grazing. During operation, the project site would be used for new solar generating facilities and these new facilities would be surrounded by dryland pasture housing a combination of grassland species and non-invasive forbs (Dudek 202**5**~~3b~~). The project site would be grazed in the springtime while the forage conditions are appropriate for grazing, approximately starting between March 1 and April 30, as governed by the project's *Agricultural Management Plan* (Dudek 202**5**~~3b~~). The Agricultural Management Plan has been developed to manage grassland on-site with provisions to minimize fire risk. The installation of the project components in the previously undisturbed agricultural field would introduce structures that could

make grazing less efficient and the temporary stockpiling of wood chip during site clearing, before the wood chips are reused and distributed on-site, could increase the amount of fuel for wildfires, which could result in a **potentially significant** impact if vegetation and organic materials are not properly maintained on-site in a way that could exacerbate wildfire risk.

MITIGATION MEASURES

WF-2a. Demonstrate Compliance with the California Fire Code, California Building Code, and SB 38 Requirements, and Manage Vegetation On-site.

Prior to the approval of project designs and issuance of grading permits, the applicant shall demonstrate compliance with California Fire Code requirements, California Building Code requirements, and SB 38, including those related to the design of solar panels and associated electrical components; defensible space requirements (100 feet from each side of a structure, but not beyond the property line per PRC Section 4291); clearance around electrical equipment; keeping portable fire-fighting equipment on-site; and storing water for emergency use. The applicant shall further demonstrate that ignition-resistant building materials have been incorporated into project designs consistent with the California Building Code. The applicant shall keep grasses and weeds on the undeveloped portion of the project site to a height of six inches or less after the grazing season, and throughout the dry season months, between May and November, to manage grass height and fuel load on-site.

WF-2b. *Fire Hazard Reduction Measures for Temporary Wood Chip Stockpiling*.

To minimize the risk of fire hazards associated with the temporary stockpiling of wood chips on-site, the following management and safety practices shall be applied to the project:

- Select stockpile locations that are at least 100 feet away from structures, vegetation, and other combustible materials and ensure these locations are accessible for fire suppression equipment and personnel.
- Establish and maintain firebreaks around stockpile areas by clearing vegetation and other combustible materials and create 30-foot buffer zones around stockpiles to act as a barrier against fire spread.
- Conduct regular inspections of stockpile sites to identify and mitigate potential fire hazards.
- Spread and distribute wood chips in the intended areas of the site as soon as possible, in order to reduce the time that the materials are temporarily stockpiled on-site.

SIGNIFICANCE AFTER MITIGATION

The implementation of Mitigation Measure WF-2a would reduce potentially significant impacts associated with the exacerbation of wildfire risks by requiring the applicant to incorporate California Fire Code requirements, California Building Code requirements, and SB 38 requirements into project designs and by requiring that vegetation is managed on-site,

particularly during the dry season (May through November). Additionally, the implementation of Mitigation Measure WF-2b would reduce the fire hazard risks related to temporarily stockpiling wood chips on-site. Therefore, impacts related to the potential for the proposed project to exacerbate wildfire risks would be **less than significant with mitigation**.

Impacts associated with the Reduced Footprint Project would be the same or reduced when compared to the original proposed project evaluated in the public review Draft EIR.

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