

Attachment H

Fire Protection Reports

Fire Protection Plan: **Solomon Hills Community**

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ASTM	American Society of Testing and Materials
CAL FIRE	California Department of Forestry and Fire Protection
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CFC	California Fire Code
CFPP	Construction Fire Protection Plan
County	County of Santa Barbara
SBCFD	Santa Barbara County Fire Department
FMP	Fire Management Plan
FMZ	Fuel Modification Zone
FPP	Fire Protection Plan
FRAP	Fire and Resource Assessment Program
HOA	Homeowner's Association
SBCSD	Santa Barbara County Sheriff's Department
NFPA	National Fire Protection Association
SFM	State Fire Marshall
SRA	State Responsibility Area
VHFHSZ	Very High Fire Hazard Severity Zone
WFES	Wildland Fire Evacuation Study
WUI	Wildland/urban interface

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Executive Summary

This Fire Protection Plan (FPP) has been prepared for the Solomon Hills Project. The Project Site is located in an unincorporated portion of northern Santa Barbara County (Figure 1). The Solomon Hills Project is proposed on 1,903 acres of private land held by Solstra, Communities CA, LLC., currently used for oil production and seasonal grazing into a new innovative community in northern Santa Barbara County. A mix of 4,000 residential units are proposed to support a variety housing types for the community on approximately 468 acres. The total residential unit count addresses the current affordability gap that exists in the County. Approximately 650,000 square feet of commercial uses (125,00 sf retail and 525,000 sf office) are proposed on approximately 41 acres to support a vibrant community and jobs/housing balance. Critical public and institutional uses are proposed, including a school, fire/sheriff station, and water reclamation facility on approximately 25 acres.

The FPP summarizes the existing environmental setting, climatic and topographic conditions, and the history of fire patterns at the site, representing the region's fire environment. In addition, the FPP evaluates the following:

- Detailed modeling of “worst-case” fire conditions to determine flame lengths that may impact the site from worst-case scenarios, under both pre-development and post-development conditions (with regulatory compliance and mitigation implemented).
- **Site-Specific Wildfire Risk Assessment.** The risk assessment utilized a variety of site and regional factors including flame lengths adjacent to development areas as the basis for assessing wildfire risk to planned development areas. To account for the range of risk scores, wildfire risk scores were binned into 5 class breaks from Very Low, Low, Moderate, High, and Very High. The results of the wildfire risk assessment are intended to site-specific, code exceeding wildfire risk mitigation.
- **County Fire Emergency Response Times** – The FPP assesses the impacts of the Project on County Fire's response times and capabilities based on existing and planned fire stations.

Finally, the FPP provides a comprehensive evaluation of the wildfire risks associated with the Project and measures employed by the Project to reduce such risks in designing, constructing and maintaining a fire-safe community. To that end, the fire protection detailed in this FPP employs a systematic, project-wide approach that includes:

1. Planning and Zoning
 - a. Defensible Space: Create buffer zones around the property with cleared vegetation to slow the spread of fire. This includes three zones:
 - i. Zone 0 Ember Resistant Zone: 0 to 5 feet from the structure, free of flammable vegetation.
 - ii. Zone 1 Irrigated Zone: 5-30 feet from the structure, reduced vegetation and separation between trees and shrubs.
 - iii. Zone 2 Thinning Zone: 30-100 feet from structure, thinned vegetation to slow fire spread.
 - iv. Additional Code Exceeding Requirement Zone: 100-125 feet from structure for homes that back-up to undeveloped wildland areas and do not have a fire-break road between the home and wild land areas.
 - b. Clustered Development: Encourage denser, clustered housing with a defensible edge rather than sprawling development to manage fire risk better and improve emergency response times.

- c. Strategic Fuel Breaks Integrated into Project Design: Integrated fuel breaks, such as greenbelts, parks, or roads to act as barriers to slow or stop the spread of wildfire. Maintain 10-foot-wide area of fuels reduction on each side of roadways that is clear of hazardous vegetation.
 - d. Homeowners Association (HOA) for funding of common area's maintenance of fuel modification zone and strategic fuel breaks funded by an assessment on all parcels in the Project. Establish a Santa Barbara County approved landscape plan with enforcement capabilities through the HOA's Codes, Covenants and Restrictions for the Project.
2. Building Codes and Materials:
- a. All building will be in compliance with California Building, Residential and Fire Code requirements:
 - i. California Building Code Chapter 7A Materials and Construction Methods for Exterior Wildfire Exposure.
 - ii. California Residential Code Chapter R337 Fire-Resistant Construction.
 - iii. Chapter 49 Requirements for Wildland-Urban Interface Fire (WUI) Areas.
 - iv. Project will be in compliance with California Public Resources Code including: Code 4290 and 4291.
- This Includes:
- b. Fire-Resistant Materials: Use ignition-resistant materials and construction methods like Class A roof systems and tempered windows.
 - c. Ventilation Protection: Install ember-resistant vents to prevent embers from entering attics and other spaces.
 - d. Sprinkler Systems: Implement residential fire sprinkler systems in homes and buildings to suppress fires quickly.
 - e. Additional Code Exceeding Requirement for Non-combustible fencing: Utilize non-combustible fencing on the rear perimeter yards and five-feet in from perimeter for side yards of homes that back up to undeveloped wild land areas and do not have fire-break paved road or paved parking areas between the structure and undeveloped wildland area.
3. Infrastructure and Utilities:
- a. Underground Utilities: Where feasible, place electrical lines and other utilities underground to reduce the risk of ignition. Work with PG&E to harden electrical lines when not underground.
 - b. Water Supply: Build new water capacity, delivery and availability systems to service project that meets NFPA fire flow requirements.
 - c. Road Design: Design road system to provide multiple access routes for fire apparatus and emergency vehicles. Secondary access for Project residents and employees will be in place beginning Phase 1.
 - d. Construction and Dedication of New Joint-Use Fire and Sheriff Building: a new onsite joint fire and sheriff station site will be built in lieu of SBCFD and Sheriff mitigation impact fees created by the Project. The station will be built to County standards to provide emergency response to the Project site and surrounding areas. The onsite fire station will provide emergency response times in compliance with Santa Barbara County Fire Department standards to the entirety of the Solomon Hills Project
4. Vegetation management and maintenance
- Vegetation management for fire hazard mitigation is the practice of thinning, pruning, removing, or otherwise altering vegetation to reduce the potential for ignitions and modify fire behavior. Different vegetation management techniques can be used, depending on vegetation type, location, condition, and

configuration. Given the dynamic nature of vegetation, a single treatment technique or management prescription may not be appropriate for one site over time. Therefore, an adaptive approach that allows for the selection of appropriate management techniques is needed to achieve management goals. Selection of vegetation management techniques, or combinations thereof, will be determined by site-specific conditions during the project planning process. In general, possible vegetation management techniques can be classified into five categories:

- Biological (Grazing)
- Hand Labor
- Mechanical
- Prescribed Fire
- Chemical

The fire protection system planned for the Project has proven, through real-life wildfire encroachment examples throughout Santa Barbara County, and California to reduce the fire risk associated with this type of hardened, ignition resistant, and fire aware residential community and commercial development.

Based on the predicted flame lengths and intensities following implementation of the fuel modification zones, encroaching wildfires do not present a significant risk of directly intruding into the Project even during extreme events. Even if windblown embers were to fly over the fuel modification zones, the ignition-resistant buildings and fire-resistant landscaping would minimize the likelihood of any fires starting onsite, and even if isolated fires occurred, they would be unlikely to spread quickly or be of high intensity given the limited fuel sources. New communities with buildings built to the latest fire code standards have proven extremely resistant to burning even during extreme fire events.

The Project is unlikely to exacerbate fire risks to surrounding areas. The ignition-resistant buildings and fire-resistant landscaping are unlikely to initiate a fire that would spread to surrounding areas, particularly because the fuel modification zones would limit the ability of any fire to move offsite.

Adequate emergency response for the Project is achieved when considering the planned onsite fire station and existing County Fire stations and apparatus in the near vicinity of the Project site. Based on calculated increases in calls for an emergency response associated with the Project, the estimated County Fire response times would be consistent with County Fire's goals for suburban uses following buildout of the onsite fire station.

The Project is consistent with regional evacuation guidelines. As an additional Project Design Feature, the Project also includes a project-specific Evacuation Plan under a separate cover and described in Section 8 of the FPP (Dudek 2024).

Based on the analyzed fire environment, the project's planned land uses and its compliance with fire and building codes and proposed fire protection design features detailed herein, the Project would not be expected to result in a significant impact in regard to the CEQA threshold questions. All phases of the Project would be built to code-compliant fire safety requirements and subject to approval by SBCFD.

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1 Introduction

This Fire Protection Plan (FPP) has been prepared by Dudek and is specifically applicable to the Solomon Hills Community (Project) in Santa Barbara County (County). This FPP is intended to guide the design, construction, and maintenance of Project improvements in compliance with the Project, applicable fire codes, and other various fire safety project design features. This FPP considers a site-specific risk assessment to address fuel modification, fire protection related infrastructure (water supply, hydrants, primary and second ingress/egress roads, and emergency response) and structural fire protection concepts for the Project. This FPP also addresses how the Project's Fire Safety Requirements will be monitored and enforced over time, as well as how the Project's master developer will ensure that Project residents are fully educated about their obligations to maintain a fire-safe home. The goal of this FPP is to provide standards to facilitate development of the Project as a "fire hardened" community that will protect Project residents and visitors, as well as the environment, by minimizing and mitigating fire threats on the Project site and reducing Project demands on local fire protection services.

The objectives of this FPP are to describe and recommend features and measures that will protect Project residents and visitors by minimizing and addressing fire issues potentially created by the Project and to reduce the demands the Project may have on the local fire protection delivery system. This FPP addresses advanced fire behavior modeling, fuel modification, fire protection related infrastructure (water supply, hydrants, primary and secondary ingress/egress roads, and emergency response), and structural fire protection concepts for the development. It is based upon the Project's varying topography, vegetation, climate, proposed types of land uses, and potential wildfire risks. The dual benefit of building a fire hardened community is that the same features that protect the community from wildfire also play a significant role in protecting wildlands from Project-related fires and minimize the potential for fire escaping the site into the wildlands.

The Solomon Hills Project is located within the boundaries of the Santa Barbara County Fire Department (SBCFD) in the unincorporated portion of the County. This FPP addresses County Fire's response capabilities and response travel time within the Project Area.

The following tasks were performed to complete this FPP:

- Gather site-specific climate, terrain, and fuel data.
- Process and analyze the data using the latest geographical information system (GIS) technology.
- Predict fire behavior using scientifically based fire behavior models, comparisons with actual wildfires in similar terrain and fuels, and experienced judgment.
- Analyze and guide the design of the proposed infrastructure.
- Analyze the existing emergency response capabilities.
- Assess the risk associated with the Project.
- Collect site photographs and map fuel conditions using aerial images. Field observations were used to augment existing digital site data in generating the fire behavior models and formulating the recommendations presented in this FPP. Refer to Appendix A for site photographs of existing site conditions.
- Research and evaluate vegetation fire ignition sources.
- Evaluate nearby firefighting and emergency medical resources.

- Prepare this FPP detailing how fire risk would be minimized through a system of fuel modification, structural ignition resistance enhancements, and fire protection delivery systems

1.1 Intent

This FPP provides a comprehensive evaluation of the wildfire risks associated with the Project and measures employed by the Project to reduce such risks. The intent of this FPP is to provide fire protection planning guidance and requirements for reducing fire risk for the Project, preventing off-site ignitions, and minimizing the demand for fire protection services associated with the Project. To that end, the fire protection “system” detailed in this FPP includes redundant layering of measures, including pre-planning, fire prevention, fire protection, passive and active suppression, and related measures proven to reduce fire risk and prevent Project-related ignitions. The fire protection system planned for the Project has been proven, through real-life wildfire encroachment examples throughout Central and Southern California, to reduce the fire risk associated with this type of hardened, ignition resistant, and fire aware residential community and commercial development. The data from the State Fire Marshal determines that homes constructed according to the California Building Code standards outlined in Chapter 7A and the California Residential Code (CRC) significantly mitigate fire risks for properties located in the wildland urban interface (WUI). The likelihood of substantial structural damage is exceptionally low when these homes are part of a well-designed and managed master-planned community (CBIA,2022).

The following points highlight key Project characteristics identified and addressed in this FPP:

- Includes large acreages of natural vegetation in a wildland-urban interface setting
- Includes historical occurrence and potential risk of future wildfire
- Project residences, commercial, and other buildings will be constructed according to latest ignition-resistant codes and with temporary on-site relocation as an optional alternative to off-site relocation for some areas/buildings.

When wildfire threatens the Project, evacuation of residents, guests, visitors, and staff to appropriate on-site or off-site areas will be the primary and preferred option and will be implemented when situations enable adequate time and low risk for the relocation process to be completed. As an alternative and duplicative safety layer, and based on the modeled fire behavior during post-development conditions, the community will include an on-site Temporary Refuge Area (TRA) for the possibility that off-site relocation from the site is not possible or not considered the safest approach for some or all of its residents.

Fire protection for new developments in the Wildland Urban Interface (WUI) especially those including temporary on-site relocation designation, must utilize a “systems approach” consisting of the components of fuel modification and maintenance, ignition-resistant structures, water supply, fire protection systems, access (ingress/egress) and emergency response.

1.2 Project Summary

1.2.1 Location

The Project site consists of approximately 1,903 acres and is located west of Highway 101 and approximately 1 mile south of Orcutt Community Plan in an unincorporated portion of the County (Figure 1). The eastern boundary

of the Project is partially bound by Highway 101, and the western boundary of the Project site is approximately 1.5 miles west of Highway 101. The Project extends for approximately 1.5 miles between its western and eastern boundaries, and approximately 3.5 miles between its northern and southern boundaries. Elevations range from approximately 636 feet above mean sea level (amsl) near the Highway 101 corridor in the northeastern region of the Project site to approximately 1,348 feet amsl in the central region of the site at Mount Solomon.

The Project site is generally adjacent to private parcels with the exception of County owned land along the northern boundary and Highway 101 along the northern portion of the eastern boundary. The Project site is approximately 10 miles south of the City of Santa Maria via Highway 101 South; approximately 10 miles north of Los Alamos via Highway 101 north, and 25 miles north of Lompoc via Highway 101/135 north, Clark Avenue east, and Highway 101 south. Major roads in the vicinity of the Project site include Highway 101 along the eastern boundary, Highway 1/135 roughly 4 miles west of the Project, and Highway 135 4.5 miles south of the Project.

Fire Hazard Severity Zone classification on the Solomon Hills Project site is mapped as Moderate, High, and Very High. A graphical portrayal of the zone classifications for the Project site area presented in Figure 5.

1.2.2 Current Land Use

The project site is an active Pacific Coast Energy Company oil field that has seen substantial oil development dating back to the early 1900s. Solstra is the oil company landowner and is in support of California's vision to transition off "the fossil fuel road" reaching carbon neutrality by 2045. Following an approved project, including a Specific Plan, Tract Map and Development Agreement, Solstra will commence abandoning all oil wells and removing all oil-related infrastructure in the project area in accordance with regulatory standards so that residential and commercial redevelopment of the site can safely occur.

Other current land uses include roadways and limited associated infrastructure throughout the area. Land uses in the vicinity of the property include primarily agriculture and open space.

1.2.3 Project Description

The Solomon Hills Project is proposed on 1,903 acres of private land held by Solstra, Communities CA, LLC., currently used for oil production and seasonal grazing into a new innovative community in northern Santa Barbara County. Additional Off-Site Area includes approximately 40-acres for access and utility improvements, and 500 acres for habitat conservation. On 1,616 acres within the Project Area, the Project proposes to amend the current Agriculture Commercial (AC) land use designation and zoning of AG-II-100 to the proposed Solomon Hills Specific Plan (SHSP). The proposed Specific Plan will serve as an integrated planning tool for this new community, providing guidelines and standards for the various land uses (residential, commercial/retail, and public) and detailing phasing of key infrastructure. A mix of 4,000 residential units are proposed to support a variety housing types for the community on approximately 468 acres. The total residential unit count addresses the current affordability gap that exists in the County. Approximately 650,000 square feet of commercial uses (125,000 sf retail and 525,000 sf office) are proposed on approximately 41 acres to support a vibrant community and jobs/housing balance. Critical public and institutional uses are proposed, including a school, fire/sheriff station, and water reclamation facility on approximately 25 acres.

The remaining 287 acres of the Project Area, referred to as the Newlove Area, is within the Orcutt Community Plan and the County's rural boundary and will retain its existing land use and zoning designations (AC and AG-II-100).

The area contains Newlove Park and provides an open space buffer between Orcutt and the new urban boundary proposed with the Project. Uses and existing zoning will continue here, with added amenities and enhancements for active and passive recreation, water retention, habitat restoration, conservation, and public trails that also facilitates a connection from Orcutt to Los Flores Regional Park.

The Project will also provide the necessary road connections including two interchange improvements along Highway 101, one interchange improvement along Highway 135, and various on-site and regional transit improvements. In total, the Project proposes 1,219 acres of open space (963 acres within the Specific Plan Area and 256 acres in the Newlove Area), 500 acres of offsite habitat conservation, 72 acres of parks, recreation facilities, and trails (41 acres in the Specific Plan Area and 31 acres in Newlove Area), including 9 miles (approximately 8 acres) of public trails connecting Orcutt to Los Flores.

The Solomon Hills Project is proposed to be constructed across four (4) phases over fifteen (15) years. All building and fire safety standards are required to be implemented during construction of each phase of the Project.

Residential, commercial, and park developments will occur across all four phases of construction. The main water reclamation facility will be constructed during Phase 1, with additional expansion occurring throughout the additional three phases. Public trail systems will be constructed throughout Phases 1, 2, and 4. All offsite utilities, including potable water, gas, broadband, electrical, and recycled water, will be constructed to the Specific Plan boundary during the construction of Phase 1. The offsite access roads to the Specific Plan boundary, including primary and secondary access to Highway 101, secondary access to Highway 135, and the emergency only fire evacuation route, will occur in Phase 1, with the potential exception of the new primary access to Highway 101, if the existing interchange is available during Phases 1 and 2. Specific Plan boundary roads are to be implemented in conjunction with or prior to the residential areas they will be servicing. The fire and sheriff's station, and the TK-8 School will be constructed during Phase 3.

With regard to wildfire risk on the Project site, an important component is the planned design and placement of development areas in proximity to wildland fuels. These open space areas represent potential exposed interfaces to the wildland with the remainder of the interior project areas represented by built and maintained landscape. The structures planned adjacent to these areas are provided fuel modification zones beyond the individual property line. Interior automatic sprinklers will be installed in all buildings as required.

The proposed land use improvements previously described will be completed according to the 2022 California Fire Code and Building Codes (or then current codes at time of construction, as adopted by the County, per Chapter 15 of the County Code) and will therefore include ignition-resistive construction, interior sprinklers, structure set-backs from property lines and wildlands, and required fire flow, along with a designated fuel modification zones which varies throughout the Project based on modeled fire intensity and site features such as vegetation and topography, among other factors as described further in this FPP.

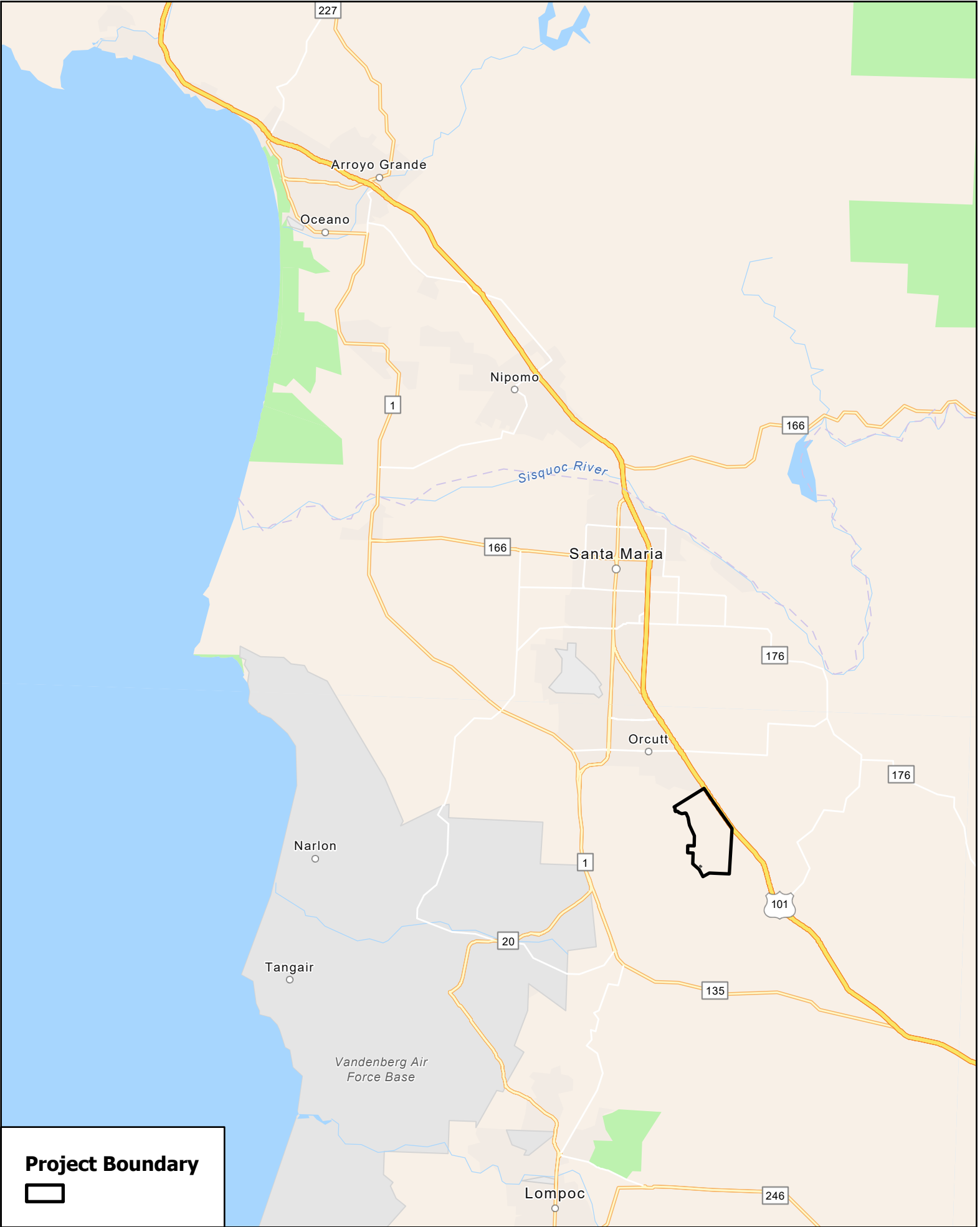


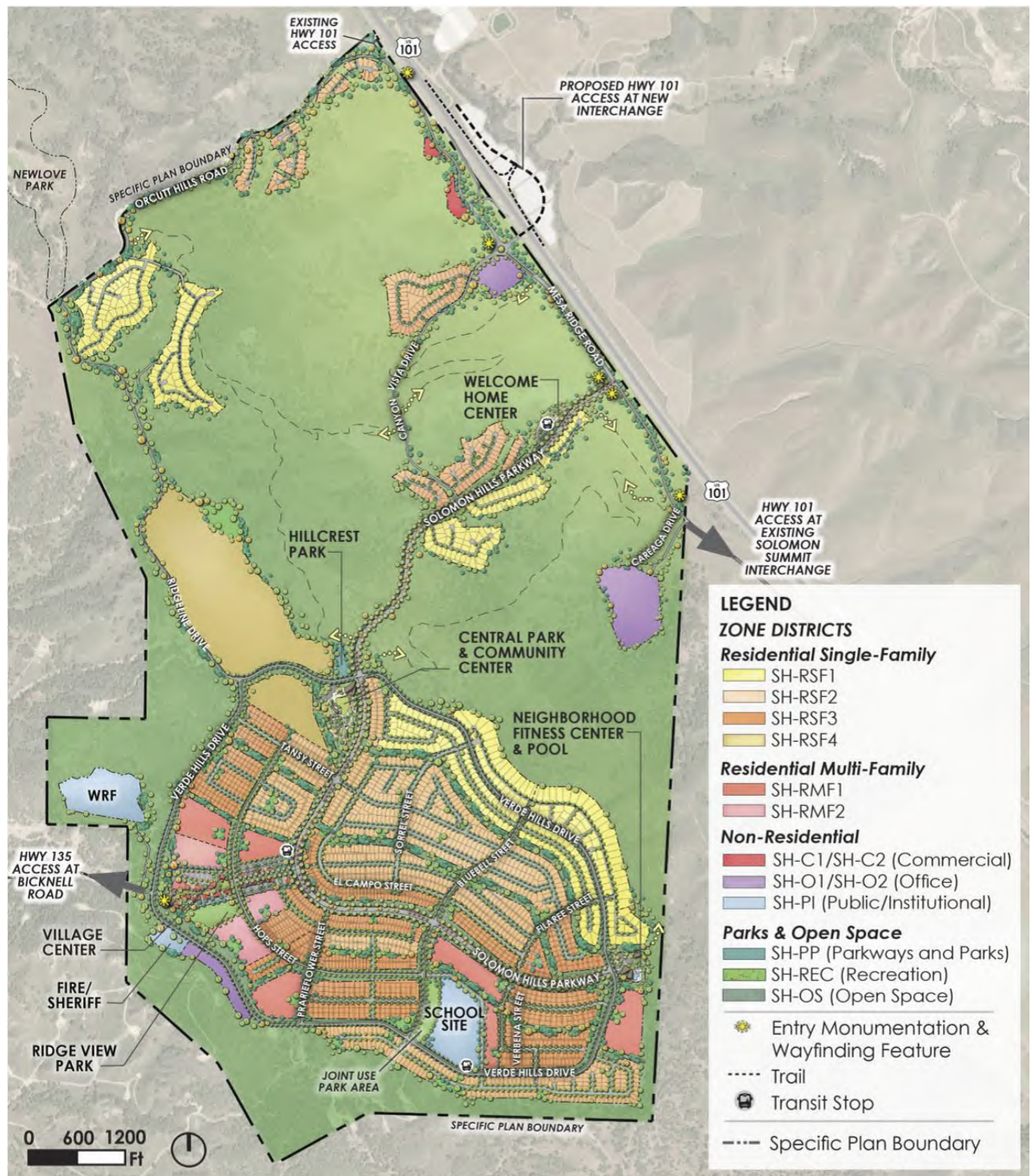
FIGURE 1

Regional Location

Fire Protection Plan for the Solomon Hills Project



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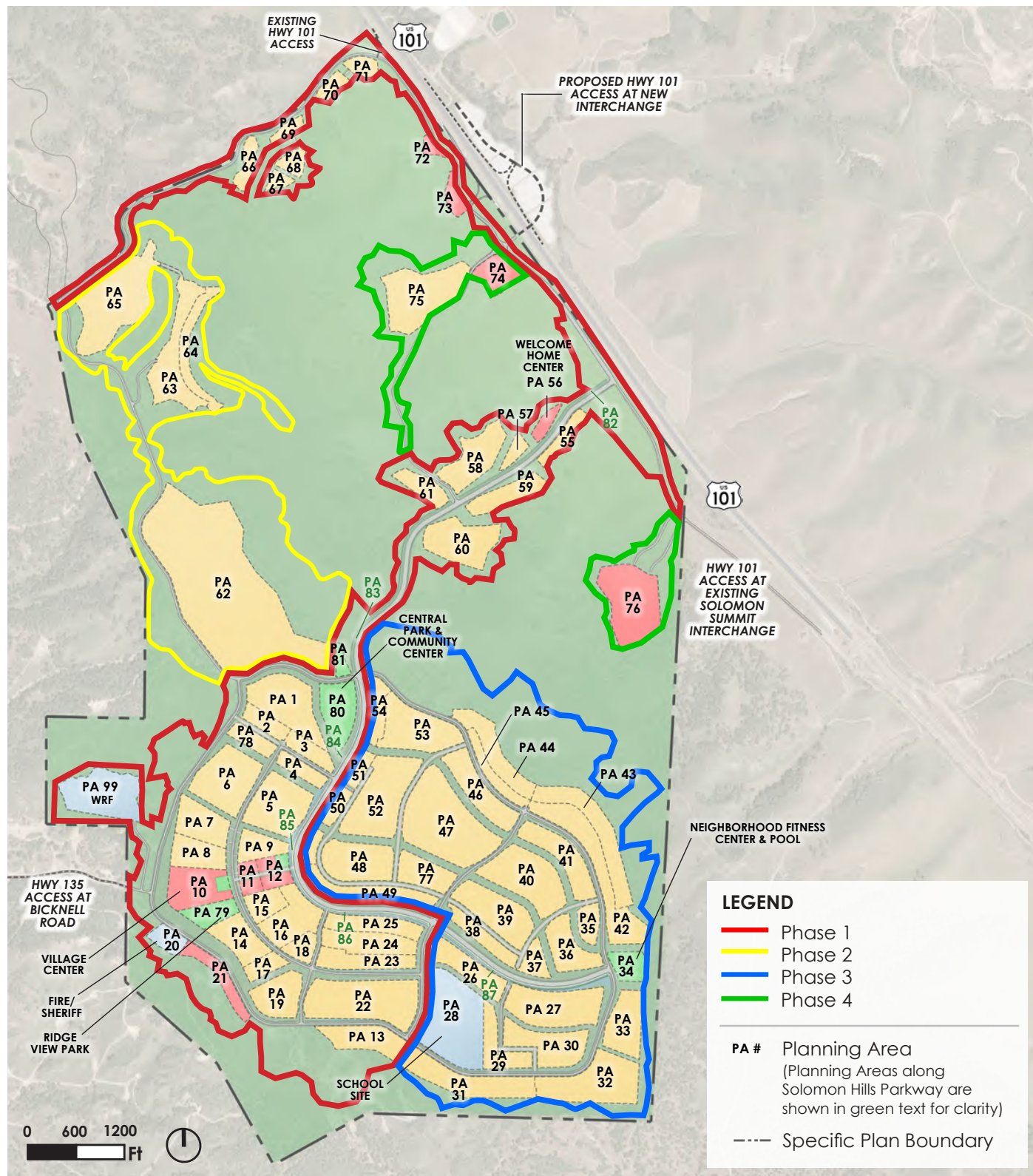


SOURCE:

FIGURE 2A

Site Plan

Figure 2b Phasing Plan



SOURCE:

FIGURE 2B

Phasing Plan

Fire Protection Plan for the Solomon Hills Project

2 Existing Setting: Project Study Area Conditions, Risk Factors, and Fire History

Fire environments are dynamic systems and include many types of environmental factors. Fires can occur in any environment where conditions are conducive to ignition and fire movement. Areas of naturally vegetated open space like that found on the Project site are typically comprised of conditions that can be favorable to wildfire spread. The three major components of fire environment are topography, weather, and vegetation/fuels. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a fire at any given moment. Understanding these existing conditions is necessary to understand the potential for fire within and around the Project.

2.1 Field Assessment

Field assessments of the Project site were conducted by the Dudek team on 1/19/24 in order to document existing site conditions and determine potential actions for addressing the protection of the structures proposed for the site. Assessments of the area's topography, natural vegetation and fuel loading, available setback areas, and general susceptibility to wildfire formed the basis of the site risk assessment. Completed field tasks include:

- Vegetation measurements and mapping refinements
- Fuel load analysis
- Topographic features documentation
- Regional land uses, existing communities, potential vulnerabilities
- Photograph documentation
- Confirmation/verification of hazard assumptions
- Access/egress documentation.

Project site photographs were collected, and fuel conditions were mapped using 10-m fuels data. Field observations were utilized to augment existing site data in generating the fire behavior models and formulating the recommendations detailed in this FPP. Study Area photographs were collected and are provided in Appendix A. Field observations augmented existing Study Area data in generating the fire behavior models and formulating the requirements provided in this FPP.

2.1.1 Field Assessment Observations

The following list provides a summary of the key findings from the field assessment.

- Property is located just west of US 101. Property has a long history of various land uses including cattle ranching, oil wells, communication towers and recreational uses. There are vast areas of oak woodlands, rolling grass-covered knolls and hillsides with sage scrub other chaparral species. A combination of paved, gravel and dirt roads traverse the property.

- Proposed development areas abut natural vegetation ranging from grass, shrub, and oak woodland vegetation types. Chapparral vegetation mainly comprised of coastal scrub species was identified as the most hazardous vegetation within the Project site. Limited historical fire has resulted in mature shrub conditions across many areas of the Project site. Mature shrub vegetation is generally of higher hazard due to greater accumulations of woody vegetation and denser fuel beds which can contribute to greater flame lengths.
- Proposed grading will alter large areas of the landscape to accommodate the development pads and roadways. Fuel modification buffers will be incorporated throughout the development.
- Some of the Project site's grasslands are to be maintained with limited grazing operations.
- There is an existing communication site and access road on Solomon Hill. The road and communication site should be maintained to County Code to prevent an ignition from the site and to protect this important site from wildfire. Topography is extremely diverse and includes canyons, ridgelines, and saddles. These topographic features are likely to result in local variations of wind speed and direction.
- Wildfires have a low probability of spreading towards the Project from east of Highway 101 due to the location of the Highway and its function as an existing fuel break, in addition to existing agricultural land use which is not generally conducive to rapid wildfire spread. However, the potential for wildfire ignitions along Highway 101 is considered high.
- Vast open spaces located generally south of the Project site provide the opportunity for wildfire to spread towards the Project site. Canyons adjacent to the Project site were found to align with the western prevailing wind direction.
- Existing oil infrastructure to the west of the Project site provides multiple fire fighter access points. Existing road systems also may function as fuel breaks in the event of a wildland fire occurring west of the Project site.

2.2 Study Area Characteristics and Fire Environment

Fire environments are dynamic systems and include many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. Areas of naturally vegetated open space are typically comprised of conditions that may be favorable to wildfire spread. It is important to note that wildland fire may transition to urban fire if structures are receptive to ignition. Structure ignition depends on a variety of factors and can be prevented/minimized through a layered system of protective features including fire resistive landscapes directly adjacent the structure(s), application of known ignition resistive materials and methods, and suitable infrastructure for firefighting purposes. Understanding the existing wildland vegetation and urban fuel conditions on and adjacent the site is necessary to understand the potential for fire within and around the Project site. The following sections discuss the characteristics of the Project area at a regional scale. Evaluating conditions at this macro-scale provides a better understanding of the regional fire environment, which represents the fuel bed for wildfires that may ignite in the vicinity of, and burn toward, the Project's planned and maintained fire buffers, landscapes, and ignition-resistant structures.

2.2.1 Weather and Climate

The climate in Santa Barbara County is characterized by warm summers and mild winters with a relatively dry climate. Climate in the County is influenced by the semi-permanent subtropical high-pressure cell off the Pacific Coast. This cell creates typically warm, dry summers and wet winters (WRCC 2022a). Summer average high temperatures at the Project site are 73 degrees F, with the highest temperatures often observed in September. Fog is also frequently experienced in the County, particularly in coastal areas, due to the humid marine air coming into

contact with the warmer air over land. This atmospheric condition usually occurs in the early morning or evening, and particularly during late spring and early summer. Fog regulates moisture content in the low-lying atmosphere, plants, and soils, and thus is inherently connected to fire hazard (Emery et. al. 2018). Mild temperatures occur throughout the year, particularly near the coastline. There are considerably more temperature variations occurring in the inland valleys and mountainous areas. Precipitation is confined primarily to the winter months.

The majority of precipitation in the County occurs during the winter months due to the migration of mid-latitude cyclonic storms (fronts) arriving along the California coast. Rainfall amounts generally increase with elevation along the Santa Ynez Mountains due to orographic lifting and cooling processes. Surface and upper-level wind flow varies by season and geography, and lack of wind and the right meteorological conditions can lead to inversions. Surface temperature inversions occur between 0 and 500 feet above the ground surface and are most common during the winter. During an inversion, warmer air is held above cooler air; an inverse of the normal temperature profile with altitude. Inversions are characterized by clear skies, calm winds, and represent times of low severity fire weather.

Annual averages in the County range from about 6 inches in some inland areas to over 30 inches in higher mountain areas. Occasionally, tropical air masses bring rainfall in summer months. Annual average precipitation at the Project site equates to roughly 10 inches, the majority occurring between the months of December-April (VANDENBERG RAWs.)

Wind speeds are usually light to moderate and tend to be highest in association with winter storms. A diurnal wind pattern (land and sea breeze) characterizes most of the area, with north westerly (on-shore) winds common in daytime and light easterly (offshore) winds predominant at night. The many deep canyons running out of the coastal mountains towards the coast therefore tend to catch and concentrate these winds, enhancing the fire threat in warm, dry weather. Unlike southern Santa Barbara County which is subject to a wind pattern phenomenon referred to as Sundowner winds, strong offshore winds in northern Santa Barbara County are commonly referred to as Santa Lucia winds. Although often less severe and frequent as sundowner winds, Santa Lucia wind events can result in high wind speeds and extremely low fuel moistures. These winds occur when pressure changes in coastal and inland areas cause warm inland to descent downslope towards the coast. As these winds travel downslope, they gain speed as they are squeezed through narrow passes and canyons, reaching speeds over 50 mph. Dry Santa Lucia winds promote the ignition and rapid spread of wildfires by drying fuels and fanning the flames of fires once they are started. The wind's greatest effect on fire tends to be in autumn when vegetation has been desiccated after a long dry summer and before the onset of the winter rainy season. Surface winds can also be influenced locally by topography and slope variations (Westerling et. al. 2004). Daily timing of Santa Lucia winds (late afternoon/early evening) can create challenges for firefighting efforts especially if ignitions occur late in the day or at night as suppression actions using aircraft to limit initial spread are limited or impossible. While Santa Lucia wind patterns may occur at the Project site, wind speeds are generally not as strong compared to those observed in northeastern Santa Barbara County. Table 1 provides average (50th percentile) and extreme (97th percentile) wind and fuel moisture values for the Solomon Hills Project Site.

Table 1. Wind and Fuel Moisture at the Solomon Hills Project Site

Model Variable	50th Percentile Weather	97th Percentile Weather (w/ Max. Wind)
1 h fuel moisture	9%	2%
10 h fuel moisture	11%	5%
100 h fuel moisture	17%	7%
Live herbaceous moisture	40%	30%

Table 1. Wind and Fuel Moisture at the Solomon Hills Project Site

Model Variable	50th Percentile Weather	97th Percentile Weather (w/ Max. Wind)
Live woody moisture	123%	69%
Wind Speed	7 mph	26 mph
Wind direction	300 degrees	25 degrees

Source: VANDENBERG RAWS (Station 045520)

2.2.2 Topography

The Project site is considered within the northern area of the County. The northern portion of the central coast lowlands is defined by the Purisima Hills on the south and the Casmalia and Solomon hills on the north. These hills range from 1,340 to 1,840 feet and define the San Antonio Valley and the Los Alamos lowland. The Santa Maria Valley lies just north of the Casmalia and Solomon hills and extends northward into San Luis Obispo County, eastward toward the town of Sisquoc, and westward to the Pacific Ocean.

The Project site is located within the western extent of the Solomon Hills, and just north of the Purissima Hills. Terrain at the site features diverse terrain including rolling hills, steep slopes, and moderate to low sloped areas. Elevations on the site range from approximately 636 to 1,348 feet amsl. Of note are Long and Careaga Canyons which bisect the central portion of the property along a north-south axis.

Slopes on the Project site range from relatively flat (0%) up to nearly 80% (approximately 39°). Steeper slopes are associated with the portions of the property that are situated on hillslopes of major ridgelines. Site wide topography is illustrated in Figure 3.

The Project site is generally divided by a transverse ridgeline that passes in a northwest-southeast direction. Terrain to the north of this ridgeline is generally steeper with predominant ridges and valley bottoms. Terrain in the southern portion is generally more rolling in nature with fewer pronounced ridgelines. Valleys in the northern portion of the site generally travel in a northeast-southwest direction, whereas valleys in the southern portion generally travel north-south. Fire behavior is often exacerbated when valleys align with the wind direction, resulting in a funneling of winds and increase wind speeds.

Topography influences fire risk by affecting fire spread rates. Typically, steep terrain results in faster fire spread up-slope and slower spread down-slope. Terrain that forms a funneling effect, such as chimneys, chutes, or saddles on the landscape can result in especially intense fire behavior, including faster spread and higher intensity. Conversely, flat terrain tends to have little effect on fire spread, resulting in fires that are driven by vegetation and wind. Topographic features that may present a fire spread facilitator are the slope and canyon alignments, which may serve to funnel or channel winds, thus increasing their velocity and potential for influencing wildfire behavior. Varied terrain at the Project site is likely to result in local variations to wind speed and direction.

Various terrain features can also influence fire behavior, as summarized in Table 2.

Table 2. Effects of Topographic Features on Fire Behavior

Topographic Feature	Effect
Narrow Canyon	Surface winds follow canyon direction, which may differ from the prevailing wind; wind eddies/strong upslope air movement expected, which may cause erratic fire behavior; radiant heat transfer between slopes facilitates spotting/ignition on opposite canyon side.
Wide Canyon	Prevailing wind direction not significantly altered; aspect significant contributor to fire behavior. Wide canyons are not as susceptible to cross-canyon spotting except in high winds.
Box Canyon/ Chute	Air is drawn in from canyon bottom; strong upslope drafts. No gaps or prominent saddles to let heated air escape. Fires starting at the canyon bottom can move upslope very rapidly due to a chimney-like preheating of the higher-level fuels and upslope winds.
Ridge	Fires may change direction when reaching ridge/canyon edge; strong air flows likely at ridge point; possibility for different wind directions on different sides of the ridge. Ridges experience more wind. Fires gain speed and intensity moving toward a ridge. Fires burning at a ridge can exhibit erratic fire behavior. Strong air flows can cause a whirling motion by the fire. As the wind crosses a ridge it usually has a leeward eddy where the wind rolls around and comes up the leeward side.
Saddle	Potential for rapid rates of fire spread; fires pushed through saddles faster during upslope runs. Winds can increase when blowing through saddles due to the funneling effect of the constricted pass. On the other side, winds will slow, but erratic winds potentially occur at the saddle due to eddies.

Sources: NFPA 2011; Teie 1994.

2.2.3 Vegetation (Fuels)

In addition to weather and topography, vegetation (or fuel) plays a major role in affecting fire behavior and shaping the fire hazard potential on the Solomon Hills Project site. Vegetation on the Solomon Hills property is dominated primarily by annual grassland (many areas have been actively grazed), coastal scrub, and oak woodland vegetation. Steep terrain at the Project site promotes the establishment of coastal scrub and chaparral vegetation types in select areas.

Annual grassland inhabits nearly 31% of the site and generally occurs on lower elevation rolling to flat terrain. Scrub vegetation types throughout the site represent nearly 42% of the site's vegetative cover and generally occur on steeper hillslopes, particularly south facing slopes. Mixed oak woodlands are widespread throughout the Project site representing 24% of the site, and generally occur on north facing slopes. The remaining cover on site (less than 4%) consists of disturbed or un-vegetated areas and woody chaparral vegetation (2%).

Table 3 provides details of the Solomon Hills vegetation types and their overall representation on site. For the purposes of evaluating fuel type coverage on site, these vegetation types have been further specified groupings based on fuel model type, resulting in a total of 12 different fuel models (Table 8), three of which are classified as non-burnable. On-site vegetation is important relative to wildfire as some vegetation, such as scrub, chaparral, and grassland habitats are highly flammable while other vegetation, such as riparian communities or forest understory, are less flammable due to their higher plant moisture content, compact structure, and available shading from overstory tree canopies. The influence vegetation has on fire behavior is immense and understanding vegetation dynamics is important for developing an effective fuel modification plan. The map in Figure 4 presents the vegetation/fuel distribution for the Solomon Hills Project site.

Vegetation surrounding the Project site is similar and also includes non-native grasslands, mixed oak woodland, and scrub vegetation types. Extensive vineyards and agricultural fields exist adjacent to the northeast region of the Project site. After development of the Project site, the fuel load for the Project area will be significantly reduced and the construction of strategic buffers (fuel modification zones) between Project structures and open space will further reduce the overall fire risk for the Solomon Hills community.

Post-development vegetation composition proximate to the Solomon Hills footprint is expected to be significantly different than current conditions. During all stages, fuel modification zones will be in place prior to construction. Following build-out, irrigated landscape vegetation associated with fuel modification zones (FMZ) A and B are expected to cover the immediate area surrounding the Project Site, extending 100 horizontal feet from each of the structures. Consistent with requirements, native and naturalized vegetation occurring within FMZ Zone 2 is not expected to be irrigated, although overall fuel volumes will be reduced by removing dead and dying plants, non-natives, highly flammable species, and thinning the remaining plants so they would not readily facilitate the spread of fire on an ongoing basis. The provided FMZ areas will be maintained in order to comply with County Fire Fuel Modification Plan guidelines.

Table 3. Solomon Hills Project Site Vegetation Types.

Vegetation Type*	Acreage on the Project site**	Percent of Project Site
Coastal Sage Scrub	797.6	42%
Annual Grassland	590.9	31%
Oak Woodland	449.6	24%
Chaparral	36.0	2%
Urban	22.2	1%
Water	0.2	0%
Total	1,896.5	100%

Source: Salo Sciences, 2022

2.2.3.1 Vegetation Dynamics

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Of the three factors that influence fire behavior; topography, weather and fuels, only fuels can be modified to lessen wildfire intensity. 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 (leaf size, branching patterns), and overall fuel loading. For example, the native shrublands that compose the coastal scrub community on the Project site are a high potential hazard based on such criteria.

Existing vegetation distribution throughout the Project Site varies by location and topography. Areas where the proposed development is located, are primarily grassland or coastal scrub vegetation. The importance of vegetative cover in fire suppression efforts is its role in affecting fire behavior. For example, fire burning in grasslands may have shorter flame lengths than those burning in coastal scrub; however, fire in grasslands, due to its flashy (easily ignited when dry) nature, often spreads more rapidly than fire in other vegetation types. A description of fire dynamics of vegetation types found within the Project site is provided below.

Coastal Scrub

Coastal scrub is a type of chaparral, commonly referred to as a soft chaparral. This type of chaparral is flashier than hard chaparral species and is more influenced by daily changes in humidity. Coastal scrub vegetation is generally associated with annual grasslands and oak woodlands and can tolerate drier conditions than these associated habitats. Coastal scrub vegetation may be interspersed with chaparral vegetation, most commonly on south facing slopes. Coastal scrub is tolerant of very steep terrain and is commonly observed on the Project site's steepest slopes. Coastal scrub is considered a moderately fine fuel that is loosely compacted with a moderate fuel load. Coastal scrub has a high surface area-to-volume ratio, requiring less heat to remove fuel moisture and raise fuel to ignition temperature. It is subject to early seasonal drying in the late spring and early summer but does not fully cure in the way that grasses do. Compared to chaparral, coastal scrub tends to have a lower content of volatile organic compounds (VOCs). The live fuel moisture content reaches its low point in the late summer and early fall months. Dead fuels consist mainly of 1-hour and 10-hour fuel sizes, or twigs and small stems ranging from 0.25 inches to 1 inch in diameter. Coastal scrub has potential for a high rate of spread, rapid ignition, and extreme fire behavior.

Oak Woodlands

Oak woodlands are most commonly found on the Project site's north facing slopes. Oak trees are highly flame-resistant because the leaves do not readily catch fire. Fires in oak stands tend to smolder in the duff and consume surface fuels without generating enough heat to carry fire into the oak canopy (USFS 2023a). Oaks also do not spread fire crown-to-crown readily like many conifers (Sonoma Veg Map 2018). However, other species present within oak woodlands such as coastal scrub species are less flame resistant due to highly flammable foliage which possesses volatile organic compounds (VOCs) that can affect the fire's heat release rate, flame height, and duration, potentially influencing fire behavior and severity and thus creating a ladder fuel that can ignite the oak tree canopy above.

Closed canopy oak woodlands often create sufficient shading to prevent significant surface fuel production. Oak woodland litter is the common understory fuel in oak stands and does little to facilitate fire spread because it has a low surface-area-to-volume ratio and requires high heat levels to remove fuel moisture and raise the fuel to ignition temperature. Oak woodland litter is subject to seasonal drying in the late summer and early fall months, but fog drip, solar shading, and the windbreak provided by oak canopies can sustain high fuel moisture content in the summer when fog is present. Oaks have a low content of volatile organic compounds, and the lack of highly combustible oils further reduces the fire hazard associated with oaks and oak woodlands.

Oak woodlands with shrub understory may occur in open oak stands where sufficient sunlight is able to penetrate the tree canopy. In these stands, the potential for severe fire behavior is more likely as understory vegetation fuel loads may be significant. In some cases, understory shrub fuels can facilitate surface to crown fire transition in oak stands.

Fire dynamics in oak woodlands with grass understory are often dependent on fuel characteristics of the herbaceous understory fuels. Larger oaks may create wind buffers and disrupt the rapid spread of wildfire through grassland fuel beds. Further, wide oak canopies may result in increased herbaceous fuel moistures due to shading and reduced evapotranspiration.

Dead fuels consist of 1-hour¹ (litter and duff smaller than 0.25 inches in diameter), 10-hour (twigs and small stems 0.25 inches to 1 inch in diameter), 100-hour (branches 1 inch to 3 inches in diameter), and 1,000-hour (large stems and branches greater than 3 inches in diameter) sizes. Oak woodlands are mostly lacking in features that promote

¹ Fuel moisture in these fuels can change within 1 hour according to environmental factors (e.g., temperature, humidity, shade).

fire spread, but weather and topography have a strong influence on fire behavior. Given extreme fire weather and steep terrain, oak woodlands have the potential for a moderate rate of spread, torching and crown fire, and extreme fire behavior, especially those with higher surface fuel loads and ladder fuels. Fire behavior in oak woodlands and forests is typically much less intense than wildfires burning in chaparral and coastal scrub communities. Low, compacted leaf litter understory, canopy shading of ground fuels, and wind velocity reduction from tree canopies significantly reduce the intensity and spread rates of surface fires in oak woodlands. The transition from ground to canopy fire increases fire intensity, spotting, and tree mortality potential. Oak trees may ignite violently at once when they get enough heat in the under-story. This is usually caused from brush species underneath or dense low hanging limbs. These trees often survive this which makes them flame resistant. However, crown fire in oak trees spreads embers into the wind as the oak leaves burn. This can generally be mitigated by clearing the under-story and limbing up the trees to 6 feet.

Annual Grasslands

Herbaceous vegetation covers roughly 31% of the Planning Area and is largely represented by annual grasslands. Herbaceous plant species have non-woody stems and generally complete their life cycle in a single growing season. Invasive grasses, forbs, and noxious weeds may also be a component of herbaceous vegetation types. Trees and shrubs may also be present in this vegetation type; however, absolute tree and shrub cover is often less than 10%.

Grasses are fine fuels that are loosely compacted with a low fuel load.² Grasses have a high surface-area-to-volume ratio, requiring less heat to remove fuel moisture and raise the fuel to ignition temperature. They are also subject to early seasonal drying in late spring and early summer. Live fuel moisture content in grasses typically reaches its low point in early summer, and grasses begin to cure soon after. Due to these characteristics, grasses have the potential for a high rate of spread, rapid ignition, and facilitation of extreme fire behavior. Grasses are the vegetation type in the Project area with the highest risk for wildfire ignition. Their low overall fuel loads typically result in faster moving fires with lower flame lengths and heat output. Untreated grasses can help spread a fire into other adjacent surface fuel types (e.g., shrubs) or facilitate surface to crown fire³ transition where they exist beneath tree canopies.

As described, vegetation plays a significant role in fire behavior. A critical factor to consider is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes affect plant community succession. A succession of plant communities, most notably the gradual conversion of shrublands to grasslands with high-frequency fires and grasslands to shrublands with fire exclusion, is highly dependent on the fire regime. Biomass and associated fuel loading will increase over time, assuming that disturbance or fuel reduction efforts are not diligently implemented.

Wildfire disturbances can also have dramatic impacts on plants and plant composition. Heat shock, accumulation of post-fire charred wood, and change in photoperiods due to removal of shrub canopies may all stimulate seed germination. The post-fire response for most species is vegetative reproduction and stimulation of flowering and fruiting. The combustion of aboveground biomass alters seedbeds and temporarily eliminates competition for moisture, nutrients, heat, and light. Species that can rapidly take advantage of the available resources will flourish. It is possible to alter successional pathways for varying plant communities through manual alteration. This concept is a key component in the overall establishment and maintenance of the proposed FMZs on the Project Site. FMZs are landscape areas that minimize fire spread progressively through various restrictions, treatments, and

² The amount of available and potentially combustible material, usually expressed as tons per acre (NWCG 2022).

³ A crown fire is a forest fire that advances, often at great speed, from treetop to treetop.

maintenance. FMZs provide a buffer between off-site fuels and the urbanized landscapes that have the dual benefit of protecting communities while also protecting habitats by minimizing the potential for project-related ignitions.

2.2.4 Historic Wildland Fires and Ignitions

Fire history is an important component of a site-specific FPP. Fire history data provides valuable information regarding fire spread, fire frequency, ignition sources, and vegetation/fuel mosaics across a given landscape. One important use for this information is as a tool for pre-planning. It is advantageous to know which areas may have burned recently and therefore may provide a tactical defense position, what type of fire burned on the site, and how a fire may spread. Fire history represented in this FPP uses the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program (FRAP) database. FRAP summarizes fire perimeter data from the late 1800s to 2020, but which is incomplete due to the fact that it only includes fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Syphard and Keeley 2016). However, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred in the Project area, which indicates whether they may be possible in the future.

Historic Wildfires

Fire history for the Solomon Hills Site and surrounding areas was analyzed through records from the California Department of Forestry and Fire Protection (CAL FIRE) in their FRAP database. According to the FRAP database, 14 wildfires have occurred on or within 5 miles of Solomon Hills since 1968, with 1 wildfire, the 2015 Ridge Fire, burning roughly 9 acres onsite. The average fire return interval within 5 miles of the Project site is 4 years. The most recent fire burning in the vicinity of the Solomon Hills site (within 5 miles) occurred in November of 2020 (Garey Fire), which burned east of the property near the community of Sisquoc. Another recent fire, the Gato Fire, occurred in July 2020 roughly 5 miles east of the Project site near Cat Canyon Road. The Harris fire which occurred in 2000 is the largest recorded wildfires within the Project's vicinity, burning roughly 9,300 acres just east of Vandenberg Air force Base and roughly 5 miles west of the Project site.

The lack of significant historical fire activity on the majority of Solomon Hills property is likely attributed to the lack of public access to the site, onsite grazing practices which reduce the Project site's more ignition receptive fuels, rapid initial attack due to proximity to major roadways the absence of continuous chaparral fuel beds, barriers to wildfire spread, and rolling terrain. In addition, existing Pacific Coast Energy Company employees offer quick fire detection due to their continual presence and patrol onsite. From a regional perspective, wildfire occurrence offsite is more common, particularly in the Santa Ynez and Sierra Madre Mountain ranges where steep slopes, higher wind speeds, and continuous chaparral fuel beds promote the spread of large wildfires. Due to Highway 101's position along the eastern edge of the Project site and its function as a fuel break, in addition to northern urbanized areas, it is believed that the Project site's vulnerability to large encroaching fires is greatest from wildfires encroaching from the south. As presented in Figure 5, it appears that Highway 101 has been used as a fuel break to prevent fires from crossing the Highway. This decreases the likelihood of the Project being impacted from wildfires burning towards the Project site from the east of Highway 101. While wildfire spread towards the site from the west is possible given the presence of wildland fuels, existing road and other development infrastructure associated within ongoing oil drilling operations has created a series of extensive fuel breaks which break up and compartmentalize wildfire spread and provide multiple access points to conduct fire suppression. Agricultural areas also exist to the west of the Project and are not conducive to wildfire spread. Therefore, wildfires burning from the south towards the Project site are considered to be the greatest threat given the presence of continuous wildland fuels.

Based on an analysis of this fire history data set, specifically the years in which the fires burned, the average interval between wildfires within 5 miles of the Project site was calculated to be approximately 4 years with intervals ranging between 0 (multiple fires in the same year) to 15 years. Based on this analysis, it is expected that there will be wildland fires within 5 miles of the Project site at least every four (4) years and on average, as observed in the fire history record. Table 4 summarizes the fire history on and near the Project site.

Table 4. Fire History within 5 miles of the Project Site.

Fire Name	Year	Acres Burned
Garey	2020	12
Gato	2020	10
Clark	2020	19
Cat	2017	16
Cat	2016	20
Ridge	2015	9
Palmer	2009	140
Harris	2000	9,330
Sinclair	2000	81
Barka	1985	63
Las Flores	1975	321
Gulf Oil Corporation	1970	697
Payne	1969	627
Ainscough	1968	671
Total:		12,016

Source: FRAP, 2023

Note that once the Solomon Hills Project site is built out, the fire spread patterns on the property would be, as developments would present substantial fuel breaks, significantly interrupting the continuous fuels across the Project site.

Historic Ignitions

Santa Barbara County Fire maintains a spatial database of vegetation fire ignition points throughout the County. According to this database, 154 ignitions have occurred within 5 miles of the Project site since 2007. Within the Project site itself, two ignitions have occurred over the same period. As presented graphically in Figure 6, regional wildfire ignition locations documented in the SBCFD ignition database are strongly associated with major roadways including Highway 101, State Route 135, and Highway 1. As presented in Table 5, vehicle caused ignitions are the leading cause of ignitions within 5 miles of the Project site. Electrical power is responsible for the second highest cause of ignitions, followed by equipment caused fires.

Table 5. Historic vegetation fire ignitions by cause.

Ignition Cause	Frequency
Vehicle	42
Electrical Power	32
Equipment	11
Incendiary	5
Campfire	4
Fireworks	4
Railroad	4
Other	2
Playing with Fire	2
Smoking	2
Structure (exposure)	2
Blasting	1
Debris, Vegetation Burn	1
Unknown	42
Total:	154

Source: SBCFD, 2023

2.3 Existing Fire Hazard

Based on the existing conditions, the likelihood of wildfire in the Project area is moderate, but the current conditions as they relate to topography, climate, land use, and vegetation have the potential to facilitate wildfire ignitions and spread. Given the diversity in terrain and vegetation throughout the Project site, existing fire hazard is spatially variable. CAL FIRE’s 2024 Fire Hazard Severity Maps currently designate the Project site as containing areas of Very High, High, and Moderate fire hazard (Figure 7). A description of the Project site’s Fire Hazard Severity Zones by their respective land cover is provided below in Table 6.

Table 6. Fire Hazard Severity Zones within the Existing Project Site

Fire Hazard Severity Zone Designation	Acres	Percent of Project Site
Very High	412	22%
High	693	37%
Moderate	792	42%

Source: OSFM, 2023

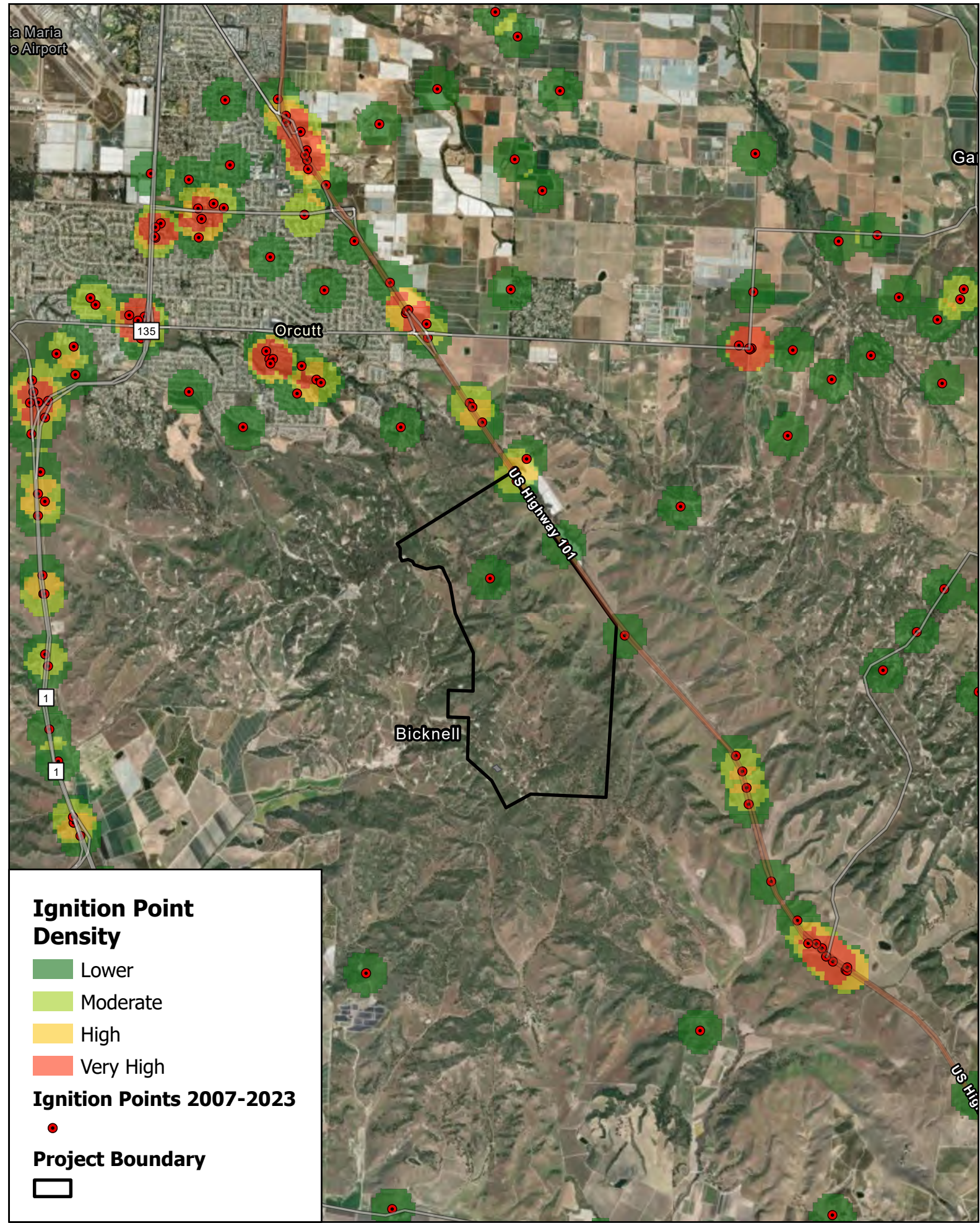
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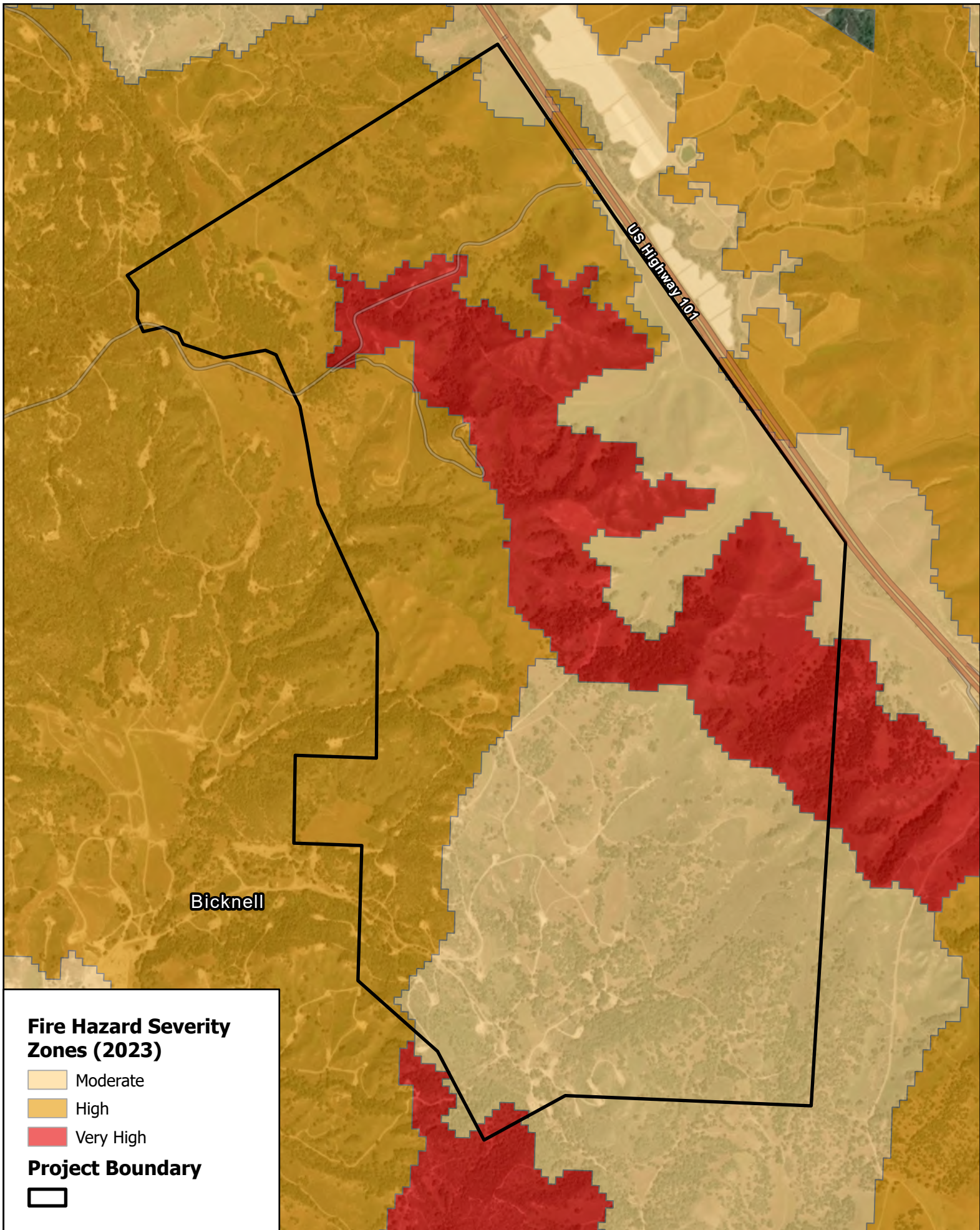
FIGURE 4
Vegetation

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3 Modeling: Anticipated Fire Behavior for Worst-Case Fire Conditions

3.1 Fire Behavior Modeling

Fire behavior modeling was conducted to document the type and intensity of a fire that would be expected to occur adjacent to the Solomon Hills Project Site, prior to and following buildout of the Project, given characteristic site features such as topography, vegetation, and weather during “worst case” fire conditions (e.g., during Santa Ana winds). For planning purposes, the averaged worst-case fire behavior is the most useful information for conservative fuel modification design.

To evaluate potential flame lengths and fire line intensities, FlamMap (Finney 2004) fire behavior modeling software was utilized that incorporates site-specific fuel, topography, and weather data. FlamMap fire behavior calculations are based on the algorithms included in the BehavePlus 3.0.2 fire behavior modeling program (Andrews, Bevins, and Seli 2004) and are performed in GIS-based interface which provides graphical outputs of fire behavior modeling results. These outputs were utilized to graphically portray the anticipated pre-development fire behavior for the Project site.

3.1.1 Fire Behavior Modeling Analysis

Field data collection and fire behavior modeling was completed by Dudek to document the predicted type and intensity of fire that would be expected on this site given characteristic site features such as topography, vegetation, and weather. The fire behavior modeling is conducted based on the existing conditions. Understanding the anticipated fire behavior on the site pre-construction provides insight into how to best address the risk that the undeveloped areas present. Naturally, the areas that are converted to urban landscapes will result in a reduced fire risk and reduced fire intensity. Areas subject to hardscape and irrigated landscaping post-development can be expected to have flame lengths and intensity well below areas on the periphery of the community, the wildland urban interface.

Fire behavior modeling conducted on this site includes a high level of detail and analysis which results in reasonably accurate representations of how wildfire may move through available fuels on Solomon Hills. Fire behavior calculations are based on site-specific fuel characteristics supported by fire science research that analyzes heat transfer related to specific fire behavior. To evaluate potential flame lengths and fire line intensities, FlamMap (Finney 2004) fire behavior modeling software was utilized that incorporates site-specific fuel, topography, and weather data. FlamMap fire behavior calculations are based on the algorithms included in the BehavePlus 3.0.2 fire behavior modeling program (Andrews, Bevins, and Seli 2004) and are performed in GIS-based interface which provides graphical outputs of fire behavior modeling results. These outputs were utilized to graphically portray the anticipated pre-development fire behavior for the Project site.

Although fire behavior models, like all models, have limitations, they have performed well in providing valuable estimated fire behavior predictions, which can be used as a tool in the decision-making process. In order to make reliable estimates of fire behavior and interpret fire spread models, one must understand the relationship of fuels

to the fire environment and recognize the variations in these fuels and have experience with wildland fires or applicable knowledge of how fire reacts in similar fuels.

3.1.1.1 FlamMap Fire Modeling Inputs

Dudek utilized FlamMap software to graphically depict fire behavior modeling results for the Project site. FlamMap utilizes the same fire spread equations built into the BehavePlus software package but allows for a geographical presentation of fire behavior outputs as it applies the calculations to each pixel in an associated Geographic Information Systems (GIS) landscape. Both summer weather conditions (50th percentile) and more extreme fall weather conditions (97th percentile) were modeled.

FlamMap software requires a minimum of five separate input files that represent field conditions on the Project site, including elevation, slope, aspect, fuel model, and canopy cover. Each of these files was created as a raster GIS file using ArcGIS 9.3 software, exported as an ASCII grid file, then utilized in creating a FARSITE (Finney 1998) Landscape file that served as the base for the FlamMap runs. The resolution of each grid file and associated ASCII file that was used in the models described herein is 10 meters. Output files chosen for each of the modeling runs included flame length (feet), and rate of spread (feet/minute).

The following provides a description of the input variables used in processing the FlamMap models. In addition, data sources are cited, and any assumptions made during the modeling process are described.

Weather. For the purposes of understanding site weather conditions, Dudek evaluated data from two local Remote Automated Weather Stations (RAWS) located in the vicinity of the Project site. As of the date of this report, no RAWS are located on the Solomon Hills property. The following summarizes the location and available data ranges for the closest RAWS.

- **Vandenberg RAWS (045220)**

Utilizing the FireFamily Plus software package, data from the Vandenberg RAWS was analyzed to determine the 97th percentile wind and fuel moisture conditions for inclusion in the fire behavior modeling efforts conducted for the Project site. Fuel moisture information was analyzed and incorporated into the Initial Fuel Moisture file used as an input in FlamMap. Wind speed (20-foot) values for the different FlamMap runs were manually entered during the data input.

Elevation. Elevation data were derived from the California Forest Observatory DEM file, projected in NAD 1983, California State Plane, Zone 5. The resolution of the DEM was 10 meters. These data were utilized to create an elevation grid file, using units of feet amsl. The elevation data are a necessary input file for FlamMap runs and are necessary for adiabatic (air cooling or heating) adjustment of temperature and humidity and for conversion of fire spread between horizontal and slope distances.

Slope. Slope data were derived from the California Forest Observatory slope raster file at a resolution of 10 meters. A slope input file is necessary for computing slope effects on fire spread and solar radiance.

Aspect. Aspect data were derived from the California Forest Observatory aspect raster file at a resolution of 10 meters. The aspect values utilized were azimuth degrees. Aspect values are important in determining the solar exposure of grid cells.

Fuel Model. Natural fuels are made up of the various components of vegetation, both live and dead, that occur on a site. Vegetation is comprised of living and dead fuel. The type and quantity will depend upon the soil, climate, geographic features, disturbance regimes, and the fire history of the site. The major fuel groups of grass, shrub, trees, and slash are defined by their constituent types and quantities of litter and duff layers, dead woody material, grasses and forbs, shrubs, regeneration, and trees. Fire behavior can be predicted largely by analyzing the characteristics of these fuels and is affected by weather (wind, air temperature) and seven principal fuel characteristics: fuel loading, size and shape, compactness, horizontal continuity, vertical arrangement, moisture content and chemical properties.

Fine-scale vegetation data was utilized to develop fuel model data for the Solomon Hills Project site and surrounding areas. Vegetation data was obtained from the California Forest Observatory 10-meter vegetation data. Vegetation types were then edited to reflect onsite vegetation conditions during the time of the field visit. A crosswalk was then performed to convert vegetation types into representative fuel models.

Table 7 provides a description of 12 fuel models observed on the Project site and that were subsequently used in the FlamMap analysis for this Project:

Table 7. Site Fuel Model Characteristics

Fuel Model	Description	Tons/acre; Btu/lb	Fuel Bed Depth (Feet)	Acres
123	Moderate Load, Grass/Shrub	3.5 tons/acre; 8,000Btu/lb	2.2	7,705
102	Low Load, Dry Climate Grass	0.4 tons/acre; 8,000 Btu/lb	0.4	7,511
189	High Load, Broadleaf Litter	14.1 tons/acre; 8,000 Btu/lb	0.6	3,173
93	Agriculture	N/A	N/A	2,926
162	Moderate Load, Timber/shrub	4.2 tons/acre; 9,200 Btu/lb	1.0	8,63
91	Urban	N/A	N/A	667
147	Very High Load Shrub	14.4 tons/acre; 8,000 Btu/lb	6.0	546
163	Moderate Load, Timber/Grass/Shrub	3.3 tons/acre; 8,000 Btu/lb	1.3	233
186	Moderate Load Broadleaf Litter	4.8 tons/acre; 8,000 Btu/lb	0.3	132
202	Moderate Load Activity Fuel or Low Load Blowdown	12.8 tons/acre; 8,000 Btu/lb	1.0	9
182	Low Load Broadleaf Litter	5.9 tons/acre; 8,000 Btu/lb	0.2	4
98	Open Water	N/A	N/A	1

Canopy Cover. Canopy cover is a required raster file for FlamMap operations. It is necessary for computing shading and wind reduction factors for all fuel models. Canopy cover is measured as the horizontal fraction of the ground that is covered directly overhead by tree canopy. Crown closure refers to the ecological condition of relative tree crown density. Stands can be said to be "closed" to recruitment of canopy trees but still only have 40% or 50%

canopy cover. Coverage units can be categories (0 through 4) or percentage values (0 through 100). Canopy cover data was obtained from the California Forest Observatory at a resolution of 10 meters.

Table 8 summarizes the input variables used in the FlamMap modeling efforts.

Table 8. FlamMap Model Input Variables

Model Variable	97th Percentile Weather (w/ Max. Wind)
1 h fuel moisture	2%
10 h fuel moisture	5%
100 h fuel moisture	7%
Live herbaceous moisture	30%
Live woody moisture	69%
20 ft wind speed (mph)	26 mph
Wind direction	Up-slope
Slope steepness	Variable by location

3.1.1.2 FlamMap Fire Modelling Outputs

The two-output grid file provide a representation of flame length (feet) and wildfire rate of spread (miles/hour). This fire behavior variables are an important component in understanding fire risk and fire agency response capabilities. Flame length, the length of the flame of a spreading surface fire within the flaming front, is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews, Bevins, and Seli 2004). It is extremely important to fireline personnel in evaluating fireline intensity and is worth considering as an important fire variable (Rothermel 1983). Fireline intensity is directly related to flame lengths and is a measure of heat output from the flaming front, and also affects the potential for a surface fire to transition to a crown fire. The information in Table 9 presents an interpretation of these fire behavior variables as related to fire suppression efforts. Rate of spread refers to the speed of which the flaming front is progressing and is a valuable output for determining how wildfire may move across the landscape.

Table 9. Fire Suppression Interpretation

Flame Length (feet)	Fireline Intensity (Btu/ft/s)	Interpretations
Under 4	Under 100	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 to 8	100 to 500	Fires are too intense for direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8 to 11	500 to 1000	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Over 11	Over 1000	Crowning, spotting, and major fire runs are probable. Control efforts at head of fire are ineffective.

Source: BehavePlus 3.0.2 fire behavior modeling program (Andrews, Bevins, and Seli 2004)

Maps depicting flame lengths and rates of spread for the 97th percentile weather scenario are included in Figures 8-10 for pre- and post-development conditions. The fire behavior analysis results for the Project site vary depending on fuel type. As FlamMap utilizes site-specific digital terrain data (including slope, vegetation, aspect, and elevation data) slight variations in predicted flame length values can be observed based on fluctuations of these attributes across the landscape. As presented, wildfire behavior in each of the fuel types varies depending on weather conditions.

3.2 Wildfire Behavior Summary

3.2.1 Pre-Project Baseline Conditions

Given the climatic, vegetation, and topographic characteristics along with the fire history and fire behavior modeling results discussed in this FPP, the Solomon Hills Project site is determined to be potentially vulnerable to wildfire starting in, burning onto, or spotting onto the site. Based on this information, it is expected that wildfires will occur on this site in the future, although a significant proportion of available fuels will be converted to urban, irrigated landscapes, representing a reduction in the potential ignition, and spread of wildfire.

As presented in Figure 8, under extreme fall weather conditions (97th percentile fuel moistures and maximum wind speeds of 26 mph), fire can move rapidly through the site's fuels. Worst-case flame lengths were calculated at approximately 41 feet in high load chaparral vegetation types (chamise, manzanita) on steep slopes scattered throughout the Project Site. Within the more common coastal scrub fuels, worst-case flame lengths were calculated at approximately 32 feet on slopes greater than 30%. Under extreme weather and wind conditions, fireline intensity values may exceed 1,000 Btu/feet/second limiting the options for fire response personnel and emphasizing the importance of fuel modification and defensible space for the planned community.

As presented in Figure 9, rate of spread is variable across the project and is largely dependent on terrain and fuel type. Spread rates are generally highest in grasslands and mixed coastal scrub-grass fuels. Grasses are the vegetation type in the Project site with the highest risk for wildfire ignition. Their low overall fuel loads typically result in faster moving fires with lower flame lengths and heat output. Spread rates within the Project site's oak woodlands are generally low.

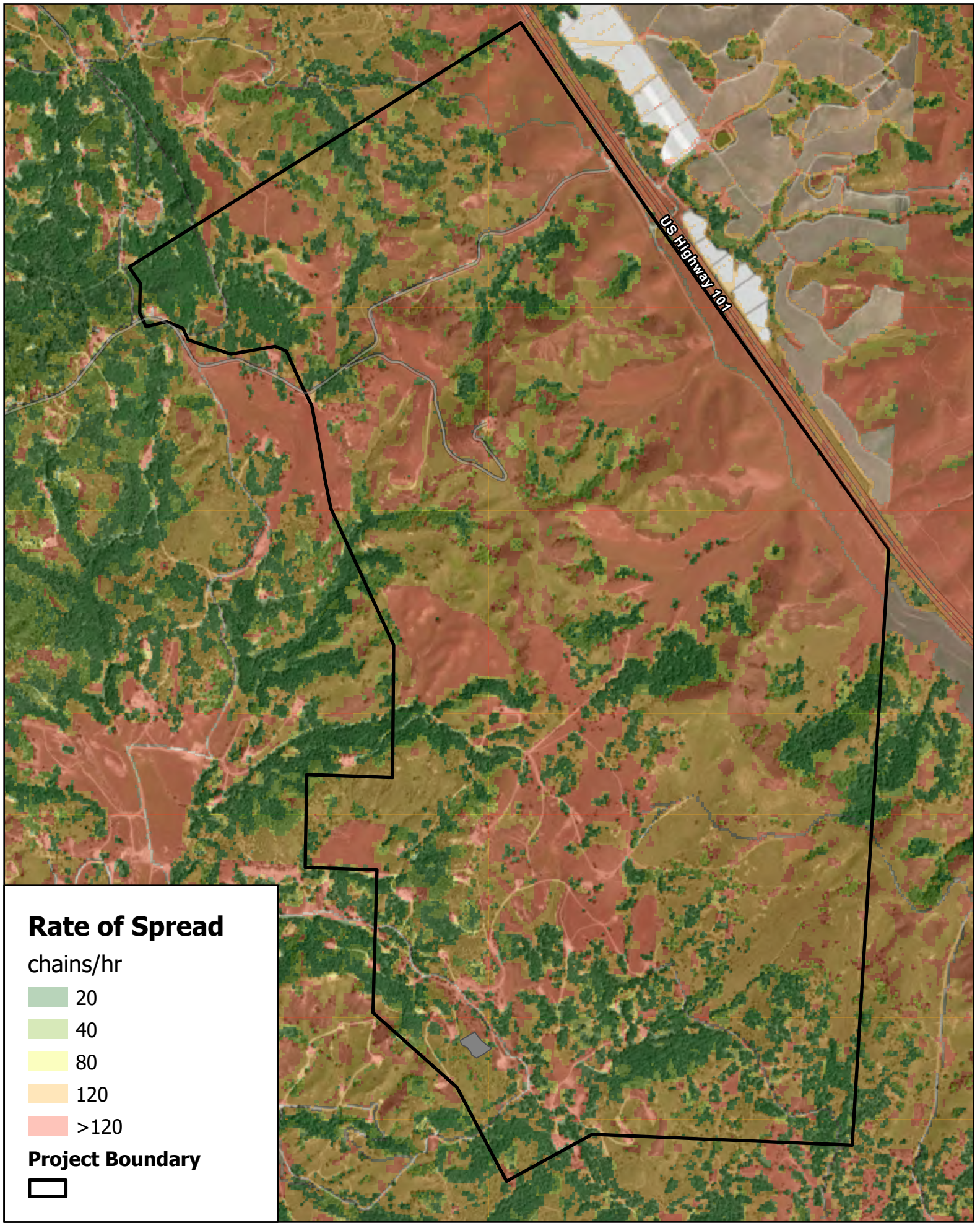
3.2.2 Post-Development Conditions

Dudek conducted modeling of the Solomon Hills Project Site for post-FMZ fuel recommendations. Fuel modification includes the establishment of irrigated and thinned zones on the periphery of the Project's planned development areas. FMZ's will be constructed during each phase of the Project development and will surround the entirety of the Project at buildout. For modeling the post-FMZ treatment condition, fuel model assignments were re-classified for FMZ Zone 1 (Fuel Model 8) and FMZ Zone 2 (50% thinning zones – Fuel Model GR1, Fuel Model Sh1). The FMZ areas experience a significant reduction in flame length and intensity. Flame lengths within FMZs are reduced to less than 7 feet at the outer edges and less than 3 feet near the structures of the development due to the higher live and dead fuel moisture contents. The flame lengths and fire intensity in untreated, open space areas would remain the same under post-development conditions. Table 10 provides a summary of flame lengths by class for post-development conditions. This assessment includes a 500-foot buffer around the Project Boundary to account for potential offsite wildfire impacts. These results are presented graphically in Figure 10.

Table 10. Post-development Anticipated Flame Lengths

Flame Length (feet)	Acres	Percentage
Non-Burnable	743	27%
Under 4	427	16%
4 to 8	398	15%
8 to 11	441	15%
Over 11	727	27%
11-15	594	22%
Over 15-20	89	3%
Over 20	47	2%

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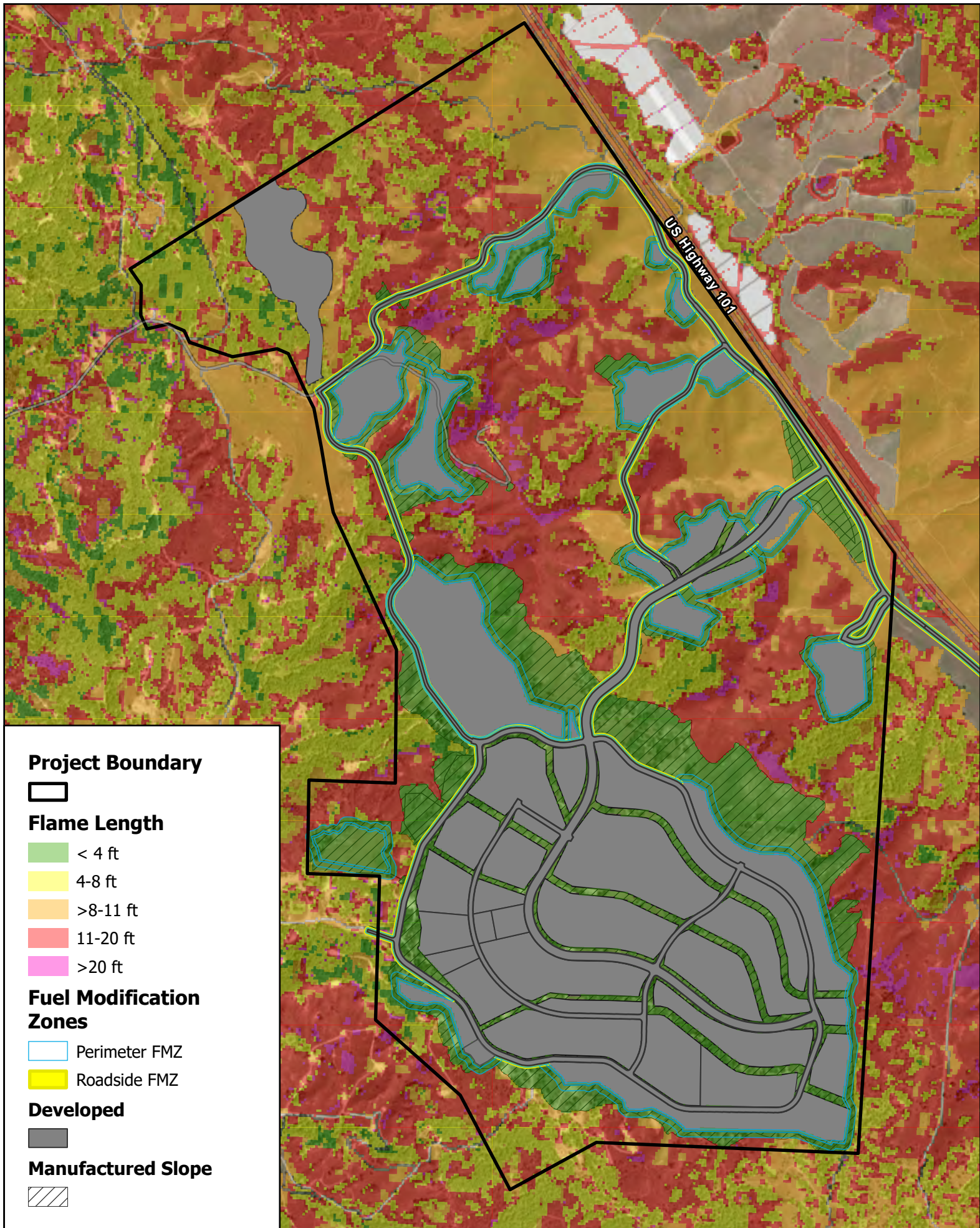


FIGURE 10
Flame Length - Post-development
Fire Protection Plan for the Solomon Hills Project

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3.3 Project Area Fire Risk Assessment

A wildfire risk assessment was conducted for the Solomon Hills Project site to identify development areas within close proximity to hazardous fire behavior. The assessment is intended to inform wildfire mitigation measures that implement project specific design features beyond those required by code and regulation. The output of this risk assessment provides a relative risk ranking of development areas based on the flame lengths of adjacent lands. Development areas with higher relative risk are provided code exceeding project design features to further reduce risk from wildfire.

3.3.1 Relative Risk Assessment Methods

The risk assessment utilized flame lengths adjacent to development areas as the basis for assessing wildfire risk to planned development areas. Flame length—the length of the flame of a spreading surface fire within the flaming front—is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews et al. 2008). Flame lengths greater than or equal 11 feet are correlated with high severity wildfire and may present serious control problems. Control efforts at the head of fire are usually ineffective (Roussopoulos and Johnson 1975)

First, development areas planned for residential, retail, office, and school developments were identified, and individual development pads were delineated. Larger pads were spilt into smaller subsections to allow for a higher detail assessment of wildfire risk within larger development pads.

Using the post-development flame length model output, as further described in Section 4.2.2, areas modelled to experience flame lengths greater than or equal to 11 feet were selected within 500 feet of planned development areas. Wildfire risk scores were determined through the relative acreage of adjacent flame lengths greater than 8 feet in relation to the acreage of the development pad. This framework is represented through the equation below.

$$\text{Wildfire Risk Score} = \frac{\text{Acreage of Flame Lengths} \geq 11 \text{ feet within 500 feet of Development Pad}}{\text{Acreage of Development Pad}}$$

While some development pads exist in close proximity to large areas experiencing flame lengths greater than or equal to 11 feet, others are distanced considerably from these areas. To account for the range of risk scores, wildfire risk scores were binned into 5 class breaks from Very Low, Low, Moderate, High, and Very High. A quantile distribution method was utilized to determine wildfire risk class breaks⁴.

It is important to consider that this assessment is relative in nature and determines wildfire risk based upon the total range of observed wildfire risk values. Therefore, this assessment should not be misused as an objective determination of wildfire risk, but rather, it depicts wildfire risk based on a comparative across all development areas.

3.3.2 Relative Risk Assessment Results.

Results of the relative risk assessment are provided below in Table 11 and presented graphically in Figure 11.

⁴ The Quantile distribution method in ArcGIS Pro distributes observations equally across class intervals, giving unequal class widths but the same frequency of observations per class.

Overall, 27 of the 59 delineated building pads or 33% of the development acreage were determined to have a relative risk value of High or Very High. These Areas were determined to face the greatest risk from wildfire due to their proximity to vegetation modelled to facilitate high severity wildfire behavior.

Table 11. Relative Risk Assessment Results

Relative Risk Score	Number of Development Pads	Acre	Percent of Development Area
Very Low	13	184	35%
Low	10	91	17%
Moderate	9	80	15%
High	15	90	17%
Very High	12	83	16%

3.3.3 Exceeding Wildfire Risk Measures for High-Risk Development Areas

Planned development areas classified as High or Very High risk are believed to have a higher likelihood of experiencing greater impacts from wildfire given baseline post-development conditions. **These baseline, code compliant conditions include:**

- **Defensible Space:** Create buffer zones around the property with cleared vegetation to slow the spread of fire. In very high and high risk areas this includes three zones:
 - Zone 0 Ember Resistant Zone: 0 to 5 feet from the structure, free of flammable vegetation.
 - Zone 1 Irrigated Zone: 5-30 feet from the structure, reduced vegetation and separation between trees and shrubs.
 - Zone 2 Thinning Zone: 30-100 feet from structure, thinned vegetation to slow fire spread.

Additional code exceeding requirements include:

- **Additional Code Exceeding Requirement Zone:** 100-125 feet from structure for homes in the High and Very High-Risk areas that back-up to undeveloped wild land areas and does not have a fire-break paved road of at least 30 feet between the structure and wildland areas.
- **Additional Code Exceeding Requirement for Non-combustible fencing:** Utilize non-combustible fencing on the rear perimeter yards and five-feet in from perimeter for side yards of homes in the High and Very-High risk areas that back up to undeveloped wild land areas and does not have fire-break paved road or paved parking areas between the structure and undeveloped wild land area.

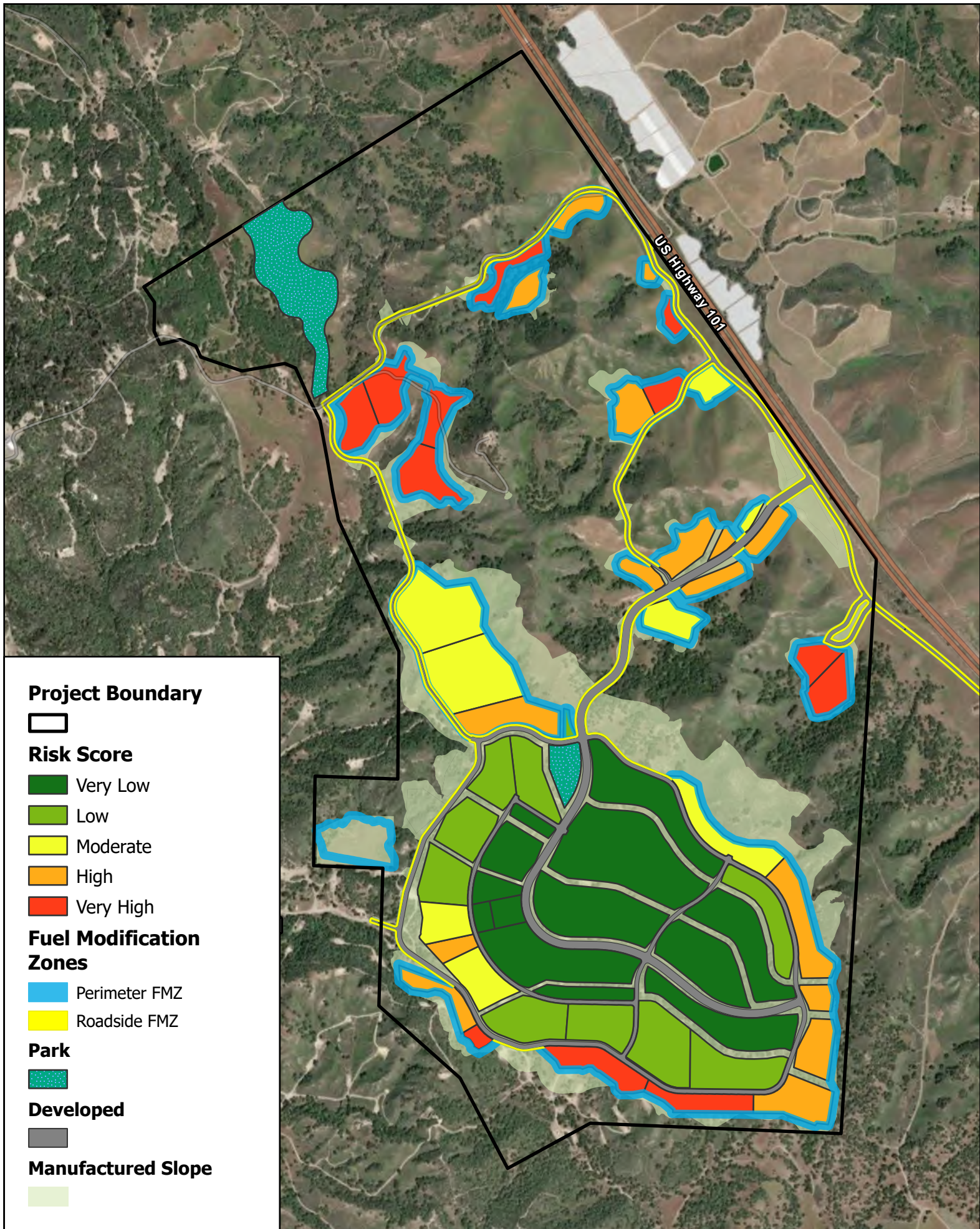


FIGURE 11
Development Area Relative Wildfire Risk
Fire Protection Plan for the Solomon Hills Project

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4 Solomon Hills Fire Safety and Risk Reduction Features

4.1 Planning and Zoning

Defensible Space or a Fuel Modification Zone (FMZ) is a strip of land where combustible vegetation has been removed and/or partially or totally replaced with more adequately-spaced, drought-tolerant, low-fuel-volume plants in order to provide an increased level of protection to structures from wildland fire. The State Fire Code Section 4906 requires defensible space to be maintained around all buildings and structures in all unincorporated land designated by the State Board of Forestry and Fire Protection as SRA per PRC 4290 and “SRA Fire Safe Regulations” California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, Section 1270. As designated by PRC 4291 and Santa Barbara County Fire Department Development Standard #6 (Defensible Space Standards), a fuel modification zone typically consists of at least 100 feet, measured in a horizontal plane, from the exterior walls of all structures towards the undeveloped areas. A typical landscape/fuel modification installation consists of a 30-foot-wide Zone 1 (including a 5-foot Ember resistant Zone 0) and a 70-foot-wide Zone 2. As described above, the Project-specific perimeter FMZs will be consistent with this requirement. Perimeter FMZs beyond individual property boundaries will be maintained annually by the Project’s HOA.

5. Fuel Modification Zones and Defensible Space: Create buffer zones around the property with cleared vegetation to slow the spread of fire. This includes:

Zone 0 Ember Resistant Zone (ERZ) – 0 to 5 feet from the structure

The ERZ, per PRC 4291, is designed to keep fire or embers from igniting materials that can spread to structures. It includes the area under and around all attached decks and requires more stringent wildfire fuel reduction. In 2020, the concept of the ERZ was added to PRC 4291 to designate a more intense fuel reduction area immediately adjacent to homes and/or structures to reduce the likelihood of ember-based home ignition. However, the requirement for an ERZ under PRC 4291 will not take effect for new structures until the Board of Forestry releases updated regulations and guidance documents. Although not currently required, CALFIRE’s website recommends the following guidance for the ERZ, and in anticipation of the regulation going into effect, the ERZ has been included in the Project. Per PRC 4291, the ERZ is measured from building, structures, decks, etc. outward 5 feet (horizontal distance) and includes the following:

1. Hardscape, such as gravel, pavers, concrete, and other non-combustible materials are permitted within this zone.
2. The use of combustible bark or mulch is prohibited.
3. This zone shall be free of all dead and dying weeds, grass, plant, shrubs, trees, branches, and vegetative debris.
4. No plants should exist within this zone.
5. Combustible items within this zone, including on decks, must be limited.
6. Any firewood or lumber should be relocated within Zone 2.
7. Fencing, gates, and arbors attached to homes or structures must be made with non-combustible materials.

8. Garbage and recycling containers must not be kept within this zone.
9. Create separation between trees, shrubs, and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

Zone 1– within 5-30 feet from the structure- no flammable vegetation present

Zone 1 must include non-flammable and maintained plants, and includes the area measured from the outermost edge of the structure or appendage outward to 30 feet (horizontal distance), or the property line for perimeter lots adjacent to native vegetation.

1. Zone 1 must be planted with highly fire-resistant plants⁵. Plant selection for Zone 1 must consist of small herbaceous or succulent plants less than two to three feet in height or regularly irrigated and mowed lawns.
2. Trees must be spaced to allow a minimum 10-foot canopy clearance at full maturity to the structure.

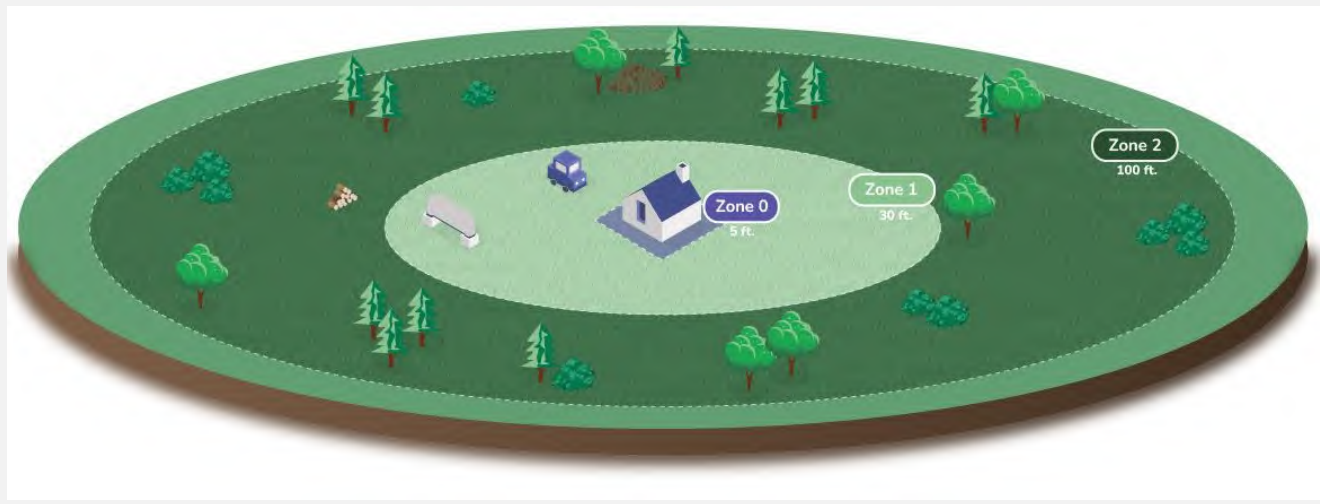
Zone 2 - Thinning Zone –30-100 feet from structures or to property line if 100 feet is not possible. Vegetation shall be spaced as to reduce plant-to-plant, plant-to-tree, and tree-to-tree transfer of fire both vertically and horizontally.

- a. In all cases, the overall characteristics of the landscape provide adequate defensible space in a fire environment.
- b. Plants in Zone 2 shall be spaced appropriately, and existing native vegetation shall be modified by thinning and removal of species constituting fire risks such as but not limited to chamise, sage, sagebrush, and buckwheat.
- c. Annual grasses and weeds shall not exceed a height of 4 inches.
- d. General spacing for existing native shrubs or groups is dependent on the degree of slopes.
 - i. Flat to mild slope (0-20%) – shrubs should be spaced two times the height of the shrub.
 - ii. Mild to moderate slope (20-40%) - shrubs should be spaced four times the height of the shrub.
 - iii. Moderate to steep slope (greater than 40%) - shrubs should be spaced six times the height of the shrub.
- e. General spacing for existing native trees or groups of trees is dependent on the degree of slope.
 - i. Flat to mild slope (0-20%) – 10 feet between tree canopy edges.
 - ii. Mild to moderate slope (20-40%) - 20 feet between tree canopy edges
 - iii. Moderate to steep slope (greater than 40%) - 40 feet between tree canopy edges

Zone 2 is considered a thinning zone as required by State PRC 4291. This zone is more of a progressive thinning zone to slow the spread and reduce the intensity of fire as it approaches the primary FMZ adjacent to structures. The amount of fuel reduction and removal should take into consideration the type and density of fuels, aspect, topography, weather patterns, and fire history.

Additional Code Exceeding Requirement FMZ An additional zone extending 100-125 feet from structures will be included for homes that back-up to undeveloped wild land areas and do not have a fire-break road between the home and wild land areas. This Zone will resemble Zone 2 conditions.

⁵ https://ucanr.edu/sites/fire/Preparedness/Landscaping/Plant_choice/

Exhibit A. Home with example of zones

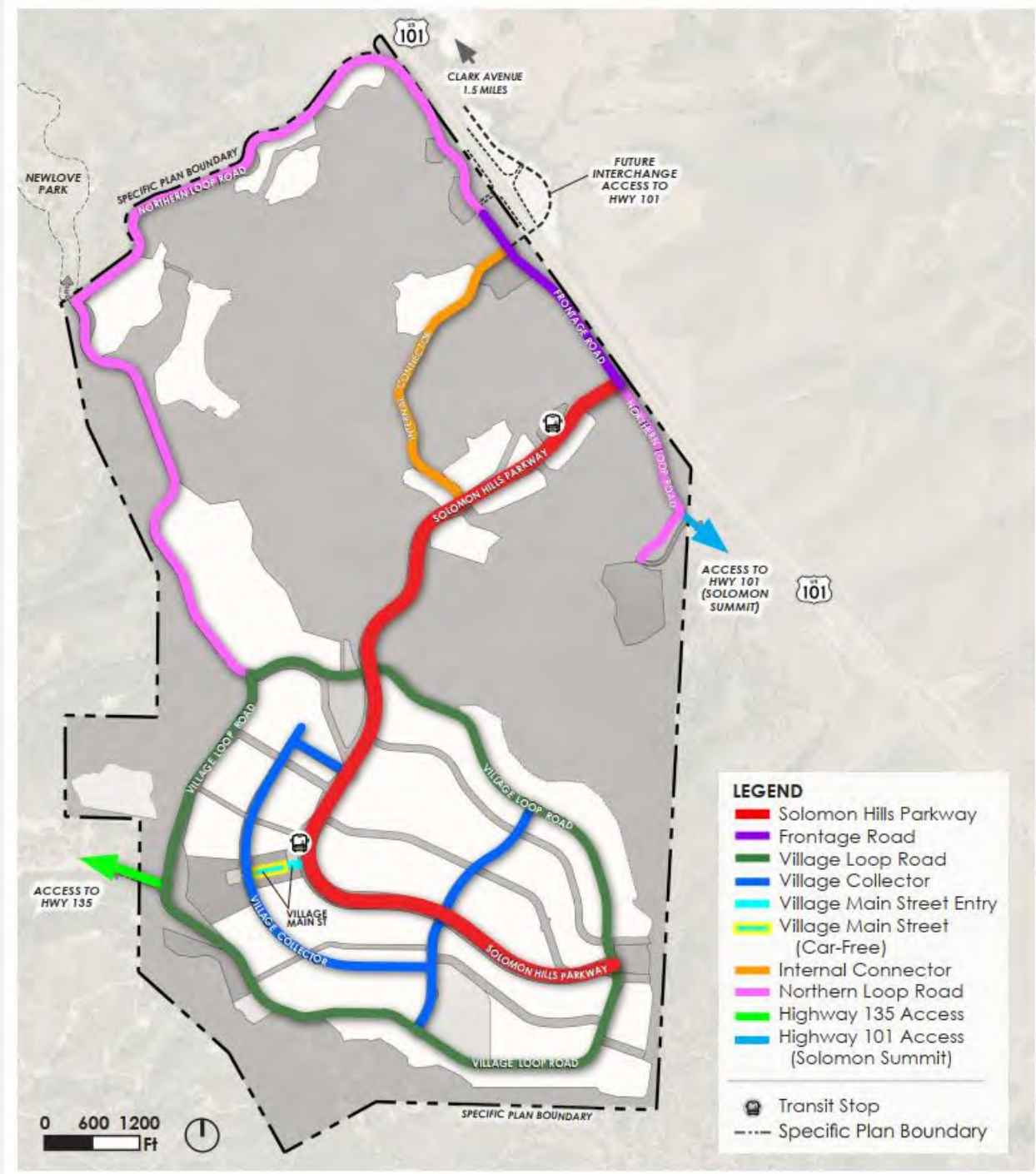
The Project does not have a finalized landscape plan, but the Project will comply with the required FMZ's as described above. The Project's Community Landscape Design, included in the Objective Design Standards and Design Guidelines, provides descriptions of the four landscape typologies that will be incorporated into the Project. The four typologies differ based on varying levels of vegetation, vegetation type, height, and cover. Where planting is required, prior to developing the planting design, site analysis of the existing adjacent topography and vegetation shall be completed to inform the ultimate planting. The selection of plantings shall be from the Community Plant List, which includes native species, and excludes highly flammable plant species consistent with SBCFD requirements (Solomon Hills Specific Plan 2025). The landscape plan shall comply with the Fuel Modification Zone Planting requirements, which indicates the allowable vegetation per fuel modification zone, as described above.

Roadside Fuel Modification Zone: In conformance with section 3.8.1 through 3.8.3 of the County Code, Fuel modification will also occur along roadways to mitigate roadside wildfire ignition risk. A 10-foot FMZ along sides of roads adjacent to open spaces will be implemented. Roadways are a particularly common source for wildfire ignitions due to high usage and vehicle-caused fires (catalytic converter failure, overheated brakes, dragging chains, tossed cigarette, etc.) (Romero-Calcerrada et al. 2008). Reducing natural fuels along roadways and replacing them with irrigated and ignition-resistant landscaping substantially reduces the potential for wildfire ignition and spread.

3. Clustered Development: Encourage denser, clustered housing with a defensible edge rather than sprawling development to manage fire risk better and improve emergency response times.
 - a. The main village of Solomon Hills plan includes higher-density homes around the retail and public transportation area. Homes are planned to be multi-family and cluster single-family with density of 11-17 homes per acre.
 - b. The main village of Solomon Hills plan has higher-density Inclusionary Homes in this low fire area of density with approximately 20-30 units per acre.
 - c. The main village of Solomon Hills has a major loop-roads to the north, west and east of the homes and will be within one mile of the new joint use fire/sheriff station.

4. **Strategic Fuel Breaks:** Integrate fuel breaks, such as greenbelts, parks, or roads to act as barriers to slow or stop the spread of wildfire. Maintain 10-foot-wide area of fuels reduction on each side of fuel break roadway that is clear of hazardous vegetation.
 - a. The Solomon Hills site plan was designed to incorporate significant roads around the perimeter of the project development area to slow or prevent the spread of wildfire. These perimeter roads include rights of way between 40-110 feet in width. (Exhibit B – Map of Proposed Road Layout)
 - b. The Solomon Hills site plan was designed with a series of internal greenbelts, parks and roads separating various communities and providing fuel breaks between homes.
 - c. Highway 101 currently serves as a fuel break for wildfires that may encroach towards the Project site from the east. The historical fire record suggests that the highway has been utilized to halt the forward spread of wildfire and provide a defense point for firefighters. Other roadways in the Project's vicinity including Highway 135, Bicknell Road, and the extensive oil field road system function may also function as fuel breaks in the event of a wildfire encroaching upon the site.

Exhibit B. Road system acting as fuel breaks.



Homeowners Association (HOA) for funding of common area's maintenance of fuel modification zones and strategic fuel breaks funded by an assessment on all parcels in the Project. Establish a SB County approved landscape plan with enforcement capabilities through the HOA's Codes, Covenants and Restrictions for the Project.

5. **Firewise USA Recognition:** The Firewise USA recognition program, administered by the NFPA, promotes collaboration within communities organize and improve the ignition resistance of homes and communities. Communities can receive a Firewise community designation through the California Office of the State Fire Marshal's Community Wildfire and Preparedness and Mitigation Division. Currently, there are twelve communities in Santa Barbara County with a Firewise USA designation. In addition to financial support for conduction risk reduction projects, homeowners living within Firewise designated communities are qualified to receive insurance discounts with the California Fair Plan. It is recommended that following buildout, the Solomon Hills Community undergo the FIREWISE USA recognition process. Since the maximum size of FIREWISE communities is 2,500 dwelling units, it is recommended that the Solomon Hills community divide into smaller community areas when undertaking the FIREWISE USA recognition process.

4.2 Building Codes and Materials

This FPP demonstrates that the Project would comply with applicable portions of Chapter 15 of the Santa Barbara County Code of Ordinance, as amended, which adopts by reference the 2022 edition of the California Fire Code (CFC) with amendments. Chapter 15 is hereafter referred to as the Santa Barbara County Fire Code (2022 or current edition) or "Fire Code". The Project also shall comply with the Santa Barbara County Fire Department Development Standards, Chapter 10 of the County Code of Ordinances which adopts Chapter 7A of the 2022 California Building Code (CBC), and the 2022 California Residential Code, Section R337. The Project would also be subject to the provisions of section 4291 of the Public Resources Code regarding brush clearance standards around structures and the Santa Barbara County guidelines for defensible space. Because discretionary projects may include longer timelines from planning to construction, this FPP clarifies that the "the current" applicable fire and building codes will be required to be implemented unless they would result in an increase in the evaluated disturbance footprint or would create a new potential impact.

Chapter 7A of the CBC addresses exterior structural ignition resistance and ember penetration into homes, a leading cause of structure loss from wildfires (California Building Standards Commission 2022). Thus, code compliance is an important component of the requirements of this FPP, given the Project's wildland-urban interface (WUI) location that is within an area designated as a State Responsibility Area (SRA) by the California Department of Forestry and Fire Protection (CAL FIRE) (OSFM 2024).

As described in this FPP, the Project would meet applicable code requirements for building in these higher fire hazard areas or meet the intent of the code through the application of site-specific fire protection measures. These codes have been developed through decades of wildfire structure save and loss evaluations to determine why buildings were lost to fire or why they survived. The resulting fire codes now focus on mitigating former structural vulnerabilities through construction techniques and materials so that the buildings are resistant to ignitions from direct flames, heat, and embers, as indicated in the 2022 California Building Code (Chapter 7A, Section 701A Scope, Purpose, and Application) and the California Residential Code (California Building Standards Commission 2022).

All buildings will be in compliance with California Building, Residential and Fire Code requirements:

- California Building Code Chapter 7A Materials and Construction Methods for Exterior Wildfire Exposure.
- California Residential Code Chapter R337 Fire-Resistant Construction.

- Chapter 49 Requirements for Wildland-Urban Interface Fire (WUI) Areas.
- California Public Resources Code including: Code 4290 and 4291.

This Includes:

- a. Fire-Resistant Materials: Use ignition-resistant materials and construction methods like Class A roof systems and tempered windows.
- b. Ventilation Protection: Install ember-resistant vents to prevent embers from entering attics and other spaces.
- c. Sprinkler Systems: Implement residential fire sprinkler systems in homes and buildings to suppress fires quickly. All structures in the Project, of any occupancy type, in accordance with County Fire and National Fire Protection Association (NFPA) Standards 13, 13R, and 13D will include automatic sprinklers. This is crucial in preventing off-site impacts as embers can also be generated by a structure fire and can be blown spread to outside the defensible space. Automatic sprinklers can isolate a fire to the point of origin, limit its ability to spread to the rest of the building, and even extinguish a fire before the responding firefighters arrive, thus damping the likelihood of ember production (NFPA, 2021). Automatic sprinklers have an extremely high success rate in controlling or suppressing interior structure fires (NFPA, 2021). This also reduces impacts on fire response capacity as the automatic sprinklers will allow firefighters to focus on reducing additional ignitions beyond the point of origin. The Project is inclusive of both protection measures including components to resist ignitions from wildland fuels, and the built environment (structures).
- d. Residential Hazard Protectors: All residences will be equipped with residential smoke detectors and carbon monoxide detectors and comply with current CBC, CFC, and California Residential Code standards.
- e. Additional Code Exceeding Requirement for Non-combustible fencing: Utilize non-combustible fencing on the rear perimeter yards and five-feet in from perimeter for side yards of homes that back up to undeveloped wild land areas and do not have fire-break paved road or paved parking areas between the structure and undeveloped wild land area.

4.3 Defensible Space and Vegetation Management

Fuel Modification Zones (FMZs) are designed to provide vegetation buffers that gradually reduce fire intensity and flame lengths from advancing fire by strategically placing thinning zones, restricted vegetation zones, and irrigated zones adjacent to each other on the perimeter of the wildland-urban interface (WUI) exposed structures. FMZs were originally developed by CAL FIRE to protect natural resources from urban area fires and over the years have become essential to setting urban areas back from wildland areas, with a dual role of protecting structures and people while buffering natural areas from urban ignitions and reducing the potential for urban fires to spread into wildland areas.

Fuel modification will also occur along roadways to mitigate roadside wildfire ignition risk. A 10-foot FMZ along sides of roads adjacent to open spaces will be implemented. Roadways are a particularly common source for wildfire ignitions due to high usage and vehicle-caused fires (catalytic converter failure, overheated brakes, dragging chains, tossed cigarette, etc.) (Romero-Calcerrada et al. 2008). Reducing natural fuels along roadways and replacing them with irrigated and ignition-resistant landscaping substantially reduces the potential for wildfire ignition and spread.

Maintaining adequate FMZs through annual inspections and routine maintenance is an essential component to mitigating wildfire risk for the Solomon Hills community. The FMZ's surrounding the Project structures and roadside fuel modification is shown in Figure 12, Conceptual Fuel Modification Plan.

Vegetation management requirements shall be implemented at commencement and throughout all phases of construction. Vegetation management for the Project area shall be performed pursuant to this FPP and SBCFD requirements on all building locations prior to the start of work and prior to any import of combustible construction materials. FMZs shall be created around all grading, site work, and other construction activities in areas where there is flammable vegetation. Combustible Materials will not be brought on site without prior fire department approval. Additional fire prevention safety measures to ensure that interim development conditions would not result in wildfire or emergency evacuation conditions during the four phases of construction, will be detailed in the Project specific Construction Fire Protection Plan (CFPP), Appendix H.

The vegetation management and maintenance standards presented in this FPP are intended to reduce fire hazards by rearranging and maintaining the spatial distribution of fuels in defined treatment areas within the Project's open spaces and FMZs. Vegetation management for fire hazard reduction is an ongoing, cyclical process. Given the dynamic nature of vegetation and topography across the large Project site and the intermingling development proposed, a single management prescription cannot be assigned to any location and be effective in perpetuity. Additionally, management prescriptions intended for initial treatments may differ from those intended for maintenance of the same area. Therefore, the management and maintenance standards presented herein are derived from the principles of vegetation management for fire hazard reduction and have been broken down by dominant vegetation community/land cover type (grassland/herbaceous, brush/scrub, and tree/woodland/forest). Certain vegetation community/land cover types found in the Plan Area (e.g., aquatic, developed) do not present a wildfire hazard due to high moisture levels or noncombustible conditions. Therefore, management standards have not been developed for these types of vegetation communities.

This "dynamic approach" allows the vegetation management techniques outlined herein to be selected based on the needs of each management area as conditions change over time. The management and maintenance standards outlined here are intended to modify fuel arrangements to moderate potential fire behavior. These standards have been developed to reduce fuel loads, eliminate fire ladders, disrupt the horizontal continuity of vegetation, minimize ignition potential, and prioritize the retention of fire-resistant plants.

In grass-dominated vegetation types, management is intended to reduce vegetation height (e.g., mowing, grazing), resulting in a shorter and more compact surface fuel layer that is less ignitable and less likely to sustain fire spread. Implemented beneath shrub or tree canopies, such treatments also minimize the potential for a surface to crown fire transition. Management is also intended to maintain low fuel volumes in the areas between shrub- and tree-dominated vegetation types.

In shrub-dominated vegetation types, management is intended to reduce surface fuel loading and flame lengths, and slow fire spread by increasing the horizontal spacing between retained shrubs. In areas beneath trees, management is also intended to increase the vertical spacing between shrub and tree canopies to reduce the potential for a surface to crown fire transition. Removal or treatment (e.g., chipping) of dead material from shrub-dominated types also reduces dead fuels loads, can assist in reaching spacing standards, and helps minimize the growth of highly ignitable grass/herbaceous vegetation.

In tree-dominated vegetation types, specifically oak woodlands, management is intended to remove fuel ladders by increasing the vertical spacing between surface fuels (shrubs, grasses) and tree canopies to reduce the potential

for surface to crown fire transition. Creating more fire-resilient woodlands involves reducing surface fuels and ladder fuels (i.e., fuel that can facilitate fire spread from ground fuels into tree crowns). As noted by Nunamaker et. al. (2007), surface and ladder fuels should have the highest priority for management to reduce fire intensity, rate of spread, and crown fire potential. Active crown fires are initiated with torching but are ultimately sustained by the density of the overstory crowns. Reduction in potential surface fire behavior plus an increase in canopy base height minimizes torching potential (Agee and Skinner 2005). Table 12 summarizes the effects and advantages associated with fuel management in tree-dominated vegetation types.

Table 12. Principles of Fire Resistance to Tree-Dominated Vegetation Types

Principle	Effect	Advantage	Concerns
Reduce surface fuels	Reduces potential flame length	Control easier; less torching	Surface disturbance less with fire than other techniques
Increase height to live crown	Requires longer flame length to begin torching	Less torching	Opens understory; may allow surface wind to increase
Decrease crown density	Makes tree-to-tree crown fire less probable	Reduces crown fire potential	Surface wind may increase and surface fuels may be drier
Keep big trees of resistant species	Results in less mortality for same fire intensity	Generally restores historical structure	Less economical; may keep trees at risk of insect attack

Source: Agee and Skinner 2005.

- A. The goal of vegetation management is not to remove all vegetation, but to moderate potential fire behavior by reducing fuel loads and altering the structure, composition, and spacing (horizontal and vertical) of retained vegetation.
- B. Limited grazing is a vegetation treatment technique and has also been identified as an important wildfire mitigation strategy for the Project site.
- C. Fuel modification will also occur along roadways to mitigate roadside wildfire ignition risk.
- D. Vegetation management techniques can be classified into five categories:
 - i. Biological (Grazing)
 - ii. Hand Labor
 - iii. Mechanical
 - iv. Prescribed Fire
 - v. Chemical

4.4 Infrastructure and Utilities:

- A. **Underground Utilities:** Where feasible, place electrical lines and other utilities underground to reduce the risk of ignition. Work with PG&E to harden electrical lines when not underground.
- B. **Water Supply:** Build new water capacity, delivery and availability systems to service project. The applicant is assembling a diverse water supply from surrounding water purveyors and has a contract with Cadiz to deliver water to the community. A detailed water supply portfolio will be finalized following initiation of the Comprehensive Plan Amendment/Rezone, in conjunction with the submittal of companion applications for a Specific Plan and Parcel Map. The applicant recognizes that, given the size of the proposed project, a

water supply assessment and verification will be required as part of its overall entitlement package in compliance with SB 610 and SB 221 (2001).

New water infrastructure would be required to provide service to the Project site. The Project will be consistent with California Fire Code Appendix B and Appendix C, and SBCFD Development Standard #2 for fire flow and fire hydrant requirements. Fire flow and fire hydrant requirements will be reviewed and approved at each phase. Internal waterlines will also supply sufficient fire flows and pressure to meet the demands for required onsite fire hydrants and interior fire sprinkler systems for all structures. Water supply must meet a 2-hour fire flow requirement of 1,500 gpm for commercial developments depending on construction and size, and 500 gpm for urban developments (under 3,600 sqft.) with internal fire sprinklers. Residual pressure must be at least 20-psi, which must be over and above the daily maximum water requirements for this development. Water utilities will be connected prior to any construction.

The minimum fire flow may be adjusted as determined by the fire chief or fire marshal based on local conditions, exposure, and/or congestion, and construction of buildings. Building permits shall be accompanied by evidence indicating to County Fire a reliable water supply and a certificate from County fire that there is sufficient water supply for fire protection. The water supply for the Project shall be consistent with approved types of water supply such as pressure tanks, elevated tanks, water mains, or other fixed systems capable of providing required fire flow. Any water tanks and associated structures shall be installed and maintained in accordance with NFPA 22 and County Fire.

Within the internal roadways, additional 8-12-inch water supply lines (dependent on design) will provide the main water supply to commercial and domestic services to each structure and common landscape area. These internal waterlines will also supply sufficient fire flows and pressure to meet the demands for required onsite fire hydrants and interior fire sprinkler systems for all structures. The Project would meet all water and water pressure requirements for fire flow.

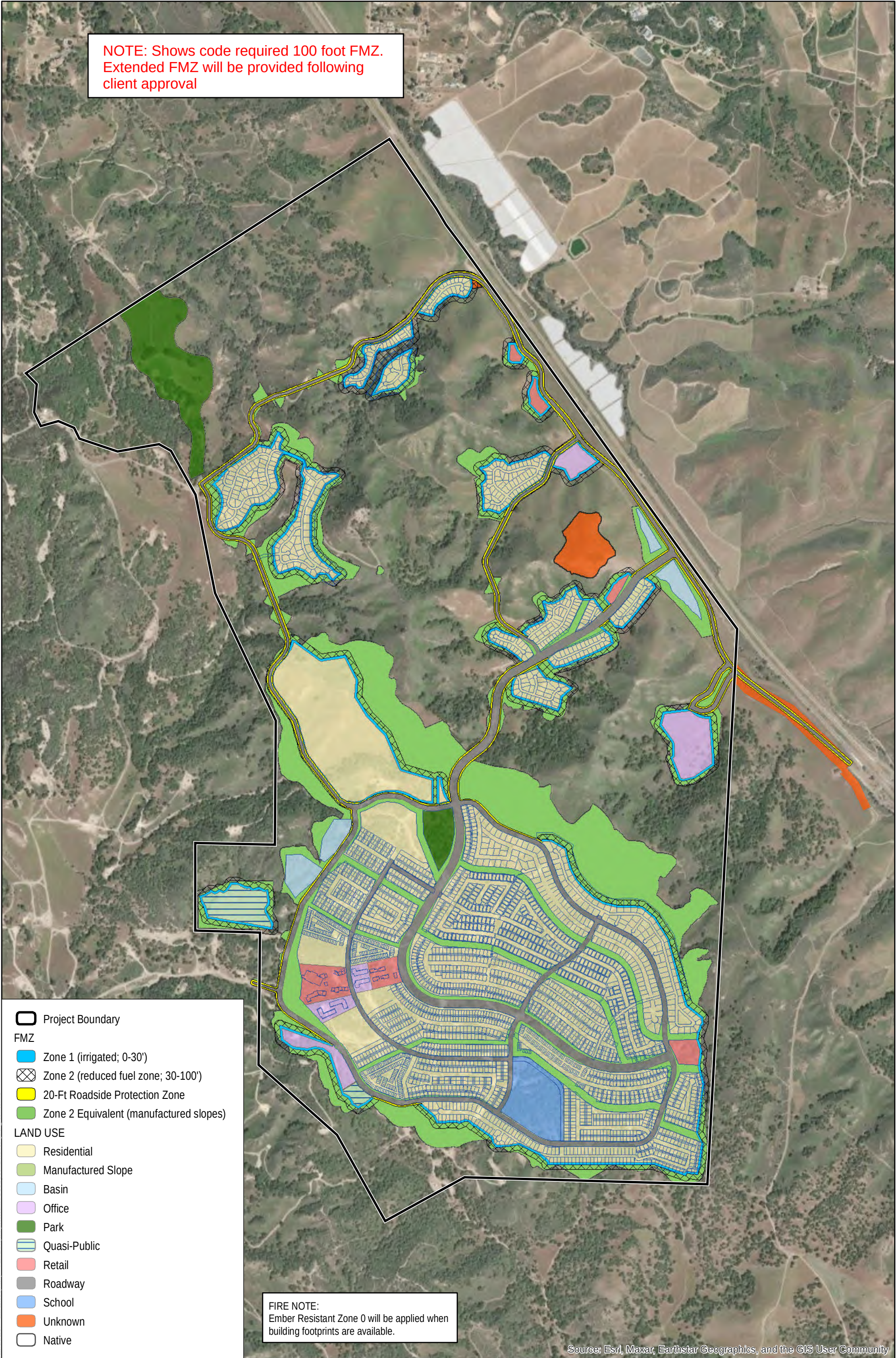
- C. **Road Design:** The Project would involve the construction of new structures, roadways, and would generate new trips to and from the Project site. Project site access, including road widths and connectivity, will be consistent with the County's roadway standards and the 2022 CFC Section 503. The Project will provide secondary access to the Project site's employees and residents beginning Phase 1.
- The Solomon Hills Project site's primary access to the Solomon Hills project will be from U.S. Highway 101. It is anticipated that during the first development phases the primary access will be from the existing interchange at Hwy 101 and "Solomon Summit Underpass". This interchange will be improved to a higher standard to carry increased traffic. The primary project road to this interchange will be located in an existing easement that crosses the neighboring property to the south. In future phases, a second interchange may be developed halfway between the "Los Flores Underpass" interchange and the Clark Avenue interchange near the existing Pacific Coast Energy Company (PCEC) entry gate to Solomon Hills.
 - Secondary access is proposed through improvements to the existing Bicknell Road to allow ingress and egress from the Project site to Highway 135.
 - Roadways and/or driveways must provide fire department access within 150 feet of all portions of the exterior walls of the first floor of each structure.
 - No dead-end roads within the development will exceed a length 800 feet cumulatively.

- Access roads shall be completed and have all-weather access prior to issuance of building permits and prior to the occurrence of combustible construction.
- The developer will provide information illustrating the new roads, in a format acceptable to the SBCFD for updating of Fire Department response maps.
- Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders and a 13.5 foot vertical clearance or requirements of County Fire Department. Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3, California Code of Regulations Title 14, and the Santa Barbara County Fire Department Development Standards
- Aerial fire apparatus access roads, where required, will comply with Section D105 of the California Fire Code as adopted by the SBCFD. Section D105.1 states that, where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet, approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of the parapet walls, whichever is greater.
- Aerial fire apparatus access roads, where required, shall have a minimum width of 26 feet exclusive of shoulders, in the immediate vicinity of the building or portion thereof, and be located not less than 15 feet, not greater than 30 feet from the building and be parallel to one entire side of the building., as defined in D105.2, and D105.3 of the CFC, adopted by the SBCFD.
- Typical, interior Project roads will comply with all fire apparatus access road standards; all interior fire access roadways where a fire hydrant is located shall be constructed to a minimum unobstructed road width of 22 feet, exclusive of shoulders and shall be improved with aggregate cement or asphalt paving materials. Fire access roadways designed to allow parking shall provide a minimum clear width of not less than 28 feet for parking on one side and a clear width of not less than 36 feet for parking on both sides. The interior residential access roads will be designed to accommodate a minimum of a 75,000-pound (lb.) fire apparatus load.
- Interior circulation streets include all roadways that are considered common or primary roadways for traffic flow through the site and fire department access serving all proposed residential and commercial structures. Any dead-end streets serving new buildings or dwellings that are longer than 150 feet shall have approved provisions for fire apparatus turnaround.
- Roads shall be constructed to provide a minimum of two (2) ten-foot (10') traffic lanes, not including the two-foot (2') shoulders, striping or parking and two feet (2') unobstructed horizontal clearance (structural clearance from embankments, boulders, roadway structures, etc.) on either side of the access. These traffic lanes shall provide for two-way traffic flow to support emergency vehicle and civilian egress, unless other provisions are provided for in this standard, or additional requirements are mandated by SBCFD. Driveways shall be twelve feet with unobstructed 16' horizontal clearance and 13.5' feet vertical.
- The length of vertical curves in roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall be not less than one hundred feet (100')
- Private and public streets for each phase shall meet all Project approved fire code requirements and/or mitigated exceptions for maximum allowable dead-end distance, paving, and fuel management prior to combustibles being brought to the site.
- Roadways and/or driveways will provide fire department access to within 150 feet of all portions of the exterior walls of the first floor of each structure.

- All required roadways shall be installed prior to vertical construction, shall be of suitable all-weather construction, shall support a 75,000-pound vehicle and have sufficient drainage related to a significant storm event.
 - Driveway turnarounds shall be constructed of hard surface and shall not exceed 5% slope. No parking shall be allowed inside a turnaround and the required access plan shall prove adequate onsite parking outside of the required turnaround.
 - Design road system to provide multiple access routes for fire apparatus and emergency vehicles.
 - Fire apparatus access roads shall not exceed 15 percent in grade unless permitted by approved construction requirements of the Fire Code Official.
 - Minimum horizontal vegetation clearance/management of ten feet (10') on each side of the roadway/driveway shall be maintained.
- D. **Construction and Dedication of New Joint-Use Fire and Sheriff Building:** a new onsite joint fire and sheriff station shall be built in lieu of SBCFD and Sheriff mitigation impact fees created by the Project. The station will be built to County standards to provide emergency response to the Project site and surrounding areas. The onsite fire station will provide emergency response times in compliance with Santa Barbara County Fire Department standards to the entirety of the Solomon Hills Project. The Project will build this facility in coordination with SBCFD in response to call volumes and response times.

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NOTE: Shows code required 100 foot FMZ.
Extended FMZ will be provided following
client approval



SOURCE: AERIAL- ESRI MAPPING SERVICE 2023; DEVELOPMENT-RRM DESIGN GROUP 2024

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5 Emergency Response Service

The Project is located within the Santa Barbara County Fire Department jurisdictional response area. Regionally, SBCFD provides fire, emergency medical, and rescue services from 16 stations. Santa Barbara is considered a “Contract County” by CAL FIRE. Therefore, CAL FIRE provides funding to SBCFD to provide wildland fire suppression services for SRA within the county that CAL FIRE would traditionally be responsible for. The Department serves a population of approximately 184,000 across an area of approximately 3,568 square miles (SBCFD 2023). The Project site lies within Battalion 2 response area. SBCFD Fire Station 26 would provide the initial response to the project site and SBCFD Station 21 is within approximately 4.5 miles of the project site and would be available to provide a secondary response to the site, if needed. However, the Project plan includes an on-site fire station that, upon completion, would provide initial response to all of the Project.

The fire agencies within the County of Santa Barbara have automatic and mutual aid agreements to respond to emergencies. Generally, each agency is responsible for structural fire protection and wildland fire protection within their area of responsibility. However, mutual aid agreements enable fire agencies to respond to fire emergencies outside their boundaries. In the Project area, fire agencies cooperate under the California Fire Assistance Agreement for wildland fires. There are also mutual aid agreements in place with neighboring fire agencies and typically include interdependencies that exist among the region’s fire protection agencies for structural and medical responses but are primarily associated with the peripheral “edges” of each agency’s boundary. While the Project would be under the jurisdiction of SBCFD and the closest existing station to the project site is SBCFD Station 26, some of the nearest fire stations to the Project are Santa Maria Fire Department (SMFD) stations. In addition to SMFD, other local resources that provide mutual aid include Carpinteria/Summerland Fire Protection District, Guadalupe City Fire Department, Lompoc City Fire Department, Los Padres National Forest, Montecito Fire Protection District, Santa Barbara City Fire Department, and Vandenberg Air Force Base Fire Department. SBCFD acts as the Operational Area Coordinator for all fire agencies within Santa Barbara County.

SBCFD Station No. 26, located at 1596 Tiffany Park Ct. Santa Maria, California is the closest SBCFD station and would provide initial response to the project site. SBCFD Station 26 is staffed 24/7 by a four-person Engine Company consisting of a Captain, an engineer, and two firefighters, and is equipped with a Type 1 (municipal fire) Engine, a Type 3 (wildland fire) Engine and a water tender with a locking rear differential.

SBCFD Station 21 located at 335 Union Ave. Orcutt, California is the next closest SBCFD Station. Station 21 is staffed 24/7 by a four-person Engine Company with a Captain, an Engineer, a firefighter-paramedic, and a firefighter, and is equipped with a Type 1 engine and a Type 3 engine.

SMFD Stations 2 and 4 would be capable of a response via mutual aid agreements. SMFD Station 4, located at 2637 S. College Drive, Santa Maria, California, is staffed 24/7 by a three-person Engine Company consisting of a Captain, an engineer, and a firefighter, and is equipped with two Type 1 engines. SMFD Station 2, located at 416 W. Carmen Lane, Santa Maria, California, is staffed 24/7 by a three-person Engine Company consisting of a Captain, an engineer, and a firefighter, and is equipped with a Type 1 engine. While SMFD Station 6 is also in a similar proximity to the Project, it has not been included since its response unit is committed to the airport.

SBCFD Station 24 located at 99 Centennial Los Alamos, California is the closest SBCFD Station south of the Project. Station 24 is staffed 24/7 by a three-person Engine Company with a Captain, an Engineer, and a firefighter-

paramedic, and is equipped with a Type 1 engine and a Type 3 engine in addition to the Construction Section of the SBCFD which includes bulldozers.

Table 13 provides a summary of the location, equipment, and staffing levels for 5 of the closest existing fire stations.

Table 13. Closest SBCFPD/SMFD Responding Stations Summary

Station	Location	Equipment	Staffing*
SBCFD 26	1596 Tiffany Park Ct. Santa Maria, 93455	(1) Type 1 Engine (1) Type 3 Engine (1) Tactical Water Tender	One engine crew cross-staffing the Type 1 and 3 engines; four staff total (1 Captain, 1 Engineer, 2 Firefighters)
SBCFD 21	335 Union Ave. Orcutt, 93455	(1) Type 1 Engine (1) Type 3 Engine	One engine crew cross-staffing the Type 1 and 3 engines; four staff total (1 Captain, 1 Engineer, 2 Firefighters)
SMFD 4	2637 S. College Drive, Santa Maria, CA 93455	(2) Type 1 Engine	One staffed Type 1 engine; three staff total (1 Captain, 1 Engineer, 1 Firefighter-Paramedic)
SMFD 2	416 W. Carmen Lane, Santa Maria, CA 93458	(1) Type 1 Engine	One staffed Type 1 engine; three staff total (1 Captain, 1 Engineer, 1 Firefighter-Paramedic)
SBCFD 24	99 Centennial Los Alamos, 93440	(1) Type 1 Engine (1) Type 3 Engine Heavy Equipment Dozers, a Swamper, and tractor-trailer transports	One engine crew cross-staffing the Type 1 and 3 engines; three staff total (1 Captain, 1 Engineer, 1 Firefighter)

Source:

* Staffing levels and equipment from the SBCFD website, a phone call with a firefighter from SBCFD Station 26, and SMFD 2019 Community Risk Assessment: Standards of Cover.

5.1 Emergency Response Travel Time Coverage

In an effort to understand fire department response capabilities, Dudek conducted an analysis of the travel-time response coverage from the closest responding Fire Stations (SBCFD Station 26 being the closest). The response time analysis was conducted using travel distances that were derived from Google road data and Project development plan data. Travel times were calculated applying the distance at speed limit formula ($T=(D/S) * 60$, where T =time, D =distance in miles, and S =speed in MPH) as well as 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) for comparison. The Verisk response travel time formula discounts speed for intersections, vehicle deceleration, and acceleration, and does not include turnout time. Emergency response time target thresholds include travel time along with dispatch and turnout time, which can add two minutes to travel time. Tables 14 and 15 present tabular results of the emergency response time analysis using the distance at speed formula and the Verisk formula, respectively.

Table 14. Project Emergency Response Analysis using Speed Limit Formula

Station	Travel Distance to Project Entrance	Travel Time to Project Entrance ¹	Maximum Travel Distance ²	Maximum Travel Time	Total Response Time ³
SBCFD 26	2.2 miles	3 minutes 46 seconds	5.4 miles	9 minutes 15 seconds	11 minutes 15 seconds
SBCFD 21	4.5 miles	7 minutes 43 seconds	7.7 miles	13 minutes 12 seconds	15 minutes 12 seconds
SMFD 4	5.5 miles	9 minutes 26 seconds	8.7 miles	14 minutes 55 seconds	16 minutes 55 seconds
SMFD 2	6.9 miles	11 minutes 50 seconds	10.1 miles	17 minutes 19 seconds	19 minutes 19 seconds
SBCFD 24	7.7 miles	13 minutes 12 seconds	10.2 miles	17 minutes 29 seconds	19 minutes 29 seconds

Notes:

- ¹ Assumes travel distance and time to the Project entrance nearest the respective station, and application of the distance at speed limit formula ($T=(D/S) * 60$, where T=time, D=distance in miles, and S=speed in MPH), a 35 mph travel speed, and does not include turnout time.
- ² Assumes travel distance and time to the furthest point within the project development from the respective station, and application of the distance at speed limit formula ($T=(D/S) * 60$, where T=time, D=distance in miles, and S=speed in MPH), a 35 mph travel speed, and does not include turnout time.

Table 15. Project Emergency Response Analysis using Verisk Formula

Station	Travel Distance to Project Entrance	Travel Time to Project Entrance ¹	Maximum Travel Distance ²	Maximum Travel Time	Total Response Time ³
SBCFD 26	2.2 miles	4 minutes 23 seconds	5.4 miles	9 minutes 50 seconds	11 minutes 50 seconds
SBCFD 21	4.5 miles	8 minutes 18 seconds	7.7 miles	13 minutes 44 seconds	15 minutes 44 seconds
SMFD 4	5.5 miles	10 minutes	8.7 miles	15 minutes 26 seconds	17 minutes 26 seconds
SMFD 2	6.9 miles	12 minutes 23 seconds	10.1 miles	17 minutes 41 seconds	19 minutes 41 seconds
SBCFD 24	7.7 miles	13 minutes 44 seconds	10.2 miles	17 minutes 59 seconds	19 minutes 59 seconds

Notes:

- ¹ Assumes travel distance and time to the Project entrance nearest the respective station, and application of the Verisk formula, $T=0.65+1.7(\text{Distance})$, a 35 mph travel speed, and does not include turnout time.
- ² Assumes travel distance and time to the furthest point within the project development from the respective station, and application of the Verisk formula, $T=0.65+1.7(\text{Distance})$, a 35 mph travel speed, and does not include turnout time.
- ³ Emergency response time target thresholds include travel time to furthest point within the project development from fire station, and application of the Verisk formula, $T=0.65+1.7(\text{Distance})$, a 35 mph travel speed along with dispatch and turnout time, which can add an additional two minutes to travel time.

An additional assessment was conducted to model estimated travel times from the onsite fire station to the project's planning areas. This assessment relied on the formula for travel time as provided above in addition to the travel distance to planning areas from the onsite fire station. Travel times across the Project site were mapped and

are provided in Figure 13. As displayed, travel times to all planning areas were less than 6 minutes in all cases. This results in an adequate level of emergency response time to the Project site from the Project's onsite fire station.

As shown in Figure 13, several planning areas, the village center, and the Ridge View Park are proposed to be developed as Phase 1 of the Project. The following analysis demonstrates the emergency response time from the closest existing fire station to the farthest area of the Project proposed to be built during Phase 1. The emergency response time from the existing fire station to the farthest Phase 1 development areas (PA 22 and PA 79) was calculated, as shown in Tables 16 and 17 below. The nearest existing fire station to the proposed Project is SBCFD Station 26, located at 1596 Tiffany Park Court, located approximately 5.2 miles from the Project entrance.

Table 16. Project Emergency Response Analysis using Speed Limit Formula

Station	Distance to Entrance	Distance from Entrance to PA 22	Total Distance	Total Travel Time	Total Response Time ¹
SBCFD 26	5.2 miles	1.8 Miles	7 Miles	12 minutes 0 seconds	14 minutes 0 seconds

¹ Emergency response time target thresholds include travel time to furthest point within the project development from fire station, and application of the Verisk formula, $T=0.65+1.7(\text{Distance})$, a 35 mph travel speed along with dispatch and turnout time, which can add an additional two minutes to travel time.

Table 17. Project Emergency Response Analysis using Verisk Formula

Station	Distance to Entrance	Distance from Entrance to PA 22	Total Distance	Total Travel Time	Total Response Time ¹
SBCFD 26	5.2 miles	1.8 Miles	7 Miles	12 minutes 33 seconds	14 minutes 33 seconds

¹ Assumes travel distance and time to the furthest point within the project development from the respective station, and application of the Verisk formula, $T=0.65+1.7(\text{Distance})$, a 35 mph travel speed, and does not include turnout time.

Emergency response travel time from SBCFD Station 26 would take approximately 12 minutes (Speed Limit Formula) or 12 minutes and 33 seconds (Verisk Formula) to reach the furthest Planning Areas from the entrance. As calculated, the total response time of emergency services would be approximately 14 minutes (Speed Limit Formula) or 14 minutes and 33 seconds (Verisk Formula) to reach the furthest residential unit within the Phase 1 designated area.

As analyzed above, the total response time from Station 26 to the furthest point within the Project development Phase 1 does not fully conform to the response time standard of 8 minutes for "Suburban" areas with between 1,000 and 7,000 people per square mile. As described further in this report, the Project proposes to construct an onsite fire station, that will provide response capabilities to Project occupants within the response time standards. The onsite fire station is proposed to be constructed in conjunction with the development of Phase 3 of Project. Until then, the additional response time required for Station 26 to reach the Project is acceptable to the SBCFD, based on a Memorandum of Understanding and a Development Agreement, that is to be finalized.

5.2 Estimated Calls and Demand for Service from the Project

Determining the potential impact associated with the Project’s estimated population increase is required in order to compare how many additional calls may be realized and determine what effects they may have on the available response resources. The estimated incident call volume of the Project is based on a conservatively calculated estimate from the maximum potential number of additional persons that would be expected to be added by the Project. Emergency call volumes related to typical projects, such as new residential developments, can be reliably estimated based on the historical per-capita call volume from a particular fire jurisdiction.

Emergency call volumes related to typical projects, such as new residential developments, can be reliably estimated based on the historical per-capita call volume from a particular fire jurisdiction. The SBCFD documented 13,461 total incidents for 2022 generated by a total population of approximately 184,000 persons across the approximately 3,568 square mile service area (SBCFD 2022, SBCFD 2023). The County’s per capita annual call volume is approximately 73 calls per 1,000 persons. The resulting per capita call volume is 0.073. Using the SBCFD’s estimated call volume, the Project’s estimated population is calculated to generate up to 835 calls per year (approximately 16 calls per week). The population includes approximately 11,440 residents for up to 4,000 units (including 2.86 persons per unit x 4,000 DU=11,440 persons) (U.S. Census Bureau 2020). Most of the calls generated are expected to be medical-related calls; consistent with typical emergency call statistics (see Table 18). The estimated incident call volume at buildout from the Project is based on a conservative estimate of the maximum potential number of persons on site at any given time (considered a “worst case” scenario).

Table 18. Calculated Call Volume Associated with the Project

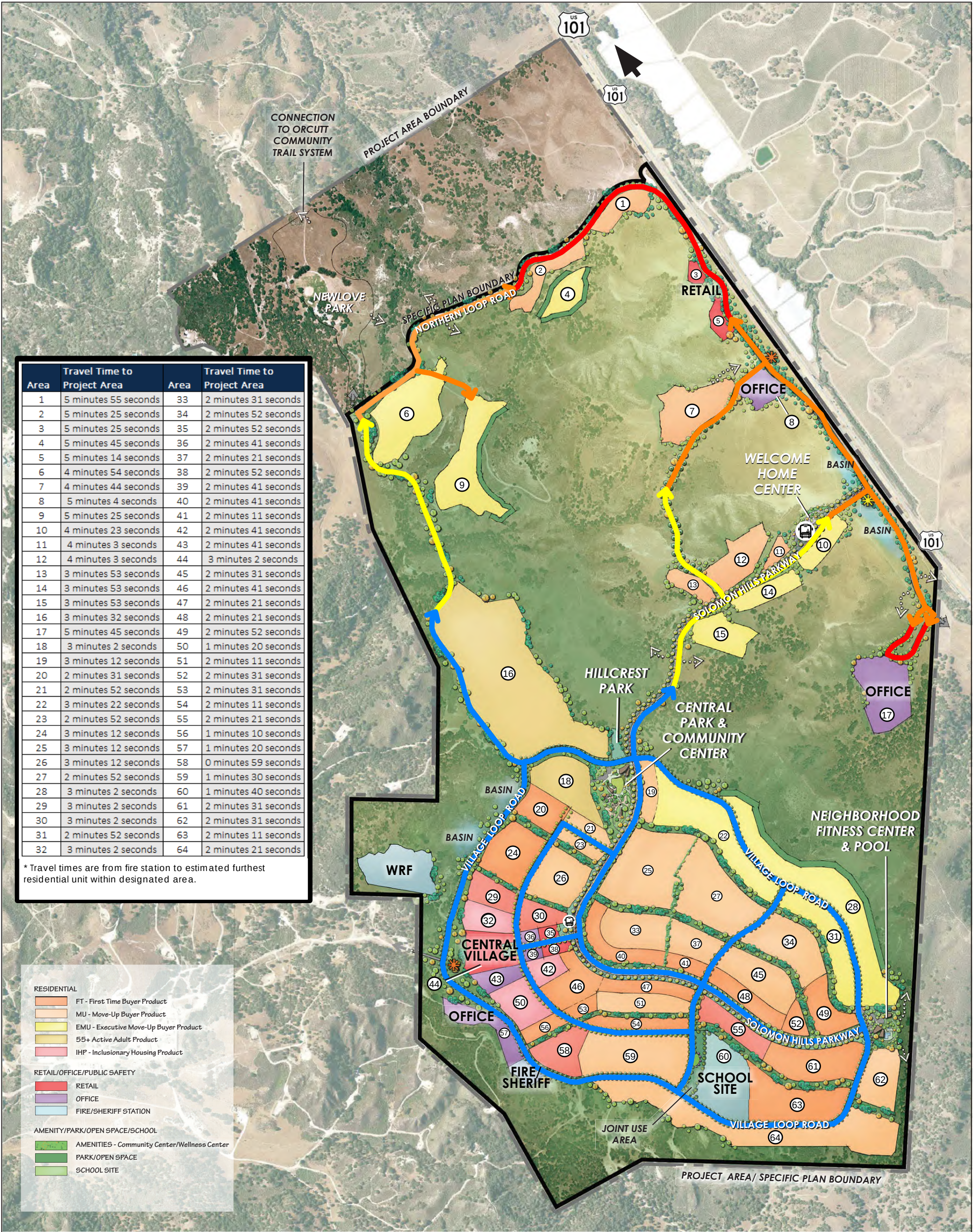
Incident Type	Emergency Calls per 1,000 (SBCFD Data)	Number of Residents	Avg. No. Calls per Year	Avg. No. Calls per week
Fire	2	+/- 11,440	23	0.4
Medical	51	+/- 11,440	583	11.2
Other	20	+/- 11,440	229	4.4
Total	73	+/- 11,440	835	16.0

5.3 Response Capability Impact Assessment

The available firefighting and emergency medical resources in the vicinity of the Project site include an assortment of fire apparatus and equipment considered fully capable of responding to the type of fires and emergency medical calls potentially occurring within the Project site. In 2022 Station 26, the primary responding station for the Project, responded to roughly 2,500 incidents with an approximate call volume of 6 to 7 calls a day (SBCFD Station 26 Firefighter, 2024). The Solomon Hills Development Project includes up to approximately 4,000 residential units with a combination of senior, single-family, and multi-family housing units, recreational and open space, and commercial land uses. The Solomon Hills Development is projected to add up to approximately 835 calls per year (approximately 2.3 calls per day), mostly medical, within Station 26’s first-in response jurisdiction. The addition of approximately 835 calls per year or approximately 2.3 call per day is not considered a significant impact given Station 26’s annual call volume of roughly 2,500 calls per year. A busy urban fire station would run 10 or more calls

per day. An average station runs about 5 calls per day. The level of service demand for the Project site will slightly raise the overall call volume but is not anticipated to impact the existing fire station to a point that they cannot meet the demand and the call volume increase would be balanced by the additional station planned to be constructed as part of the proposed Project.

As indicated in Table 14 and Table 15, the total response time from Station 26 to the furthest point within the project development does not fully conform to the response time standard of 8 minutes for “Suburban” areas with between 1,000 and 7,000 people per square mile and is estimated to arrive within approximately 11 minutes and 15 seconds (Speed Limit Formula) or 11 minutes and 50 seconds (Verisk Formula) (Citygate Associates 2012). All response calculations are based on an average response speed of 35 mph, consistent with nationally recognized National Fire Protection Association (NFPA) 1710. Based on these calculations, the Project’s calculated response time from the closest fire station would not be compliant with the response time standard. **However, the construction of the additional station as a project design feature planned to be added would provide more timely emergency services and would bring the Project into conformity with the standard. As provided in Figure 13, the travel times anticipated for the onsite fire station are code compliant, and the Project’s onsite fire station is expected to reach all planning areas of the Project in under 6 minutes.**



LEGEND

- Specific Plan Boundary
- Project Area Boundary (Includes Specific Plan Area)
- Transit Stop
- Primary Entry Feature
- Secondary Entry Feature

- < 3 minute travel time
- < 4 minute travel time
- < 5 minute travel time
- < 6 minute travel time



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6 Community Outreach and Education

Community outreach and education is an important component in community wildfire hazard reduction efforts. Such efforts increase the community's knowledge and awareness of wildland fire, can assist in prevention and preparedness efforts, and are an important component in planning and implementing vegetation management projects. The SBCFSC sponsors ongoing fire prevention and public education and outreach programs countywide and supports and promotes Firewise activities by educating the community in ways to reduce structural ignitability. The SBCFSC is currently engaged in active public outreach through a variety of programs and provides valuable resources through its website at <https://sbfiresafecouncil.org/>.

The following programs are currently active in Santa Barbara County to address wildfire risk and community engagement:

- **“Ready! Set! Go!”** – SBC Fire has adopted the “Ready! Set! Go!” Wildfire Action Plan through the Santa Barbara County Ready Program (<https://readysbc.org/>). “Ready! Set! Go!” was designed to provide the community with information about creating defensible space around homes, retrofitting homes with fire-resistive materials, and preparing the community to safely evacuate well ahead of a wildfire. The “Ready! Set! Go!” Action Plan provides a three-step process that teaches homeowners to create their own action plan of preparedness, have situational awareness, and leave early in the event of a fire. A copy of the “Ready! Set! Go!” Action Plan can be found at <https://www.sbcfire.com/ready-set-go/>.
- **Defensible Space Program** – SBC Fire administers the County's Defensible Space Program, as outlined in PRC Section 4291. The Defensible Space Program addresses defensible space zones, general guidelines for creating and maintaining defensible space, the County's Hazard Reduction Program, structural hardening, defensible space inspections, and fire-resistive landscaping. The Defensible Space Program also allows residents to request a defensible space inspection. More information about SBC Fire's Defensible Space Program can be found at <https://www.sbcfire.com/defensible-space-program>.
- **SBCFSC Wildfire Preparedness Evaluations** – Wildfire Preparedness Evaluations are a free and voluntary review of the vulnerability of a house and landscape to wildfire and ember-ignition conducted by SBCFSC staff. The assessment includes a review of defensible space and home hardening principles and makes specific recommendations based on the property evaluated. The evaluation also addresses evacuation preparedness. This is not a regulatory program, rather a community outreach and education program offered by the SBCFSC. More information can be found at: <https://sbfiresafecouncil.org/evaluation/>.
- **Community Emergency Response Team** – The Community Emergency Response Team (CERT) educates people about disaster preparedness for hazards that may impact their area, and trains people in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community. More information on the CERT program managed by SBC Fire can be found at <https://www.sbcfire.com/community-emergency-response-team-cert>.
- **Red Flag Warnings** – A Red Flag Warning means that critical fire weather conditions are either occurring now or will shortly. A combination of strong winds, low relative humidity, and warm temperatures can create extreme fire behavior. The National Weather Service provides daily fire weather forecasts in close coordination with local fire agencies. The Red Flag Warning Program enables firefighting agencies to

manage critical resources and prepare appropriate suppression responses for protecting life and property. Red Flag Warnings are typically issued within 24 hours of an impending critical fire weather event. Residents can sign up for Red Flag Warning text alerts by texting the word “redflag” to 888777. More information about Red Flag Warnings and fire weather in Santa Barbara County can be found at <https://www.sbcfire.com/red-flag-warnings>.

- **ReadySBCAlerts** – The ReadySBCAlerts System is an emergency notification system that allows the County to alert individuals of existing or potential emergencies. Through Aware and Prepare, the County can alert individuals by landline, cell phone, and email. Individuals can register for emergency alerts at <https://readysbc.org/>.
- **Wireless Emergency Alerts (WEAs)** - WEAs are short emergency messages broadcast from cell towers to any WEA-enabled mobile device in a geographically targeted area. WEAs look like text messages but are designed to get your attention with a unique sound and vibration. This alert system is managed by the Federal Emergency Management Agency (FEMA) and can be activated by local emergency officials, the National Weather Service for severe weather events, the California Highway Patrol for AMBER (abducted children) alerts, and the President of the United States for times of national crisis.
- **Santa Barbara Equine Assistance and Evacuation Team** – This team serves members of the community who own or stable large animals and are adversely affected or displaced by fire and other emergency disaster incidents. Upon notification of disaster and need for large animal evacuation, the team establishes a mobile command center at a designated site and prepares for the intake and sheltering of large animals. More information about this team can be found at <https://www.sbequineevac.org/>.
- **Santa Barbara County Animal Services** – This department, in cooperation with the Santa Barbara Humane Society and other local non-profits, functions as part of the SBC Fire’s emergency response system in case of wildfires. More information about the department and its services can be found at <https://countyofsb.org/phd/animal/aboutus.sbc>. Information related to disaster planning for pets can be found at <https://countyofsb.org/uploadedFiles/phd/PROGRAMS/Animal/DisasterPlanningForPets.pdf>

In addition to the above listed programs, the following specific actions are recommended to address community outreach and education in the Solomon Hills Community:

- Support the goal of the Regional Wildfire Mitigation Program to make Solomon Hills a FIREWISE Community within the NFPA Firewise USA program.
- Develop wildfire awareness materials (e.g., handouts, signage, QR codes) for display and/or distribution at recreation areas to increase resident awareness of wildfire hazard in the Plan Area.
- Conduct outreach specific to marginalized and vulnerable to provide education regarding wildfire hazards, emergency communications, and evacuation procedures in the Plan Area. Outreach should address emergency notifications, materials, training and communications for non-English speakers.
- Support collaborative vegetation management projects across ownership boundaries that reduce fire hazard and protect natural and agricultural resources.

6.1 Evacuation Basics

The following summarizes different components of wildfire evacuation in the Santa Barbara County and the Project site:

- In coordination with the fire department and other first responders the Santa Barbara County Sheriff's Department (SBC Sheriff) is responsible for alerting and warning the public, coordinating evacuations, enforcing laws and emergency orders, establishing safe traffic routes, ensuring that security is provided at incident facilities, ensuring access control to damaged areas, ordering and coordinating appropriate mutual aid resources, and assuming responsibility for the coroner function. SBC Sheriff has the sole jurisdictional authority to order and lift evacuation notices within the Plan Area.
- The County uses several methods of alerting the public during an emergency evacuation; Wireless Emergency Alert (WEA), Emergency Alert System (EAS), door to door notification, social media and by press release. WEA will notify all cell phones in a determined area within cell coverage. Community members who are registered with ReadySBC.org may receive a text message, email and telephone voice recordings to their preregistered phone.
- SBC Sheriff communicates the need for evacuation to the public using various communication methods, including ReadySBCAlerts, WEAs, EAS, radio and television announcements, public address systems and announcements from emergency responders, door-to-door notifications, and social media.
- SBC Sheriff and SBC Fire have an Incident Evacuation Plan and Incident Re-Entry Plan that assist law enforcement and fire department personnel in the implementation of evacuation plans. These plans guide agencies in the decision-making process for evacuation and re-entry of residents, and small and large animals. Evacuation levels defined in the existing plan are as follows:
 - Evacuation Order – Movement of community members out of a defined area due to an immediate threat to life and property from an emergency incident. An Evacuation Order should be used when there is a potential or actual threat to civilian life within 1 to 2 hours.
 - Evacuation Warning – Alerting residents in a defined area of a potential threat to life and property from an emergency incident. An Evacuation Warning may be issued when the potential or actual threat to civilian life is more than 2 hours away.
 - Shelter in Place – Directs residents to stay secured inside their current location. This direction is only used if the safety of the citizens can be assured if they remain or if an evacuation will cause a higher potential for loss of life.
 - Safe Refuge Area – A temporary refuge area (TRA) to hold evacuees until evacuation routes are open.
- Levels of closure to areas when evacuation occurs are as follows:
 - Level 1 Closure – Closed to all traffic except local residents; this level may require escorts.
 - Level 2 Closure – Closed to all traffic except fire suppression resources, law enforcement, and critical incident resources (e.g., utility companies, Caltrans, Santa Barbara County Public Works, Transportation Division).
 - Level 3 Closure – Closed to all traffic except fire suppression resources and law enforcement.
 - Level 4 Closure – Closed to all traffic, including fire suppression resources and law enforcement.
- Evacuation preparedness and planning should follow the process of developing an Action Plan under the County's Ready! Set! Go! Program. A copy of the Ready! Set! Go! Action Plan can be found at <https://www.sbcfire.com/ready-set-go/>. Information regarding large animal evacuation can be found at <https://www.sbequineevac.org/>.

- Re-entering an evacuated area requires as much forethought and planning as an evacuation order. The safety of residents and emergency responders is of the utmost concern and must drive the decision of when to repopulate. SBC Fire and SBC Sheriff determine when it is safe for residents, pets, and large animals to move back into an area.

7 Wildland Fire Evacuation Study and Education Program

Early evacuation for any type of wildfire emergency at the Project Site is the preferred method of providing for resident safety, consistent with the County Fire’s current approach. With an early evacuation approach, evacuations often take place over a staggered period of time and are adjusted as authorities watch fire situations. Under this strategy, the goal is to focus on evacuating strategic areas depending on the risk (Chen and Zhan 2008). This allows for evacuations to flow more smoothly and reduce the likelihood of significant congestion. Staged evacuations have also increased in practice with many cities and judication implementing staged evacuation tools such as Genasys Protect (formerly known as Zonehaven). However, it is also important to note that staged evacuation is not always possible and there is always a potential for a staged evacuation to evolve into a simultaneous evacuation. County Fire and the Santa Barbara County Sherrif’s Department have extensive experience with evacuating large masses of people during wildfire events under both types of scenarios. The Project is created with wildfire in mind and this includes the potential for an evacuation. The Project is located in major traffic corridors, such as the Highway 101 and Highway 135, that would allow for evacuations to occur in multiple directions beginning at Phase 1. Additionally, the Project would provide multiple areas for ingress and egress as well as improved firefighter access.

As such, the Project’s HOA would formally adopt, practice, and implement a “Ready, Set, Go!” approach to evacuation. The “Ready, Set, Go!” concept is widely known and encouraged by the State of California and County Fire. Pre-planning for emergencies, including wildfire emergencies, focuses on being prepared, having a well-defined plan, minimizing the potential for errors, maintaining the Project Site’s fire protection systems, and implementing a conservative (evacuate as early as possible) approach to evacuation and Project Area activities during periods of fire weather extremes. Additionally, the ignition-resistant rating of the structures, incorporation of expensive fuel modification, and urbanized landscape would allow for emergency managers to direct residents to take temporary refuge within their protected residences.

“Ready! Set! Go!” is the County Fire wildfire evacuation preparedness program. The goal of the program is to aid residents of the County to prepare to leave their homes as early and with confidence that they have done everything reasonably possible to protect their homes from wildfire. The “Ready!” aspect of the campaign is centered around preparing your home for wildfire through defensible space implementation and home hardening. The “Set!” component educates residents on how to create a wildfire action plan. Wildfire action plans are prepared in advance of a wildfire and include information for the household such as important phone numbers, what to take, evacuation preparation, emergency supply kits, and pre-evacuation steps to take. Finally, the “Go!” aspect of the campaign is about the steps to take when evacuating from a wildfire. The goal is for residents to leave as early as possible during a wildfire. Within the “Go!” campaign there is also information on what to do if you become trapped, whether on foot, in a car, or at home.

Support for the “Ready, Set, Go!” model has been provided by the preparation of a Wildland Fire Evacuation Study (WFES) for the Project Site, which is available under separate cover (Dudek, 2023). The WFES is based on standard evacuation planning used by the Santa Barbara County Office of Emergency Services. The WFES provides Project residents and occupants with potential egress route information and instructions for following the “Ready, Set, Go!” model. The WFES provides Project Area-specific procedures for wildfire evacuations and would be provided to the Solomon Hills residents and commercial tenants and posted on the community website.

The WFES would be reviewed by residents at least annually through organized meetings and educational outreach by the HOA or other means. Evacuation information would be disseminated to residents through a variety of means such as bi-annual mailers, online, workshops, and more detailed below. Among the important concepts that would be included in evacuation, education is the Project Area's fire environment, mitigation strategies, roles and responsibilities, homeowner education materials, preparedness checklist, route planning, and specific procedures for early relocation and contingency planning for situations where evacuation is considered unsafe.

7.1 Wildfire Education Project Design Feature

As part of the Project, the Project residents and occupants would be provided ongoing education regarding wildfire, the WFES, and this FPP's requirements. This educational information would support the fire safety and evacuation features/plans designed for this community. Informational handouts, community website pages, mailers, fire-safe council participation, inspections, and seasonal reminders are some methods that would be used to disseminate wildfire and relocation awareness information. County Fire would review and approve all wildfire educational material/programs before printing and distribution.

The Solomon Hills Wildfire Education Program's goal is to provide targeted outreach to residents and other site occupants living in a fire risk area in order to foster a community that has fire adaptive capacity. The educational program would cover a wide range of information such as residential evacuation planning, defensible space guidelines, how to maintain fire protection features, activities in a fire risk area, and more, all provided in easy-to-understand, graphically based materials. The educational program will be based on a layered approach to wildfire awareness that includes both passive and active features. The program will be ongoing in order to maintain high wildfire awareness even as the community grows and evolves. Program features are as follows:

1. **Bi-annual email and mailers:** Residents and occupants will be provided with bi-annual emails and mailers in May and in August. They will include information such as reminders about annual defensible space inspections, maintaining the ERZ, how to prepare for wildfire season, evacuation information, and how to prevent wildfires. There will also be links to various resources on where to get trusted information.
2. **Website:** There will be a dedicated community website with more detailed information and resources about wildfire awareness and prevention. The website will serve as a centralized resource for the fire education program and include information from the FPP. The website will also have fire watch and red flag warning alerts, as well as information on restrictions during fire weather conditions. Residents will also be able to use the website to sign up for an annual residential defensible space inspection from the HOA Fire Committee.
3. **Community workshops and webinars:** Two times a year there will be either in-person or virtual community workshops. The goal of the workshops will be to cover various fire topics more in-depth. For example, this could include having a County Fire representative come to meet the community, a workshop on how to make a go-bag, a workshop on how to make a residential evacuation plan, or how to maintain the home ignition zone.
4. **New resident packet:** All residents and new residents in the future will also be presented with a wildfire awareness and safety package upon purchase or rental of a home. This will also be given to businesses as part of their employee training program. Within the package will be a memory stick with the evacuation study, a list of fire protection features, information on the regional fire hazard, prohibited activities in fire risk areas, how to build a go-bag, and a list of agencies and resources for receiving trusted information.
5. **Emergency alert campaign:** Residents and businesses will be encouraged to sign up for ReadySBC Alerts. ReadySBC Alerts is the mass notification system for emergency alerts, weather alerts, health notifications,

building alerts, and other updates from County, State, and Federal agencies. The campaign will occur annually and encourage residents to sign up for ReadySBC Alerts. Reminders will also be sent out in the bi-annual mailers and emails, on the community website, in the workshops, and in the new resident package.

6. **Fire watch groups:** Within the community, there will also be volunteer fire watch groups. These will be residents or businesses who volunteer to participate in a fire watch group for the community. During red flag warning days, this group will be responsible for reminding businesses and residents of fire-safe practices and restrictions. During red flag warning days, the fire watch group will also maintain vigilance of potential fires and will be trained on procedures for alerting County Fire in the event of a fire.
7. **HOA:** The HOA will be responsible for overseeing the maintenance of community-wide fire protection features in HOA owned or managed structures or areas. Residents will be able to report fire hazards or hazardous fuel conditions to the HOA. for remediation. The HOA committee will offer an annual education workshop on how to maintain the ERZ. The HOA will also be responsible for the creation and distribution of the educational program for the Project, unless provided by County Fire. The HOA will serve as a communication link between County Fire and the community.
8. **Community Fire Safety Signage** – Permanent signage will be installed strategically throughout the Solomon Hill Community to educate residents and guests on wildfire safety measures including ignition prevention, evacuation preparedness, and fire weather danger. Signage will be located in high use public areas such as trailheads, parks, and community centers.

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8 Conclusion

This FPP for the Solomon Hills Community Project provides guidance fire protection measures to minimize wildfire risks within the Project site. Ultimately, it is the intent of this FPP to guide the fire protection efforts for the Solomon Hills Community Project in a comprehensive manner. Implementation of the measures detailed in this FPP will reduce the risk of wildfire at this site and will improve the ability of firefighters to fight fires on and adjacent to the property, irrespective of the cause or location of ignition.

Based on the predicted flame lengths and intensities following implementation of the project design features in this FPP encroaching wildfires **do not present a significant risk of directly intruding into the Project even during extreme events.** Even if windblown embers were to fly over the fuel modification zones, the ignition-resistant buildings and fire-resistant landscaping would minimize the likelihood of any fires starting onsite, and even if isolated fires occurred, they would be unlikely to spread quickly or be of high intensity given the limited fuel sources. Fuel modification zones would be implemented and maintained throughout the phased construction process, and the CFPP would be utilized to reduce the risk of a fire ignition during the phases of construction. As described above, new communities with buildings built to the latest fire code standards have proven extremely resistant to burning even during extreme fire events.

The Project is unlikely to exacerbate fire risks to surrounding areas. The ignition-resistant buildings and fire-resistant landscaping are unlikely to initiate a fire that would spread to surrounding areas, particularly because the fuel modification zones would limit the ability of any fire to move offsite.

Adequate emergency response for the Project is achieved when considering the planned onsite fire station and existing County Fire stations and apparatus in the near vicinity of the Project site. Based on calculated increases in calls for an emergency response associated with the Project, the estimated County Fire response times would be consistent with County Fire's goals for suburban uses following buildout of the onsite fire station.

The Project is consistent with County evacuation guidelines. As an additional Project Design Feature, the Project also includes a project-specific Evacuation Plan under a separate cover and described in Section 6 of the FPP (Dudek 2024).

It must be noted that during extreme fire conditions, there are no guarantees that a given structure will not burn. Precautions and minimizing actions identified in this report are designed to reduce the likelihood that fire will impinge upon the Project's assets or threaten its visitors. Additionally, there are no guarantees that fire will not occur in the area or that fire will not damage property or cause harm to persons or their property. Implementation of the required construction features provided by the applicable codes and the fuel modification measures provided in this FPP will reduce the site's vulnerability to wildfire. It will also help accomplish the goal of this FPP to assist firefighters in their efforts to defend structures.

In sum, the Project's design features help ensure that the Project will not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Thus, the Project will not cause any direct or indirect significant impact under the California Environmental Quality Act (CEQA).

Study Limitations

Inasmuch as fire is a dynamic and often unpredictable occurrence, it cannot be guaranteed that, despite precautionary measures, a fire will not occur or that it will not result in injury, loss of life, or damage to or loss of property. No warranties expressed or implied are made herein, notwithstanding that the goal remains to identify a suite of appropriate measures calculated, to the extent feasible under the circumstances, that would mitigate the potential for such injury or damage.

Limitation On Reliance or Dependence Upon Report

Any person or entity furnished with this report and/or who reviews it agrees that the advance written consent of Dudek be sought and furnished to such person or entity prior to the review, reliance or authorization as to any matters that are the subject of the reports by any person or entity (whether through act or omission as set forth in the report), other than Dudek’s direct client. In such case, obtaining Dudek’s consent shall not be subject to any fee or charge (other than reasonable copy costs, where applicable).

Dudek expressly disavows, does not assume any responsibility for, nor will be liable for any claims, losses, or damages associated with any matters that are the subject of this or other reports it prepares or contributes to respecting this project, however characterized (including without limitation as sounding in tort, breach of contract, misrepresentation by act or omission, failure to adhere to applicable standards of professionalism, statutory liability, etc.), whether in law or equity, whether known or unknown, and whether actual or contingent, excepting only Dudek’s direct client, as to which the limitation of liability provisions in the contract between Dudek and its client shall govern.

Table 19. Primary Code Required Fire Safety Features

Feature No.	Description
1	Proximity to Fire Stations. The Project is not currently within County Fire’s response time goals for initial response. However, the implantation of the planned onsite fire station will bring the Project into compliance and allow rapid response onsite the overall call volume has a less than significant impact on the planned response capacity. Response capacity would be enhanced by the on-site fire station within the community that will provide a fast response throughout the Project Area.
2	Ignition Resistant Construction. All structures within the Project will be constructed of ignition-resistant construction materials consistent with wildfire protection building construction requirements contained in the Santa Barbara County Building Code Chapter 7A of the California Building Code and the California Residential Code. These requirements include ignition resistance construction and are a key component in preventing structural ignition (<i>Section 3.3 Structural Ignition Resistance Regulatory Requirements</i>).
3	Automatic Interior Fire Sprinklers. Per County Fire Code all structures of any occupancy type within the Project will be equipped with an NFPA 13, 13R, and 13D automatic sprinkler system. Automatic sprinklers prevent ember generation by structure fires, isolate fires to the point of origin, and limit fires from spreading within the building. (<i>Section 3.4.3 Automatic Fire Sprinkler System</i>)

Table 19. Primary Code Required Fire Safety Features

Feature No.	Description
4	Fuel Modification Zones. Per State Fire Code Section 4906 defensible space shall be maintained around all within and structures in all unincorporated land designated as SRA. Consistent with PRC 4290, SRA Fire Safe Regulations, California Code of Regulation Title 14 Division 1.4 Chapter 7 Subchapter 2 Section 1270, the Project will provide 100 feet from the exterior of structures toward the undeveloped wildland areas that are divided into a 30-foot wide irrigation Zone 1 and a 70 foot wide thinning Zone 2. The FMZs reduce fire intensity and flame lengths from fires in wildland areas advancing towards structures or vice versa. <i>(Section 3.1.3 Defensible space and Vegetation Management Regulatory Requirements)</i>
5	Roadside Fuel Modification Zones. The internal roadways will be maintained with a minimum of 10 feet total width of vegetation clearance on both sides of the roadway that is clear to the sky to allow for fire apparatus access and prevent vehicle-based ignitions. All flammable vegetation or other combustible growth shall be removed on each side of the roadway for a minimum of 10 feet per County Fire Code. <i>(Section 3.1.2.4.1 Roadway Fuel Modification Zones)</i>
6	Fire Apparatus Access. All Project access will be consistent with County Roadway Standards defined within Section 503.6 of the SBCFC. Roadways and/or driveways will provide fire department access to within 150 feet of all portions of the exterior walls of the first floor of each structure. Typical interior roads will have a minimum width of 20 feet width of unobstructed access. All interior residential streets will be designed to accommodate a minimum of 75,000-lb. fire apparatus load. Fire apparatus access roads shall not exceed 15 percent in grades unless approved by the County Fire Chief. Dead-end roads and cul-de-sacs will comply with the CFC to ensure fire apparatus access. <i>(Section 3.2 Fire Apparatus Access Regulatory Requirements)</i>
7	Water Availability. Water capacity and delivery will provide for a reliable water source for operations and during emergencies requiring extended fire flow. Water supply will be consistent County Code and SBCFD Development Standard #2 for fire flow and fire hydrant requirements. Internal waterlines will also supply sufficient fire flows and pressure to meet the demands for required onsite fire hydrants and interior fire sprinkler systems for all structures. <i>(Section 3.4.1 Water Supply and Section 3.6.2 Hydrants)</i>
8	Ember Resistant Zone Although not currently required by law, the Project will also include an Ember Resistant Zone (ERZ) within Zone 1, consistent with PRC 4291 to include more intense fuels reduction within the immediate vicinity of structures. ⁶ The ERZ is from the 5 feet of a structure and includes the area under and around all attached decks. The ERZ forces on preventing structure ignition via ember showers by reducing/eliminating all combustible within this zone. <i>(Section 3.1.3 Defensible space and Vegetation Management Regulatory Requirements)</i>

⁶ Assembly Bill 3074, passed into law in 2020, which requires a third zone for defensible space and amends PRC 4291. The amendment requires the Board of Forestry and Fire Protection to develop the regulation for the new ember-resistant zone (ERZ) within 0 to 5 feet of a structure by January 1, 2023. CAL FIRE currently recommends the implementation of an ERZ. In anticipation of the ERZ requirements becoming codified in PRC 4291, the ERZ has been included in the defensible space requirements for the Project. The above listed requirements are based on the current recommendations for creating an ERZ detailed on CAL FIRE Defensible Space website (<https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/>). These requirements will be reviewed and updated once the Board of Forestry and Fire Protection updates the regulations for the ERZ in PRC 4291. FIRE Defensible Space website (<https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/>). These requirements will be reviewed and updated once the Board of Forestry and Fire Protection updates the regulations for the ERZ in PRC 4291.

Table 20. Code Exceeding Project Fire Protection Features

Feature No.	Description
1	Annual Fuel Modification Maintenance. The HOA or equivalent entity shall be responsible for maintenance of Fuel Modification Zones (FMZs) that are in common areas owned by the HOA.
2	Fuel Modification Zone 3rd Party Inspections. By June 1 of each year, a qualified company shall be hired by the Project HOA or equivalent entity to conduct an annual inspection of the Fuel Modification Zones (FMZs) that are in common areas owned by the HOA. The company shall notify the HOA of any non-compliant FMZs, recommend measures for remediation, and a timeframe for reinspection. The Project HOA shall be responsible for the long-term funding of the inspections.
3	(Note: Part of Fire evacuation plan.) Designated Shelter in Place Facility: There will be a plan to accommodate sheltering in place, where appropriate, in the Solomon Hills Fire Evacuation Plan.
4	Solomon Hills FIREWISE USA Recognition. It is recommended that following buildout, the Solomon Hills Community undergo the FIREWISE USA recognition process. The Firewise USA recognition program, administered by the NFPA, promotes collaboration within communities organize and improve the ignition resistance of homes and communities. Communities can receive a Firewise community designation through the California Office of the State Fire Marshal's Community Wildfire and Preparedness and Mitigation Division. Currently, there are twelve communities in Santa Barbara County with a Firewise USA designation. In addition to financial support for conduction risk reduction projects, homeowners living within Firewise designated communities are qualified to receive insurance discounts with the California Fair Plan. (Section9: Project-Specific Recommend Mitigation Measures)
5	Wildfire Education Program. As part of the Project, the Project residents and occupants would be provided ongoing education regarding wildfire, the WFES, and this FPP's requirements. This educational information would support the fire safety and evacuation features/plans designed for this community. Informational handouts, community website pages, mailers, fire-safe council participation, inspections, and seasonal reminders are some methods that would be used to disseminate wildfire and relocation awareness information. County Fire would review and approve all wildfire educational material/programs before printing and distribution.
6	Community Wildfire Evacuation Study. The Project shall formally adopt, practice, and implement a "Ready!, Set!, Go!" approach to evacuation through the creation of a Wildland Fire Evacuation Study (WFES) for the Project. The WFES would be based on standard evacuation planning used by the Santa Barbara County Office of Emergency Services and provide residents and occupants with potential egress route information and procedures. The WFES would be provided to the Solomon Hills residents and commercial tenants and posted on the community website. The WFES would be reviewed by residents at least annually through organized meetings and educational outreach by the HOA or other means. Every ten years the WFES will be reviewed and updated by the HOA or similar entity based on current land use, evacuation polies, and regulations. The WFES will be available for review and input from County Fire and County sheriff. (Section9: Project-Specific Recommend Mitigation Measures)

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Appendix A

Solomon Hills Project Site Photos



Photograph 1: Photograph taken from the northern portion of the Project site looking north showing roadside shrub vegetation.



Photograph 2: Photograph taken from the central portion of the Project site from looking northeast showing representative grass fuels with oak trees and shrubs.



Photograph 3: Photograph looking east from the northern of the Project site picturing mature shrub fuels on the western slope of Solomon mountain. Communications infrastructure atop Solomon mountain is also pictured.



Photograph 4: Photograph looking from the top of Solomon mountain showing Project site terrain, fuels composition, and adjacent agriculture land use. Highway 101 is also pictured.



Photograph 5: Photograph looking south from the southern portion of the Project site showing grass fuels with intermixed with shrubs and oak woodlands. The area pictured is the location of the main development area in the southern portion of the Project site.



Photograph 6: Photograph looking west from the western of the Project site picturing mixed chaparral fuels which are more common in this region. Adjacent oil fields are also pictured.



Photograph 7: Photograph looking southwest from the top of Solomon mountain showing regional terrain and fuels composition.



Photograph 8: Photograph looking east from the from central portion of the Project area picturing grazed grasslands and planned development areas in the valley bottom.

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Appendix B

Applicable Codes/Existing Regulations

Applicable Codes/Existing Regulations

This FPP demonstrates that the Project would comply with applicable portions of Chapter 15 of the Santa Barbara County, as amended, which adopts by reference the 2022 edition of the California Fire Code (CFC) with amendments. Chapter 15 is hereafter referred to as the Santa Barbara County Fire Code (2022 or current edition) or “Fire Code”. The Project also shall comply with the Santa Barbara County Fire Department Development Standards, Chapter 10 of the County Code of Ordinances which adopts Chapter 7A of the 2022 California Building Code (CBC), and the 2022 California Residential Code, Section R337. The Project would also be subject to the provisions of section 4291 of the Public Resources Code regarding brush clearance standards around structures and the Santa Barbara County guidelines for defensible space. Because discretionary projects may include longer timelines from planning to construction, this FPP clarifies that the “then current” applicable fire and building codes will be required to be implemented unless they would result in an increase in the evaluated disturbance footprint or would create a new potential impact.

Chapter 7A of the CBC addresses exterior structural ignition resistance and ember penetration into homes, a leading cause of structure loss from wildfires (California Building Standards Commission 2022). Thus, code compliance is an important component of the requirements of this FPP, given the Project’s wildland-urban interface (WUI) location that is within an area partially designated as a State Responsibility Area (SRA) Very High Fire Hazard Severity Zone (VHFHSZ) by the California Department of Forestry and Fire Protection (CAL FIRE) (OSFM 2024). Fire hazard designations are based on topography, vegetation, and weather, among other factors. Projects situated in VHFHSZ require fire hazard analysis and the application of fire protection measures to create defensible communities within these WUI locations.

As described in this FPP, the Project would meet applicable code requirements for building in these higher fire hazard areas or meet the intent of the code through the application of site-specific fire protection measures. These codes have been developed through decades of wildfire structure save and loss evaluations to determine why buildings were lost to fire or why they survived. The resulting fire codes now focus on mitigating former structural vulnerabilities through construction techniques and materials so that the buildings are resistant to ignitions from direct flames, heat, and embers, as indicated in the 2022 California Building Code (Chapter 7A, Section 701A Scope, Purpose, and Application) and the California Residential Code (California Building Standards Commission 2022).

State

The 2019 Strategic Fire Plan for California reflects CAL FIRE’s focus on (1) fire prevention and suppression activities to protect lives, property, and ecosystem services, and (2) natural resource management to maintain the state’s forests as a resilient carbon sink to meet California’s climate change goals and to serve as important habitat for adaptation and mitigation. Strategic Fire Plan goals include the following (State Board of Forestry and Fire Protection and CAL FIRE 2019):

1. Identify and evaluate wildland fire hazards and recognize life, property, and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the collaborative development and sharing of all analyses and data collection across all ownerships for consistency in type and kind.

- a. Promote and support local land use planning processes as they relate to: (a) protection of life, property, and natural resources from risks associated with wildland fire, and (b) individual landowner objectives and responsibilities.
- b. Support and participate in the collaborative development and implementation of local, county, and regional plans that address fire protection and landowner objectives.
- c. Increase fire prevention awareness, knowledge, and actions implemented by individuals and communities to reduce human loss, property damage, and impacts to natural resources from wildland fires.
- d. Integrate fire and fuels management practices with landowner/land manager priorities across jurisdictions.
- e. Determine the level of resources necessary to effectively identify, plan and implement fire prevention using adaptive management strategies.
- f. Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.
- g. Implement post-fire assessments and programs for the protection of life, property, and natural resource recovery.

CAL FIRE is currently in the process of drafting the 2024 Strategic Fire Plan for California.

California Government Code

California Government Code Sections 51175 through 51189 provide guidance for classifying lands in California as fire hazard areas and provide requirements for management of property within those lands. CAL FIRE is responsible for classifying FHSZs based on statewide criteria and makes the information available for public review. Further, local agencies must designate, by ordinance, Very High FHSZs within their jurisdiction based on the recommendations of CAL FIRE.

Section 51182 sets forth requirements for maintaining property within fire hazard areas, such as defensible space, vegetative fuels management, and building materials and standards. Defensible space around structures in fire hazard areas must consist of 100 feet of fuel modification on each side of a structure, but not beyond the property line unless findings conclude that the clearing is necessary to significantly reduce the risk of structure ignition in the event of a wildfire. Clearance on adjacent property is only conducted following written consent by the adjacent owner. Further, trees must be trimmed from within 10 feet of the outlet of a chimney or stovepipe, vegetation near buildings must be maintained, and roofs of structures must be cleared of vegetative materials. Exemptions may apply for buildings with an exterior constructed entirely of nonflammable materials.

California Public Resources Code

PRC Section 4290 requires minimum fire safety standards related to defensible space that are applicable to residential, commercial, and industrial building construction in SRA lands and lands classified and designated as Very High FHSZs. These regulations include road standards for fire apparatus access, standards for signs identifying roads and buildings, fuel breaks and green belts, and minimum water supply requirements. These regulations do not supersede local regulations that equal or exceed minimum regulations required by the state.

PRC Section 4291 requires a reduction of fire hazards around buildings adjacent to a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered in flammable material. It is required to maintain 100 feet of defensible space around all sides of a structure, but not beyond the property line unless required by state law, local ordinance, rule, or regulations. Further, PRC Section 4291 requires the removal

of dead or dying vegetative materials from the roof of a structure, and trees and shrubs must be trimmed from within 10 feet of the outlet of a chimney or stovepipe. Exemptions may apply for buildings with an exterior constructed entirely of nonflammable materials.

PRC Section 4741 states that CAL FIRE shall assist local governments in preventing future wildland fire and with vegetation management problems by making its wildland fire prevention and vegetation management expertise available to local governments.

PRC Sections 4292-4296 and 14 CCR 1246 address vegetation clearance standards for electrical utilities. They include standards for clearing around energy lines and conductors.

California Code of Regulations

Title 14, Natural Resources, Division 1.5, Chapter 7, Subchapter 3, Fire Hazard

California Code of Regulations (CCR) Title 14, Division 1.5, Chapter 7, Subchapter 3, Fire Hazard, sets forth requirements for defensible space and provides alternate options if the required distances cannot be achieved. For example, options that have similar practical effects include noncombustible block walls or fences; or installing hardscape landscaping or reducing exposed windows on the side of structures with less than 30-foot setbacks;

Title 19, Public Safety

CCR Title 19 addresses public safety and includes State Fire Marshal requirements (CCR, Title 19, Division 1), which incorporate general fire and safety standards regarding fire department access and egress, fire alarms, emergency planning, and evacuation procedures.

Title 19, Division 2, Chapter 1, Standardized Emergency Management System Regulations

The Standardized Emergency Management System (Emergency System) regulations are described in CCR Title 19, Division 2, Chapter 1. The Emergency System is required by the California Emergency Services Act to manage multi-agency and multi-jurisdictional responses to emergencies in California, and to coordinate among all levels of government and affected agencies. The Emergency System unifies all elements of California's emergency management community into a single, integrated system, and standardizes key elements.

Title 24, California Building Standards Code

The California Building Standards Code (CCR Title 24) contains provisions for building and safety standards, including fire safety standards for new buildings that are provided in the California Building Code (CCR Title 24, Part 2) and the California Fire Code (CFC) (CCR Title 24, Part 9). These standards apply to all occupancies in California, except where state agencies and local governing bodies adopt more stringent standards.

Title 24, Part 2, California Building Code

The California Building Code includes several chapters relevant to fire safety and protection that address types of construction, fire and smoke protection features, construction materials and methods, rooftop construction, and building emergency ingress and egress.

Chapter 7A of the California Building Code regulates building materials, systems, and/or assemblies used in the exterior design and construction of new buildings within a fire hazard area. Fire hazard areas as defined by the California Building Code include areas identified as an FHSZ within an SRA or a WUI fire area. The purpose of Chapter 7A is to establish minimum standards for the protection of life and property by increasing the ability of structures in a fire hazard area to resist the intrusion of flames or embers projected by a wildfire, and to contribute to a systematic reduction in structural losses from a wildfire. New buildings in such areas must comply with the ignition-resistant construction standards outlined in Chapter 7A.

California Residential Code

The California Residential Code (CRC) is a comprehensive set of regulations governing the construction of one- and two-family dwellings, as well as townhouses that are three stories or less. It is based on the 2021 International Residential Code (IRC) and has been specifically tailored to address California's unique climate, geological conditions, and other regional factors.

The CRC outlines requirements for building design, structural systems, and materials. It covers everything from foundations to roofs, including framing, insulation, and fire-resistant construction. It emphasizes energy efficiency, seismic safety, and accessibility standards. It also includes specific provisions address issues like flood hazard areas, coastal construction, and wildfire risk. The CRC mandates fire-resistant materials, smoke alarms, and fire sprinkler systems and ensures safe egress routes, emergency lighting, and proper ventilation. Stairways, handrails, and guardrails are also addressed.

2022 California Fire Code

The 2022 CFC (CCR Title 24, Part 9) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The CFC also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the CFC apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building and structure throughout California. The CFC includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and WUI areas.

Assembly Bill 3074

Assembly Bill 3074 was passed into law in 2020 and requires a third zone of defensible space. The law requires the Board of Forestry and Fire Protection to develop regulations for the ember-resistant zone (Zone 0) within 0 to 5 feet of a structure by January 1, 2023. Within this zone, fuels reduction would be more intense and be designed to keep fire and embers from ignition material that could spread fire to a structure.

Zone 0 requirements have not yet been officially written into regulation.

County

The Santa Barbara Comprehensive Plan is a long-term planning document for the development of the County. The plan includes various elements, such as land use, circulation, open space, conservation, housing, safety, and noise.

The goal of the plan is to analyze regional resources and environmental constraints to identify opportunities for urban development, agriculture expansion, and recreational activities. The plan also evaluates environmental hazards, ecological communities, and scenic values. Additional elements in the plan are groundwater resources, oak tree protection, air quality, and coastal land use (County of Santa Barbara 2022).

Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan

The Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan serves as a complete hazard mitigation planning tool for the County. The emphasis of this plan is on assessing and avoiding identified risks, implementing loss reduction measures for existing exposures, and ensuring critical services and facilities survive a disaster. Further, the plan contains updated capability assessment information, vulnerability assessment, and mitigation strategies for each of the identified hazards, including wildfire (County of Santa Barbara 2017). By having a completed and approved plan, the County is eligible for mitigation grant funding made available by FEMA, which may involve funds for identified fire hazard reduction projects.

Under the Multi-Jurisdictional Hazard Mitigation Plan, wildfires are classified as either wildland fires or WUI fires. WUI fires are further subdivided into three categories: (1) classic WUI exists where well-defined urban and suburban development presses up against open expanses of wildland areas; (2) the mixed WUI is characterized by isolated homes, subdivisions, and small communities situated predominantly in wildland settings; and (3) the occluded WUI exists where islands of wildland vegetation occur inside a largely urbanized area. The plan identified the community of Gaviota as at-risk (County of Santa Barbara 2017).

The Multi-Jurisdictional Hazard Mitigation Plan is currently in the process of being updated. The Santa Barbara County Office of Emergency Management submitted the completed draft of the Multi-Jurisdictional Hazard Mitigation Plan in June 2022 to the California Governor's Office of Emergency Services and the Federal Emergency Management Agency for each agency's review and approval. Review is underway as of the date of this Plan.

Santa Barbara County Unit Strategic Fire Plan

The 2023 Santa Barbara County Unit Strategic Fire Plan is intended to serve as a local planning document. The Plan is tiered under the 2018 California Strategic Fire Plan and the 2019 CAL FIRE Strategic Plan. The plan identifies goals and objectives to minimize wildland fire risk to County watersheds, communities, firefighters, the public, and various local assets (SBC Fire 2023). The Unit Strategic Plan incorporates the State CalMAPPER database and spatial mapping tool developed to map and record all data derived from local and state government funded fuel reduction projects. SBC Fire, as part of its contract with CAL FIRE, is required to develop, maintain, and annually update the Unit Strategic Fire Plan.

Santa Barbara Operational Area Emergency Management Plan

The Santa Barbara Operational Area Emergency Management Plan addresses planned response within the Santa Barbara Operational Area to natural disasters, technological incidents, and national security emergencies. The plan does not address normal day-to-day operations. The focus of the plan is on large-scale disasters. Within the plan, wildland fire is identified as a trigger point in which the plan would be activated (County of Santa Barbara 2013).

Santa Barbara County Code of Ordinances

Chapter 35 – Zoning

The Santa Barbara County Land Use and Development Code is Chapter 35, Zoning, of the Santa Barbara County Code. The Development Code carries out the policies of the Santa Barbara Comprehensive Plan by classifying and regulating land use and structures within the County. The Development Code is adopted to protect and promote the public health, safety, comfort, convenience, prosperity, and regional welfare of residents and businesses in Santa Barbara County. Within the Seismic and Safety Element of the Comprehensive Plan are the goals and policies for protecting the community from fire-related hazards.

Chapter 15 – Fire Prevention

The Santa Barbara County Board of Supervisors adopted the 2022 edition of the California Fire Code with amendments. This code acts as the enforcement Code in all areas within Santa Barbara County where the Santa Barbara County Fire Department is the authority having jurisdiction. The Santa Barbara County Fire Department also protects the State Responsibility Areas (SRA) within the County under contract with Cal Fire. In its role as the County Fire Warden, they aid in enforcing all laws, ordinances and any rules or regulations adopted by the State Board of Forestry and Fire Protection and State Fire Marshal relating to fires or to fire prevention and protection.

Section 4908, Santa Barbara County Fire Hazard Abatement, is applicable to all areas within the Santa Barbara County Fire Protection District and all other unincorporated areas of the County. Section 4908 includes the requirements for the clearance of brush, vegetative growth, and combustible materials from parcels and roadways, and clearance for fire protection equipment.

Chapter 49 of Chapter 15 outlines requirements for WUI areas. Per Section 4907, Defensible Space:

Defensible space will be maintained around all buildings and structures in State Responsibility Area (SRA) as required in Public Resource Code 4290 and “SRA Fire Safe Regulations” California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, Section 1270. Buildings and structures in the High Fire Hazard Area shall maintain defensible space as outlined in Government Code 51175–51189 and the Santa Barbara County Defensible Space Standard.

Chapter 10 – Building Regulations

County building regulations are defined in Chapter 10 of the Santa Barbara County Code of Ordinances. The County Code adopts Chapter 1, Divisions 1 and 2 of the California Building Code in its entirety, except as amended in Chapter 10. Chapter 10 amends standards related to structural hardening and the definition of “Local Agency Very High Fire Hazard Severity Zone,” and it defines the County’s High Fire Hazard Area. Structural fire protection standards are addressed in the building codes and address structural hardening requirements for buildings within a High Fire Hazard Area and are consistent with Chapter 7A of the California Building Code. Structural hardening requirements address roofing, exterior coverings, decking materials, windows and doors, eaves, and vents, among others. The intent of these requirements is to minimize the potential for structural ignition through radiant or convective heat exposure or ember intrusion.

Santa Barbara County Fire Department Development Standards

The Santa Barbara County Fire Department establishes supplementary criteria beyond industry norms by conducting research and engaging in discussions with engineers, consultants, and relevant professionals. These criteria undergo thorough evaluation by industry experts, whose input contributes to the finalization of the document. Upon adoption through county ordinance, these standards are officially incorporated into Chapter 15 of the Santa Barbara County Code.

- Private Road and Driveway
- Fire Hydrant Spacing and Flow Rates
- Stored Water Fire Protection Systems
- One-and-Two Family Dwelling Fire Sprinkler System
- Multifamily Residential Fire Sprinkler System
- Commercial Fire Sprinkler System
- Automatic Alarm System
- Defensible Space
- Defensible Space Check List
- Telecommunications Facility
- Ground Mounted Solar Array Guidelines

Hydrants

Fire hydrants will be located as required by Table C102.1 of the California Fire Code and SBCFD Design Standard #2 and approved by the SBCFD.

Table 7. Hydrant spacing and flow requirements.

Fire-Flow Requirement (Gpm)	Minimum Number of Hydrants	Average Spacing Between Hydrantsa, (Feet)	Maximum Distance from Any Point on Street Or Road Frontage To A Hydrant
1,750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150
7,500 or more	8 or more	200	120

Fire hydrants will be consistent with applicable County Design Standards. See SB for hydrant specifications. Prior to issuance of building permits, the appropriate number of fire hydrants and their specific locations will be approved by SBCFD.

Automatic Fire Sprinkler Systems

All structures in the Project, of any occupancy type, are required to have automatic sprinklers by the California Fire Code. The automatic sprinklers must comply with the National Fire Protection Association (NFPA) Standards 13, 13R and 13D depending on the occupancy type. This is crucial in preventing off-site impacts as embers can also be generated by a structure fire and can spread to areas outside the defensible space. Automatic sprinklers can isolate a fire to the point of origin, limit its ability to spread to the rest of the building, and even extinguish a fire before the responding firefighters arrive, thus damping the likelihood of ember production (NFPA, 2021). Automatic sprinklers have an extremely high success rate in controlling or suppressing interior structure fires (NFPA, 2021). This also reduces impacts on fire response capacity as the automatic sprinklers will allow firefighters to focus on reducing additional ignitions beyond the point of origin. The Project is inclusive of both protection measures including components to resist ignitions from wildland fuels, and the built environment (structures).

Residential Hazard Detectors

All residences will be equipped with residential smoke detectors and carbon monoxide detectors and comply with current CBC, CFC, and California Residential Code standards as adopted by the county.

Fuel Modification Zone Requirements

Fuel Modification Zones (FMZs) are designed to provide vegetation buffers that gradually reduce fire intensity and flame lengths from advancing fire by strategically placing thinning zones, restricted vegetation zones, and irrigated zones adjacent to each other on the perimeter of the wildland-urban interface (WUI) exposed structures. FMZs were originally developed by CAL FIRE to protect natural resources from urban area fires and over the years have become essential to setting urban areas back from wildland areas, with a dual role of protecting structures and people while buffering natural areas from urban ignitions and reducing the potential for urban fires to spread into wildland areas.

Zone 0 Ember Resistant Zone (ERZ) – 0 to 5 feet from the structure

The ERZ, per PRC 4291, is designed to keep fire or embers from igniting materials that can spread to structures. It includes the area under and around all attached decks and requires more stringent wildfire fuel reduction. In 2020, the concept of the ERZ was added to PRC 4291 to designate a more intense fuel reduction area immediately adjacent to homes and/or structures to reduce the likelihood of ember-based home ignition. However, the requirement for an ERZ under PRC 4291 will not take effect for new structures until the Board of Forestry releases updated regulations and guidance documents. Although not currently required, CALFIRE's website recommends the following guidance for the ERZ, and in anticipation of the regulation going into effect, the ERZ has been included in the Project. Per PRC 4291, the ERZ is measured from building, structures, decks, etc. outward 5 feet (horizontal distance) and includes the following:

1. Hardscape, such as gravel, pavers, concrete, and other non-combustible materials are permitted within this zone.
2. The use of combustible bark or mulch is prohibited.

3. This zone shall be free of all dead and dying weeds, grass, plant, shrubs, trees, branches, and vegetative debris.
4. No plants should exist within this zone.
5. Combustible items within this zone, including on decks, must be limited.
6. Any firewood or lumber should be relocated within Zone 2.
7. Fencing, gates, and arbors attached to homes or structures must be made with non-combustible materials.
8. Garbage and recycling containers must not be kept within this zone.
9. Create separation between trees, shrubs, and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

Zone 1– within 5-30 feet from the structure- no flammable vegetation present

Zone 1 must include non-flammable and maintained plants, and includes the area measured from the outermost edge of the structure or appendage outward to 30 feet (horizontal distance), or the property line for perimeter lots adjacent to native vegetation.

1. Zone 1 must be planted with highly fire-resistant plants⁷. Plant selection for Zone 1 must consist of small herbaceous or succulent plants less than two to three feet in height or regularly irrigated and mowed lawns.
2. Trees must be spaced to allow a minimum 10-foot canopy clearance at full maturity to the structure.

Zone 2 - Thinning Zone –30-100 feet from structures or to property line if 100 feet is not possible. Vegetation shall be spaced as to reduce plant-to-plant, plant-to-tree, and tree-to-tree transfer of fire both vertically and horizontally.

1. In all cases, the overall characteristics of the landscape provide adequate defensible space in a fire environment.
2. Plants in Zone 2 shall be spaced appropriately, and existing native vegetation shall be modified by thinning and removal of species constituting fire risks such as but not limited to chamise, sage, sagebrush, and buckwheat.
3. Annual grasses and weeds shall not exceed a height of 4 inches.
4. General spacing for existing native shrubs or groups is dependent on the degree of slopes.
 - i. Flat to mild slope (0-20%) – shrubs should be spaced two times the height of the shrub.
 - ii. Mild to moderate slope (20-40%) - shrubs should be spaced four times the height of the shrub.
 - iii. Moderate to steep slope (greater than 40%) - shrubs should be spaced six times the height of the shrub.
5. General spacing for existing native trees or groups of trees is dependent on the degree of slope.
 - i. Flat to mild slope (0-20%) – 10 feet between tree canopy edges.
 - ii. Mild to moderate slope (20-40%) - 20 feet between tree canopy edges
 - iii. Moderate to steep slope (greater than 40%) - 40 feet between tree canopy edges

Zone 2 is considered a thinning zone as required by State PRC 4291. This zone is more of a progressive thinning zone to slow the spread and reduce the intensity of fire as it approaches the primary FMZ adjacent to structures. The amount of fuel reduction and removal should take into consideration the type and density of fuels, aspect, topography, weather patterns, and fire history.

⁷ https://ucanr.edu/sites/fire/Preparedness/Landscaping/Plant_choice/

Additional Code Exceeding Requirement Zone: An additional zone extending 100-125 feet from structures will be included for homes that back-up to undeveloped wild land areas and do not have a fire-break road between the home and wild land areas. This Zone will resemble Zone 2 conditions.

Roadside Fuel Modification Zone: Fuel modification will also occur along roadways to mitigate roadside wildfire ignition risk. A 10-foot FMZ along sides of roads adjacent to open spaces will be implemented. Roadways are a particularly common source for wildfire ignitions due to high usage and vehicle-caused fires (catalytic converter failure, overheated brakes, dragging chains, tossed cigarette, etc.) (Romero-Calcerrada et al. 2008). Reducing natural fuels along roadways and replacing them with irrigated and ignition-resistant landscaping substantially reduces the potential for wildfire ignition and spread.

Landscape Plan

Per SBCFC, 4906.3.1, A landscape plan shall be submitted and include development and maintenance requirements for the vegetation management zone adjacent to structures and roadways, and to provide significant fire hazard reduction benefits for public and firefighter safety. The landscape plan shall contain the following:

- Delineation of the Fuel Modification Zones
- Identification of existing vegetation to remain and proposed new vegetation.
- Identification of irrigated areas
- A plant legend identifying all plant names.
- Identification of ground covering within 30 feet of structures

Appendix C

Solomon Hills Community Shelter
in Place /Temporary Refuge Area

Appendix D

Existing Wildfire Risk Reduction Programs

Santa Barbara County Fire Safe Council

The Santa Barbara County Fire Safe Council (SBCFSC) was formed in 1997 with a goal of promoting wildfire safety throughout Santa Barbara County through education and action. Its stated mission is to unify public and private organizations in the County to educate, motivate, and coordinate to minimize losses associated with wildfires (SBCFSC 2022). The SBCFSC provides education, supports community emergency planning, and helps create fire adaptive communities through mitigation actions. Some of the education programs the SBCFSC offers are Ready! Set! Go! Developed by CAL FIRE, Firewise USA, and One Less Spark–One Less Wildfire. The SBCFSC also partners with SBC Fire, Santa Barbara City Fire Department, Carpinteria/Summerland Fire Protection District, and Montecito Fire Protection District.

The SBCFSC meets once a month at the Office of Emergency Management. Every other meeting includes an educational presentation from an expert on local issues. These presentations include topics such as fire ecology, fire behavior, vegetation management, habitat restoration, infrastructure improvement, weather services, and emergency planning. The meetings help provide relevant information to the community and offer a platform for community members to engage in wildfire challenges.

Supporting community emergency planning is also an action undertaken by the SBCFSC. The SBCFSC has had a successful record of securing funding through federal, state, and local grants. Grant funding has been used to support fire risk reduction efforts, including preparing CWPPs, implementing a “walk and talk” program (where local fire officials walk neighborhoods with residents to identify and recommend mitigation actions), supporting defensible space and community-level fuel break projects, organizing community chipping programs, guiding the Firewise USA process for local communities, and identifying, working with, and helping vulnerable communities in wildfire preparedness. The SBCFSC also conducts free home evaluations, hosts community education events about wildfire preparedness, creates educational videos, and is creating a home hardening and defensible space website portal.

Santa Barbara County Fire Programs

Defensible Space and Vegetation Management

As outlined in Chapter 15 of the Santa Barbara County Code of Ordinances (adopted by Ordinance #5091), all parcels in areas designated as High Fire Hazard by the Santa Barbara County Building Official are required to meet the County’s defensible space requirements year-round. Vegetation within defensible space zones, native or otherwise, must be maintained to create an effective fuel break by thinning dense vegetation and removing dry brush, flammable vegetation, and combustible growth from areas within 100 feet of all buildings or structures.

Defensible space clearance also includes clearance of brush, vegetative growth, and combustible materials from all parcels deemed a fire hazard. SBC Fire also facilitates a Hazard Reduction Program, which sends notices to abate fire hazards to property owners. The notices indicate defensible space requirements, and property owners have approximately 3 weeks to meet the requirements for defensible space.

Road Clearance

The County conducts roadside vegetation management to reduce the amount of vegetation along roadways, enhance evacuation during a wildfire, and allow greater access for fire engines and equipment to respond during a wildfire. Chapter 15 of the County Code of Ordinances requires property owners to maintain an area cleared of flammable vegetation and combustible growth on their properties on fire access roads and on driveways of 10 horizontal feet on

each side; additionally, overhanging vegetation must be removed for a vertical clearance, not less than 13 feet 6 inches. The Project will require 10 horizontal feet of roadside clearance on each side of roadways.

SBC Fire Roads Program

SBC Fire's Construction Section works with cooperating landowners to maintain existing ranch roads under this program. The Construction Section consists of five personnel—four fire equipment operators and one swamper—and provides support during fire suppression and fire rehabilitation efforts, and fire road/firebreak maintenance. The Roads Program is conducted by the Construction Section and is intended to facilitate SBC Fire access for incident response or other pre-fire activities, and not to maintain roads for ranching or other land management purposes (SBC Fire 2022f).

SBC Fire Vegetation Management Section

The County's approach to vegetation management uses a three-pronged start that focuses on reducing old-age class fuel loads, using broadcast burning in strategic locations and maintaining and enhancing defensible space around communities. The goal is to create protection for communities at risk and to conduct larger-scale mechanical treatments of identified hazardous fuel beds to help stop the spread of wildfire. Mechanical treatments consist of reducing continuity and the percentage of receptive fuel beds as states in the County's Unit Fire Plan.

The Vegetation Management section of SBC Fire is responsible for producing the County's Unit Fire Plan and for planning and oversight of range improvement burns and vegetation management projects. The Unit Fire Plan ensures compliance with state-mandated hazardous fuel reduction (SBC Fire 2022g).

Appendix E

Vegetation Management

Vegetation management is a critical component to wildfire risk reduction in the Plan Area. All vegetation will burn, given the right conditions (Reinhardt et. al. 2008). Therefore, the goal of vegetation management is not to remove all vegetation, but to moderate potential fire behavior by reducing fuel loads and altering the structure, composition, and spacing (horizontal and vertical) of retained vegetation. Vegetation management treatment types (e.g., fuel breaks) and techniques (e.g., grazing) are used to meet overall vegetation management goals, which are dependent on vegetation type, structure, and condition. It is anticipated that vegetation management projects identified in this FPP would be further clarified at advanced stages of project planning, with detailed management prescriptions and management area boundaries defined. The following sections identify vegetation management types, recommended treatment standards, and treatment techniques that can be used for the vegetation management projects.

Wildland-Urban Interface

The wildland-urban interface (WUI) is the geographic area where wildlands and development intersect or intermix, presenting significant fire hazard risks and a complex fire environment. When wildfires occur in WUI areas, firefighting and emergency response efforts are primarily focused on protecting human life and property. WUI fuel reduction generally consists of strategic reduction and removal of vegetation to reduce fuel loads and prevent or slow the spread of wildfire between structures and wildlands, and vice versa. WUI fuel reduction treatments also provide emergency access points and staging areas for firefighters and equipment and reduce flammable vegetation near emergency evacuation routes. Additionally, WUI fuel reduction treatments may serve to enhance habitat quality in areas where existing habitat is degraded, such as by removal of invasive plant species.

WUI fuel reduction treatments serve as one component of wildfire risk reduction efforts occurring in the WUI. Fuel reduction is also part of the requirements of WUI building codes (e.g., California Building Code Chapter 7A), defensible space (e.g., PRC Section 4291, Santa Barbara County Code Chapter 15), and other structure hardening and fire safe development requirements. Defensible space is an effective means of reducing the risk of loss of life and property due to wildfire in the WUI. Defensible space works to achieve four objectives: reduce the risk of direct flame contact with a structure, reduce the overall fire intensity and rate of spread near a structure, remove ember sources, and provide a space for embers to fall to the ground before reaching the structure, and provide an area for firefighters to safely engage with the fire and provide access to structures. A defensible space zone that is around the entire structure has been proven to be effective for achieving these objectives (Syphard et. al. 2014). Conversely the lack of defensible space within 30 feet of a structure has been shown to be a key factor in structure ignition during wildfires (Troy 2020).

WUI fuel reduction treatments for the Plan Area are anticipated to occur within the space between structures and wildlands or other areas of non-maintained vegetation. The width of the treatment area (distance from structure) would be dictated by the most currently applicable codes and standards in place for the adjacent structures (PRC 4291, County Code Chapter 15, or other more restrictive standard). WUI fuel reduction treatments may occur on private property or on other undeveloped land (e.g., neighboring undeveloped parcel). Vegetation management occurring outside of WUI areas, as defined, would be categorized as fuel breaks or ecological restoration (discussed below).

Ecological Restoration

Ecological restoration treatments focus on restoring ecosystem processes, conditions, habitat value, and wildfire resiliency by modifying uncharacteristic fuel conditions (Fuller 2020). Such fuel conditions could exist for various reason, including a history of fire exclusion; occurrence of severe wildfire events; conversion of vegetation community types; displacement of native plant communities by invasive species; increased plant mortality due to pest or disease infestations; or other influences that contribute to deviation from historical landscape conditions,

such as climate change, land use conversions, and other indirect effects (Lenihan et. al. 2008). Ecological restoration treatments would involve management actions intended to return the treatment area to more natural conditions. Wildfire is a natural occurrence in many California ecosystems and has played an important role in shaping the landscape and maintaining ecosystem processes (Pausas et. al. 2004). Ecological Restoration treatments can contribute to improving overall ecosystem health by increasing plant vigor, reducing susceptibility to pests and disease, increasing tolerance to drought and climate change effects, and reducing the threat of high-severity wildfire. Healthy ecosystems have a mosaic of successional stages, providing a diversity of wildlife habitats, and are composed of vegetation that is more resistant to pest and disease outbreaks.

Potential ecological restoration treatments in the Plan Area may include invasive species control or removal, treatments focused on managing type conversion of vegetation communities, treatments to mimic natural disturbances to control species encroachment and alter vegetation community successional stages, prescribed burning to mimic natural fire recurrence, prescribed burning to treat thatch buildup in grasslands, post-fire hazard tree removal, treatment of pest- or disease-infected vegetation, and treating ladder fuels or thinning forest stands to reduce fuel loads and return woodlands/forests to historical compositions.

Grazing Programs and Rangeland Management

Grazing is a vegetation treatment technique and has also been identified as an important wildfire mitigation strategy for the Project site. Grazing can be an effective method for reducing fine fuel loads, treating live herbaceous growth on shrubs and trees, and preventing the expansion of brush into grasslands. The Project site has a history of seasonal grazing.

Grazing is a method of using livestock to reduce the fine fuel loading of live herbaceous growth, shrubs, and new growth of trees. Livestock, such as cattle, goats, horses, or sheep, browse on grasses, forbs, shrubs, and fresh growth of young trees, thereby removing, over time, any consumed vegetation from the overall fine fuel load of the site. Grazing is effective in managing fine fuels and preventing the expansion of brush/scrub into grasslands. Livestock each have different grazing habits and not all livestock are ideally suited for grazing treatments in all areas. Most livestock, with the exception of goats, do not consume live or dead, tough, woody plant material in any significant quantity as this material is generally unpalatable. Additionally, livestock do not effectively create fuel breaks, but are well-suited to maintain new annual vegetative growth within them. In the Solomon Hills Project site, grazing by cattle has been successfully used for reducing fine fuel loads in grasslands.

To achieve fine fuel reduction standards, grazing typically begins in the late spring, when growth of annual grasses has slowed, and continues through the summer in order to reduce fine fuels prior to the onset of peak fire season. Development of site-specific grazing management plans should be completed for proposed grazing treatments and should include goals and implementation actions to ensure that timing of grazing treatment meets vegetation management standards but minimizes potential negative effects. Grazing management plans should also identify the optimal stocking rate and grazing duration, typically measured in pounds per acre of residual dry matter. Optimal residual dry matter levels should be determined by overall management objectives, such as suppression of weeds, fuel load reduction, or minimizing erosion potential. As a fuel reduction technique, grazing does not need to be conducted each year if the intent is to control shrubs or maintain understory fuels; however, if the intent is to reduce grass or other flashy fuels, grazing should be conducted annually.

Grazing can be a relatively inexpensive and effective treatment method and can even generate revenue when cattle grazing is contracted for large areas. Control of livestock movements and preventing overgrazing is critical for successful implementation. Using professional herders or portable fences may be an alternative to fixed fencing where the treatment is ephemeral. Additional controls may also be needed for protection of retained plants, riparian zones, and sensitive resources areas, and to minimize erosion potential.

Appendix F

Examples of Communities Designed Against Wildfire

When communities incorporate the regulatory requirements and mitigation measures like the ones described above, they can offer a safer landscape that is resistant to WUI fire disasters. The 2017 Thomas fire in Ventura and Santa Barbara Counties consumed over 1,000 (majority in Ventura County) homes predominately during the high wind events in the first few days of the incident (Kolden & Henson, 2019). The unincorporated area of Montecito is classified as VHFHSZ and has significant fire history inclusive of home loss (Kolden & Henson, 2019). Two decades prior to the Thomas Fire, the Montecito Fire Protection District started to address wildfire vulnerability in the community using place-based reduction strategies (Kolden & Henson, 2019). These strategies focused on recurring structural ignition potential, fire-resistant materials, structural modifications, increasing defensible space, fire scaping, and developing a fire protection code (Kolden & Henson, 2019). As a result, when the Thomas Fire, during Sundowner winds, spread to Montecito the area experienced minimal damage and was largely passed over (Kolden & Henson, 2019). By having mitigation not be isolated to wildland areas or just to homes, but implemented on multiple scales, Montecito was able to effectively protect not just the WUI areas, but the entire community.

The Witch Creek fire was one of the most destructive fires in California's history and destroyed thousands of homes in San Diego County (Mutch et al., 2011). However, after the 1990 Paint Fire in Santa Barbara and the 1991 Oakland Hills Tunnel Fire the community-started efforts to become adaptive to a very high fire hazard environment (Mutch et al., 2011). They implemented fire codes, and developed restricted defensible space rules, home hardening measures, and vegetation restrictions; all of which were maintained and enforced by the HOA (Mutch et al., 2011). As a result, when the Witch Creek fire spread to Rancho Santa Fe in the five communities that adopted this approach no homes were lost versus the older communities which were heavily impacted (Mutch et al., 2011).

Additionally, the following communities which feature similar fire protection measures as the Project, have experienced minimal to no fire encroachment as a result of their design:

- Casino Ridge, Yorba Linda⁸
- Serrano Heights, Anaheim Hills⁹
- Cielo, Rancho Santa Fe¹⁰
- 4S Ranch, San Diego¹¹

As described above, the Project site is designed to not only be hardened against fire but designed to prevent fires from occurring and quickly suppressing them when they do occur. The Project takes a multi-scaled approach to fire protection through wildfire education, ignition prevention, fuels management, increased response capacity, and ignition-resistant construction. The dual benefit of creating a development that can prevent a fire is that it offers protection to the surrounding communities and the environment. The requirements and recommendations outlined in the FPP have been designed specifically for the proposed construction in VHFHSZ and HFHSZ and can significantly reduce the potential threat to offsite areas.

⁸ (Orange County Fire Authority, 2008)

⁹ (FEMA, n.d.)

¹⁰ (Mutch et al., 2011)

¹¹ (Audencial, 2016)

Appendix G

Assessment of Wildfire Risks Associated with the Project's Introduction of New Development

Research indicates that while humans can drive wildfire ignition risk in the WUI, comprehensive actions can be taken to mitigate such risks to less than significant levels (Elia et al., 2019). When fire protection is implemented at the parcel level and leverages ignition resistant building materials, infrastructure improvements, increased response capacity, and incorporates landscape design FMZs, the wildfire risk can be reduced not only within the proposed development but in the surrounding environment as well (Newman et al., 2013). The following section summarizes factors for determining wildfire risk from new development and potential opportunities to mitigate such risks.

Research has indicated that increased human activity in WUI areas can result in an increased likelihood of ignition (Keeley & Syphard, 2018; Syphard, Clayton, et al., 2007; Syphard & Keeley, 2015). As such, residential development within fire-prone areas is commonly characterized as the principal driver of wildfire risk (Keeley & Syphard, 2018; Syphard, Clayton, et al., 2007; Syphard & Keeley, 2015). However, as humans can drive wildfire risk they can in turn reduce it by household level or parcel level decisions, such as home siting, building materials, and landscape design that can reduce risk in the WUI environment (Newman et al., 2013). These decisions can take the form of reducing fire ignition risks by converting fire-prone areas to ignition-resistant, maintaining ground covers, constructing ignition-resistant homes and hardscapes, and increasing the development setback from the wildland-urban interface (Newman et al., 2013). This change occurs through the strategic implementation of fire protection measures that result in planned alterations to fuel, increased ignition resistant construction, enhanced fire protection features, higher wildfire risk awareness, and maintenance of fire protection features. When developments are planned accordingly, the fuel availability and fuel continuity decrease, while the probability of fire suppression increases (Fox et al., 2018).

The dual benefit of building a fire-hardened development is that the same features that protect the development from a wildfire also play a significant role in protecting wildlands and surrounding areas from Project-related fires through ignition reduction.

Reducing Wildfire Risks Associated with Introducing Ignition Sources and increasing Human Activities in the WUI

As previously mentioned, humans play a major role in ignitions by influencing the timing and spatial pattern of fires (Keeley & Syphard, 2018). As a result, humans account for more than 95% of ignitions (Keeley & Syphard, 2018). The relationship between human activities and natural dynamics has contributed to altering fire regimes (Syphard et al., 2007). One alteration is that urban development increases the risk of repeated fires on the landscape (Syphard, Clarke, et al., 2007). As humans move into landscapes with patterns of ignitions change as well (Syphard, Clarke, et al., 2007). However, the number of ignitions and the area burned varies by an ignition source (Syphard & Keeley, 2015). Overall, human-caused ignitions peaked in 1980 and have since dropped likely due to increased efficiencies in fire prevention, changes in infrastructure, a decline in smoking, neighborhood watch program, penalties for arsonists, and new developmental rules (Keeley & Syphard, 2018). However, while the number of ignitions has decreased the acres burned has increased, indicating while fires are fewer, they are larger in magnitude (Keeley & Syphard, 2018). The relationship between ignitions and human development is complex. While human-caused ignitions increase as populations and development expand into the WUI this increase reaches a peak and then declines at the point at which development or impervious surfaces (hardscape) outweigh the wildland fuels (Keeley & Syphard, 2018).

As described in Section 2.2.5, Table 5, vehicle caused ignitions are the most common ignition type within 5 miles of the Project site from 2007-2023. This is followed by electrical power equipment, and general equipment use.

Given the number and intensity of wildfires in recent years, there has been an increasing focus on wildfires and reducing the size of wildfires (Syphard et al., 2014). However, addressing wildfires in the WUI with fuels reduction and prescribed burning is often faced with challenges related to private property constrictions (Schwartz & Syphard, 2021). Studies have shown that land-use decision-making, defensible space, homeowner preparation, and ignition prevention can complement traditional management in reducing wildfires and addressing fuels management (Schwartz & Syphard, 2021; Syphard et al., 2017). Further, given the importance of the WUI and often the lack of capacity for large-scale fuels reduction creating safer spaces within the WUI is critical (Schwartz & Syphard, 2021). Because most fires are caused by humans ignition reduction is a powerful management strategy (Syphard & Keeley, 2015). Given that we are moving into a more hazardous wildfire future land-use planning and ignition prevention represent the most effective long term solutions while traditional management and fuel breaks still play a role in addressing the coincidence of human-caused ignitions and severe fire weather (Schwartz & Syphard, 2021; Syphard et al., 2017).

To minimize the negative effects, the Project has designed multi-scaled fire protection features to address the existing fire hazard, reduce ignition probability, and lower the fire risk for the Project and the surrounding area. The Project would result in the conversion of readily ignitable fuels, such as coastal sage scrub and grasses, to irrigated/thinned landscaping and development. Notably, the Project minimizes ignition risk by incorporating 100–125-foot FMZs around development areas, which will provide defensible space and reduce fire intensity and flame lengths in the event of ignition occurring. These FMZs, which are based on County Fire requirements and site-specific modeling, will be implemented by knowledgeable professionals, inspected by third-party inspectors, and maintained in perpetuity by the Project HOA. Additionally, other fuel modification/landscaping requirements like the Project's roadway fuel modification zones, stormwater basin vegetation management, and the prohibition of certain highly flammable plants will further reduce the risk of fire ignition and spread despite the introduction of additional humans in the area. Critically, the structures in the Project will also be built in accordance with the most state-of-the-art, ignition-resistant construction standards and building codes required by the County and the State, including the California Residential Code and Chapter 7A County Building Code, which requires that the buildings are resistant to ignitions from direct flames, heat, and embers. Structural requirements include fire-resistant roofing, vent covering and opening limitations, noncombustible or ignition-resistant exterior walls, ignition-resistant eaves, and porch ceilings, insulated windows and exterior doors, and other measures that have proven to substantially reduce the risk of building ignition and fire spread. Finally, a key component of reducing the chances of fire ignition and spread involves educating residents to have a high fire risk awareness. In this respect, the Project includes as mitigation a robust education awareness program that will provide residents with wildfire safety information and create greater risk awareness for occupants and their employees. Through this program, residents will learn about necessary landscape maintenance, activities in a wildfire risk area, preventing wildfires, structural-based fire protection features, and wildfire evacuation information. Other educational efforts will include fire safety signage at trailheads and other public spaces.

As evidenced by these measures and the other measures described in Section 3 Fire Safety Requirements – Regulations and Design Features, the Project has outlined steps in which it will implement ignition reduction from common anthropogenic ignition sources, leverage its capacity for implementing fuels reduction including defensible space, and consider both onsite and offsite wildfire risk. Still, there are other project-specific anthropogenic fire risks that are worthy of being highlighted for the purposes of this FPP. These include powerlines, vehicles, and machinery. Each is discussed below.

Powerlines

Common ignition sources in California are related to powerlines and many destructive fires across the State have been caused by powerlines (Keeley & Syphard, 2018). However, this risk can be minimized by burying powerlines. The Project will underground all project-related distribution power lines on the Project site.

Vehicles

A potential source of vegetation ignitions in the Project area is the existing Highway 101 and Highway 135, and other roads used by Project residents and occupants. The Project provides code exceeding roadside fuel modification via the removal of flammable vegetation and provisions for landscaping along roads it controls. As such, the Project is not expected to significantly increase the already known fire risk associated the preexisting roads. The onsite roadways would comply with all fire department access requirements and be adjacent to a code compliant 10 feet of roadside fuel modification. Further, the interior roadways are also not expected to result in significant vehicle ignitions. Therefore, even if ignition were to occur within the Project, it is highly unlikely it would be sustained or spread beyond the Project site due to the hardened landscapes, hardscape, and adjacent fuel modifications areas.

Machinery

The use of equipment in WUI areas is another common source of modern-day human-caused ignitions. This is due to heated machinery, sparks, hot fluids, or exhaust igniting vegetation. Potential ignitions due to equipment use can occur during construction activities or ongoing operational risk. The Project's HOA will address the use of barbecue grill and outdoor fire pit use and limit use of vegetation management actions on days that fire ignition is possible. To mitigate machinery and other hot work ignitions, HOA staff and contractors will be required to abide by fire safe practices and conduct a safety briefing daily that includes wildfire prevention.

Appendix H

Construction Fire Prevention Plan

To reduce potential ignition sources due to construction activities, the Project will require that prior to bringing combustible materials to residential or commercial structure buildings, improvements, including utilities, operable hydrants, and access roads with an approved temporary roadway surface, and fuel modification zones, be established. Note that combustible materials related to pre-building construction may be brought onto the site (e.g., forms for cast-in-place concrete or others, as needed). SBCFC will approve site conditions prior to the construction of any structures being undertaken.

Wildfire Evacuation Study

Solomon Hills Project

OCTOBER 2024 (REVISED JULY 2025)

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SOLSTRA COMMUNITIES

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APPENDICES

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B1–B4 Family Disaster Plan and Personal Survival Guide

C Evacuation Modeling

D Quick Reference Guide

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CAL FIRE	California Department of Forestry and Fire Protection
Cal OES	California Office of Emergency Services
Caltrans	California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CERT	Community Emergency Response Team
CEQA	California Environmental Quality Act
CHP	California Highway Patrol
County	County of Santa Barbara
EAS	Emergency Alert System
EMP	Emergency Management Plan
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FHSV	Fire Hazard Severity Zone
HOA	Homeowner's Association
IC	Incident Commander
ICS	Incident Command System
IFTSA	International Fire Service Training Association
IPAWS	Integrated Public Alert & Warning System
JIC	Joint Information Center
LRA	Local Responsibility Area
NIMS	National Incident Management System
NWFCG	National Wildland Fire Coordinating Groups
OA	Operational Area
OEM	Office of Emergency Management
Project	Solomon Hills Residential Project
SBCFD	Santa Barbara County Fire Department
SBCSD	Santa Barbara County Sheriff's Department
SEMS	State Emergency Management System
SRA	State Responsibility Area
TEP	Temporary Evacuation Point
TRA	Temporary Refuge Area
UC	Unified Command
VoIP	Voice over Internet Protocol
VHFHSZ	Very High Fire Hazard Severity Zone
WEA	Wireless Emergency Alert
WES	Wildfire Evacuation Study
WUI	Wildland-Urban Interface

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Executive Summary

The Solomon Hills Project (Project) site is largely undeveloped open space on the California central coast in northern Santa Barbara County adjacent to the Orcutt Community Plan Area. The Project site is currently used for oil production and seasonal grazing. The Project site is located approximately 1.5 miles south of the community of Orcutt and is bound to the east by the US-101 Highway, surrounded by undeveloped open space and agricultural land uses. The Project site is designated as both a High and Very High Fire Hazard Severity Zone (CAL FIRE 2023) and would be required to build to California Building Code Chapter 7A requirements, which includes structural hardening and California Fire Code, Chapter 49, fuel modification for areas adjacent to wildland fuels.

The Solomon Hills Project proposes to create Santa Barbara County's first new community that will result in a sustainable, resilient and healthy environment for its residents. The Project establishes a holistic framework for Smart Growth with a redevelopment of private lands historically used for grazing and oil and gas production. It's proposed Specific Plan includes the design and implementation of a central village closely surrounded by several neighborhoods, office and commercial space, a TK-8 school, fire/sheriff station, parks, open space and public trails to allow walking and biking as an easy alternative to vehicle transport.

The Project's proposed Specific Plan allows for a balance of land uses primarily serving working families allowing 4,000 single and multi-family residential units, 650,000 square feet of commercial retail and office use and space, 25.5-acres of public and institutional uses and space, and 1,023 acres of recreational and open space uses. Critical infrastructure includes water supply and a water reclamation facility, interchange improvements along Hwy 101, additional secondary access along Hwy 101 and Hwy 135 and several active and passive parks and public trails. Public benefits include developer sponsored Affordable housing near commercial and transportation access points, utility and access improvements that minimize traffic impacts to neighboring properties, new public trail access into the Orcutt Hills, recreational improvements and public access to the Newlove Picnic Grounds, the preservation of open space ridgelines and valleys for habitat protection and the abandonment and remediation of all oilfield features and operations. The Project is designed to be built in four (4) buildout phases over a fourteen-year period for the orderly delivery of the Project. Phased grading, access, utility, horizontal and public improvements are scheduled ahead of and to align with the same buildout phases.

This Wildfire Evacuation Study (WES) has been prepared to establish jurisdictional emergency operations procedures, increase occupant preparedness to support efficient evacuation in the event of a wildland fire. Herein, information is provided addressing evacuation organization, planning and preparedness, evacuation routes, roadways capacities, contingencies, potential shelter-in-place, and other related issues.

Primary evacuation routes available to Project occupants would include proposed internal roadways such as Northern Loop Road, Main Boulevard, and Village Loop Road. Evacuees are likely to be directed north towards US 101 or west towards State Route (SR-) 135, away from at-risk areas, in a wildland fire event.

As part of the WES, evacuation time calculations were completed to evaluate potential Project impacts to evacuation conditions. Four scenarios were analyzed to evaluate the time needed to evacuate the existing neighborhoods west, north and east of the Project site as well as Project populations. Using conservative assumptions, these four scenarios were considered (1) Existing Land Uses, (2) Existing Land Uses with Proposed Project with access to SR-135, (3) Existing plus Project without access to SR-135, (3A) Existing Land Uses with

Project Phase 1 and Phase 2 Only, (4) Project Only with access to SR-135, (5) Project Only without access to SR-135, (6) Existing Land Uses with Cumulative Projects, (7) Cumulative Plus Project with access to SR-135, and (8) Cumulative Plus Project without access to SR-135.

The key finding of this study is that the available roadway capacity would be sufficient to safely accommodate the number of evacuating vehicles within the Project area with the project development. Evacuation times with the would not significantly impact existing conditions and would allow for safe evacuations to be conducted under all scenarios. Additionally, the Project would not eliminate any existing evacuation routes. Considering these facts and others discussed herein, **the Project would not expose people to a significant risk of loss or death involving wildland fires related to evacuation, would not interfere with evacuation response planning, and would not result in inadequate emergency access.**

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1 Introduction

Evacuation is a process by which people are moved from a place where there is immediate or anticipated danger, to a place of safety, and offered appropriate temporary shelter facilities. When the threat to safety is gone, evacuees are able to return to their normal activities, or to make suitable alternative arrangements. The overarching goal of emergency management in the Santa Barbara County Operational Area (OA) is to maximize the preservation of life while reducing the number of people that must evacuate and the distance they must travel to seek safe refuge.

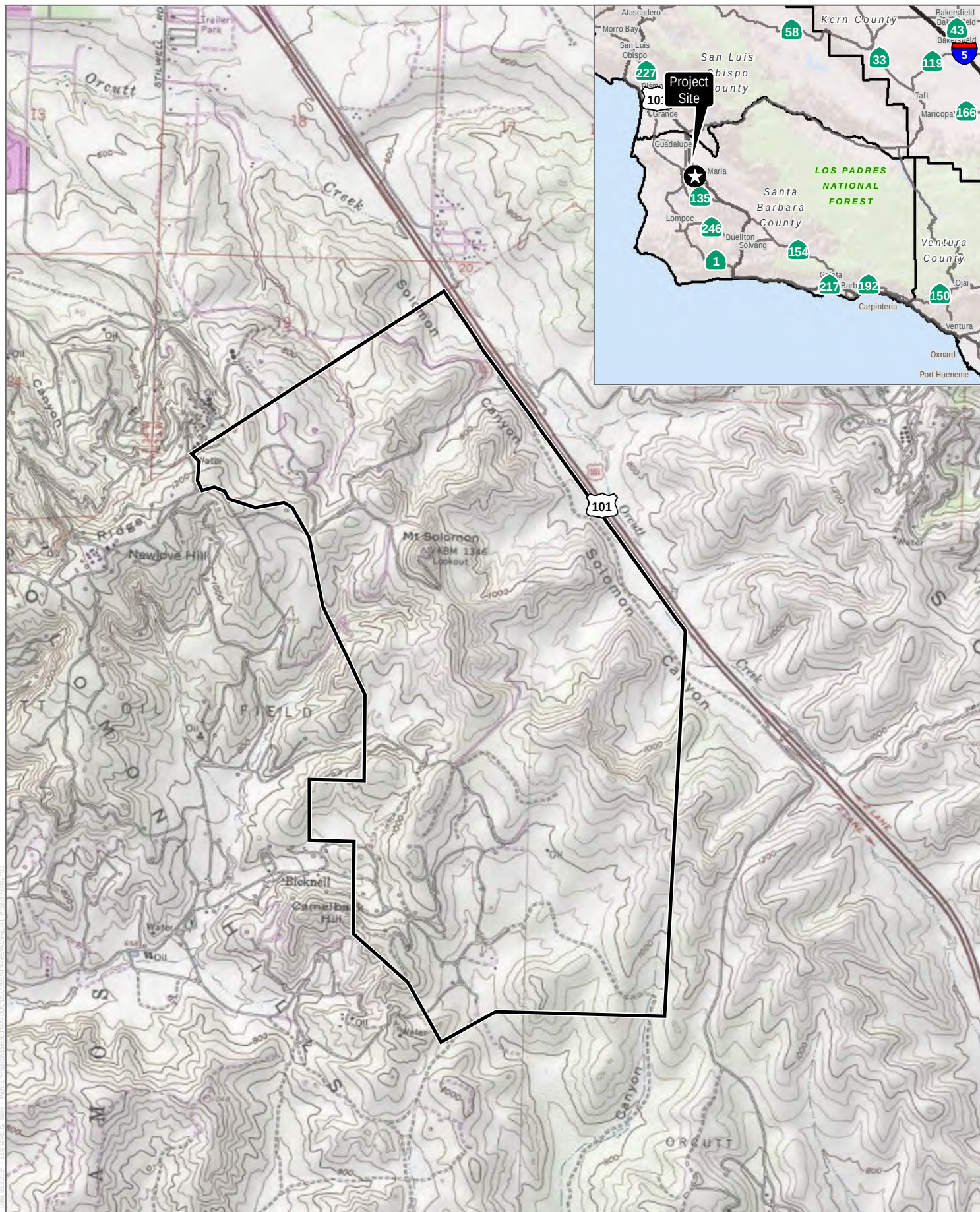
This Wildfire Evacuation Study (WES) was prepared based on guidance from and is consistent with the approved Emergency Management Plan (County of Santa Barbara 2013) and also considers the County Office of Emergency Management's Draft Emergency Operations Plan (EOP), which is not yet approved. The existing Emergency Management Plan is not currently available on the County's website, but can be downloaded here: https://www.cafsti.org/wp-content/uploads/OEM_EMP_Draft_09AUG13.pdf

This WES was prepared to provide the community and jurisdictions with an evaluation of the impacts of an emergency evacuation of the Solomon Hills community in the event of a wildfire so they may develop appropriate emergency operations procedures. This WES serves to evaluate the Project's consistency with relevant emergency evacuation plans and emergency response plans and determine evacuation times for the existing and post-Project conditions, as well as provide emergency preparedness information and resources to increase occupant preparedness and facilitate efficient evacuation in the event of an emergency.

1.1 Project Description

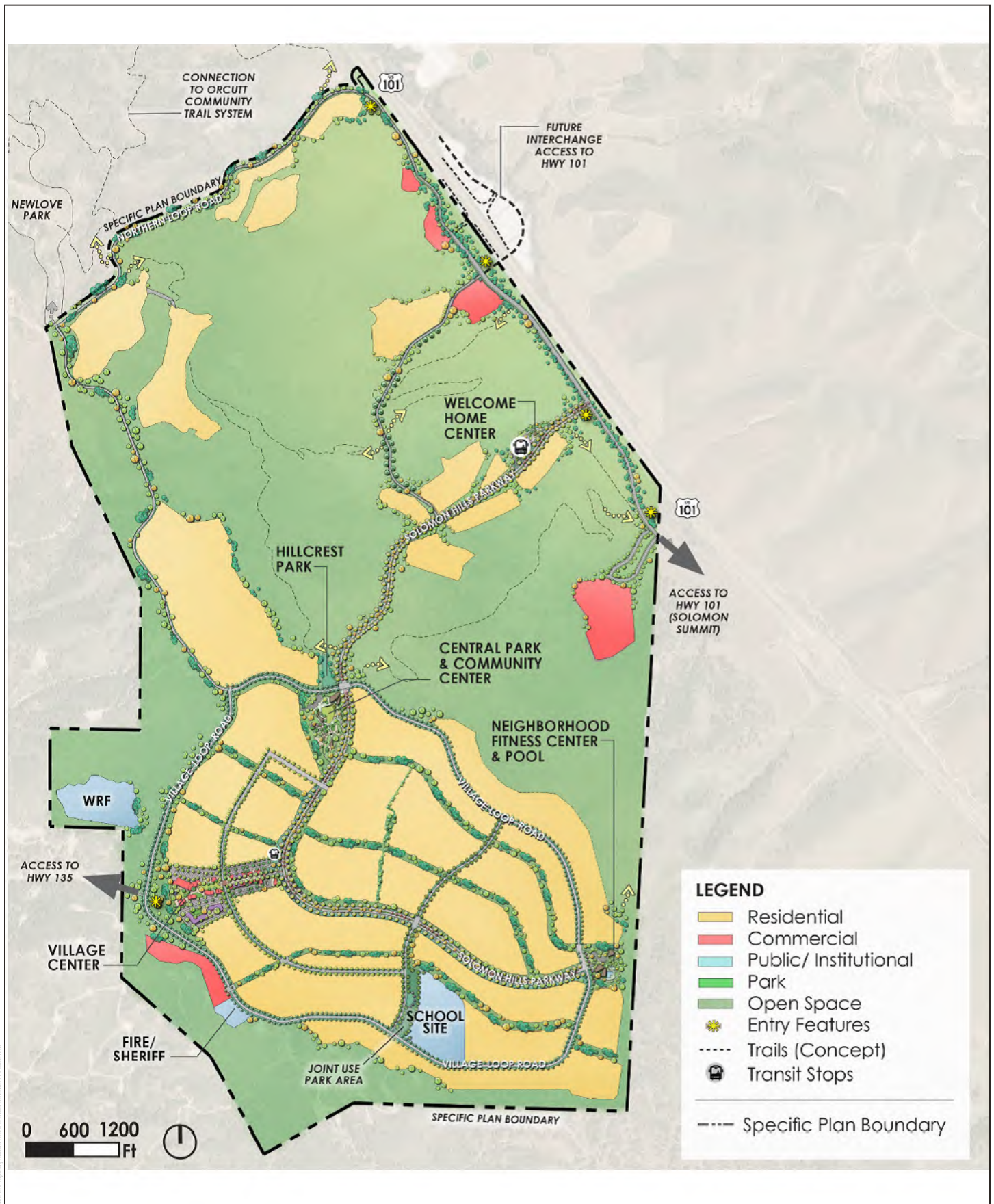
The Solomon Hills Project proposes to create Santa Barbara County's first new community that will result in a sustainable, resilient and healthy environment for its residents. The Project establishes a holistic framework for Smart Growth with a redevelopment of private lands historically used for grazing and oil and gas production. It's proposed Specific Plan includes the design and implementation of a central village closely surrounded by several neighborhoods, office and commercial space, a TK-8 school, fire/sheriff station, parks, open space and public trails to allow walking and biking as an easy alternative to vehicle transport.

The Project's proposed Specific Plan allows for a balance of land uses primarily serving working families allowing 4,000 single and multi-family residential units, 650,000 square feet of commercial retail and office use and space, 25.5-acres of public and institutional uses and space, and 1,023 acres of recreational and open space uses. Critical infrastructure includes water supply and a water reclamation facility, interchange improvements along Hwy 101, additional secondary access along Hwy 101 and Hwy 135 and several active and passive parks and public trails. Public benefits include developer sponsored Affordable housing near commercial and transportation access points, utility and access improvements that minimize traffic impacts to neighboring properties, new public trail access into the Orcutt Hills, recreational improvements and public access to the Newlove Picnic Grounds, the preservation of open space ridgelines and valleys for habitat protection and the abandonment and remediation of all oilfield features and operations. The Project is designed to be built in four (4) buildout phases over a fourteen-year period for the orderly delivery of the Project. Phased grading, access, utility, horizontal and public improvements are scheduled ahead of and to align with the same buildout phases.



SOURCE: ESRI IMAGERY SERVICE 2023

FIGURE 1
Project Vicinity



SOURCE: RRM Design Group, 2024

FIGURE 2

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1.2 Applicable Regulations, Standards, and Planning Tools

1.2.1 Federal

1.2.1.1 Disaster Mitigation Act

The Disaster Mitigation Act of 2000 requires that a state mitigation plan, as a condition of disaster assistance, add incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: “Standard” and “Enhanced.” States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Disaster Mitigation Act also established a new requirement for local mitigation plans.

1.2.1.2 National Incident Management System (NIMS)

The National Incident Management System (NIMS) guides all levels of government, nongovernmental organizations, and the private sector to work together to prevent, protect against, mitigate, respond to, and recover from incidents. NIMS provides community members with a shared vocabulary, systems, and processes to successfully deliver the capabilities described in the National Preparedness System. The National Preparedness System is a Presidential Policy Directive establishing a common goal to create a secure and resilient nation associated with prevention, protection, mitigation, response, and recovery to address the greatest risks to the nation. One core area is fire management and suppression.

NIMS defines operational systems that guide how personnel work together during incidents.

1.2.1.3 Pet Evacuation and Transportation Standards Act

The Pets Evacuation and Transportation Standards Act of 2006 amends the Stafford Act, and requires evacuation plans to take into account the needs of individuals with household pets and service animals, prior to, during, and following a major disaster or emergency.

1.2.2 State

1.2.2.1 Fire Hazard Severity Zones

To assist each fire agency in addressing its responsibility area, California Department of Forestry and Fire Protection (CAL FIRE) uses a severity classification system to identify areas or zones of severity for fire hazards within the state. CAL FIRE is required to map these fire hazard severity zones (FHSZs) for State Responsibility Areas (SRAs) and identify Very High Fire Hazard Severity Zones (VHFHSZ) for Local Responsibility Areas (LRAs). The Project Site is designated as both a HFHSZ and VHFHSZ located within a SRA.

1.2.2.2 California Wildland-Urban Interface Code

On September 20, 2005, the California Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Building Code (CBC) (California Code of Regulations [CCR] Title 24, Part 2). Chapter 7A of the CBC includes regulations addressing materials and construction methods for exterior wildfire exposure and applies to new buildings located in State Responsibility Areas or Very High Fire Hazard Severity Zones in Local Response Areas.

1.2.2.3 California Fire Code

The 2022 California Fire Code (CCR Title 24, Part 9) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. The County has adopted the 2022 California Fire Code with amendments as Santa Barbara County Code of Ordinances Chapter 15.

1.2.2.4 California Emergency Services Act

The California Emergency Services Act (California Government Code Section 8550, et seq., provides for the creation of an Office of Emergency Services, assign and coordinate functions and duties to be performed during an emergency, facilitate mutual aid, and assign resources (including manpower and facilities) throughout the state for dealing with any emergency that may occur.

1.2.2.5 California Office of Emergency Services

The California Office of Emergency Services (OES) is responsible for the coordination of overall state agency response to disasters. Assuring the state's readiness to respond to, recover from all hazards and assisting local governments in their emergency preparedness, response, recovery, and mitigation.

1.2.2.5.1 Standardized Emergency Management System (SEMS)

The Standardized Emergency Management System (SEMS) is the cornerstone of California's emergency response system and the fundamental structure for the response phase of emergency management. The system unifies all elements of California's emergency management community into a single integrated system and standardizes key elements. SEMS incorporates:

- Incident Command System (ICS) - A field-level emergency response system based on management by objectives.
- Multi/ Inter-agency coordination - Affected agencies working together to coordinate allocations of resources and emergency response activities.

- Mutual Aid - A system for obtaining additional emergency resources from non-affected jurisdictions.
 - Operational Area Concept - County and its sub-divisions to coordinate damage information, resource requests and emergency response.

1.2.2.6 Attorney General's Guidance

The California Office of the Attorney General issued (October 2022) guidance (Guidance) outlining best practices for analyzing and mitigating wildfire impacts of development projects under the California Environmental Quality Act (CEQA). The Guidance is intended to help local governments' evaluation and approval considerations for development projects in fire-prone areas, and to help project design in a way that minimizes wildfire ignition and incorporates emergency access and evacuation measures. Importantly, the Guidance does not impose additional legal requirements on local governments, nor does it alter any applicable laws or regulations.

The Guidance states that evacuation modeling and planning should be required for all projects located in HFHSZ/VHFHSZ that present an increased risk of ignition and/or evacuation impacts. It further states that local jurisdictions should require evacuation modeling and planning to be developed prior to project approval to provide maximum flexibility in design modifications necessary to address wildfire risks and impacts. The project is in an area designated as both in a HFHSZ and VHFHSZ and adjacent to open space areas, which is why this Evacuation Study was prepared for the project and includes the analysis of several scenarios, including existing and with project conditions. The project would provide important road network improvements, which may assist project access as well as provide a public benefit for existing residents.

The Guidance further states that evacuation modeling and analysis must augment existing information when necessary to include adequate analysis of the following:

- Evaluation of the capacity of roadways to accommodate project and community evacuation and simultaneous emergency access.
 - Existing and future roadway capacities are analyzed in Section 4 of this Wildfire Evacuation Study.
- Assessment of the timing for evacuation.
 - Analysis of evacuation timing is detailed in Section 4.2.1.
- Identification of alternative plans for evacuation.
 - Alternative plans for evacuation (e.g., shelter-in-place as discussed in Section 3.3.2) would be feasible due to the high ignition resistance level of Project structures.
- Evaluation of the Project's impacts on existing evacuation plans.
 - Existing evacuation plans do not exist for the area so this element does not apply.
- Consideration of the adequacy of emergency access, including the Project's proximity to existing fire services and the capacity of existing services.
 - As disclosed in Section 4, Evacuation Road Network, emergency access is provided in a manner consistent with the fire code requirements.
 - The topics of proximity to existing services and capacity of those services are discussed in Section 3.5, Emergency Response and Service.
- Traffic modeling to quantify travel times under various likely scenarios.

- This Wildfire Evacuation Study conducted simulations using Vissim, a microscopic, multimodal traffic flow modeling software used to simulate different traffic conditions, such as drivers' behaviors during an evacuation. In Vissim simulations, roadway capacity is accounted for and each vehicle in the traffic system is individually tracked through the model and comprehensive measures of effectiveness, such as average vehicle speed and queueing, are collected on every vehicle during each 0.1 second of the simulation.

1.2.2.7 California Animal Response Emergency Support (CARES)

The CARES Unit resides within the Emergency Preparedness and Response Section of the Animal Health Branch in the Animal Health and Food Safety Services Division of CDFA. The CARES Unit provides assistance to the California Emergency Support Function 11 Food and Agriculture. To meet animal disaster related responsibilities, CDFA leverages the CARES Unit to coordinate State agency response in support of local government and with the assistance of volunteer organizations. CARES is structured in accordance with the Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS).

1.2.3 Local

1.2.3.1 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan

The purpose of the County's Multi-Jurisdictional Hazard Mitigation Plan (County of Santa Barbara 2022) is to identify the County's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and human-made hazards. An important Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan component is the Community Emergency Response Team (CERT), which educates community members about disaster preparedness and trains them in basic response skills, including fire safety.

1.2.3.2 Santa Barbara County Emergency Management Plan

The 2013 Santa Barbara County Emergency Management Plan (EMP) describes a comprehensive emergency management system that provides for a planned response to disaster situations associated with natural disasters, technological incidents, terrorism, and nuclear-related incidents. It delineates operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization, and describes the overall responsibilities for protecting life and property and providing for the overall well-being of the population. The plan also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies, and the private sector.

The Santa Barbara County Office of Emergency Management is expected to adopt an Emergency Operations Plan (EOP), which will replace the current County EMP. The Draft Emergency Operations Plan is currently under review by Cal OES and is expected to be approved by the Board of Supervisors in 2025. In anticipation of the update to the existing County EMP, this WEP considers the Project's consistency both the adopted County EMP and the Draft EOP.

1.2.3.3 County of Santa Barbara Fire Code

The County of Santa Barbara Fire Code (Santa Barbara County Code of Ordinances Chapter 15) which adopts the 2022 California Fire Code with some modifications, and applicable sections of the CCR. Provisions of the California Fire Code are described under State Regulations, above.

1.2.3.4 County of Santa Barbara Building Regulations

The County's Building Regulations (Santa Barbara County Code of Ordinances Chapter 10) are intended to regulate the construction of applicable facilities and encompasses (and formally adopts) associated elements of the CBC. Specifically, this includes regulating the "construction, alteration, replacement, repair, maintenance, moving, removal, demolition, occupancy, and use of any privately owned building or structure or any appurtenances connected or attached to such buildings or structures within this jurisdiction, except work located primarily in a public way, public utility towers and poles, mechanical equipment not specifically regulated in the Building Code, and hydraulic flood control structures." The County's Building Regulations also establish acceptable construction materials for development near open space to minimize fire risk through adoption of Chapter 7, "Fire Resistance-Rated Construction," and Chapter 7A, "Materials and Construction Methods for Exterior Wildlife Exposure," of the CBC.

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2 Background

This Solomon Hills Project Wildfire Evacuation Study is informed by and consistent with the guidance provided in the County of Santa Barbara Emergency Management Plan (EMP) including Appendix 7 Evacuation (County of Santa Barbara 2013) and the County's Draft Emergency Operations Plan (EOP) (County of Santa Barbara 2024).

To establish a framework for implementing well-coordinated evacuations, the County, like most California emergency operations agencies, has adopted evacuation procedures in accordance with the State of California's Standardized Emergency Management System (SEMS) and the National Incident Command System (NIMS). Large-scale evacuations are complex, multi-jurisdictional efforts that require coordination between many agencies and organizations. Emergency services and other public safety organizations play key roles in ensuring that an evacuation is effective, efficient, and safe.

Evacuation is a process by which people are moved from a place where there is immediate or anticipated danger, to a safer place, and offered temporary shelter facilities. When the threat passes, evacuees are able to return to their normal activities, or to make suitable alternative arrangements.

Evacuation during a wildfire is not necessarily directed by the fire agency, except in specific areas where fire personnel may enact evacuations on-scene. The Santa Barbara County Sheriff's Department (SBCSD) would be the primary law enforcement agency responsible for coordinating evacuation operations within the County's jurisdiction and may share responsibilities with others under Unified Command for larger events. These agencies work closely within Unified Command under the Incident Command System (ICS), which includes coordination with the County's Emergency Operations Center (EOC).

Every evacuation scenario will include some level of unique challenges, constraints, and fluid conditions that require interpretation, fast decision making, and alternatives. For example, one roadway incident that results in blockage of evacuating vehicles may require short-term or long-term changes to the evacuation process. Additionally, risk is considered high when evacuees have little warning, and fire encroachment is imminent. This hypothetical scenario highlights the importance of continuing to train responding agencies, model various scenarios, educate the public, provide contingency plans, and take a very conservative approach to evacuation decision timelines.

At the time of this WES's preparation, there is no encompassing long-range emergency evacuation plan available for the Santa Barbara region; however, the EMP and EOP provide details regarding the County's emergency response and evacuation protocols. This Wildfire Evacuation Study is consistent with the County emergency management and planning standards and can be integrated into a regional evacuation plan and other pre-plans when and if the area officials and stakeholders (SBCFD, SB OEM, SBCSD, and others) complete one.

This WES is not intended to serve as the Project's evacuation plan; however, it serves to evaluate the Project's consistency with relevant emergency evacuation plans and emergency response plans and determine evacuation times for the existing and post-Project conditions, as well as provide emergency preparedness information and resources to increase occupant preparedness and facilitate efficient evacuation in the event of an emergency. While the County of Santa Barbara supports the development of evacuation plans, at this time projects are not required by code to prepare an evacuation plan for project approval.

As demonstrated during large and localized evacuations occurring throughout Santa Barbara County, an important component to successful evacuation is early assessment of the situation and early notification via managed evacuation declarations. The County utilizes early warning and informational programs to help meet these important factors. Among the methods available to citizens for emergency information are Wireless Emergency Alerts (WEA) to smart phones, Emergency Alert System (EAS) messages to radio and television, social media/internet, neighborhood patrol car, aerial public address notifications, , Nixle, and Ready SBC Alerts. Nixle is an emergency alert tool that delivers alerts through text message or email. To register for Nixle text your zip code to 888777. Additional information can be found at the SBC Know Your Alerts webpage; <https://www.countyofsb.org/2738/Know-Your-Alerts-Stay-Informed>.

Ready SBC Alerts is a free service that allows individuals to sign up for notifications sent from state and local authorities. The features offered by Ready SBC Alerts include text, email, landline, and cellular notifications about potentially hazardous situations and emergencies. Ready SBC Alerts is used by emergency response personnel to notify at risk occupants and businesses with information on the event and/or actions (such as evacuation, shelter-in-place, gas leak, missing person, etc.) they are advised to implement. To receive Ready SBC Alerts, occupants must register with the following website:

Ready SBC Alerts: <https://member.everbridge.net/index/892807736723794#/signup>

The County has been divided into evacuation zone areas by the Santa Barbara County Sheriff. Evacuation warnings and orders will typically encompass the entirety of an evacuation zone, thus it is important for occupants to be familiar with their evacuation zone identification number. The Project is in Zone SBC 113. A map of all evacuation zones in Santa Barabra County can be found at <https://databasin.org/datasets/5b4e38a6a19a4ff3bff934ecbcb0b987/>.

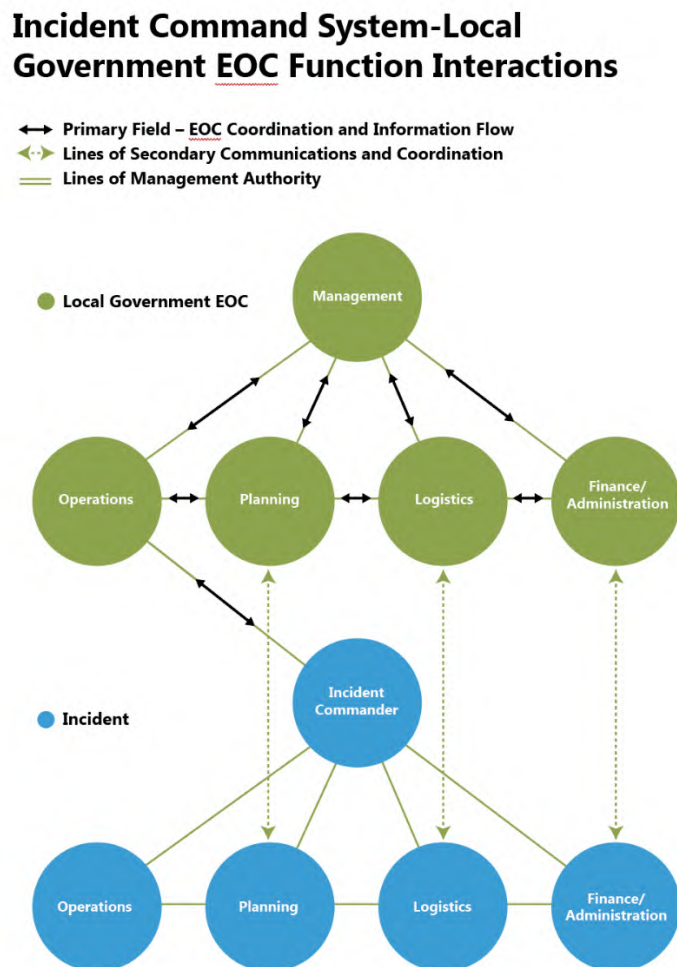
The County participates in the 211 helpline, which is staffed 24 hours a day, 7 days per week and the staff can assist callers in over 150 languages. The 211 helpline is a free, confidential resource anyone can utilize to be connected to health and human services information. The 211 helpline also can refer community members to disaster preparedness resources and real-time information during an emergency.

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3 County Evacuation Planning

This Wildfire Evacuation Study incorporates concepts and protocols practiced throughout Santa Barbara County. The County’s EMP (and Draft EOP) follows basic protocols set forth in the California Master Mutual Aid Agreement, which dictate who is responsible for an evacuation effort and how regional resources will be requested and coordinated. The following overview contains information from the Santa Barbara County Emergency Management Plan (with relevant updates from the County’s Draft EOP). First responders are responsible for determining initial protective actions before EOCs and emergency management personnel have an opportunity to convene and gain situational awareness. If the emergency requires coordination with multiple jurisdictions, initial protective actions are shared/communicated to local EOCs and necessary support agencies as soon as possible to ensure an effective, coordinated evacuation. Figure 3 summarizes the functional interactions of local government EOCs under the Incident Command System.

Figure 3 - Incident Command System Local Government EOC Functional Interactions



During a multi-jurisdictional evacuation effort, the SBCSD will declare and coordinate and be assisted by other law enforcement and support agencies. Law enforcement agencies, highway/road/street departments, and public and private transportation providers will conduct evacuation operations. Procurement, regulation, and allocation of resources will be accomplished by those designated. Evacuation operations will be conducted by the following agencies:

- Santa Barbara County Sheriff's Department
- Santa Barbara Humane Society
- Santa Barbara Equine Assistance and Evacuation Team
- Santa Barbara County Department of Animal Services
- County Department of Planning and Development Services
- County Department of Public Works
- County Department of Environmental Services
- American Red Cross
- Other City, County, and state agencies, as needed

3.1 Evacuation Objectives

The overall objectives of emergency evacuation operations and notifications for the County of Santa Barbara are to:

- Issue evacuation warnings and orders timely and accurately
- Expedite the movement of persons from hazardous areas
- Institute access control measures to prevent unauthorized persons from entering vacated, or partially vacated areas
- Coordinate evacuation to appropriate transportation points, which may include temporary evacuation points (TEP), temporary safe refuge areas (TSRA), and/or shelters
- Coordinate adequate means of transportation for individuals with disabilities and others with access and functional needs, which includes, but is not limited to, older adults, children, and individuals who are transportation disadvantaged
- Coordinate evacuation for pets, large animals and livestock to animal care shelters
- Coordinate the procurement, allocation, and use of necessary transportation and law enforcement resources by means of mutual aid or other agreements
- Coordinate with affected law and enforcement agencies to control evacuation traffic and road closures

- Account for the needs of individuals with household pets and service animals prior to, during, and following a major disaster or emergency
- Provide initial notification, ongoing, and repopulation communications to the public through the Joint Information Center (JIC)
- Coordinate the safe repopulation of the evacuated persons

The lead agency for evacuating the Solomon Hills Project is the Santa Barbara Sheriff's Department. The SBCSD is the lead agency for conducting evacuations of the unincorporated areas of Santa Barbara County and jurisdictions, which contract SBCSD to provide law enforcement services. If necessary, Unified Command will assess and evaluate the need for evacuations with cooperating agencies, and SBCSD or local law enforcement orders and conducts evacuations according to established procedures, which are outlined in the County Draft EOP. Additionally, as part of the Unified Command, the SBCSD or local law enforcement will identify available and appropriate evacuation routes and coordinate evacuation traffic management with the California Department of Transportation (Caltrans), the California Highway Patrol (CHP), other supporting agencies, and jurisdictions.

3.2 Evacuation Coordination Process

The decision to evacuate an area is not made lightly and there is a significant impact to public safety and the economy. The following process describes how emergency evacuation decisions within the OA will be coordinated, allowing emergency managers and other supporting response organizations to make collaborative decisions.

1. The decision to evacuate will depend entirely upon the nature, scope, and severity of the emergency; the number of people affected; and what actions are necessary to protect the public.
2. County will activate their EOC and conduct evacuations according to procedures outlined in their EMP.
3. All evacuations from, through, or into any jurisdiction will be coordinated with that jurisdiction's public safety partners.
4. The OA EOC may make recommendations on whether the jurisdiction should evacuate and may help coordinate the evacuation effort, if requested by the jurisdiction.
5. If the emergency impacts multiple jurisdictions within the OA:
 - a. All impacted jurisdictions may activate their EOCs
 - b. The OA EOC may be activated, including the OA EOC JIC
 - c. The OA EOC will begin obtaining situational awareness, understanding the severity of the incident
 - d. Unified Command, which may consist of fire, law enforcement, public health, and other relevant support agencies, will communicate with the OA EOC as to what protective actions have been implemented. The OA EOC will coordinate with jurisdictional emergency management personnel and other public safety personnel.
 - e. The Director of Emergency Services or designee or the Policy Group if it is established will coordinate with Emergency Managers and other leaders within the OA to identify strategic decisions that will:
 - i. Gain regional situational awareness
 - ii. Determine response status
 - iii. Review status of initial protective actions
 - iv. Consider additional protective actions
 - v. Evaluate public information needs

- vi. Determine next steps
- vii. Establish a schedule for internal and external updates
- f. Evaluate health and welfare of affected occupants The OA EOC JIC will coordinate emergency public information to the public in accordance with procedures established in Annex L Emergency Public Information of the OA EOP
- g. The OA EOC may support the evacuation response according to the OA EOP and:
 - i. Coordinate transportation for those who need assistance through the activation of emergency transportation services agreements.
 - ii. Coordinate support for individuals with disabilities and others with access and functional needs during the evacuation process, which may include, but is not limited to, the provision of assistance with wayfinding, supervision, and language interpretation.
 - iii. Coordinate and communicate with non-governmental organizations including but not limited to the private sector, community-based organizations, and faith-based organizations to utilize services and resources available to support the response.
 - iv. Coordinate the provision of accessible care and shelter services.
- 6. Regional coordination is required for any evacuation impacting multiple jurisdictions.
- 7. Based on the information gathered, jurisdictions will generally make the determination on whether to evacuate communities as the need arises, on a case-by-case basis.

3.3 Evacuation Response Operations

An evacuation of any area requires significant coordination among numerous public, private, and community/non-governmental organizations. Wildfire evacuations will typically allow time for responders to conduct evacuation notification in advance of an immediate threat to life safety; giving occupants time to gather belongings and make arrangements for evacuation. Other threats, including wildfires igniting nearby, may occur with little or no notice and certain evacuation response operations will not be feasible (for example, establishing contra flow requires between 24 to 72 hours to be implemented). Every attempt will be made to assist people with safe evacuation, and risk to first responders is an additional important consideration. People are encouraged to evacuate early and to help their neighbors, friends, and family to evacuate if doing so will not cause danger to themselves or others.

3.3.1 Evacuation Points and Shelters

When the SBCSD implements an evacuation order, they will coordinate with the Incident Commander and local EOC to decide on a location to use as a Temporary Evacuation Point (TEP). American Red Cross representatives located in the County's EOC, OA EOC and/or Incident Command Post, along with the County's EOC Care and Shelter Branch and/or OA EOC Care & Shelter Branch will coordinate the locations to be used as emergency shelters if necessary. The OA EOC staff may assist, as requested, in the coordination of an evacuation in an incorporated city. When the County is managing an evacuation, response alerts will come from, the ReadySBC Alert system, social media, radio, television, integrated public alert and warning systems (IPAWS) including WEA and EAS, etc. to direct evacuees to the established TEP or shelter. Temporary evacuation points will serve as temporary safe zones for evacuees, but they generally do not provide any services, such as food, water, restrooms, etc. Emergency shelters are opened when at least one overnight stay is necessary. Basic services are provided at emergency shelters, which includes meals, accessible shower facilities, dormitory management, health, and behavioral health services. Some temporary evacuation points may be suitable to be converted into an emergency shelter location, if necessary and

available. Possible shelters and assembly areas in the Project vicinity that can provide at least short-term refuge and that would be designated by emergency managers during an evacuation include public schools, shopping malls, casinos and community centers. In the event of an emergency, those in need of assistance can locate Red Cross operated open shelters and disaster relief services at <https://www.redcross.org/get-help/disaster-relief-and-recovery-services/find-an-open-shelter.html>. Anyone who has been displaced due to a disaster or emergency is welcome at a Red Cross shelter, as well as service animals. Pets will try to be accommodated, though depending on the situation, pets may need to be housed in a different location with support from animal welfare groups.

Other refuge sites are available within urbanized areas surrounding the Project site. If there are occupants unable to evacuate or in need of transportation assistance to get to a TEP or shelter, the SBCSD may establish transportation points to collect and transport people without transportation resources to evacuation points. These transportation points would be large, well-known sites such as shopping centers, libraries, and schools. Transportation should be accessible to all populations, including people with disabilities and other access and functional needs.

3.3.2 Shelter-in-Place

Protective actions begin when a threat requires evacuation or shelter-in-place operations to preserve life and prevent bodily harm, either following or concurrent with mobilization phase activities, depending on incident notice. For no-notice events, this is the first phase, and mobilization may happen both outside and within the impact area as part of the response. This phase includes implementing the protective actions of evacuation and shelter-in-place orders, which will vary depending on the size and scope of the incident. This phase may be used in advance of the impact phase for notice events (e.g., severe weather) or after the impact phase for no-notice or low-notice events (e.g., earthquake, terrorist attack) to meet incident objectives and protect life and property. The evacuation and shelter-in-place phase is characterized by the following activities:

- Finalization of designation of risk and host areas involved in the evacuation by affected agencies and local jurisdictions
- Creation of estimations regarding initiation time for the evacuation and notification of all affected agencies and local jurisdictions
- Use of alert and warning systems to disseminate evacuation and shelter-in-place directions to the public
- Continual monitoring of the event for changes that may affect the movement of evacuees and potential impacts on evacuation and sheltering resources
- Continual monitoring of the progress of the evacuation and exchange of information on the level of traffic
- Ongoing public information provided, utilizing all available communication methods to inform the evacuees of any change in evacuation routes, availability of hotel and public shelter space in host jurisdictions, etc.

Sheltering-in-place is the practice of going or remaining indoors during or following an emergency event. This procedure is recommended if there is little time for the public to react to an incident and when it is safer for the public to stay indoors for a short time rather than travel outdoors. Sheltering-in-place also has many advantages because it can be implemented immediately, allowing people to remain in their familiar surroundings and providing individuals with everyday necessities such as telephone, radio, television, food, and clothing. However, the amount

of time people can stay sheltered-in-place is dependent upon availability of food, water, medical care, utilities, and access to accurate and reliable information.

All structures on the Project site will be constructed to meet the CBC WUI standards, by using ignition-resistant materials (e.g., Class A roofs, stucco exterior, interior sprinklers and defensible), which enables sheltering in place as a contingency option when it is considered safer than evacuation. Specifically, the proposed TK-8 School, Community Center and Welcome Home Center will meet all Chapter 7A CBC WUI standards including meeting defensible space requirements and building hardening requirements to serve as possible shelter in place locations, if an early evacuation is not possible for all occupants. All future structures built on the Project site must be built to the then current fire and building codes.

3.4 P.A.C.E. Evacuation Planning

P.A.C.E. evacuation planning is based on a military concept focused on mitigating risk by developing a strong primary evacuation plan along with three contingency plans. If the Primary plan is compromised, the Alternate plan would be triggered. If the Alternate is considered not functional or not safe, the Contingency Plan is implemented. If that plan is not sufficient, then the evacuation reverts to the Emergency plan. While Santa Barbara County does not require this level of contingency planning for the Project, the P.A.C.E. Planning is an effective tool used to accomplish evacuations with flexibility and redundant contingencies. The plan provides the following:

1. Based on and includes a documented, facility-based and community-based risk assessment, utilizing hazard analysis approach.
2. Include strategies for addressing emergency events identified by the risk assessment.
3. Address participant population, including, but not limited to, the type of services the P.A.C.E. organization has the ability to provide in an emergency; and continuity of operations, including delegations of authority.
4. Include a process for cooperation and collaboration with emergency preparedness officials' efforts to maintain an integrated response during a disaster or emergency situation.

Primary: This is the overall preferred plan of action to use based on the most likely and most damaging scenario resulting from hazard analysis.

Alternate: The Alternate plan should, when feasible, be as viable as the Primary plan. Alternate plans are needed because unforeseen circumstances arise during emergency evacuations.

Developing the Alternate plan includes analyzing the most likely problems that could cause the Primary plan to fail and then come up with a plan that fits with the situation that won't be affected by those problems. Whenever possible, come up with a few to several vulnerabilities in the Primary plan and find an alternate that's just as good but covers all those bases.

Contingency: The contingency evacuation plan is the action that will be implemented if you cannot implement either the Primary or the Alternate action due to compromised safety. The contingency isn't always (or isn't usually) as preferred as the others but is a viable option that doesn't rely on the same actions as the Primary and Alternate.

Emergency: This is the action that is implemented if all three of the previous actions fail. In some respects, it is a last resort that is the least preferred option, but is a viable and safe option, nonetheless. The goal is to utilize an

Emergency plan that’s independent from reliance on the types of actions in the first three options, is a flexible plan, has the highest probability of succeeding, and offers a reliable option with little potential for compromise.

An emergency plan may not be the most convenient or preferred plan and may include components that are uncomfortable to visitors, but it should be as foolproof as possible.

Table 1 - P.A.C.E Evacuation Plan for the Solomon Hills Project

Primary: Project will evacuate via the primary evacuation route(s) after receiving evacuation notice utilizing the primary evacuation route(s) as directed by law enforcement/emergency managers. Project specific primary evacuation routes may include proposed internal roadways, US 101, and SR 135.
Alternate: Project will follow evacuation instructions that may include an alternate plan to utilize secondary routes or to relocate to nearby urban areas based on congested traffic conditions. Notifications that this alternate plan is being implemented will be provided via the notification systems or on-site emergency personnel, media and social media.
Contingency: Due to primary and alternate options being compromised or undesirable, the contingency plan of evacuating smaller, highest vulnerability populations will be implemented. For the Project, this includes moving potentially exposed or vulnerable populations in the southern portion of the Project site (nearest to the municipal airport) or to nearby areas that may serve as Safe Refuge Areas during a wildland fire. Remaining populations will be instructed to remain in place in the Project structures. Depending on the nature of the emergency, the contingency option may not be available or safe.
Emergency: When the wildfire or other emergency dictates that off-site evacuation is not advised by the primary or alternate evacuation routes, and conditions are such that open air exposure would be unhealthy or unsafe, occupants of the Solomon Hills Project will be directed to shelter in place. Sheltering in place is possible due to the construction materials and irrigated landscape that creates a fire hardened development, as well as the fuel modification zones (FMZs). Sheltering in place may also be the preferred option for other emergencies, e.g., active shooter, earthquake. Persons sheltering in place are advised to remain aware of the situation and move out of the building to a designated safe zone if directed to do so or otherwise necessitated.

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4 Evacuation Road Network

4.1 Overview

The evacuation routes for the Solomon Hills Project include proposed and existing roadways such as Northern Loop Road, Northern Loop Road Extension, Main Boulevard, Orcutt Road and Village Loop Road. Primary evacuation routes are identified on Figure 4. Additionally, the Project plans to construct access improvements along US-101 and SR-135, which would be utilized during an evacuation. Evacuees are likely to be directed eastward towards the major transportation corridors of the US-101. Though less likely, evacuees may be directed westward to utilize the SR-135, in a wildland fire event.

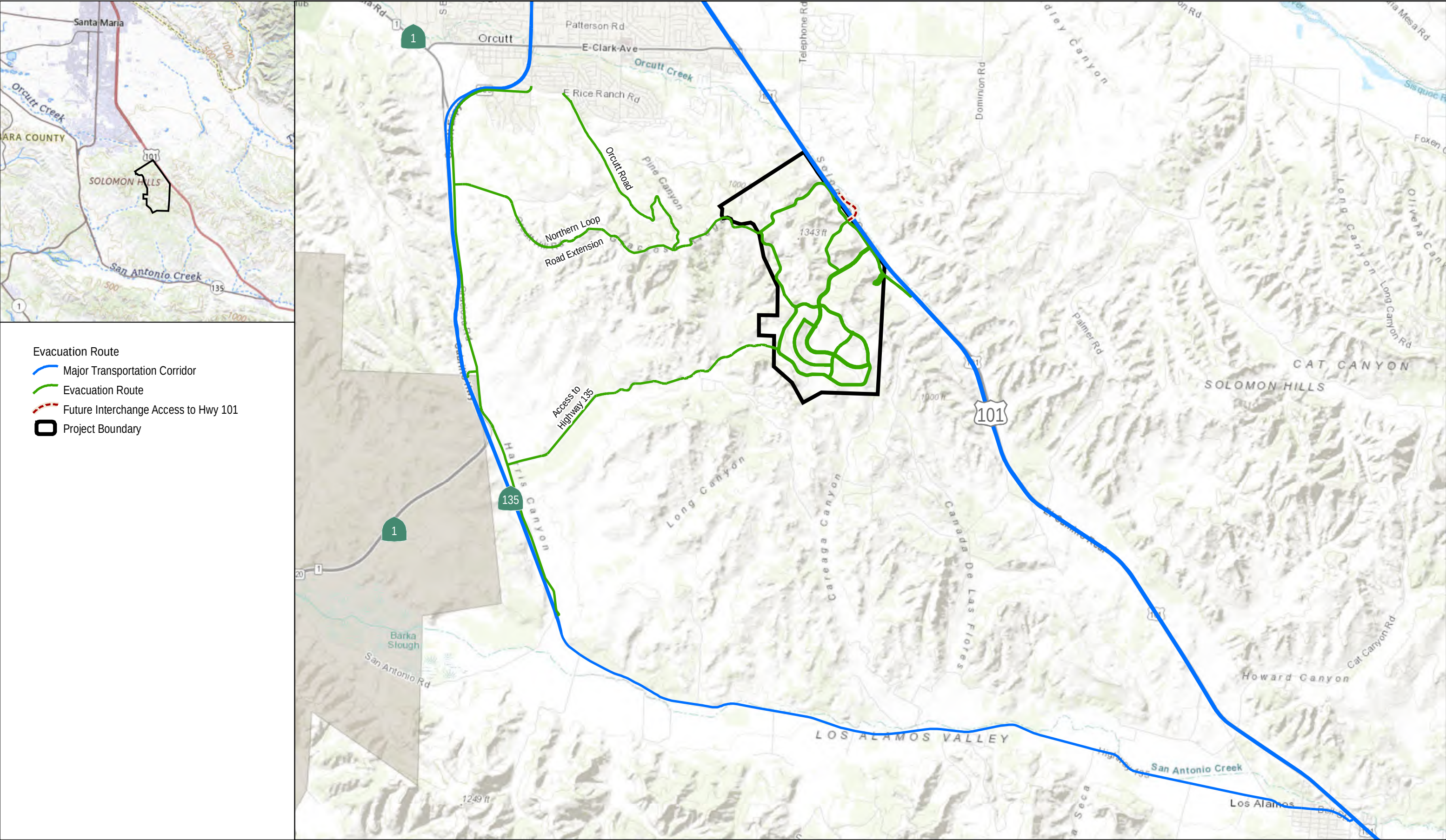
The Project roads and adjacent road circulation system will be able to effectively handle average daily trips generated by the Project. However, as evidenced by historical mass evacuations in Santa Barbara County and throughout Southern California, even with roadways that are designed to code requirements, it may not be possible, or even the best response, to move large numbers of persons at the same time as part of a mass-evacuation. Instead, informed, phased or targeted evacuations enable more streamlined evacuations where those at highest risk are moved first. Road infrastructure throughout the United States, and including Santa Barbara County, is not designed to accommodate a short-notice, mass evacuation without some level of congestion (FEMA 2008). The need for evacuation plans, pre-planning, and tiered or targeted and staggered evacuation strategies of the type described in Section 3 of this WES, become very important for improving evacuation effectiveness.

Evacuating in phases, based on vulnerability, location, or other factors, enables the subsequent traffic surges on major roadway to be smoothed over a longer time frame and can be planned to result in traffic levels that flow better than when mass evacuations include large evacuation areas at the same time.. This WES recognizes that SBCSD and Unified Incident Commanders will appropriately phase evacuations and consider the vulnerability of communities when making decisions based on the best available information at the time of a wildfire event. For example, newer development in the area, including the Project, will offer its occupants a high level of fire safety on-site, along with options for firefighter safety zones and temporary on-site refuge as a contingency, as discussed further in Section 6.3, Civilian and Firefighter Evacuation Contingency, of this WES.

Wildfire Risk

The historical fire record shows that most vegetation fires occur during normal, onshore weather conditions, and that such fires account for only a proportionally small amount of the land area burned. Wildfires that occur on normal, non-extreme weather days behave in a much less aggressive manner and pose fewer dangers to life and property because they include less aggressive fire behavior and are easier to control. Terrain and fuel are typically the wildfire drivers. During these non-extreme weather days, vegetation is much more difficult to ignite and does not spread fire as rapidly. While there can be on-shore wind conditions that lead to more aggressive fire behavior, generally in these normal weather situations, firefighters have a very high success rate of controlling fires and keeping them under 10 acres.

Conversely, a small number of wildfires that occur during extreme fire weather (Red Flag, conditions) account for most of the land area burned. The data highlights that the most dangerous fire conditions are those related to a fire that moves rapidly due to high winds and low humidity, whereas under normal conditions fires are likely to be controlled with no evacuation or possibly limited extent, focused evacuations.



SOURCE: AERIAL- ESRI MAPPING SERVICE 2023; DEVELOPMENT-RRM DESIGN GROUP 2024

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The Project site is located within an area that is subject to wildfires and identified as both HFHSZ and VHFHSZ. The fire intensity would be expected to be low within the post-Project's footprint due to the urbanized development proposed by the Project and the defensible space surrounding the Project site. The reduced fire behavior onsite would be expected to facilitate evacuations as well as potential sheltering-in-place contingencies within structures, if considered safer than a short-notice evacuation.

If a wildfire ignited closer to the Project site during weather that facilitates rapid fire spread, it is possible some evacuation of the site may be ordered or a different evacuation approach would need to be considered. Because it is preferred to evacuate long before a wildfire is near, and history indicates that most human fatalities from wildfires are due to late evacuations when evacuees are overtaken on roads, it is prudent to consider a contingency option. For example, if a wildfire is anticipated to encroach upon the Project area in a timeframe that is shorter than would be required to evacuate all at-risk occupants, then options available to responding fire and law enforcement personnel would include (1) partial relocation where occupants are temporarily relocated to nearby shelter sites or areas, or (2) temporary shelter in place where occupants are instructed to remain in protected on-site structures or at a designated site, while firefighters perform their structure protection function.

The Solomon Hills Project is proposed to be constructed across four (4) phases over fifteen (15) years. In the event of a wildfire igniting off-site and spreading towards the Project, or on the Project site during construction or operation, the major evacuation routes available to Project occupants include Hwy 101 and Hwy 135. During all phases of construction, occupants of the Project site would be able to use the completed Project and existing roadways to evacuate toward US-101 or SR-135. Additionally, the Project will be required to prepare a construction traffic control plan, to ensure roadways are clear for evacuation. Further, as required by the Project's Construction Fire Prevention Plan construction is limited on red flag warning days. Moreover, all building and fire safety standards are required to be implemented during construction of each phase of the Project, specifically fuel modification zones will be established prior to construction of each phase, all structures will be built to ignition resistant construction standards for development in High and Very High FHSZ and primary and secondary emergency access. Offsite access roads to the Specific Plan boundary, including primary and secondary access to US-101, secondary access to SR-135, and the emergency only fire evacuation route, will occur in Phase 1¹. Specific Plan boundary roads are to be implemented in conjunction with or prior to the residential areas they will be servicing. The fire and sheriff's station, and the TK-8 School will be constructed during Phase 3.

4.2 Evacuation Modeling

An evacuation model analysis was performed by Chen Ryan Associates (CRA) and Dudek for the Project to determine how long it would take for occupants of the Project and the surrounding communities to evacuate to nearby urban areas and/or freeways in case of a fire emergency.

Although mass evacuation events have become less common as wildfire evacuation technology and capabilities have improved dramatically in the last 15 years, it can still serve as a conservative scenario under which to analyze evacuation impacts. The following analysis considers scenarios in which the Project and nearby land uses that may utilize the same roadway systems and evacuation routes as the Project would be evacuating simultaneously. The nearby land uses have been given a letter designation (Area A through Area C) to identify them. The surrounding land uses are largely agricultural and some residential. The Project and surrounding areas are depicted in Figure 5.

¹ If the existing interchange is available during Phases 1 and 2, the new primary access to US-101 could be deferred to a later phase. Access to Hwy 101 will be available during all Project phases.

The four scenarios analyzed below would be considered a mass evacuation scenario and serves as the “worst-case” conditions. However, current evacuation practice typically targets the scope of the evacuation only to the area in immediate danger. Specifically, the County of Santa Barbara utilizes Ready SBC Alerts to provide precise evacuation information. Targeting the area in immediate danger allows for better evacuation operations, reduces gridlock, and reserves sufficient travel way for emergency vehicles. Under this approach, first responders or law enforcement personnel will direct traffic at all major intersections during the evacuation process.

The Incident Command System may designate certain responsibilities to different emergency response entities. The following provides a description of responsibilities and procedures maintained in the event of evacuation:

Fire Department Responsibilities

- Establish command of the Incident
- Conduct a situation assessment and evaluate the need for evacuations
- Establish an Incident Command Post (ICP) with sufficient room for representatives from other assisting agencies and announce its location
- Request Agency Representative from Law Enforcement to respond to the ICP.

Law Enforcement Responsibilities

- Assign supervisor of the rank of Sergeant or above to the Incident Command Post and request a Deputy to locate with Operations Section Chief
- Maintain ingress and egress routes for emergency vehicles
- Establish perimeter control, keeping unauthorized vehicles and pedestrians out of the involved area. Conduct evaluations, if required, at the direction of the Incident Commander
- Establish anti-looting security patrols, when safe to do so, for evacuated areas within the perimeter
- Maintain a Unit log

Joint Fire and Law Enforcement Responsibilities

- Evaluate and determine whether Law Enforcement role will be as an Agency Representative or Unified Incident Commander, depending on the scope of the Incident
- Assign a Law Enforcement supervisor to work closely with the Operations Section Chief or Incident Commander, whomever is determining the areas to be evacuated
- Assess and validate the need for an Evacuation Warning, Evacuation Order, and/or Shelter in Place — Determine the location, potential size, and direction of Incident travel or spread
- Unified Commanders determine potential for Incident spread and request the appropriate resources to complete the evacuation and mitigate the Incident concurrently

When the incident commander (IC) deemed certain areas at risk due to fire conditions, an evacuation order was issued. An evacuation order requires the movement of community members out of a defined area due to an immediate threat to life and property from an emergency incident. An evacuation order should be used when there is a potential for or an actual threat to civilian life, within 1 to 2 hours of such determination or when the IC deems it necessary to protect civilians. The purpose of an evacuation warning, in comparison, is to alert community members in a defined area of a potential threat to life and property from an emergency incident. An evacuation warning may be issued when the potential or actual threat to civilian life is more than 2 hours away.

As demonstrated during the Border Fire #32, the Thomas Fire, and other recent fires, evacuation orders were issued only to those persons facing a potential threat. In some cases, such as the Thomas Fire, law enforcement emphasized that the evacuation order was specific to certain areas to prevent a mass evacuation that could congest the roadway network and hinder their ability to prioritize those at the greatest risk.

The Department of Homeland Security (2019) provides supporting data for why jurisdictions have moved to the targeted evacuation approach that leverages the power of situational awareness to support decision making. According to their Planning Considerations: Evacuation and Shelter in Place document, they indicate that delineated zones provide benefits to the agencies and community members. Evacuation and shelter-in-place zones promote phased, zone-based evacuation targeted to the most vulnerable areas, which allows jurisdictions to prioritize evacuation orders to the most vulnerable zones first and limit the need to evacuate large areas not under the threat. Zones help:

- Jurisdictions to understand transportation network throughput and capacity, critical transportation and resource needs, estimated evacuation clearance times, and shelter demand.
- Planners to develop planning factors and assumptions to inform goals and objectives.
- Community members to understand protective actions to take during an emergency.
- Shelters to limit traffic congestion and select locations suitable for the evacuated population.

Santa Barbara County is divided into zones to assist with orderly and effective evacuation. It is important for Project occupants to be aware of their evacuation zone in the event of an evacuation warning or evacuation order. The Solomon Hills Project is in Evacuation Zone SBC 113. A complete map of all evacuation zones in Santa Barbara County can be found at the link below:

<https://sbcblueprint.databasin.org/maps/d105e92d2c904ca184bfe3e66623261b/active/>

Additionally, targeted evacuation order/warning aims to ensure proper traffic flow and reduce stress at evacuation sites, some people may still choose to evacuate even if they are not facing an immediate threat. These individuals are known as shadow evacuees, and they increase the demand on the roadway network. The number of shadow evacuees varies from incident to incident, depending on their proximity to the actual fire.

While the amount of time needed to evacuate the Project would vary by the type of incident, the number of evacuation routes utilized, the amount of mobilization time taken by occupants, actual areas at risk, and other factors, the targeted approach would minimize the size of the area being evacuated and use a phased approach, which would likely reduce evacuation time below the above evacuation time estimates. Accordingly, roadway capacity would remain adequate to undertake safe and effective evacuations with development of the Project and would not expose people or structures to a significant risk of loss, injury or death.

As further described in section 4.2.1, to fully disclose wildfire evacuation impacts, the worst-case evacuation analysis is based on a post-development scenario following a buildout of the Specific Plan, including modeled scenarios with and without access to Hwy 135.

4.2.1 Evacuation Modeling Methodology, Assumptions, and Scenarios

The following provides a summary of the methodology, assumptions and scenarios considered in the evacuation time analysis presented herein.

Worst-Case Evacuation Scenario- Weekday Early Evening Evacuation; Full Project Operation

Fire evacuation orders, like most evacuation events, can be issued at any time, day or night, depending on a wildfire's location and movement, making it unpredictable when an evacuation order might actually occur. Considering the Project is a Specific Plan that encompasses an entire community of residential, commercial and other land uses and appropriately plans for circulation needs based on the proposed land uses, a conservative worst-case analysis assumes the evacuation order would be issued during in the early evening. At this time, all residents would have just returned home, schools might still be running after-school programs, commercial properties would be operational, and the evening commute would still be ongoing. The analysis also assumed that while law enforcement would provide traffic control and prevent traffic from entering the area under evacuation, but due to the distance between the Project's site and nearby developments (Los Alamos, Vandenberg Space Force Base) that there would still be residual traffic on US-101 and SR-135 by the time traffic from the Project starts to evacuate the Project's site. Thus, the analysis assumed conservatively that the evacuation would occur concurrently with the PM peak hour traffic, and that vehicles would compete for right-of-way while evacuating from the area.

Primary Evacuation Routes and Capacity

The evacuation model assumes that traffic evacuating from both the Project and nearby communities/land uses would use the closest evacuation routes to leave the area. Evacuation routes were selected based upon review of the Project site, available evacuation routes, and the quickest way to leave areas located adjacent to the available vegetative fuels. Evacuations during large wildfire events would focus on removing threatened populations from the area to a more urbanized area (i.e., "Safe Zone"), as discussed below. These routes are indicated in Figure 5, Fire Evacuation Area and Routes. The evacuation modeling does not account for mobilization time, that is, the time from when an evacuation order is given until occupants leave their homes or other location. Mobilization time varies from short notice events where evacuation populations are evacuated in a short time frame with virtually no mobilization time to longer notice events where there is time for populations to gather needed belongings before leaving.

No contraflow lanes² were assumed, and access for first responders and law enforcement would be via inbound roadways. Two-way travel was assumed, with evacuating vehicles traveling outbound to the designated Safe Zone. It is assumed that first responders, law enforcement or other coordinating agency personnel will conduct traffic control (e.g., direct traffic at identified intersections and on/off ramps) during the evacuation process. Should evacuation managers determine whether contraflow is preferred or necessary, evacuation capacity would increase while evacuation times would decrease.

² Contraflow or lane reversal involves directing traffic to use lanes coming from the source of a hazard to move people away from the hazard. Such a strategy can be used to eliminate bottlenecks in communities with road geometries that prevent efficient evacuations or to facilitate traffic flow out of a major urban area. Among the considerations in planning emergency contraflow are whether sufficient traffic control officers are available, potential negative impact on responding fire apparatus, access management, merging, exiting, safety concerns, and labor requirements. Contraflow configurations must be carefully planned based on on-site factors and should not be implemented in an *ad-hoc* fashion. Dudek July 2014. "Wildland Fire Evacuation Procedures Analysis" for City of Santa Barbara, California, page 65.

Control of Downstream Intersections

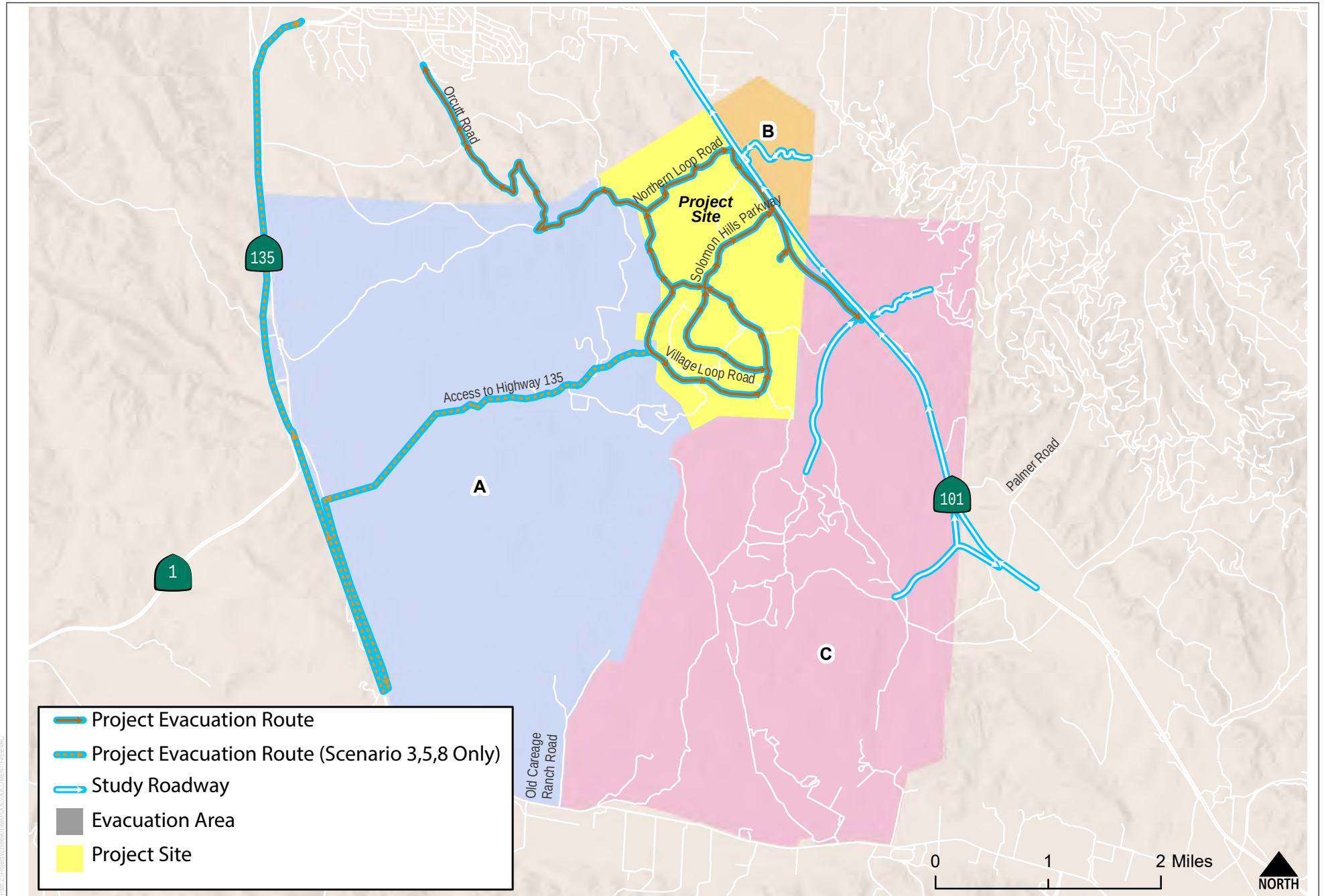
As part of evacuations operations, as demonstrated in Border Fire #32, first responders or law enforcement will direct traffic at all major downstream intersections out of the area during the evacuation process. As possible, intersection traffic signals may be managed at appropriately equipped signals to assist in the movement of traffic from areas of higher potential exposure to areas of lower exposure.

Safe Zone

Based on Dudek's review of the area's fire history, fires have halted along developed areas adjacent to wildland fuels and have not historically progressed into the more densely urbanized, irrigated, and hardscaped areas. Specifically, none of the historical fires encroached beyond the periphery areas within the wildland urban interface area of the town of Orcutt. Thus, it is assumed that evacuees are considered "safe" once their vehicles reach the town of Orcutt.

Wildfire Scenario

The modeled evacuation scenarios presented herein assume a Santa Ana wind condition, with winds in the 97th percentile from the north/northeast/east. Fire is assumed to originate in the native vegetation northeast/east of the project.



SOURCE: Chen Ryan Associates 2025

FIGURE 5

Evacuation Area and Routes

Wildfire Evacuation Study for the Solomon Hills Project

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Evacuation Scenarios

A total of eight evacuation scenarios were analyzed:

- **Scenario 1 – Existing Land Uses**
- **Scenario 2 – Existing Land Uses with Proposed Project with access to SR-135**
- **Scenario 3 – Existing plus Project without access to SR-135**
 - **Scenario 3A – Existing Land Uses with Project Phase 1 and Phase 2 Only**
- **Scenario 4 – Project Only with access to SR-135**
- **Scenario 5 – Project Only without access to SR-135**
- **Scenario 6 – Existing Land Uses with Cumulative Projects**
- **Scenario 7 – Cumulative Plus Project with access to SR-135**
- **Scenario 8 – Cumulative Plus Project without access to SR-135**

Note: The Cumulative Year 2035 conditions for the evacuation analysis were determined based on information from the Solomon Hills Specific Plan Transportation Impact Study (TIS) by Kimley Horn, dated May 2024. According to the Solomon Hills TIS, the peak-hour traffic volumes for Cumulative (2035) Conditions were derived from the most recent version of the Santa Barbara County Association of Governments' (SBCAG) travel demand model (SBCAG TDM). The traffic volumes at the study intersections were calculated by adding the growth projected by the SBCAG TDM between the base year and future year to the Existing (2024) traffic counts. Consequently, under the Cumulative Year 2035 scenario, the evacuation traffic volumes for key evacuation routes, such as SR-101 and SR-135, were adjusted using the same ratio applied in the Solomon Hills TIS. Additionally, the analysis assumed that no new development would occur on the existing agricultural and open space areas (i.e., areas A, B, or C) surrounding the Project site.

Targeted Evacuation

Current evacuation practice typically targets the scope of the evacuation to only the area in immediate danger and placing a larger area on standby for evacuation. This practice allows for better evacuation operations, reduces gridlock, and reserves sufficient travel way for emergency vehicles. The Project evacuation model utilizes a worst-case simultaneous evacuation of all existing uses/occupants within the modeled area. However, the likelihood of each of these populations being evacuated at the same time is low. In an actual evacuation scenario, the SBCSD and Unified Command would prioritize evacuation of land uses located closest to the area with immediate risk, depending on the location of the fire, which may result in reduced evacuation timeframes compared to this modeling. To remain conservative, this analysis considers a mass evacuation event.

Evacuating Vehicles

The projected number of vehicles evacuating from or within the study area is based on a combination of various data sources: Parcel Quest's parcel map data for land use, vehicle ownership averages from the US Census Bureau, aerial imagery from Nearmap, and relevant environmental documents. Breakdown of the calculations for evacuating vehicles is as follows:

Existing Residential: This is obtained by multiplying the total number of households (from Parcel Quest parcel map data) with the average vehicle ownership, which stands at 2.01 vehicles per household as per the US Census Bureau.

Existing Agricultural Land Use: The number of vehicles evacuating from the agricultural land use was estimated based on a manual count conducted using Nearmap aerial images. It was assumed that 10% of the evacuating traffic from agricultural areas would consist of heavy vehicles, a figure determined through the review of these aerial images.

Proposed Project: This is calculated by multiplying the quantities of land use by the following sources:

Residential Land Use: Total number of dwelling units x average vehicle ownership.

Nonresidential Land Uses: Total square footage x parking rate derived from the Institute of Transportation Engineer (ITE) Parking Generation Manual.

Land use quantities for the proposed Project were obtained from the Solomon Hills Specific Plan Transportation Impact Study by Kimley Horn.

For a reasonable analysis, these scenarios assumed that for residential land uses, two percent (2%)³ of the evacuating vehicles are heavy vehicles (trucks with trailers). Two percent is the nationally acceptable ratio of heavy vehicles to all vehicles.

Table 2 displays the number of vehicles evacuating under each scenario. The Project is estimated to generate a population of 12,755 across all land uses, which is estimated to produce 11,540 evacuating vehicles under the proposed evacuation weekday evening evacuation scenario. The existing population associated with the 220 vehicles in Nearby Land Uses A through C, is approximately 373 (120 residential x 3.39 persons per household⁴). Average vehicle ownership, residential units, and evacuating vehicles calculations are provided in Appendix C.

³ https://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_599.pdf (p.5).

⁴ Estimated average of persons per household based on U.S. Census data, available at:
https://data.census.gov/profile/Santa_Barbara_County,_California?g=050XX00US06083#housing

Table 2 - Evacuating Vehicles

Scenario	Evacuating Vehicles				
	Nearby Land Uses			Project	Total
	A	B	C		
Scenario 1 – Existing Land Uses	110	100	10	N/A	220
Scenario 2 and 3 – Existing Land Uses with Proposed Project	110	100	10	11,540	11,760
Scenario 3A - Existing Land Uses with Project Phase 1 and Phase 2 Only	110	100	10	6,285	6,505
Scenario 4 and 5 – Project Only	0	0	0	11,540	11,540
Scenario 6 – Existing Land Uses with Cumulative Projects	120	110	20	0	250
Scenario 7 and 8 – Existing Land Uses with Cumulative Projects with Project	120	110	20	11,540	11,790

Sources: CR Associates 2025, US Census Bureau 2023, Google Maps 2023

4.2.2 Potential for Project Evacuation Impact

Based on the analysis methodology described in the previous section, Table 3 summarizes the evacuation time for each analysis scenario. The evacuation time does not depict the evacuation time for each individual person within an evacuation area, but rather the total amount of time needed to evacuate all populations modeled from an area. Detailed evacuation travel time analysis information is provided in Attachment B of Appendix C.

Table 3 - Evacuation Time Summary

Scenario	# Evacuating Vehicles	Evacuation Time (Hours: Minutes)			Max Evacuation Time (Area A-C)	Project
		A	B	C		
Scenario 1 – Existing Land Uses	220	0:25	0:09	0:17	0:25	N/A
Scenario 2 – Existing Land Uses with Project with access to SR-135	11,760	0:30	0:09	0:20	0:30	3:43
Project effect on evacuation time (Scenario 2 vs. Scenario 1)	N/A	0:05	0:00	0:02	0:05	N/A
Scenario 3 - Existing Land Uses with Project without access to SR-135	11,760	0:25	0:09	0:20	0:25	5:03
Project effect on evacuation time (Scenario 3 vs. Scenario 1)	N/A	0:00	0:00	0:02	0:00	N/A
Scenario 3A – Existing Land Uses with Project Phase 1 and Phase 2 Only	6,505	0:25	0:09	0:19	0:25	2:23

Scenario	# Evacuating Vehicles	Evacuation Time (Hours: Minutes)			Max Evacuation Time (Area A-C)	Project
		A	B	C		
Project effect on evacuation time (Scenario 3A vs. Scenario 1)	N/A	0:20	0:00	0:17	0:20	N/A
Scenario 4 – Project Only with access to SR-135	11,540	N/A	N/A	N/A	N/A	3:10
Scenario 5 – Project Only with access to SR-135	11,540	N/A	N/A	N/A	N/A	4:46
Scenario 6 – Existing Land Uses with Cumulative Projects	250	0:25	0:09	0:19	0:25	N/A
Scenario 7 – Cumulative plus Project with access to SR-135	11,790	0:30	0:09	0:22	0:29	3:44
Project effect on evacuation time (Scenario 7 vs. Scenario 6)	N/A	0:05	0:00	0:02	0:04	N/A
Scenario 8 – Cumulative plus Project without access to SR-135	11,790	0:25	0:09	0:22	0:25	5:03
Project effect on evacuation time (Scenario 8 vs. Scenario 6)	N/A	0:00	0:00	0:02	0:00	N/A

Source: CR Associates 2024

¹ Evacuation times shown here are representative of the time necessary for evacuation after the 45-minute delay from the prioritization of Area A and Area B.

As shown in Table 3, the following is a summary of the evacuation time for each scenario:

- **Scenario 1:** It would take between 9 minutes and 25 minutes to evacuate the existing land uses.
- **Scenario 2:** It would take between 9 minutes and 30 minutes to evacuate the existing land uses and the proposed Project with access to SR-135. Under this scenario, the Project would cause the following increases:
 - Area A – 5 minutes
 - Area B – 0 minutes
 - Area C – 2 minutes
 - It would take 3 hours and 43 minutes to evacuate the Project site.
- **Scenario 3:** It would take between 9 minutes and 25 minutes to evacuate the existing land uses and the Proposed Project without access to SR-135. Under this scenario, the Project would cause the following increases:
 - Area A – 0 minutes
 - Area B – 0 minutes
 - Area C – 2 minutes
 - It would take 5 hours and 3 minutes to evacuate the Project site.
- **Scenario 3A:** It would take between 9 minutes and 25 minutes to evacuate the existing land uses and 2 hours and 33 minutes total to evacuate the in the existing land uses with Project Phase 1 and Phase 2 only.

- **Scenario 4:** It would take approximately 3 hours and 10 minutes to evacuate the Project only with access to SR-135
- **Scenario 5:** It would take approximately 4 hours and 46 minutes to evacuate the Project only without access to SR-135.
- **Scenario 6:** It would take between 9 minutes and 25 minutes to evacuate the existing land uses with Cumulative Projects.
- **Scenario 7:** It would take between 9 minutes and 30 minutes to evacuate the existing land uses under a cumulative plus Project with access to SR-135. Under this scenario, the Project would cause the following increases:
 - Area A – 5 minutes
 - Area B – 0 minutes
 - Area C – 2 minutes
 - It would take 3 hours and 44 minutes to evacuate the Project site.
- **Scenario 8:** It would take between 9 minutes and 25 minutes to evacuate the existing land uses under cumulative plus project without access to SR-135 conditions. Under this scenario, the Project would cause the following increases:
 - Area A – 0 minutes
 - Area B – 0 minutes
 - Area C – 2 minutes
 - It would take 5 hours and 3 minutes to evacuate the Project site.

The modeling described above, and displayed in Table 3, Evacuation Time Summary, evaluates the proposed Project under various conditions. The proposed Project only with access to SR-135 shows approximately a 3 hour and 10-minute evacuation (Scenario 4), whereas the proposed project only without access to SR-135 results in approximately a 4 hour and 46-minute evacuation (Scenario 5). The difference between Scenario 4 and Scenario 5 result in an increase of 96 minutes without utilizing SR-135 as an evacuation route. The longest evacuation time modeled is approximately 5 hours and 3 minutes, in the Existing plus Project without access to SR-135 (Scenario 3) and Cumulative + Project without access to SR-135 (Scenario 8) scenarios.

Scenario 3A assumes the development of Phase 1 and Phase 2 land uses without implementing improvements to Bicknell Road, Graciosa Road, or the additional infrastructure outlined in the “Solomon Hills Transportation Feasibility for SR 135 Connection” memorandum prepared by the Wallace Group (January 2025). Furthermore, none of the evaluated scenarios include construction of the new highway interchange identified in the Primary Access Improvements. Instead, it is assumed that traffic would rely on the existing Palmer Road access in combination with Orcutt Road. Fire protection measures as described in this WES and in the Project FPP (Dudek, 2025) will be implemented at each phase of buildout.

Safely undertaking large-scale evacuations is a complicated process that involves many factors that cannot necessarily be determined in advance. A large-scale evacuation may take several hours or more and require moving people long distances to designated areas. Further, evacuations are fluid and timeframes may vary widely depending on numerous factors, including, among other things, the number of vehicles evacuating, the road capacity to accommodate those vehicles, occupants’ awareness and preparedness, evacuation messaging and direction, and on-site law enforcement control.

Evacuating in phases, based on vulnerability, location, or other factors, enables the subsequent traffic surges on major roadway to be leveled over a longer time frame and can be planned to result in traffic levels that flow better than when mass evacuations include large evacuation areas at the same time. This WES recognizes that the UC will appropriately phase evacuations and consider the vulnerability of communities when making decisions based

on the best available information at the time of a wildfire event. As this Project will be built to ignition resistant standards and have sufficient defensible space surrounding the Project site, it will offer occupants a high level of fire safety onsite and allow for sheltering in place until the most at risk populations have been evacuated. Technological advancements and improved evacuation strategies learned from prior wildfire evacuation events have resulted in a system, reflected in the EOPs and the experience of the people tasked with coordinating events, which is many times more capable of managing evacuations. With the technology in use today in the County, evacuations are more strategic and surgical than in the past, evacuating smaller areas at highest risk and phasing evacuation traffic so that it flows more evenly and minimizes the surges that may slow an evacuation. Mass evacuation scenarios where large populations are all directed to leave simultaneously, resulting in traffic delays, are thereby avoided, and those populations most at risk safely evacuate.

Overall, safe evacuation of the Project and surrounding community is possible in all modeled scenarios and would not expose people or structures to a significant risk of loss, injury or death. Standard practice across California is to issue evacuation orders if the threat is within 2 hours of approaching an evacuation zone boundary, though the fire department may determine sheltering in place is safer than attempting to evacuate if conditions change or worsen.

The amount of time needed to evacuate the Project would vary by the type of incident, the number of evacuation routes utilized, the amount of mobilization time, actual areas at risk, and other factors. It has also been established herein that the targeted approach would minimize the size of the area being evacuated and use a phased approach, which may further reduce the evacuation time estimates.

There is no evacuation timeframe threshold that projects must meet in order to avoid an impact under the California Environmental Quality Act or to be consistent with codes, regulations or policies. Regardless, the Project has provided a comprehensive evacuation evaluation, and the evacuation time results are comparable to similar sized populations under a mass evacuation.

Further, any additional time does not necessarily generate a greater safety risk. Emergency personnel who issue evacuation orders can consider the additional time needed to implement an evacuation when determining when and where to issue evacuation orders. Risk to nearby development, including the project or existing communities, is assessed on a regular basis in a wildfire event. Hours or days of lead time may be available to assess risk and make evacuation determinations. Further, peak occupancy conditions like those assumed in the modeling typically do not occur as all residents are not typically at home while maximum occupancy at industrial, commercial and office uses is also occurring. Similarly, drifting smoke, awareness of the risk, road closures, or other factors result in people avoiding the area in a fire event. Additionally, the Project is designed to allow people to shelter-in-place or take temporary refuge within the project site, which could reduce evacuating traffic from the site.

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5 Wildfire/Evacuation Awareness

Although not required by regulation or code, the Solomon Hills Project can be proactive in its outreach to its occupants regarding fire safety and general evacuation procedures. Educating populations in HFHSZ or VHFHSZs and WUI areas on wildfire safety and evacuation can reduce and/or avoid problems with an effective evacuation, such as understanding how to receive emergency notifications and the different types of notifications keeps occupants informed, what to include in your emergency kit for your home or vehicle keeps occupants ready to evacuate when notified, encouraging evacuees to carpool helps reduce the number of vehicles on evacuation roadways. The Solomon Hills Project should coordinate with local fire agencies to engage occupants in fire safety and evacuation awareness through a variety of methods as described further below.

The focus of the “Ready, Set, Go!” program is on public awareness and preparedness, especially for those living and working in the wildland-urban interface (WUI) areas. The program is designed to incorporate the local fire protection agency as part of the training and education process in order to ensure that evacuation preparedness information is disseminated to those subject to the potential impact from a wildfire. There are three components to the program:

- **“READY” – Preparing for the Fire Threat:** Take personal responsibility and prepare long before the threat of a wildfire so you are ready when a wildfire occurs. Confirm you are registered for Reverse 911, Alert Santa Barbara, and Community alert system. Make sure all occupants have an individual Action Plan.
- **“SET” – Situational Awareness When a Fire Starts:** If a wildfire occurs and there is potential for it to threaten the Solomon Hills Project and surrounding communities, pack your vehicle with your emergency items. Stay aware of the latest news from local media and your local fire department for updated information on the fire. If you are uncomfortable, leave the area.
- **“GO!” – Leave Early!** Following your Action Plan provides you with knowledge of the situation and how you will approach evacuation. Leaving early, well before a wildfire is threatening the area, provides you with the least delay and results in a situation where, if a majority of neighbors also leave early, firefighters are now able to better maneuver, protect and defend structures, evacuate other occupants who couldn’t leave early, and focus on citizen safety.

“READY SET GO!” is predicated on the fact that being unprepared and attempting to flee an impending fire late (such as when the fire is physically close to your community) is dangerous and exacerbates an already confusing situation. This Solomon Hills Project Wildfire Evacuation Study provides key information that can be integrated into the individual Action Plans, including the best available routes to use in the event of an emergency evacuation. More information on the Ready for Wildfire, Ready, Set, Go! Program can be accessed at: <https://readyforwildfire.org/prepare-for-wildfire/go-evacuation-guide/>.

Situational awareness requires a reliable information source. There are several notification systems that can provide and disseminate information to occupants of the Project. These systems include IPAWS (WEA and EAS), Nixle, and, Ready SBC Alerts. More information on how to register for these programs can be found in the Quick Reference Guide- Register to Receive Emergency Alerts.

The following provides best practices for how the Project can implement a wildfire and evacuation awareness program.

The respective Homeowners Association (HOA)/Property Management Company would identify a Fire Safety Coordinator that is responsible for:

1. Overseeing implementation of this WES and overall fire coordination with SBCFD and SBCSD.
2. Implementing a proactive facility wildfire education program utilizing a multi-pronged approach to fire safety following the “**Ready, Set, Go!**” approach to wildfire evacuation, to include, but not limited to:
 - i. Annual wildfire and evacuation safety awareness meeting in coordination with local fire agencies.
 - ii. Annual reminder notices will be provided to each employee encouraging them to review this WES and be familiar with evacuation protocols.
 - iii. The HOA/Property Management website will host a webpage dedicated to wildfire and evacuation education and awareness, which should include a copy of this Wildfire Evacuation Study and the resources provided herein.

For non-residential uses, the Fire Safety Coordinator should also:

3. coordinate an annual fire evacuation drill/ fire exercise to ensure proper safety measures have been implemented, facility awareness and preparation of a facility-wide **Ready, Set, Go!** plan.
4. Organizing an employee training and awareness through various practices:
 - i. New hire fire awareness and evacuation training
 - ii. Ongoing staff training
 - iii. Facility sweeps by trained staff
 - iv. Strategically place fire safety and evacuation/sheltering protocol information

While the recommendations above for how to incorporate wildfire and evacuation education and awareness would support an informed populace and would further improve safety and reduce and/or avoid problems during an evacuation, the evacuation modeling herein is not predicated on an informed populace. Therefore, as previously concluded, the Project would not expose people or structures to a significant risk of loss, injury or death or conflict with an adopted emergency evacuation plan or emergency response plan.

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6 Project Evacuation Procedures

The following provides a discussion of the types of evacuations that Project occupants could experience (e.g., pre-planned, late-notice, etc.), and Project specific evacuation contingencies, and Project specific procedures for social aspects of evacuation. For purposes of this Wildfire Evacuation Study, the first and most logical choice for all the occupants within the boundaries of Solomon Hills Project is to adhere to the principles and practices of the “Ready, Set, Go!” Program previously mentioned in this document. Under this program, individuals are urged to evacuate as soon as they are notified to do so or earlier if they feel uncomfortable. Directions on evacuation routes will be provided in most cases, but when not provided, employees of the Project will proceed according to known available routes away from the encroaching fire as detailed in Appendix D, Quick Reference Guide. Occupants are cautioned not to rely on navigation aid apps, which may inadvertently lead them toward an oncoming fire.

Note: This Wildfire Evacuation Study will require adjustment and continued coordination by the Owner(s) and/or Property Manager and fire/law enforcement agencies during each of the construction phases. With each phase, the evacuation routes may be subject to changes with the addition of both primary and secondary evacuation routes.

6.1 Relocation/Evacuation

It is estimated that the maximum amount of time needed to move the Solomon Hills Project population to urbanized and/or designated evacuation areas may require up to approximately 5 hours and 3 minutes under varying constraints that may occur during an evacuation, including not having access to SR-135. This does not include additional allowances for the time needed to detect and report a fire, for fire response and on-site intelligence, for phone, patrols, and aerial based notifications, and for notifying special needs citizens.

Wolshon and Marchive (2007) simulated traffic flow conditions in a computer derived WUI under a range of evacuation notice lead times and housing densities. To safely evacuate more people, they recommended that emergency managers (1) provide more lead time to evacuees and (2) control traffic levels during evacuations so that fewer vehicles are trying to exit at the same time.

Wildfire emergency response procedures will vary depending on the type of wildfire and the available time in which decision makers (UC, SBCSD, SBCFD, and/or County Office of Emergency Management) can assess the situation and determine the best course of action. Based on the Solomon Hills Project and surrounding communities, its road network, and the related fire environment, the first and primary type of evacuation envisioned is an orderly, pre-planned evacuation process where people are evacuated to more urban areas further from an encroaching wildfire (likely to urban areas north, south and west) well before fire threatens. This type of evacuation must include a conservative approach to evacuating (i.e., when ignitions occur and weather is such that fires may spread rapidly, evacuations should be triggered on a conservative threshold that includes time allowances for unforeseen, but possible, events that would slow the evacuation process).

The second type of evacuation is considered by many to offer the highest level of life protection to the public, but it can result in evacuees being placed in harm’s way if the time available for evacuation is insufficient (Cova et al. 2011). An example of this type of evacuation, which is highly undesirable from a public safety perspective, is an evacuation that occurs when fire ignites close to vulnerable communities. This type of situation is inherently dangerous because there is generally a higher threat to persons who are in a vehicle on a road when fire is burning in the immediate area than in a well-defended, ignition-resistant home. Conditions may become so poor that the

vehicle drives off the road or crashes into another vehicle, and flames and heat overcome the occupants. A vehicle offers little shelter from a wildfire if the vehicle is situated near burning vegetation or catches fire itself. This type of evacuation must be considered a very undesirable situation by law and fire officials in all but the rarest situations where late evacuation may be safer than seeking temporary refuge in a structure (such as when there are no nearby structures, the structure[s] is/are already on fire, or when there is no other form of refuge). Temporary refuge would be possible within the Project's structures, but structures within surrounding communities, as previously discussed, are less desirable due to their higher vulnerability to ignition.

The third potential type of evacuation is a hybrid of the first two. In cases where evacuation is in process and changing conditions result in a situation that is considered unsafe to continue evacuation, it may be advisable to direct evacuees to pre-planned temporary refuge locations, including their own home if it is ignition-resistant and defensible. As with the second type of evacuation discussed above, this situation is considered highly undesirable, but the evacuation pre-planning must consider these potential scenarios and prepare decision makers at the UC level and at the field level for enacting a contingency to evacuation when conditions dictate.

Indications from past fires and related evacuations, in Santa Barbara County and throughout Southern California, which have experienced increasingly more frequent and larger fires, are that evacuations are largely successful, even with a generally unprepared populace. It then stands to reason that an informed and prepared populace would minimize the potential evacuation issues and related risk to levels considered acceptable from a community perspective.

Evacuation orders or notifications are often triggered based on established and pre-determined model buffers, which are based on topography, fuel, moisture content of the fuels and wind direction. Evacuations are initiated when a wildfire reaches or crosses one of these pre-determined buffers. Evacuations can also be very fluid. The UC, law enforcement, and OEM would jointly enact evacuations based on fire behavior.

6.3 Civilian and Firefighter Evacuation Contingency

As of this document's preparation, no community in California has been directed to shelter-in-place during a wildland fire. Even the communities in Rancho Santa Fe, California, which are designed and touted as shelter-in-place communities, were evacuated during the 2007 Witch Creek Fire. This is not to say that people have not successfully sheltered-in-place during wildfire, where there are numerous examples of people sheltering in their homes, in hardened structures, in community buildings, in swimming pools, and in cleared or ignition-resistant landscape open air areas. The preference will always be early evacuation following the "Ready, Set, Go!" model, but there exists the potential for unforeseen civilian evacuation issues, and having a contingency plan will provide direction in these situations that may result in saved lives.

Potential problems during wildfire evacuation from the Solomon Hills Project area include:

- Inadequate time to safely evacuate
- Fire evacuations during rush hour traffic or when large events are occurring
- Blocked traffic due to accidents or fallen tree(s) or power pole(s)
- The need to move individuals who are unable to evacuate

As part of the Project's approval process, detailed plans are required to be submitted through County Planning Department and are routed to the County's Engineering Division, SBCFD, and SBCSD to support pre-planning. These pre-planning efforts focus on evacuation contingency planning for civilian populations when it is considered safer to temporarily seek a safer refuge than evacuation.

As discussed throughout, the Project's structures would allow for the possibility of temporary sheltering and may be appropriate for temporary refuge(e.g., the proposed TK-8 School, Community Center, and Welcome Home Center).

6.3.1 Safety Zones

The International Fire Service Training Association (IFTSA; Fundamentals of Wildland Fire Fighting, 3rd Edition) defines "safety zones" as areas mostly devoid of fuel, which are large enough to assure that flames and/or dangerous levels of radiant heat will not reach the personnel occupying them. Areas of bare ground, burned over areas, paved areas, and bodies of water can all be used as safety zones. The size of the area needed for a safety zone is determined by fuel types, its location on slopes and its relation to topographic features (chutes and saddles) as well as observed fire behavior. Safety zones should never be located in topographic saddles, chutes or gullies. High winds, steep slopes or heavy fuel loads may increase the area needed for a safety zone.

The National Wildland Fire Coordinating Groups (NWFCG), Glossary of Wildland Fire Terminology provides the following definitions for safety zones:

Safety Zone. An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuel breaks; they are greatly enlarged areas, which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity.

According to NWFCG, safety zone(s):

- Must be survivable without a fire shelter
- Can include moving back into a clean burn
- May take advantage of natural features (rock areas, water, meadows)
- Can include constructed sites (clear-cuts, roads, helistops)
- Are scouted for size and hazards
- Consider the topographic location (larger if upslope)
- Should be larger if downwind
- Should not include heavy fuels
- May need to be adjusted based on site-specific fire behavior

The definition for a safety zone includes provisions for separation distance between the firefighter and the flames of at least four times the maximum continuous flame height. Distance separation is the radius from the center of the safety zone to the nearest fuels. Due to the dynamic nature of wildfire events, it is important to have multiple

contingencies, the urbanized and hardened areas, such as freeways, nearby the Project site (e.g., US – 101, City of Orcutt to the North) offer the best possibility for a safety zone for firefighter use. The Solomon Hills Project will also include the ability for firefighters to seek safety zones within the ignition-resistant landscapes, such as in the middle of hardened roads such as in the proposed freeway interchange or large open spaces with irrigated vegetation such as the Central Park, Hillcrest Park or Joint Use Park Area, but identification of other potential safety zones will require additional focused study by SBCFD and other fire and law enforcement agencies.

6.3.2 Temporary Firefighter Refuge Areas

Firescope California (Firefighting Resources of Southern California Organized for Potential Emergencies) was formed by legislative action to form a partnership between all facets of local, rural, and metropolitan fire departments, CAL FIRE and federal fire agencies. Firescope defines a contingency plan when it is not possible to retreat to a safety zone. This contingency includes establishment of firefighter temporary refuge areas (TRAs), which are defined as:

A preplanned area where firefighters can immediately take refuge for temporary shelter and short-term relief without using a fire shelter in the event that emergency egress to an established safety zone is compromised.

Examples of a TRA may include the lee side of a structure, inside of a structure, large lawn or parking areas, or cab of a fire engine, amongst others. Differences between a TRA and a Safety Zone is that TRAs are closer to the immediate firefighting area, are considered a contingency to being able to get to a safety zone, do not include a requirement for a large area set back four times the flame lengths of adjacent fuels, and cannot be feasibly pre-planned until firefighters arrive on-scene and size up the situation.

Firescope appropriately notes that although safety zones and viable escape routes shall always be identified in the WUI environment, they may not be immediately available should the fire behavior increase unexpectedly. Often a TRA is more accessible in the WUI environment. A TRA will provide temporary shelter and short-term relief from an approaching fire without the use of a fire shelter and allow the responders to develop an alternate plan to safely survive the increase in fire behavior.

The major difference between a TRA and a safety zone is that a TRA requires another planned tactical action (i.e., TRAs cannot be considered the final action, but must include self-defense and a move out of the area when the fire threat subsides). A TRA should be available and identified on site at a defended structure. TRAs are NOT a substitute for a safety zone. TRA pre-planning is difficult, at best because they are very site- and fire behavior-specific. For the Solomon Hills Project site, TRAs would likely include navigating into the densely developed areas where firefighters would be separated from the unmaintained wildland fuels by wide areas including site-wide maintained landscapes, ignition-resistant residences, and wide roads that offer numerous opportunities for TRA.

The majority of Project site would be developed and paved surfaces, such as the parking areas, are considered TRAs. This is an important concept because it offers last-resort, temporary refuge of firefighters, and in a worst-case condition, occupants. This approach would be consistent with Firescope California (2013), which indicates that firefighters must determine if a safe evacuation is appropriate and if not, to identify safe refuge for those who cannot be evacuated, including civilians.

Each of the Project's structures that can be considered for TRA include the following features:

- Ignition-resistant construction materials
- Wide roadways with fire hydrants
- Annual landscape inspections by 3rd party inspectors
- Maintained landscapes and roadside fuel modification
- Ember-resistant vents
 - Interior fire sprinklers

Because there is the possibility that evacuation of the Project and surrounding communities may be less safe than temporarily refuging on site, such as during a fast-moving, wind-driven fire that ignites nearby, including temporary refuge within onsite structures that have been properly designed, constructed, and maintain with fire safety features (e.g., ignition resistant construction, fuel modification) is considered a contingency plan for the Solomon Hills Project. Structures that could be used as TRA's in the Project site include the TK-8 School, the Community Center and the Welcome Home Center. This concept is considered a component of the "Ready, Set, Go!" model as it provides a broader level of "readiness" should the ability to execute an early evacuation be negated by fire, road congestion, or other unforeseen issues.

Note: This approach would be considered a last-resort contingency during wildfire with the primary focus being on early evacuation. The decision for evacuation or temporarily refuging onsite will be made by responding law enforcement and/or fire personnel.

6.4 Social Aspects of Wildfire Evacuation

Orderly movement of people is the result of planning, training, education, and awareness, all of which are promoted in Santa Barbara. Evacuation has been the standard term used for emergency movement of people and implies imminent or threatening danger. The term in this Wildfire Evacuation Study, and under the "Ready, Set, Go!" concept, indicates that there is a perceived threat to persons and movement out of the area is necessary, but will occur according to a pre-planned and practiced protocol, reducing the potential for panic.

Citizen reactions may vary during an evacuation event, although several studies indicate that orderly movement during wildfire and other emergencies is not typically unmanageable. Evacuation can be made even less problematic through diligent public education and emergency personnel training and familiarity. Social science research literature indicates that reactions to warnings follow certain behavior patterns that are defined by people's perceptions (Aguirre 1994; Drabek 1991; Fitzpatrick and Mileti 1994; Gordon 2006; Collins 2004) and are not unpredictable. In summary, warnings received from credible sources by people who are aware (or have been made aware) of the potential risk, have the effect of an orderly decision process that typically results in successful evacuation. This success is heightened when evacuations are not foreign to occupants (Quarantelli and Dynes 1977; Lindell and Perry 2004) as will occur within the Project area. Further, in all but the rarest circumstances, evacuees will be receiving information from credible sources during an evacuation. It is anticipated that law enforcement and/or fire personnel would be on site to help direct traffic and would be viewed as knowledgeable and credible.

While mandatorily ordering people to evacuate their home is not legal under the 4th Amendment of the United States Constitution, law enforcement and public safety personnel will issue an evacuation order for areas at risk. Once an

area has been ordered to evacuate unauthorized personnel will not be permitted to return to the area. Further, any unauthorized personnel in an evacuation area can be cited and charged with a misdemeanor.

6.4.1 Evacuation of Access and Functional Needs Populations

Access and functional needs (AFN) populations refer to individuals with physical, intellectual, or developmental disabilities, chronic conditions, injuries, limited English proficiency or who are non-English speaking; older adults; children; people living in institutionalized settings, or those who are low-income, homeless, pregnant or transportation disadvantaged, including, but not limited to, those who are dependent on public transportation or are pregnant (CalOES 2023).

The Santa Brabara County EOP described functional need populations as community members who may have additional needs before, during, and after an incident in functional areas. This includes, but is not limited to, maintaining independence, communication, transportation, supervision, and medical care. Individuals in need of additional response assistance may consist of those who have disabilities, those in institutionalized settings, older adults, children, those from diverse cultures, those with limited to no English proficiency, or those who are transportation disadvantaged. (SBC EOP 2024)

AFN populations and temporary visitors may not have knowledge of the area's fire hazard, they may not know how to react in a fire emergency, and they may not understand what they are being told to do. To ensure all members of the community understand the emergency alerts and resources available, UC should use accessible messaging and communication methods. Individuals with AFN may not be able to evacuate themselves in their own vehicles or may be carless. To prepare for emergency transportation to evacuate special populations, the Project should identify their transportation resources that will be available to special populations, and if deemed insignificant, should enter a joint agreement with transportation providers and paratransit agencies in surrounding areas.

As stated in the County of Santa Barbara Draft EOP, the Ventura and Santa Barbara County Transportation Emergency Preparedness Plan has developed emergency transportation coordination and response operations to assist those with AFN. Additionally, several public and private paratransit options exist that support emergency evacuations. The HOA should develop a plan to assist with paratransit evacuation with Santa Barbara Operational Area Paratransit Operators.

Individuals with access and functional needs should create a personal emergency plan for themselves and, if necessary, their service animals.

Project Approach: The Fire Safety Coordinator will include information to occupants regarding how to notify the SBCSD and/or County EMD of special needs, so that accommodations for their notification, transportation, or other special requirements can be provided during an emergency evacuation. Occupants will be advised of their options during an emergency by law enforcement or fire officials.

6.4.2 Animal Evacuations

Animal evacuations present a host of challenges that may affect the overall successful movement of people and their possessions out of harm's way. For example, livestock owners do not always have the means to load and trailer their livestock out of the area. Further, most wildfire evacuation relief shelters or commercial lodging facilities

do not allow people to bring in pets or other animals. Sorensen and Vogt (2006) indicate that an issue receiving increasing attention is what evacuees do with pets or other animals such as livestock when they leave their homes and whether having pets or animals impacts their decision to evacuate.

Given that animal evacuations may add complexities to the already difficult event of an evacuation, the California Department of Food and Agriculture (CDFA) created the California Animal Response Emergency Support (CARES) Unit within the Emergency Preparedness and Response Section of the Animal Health Branch in the Animal Health and Food Safety Services Division. To meet animal disaster related responsibilities, CDFA leverages the CARES Unit to coordinate State agency response in support of local government and with the assistance of volunteer organizations. CARES is structured in accordance with the SEMS and NIMS. CARES provides operational guidance to assist with all aspects of animal care in the event of a disaster or emergency with the assistance of agencies and volunteer organizations (CDFA 2024).

The Project does not propose to provide residential uses that would allow for large pets (e.g., horses, livestock, etc.). Pet owners should create an animal evacuation plan and emergency kit before an emergency occurs. Animal owners may be able to contact the Santa Barbara Humane Society to support animal evacuations. Additional resources for animal emergency preparedness can be found at the following website, linked below.

CDFA CARES: https://www.cdfa.ca.gov/AHFSS/Animal_Health/eprs/cares/.

Santa Barbara County Humane Society: <https://sbhumane.org/resources/emergency/>.

Ready SBC Pet & Large Animal Preparedness: <https://www.readysbc.org/2742/Pet-Large-Animal-Preparedness>.

County of SB Animal Services Disaster Preparedness: <https://www.countyofsb.org/3292/Disaster-Preparedness>.

6.4.3 Re-entry Procedures

An important component of evacuations is the citizen re-entry process. Guidance and procedures to ensure a coordinated, safe, and orderly repopulation into impacted communities following an incident is provided in the Santa Barbara County EMP and Recovery Framework Annex of the Santa Barbara County Draft EOP.

Repopulation will be initiated by the Incident Commander/Unified Command of the Incident Management Team, with the support of the Director of Emergency Management, the OA EOC Director, and the Operations Section Chief at the OA EOC. In most cases the OA EOC will remain activated until full repopulation is complete. The County's Recovery Coordination Officer from the Management Section would be responsible for coordinating recovery efforts. In the event that the OA EOC has been deactivated, the Incident Commander or the Liaison Officer of the Incident Management Team will initiate repopulation procedures. The Incident Commander will designate staff to the Evacuation/Repopulation Branch and the Operations Section Chief of the OA EOC will coordinate with and support the Evacuation/Repopulation Branch Coordinator. The Evacuation/Repopulation Coordinator is responsible for coordinating the repopulation procedures with all involved agencies and ensuring effective communication.

The public will be notified of repopulation through various notification measures previously mentioned in this WES, which may include Ready SBC Alerts, emergency broadcast radio, television, press releases, informational phone lines such as 211, community briefings, and informational updates at shelters.

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7 Limitations

Wildfire Evacuation Study (“WES”)

This WES analyzes the existing community’s evacuation times currently, and assuming the construction of the Project as it relates to wildfires; however, the components of the plan may also be useful in similar emergency situations, as noted above. The estimated evacuation times are based on several assumptions detailed in this WES. However, actual evacuation times may be faster or slower than the estimates, depending on the type of emergency, the extent of the evacuation, its gravity, the time of day, and other factors. A collective, community-wide evacuation of existing populations and the proposed population from the Project would include congested roads in its existing condition that are improved, but still congested with the Project. Congested roads are expected when a large evacuation is declared unless it is managed appropriately (e.g., evacuation areas are staggered to reduce the potential traffic surges that can significantly impact evacuations), there would still be the potential for congestion and delays.

This WES promotes the “Ready, Set, Go!” model, adopted by County of Santa Barbara, CAL FIRE, and many fire agencies statewide. The goal is to raise agency and citizen awareness of potential evacuation issues and get a majority of the public “Ready” by taking a proactive stance on preparedness, training drills, and resident education, and evacuation planning efforts.

The Project populace will be “Set” by closely monitoring the situation whenever fire weather occurs and/or when wildfire occurs and elevating pre-planned protocol activities and situational awareness.

Lastly, fire or law enforcement officials will mandate that populations “Go” by executing pre-planned evacuation procedures. The preferred alternative, initially, may well be early evacuation. However, there may be instances when evacuation is not possible, is not considered safe, or is not an option based on changing conditions, or other factors.

The Project also is designed specifically to maintain an enhanced resistance to wildfire ignition and perform as a fire adapted Project, offering fire and law officials with additional options for safety to the populace compared to those options available to less thought-through projects.

As noted, this WES does not and cannot provide any guarantees. Fire is a dynamic and unpredictable occurrence, and it is important for those in a high fire severity zone to educate themselves on practices that will improve safety and that will be able to be implemented at the individual level rapidly and effectively, albeit in combination with protocols and “in-the-field” decision making of emergency responders.

Summary – Vehicle Travel Time Scenarios

This WES presents a reasonable vehicle travel time estimate based on professional judgments made by CRA, taking into consideration input from Dudek and other resources. Changing any number of these assumptions can lengthen or shorten the average vehicle travel time. For instance, a situation could arise in which professionals *may* choose to utilize additional roadways for evacuation not utilized in the Dudek/CRA analysis and *may also* choose to send more vehicle trips to certain evacuation routes and *may also* choose to guide vehicle trips to more or different route permutations relative to what has been modeled in this the Dudek/CRA analysis. The net result of changing the variables selected could yield an average evacuation travel time shorter or longer than the results detailed in the Dudek/CRA analysis.

Many factors can shorten or lengthen the vehicle evacuation time from the results shown herein. For example:

1. Changing the possible evacuation routes selected would affect the results. For instance, utilizing roads for ingress and/or egress that are not utilized in this analysis could shorten vehicle travel times relative to the results shown herein.
2. Increasing or decreasing the number of path permutations and percentage of the population utilizing each route that leads out of the immediate area could shorten or lengthen vehicle travel time relative to the results shown herein.
3. Emergency professionals electing to reserve certain road lanes for emergency vehicle ingress for portions of time could affect the travel time relative to the results shown herein.
4. Assuming evacuees utilize fewer or more vehicles to evacuate from the Project or surrounding communities relative to the Vehicle Utilization Rate selected in the analysis would shorten or lengthen vehicle travel time relative to the results shown herein.
5. Changing the mix of vehicle trips allocated to each evacuation route could shorten or lengthen vehicle travel time relative to the results shown herein.
6. Assuming a different road capacity adjustment factor could shorten or lengthen the vehicle travel time relative to the results shown herein.
7. Assuming fewer people are at home when the evacuation notice is given would reduce the number of vehicle trips and shorten vehicle travel time relative to the results shown herein. For instance, an evacuation during daytime hours would typically result in fewer outbound trips than assumed in this analysis.
8. Assuming some portion of vehicle trips are made in advance of the evacuation notice would reduce the number of vehicle trips relative to the results shown herein.
9. Assuming some homeowners and their families are not in the Study Area when evacuation notice is given (most likely in a daytime evacuation event), could reduce the number for vehicle trips relative to the results shown herein.

The evacuation time analysis is necessarily limited in scope given the numerous variables inherent in a wildfire and evacuation event. However, as discussed above, it is not anticipated that the Project will significantly impact evacuation of the proposed or existing surrounding communities based on evacuation times and other qualitative considerations.

Limitation On Reliance Or Dependence Upon Report

Any person or entity furnished with this report and/or who reviews it agrees that the advance written consent of Dudek be sought and furnished to such person or entity prior to the review, reliance or authorization as to any matters that are the subject of the reports by any person or entity (whether through act or omission as set forth in the report), other than Dudek's direct client. In such case, obtaining Dudek's consent shall not be subject to any fee or charge (other than reasonable copy costs, where applicable).

Dudek expressly disavows, does not assume any responsibility for, nor will be liable for any claims, losses, or damages associated with any matters that are the subject of this or other reports it prepares or contributes to respecting this project, however characterized (including without limitation as sounding in tort, breach of contract, misrepresentation by act or omission, failure to adhere to applicable standards of professionalism, statutory liability, etc.), whether in law or equity, whether known or unknown, and whether actual or contingent, excepting

only Dudek's direct client, as to which the limitation of liability provisions in the contract between Dudek and its client shall govern.

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Appendix A1-A2

Santa Barbara County Emergency Preparedness
Resources, and "Ready, Set, Go!" Wildland Fire Action
Guide

CALIFORNIA WILDFIRE HOME SAFETY CHECKLIST

• HOW COMMON ARE CALIFORNIA WILDFIRES? •

At least 6,284 wildfires occurred in California in 2018, according to the California Department of Forestry and Fire Protection (CAL FIRE). These fires burned approximately 876,147 acres of land.

• WHAT TO DO BEFORE A CALIFORNIA WILDFIRE •



Separate your home from flammable materials

Create at least 30 feet of space between your home and flammable vegetation and materials.



Trim trees and shrubs

Ensure trees and shrubs do not come into contact with electrical wires or hang over your home's chimney.



Clean your home's roof

Remove pine needles, leaves and other debris from your home's roof.



Store combustible materials properly

Store combustible or flammable materials in approved containers.



Pick up battery-operated flashlights and radios

Keep battery-operated flashlights and radios with additional fresh batteries in a safe, easy-to-access location in your home.

• WHAT TO DO DURING A CALIFORNIA WILDFIRE •



Stay up to date

Use a TV or radio to receive wildfire emergency updates.



Set up hoses and water

If possible, fill buckets with water and set up hoses outside your home.



Turn on the house lights

Activate the lights in each room of your home.



Remove flammable drapes or curtains

Take down flammable drapes or curtains in your home.



Get ready to evacuate

Prepare all family members and pets to evacuate your home.

• WHAT TO DO AFTER A CALIFORNIA WILDFIRE •



Contact local fire officials

Check in with local fire officials to find out if it is safe to return home.



Look for hot spots

Check the ground for smoldering stumps and other hot spots and use buckets of water on these spots as needed.



Examine your home's exterior

Look for sparks and embers across your home's roof and exterior areas.



Evaluate your home's interior

Keep an eye out for hidden burning in each room of your home.

9-1-1

Call 911

Contact 911 if you identify any potential dangers.

How much do you know about wildfires?

True or False:

1. An average of 7 million acres of US woodland burn every year.
2. 1 in 5 wildfires are caused by humans.
3. Wildfires move faster downhill.
4. Some species of trees and shrubs require fire to reproduce.
5. The 'fuel' (trees, plants, etc.) you see burning isn't really on fire.
6. There are three broad types of fire spread: Subterranean, Surface and Crown fires.
7. Only YOU can prevent wildfires.



1. True: Across the US, including Alaska, approximately 7 million acres of federal, tribal, state and private land burns annually.
2. False: More than 4 out of 5 wildfires are caused by humans.
3. False: Fire moves faster uphill. The steeper the slope, the faster the fire travels.
4. True: Species such as Ceanothus and many types of closed-cone coniferous trees require heat to germinate.
5. True: The fuel itself is not on fire, but rather, is being converted into a gas. It's the gas produced by the fuel that is actually burning.
6. False: The three types of fire spread are: Ground - organic material in the soil is burning; Surface - leaf litter, fallen branches, etc. on the ground are burning; Crown - the top layer of foliage from trees is burning.
7. True:!

Get Ahead of What's Ahead.

BUILD YOUR DISASTER SUPPLY KIT

READYSBC.org
SIGN-UP • PLAN • UNDERSTAND



Build your kit all at once or step by step. Start with what you already have at home; then shop for the rest, as needed.

Pack these basic supplies for each person or pet in a portable container or backpack. A waterproof container is best. You'll need these supplies whether you stay in your home (shelter in place) or evacuate to another location.

You may have to leave in a hurry to get to a safe place. Keep these supplies near your car. When it's time, grab them and go.



FOOD AND WATER

- ☐ 3-day supply of non-perishable food, such as canned or pouched food
- ☐ 1 gallon of water per day for each person and pet
- ☐ Manual can opener
- ☐ Baby items (baby food, formula, bottles, diapers)
- ☐ Pet supplies (listed on next page)



FIRST AID, MEDICATION, HYGIENE SUPPLIES

- ☐ First-aid kit (listed on next page)
- ☐ Medications
- ☐ Hand sanitizer, wipes
- ☐ Bleach (To purify water, mix 1/8 teaspoon per gallon. Stir and let stand for 30 minutes.)
- ☐ Toilet paper, paper towels, garbage bags
- ☐ Dental care products (toothpaste, toothbrushes)
- ☐ Hearing and vision products (hearing aids and batteries, glasses, contact lenses, contact lens solution, sunglasses)
- ☐ Soap, shampoo, personal hygiene supplies
- ☐ Sunscreen, insect repellent
- ☐ Face masks to filter air



COMMUNICATION, LIGHTING, DOCUMENT BAG ITEMS

- ☐ Battery-powered radio with extra batteries or crank radio (emergency alert radio is best)
- ☐ Extra cell phone battery and car charger
- ☐ Flashlights and extra batteries
- ☐ Matches and lighter - keep in a waterproof container or sealable plastic bag
- ☐ Whistle
- ☐ Document bag items (listed on next page)



ADD THESE ITEMS FOR EVACUATING BY CAR

- ☐ Road maps
- ☐ Car repair items (tools, spare tire, tire patch kit, oil)
- ☐ Food and water
- ☐ Plastic plates, cups and utensils
- ☐ Tent, blankets, pillows
- ☐ Clothes and sturdy shoes
- ☐ Rain gear and towels
- ☐ Books, games, toys

Before you leave home

- ☐ Fill your gas tank, and check your spare tire
- ☐ Take cash, checkbook, and credit cards
- ☐ Call your family emergency contact
- ☐ Charge your mobile phone
- ☐ Get a map of your route

When staying home is your safest choice, add these items to your kit and stay tuned to the news.



ADD THESE ITEMS FOR SHELTERING IN PLACE

- ☐ Water
- ☐ Non-perishable food and manual can opener
- ☐ Pet food
- ☐ Baby food
- ☐ Fire extinguisher
- ☐ Plastic sheeting and duct tape (to seal doors, windows and air vents from contaminated air or to build an emergency shelter)

Santa Barbara County
Office of Emergency Management





DOCUMENT BAG CONTENTS

Imagine how hard it would be after a disaster if you couldn't prove your identity or have access to your bank account. Avoid difficult situations by making copies of important documents and keeping them in a waterproof bag.

- ☐ Current photo IDs, driver licenses, birth records, Social Security cards, passports (always keep your Social Security number separate from other documents to decrease risk of identity theft)
- ☐ Current photos of family members in case you get separated
- ☐ Health insurance and prescription cards
- ☐ Medical records, medications and dosages
- ☐ Phone numbers (family, friends, doctors)
- ☐ Bank account information
- ☐ Wills
- ☐ Insurance documents (homeowner, renter, food, life)
- ☐ Property deeds, leases, mortgages
- ☐ Vehicle titles, insurance, leases, loan documents
- ☐ Inventory of household possessions and their value (take photos of every room, every drawer, every closet)
- ☐ Backup computer files (on a USB drive)
- ☐ Copies of important keys
- ☐ Utility bills (to prove where you live)



PEOPLE WITH DISABILITIES AND THOSE WITH ACCESS AND FUNCTIONAL NEEDS

Think about your day-to-day needs for independence. Plan now for your health away from home. Label medical equipment with your contact information.

- ☐ Wheelchairs, walkers, and canes
- ☐ Cooler with cold packs for medications
- ☐ Extra medications and dosages
- ☐ Copies of prescriptions and medical alert tags
- ☐ Food for special diets
- ☐ Medical supplies (oxygen, glucose monitoring strips, syringes, etc.)
- ☐ Hearing aids with extra batteries
- ☐ Communication devices
- ☐ Supplies and documentation for service animals



FIRST-AID KIT CONTENTS

- ☐ 2 compress dressings (5 x 9 inches)
- ☐ 25 band-aids (different sizes)
- ☐ First-aid tape
- ☐ Antibiotic ointment
- ☐ Hydrocortisone ointment
- ☐ Pain reliever, such as aspirin, ibuprofen or acetaminophen
- ☐ Instant cold pack
- ☐ 2 pair of medical gloves (non-latex)
- ☐ Oral thermometer, scissors, tweezers
- ☐ 2 roller bandages (different widths)
- ☐ 2 elastic bandages
- ☐ 10 sterile gauze pads (different sizes)
- ☐ 2 triangular bandages (for making slings)
- ☐ First-aid instruction booklet



PET SUPPLIES

- ☐ 3-day supply of food, water, and bowls
- ☐ Pet medications and first-aid kit
- ☐ Vaccination records
- ☐ Crate or carrier (may be required in shelters or where you spend the night)
- ☐ Leash and toys
- ☐ Cat litter and box
- ☐ Photo, in case pet gets lost



READY, SET, GO!

Your Personal Wildfire Action Plan



Santa Barbara County Fire Department



Ready, Set, Go!

Wildfire Action Plan: Saving Lives and Property Through Advance Planning

Wildfires are now a year-round reality in Santa Barbara County. This means that both firefighters and residents have to be prepared against the threat from brush fires at all times.

Firefighters train hard and make countless preparations to be ready for a wildfire. Residents need to do the same. Successfully preparing for a wildfire requires you to take personal responsibility for protecting yourself, your family and your property.

The Santa Barbara County Fire Department takes every precaution to help protect you and your property from a wildfire. But the reality is, during a major wildfire, there will simply not be enough fire engines or firefighters to defend every home, especially during the first hours of a major wildfire, so you must become part of the solution.

If your home borders a natural area, what firefighters call the Wildland Urban Interface, you are directly at risk from a wildfire. And, if you live within one mile of a natural area, you live in the Ember Zone. Homes in the Ember Zone are at risk from wind-driven embers from a wildfire. Recent fires have resulted in entire neighborhoods being destroyed by fires started by embers, not the wildfire itself.

This publication will help guide you through the process of making your home resistant to wildfires, and your family ready to leave early and safely. We call this process, “Ready, Set, Go!”

You will learn about the Ember Zone and how to retrofit your home with features that protect it from embers. We’ll show you the importance of having defensible space around your home and the preparations you need to make so you can leave early, evacuating before the fire reaches you.

Fire is, and always has been, a natural part of the beautiful area where we’ve chosen to live. Wildfires, fueled by build-up of dry vegetation and driven by hot, dry winds, are extremely dangerous and almost impossible to control. Many residents have built their homes and landscaped without fully understanding the impact a fire could have on them. This publication will help you prepare your home so you can leave early, confident that you’ve done everything you can reasonably do to protect your home.

It’s not a question of if, but when, the next wildfire will occur. That’s why the most important person protecting your life and property is not a firefighter, but you. With advance planning and preparation, you can dramatically increase your safety and the survivability of your property.

We hope you’ll find the information on the next pages helpful as you prepare your home and family for a wildfire. Remember: Ready, Set, Go!

This publication was prepared by Santa Barbara County Fire. Special thanks to CALFIRE, Orange County Fire Authority, FireSafe Council, Firewise Communities, and the Institute for Business and Home Safety as well as many other organizations for their contributions to the content. Ready, Set, Go! is also supported by:



— Santa Barbara County Fire Department



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Get READY — *Create a Defensible Home*

Living in the Wildland Urban Interface and the Ember Zone

Ready, Set, Go! begins with a house that firefighters can defend.

DEFENSIBLE SPACE WORKS!

If you live next to a natural area, the Wildland Urban Interface, you must provide firefighters with the defensible space they need to protect your home. The buffer zone you create by removing weeds, brush and other vegetation helps to keep the fire away from your home and reduces the risk of flying embers.



THE EMBER ZONE

A home within one mile of a natural area is in the Ember Zone. Wind-driven embers can attack your home. You and your home must be prepared well before a fire occurs. Ember fires can destroy homes or neighborhoods far from the actual flame front of the wildfire.



Defensible Space

A Zone Defense: Defensible Space is the area maintained around homes, roads and driveways to reduce the intensity of an approaching wildfire while protecting structures and people from flames, heat and embers.

Zone Zero: 0'–5' 0

This area starts at your roof and extends 5 feet from walls. Embers are your home's biggest threat!

Remove all combustible materials and protect vents and openings where wind-blown embers can enter.

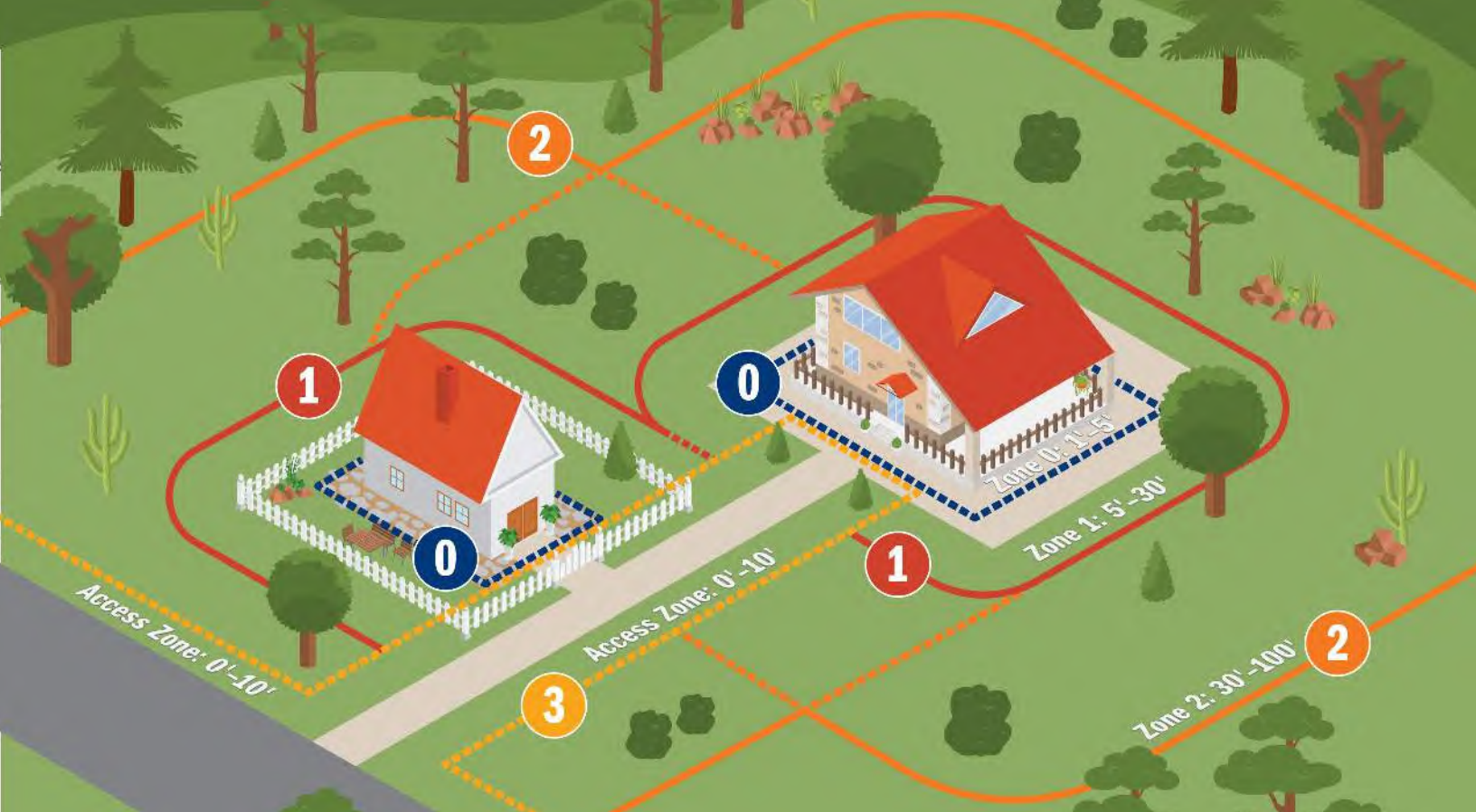
1. Use only inorganic, non-combustible mulches such as stone or gravel.
2. Remove combustible outdoor furniture. Replace with metal or non-combustible varieties.
3. Replace jute or natural fiber doormats with heavy rubber or metal grates.
4. Remove or relocate all combustible materials including garbage and recycling containers, lumber, trash and patio accessories.
5. Clean all fallen leaves and needles.
6. No vegetation is recommended within 5' of any structure.
7. Remove tree limbs that extend into this zone. Fire prone tree varieties should be removed if they extend into this zone.
8. Do not store firewood, lumber or combustibles here, even (especially) under decks or overhangs. Move stored combustibles inside or at least 30' from any structure.
9. Hardscaping is strongly recommended around the base of structures.

Zone 1: 5'–30' 1

Zone 1 extends 30 feet out from buildings, decks and other structures.

Keep this area "Lean, Clean and Green," and be sure to maintain regularly throughout fire season!

1. Remove all dead grasses, weeds, plants and foliage.
2. Remove fire-prone plant varieties.
3. Remove all fallen leaves, needles, twigs, bark, cones and branches.
4. Remove "Gorilla Hair" or shredded bark mulch. Use only compost or heavy bark mulch to maintain soil moisture, or for erosion control.
5. Choose only fire resistant plants, and keep them healthy and well irrigated.
6. Provide spacing between shrubs, and add space on steeper slopes.
7. Remove limbs 6' to 10' from the ground.
8. Remove branches that overhang your roof or within 10' of chimneys.
9. Move firewood and lumber out of Zone 1.
10. Remove combustibles around and under decks and awnings.
11. Clear vegetation around fences, sheds, outdoor furniture and play structures.
12. Outbuildings and LPG tanks should have at least 10' of clearance.



Zone 2: 30'-100' ②

Zone 2 is the space extending 30 to 100 feet from buildings, decks and other structures.

Reduce fuel for fire and separate trees and shrubs in the area. Remove dead vegetation regularly.

1. Cut annual grasses and weeds to a maximum height of 4".
2. Create horizontal spacing between shrubs and trees.
3. Create vertical spacing between grass, shrubs and lower tree limbs.
4. Allow no more than 3" of loose surface litter (consisting of fallen leaves, needles, twigs, cones and small branches), if needed, to protect from erosion.
5. Remove all piles of dead vegetation.

Work With Your Neighbors

Many homes do not have 100' of space between structures and parcel lines. Property owners are required to maintain defensible space only to their property line.

Work with neighbors to help provide defensible space for their homes, and ask neighbors for help if their property threatens yours. In most cases, the most effective solution is a cooperative approach between neighbors.

Access Zone: 0'-10' ③

Property owners are responsible for vegetation adjacent to roads and driveways.

Access roads are critical for evacuation and first responder access. Maintenance is required year-round.

1. Clear vegetation 13.5' overhead and 10' from sides of roads and driveways in the same manner as Defensible Space Zone 1.
2. Maintain 12' of unobstructed pavement of passage of vehicles.
3. Within this zone, choose only fire resistant plant varieties and ensure that they do not extend into the roadway.
4. 13.5' of clearance is required above the roadway for emergency vehicle access.
5. Address numbers must be clearly visible from the road, with at least 4" numbers on a contrasting background. Reflective or lighted numbers are best.
6. Create vertical spacing between shrubs and lower tree limbs.

Public Right of Way

Many property owners mistakenly believe that they are not responsible for roadside vegetation fronting their property. Property owners are responsible for vegetation adjacent to roads and driveways, even in the public right of way. Ensure that vegetation is maintained on all sides of your property.

Tour a Wildfire-Ready Home

SAFEGUARD OR “HARDEN” YOUR HOME

The ability of your home to survive a wildfire depends on the materials your home is constructed of and the quality of the “defensible space” surrounding it. Windblown embers from a wildfire will find the weak link in your home’s fire protection scheme and gain the upper hand because of a small, overlooked, or seemingly inconsequential factor. However, there are measures you can take to safeguard your home from wildfire. While you may not be able to accomplish all of the measures listed below, each will increase your home’s—and possibly your family’s—safety and survival.

Address 1

- Make sure your address is clearly visible from the road. The address needs to be a contrasting color to the surface that it is mounted on, so it can be seen.

Chimney 2

- Cover your chimney and stovepipe outlets with a non-flammable screen of 1/8-inch wire mesh or smaller to prevent embers from escaping and igniting a fire.
- Tree branches must be removed within 10 feet of any chimney.

Deck/Patio Cover 3

- Use heavy timber or non-flammable construction material for decks and patio covers, especially within the first 10 feet of the home.
- Enclose the underside of balconies and decks with fire-resistant materials to prevent embers from blowing underneath.
- Keep your deck clear of combustible items, such as baskets, dried flower arrangements, and other debris.

Driveways and Access Roads 4

- Driveways should be designed to allow fire and emergency vehicles and equipment to reach your home (current fire code requirement is 12 feet wide).
- Access roads should have a minimum 10-foot clearance on either side of the traveled section of the roadway and should allow for two-way traffic.
- Locked or electric gates should have a disconnect or a lock box.



- Ensure that all gates open inward and are wide enough to accommodate emergency equipment.
- Trim trees and shrubs above all roads to maintain 13½ (13.5) feet of vertical clearance.

Garage 5

- Have a fire extinguisher and tools, such as a shovel, rake, bucket, and hoe, available for fire emergencies.
- Install a solid door with self-closing hinges between living areas and the garage. Install weather stripping around and under the doors to prevent ember intrusion.
- Store all combustibles and flammable liquids away from ignition sources.
- Keep the garage closed whenever possible.

Home Site and Yard 6

- Ensure you have up to a 100-foot radius of defensible space (cleared vegetation) around your home. If the 100-foot distance is on adjacent property, contact your local fire station for assistance in obtaining adequate clearance.
- Cut dry weeds and grass before noon when temperatures are cooler to reduce the chance of sparking a fire when using metal tools.
- Landscape with fire-resistant plants that are low-growing with high-moisture content.
- Keep woodpiles, propane tanks, and combustible materials away from your home and other structures, such as garages, barns, and sheds (recommended 30 feet).
- Ensure trees and branches are at least four feet away from power lines. Notify your power company if this condition exists; they will complete required work.

Inside

- Keep a working fire extinguisher on hand and train your family how to use it. Store in an easily accessible location (check expiration date regularly).
- Install smoke alarms on each level of your home and adjacent to the bedrooms. Test them monthly and change the batteries twice a year.



Non-Combustible Boxed-In (Soffit) Eaves

- Box-in eaves with non-combustible materials to prevent accumulation of embers.

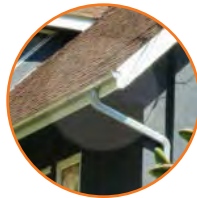


Non-Combustible Fencing 7

- Make sure to use non-combustible fencing to protect your home during a wildfire.

Rain Gutters

- Screen or enclose rain gutters to prevent accumulation of plant debris.



Roof 8

- Your roof is the most vulnerable part of your home because it can easily catch fire from wind-blown embers.
- Homes with wood shake or shingle roofs are at a higher risk of being destroyed during a wildfire.
- Build your roof or re-roof with fire-resistant materials that include composition, metal, or tile.
- Block any spaces between roof decking and covering to prevent ember intrusion.
- Clear pine needles, leaves, and other debris from your roof and gutters.
- Cut any tree branches within 10 feet of your roof.

Vents

- Vents on homes are particularly vulnerable to flying embers.
- All vent openings should be covered with 1/8-inch or smaller metal mesh. Do not use fiberglass or plastic mesh because they can melt and burn.
- Attic vents in eaves or cornices should be baffled or otherwise to prevent ember intrusion (mesh is not enough).



Walls 9

- Wood products, such as boards, panels, or shingles, are common siding materials. However, they are combustible and not good choices for fire-prone areas.
- Build or remodel with fire-resistant building materials, such as brick, cement, masonry, or stucco.
- Be sure to extend materials from foundation to roof.

Water Supply 10

- Have multiple garden hoses that are long enough to reach any area of your home and other structures on your property.



Windows 11

- Heat from a wildfire can cause windows to break even before the home ignites. This allows burning embers to enter and start internal fires. Single-paned and large windows are particularly vulnerable.
- Install dual-paned windows with an exterior pane of tempered glass to reduce the chance of breakage in a fire.
- Limit the size and number of windows in your home that face large areas of vegetation.

Utilities

- Ensure that your family knows where your gas, electric, and water main shut-off controls are and how to safely shut them down in an emergency.



Create Your Own Wildfire Action Plan

Your Wildfire Action Plan must be prepared with all members of your household well in advance of a fire.

Get SET — Prepare Your Family

Use these checklists to help you prepare your Wildfire Action Plan.

Each family's plan will be different, depending on their situation.

Once you finish your plan, rehearse it regularly with your family and keep it in a safe and accessible place for quick implementation.

- ☐ Create a Family Disaster Plan that includes meeting locations and communication plans, and rehearse it regularly. Include in your plan the evacuation of large animals, such as horses.
- ☐ Have fire extinguishers on hand to train your family how to use them.
- ☐ Ensure your family knows where your gas, electric and water main shut-off controls are and how to use them.
- ☐ Plan several different escape routes.
- ☐ Designate an emergency meeting location outside of the fire hazard area.
- ☐ Assemble an emergency supply kit as recommended on www.ready.gov.
- ☐ Appoint an out of area friend or relative as a point of contact so that you can communicate with family members who have relocated.
- ☐ Maintain a list of emergency contact numbers posted near your phone and in your emergency supply kit.
- ☐ Keep an extra emergency supply kit in your car in case you can't get to your home because of fire.
- ☐ Have a portable radio or scanner so that you can stay updated on the fire.
- ☐ Sign up for emergency alerts at ReadySBC.org.



AS THE FIRE APPROACHES

- ☐ Alert family and neighbors.
- ☐ Dress in appropriate clothing (i.e., clothing made from natural fibers such as cotton) and work boots. Have goggles and a dry bandana or particle mask handy.
- ☐ Ensure that you have your brush fire survival kit on hand that includes necessary items, such as a battery-powered radio, spare batteries, emergency contact numbers and ample drinking water.
- ☐ Stay tuned to your TV or local radio stations for updates, or check the Fire Department website at www.sbcfire.com.
- ☐ Remain close to your house, drink plenty of water and keep an eye on your family and pets if you did not evacuate.

Outdoor Checklist

- ☐ Gather up flammable items from the exterior of the house and bring them inside (e.g., patio furniture, children's toys, doormats, etc.) or place them in your pool.
- ☐ Turn off propane tanks.
- ☐ Connect garden hoses to outside taps.
- ☐ Don't leave sprinklers on or water running. They waste critical water pressure.
- ☐ Leave exterior lights on.
- ☐ Back your car into your garage. Shut doors and roll up windows.
- ☐ Have a ladder available.
- ☐ Patrol your property and extinguish all small fires.
- ☐ Seal attic and ground vents with pre-cut plywood or commercial seals.

Indoor Checklist

- ☐ Shut all windows and doors, leaving them unlocked.
- ☐ Remove flammable window shades and curtains and close metal shutters.
- ☐ Remove lightweight curtains.
- ☐ Move flammable furniture to the center of the room, away from windows and doors.
- ☐ Shut off gas as the meter. Turn off pilot lights.
- ☐ Leave your lights on so firefighters can see your house under smoky conditions.
- ☐ Shut off air conditioning.

If You are Trapped: Survival Tips

- ☐ Obtain shelter away from outside walls.
- ☐ Patrol inside your home for spot fires and extinguish them.
- ☐ Wear long sleeves and long pants made of natural fibers such as cotton.
- ☐ Stay hydrated.
- ☐ Ensure you can exit the home if it catches fire (remember, if it's hot inside the house it is four to five times hotter outside).
- ☐ After the fire has passed, check your roof and extinguish any fires, sparks or embers.
- ☐ Check inside the attic for hidden embers.
- ☐ Patrol your property and extinguish small fires.
- ☐ If there are fires that you cannot extinguish with a small amount of water or in a short period of time, call 911.

By leaving early, you will give your family the best chance of surviving a wildfire.

You also help firefighters by keeping roads clear of congestion, enabling them to move more freely and do their job.

GO Early — Subtitle Here

MAKE A KIT

- ☐ Keep a pair of old **shoes** and a **flashlight** handy for a night evacuation.
- ☐ Keep the **“six P’s”** ready, in case an immediate evacuation is required:
 - ☐ **People** and pets
 - ☐ **Papers**, phone numbers and important documents
 - ☐ **Prescriptions**, vitamins and eyeglasses
 - ☐ **Pictures** and irreplaceable memorabilia
 - ☐ **Personal computers** (information on hard drive and disks)
 - ☐ **“Plastic”** (credit cards, ATM cards) and cash

When to Leave

Leave early enough to avoid being caught in fire, smoke or road congestion. Don't wait to be told by authorities to leave. In an intense wildfire, they may not have time to knock on every door. If you are advised to leave, don't hesitate.

Where to Go

Leave to a predetermined location (it should be a low-risk area, such as a well-prepared neighbor or relative's house, a Red Cross shelter or evacuation center, motel, etc.).

How to Get There

Have several travel routes in case one route is blocked by the fire or by emergency vehicles and equipment. Choose an escape route away from the fire.

What to Take

Take your emergency supply kit containing your family and pet's necessary items, such as cash, water, clothing, food, first aid kits, medications and toys. Also don't forget valuables, such as your computer, photos and important documents.

Organize your family members and make arrangements for your pets.

My Personal Wildfire Action Plan

Write up your Wildfire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family.

During High Fire Danger days in your area, monitor your local media for information on brush fires and be ready to implement your plan. Hot, dry and windy conditions create the perfect environment for a wildfire.

Important Phone Numbers

Emergency:			
School:			
Family:			
Friends:			
Animal Shelter:			

GO Early

When to go:

Where to go:

How to get there:

Destination:

What to take: ☐ Insurance Papers ☐ Photos ☐ Prescriptions ☐ Important Documents

Who to tell (before and after):



Santa Barbara County Fire Department

If you have an emergency, call 911

Public Information Office: (805)681-5531

Website: www.sbcfire.com

Ready, Set, Go!

“Defensible space is part of every homeowner’s responsibility.”



Santa Barbara County Fire Department

Public Information Office

4410 Cathedral Oaks Rd.

Santa Barbara, CA 93110

THIS IS HOW SANTA BARBARA COUNTY STAYS OFFICIALLY INFORMED IN AN EMERGENCY!

The County's emergency notification system is designed to provide official information and warnings before, during and after emergencies. This is vital in helping residents make important safety decisions, such as evacuation.



ReadySBC Alerts:

This is the County's central alerting tool. It sends warnings and information to residents through text message, email, cellular phone (voice), landline, and TTY/TTD.

- **How do I get this?** In order to receive these official messages from the County, you must sign up for alerts. Go to www.ReadySBC.org. To confirm you are signed up, click the red "Register for Alerts" button, then follow the prompts to log in. Once you are in the system, verify that your info is correct and you have at least one address listed and one way for the County to reach you (text, email, cell, landline).



Nixle:

This alerting tool delivers emergency alerts and information through a short text message and it's completely anonymous!

- **How do I get this?** Text your zip code to 888777 and you are done! You can also receive Nixle text alerts in Spanish. More info is available at www.Nixle.com



Wireless Emergency Alerts (WEA):

WEA is a public safety alerting tool that allows customers who own certain wireless phones and other enabled mobile devices to receive geographically- targeted, text-like messages alerting them of imminent threats to safety in their area.

- **How do I get this?** You do not need to sign up to receive a WEA, but wireless companies volunteer to participate in the system, so check with your cell phone company to find out if they participate.



Emergency Alert System (EAS):

EAS messages are transmitted via radio and television by participating local broadcasters, cable, and satellite providers and contain an audio message and a scrolling text.

- **How do I get this?** You do not have to sign up for these types of alerts but you do have to be tuning into a local TV, radio, or cable/satellite station.



Local Television:

Local television channels report on emergencies and frequently broadcast messages sent by the County's emergency notification system. These include KEYT, KSBY, KKFX, KCOY and County government CSBTV (channels 3, 6, 11, 12 & 20)

- **How do I get this?** Check with your local TV provider.



Registered Landlines:

In the event of an emergency such as a power outage, a "landline" phone may still be capable of making calls when cell phones and the Internet aren't working.

- **How do I get this?** Listed landlines are automatically included to receive voice messages from the County's emergency notification system. To make sure your landline is registered sign up for ReadySBC Alerts at www.ReadySBC.org.



COUNTY OF SANTA BARBARA

GOOD TO KNOW

In an emergency, officials may use several different communication tools to provide you with information and instructions.

It is important that you are aware of your surroundings and understand that you do NOT need to wait for an alert to take protective actions such as evacuating or sheltering in place.



Social Media (Facebook & Twitter):

Social media plays an increasing role in how people communicate. The County disseminates and exchanges information by using social media sites such as Facebook and Twitter.

- **How do I get this?** You can follow County social media sites including on Twitter at [@countyofsb](#), [@SBCountyOEM](#), [@SBPublicHealth](#) and [@csbenespanol](#). On Facebook, go to "countyofsb," "SBCountyOEM" and "SBPublicHealth."



Web:

Information on the County's website will be available in accessible formats and in English and Spanish.

- **How do I get this?** Log on to the County's website www.ReadySBC.org or www.CountyofSB.org.



Radio Ready:

During an emergency when the power is out, the County will utilize satellite equipment to regularly communicate with designated County radio stations that have generators and can continue to broadcast. A hand-crank, battery radio or your car radio are the most dependable and transportable ways to get information.

- **How do I get this?** Radio stations will transmit information over their airways in English or Spanish. Residents can tune to one of them for information during emergencies. For a complete list, go to www.ReadySBC.org.



NOAA Weather Radio (NWR):

NWR broadcasts emergency weather alerts and other non-weather-related hazard information. During an emergency, National Weather Service forecasters send a special tone to activate local weather radios.

- **How do I get this?** To receive Santa Barbara County-specific alerts, tune your weather radio to the following SAME code: 006083. For more information on programming your weather radio, go to: www.weather.gov/nwr/



Talk to Your Neighbors:

Share emergency information and instructions with the people around you. Verify information from a credible source, such as www.ReadySBC.org or www.CountyofSB.org

- **How do I get this?** Get to know your neighbors!



School Districts, College and Universities

Many school districts, colleges and universities have their own alerting systems.

- **How do I get this?** Check with your local school district, college or university about their alerting system and how you can sign up.

THIS IS HOW SANTA BARBARA COUNTY STAYS INFORMED IN AN EMERGENCY!



Appendix B1-B4

Family Disaster Plan and Personal Survival Guide



Additional Items to Consider Adding to an Emergency Supply Kit:

- ☐ **Prescription medications and glasses**
- ☐ **Infant formula and diapers**
- ☐ **Pet food and extra water for your pet**
- ☐ **Important family documents such as copies of insurance policies, identification and bank account records in a waterproof, portable container**
- ☐ **Cash or traveler's checks and change**
- ☐ **Emergency reference material such as a first aid book or information from www.ready.gov**
- ☐ **Sleeping bag or warm blanket for each person. Consider additional bedding if you live in a cold-weather climate.**
- ☐ **Complete change of clothing including a long sleeved shirt, long pants and sturdy shoes. Consider additional clothing if you live in a cold-weather climate.**
- ☐ **Household chlorine bleach and medicine dropper** – When diluted nine parts water to one part bleach, bleach can be used as a disinfectant. Or in an emergency, you can use it to treat water by using 16 drops of regular household liquid bleach per gallon of water. Do not use scented, color safe or bleaches with added cleaners.
- ☐ **Fire Extinguisher**
- ☐ **Matches in a waterproof container**
- ☐ **Feminine supplies and personal hygiene items**
- ☐ **Mess kits, paper cups, plates and plastic utensils, paper towels**
- ☐ **Paper and pencil**
- ☐ **Books, games, puzzles or other activities for children**



Ready

Prepare. Plan. Stay Informed.®



Emergency Supply List



FEMA

www.ready.gov



Recommended Items to Include in a Basic Emergency Supply Kit:

- Water, one gallon of water per person per day for at least three days, for drinking and sanitation**
- Food, at least a three-day supply of non-perishable food**
- Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both**
- Flashlight and extra batteries**
- First aid kit**
- Whistle to signal for help**
- Dust mask, to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place**
- Moist towelettes, garbage bags and plastic ties for personal sanitation**
- Wrench or pliers to turn off utilities**
- Can opener for food (if kit contains canned food)**
- Local maps**

Through its **Ready Campaign**, the Federal Emergency Management Agency educates and empowers Americans to take some simple steps to prepare for and respond to potential emergencies, including natural disasters and terrorist attacks. **Ready** asks individuals to do three key things: get an emergency supply kit, make a family emergency plan, and be informed about the different types of emergencies that could occur and their appropriate responses.

All Americans should have some basic supplies on hand in order to survive for at least three days if an emergency occurs. Following is a listing of some basic items that every emergency supply kit should include. However, it is important that individuals review this list and consider where they live and the unique needs of their family in order to create an emergency supply kit that will meet these needs. Individuals should also consider having at least two emergency supply kits, one full kit at home and smaller portable kits in their workplace, vehicle or other places they spend time.



FEMA

Federal Emergency Management Agency
Washington, DC 20472



BE SMART. TAKE PART. CREATE YOUR FAMILY EMERGENCY COMMUNICATION PLAN

**Join with others to prepare for emergencies and participate in
America's PrepareAthon! | ready.gov/prepare**

Creating your *Family Emergency Communication Plan* starts with one simple question: "What if?"

"What if something happens and I'm not with my family?" "Will I be able to reach them?" "How will I know they are safe?" "How can I let them know I'm OK?" During a disaster, you will need to send and receive information from your family.

Communication networks, such as mobile phones and computers, could be unreliable during disasters, and electricity could be disrupted. Planning in advance will help ensure that all the members of your household—including children and people with disabilities and others with access and functional needs, as well as outside caregivers—know how to reach each other and where to meet up in an emergency. Planning starts with three easy steps:



1. COLLECT.

Create a paper copy of the contact information for your family and other important people/offices, such as medical facilities, doctors, schools, or service providers.



2. SHARE.

Make sure everyone carries a copy in his or her backpack, purse, or wallet. If you complete your *Family Emergency Communication Plan* online at ready.gov/make-a-plan, you can print it onto a wallet-sized card. You should also post a copy in a central location in your home, such as your refrigerator or family bulletin board.



3. PRACTICE.

Have regular household meetings to review and practice your plan.

**TEXT
IS
BEST!**

If you are using a mobile phone, a text message may get through when a phone call will not. This is because a text message requires far less bandwidth than a phone call. Text messages may also save and then send automatically as soon as capacity becomes available.

**The following sections will guide you through the process to create and practice your
*Family Emergency Communication Plan.***



HOUSEHOLD INFORMATION

Write down phone numbers and email addresses for everyone in your household. Having this important information written down will help you reconnect with others in case you don't have your mobile device or computer with you or if the battery runs down. If you have a household member(s) who is Deaf or hard of hearing, or who has a speech disability and uses traditional or video relay service (VRS), include information on how to connect through relay services on a landline phone, mobile device, or computer.

SCHOOL, CHILDCARE, CAREGIVER, AND WORKPLACE EMERGENCY PLANS

Because a disaster can strike during school or work hours, you need to know their emergency response plans and how to stay informed. Discuss these plans with children, and let them know who could pick them up in an emergency. Make sure your household members with phones are signed up for alerts and warnings from their school, workplace, and/or local government. To find out more about how to sign up, see *Be Smart. Know Your Alerts and Warnings* at <http://1.usa.gov/1BDloze>. For children without mobile phones, make sure they know to follow instructions from a responsible adult, such as a teacher or principal.

OUT-OF-TOWN CONTACT

It is also important to identify someone outside of your community or State who can act as a central point of contact to help your household reconnect. In a disaster, it may be easier to make a long-distance phone call than to call across town because local phone lines can be jammed.

EMERGENCY MEETING PLACES

Decide on safe, familiar places where your family can go for protection or to reunite. Make sure these locations are accessible for household members with disabilities or access and functional needs. If you have pets or service animals, think about animal-friendly locations. Identify the following places:

- ☐ *Indoor:* If you live in an area where tornadoes, hurricanes, or other high-wind storms can happen, make sure everyone knows where to go for protection. This could be a small, interior, windowless room, such as a closet or bathroom, on the lowest level of a sturdy building, or a tornado safe room or storm shelter.
- ☐ *In your neighborhood:* This is a place in your neighborhood where your household members will meet if there is a fire or other emergency and you need to leave your home. The meeting place could be a big tree, a mailbox at the end of the driveway, or a neighbor's house.
- ☐ *Outside of your neighborhood:* This is a place where your family will meet if a disaster happens when you're not at home and you can't get back to your home. This could be a library, community center, house of worship, or family friend's home.

- ☐ *Outside of your town or city:* Having an out-of-town meeting place can help you reunite if a disaster happens and:

- You cannot get home or to your out-of-neighborhood meeting place; or
- Your family is not together and your community is instructed to evacuate the area.

This meeting place could be the home of a relative or family friend. Make sure everyone knows the address of the meeting place and discuss ways you would get there.

OTHER IMPORTANT NUMBERS AND INFORMATION

You should also write down phone numbers for emergency services, utilities, service providers, medical providers, veterinarians, insurance companies, and other services.



- ☐ Make copies of your *Family Emergency Communication Plan* for each member of the household to carry in his or her wallet, backpack, or purse. Post a copy in a central place at home. Regularly check to make sure your household members are carrying their plan with them.
- ☐ Enter household and emergency contact information into all household members' mobile phones or devices.
- ☐ Store at least one emergency contact under the name "In Case of Emergency" or "ICE" for all mobile phones and devices. This will help someone identify your emergency contact if needed. Inform your emergency contact of any medical issues or other requirements you may have.
- ☐ Create a group list on all mobile phones and devices of the people you would need to communicate with if there was an emergency or disaster.
- ☐ Make sure all household members and your out-of-town contact know how to text if they have a mobile phone or device, or know alternative ways to communicate if they are unable to text.
- ☐ Read *Be Smart. Know Your Alerts and Warnings* at <http://1.usa.gov/1BDloze> and sign up to receive emergency information.



Once you have completed your *Family Emergency Communication Plan*, made copies for all the members of your household, and discussed it, it's time to practice!

Here are some ideas for practicing your plan:

- ☐ Practice texting and calling. Have each person practice sending a text message or calling your out-of-town contact and sending a group text to your mobile phone group list.
- ☐ Discuss what information you should send by text. You will want to let others know you are safe and where you are. Short messages like "I'm OK. At library" are good.

- ☐ Talk about who will be the lead person to send out information about the designated meeting place for the household.
- ☐ Practice gathering all household members at your indoor and neighborhood emergency meeting places. Talk about how each person would get to the identified out-of-neighborhood and out-of-town meeting places. Discuss all modes of transportation, such as public transportation, rail, and para-transit for all family members, including people with disabilities and others with access and functional needs.
- ☐ Regularly have conversations with household members and friends about the plan, such as whom and how to text or call, and where to go.
- ☐ To show why it's important to keep phone numbers written down, challenge your household members to recite important phone numbers from memory—now ask them to think about doing this in the event of an emergency.
- ☐ Make sure everyone, including children, knows how and when to call 911 for help. You should only call 911 when there is a life-threatening emergency.
- ☐ Review, update, and practice your *Family Emergency Communication Plan* at least once a year, or whenever any of your information changes.

To help start the conversation or remind your family why you are taking steps to prepare and practice, you may want to watch the 4-minute video, *It Started Like Any Other Day*, about families who have experienced disaster, at www.youtube.com/watch?v=w_omgt3MEBs. Click on the closed captioning (CC) icon on the lower right to turn on the captioning.

After you practice, talk about how it went. What worked well? What can be improved? What information, if any, needs to be updated? If you make updates, remember to print new copies of the plan for everyone.

OTHER IMPORTANT TIPS FOR COMMUNICATING IN DISASTERS¹

- ☐ Text is best when using a mobile phone, but if you make a phone call, keep it brief and convey only vital information to emergency personnel and/or family or household members. This will minimize network congestion, free up space on the network for emergency communications, and conserve battery power. Wait 10 seconds before redialing a number. If you redial too quickly, the data from the handset to the cell sites do not have enough time to clear before you've re-sent the same data. This contributes to a clogged network.
- ☐ Conserve your mobile phone battery by reducing the brightness of your screen, placing your phone in airplane mode, and closing apps you do not need. Limit watching videos and playing video games to help reduce network congestion.
- ☐ Keep charged batteries, a car phone charger, and a solar charger available for backup power for your mobile phone, teletypewriters (TTYs), amplified phones, and caption phones. If you charge your phone in your car, be sure the car is in a well-ventilated area (e.g., not in a closed garage) to avoid life-threatening carbon monoxide poisoning.

¹ Federal Communications Commission, Public Safety and Homeland Security Bureau. (n.d.) *Tips for communicating in an emergency*. Retrieved from <http://transition.fcc.gov/pshs/emergency-information/tips.html>

- ☐ If driving, do not text, read texts, or make a call without a hands-free device.
- ☐ Maintain a household landline and analog phone (with battery backup if it has a cordless receiver) that can be used when mobile phone service is unavailable. Those who are Deaf or hard of hearing, or who have speech disabilities and use devices and services that depend on digital technology (e.g., VRS, Internet Protocol [IP] Relay, or captioning) should have an analog phone (e.g., TTY, amplified phone, or caption phone) with battery backup in case Internet or mobile service is down.
- ☐ If you evacuate and have a call-forwarding feature on your home phone, forward your home phone number to your mobile phone number.
- ☐ Use the Internet to communicate by email, Twitter, Facebook, and other social media networks. These communication channels allow you to share information quickly with a widespread audience or to find out if loved ones are OK. The Internet can also be used for telephone calls through Voice over Internet Protocol. For those who are Deaf or hard of hearing, or who have speech disabilities, you can make calls through your IP Relay provider.
- ☐ If you do not have a mobile phone, keep a prepaid phone card to use if needed during or after a disaster.
- ☐ Use a pay phone if available. It may have less congestion because these phones don't rely on electricity or mobile networks. In some public places, you may be able to find a TTY that can be used by those who are Deaf or hard of hearing, or who have speech disabilities.

America's PrepareAthon! is a grassroots campaign for action to get more people prepared for emergencies. Make your actions count at ready.gov/prepare.

The reader recognizes that the Federal Government provides links and informational data on various disaster preparedness resources and events and does not endorse any non-Federal events, entities, organizations, services, or products.



10 WAYS TO PARTICIPATE IN AMERICA'S *PrepareAthon!*



**Access Alerts
and Warnings**



**Test
Communication Plans**



**Assemble or
Update Supplies**



**Drill or Practice
Emergency Response**



**Participate in a Class,
Training, or Discussion**



**Plan with
Neighbors**



**Conduct an
Exercise**



**Make Property
Safer**



**Document and
Insure Property**



**Safeguard
Documents**

FAMILY EMERGENCY COMMUNICATION PLAN

HOUSEHOLD INFORMATION

Home #:

Address:.....

Name: Mobile #:

Other # or social media:

Email:

Important medical or other information:

.....

Name: Mobile #:

Other # or social media:

Email:

Important medical or other information:

.....

Name: Mobile #:

Other # or social media:

Email:

Important medical or other information:

.....

Name: Mobile #:

Other # or social media:

Email:

Important medical or other information:

.....

SCHOOL, CHILDCARE, CAREGIVER, AND WORKPLACE EMERGENCY PLANS

Name:

Address:.....

Emergency/Hotline #:

Website:

Emergency Plan/Pick-Up:

**SCHOOL,
CHILDCARE,
CAREGIVER, AND
WORKPLACE
EMERGENCY PLANS**

Name:
Address:.....
Emergency/Hotline #:
Website:
Emergency Plan/Pick-Up:

Name:
Address:.....
Emergency/Hotline #:
Website:
Emergency Plan/Pick-Up:

Name:
Address:.....
Emergency/Hotline #:
Website:
Emergency Plan/Pick-Up:

**IN CASE OF
EMERGENCY
(ICE) CONTACT**

Name: Mobile #:
Home #: Email:
Address:

**OUT-OF-TOWN
CONTACT**

Name: Mobile #:
Home #: Email:
Address:

**EMERGENCY
MEETING PLACES**

Indoor:
Instructions:
Neighborhood:
Instructions:

Out-of-Neighborhood:
Address:.....
Instructions:

Out-of-Town:
Address:.....
Instructions:

**IMPORTANT
NUMBERS OR
INFORMATION**

Police: Dial 911 or #:

Fire: Dial 911 or #:

Poison Control: #:

Doctor: #:

Doctor: #:

Pediatrician: #:

Dentist: #:

Hospital/Clinic: #:

Pharmacy: #:

Medical Insurance: #:

Policy #:#:

Medical Insurance: #:

Policy #:#:

Homeowner/Rental Insurance:

#:

Policy #:

Flood Insurance: #:

Policy #:

Veterinarian: #:

Kennel: #:

Electric Company: #:

Gas Company: #:

Water Company: #:

Alternate/Accessible Transportation:

#:

Other: #:

Other: #:

Other: #:



Write your family's name above

Family Emergency Communication Plan

HOUSEHOLD INFORMATION

Home #:
Address:
Name: Mobile #:
Other # or social media: Email:
Important medical or other information:
Name: Mobile #:
Other # or social media: Email:
Important medical or other information:

Name: Mobile #:
Other # or social media: Email:
Important medical or other information:

Name: Mobile #:
Other # or social media: Email:
Important medical or other information:

SCHOOL, CHILDCARE, CAREGIVER, AND WORKPLACE EMERGENCY PLANS

Name:
Address:
Emergency/Hotline #: Website:
Emergency Plan/Pick-Up:

Name:
Address:
Emergency/Hotline #: Website:
Emergency Plan/Pick-Up:

Name:
Address:
Emergency/Hotline #: Website:
Emergency Plan/Pick-Up:

Name:
Address:
Emergency/Hotline #: Website:
Emergency Plan/Pick-Up:

IN CASE OF EMERGENCY (ICE) CONTACT

Name: Mobile #:
Home #: Email:
Address:

OUT-OF-TOWN CONTACT

Name: Mobile #:
Home #: Email:
Address:

EMERGENCY MEETING PLACES

Indoor:
Instructions:
Neighborhood:
Instructions:

Out-of-Neighborhood:
Address:
Instructions:
Out-of-Town:
Address:
Instructions:

IMPORTANT NUMBERS OR INFORMATION

Police: Dial 911 or #:
Fire: Dial 911 or #:
Poison Control: #:
Doctor: #:
Doctor: #:
Pediatrician: #:
Dentist: #:
Medical Insurance: #:
Policy #:
Medical Insurance: #:
Policy #:
Hospital/Clinic: #:

Pharmacy: #:
Homeowner/Rental Insurance: #:
Policy #:
Flood Insurance: #:
Policy #:
Veterinarian: #:
Kennel: #:
Electric Company: #:
Gas Company: #:
Water Company: #:
Alternate/Accessible Transportation: #:
Other:
Other:



Family Disaster Plan

Family Last Name(s) or Household Address:

Date:

Family Member/Household Contact Info (If needed, additional space is provided in #10 below):

Name

Home Phone

Cell Phone

Email:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Pet(s) Info:

Name:

Type:

Color:

Registration #:

_____	_____	_____	_____
_____	_____	_____	_____

Plan of Action

1. The disasters most likely to affect our household are:

2. What are the escape routes from our home?

3. If separated during an emergency, what is our meeting place near our home?

4. If we cannot return home or are asked to evacuate, what is our meeting place outside of our neighborhood?

What is our route to get there and an alternate route, if the first route is impassible?

5. In the event our household is separated or unable to communicate with each other, our emergency contact outside of our immediate area is:

Name

Home Phone

Cell Phone

Email:

After a disaster, let your friends and family know you are okay by registering at "Safe and Well" at <https://safeandwell.communityos.org/cms//> or by calling 1-800-733-2767. You can also give them a call, send a quick text or update your status on social networking sites.

6. If at school/daycare, our child(ren) will be evacuated to:

Child's Name:

Evacuation Site (address and contact info):

7. Our plan for people in our household with a disability or special need is:

Person's Name:

Plan:

8. During certain emergencies local authorities may direct us to "shelter in place" in our home. An accessible, safe room where we can go, seal windows, vents and doors and listen to emergency broadcasts for instructions, is:

9. Family Member Responsibilities in the Event of a Disaster

Task	Description	Family Member Responsible
Disaster Kit*	Stock the disaster kit and take it if evacuation is necessary. Include items you might want to take to an evacuation shelter. Remember to include medications and eye glasses.	
Be informed	Maintain access to NOAA or local radio, TV, email or text alerts for important and current information about disasters.	
Family Medical Information	Make sure the household medical information is taken with us if evacuation is necessary.	
Financial Information	Obtain copies of bank statements and cash in the event ATMs and credit cards do not work due to power outages. Bring copies of utility bills as proof of residence in applying for assistance.	
Pet Information	Evacuate our pet(s), keep a phone list of pet-friendly motels and animal shelters, and assemble and take the pet disaster kit.	
Sharing and Maintaining the Plan	Share the completed plan with those who need to know. Meet with household members every 6 months or as needs change to update household plan.	

*What supplies and records should go in your disaster kit? Visit www.redcross.org

10. Other information, if not able to be included above.

Congratulations on completing your family disaster plan! Please tell others: "We've made a family disaster plan and you can, too, with help from the American Red Cross."

Get the facts about what you should do if an emergency or disaster occurs at www.redcross.org

Appendix C

Evacuation Modeling



TO: Peter Kiesecker, Solomon Hills LLC
FROM: Phuong Nguyen, PE ; CR Associates (CRA)
DATE: August 1, 2025
RE: Solomon Hills Specific Plan Fire Evacuation Analysis – Technical Memorandum

The purpose of this technical memorandum is to assess the time required for emergency evacuation under several scenarios, assuming a wind-driven fire that results in an evacuation affecting the Solomon Hills Specific Plan Project ("Project") and surrounding communities.¹ The following discussion of evacuation traffic simulations is not intended to be an Evacuation Plan, nor include elements typically found in an Evacuation Plan. The sole purpose of the traffic simulations is to focus on the vehicle travel times in simulated evacuation events.

Background and Purpose

This memorandum provides a summary of the traffic simulations conducted for evacuation of the Project and surrounding community due to a wildfire. The simulations have been conducted for a variety of evacuation scenarios described below. Modeling potential evacuation traffic impacts requires that numerous assumptions be made to address many variables that will impact a real-life evacuation scenario, including the number of existing vehicles in the community, the number of Project vehicles that will need to evacuate, the roadway capacities and whether enhancements are provided (e.g., extra lanes, lane widening, signaling intersections), the total number of intersections and how they will be operating, the final destination, the targeted evacuation area, the total mobilization time, vegetation communities, weather and wind, fire spread rates, humidity, topography, risk to homes, locations of ignitions and new fire starts, and lead time needed, etc. There are many hundreds or thousands of potential model scenarios, and every fire scenario poses variations that regularly change and are reassessed "real-time" during a wildfire. Agencies involved in implementing an evacuation order would not rely on a project-specific evacuation plan, but on situational awareness and agency created wildfire pre-plans, which act as operational tools to provide high-level fire assessments, identify critical infrastructure and assets, identify preferred evacuation approaches, and provide key safety information to inform evacuation decision-making.

The following analysis is intended to present representative evacuation scenarios using available information, conservative assumptions, and an industry-based modeling technology. In an actual emergency, Unified Command² will take into account numerous factors including fire location and spread rates, wind speeds and direction, humidity, topography, fuel loading, emergency access routes, evacuation routes, shelter-in-place options, time needed to evacuate, and other variables, and, after taking into account such factors and variables, will issue specific evacuation or shelter-in-place directives consistent with the process and protocols outlined in the Santa Barbara County Emergency Operations Plans. During a wildfire, nearby residents and the Project's residents should comply with those directives from authorities and first responders conducting the evacuation or emergency response. The evacuation traffic model used herein is appropriate for planning and comparison purposes but will likely not be relied on by first responders and should not be relied on by Incident Commander in time of an emergency. However, it provides useful information that will be provided to agencies and emergency managers and may inform strategic response plans in terms of evacuation timeframes and contingency options.

¹ This memorandum was prepared with technical fire behavior input from Dudek's Urban Forestry + Fire Protection team.

² As defined in the FEMA Glossary, for incidents involving multiple jurisdictions, a single jurisdiction with multiagency involvement, or multiple jurisdictions with multiagency involvement, unified command allows agencies with different legal, geographic, and functional authorities and responsibilities to work together effectively without affecting individual agency authority, responsibility, or accountability.

The roadway network and vehicle input assumptions have been selected to simulate targeted evacuations scenarios, based on potential fire location and direction. Moreover, each scenario assumes that an evacuation would take place during an early weekday evening. At this time, all residents would have just returned home, schools might still be running after-school programs, commercial properties would be operational, and the evening commute would still be ongoing. This represents a highly conservative assumption, as the various land uses within the Project site have differing demand patterns throughout the day, and it is unlikely that all would be operating at full capacity simultaneously, as assumed in this study. As it is most likely that phased evacuation orders would be given to provide for a more orderly evacuation. It is also likely that fewer residents would be present nearby if the evacuation happened during a time that the Project was not at full occupancy (e.g., a weekday afternoon); and, therefore less potential for evacuation traffic.

The wildfire evacuation scenarios selected for this analysis were based on a comprehensive approach that included review of fire history, review of recent fires (e.g., Lake Fire 2024³, and Alamo Fire 2017⁴), fire behavior science, area topography, fuel types and the evolved approach to evacuations which have become increasingly more surgical instead of large, area-wide evacuations. Accordingly, given the highest probability wildfire scenarios that would result in evacuation, it is anticipated that specific neighborhoods and communities may be evacuated in a phased approach or evacuated to another location within the specific plan.

The Project is required to implement the most recent building and fire code standards, which includes ignition resistant construction along with a number of fire risk reduction safety features for properties situated within a Fire Hazard Severity Zone. Once the Project has been fully implemented and the Project site has become increasingly hardened with a singular WUI interface, the exposure level and associated risk would be reduced to acceptable levels, as evidenced by state Fire Marshal data indicating the successful performance of these hardened communities from wildfire impacts.

Once the Project has been fully implemented and the Project site has become increasingly hardened with a singular WUI interface, the structures in the internal neighborhoods would no longer be considered part of the WUI; however, these structures will have been constructed to CBC and CFC standards for development in Very High Fire Hazard Severity Zones (e.g., Chapter 7A).

During a wildfire, a targeted portion of the Project site's population would likely be evacuated as a precautionary measure. This may be combined with targeted evacuations within the existing land use to the west and east of the Project site. This type of evacuation is consistent with management of recent wildfires throughout southern California and Santa Barbara County, where the phased evacuation practice has been implemented with great success and continues to be refined through real-time application. The phased evacuation approach was utilized in the recent fires including the 2024 Apache Fire in Ventura, CA, 2024 Post Fire in Gorman, California, 2023 Rabbit Fire in Riverside, CA, all of which included early evacuation warnings issued for vulnerable areas.

Project Description

The Solomon Hills Project proposes to create Santa Barbara County's first new community that will result in a sustainable, resilient and healthy environment for its residents. The Project establishes a holistic framework for Smart Growth with a redevelopment of private lands historically used for grazing and oil and gas production. It's proposed Specific Plan includes the design and

³ <https://www.readysbc.org/4275/Lake-Fire-Incident--July-2024#eoc-roads> & <https://app.watchduty.org/i/24741>

⁴ <https://wildfiretoday.com/2017/07/08/alamo-fire-burns-19000-acres-east-of-santa-maria-california/> & [https://twitter.com/search?q=\(%23alamofire\)%20\(from%3ACALFIRE_SLO\)&src=typed_query&f=top](https://twitter.com/search?q=(%23alamofire)%20(from%3ACALFIRE_SLO)&src=typed_query&f=top)

implementation of a central village closely surrounded by several neighborhoods, office and commercial space, a TK-8 school, fire/sheriff station, parks, open space and public trails to allow walking and biking as an easy alternative to vehicle transport.

The Project's proposed Specific Plan allows for a balance of land uses primarily serving working families allowing 4,000 single and multi-family residential units, 650,000 square feet of commercial retail and office use and space, 25.5-acres of public and institutional uses and space, and 1,023 acres of recreational and open space uses. Critical infrastructure includes water supply and a water reclamation facility, interchange improvements along Hwy 101, additional secondary access along Hwy 101 and Hwy 135 and several active and passive parks and public trails. Public benefits include developer sponsored Affordable housing near commercial and transportation access points, utility and access improvements that minimize traffic impacts to neighboring properties, new public trail access into the Orcutt Hills, recreational improvements and public access to the Newlove Picnic Grounds, the preservation of open space ridgelines and valleys for habitat protection and the abandonment and remediation of all oilfield features and operations. The Project is designed to be built in four (4) buildout phases over a fourteen-year period for the orderly delivery of the Project. Phased grading, access, utility, horizontal and public improvements are scheduled ahead of and to align with the same buildout phases.

The Project will also be providing the following improvements to provide access to the site:

Primary Access Improvements. Primary access improvements include a new Highway 101 interchange approximately 2.3 miles south of the existing Clark Avenue/Hwy 101 interchange. • Construction of an overpass over Hwy 101 for both north and southbound ingress/egress along with acceleration and deceleration improvements within the existing Caltrans ROW, and, 1 ~10-acre proposed easement area for public Hwy Interchange and Landscape Improvements to the east of the existing Caltrans ROW.

Secondary Solomon Summit Improvements. Public Improvements to the existing Solomon Summit Interchange within the Caltrans Right of Way consisting of road and landscape improvements. • 0.5 miles of private access and landscape frontage improvements within a 10.1-acre existing easement area (Union Oil) that parallels the west side of Hwy 101 from the southeastern border of the VTTM boundary to the Solomon Summit interchange

Secondary Bicknell Road Improvements. Secondary access improvements include connecting the western edge of the Specific Plan boundary to Highway 135 along Bicknell, Graciosa to San Antonio Road. • 1.1 miles of road access and landscape improvements along Bicknell Road (private) within an existing private roadway on Lot 1 including one culvert repair.

- 2.3 miles of private access and landscape improvements within an existing 23.4-acre existing easement area (Premiere Agricultural Properties) west from the western edge of Lot 1 along Bicknell Road (private) to Graciosa Road
- 1.8 miles of public access and landscape improvements within Graciosa Road (public) to San Antonio Road @ Hwy 135 (precise scope *TBD County Public Works*).
- Public improvements to the Hwy 135/San Antonio Road intersection consisting of road and landscape improvements (precise scope *TBD Caltrans*)

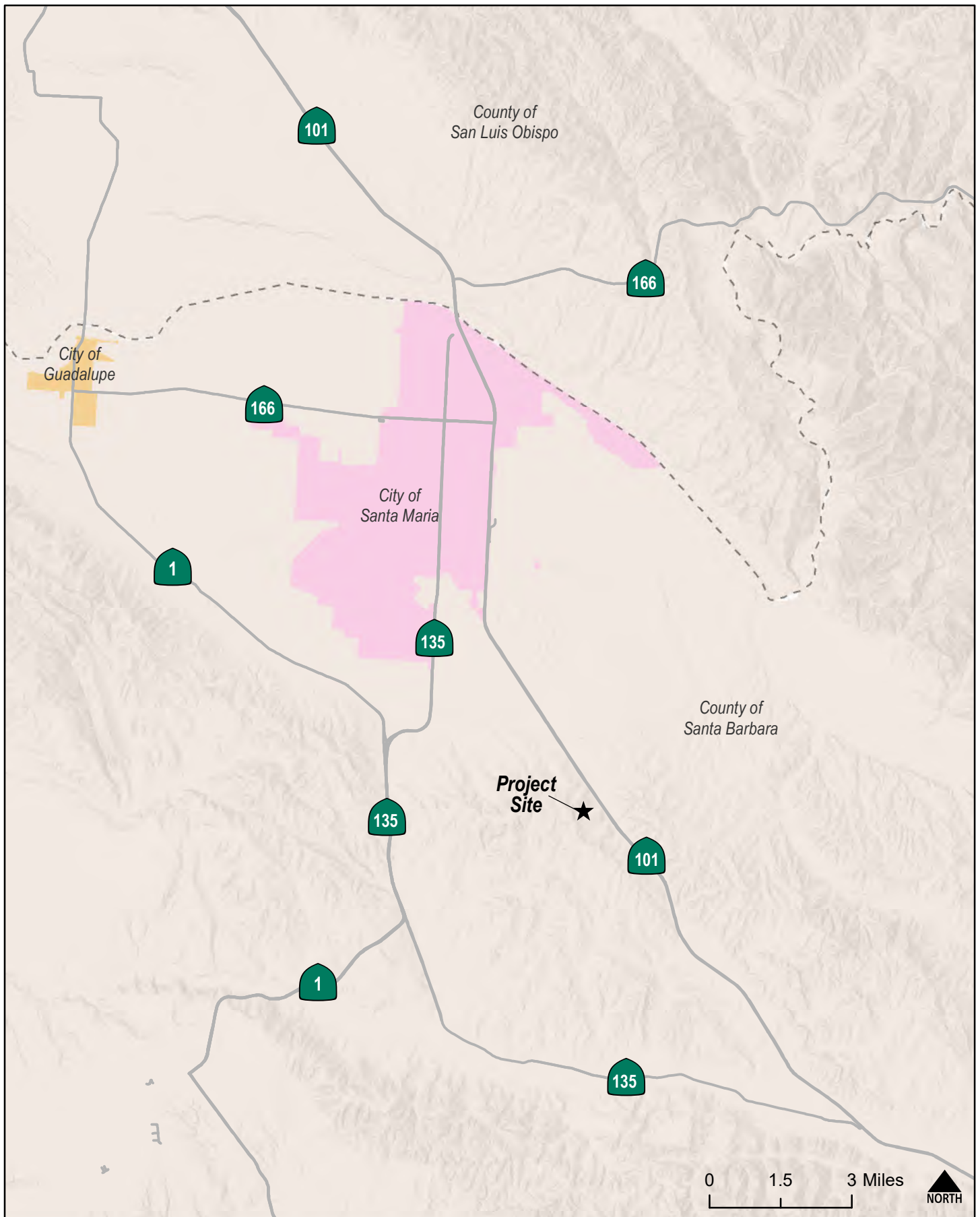
Analysis Methodology

The analysis conducted for the Project was based on review of best practices research as well as the State of California Attorney General "Best Practices for Analyzing and Mitigating Wildfire Impacts of

Development Projects Under the California Environmental Quality Act (AG Guideline)” report. Section IV.C. of the AG Guidance report provides recommendations on Analyzing and Mitigating Wildfire Risk Impacts Under CEQA – including recommendations on analyzing a project’s impact on evacuation and emergency access.

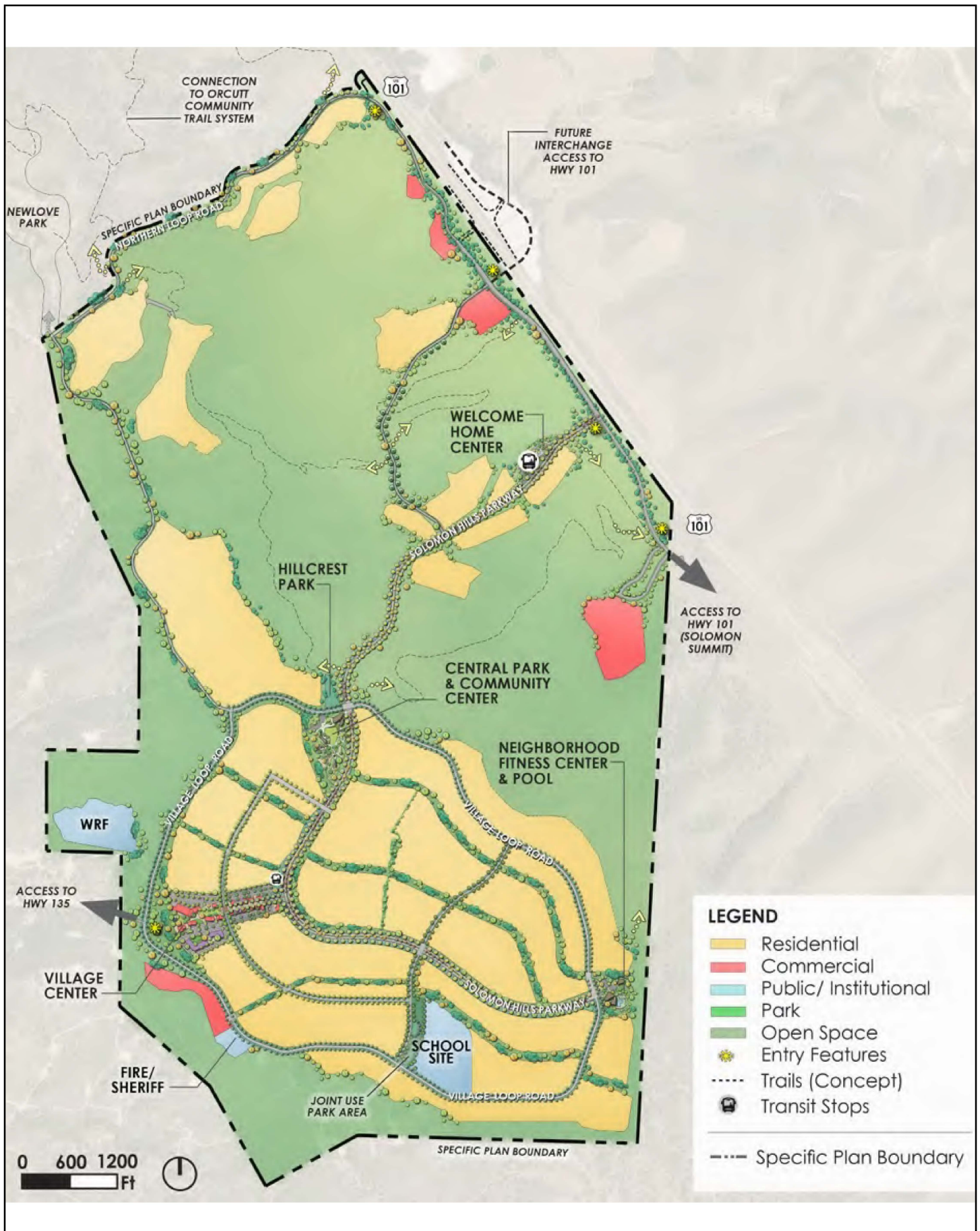
Per the AG Guidance, the addition of new developments in high wildfire risk areas can impact the evacuation of both new residents and the existing population, as well as hinder emergency responders' firefighting access. The report suggests that this impact could increase the risk and extent of large-scale fire spread and affect community safety. The report also suggests that Environmental Impact Reports (EIRs) should evaluate these impacts during construction and over the project's lifetime, with a higher level of analysis for low-density developments in wildland-urban interfaces compared to higher density infill projects in developed areas. Further, the report recommends that Projects in high wildfire risk areas should include evacuation modeling and planning at the review and approval stage, taking into account roadway capacity, evacuation timing, alternative plans, impacts on existing evacuation plans, emergency access adequacy, and traffic modeling. This would ensure that proposed developments facilitate emergency access and ease evacuation constraints and allow for design modifications that address wildfire risk.

Consistent with the AG Guidelines, the analysis presented herein accounts for roadway capacity and congestion that may occur during an evacuation, existing emergency response plan, potential evacuation scenarios, and evaluated modeled travel times for occupants (e.g., residents, employees, visitors, etc.) of the Project and the occupants surrounding communities to evacuate to nearby urban areas/freeway access in case of a fire emergency



Solomon Hills Evacuation Analysis

Figure 1
Project Regional Location



Solomon Hills Evacuation Analysis

Figure 2
Project Site Plan

Existing Evacuation Plan and Practices

Current evacuation practice typically targets the scope of the evacuation only to the area in immediate danger (evacuation order area) and placing a larger area on standby for evacuation (evacuation warning or alert area). This practice allows for better evacuation operations, reduces gridlock, and reserves sufficient travel way for emergency vehicles. The practice of evacuating areas most at risk first has become standard during evacuations.

Methodical Approach

The County of Santa Barbara Operational Area Emergency Management (OEM) Plan⁵ describes an organized and systematic process of relocating people from an area or location that is at risk or threatened by an imminent hazard or disaster. Santa Barbara County utilizes two levels of evacuation terminology:

1. Evacuation Warning: Potential threat to life and/or property. Those who require additional time to evacuate, and those with pets and livestock should leave now.
2. Evacuation Order: Immediate threat to life. This is a lawful order to leave now. The area is lawfully closed to public access.

Evacuations in Santa Barbara County are managed in a consistent manner as evacuations in most other California jurisdictions (see wildfire evacuation summaries on following page). As evacuation methods, approaches, and technologies have been developed, tested, and adopted, they tend to be implemented widely throughout California emergency management agencies. Based on the review of the OEM, County Multi-Jurisdictional Hazard Mitigation Plan⁶, and daily briefing of the Lake Fire, the current evacuation practices are led by the local incident commander. These practices involve collaboration between fire departments and various law enforcement agencies. Depending on the nature of the emergency, multiple departments may work together during the evacuation process.

The responsibilities of these departments are detailed in the OEM and summarized below:

Operations Section Coordinator

The Operations Section Coordinator, a member of the EOC Director's General Staff, is responsible for coordinating all jurisdictional operations in support of the emergency response through implementation of the County's EOC Incident Action Plan and for coordinating all requests for mutual aid and other operational resources. The Operations Section Coordinator is responsible for:

- Understanding the current situation.
- Predicting probable resource needs.
- Preparing alternative strategies for procurement and resources management.

Fire Branch

The Fire Branch is responsible for coordinating personnel, equipment and resources committed to a fire, field medical, search and rescue, or hazardous materials elements of the incident. The Fire Department Operating Center (DOC) is referred to as Expanded Dispatch and is located at the Fire Department Headquarters. In the event of a significant fire incident, Expanded Dispatch coordinates initial attack resources.

Law Branch

⁵ https://www.cafsti.org/wp-content/uploads/OEM_EMP_Draft_09AUG13.pdf. Note that the County is currently in the process of updating the OEM and will potentially include the incorporation of newer evacuation technology from Genesys Evac.

⁶ <https://content.civicplus.com/api/assets/4e3d83f8-0708-43ab-bd7d-2cb73111cd30>

⁶ <https://content.civicplus.com/api/assets/ebc26205-512c-48d7-bca7-cfa0a18faa24>

The Law Branch is responsible for alerting and warning the public, coordinating evacuations, enforcing laws and emergency orders, establishing safe traffic routes, ensuring that security is provided at incident facilities, ensuring access control to damaged areas, ordering and coordinating appropriate mutual aid resources, and assuming responsibility for the Coroner function. The Sheriff Department Operating Center is located at the Sheriff Headquarters and coordinates law enforcement activities and resources for significant events impacting public safety.

When a local government EOC is activated, communications and coordination shall be established between the Incident Commander(s) and the department operations center(s) to the EOC or between the Incident Commander(s) and the EOC. Coordination of fire and law enforcement resources shall be accomplished through their respective mutual aid systems.

On-the-ground conditions combined with EOC staff experience determine which areas need to be evacuated and which roadways may be closed to prioritize evacuating traffic. The EOC may issue evacuation orders out of an abundance of caution. For example, during the Lake Fire, the EOC issued an evacuation order to the area between 8721 Foxen Canyon Road and the intersection of Zaca Lake Road and Foxen Canyon Road, this area was downgraded to evacuation warnings over the next few days as weather conditions changed. Similarly, as a precautionary measure, the EOC issued a fire evacuation warning at 12 AM on August 23, 2024⁷, for the area between the 1300-1500 blocks of Refugio Road due to the Refugio Fire. This warning was lifted at 6:41 PM the same day after the EOC determined that the area was no longer at risk⁸.

Once the EOC determines the need to issue an evacuation order or warning, the order/warning is communicated to the public in the affected area via various communication mediums. Given the diverse needs of the community, the County employs a variety of alert and warning tools to ensure effective communication during emergencies, including the National Emergency Alert System, Wireless Emergency Alerts, Non-Weather Emergency Messages, ReadySBC Alerts, websites, social media, traditional media, and field notifications.

The approach summarized above is similar to most other California jurisdictions, including the San Diego County Operational Area Evacuation and Repopulation Policy #8-B⁹ which provides the following procedures when an evacuation is needed:

Fire Department Responsibilities

- Establish command of the Incident
- Conduct a situation assessment and evaluate the need for evacuations
- Establish an Incident Command Post (ICP) with sufficient room for representatives from other assisting agencies and announce its location
- Request Agency Representative from Law Enforcement to respond to the ICP.

Law Enforcement Responsibilities

- Assign supervisor of the rank of Sergeant or above to the Incident Command Post and request a Deputy to locate with Operations Section Chief
- Maintain ingress and egress routes for emergency vehicles
- Establish perimeter control, keeping unauthorized vehicles and pedestrians out of the involved area. Conduct evaluations, if required, at the direction of the Incident Commander

⁷ <https://x.com/SBCountyOEM/status/1826886831725846945>

⁸ <https://x.com/SBCountyOEM/status/1827159334742323708>

⁹ <https://sdoparea.org/wp-content/uploads/documents/8B%20Evacuation%20and%20Repopulation.pdf>

- Establish anti-looting security patrols, when safe to do so, for evacuated areas within the perimeter
- Maintain a Unit log

Joint Fire and Law Enforcement Responsibilities

- Evaluate and determine whether Law Enforcement role will be as an Agency Representative or Unified Incident Commander, depending on the scope of the Incident
- Assign a Law Enforcement supervisor to work closely with the Operations Section Chief or Incident Commander, whomever is determining the areas to be evacuated
- Assess and validate the need for an Evacuation Warning, Evacuation Order, and/or Shelter in Place – Determine the location, potential size, and direction of Incident travel or spread
- Unified Commanders determine potential for Incident spread and request the appropriate resources to complete the evacuation and mitigate the Incident concurrently

Based on the San Diego County Operational Area Evacuation and Repopulation procedure, an evacuation order requires the movement of community members out of a defined area due to an immediate threat to life and property from an emergency incident. An evacuation order issued when there is a potential for or an actual threat to civilian life, within 1 to 2 hours of such determination or when the IC deems it necessary to protect civilians. The purpose of an evacuation warning, in comparison, is to alert community members in a defined area of a potential threat to life and property from an emergency incident. An evacuation warning may be issued when the potential or actual threat to civilian life is more than 2 hours away. The timing of an evacuation order can vary widely between different fires, depending on factors such as fire conditions, fuel availability, wind speed, and other variables. The IC, composed of firefighting experts, will determine the evacuation area and timeline.

Examples of Strategic Evacuation

Methodical and strategic evacuation orders ensure that resources are deployed where needed and support a manageable traffic flow out of the area under threat. This approach is demonstrated through several recent wildfires where evacuation orders were issued to target populations, several examples of recent evacuations are provided below:

Border Fire 32, San Diego County

During the Border Fire 32 in August 2022¹⁰ for example, on August 31st, the San Diego County Sheriff's Department shut down SR-94 at 2:57 p.m. before issuing an evacuation order at 3:28 p.m.¹¹. Such road closures are typically implemented to ensure that evacuating traffic has priority and to maintain clear pathways for law enforcement, first responders, and firefighting equipment.

Lilac Fire December 2017, San Diego County¹²

Early in the fire, Sheriff's deputies and firefighters focused on evacuating and rescuing residents in immediate danger. County and local agencies implemented a phased evacuation of potentially affected areas with 14 separate evacuation campaigns (notifications sent to affected areas) – sequencing of evacuation areas occurring between 12/7/2017 at 1:52 pm to 12/7/2017 10:17 pm. The Oceanside Police Department utilized 3 separate notification

¹⁰ <https://x.com/SDSheriff/status/1565096377494818817>

¹¹ <https://x.com/SDSheriff/status/1565104232688074752>

¹² Lilac Fire After Action Report. County of San Diego 107 pp.

campaigns as the fire moved toward and into their jurisdiction between 5:49 pm and 9:19 pm 12/7/2017.

The Sheriff's Department deployed a platoon of 50 deputies, including four sergeants and a lieutenant, 24 hours a day for the first several days of the incident. Sheriff's deputies prepare for wildfires with mandatory annual training, which includes fire behavior, evacuations, and emergency operations

Thomas Fire 2017, Ventura County

During the Thomas Fire, a targeted evacuation order was issued only to areas in immediate danger. Law enforcement first targeted communities in the Carpinteria area with specific emphasis that the evacuation order is only for the identified communities in order to reduce the number of evacuees on roadways being utilized for evacuation. Evacuation orders continued to change throughout the duration of the fire, focused only on the highest risk populations. This approach has been confirmed by numerous fire and law enforcement agencies at project meetings, public hearings, and interviews with Dudek personnel.

Given that the Project's Specific Plan is a comprehensive plan for the long-term development of a new master planned community and all residential and commercial structures within the Project site would be required to adhere to the latest Building Code and Fire Code, paired with the nature of the current phased evacuation approach, it is unlikely that all of the Project would need to evacuate simultaneously during a wildfire scenario. The Otay Ranch General Development Plan (GDP) within the City of Chula Vista, located in San Diego County, exemplifies this scenario. Historical incidents such as the 2007 Harris Fire¹³, and the 2023 Border Fire¹⁴ predominantly affected the open spaces, but their progression was largely halted at the fringes of urbanized areas. Notably, during these fire events, evacuation orders were confined to the peripheral areas of the Otay Ranch GDP.

Evacuation Model Methods and Assumptions

The methodology for fire evacuation analysis is evolving as new data and best practices become available. Before conducting the evacuation analysis, a thorough historical review of fire evacuation behavior and practices was undertaken to ensure the analysis accurately reflects local conditions. The analysis conducted was based on extensive review of best practice research at the time of the analysis. These foundational best practices informed the evacuation analysis, and a selection of the most relevant and recent research is included in **Attachment A**.

According to the research, wildfire evacuation analysis is not a one-size-fits-all approach; certain tools and practices are better suited for jurisdiction-wide analysis, including transportation modeling, roadway capacity-based analysis, GIS analysis, and custom tools. Notably, "A Review of Traffic Models for Wildland-Urban Interface Wildfire Evacuation" (Bergstedt, 2017) identified 12 tools for evacuation analysis, a number that continues to grow as more data and computing power become available.

Vissim, although not the sole tool available for fire evacuation analysis, was chosen for its capability to simulate driver behaviors, particularly undesirable behaviors such as competing for the right-of-way during evacuations. This capability is endorsed by the Bergstedt research paper and is utilized by various agencies, including the Utah Department of Transportation and the Florida Department of Transportation for hurricane evacuation analysis (Bergstedt 2017). Vissim's popularity and widespread use in evacuation analysis are evidenced by its citation in over 700 research papers, reflecting its effectiveness in mirroring human behavior. Despite the availability of other tools, Vissim was deemed the most suitable for this project's evacuation analysis.

¹³ https://www.sandiegocounty.gov/oes/docs/2007_SanDiego_Fire_AAR_Main_Document_FINAL.pdf

¹⁴ <https://www.sandiegouniontribune.com/news/public-safety/story/2023-07-28/forward-progress-stopped-on-border-fire-in-east-county-evacuation-warning-lifted>

In Vissim simulations, roadway capacity is accounted for through multiple model inputs. The model incorporates roadway features and driver behaviors that impact the actual flow of traffic on a road segment. For instance, it includes elements like posted speed limits and reduced speed zones, which are typically found on curvy road sections and at all points where turns are made. These features cause vehicles to slow down or maintain an appropriate speed in these areas. Reduced speed zones simulate the need for vehicles to decelerate to navigate turns, and when combined with driver behavior, they effectively replicate real-world conditions. For example, when a driver slows down while navigating a curve, the following vehicles must also brake, creating a domino effect typical of evacuation traffic characterized by frequent stop-and-go patterns. A comparison between the theoretical roadway capacity and the actual roadway processing capacity during an evacuation measured from Vissim is provided in **Attachment B**.

Primary Evacuation Routes

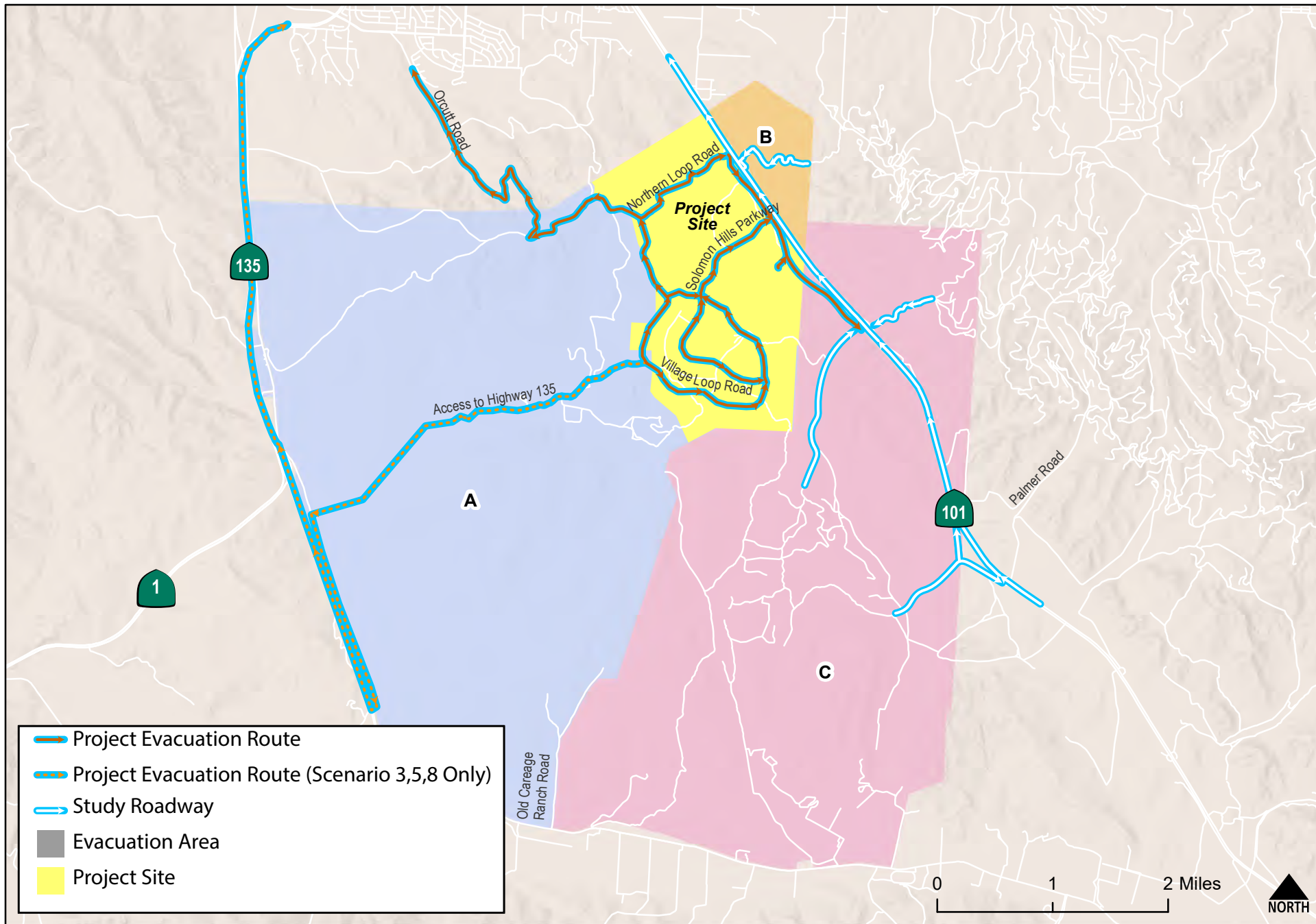
To account for uncertainty regarding which evacuation routes may be accessible during an emergency, including potential limitations in access to State Route 135, the analysis considers multiple scenarios. Each scenario assumes different combinations of available routes to ensure the evaluation captures a range of possible conditions. Multiple evacuation routes are available to and from the project site, and it is assumed that evacuees from both the project and nearby communities or land uses would use the closest available routes to leave the area. The selected evacuation routes were determined through a review of the project site context, the regional road network, and the most efficient paths out of at-risk areas. **Figure 3** presents the evacuation roadways available for the proposed project and the surrounding area.

No contraflow lanes¹⁵ were assumed, and access for first responders and law enforcement would be via inbound roadways. Two-way travel was assumed, with evacuating vehicles traveling outbound to the designated Safe Zone. It is assumed that first responders, law enforcement or other coordinating agency personnel will conduct traffic control (e.g., direct traffic at identified intersections and on/off ramps) during the evacuation process. Should evacuation managers determine whether contraflow is preferred or necessary, evacuation capacity would increase while evacuation times would decrease.

Evacuation Time

Fire evacuation orders, like most evacuation events, can be issued at any time, day or night, depending on a wildfire's location and movement, making it unpredictable when an evacuation order might actually occur. Considering that the Project is a Specific Plan, a conservative analysis assumes the evacuation order would be issued during in the early evening. At this time, all residents would have just returned home, schools might still be running after-school programs, commercial properties would be operational, and the evening commute would still be ongoing. The analysis also assumed that while law enforcement would provide traffic control and prevent traffic from entering the area under evacuation, but due to the distance between the Project's site and nearby developments (Los Alamos, Vandenberg Space Force Base) that there would still be residual traffic on highway 101 and highway 135 by the time traffic from the Project start to evacuate the Project's site. Thus, the analysis assumed conservatively that the evacuation would occur in concurrent with the PM peak hour traffic, and that vehicles would compete for right-of-way while evacuating from the area.

¹⁵ Contraflow or lane reversal involves directing traffic to use lanes coming from the source of a hazard to move people away from the hazard. Such a strategy can be used to eliminate bottlenecks in communities with road geometries that prevent efficient evacuations or to facilitate traffic flow out of a major urban area. Among the considerations in planning emergency contraflow are whether sufficient traffic control officers are available, potential negative impact on responding fire apparatus, access management, merging, exiting, safety concerns, and labor requirements. Contraflow configurations must be carefully planned based on on-site factors and should not be implemented in an *ad-hoc* fashion. Dudek July 2014. "Wildland Fire Evacuation Procedures Analysis" for City of Santa Barbara, California, page 65.



Solomon Hills Evacuation Analysis

Figure 3
Evacuation Areas and Routes

Study Area

The selection of the study area was guided by several factors, including each community's or area's access to the evacuation roadway network, proximity to the Wildland Urban Interface (WUI), and distance to Highway 135 and Highway 101. The study area was divided into 4 evacuation zones, each separated by natural barrier or access to evacuation routes. The use of these evacuation zones aligns with current evacuation practices.

Study Scenarios

As previously discussed, fire evacuation is not a one size fit all approach, and even though mass evacuation provides a conservative analysis, current evacuation practice indicates that this approach is not desirable due to the potential of creating high level of congestion and prevent those in at risk area from evacuating safely. But as a conservative assumption, the analysis assumed a mass evacuation of the Project's site via either highway 135 or highway 101 and headed north toward the town of Orcutt.

Safe Zone

Based on Dudek's review of the area's fire history, fires have halted along developed areas adjacent to wildland fuels and have not historically progressed into the more densely urbanized, irrigated, and hardscaped areas. Specifically, none of the historical fires encroached beyond the periphery areas within the wildland urban interface area of the Santa Barbara County or the town of Orcutt. Thus, it is assumed that evacuees are considered "safe" once their vehicles reach the town of Orcutt.

Evacuating Vehicles

The projected number of vehicles evacuating from or within the study area is based on a combination of various data sources: Parcel Quest's parcel map data for land use, vehicle ownership averages from the US Census Bureau, aerial imagery from Nearmap, and relevant environmental documents. Breakdown of the calculations for evacuating vehicles is as follows:

Existing Residential: This is obtained by multiplying the total number of households (from Parcel Quest parcel map data) with the average vehicle ownership, which stands at 2.01 vehicles per household as per the US Census Bureau.

Existing Agricultural land use: The number of vehicles evacuating from the agricultural land use was estimated based on a manual count conducted using Nearmap aerial images. It was assumed that 10% of the evacuating traffic from agricultural areas would consist of heavy vehicles, a figure determined through the review of these aerial images.

Proposed Project: This is calculated by multiplying the quantities of land use by the following sources:

Residential Land Use: Although Accessory Dwelling Units (ADUs) have historically generated lower parking demand compared to standard residential units, this analysis adopts a conservative approach by assuming that all ADUs have the same average vehicle ownership rate as standard dwelling units. Accordingly, the estimated parking demand is calculated as the total number of residential units, including ADUs, multiplied by the average vehicle ownership per unit.

Nonresidential Land Uses: Total square footage x parking rate derived from the Institute of Transportation Engineer (ITE) Parking Generation Manual.

Land use quantities for the proposed Project were obtained from the Solomon Hills Specific Plan Transportation Impact Study by Kimley Horn.

For a reasonable analysis, these scenarios assumed that for residential land uses, two percent (2%)¹⁶ of the evacuating vehicles are heavy vehicles (trucks with trailers). Two percent is the nationally acceptable ratio of heavy vehicles to all vehicles.

Table 1 displays the number of vehicles evacuating under each scenario. Average vehicle ownership, residential units, and evacuating vehicles calculations are provided in **Attachment C**.

Table 1 – Evacuating Vehicles

Scenario	Number of Evacuating Vehicles				
	A	B	C	Project	Total
Scenario 1 – Existing Land Uses	110	100	10	N/A	220
Scenario 2 & 3 - Existing Land Uses with Project	110	100	10	11,540	11,760
Scenario 3A – Existing Land Uses with Project Phase 1 and Phase 2 Only	110	100	10	6,285	6,505
Scenario 4 & 5 - Project Only	N/A	N/A	N/A	11,540	11,540
Scenario 6 - Existing Land Uses with Cumulative Projects	120	110	20	N/A	250
Scenario 7 & 8 - Existing Land Uses with Cumulative Projects with Project	120	110	20	11,540	11,790

It is important to note that Scenario 3A assumes development of the Phase 1 and Phase 2 land uses without implementing improvements to Bicknell Road, Graciosa Road, or the additional infrastructure outlined in the “Solomon Hills Transportation Feasibility for SR 135 Connection” memorandum prepared by the Wallace Group (January 2025). Furthermore, none of the evaluated scenarios include construction of the new highway interchange identified in the Primary Access Improvements described above. Instead, it is assumed that traffic would rely on the existing Palmer Road access in combination with Orcutt Road.

Extreme Wildfire Event

The evacuation analysis set forth below assumes wildfire scenarios where a fire is approaching the Centennial site from the north, northwest, southeast, and west. Fire is not anticipated to the east due to landscape disturbance and lack of a continuous fuel bed. This fire condition is the one most likely to require a large-scale evacuation, and the one that creates the most risk to property and humans.

In California, wildfire-related large-scale evacuations are almost exclusively associated with wildfires that occur on extreme fire weather days, also known as "Red Flag Warning" days. These days occur when relative humidity drops to low levels and strong winds from the north/northeast are sustained. With climate change, periods in which such wildfires occur may increase. During Red Flag Warning days, vegetation is more likely to ignite and fire spread is more difficult to control. In the greater Los Angeles region, these extreme weather days typically occur during limited periods in the late summer, fall and, occasionally, in the spring, but may occur at other times on a less frequent basis. Currently, it is not common to experience more than 10 to 15 Red Flag Warning days in a typical year. Wildfires that occur during these periods of extreme weather are driven by winds – referred to

¹⁶ https://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_599.pdf (p.5).

as "Santa Ana" winds – that come from the north or east and blow toward the south or west. Fires driven by these winds move very quickly, making them difficult to control. In response to such fires, emergency managers typically activate pre-planned evacuation triggers that provide warnings for down-wind communities to sequentially be notified of potential evacuation and movement to nearby urbanized areas prior to the fire's encroachment.

Wildfires that occur on non-extreme weather days typically behave in a much less aggressive manner and pose fewer dangers to life and property because they include less aggressive fire behavior and are easier to control. Terrain and fuel are typically the wildfire drivers during these conditions. During these non-extreme weather days, vegetation is much more difficult to ignite and does not spread fire as rapidly. In these situations, firefighters have a very high success rate of controlling fires and keeping them under 10 acres. CALFIRE estimates that 90% of all vegetation fires occur during normal, onshore weather conditions and that such fires account for only 10% of the land area burned. Conversely, the 10% of wildfires that occur during extreme fire weather account for 90% of the land area burned. This data highlights that the most dangerous fire conditions are those related to a fire that moves rapidly due to high winds and low humidity, whereas under normal conditions fires are likely to be controlled with no evacuation or possibly limited extent, focused evacuations. While it is possible that a fire driven by onshore wind (i.e., from the west) could require evacuation of the Project, such an event would be unusual. Moreover, due to the reduced fire behavior during normal weather periods, the evacuation would not be expected to be a large-scale evacuation of large areas.

Evacuation Analysis & Results

Based on the analysis methodology described above, **Table 2** reflects evacuation times for each scenario. Evacuation analysis worksheets are shown in **Attachment D**. A summary of the evacuation time for each scenario is provided below:

Table 2 – Evacuation Time by Evacuation Area

Scenario	# Vehicles	Evacuation Time (Hours: Minutes)				
		A	B	C	Max Evacuation Time (Area A-C)	Project
Scenario 1 – Existing Land Uses	220	0:25	0:09	0:17	0:25	N/A
Scenario 2 - Existing + Project with access to Highway 135	11,760	0:30	0:09	0:20	0:30	3:43
Project effect on evacuation time (Scenario 2 vs. Scenario 1)	N/A	0:05	0:00	0:02	0:05	N/A
Scenario 3 - Existing + Project without access to Highway 135	11,760	0:25	0:09	0:20	0:25	5:03
Project effect on evacuation time (Scenario 3 vs. Scenario 1)	N/A	0:00	0:00	0:02	0:00	N/A
Scenario 3A - Existing + Project without access to Highway 135	6,505	0:25	0:09	0:19	0:25	2:33
Project effect on evacuation time (Scenario 3A vs. Scenario 1)	N/A	0:20	0:00	0:17	0:20	N/A
Scenario 4 - Project Only with access to Highway 135	11,540	N/A	N/A	N/A	N/A	3:10
Scenario 5 – Project Only without access to Highway 135	11,540	N/A	N/A	N/A	N/A	4:46

Scenario	# Vehicles	Evacuation Time (Hours: Minutes)				
		A	B	C	Max Evacuation Time (Area A-C)	Project
Scenario 6 - Existing Land Uses with Cumulative Projects	250	0:25	0:09	0:19	0:25	N/A
Scenario 7 - Cumulative + Project with access to Highway 135	11,790	0:30	0:09	0:22	0:29	3:44
Project effect on evacuation time (Scenario 7 vs. Scenario 6)	N/A	0:05	0:00	0:02	0:04	N/A
Scenario 8 - Cumulative + Project without access to Highway 135	11,790	0:25	0:09	0:22	0:25	5:03
Project effect on evacuation time (Scenario 8 vs. Scenario 6)	N/A	0:00	0:00	0:02	0:00	N/A

Analysis and Conclusion

Study of evacuation timeframes and potential increases in evacuation time with a proposed project are relatively new CEQA focus areas. Public safety, not time, is generally the guiding consideration for evaluating impacts related to emergency evacuation. Consistent with CEQA Guidelines Appendix G, a Project's impact on evacuation is significant if the Project will significantly impair or physically interfere with implementation of an adopted emergency response or evacuation plan.

In any populated area, safely undertaking large-scale evacuations may take several hours or more and require moving people long distances to designated safety areas. Further, evacuations are fluid and timeframes may vary widely depending on numerous factors, including, among other things, the number of vehicles evacuating, the road capacity to accommodate those vehicles, residents' awareness and preparedness, evacuation messaging and direction, and on-site law enforcement control.

A recent study titled "Review of California Wildfire Evacuation from 2017 to 2019¹⁷" provides more insights on the topic. This research involved interviews with 553 individuals (297 evacuees affected by various fires) including the Creek Fire, Rye Fire, Skirball Fire, and Thomas Fire. The study aimed to understand the decision-making processes of these individuals during the fires, such as whether to evacuate or stay, when to leave, the paths taken, chosen shelters, destinations, and modes of transportation. According to this research, the time it took for evacuations ranged from under 30 minutes to over 10 hours. From this dataset¹⁸, the average evacuation time for the Creek Fire was found to be 3 hours and 40 minutes, involving 115,000 people¹⁹. For the Thomas Fire, the average time was 4 hours and 25 minutes, impacting 104,607 individuals. Per the FEIR, the estimated population for the proposed Project would be 55,000 people, significantly less than the population that was evacuated during the Creek Fire.

California fire and law enforcement agencies have integrated training, experience, and technology to assist in successful evacuations, which focus on moving persons at risk to safer areas before a wildfire encroaches on a populated area. Timeframes for moving people vary by site specifics, population, road capacities and other factors and there is no one threshold that would be appropriate to all locations. There are no established thresholds for evacuation times for this Project or at the time of this plan's preparation, for any California community, to the knowledge of the

¹⁷ <https://escholarship.org/uc/item/5w85z07g>

¹⁸ <https://zenodo.org/record/4408243>

¹⁹ <https://abc7.com/sylmar-brush-fire-creek-kagel-canyon/2740550/>

authors. This is primarily because every location and fire scenario are unique. While it may take one community 20 minutes to evacuate safely, it is not a valid assumption to consider a 3-hour evacuation for another community as unsafe. The 3-hour evacuation can be very safe while the 20-minute evacuation may be unsafe due to the conditions and exposures along the evacuation routes.

It should be noted that other variables can impact the number of fatalities during an evacuation. For Instance, some individuals may choose to stay behind to defend their property or adopt a wait-and-see approach²⁰. Such individual decisions could delay evacuation to a point where it becomes too late for that individual to leave safely²¹.

Best practices learned from previous wildfire events have resulted in a system that is many times more capable of managing evacuations. With the best practices in use today, evacuations are more strategic and surgical than in the past, evacuating smaller areas at highest risk and phasing evacuation traffic so that it flows more evenly and minimizes the surges that may slow an evacuation. Mass evacuation scenarios where large populations are all directed to leave simultaneously, resulting in traffic delays, are thereby avoided, and those populations most at risk are able to safely evacuate.

Due to its location, the Project would also provide the responding emergency managers (e.g., incident commander, Santa Barbara County Sheriff) the alternative option of recommending that all or a portion of the onsite population shelter in place. This on-site sheltering option is a contingency plan, but an important option in the scenario when evacuation is considered infeasible or the less safe option. This would provide emergency managers with a safer alternative to risking a late evacuation.

This information will be provided to law enforcement and fire agencies for use in pre-planning scenarios to better inform in the field decisions made pursuant to adopted Emergency Response Plans. Emergency personnel who issue an evacuation order may consider these time estimates in determining when and where to issue evacuation orders. In a real evacuation scenario, emergency managers may use alternative actions/options to further expedite evacuation. Such actions may include providing additional lead time in issuing evacuation orders, prioritizing area at higher risks, providing alternative signal control at downstream intersections, utilizing additional off-site routes or directing traffic to roadways with additional capacity, implementing contra-flow lanes, issuing "shelter-in-place" orders when determined to be safer than evacuation, or considering the possibility of a delayed evacuation where parts of the population could be directed to remain on-site until the fire burns through the fuels around the evacuation route. These options require "in the field" determinations of when evacuations are needed and how they are phased to maximize efficiency. Overall, safe evacuation of the Project and surrounding community is possible in all modeled scenarios.

Additional Recommendations

Based on lessons learned²² from available published materials, including the major wildfires that occurred in Los Angeles County in 2025, the Project should adopt a proactive approach to wildfire evacuation in order to improve resident safety and support more efficient emergency response. The

²⁰ Preparing for wildfire evacuation and alternatives: Exploring influences on residents' intended evacuation behaviors and mitigations (<https://doi.org/10.1016/j.ijdr.2021.102177>) Table 2 indicates that the majority of the surveyed individuals strongly agree with the stay and defend statements.

²¹ National Institute of Standards and Technology – Department of Commerce – WUI Fire Evacuation and Sheltering Consideration Assessment, Planning, and Execution (August 2023) – Evacuation Alternatives

²² Sources: Associated Press, "Homes were burning and roads already jammed when Pacific Palisades evacuation order came, AP finds" (January 2025), <https://apnews.com/article/69f10d320df14c6394fc2c646d1ff0ce>; Los Angeles County Emergency Management, "Palisades Fire Repopulation Update" (January 2025), <https://recovery.lacounty.gov/2025/01/20/palisades-fire-repopulation-january-20-2025>

2025 fires revealed significant delays in official evacuation alerts, with reports indicating that residents in Pacific Palisades began evacuating on their own before receiving any formal notice. These incidents underscore the need for community-level preparedness and early action. It is recommended that the operator of the Project, whether a homeowners association or a property management company, take responsibility for informing residents of potential evacuation conditions as early as possible, encourage the preparation of emergency go bags, and conduct annual vegetation management and defensible space audits to reduce wildfire risk. The operator should also monitor fire alerts from local and regional authorities and, if needed, coordinate with law enforcement and emergency personnel to implement a phased evacuation strategy specific to the Project site. These measures align with documented best practices from the 2025 wildfire response and can help reduce evacuation delays and increase the overall safety of residents.

Limitations

In coordination with fire professionals at Dudek, CRA has presented a conservative analysis simulating evacuation during an extreme wildfire event. However, as discussed above, wildfires are variable events. The underlying planning principle for fire preparedness, given the dynamic nature of a fire, is to demonstrate the availability of multiple route alternatives and response strategies to permit emergency professionals to manage their response according to the specific circumstances.

The Project area provides ample route and response alternatives that were not considered in this model. Emergency responders will coordinate the safest possible evacuation based on the dynamic circumstances of the actual event, including the appropriate phasing of the evacuation, and utilization of the most appropriate ingress and egress routes for area residents and emergency responders.

The breadth of route alternatives and response strategies available to emergency professionals to manage a potential fire in the City/County cannot and should not be evaluated using this evacuation analysis alone. A comprehensive view of Project fire safety is gained by understanding this memorandum, relevant fire protection and evacuation plan, along with the standard protocols and "in-the-field" decision making of emergency responders as detailed in the County and nearby cities Emergency Response Plans documents.

This travel time analysis presents a reasonable vehicle travel time estimate based on professional judgment made by CRA, Dudek, and fire operations experts with experience participating in evacuations in Southern California. Changing any number of these assumptions can lengthen or shorten the average vehicle travel time.

For Instance, a situation could arise in which professionals *may* choose to utilize additional roadways for evacuation not utilized in the analyses and *may also* choose to guide vehicle trips to more or different route permutations relative to what has been modeled in this analysis. A phased evacuation is also likely to be implemented, which improves the orderly flow of traffic in an evacuation scenario. The net result of changing the variables selected could yield an average evacuation travel time shorter or longer than the results detailed in the analysis. Many factors can shorten or lengthen the vehicle's time from the results shown herein. For example:

1. Changing the evacuation area affected by the evacuation order would affect the results. For Instance, emergency managers could order an early evacuation of land uses located in higher risks area. Thus, by the time an evacuation order is established for the proposed Project, there will be less vehicles on the road.

2. Increasing or decreasing the number of path permutations and percentage of the population utilizing each route that leads out of the immediate area could shorten or lengthen vehicle travel time relative to the results shown herein.
3. Emergency professionals electing to reserve certain travel lanes for emergency vehicle ingress for periods of time could affect the travel time relative to the results shown herein.
4. Assuming evacuees utilize fewer or more vehicles to evacuate from their homes relative to the vehicle utilization rate selected in the analysis would shorten or lengthen vehicle travel time relative to the results shown herein.
5. Changing the mix of vehicle trips allocated to each evacuation route could shorten or lengthen vehicle travel time relative to the results shown herein.
6. Assuming different road condition adjustment factors could shorten or lengthen the vehicle travel time relative to the results shown herein.
7. Assuming fewer people are at home when the evacuation notice is given would reduce the number of vehicle trips and shorten vehicle travel time relative to the results shown herein. For instance, an evacuation during daytime hours could result in fewer outbound trips than assumed in this analysis
8. Assuming some portion of vehicle trips are made in advance of the evacuation notice would reduce the number of vehicle trips relative to the results shown herein.
9. Assuming emergency professionals elect to implement contraflow on certain roadways to open up additional lanes for emergency evacuation egress could reduce the travel time results shown herein.

This evacuation time analysis is necessarily limited in scope given the numerous and unpredictable variables inherent in a wildfire and evacuation event. Because of this unpredictability, modeling evacuation behaviors and times is inherently speculative, though this report represents a reasonable forecast of multiple evacuation scenarios based on fire modeling results. However, as discussed above, it is not anticipated that the Project will significantly impact the safe evacuation of the proposed or existing surrounding communities based on evacuation times and other qualitative considerations.

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Attachment A
Best Practices Research

Reference & Analysis Tool Selection

CRA has compiled an extensive list of research and findings on best practices for both wildfire and standard evacuation analyses. These foundational best practices informed our evacuation analysis assumption and approaches. A list of the relevant and recent research is included at the end of this section.

Local Guidelines References

Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan (February 2023)
 Santa Barbara County Operational Area Emergency Management Plan (2013)

Incident Reports

Santa Barbara County Lake Fire Incident Reports: <https://www.countyofsb.org/4275/Lake-Fire-Incident--July-2024>

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Attachment B
Roadway Capacity Calculation

Per the Highway Capacity manual:

“The base capacity values presented in the HCM—for example, 2,400 vehicles per hour per lane on a freeway with a 75-mph free-flow speed, or 1,900 vehicles per hour of green at a traffic signal—are just that: *base values*. These values incorporate, among other factors, ideal roadway geometry, a traffic stream composed entirely of passenger cars, and good weather.

Highway Capacity Manual: A Guide for Multimodal Mobility Analysis

Exhibit 12-4
Basic Freeway and Multilane
Highway Segment Capacity
Under Base Conditions

FFS (mi/h)	Capacity of Basic Freeway Segments (pc/h/ln)	Capacity of Multilane Highway Segments (pc/h/ln)
75	2,400	NA
70	2,400	2,300 ^a
65	2,350	2,300 ^a
60	2,300	2,200
55	2,250	2,100
50	NA	2,000
45	NA	1,900

Notes: NA = not available.

^a Capacities for multilane highways with 65- and 70-mi/h FFS are extrapolated and not based on field data.

The table below presents roadway capacity in fifteen-minute increments.

Speed	Capacity per Hour	Capacity per 15 Minutes per lane	Source
25	1500	375	Estimate based on HCM
30	1600	400	Estimate based on HCM
35	1700	425	Estimate based on HCM
40	1800	450	Estimate based on HCM
45	1900	475	HCM Multi-lane Highway
50	2000	500	HCM Multi-lane Highway
55	2100	525	HCM Multi-lane Highway
60	2200	550	HCM Multi-lane Highway
65	2300	575	HCM Multi-lane Highway

The evacuation capacity of each roadway varies due to factors such as speed limits and downstream traffic congestion. As a result, during evacuations, the number of vehicles that can travel per hour per lane is typically lower than during stable flow conditions.

The evacuation capacity of each roadway varies due to factors such as stop-and-go traffic, yielding behavior, downstream or upstream congestion, and other driver behaviors that influence the actual number of vehicles passing through a specific roadway segment. The table below compares the capacity of evacuation roadway as measured in Vissim against the theoretical capacity under stable traffic flow. As shown, the evacuation roadway processing capacity is lower than the stable flow conditions due to the reasons mentioned above

Roadway, Segment	Function Classification	Number of Evacuating Lane	Speed	HCM Capacity	Evacuating Vehicles every 15 minutes (900 seconds) ²³			
					900 - 1800	1800 - 2700	2700 - 3600	3600 - 4500
Solomon Hills Parkway, between Frontage Road and Internal Connector	4-lane Arterial	2	35	850	379	126	157	127
Solomon Hills Parkway, between Internal Connector and Village Loop Road	4-lane Arterial	2	35	850	416	136	156	132
Highway 101, north of Project Site	4-Lane Highway	2	65	1,150	840	819	841	821
Highway 135, north of Project Site	4-Lane Highway	2	65	1,150	542	798	496	407

²³ Traffic volumes measured at each roadway segment every 900 seconds or 15 minutes



Attachment C
Average vehicle ownership, residential units, and evacuating vehicles calculations



Evacuation Vehicles Calculation

Evacuating Vehicles from Existing Land Use

The image and table below present the area, number of dwelling units, acreage, and building area for the existing land use located east of the Tejon Ranch Project. As indicated, there are 64 residential dwelling units in total, which, when multiplied by the average vehicle ownership of 2.07, would amount to 133 vehicles. However, based on an aerial image review, some properties have more than two vehicles on-site. Therefore, as a conservative estimate, the total number of evacuating vehicles was rounded up to the nearest hundred, resulting in 200 vehicles.

Evacuating Vehicles from the Proposed Project

This section summarizes the estimated number of vehicles to be evacuated from the proposed Project. The number of evacuating vehicles was determined by multiplying the amount of land use by either the average vehicle ownership rate for residential areas or the parking rate from the Institute of Transportation Engineers Parking Generation Manual for non-residential areas. The table below shows the average vehicle ownership or parking rate for various land uses.

Excerpts from the Institute of Transportation Engineers Parking Generation Manual for relevant land uses are provided below.

ITE Land Use Code	Land Use	Size	Units	Vehicle Ownership or Parking Generation Rate	Total Vehicles
210	Single-Family Detached Housing	2,522	Dwelling Unit(s)	2.01	5070
220	Multifamily Housing (Low-Rise) Not Close to Rail Transit	353	Dwelling Unit(s)	2.01	710
223	Affordable Housing - Income Limits	400	Dwelling Units	2.01	804
251	Senior Adult Housing-Detached	350	Dwelling Unit(s)	2.01	704
252	Senior Adult Housing-Attached	375	Dwelling Unit(s)	2.01	229
220	Accessory Dwelling Units (ADU) - Multifamily Housing (Low-Rise) Not Close to Rail Transit	1391	Dwelling Unit(s)	2.01	2796
520	K-8 School	1000	Student(s)	0.13	130
710	General Office Building	525	1,000 Sq Ft	2.39	1255
821	Shopping Plaza (40k - 150k)	125	1,000 Sq Ft GLA	1.95	244
Total					12,467

12,955

Average Vehicle Ownership Calculation

The average vehicle ownership rate was sourced from the US Census American Community Survey for the Town of Orcutt, the nearest developed area to the Project site. It is assumed that residents of the Project will have a similar vehicle ownership rate to that of Orcutt.

DATA NOTES

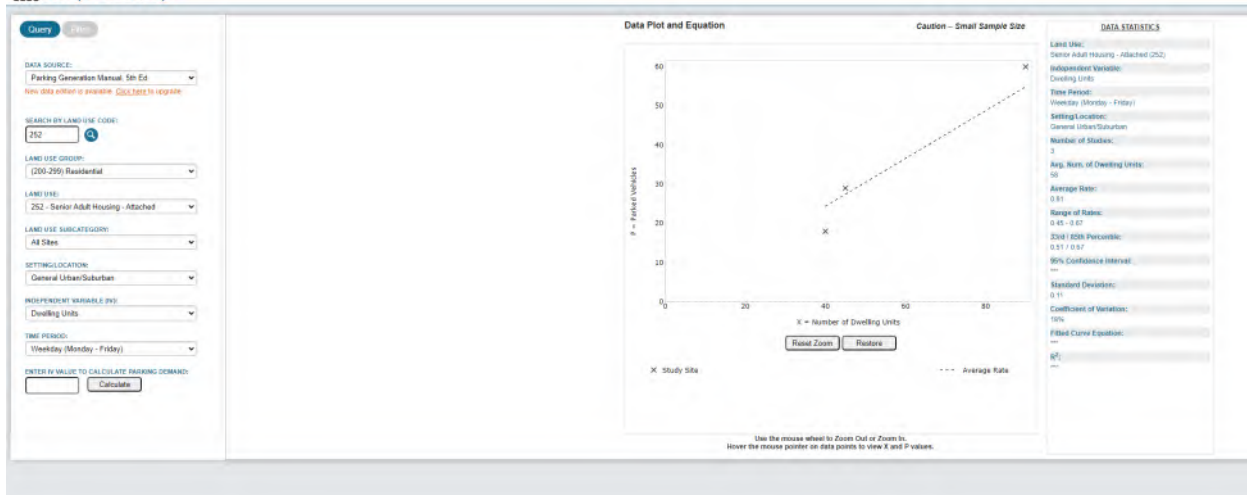
TABLE ID:	DP04
SURVEY/PROGRAM:	American Community Survey
VINTAGE:	2022
DATASET:	ACSDP5Y2022
PRODUCT:	ACS 5-Year Estimates Data Profiles

Vehicles Available	Household	Total Vehicles
No vehicles available	392	0
1 vehicle available	2751	2751
2 vehicles available	4365	8730
3 or more vehicles available	3672	11016
	Total Veh	22497
	Veh / HH	2.012254

Senior Adult Housing Parking Demand

ITEParkGen Web App

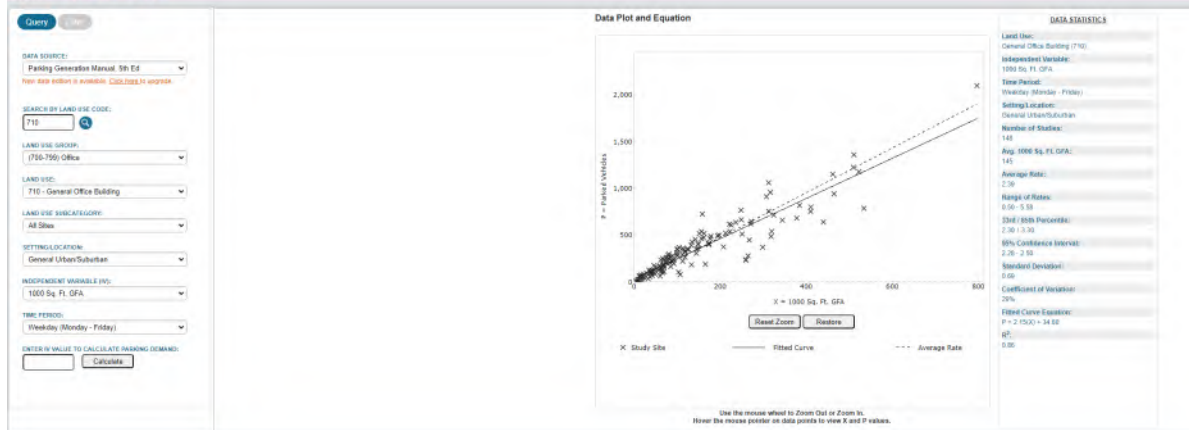
Graph Look Up



Office Parking Demand

ITEParkGen Web App

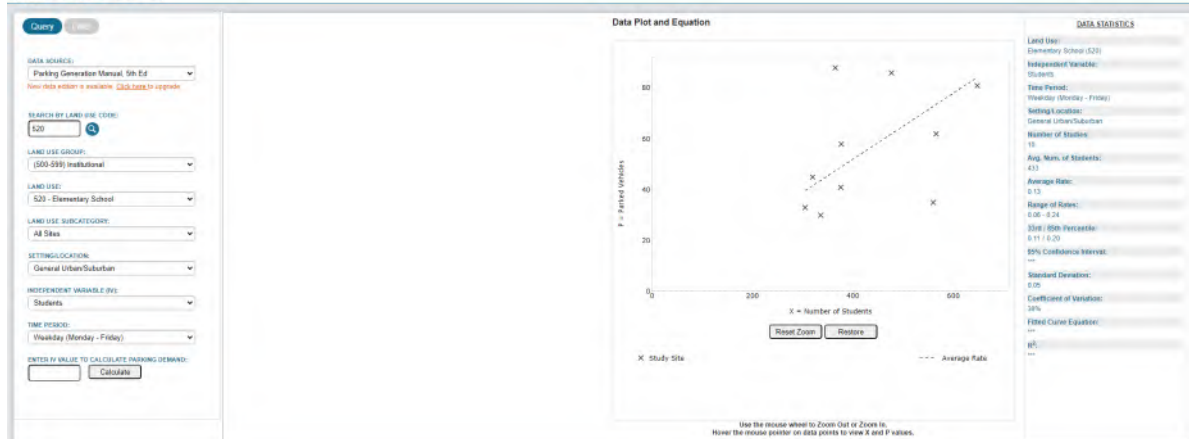
Graph Look Up



Elementary School Parking Demand

ITEParkGen Web App

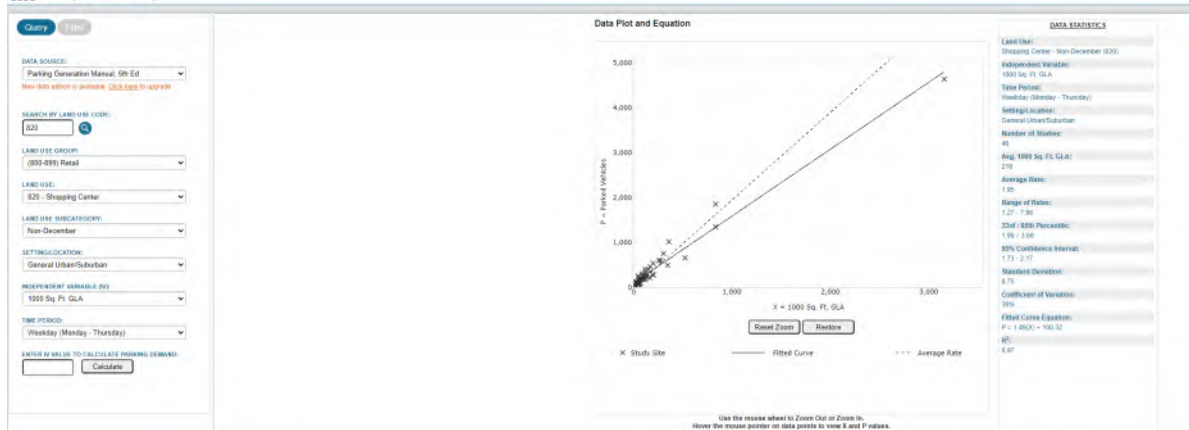
Graph Look Up



Shopping Center Parking Demand

ITEParkGen Web App

Graph Look Up



Solomon Hills Evacuation Attachment



Attachment D
Evacuation Analysis Worksheets



The tables below present the evacuation results for each scenario. The displayed times represent the maximum evacuation time for the area being evacuated, meaning the time when the last vehicle from a specific village or area crossed the "finish" line. The times are shown as the total number of seconds since the evacuation order was issued.

Scenario		Existing						
Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	904.70	2407.60	907.50	1543.10	907.30	2078.80	0.00	0.00
2	904.80	2402.60	907.40	1388.90	907.50	1741.80	0.00	0.00
3	904.30	2363.90	907.60	1492.80	907.70	1568.00	0.00	0.00
4	904.50	2418.70	907.70	1443.10	907.50	1998.20	0.00	0.00
5	904.50	2344.40	907.50	1578.50	907.80	1932.90	0.00	0.00
6	904.70	2378.20	907.80	1442.00	907.60	2081.70	0.00	0.00
7	904.70	2382.40	907.60	1428.30	907.60	1975.00	0.00	0.00
8	904.60	2434.70	907.60	1424.30	907.10	1952.70	0.00	0.00
9	904.90	2386.00	907.10	1444.80	907.60	2192.90	0.00	0.00
10	904.70	2458.70	907.70	1458.20	907.50	2177.70	0.00	0.00
11	904.50	2432.00	907.50	1399.80	906.80	2146.40	0.00	0.00
12	904.40	2465.20	906.80	1434.10	907.90	1985.80	0.00	0.00
13	904.70	2368.10	908.00	1523.20	907.30	2129.80	0.00	0.00
14	904.60	2350.30	907.40	1476.40	906.90	2006.60	0.00	0.00
15	904.10	2413.10	907.00	1555.20	907.20	1947.70	0.00	0.00
16	904.80	2427.20	907.20	1430.70	907.60	2195.10	0.00	0.00
17	904.50	2420.40	907.60	1419.70	907.70	2024.90	0.00	0.00
18	904.30	2445.10	907.80	1524.80	906.80	2130.10	0.00	0.00
19	904.50	2444.20	906.80	1439.00	907.00	1555.40	0.00	0.00
20	904.70	2458.90	907.10	1531.10	907.20	1915.80	0.00	0.00
Average	904.58	2410.09	907.44	1468.90	907.38	1986.87	0.00	0.00



Scenario		Existing Plus Project with SR-135 Access						
Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	904.50	2744.20	907.30	1443.90	907.20	2135.60	905.80	14453.40
2	904.50	2691.00	907.10	1546.90	907.30	2135.60	905.30	13937.70
3	904.40	2818.40	907.40	1437.10	907.10	1896.20	905.10	14435.70
4	904.60	2803.50	906.90	1431.00	907.40	2204.10	904.90	14526.60
5	904.60	2703.80	907.50	1542.60	907.80	1804.30	905.30	14225.10
6	904.30	2614.40	907.90	1430.60	906.70	2182.00	906.00	14183.20
7	904.70	2554.40	906.90	1437.20	907.40	2204.70	905.20	13996.30
8	904.10	2716.80	907.40	1422.00	907.70	2143.60	905.20	14194.50
9	904.40	2659.80	907.50	1571.90	907.30	2244.20	905.50	13903.20
10	904.10	2803.90	907.00	1412.20	907.10	2041.40	905.50	14443.30
11	904.80	2770.60	907.20	1591.20	906.90	2151.90	905.20	14466.20
12	904.40	2650.60	907.40	1397.10	907.20	2158.70	905.10	14362.50
13	904.60	2841.80	907.10	1408.00	907.30	2239.00	905.60	14618.50
14	904.30	2712.10	907.80	1433.90	907.30	2194.70	905.20	14213.70
15	904.60	2886.70	907.50	1437.40	907.10	2265.80	905.50	14293.30
16	904.30	2546.20	907.40	1413.10	907.10	1996.60	905.40	14581.80
17	904.20	2682.10	907.10	1391.40	907.00	1871.70	905.60	14583.40
18	904.70	2721.60	907.30	1450.30	907.30	2217.60	905.20	14520.00
19	904.60	2640.70	907.80	1442.80	906.80	2207.70	905.20	14111.20
20	904.50	2655.60	907.10	1458.40	906.90	2101.30	905.50	14211.00
Average	904.46	2710.91	907.33	1454.95	907.20	2119.84	905.37	14313.03
Change in Time		1806.45		547.62		1212.64		13407.67
Convert to standard time		0:30		0:09		0:20		3:43
Report		0:30		0:09		0:20		3:43



Scenario Existing Plus Project without SR-135 Access

Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	904.50	2450.00	907.30	1443.90	907.20	2151.00	905.80	19405.60
2	904.50	2404.70	907.10	1546.90	907.30	2160.90	905.30	18482.70
3	904.40	2446.90	907.40	1437.10	907.10	1888.40	905.10	19087.50
4	904.60	2449.80	906.90	1431.00	907.40	2202.90	904.90	19342.00
5	904.60	2446.40	907.50	1542.60	907.80	1824.10	905.30	19097.90
6	904.30	2383.30	907.90	1430.60	906.70	2103.10	906.00	19021.20
7	904.70	2364.30	906.90	1437.20	907.40	2161.10	905.20	19032.30
8	904.10	2428.80	907.40	1422.00	907.70	2154.80	905.20	18966.90
9	904.40	2448.00	907.50	1571.90	907.30	2226.00	905.50	19013.70
10	904.10	2425.70	907.00	1412.20	907.10	2035.60	905.50	19303.70
11	904.80	2385.10	907.20	1591.20	906.90	2206.10	905.20	19185.60
12	904.40	2399.70	907.40	1397.10	907.20	2125.00	905.10	19161.80
13	904.60	2482.00	907.10	1408.00	907.30	2256.40	905.60	19346.30
14	904.30	2434.50	907.80	1433.90	907.30	2198.00	905.20	18935.40
15	904.60	2456.20	907.50	1437.40	907.10	2271.60	905.50	19055.20
16	904.30	2383.20	907.40	1413.10	907.10	2006.70	905.40	19392.00
17	904.20	2471.70	907.10	1391.40	907.00	1877.10	905.60	19088.50
18	904.70	2402.10	907.30	1450.30	907.30	2241.80	905.20	19243.90
19	904.60	2373.70	907.80	1442.80	906.80	2229.60	905.20	18906.50
20	904.50	2404.00	907.10	1458.40	906.90	2049.30	905.50	19228.20
Average	904.46	2422.01	907.33	1454.95	907.20	2118.48	905.37	19114.85
Change in Time		1517.55		547.62		1211.28		18209.48
Convert to standard time		0:25		0:09		0:20		5:03
Report		0:25		0:09		0:20		5:03



Scenario Existing Plus Project Phase 1 and 2 without SR-135 Access

Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	904.50	2450.00	907.30	1443.90	907.20	2151.00	905.80	10244.10
2	904.50	2404.70	907.10	1546.90	907.30	2142.80	905.30	10088.80
3	904.40	2446.90	907.40	1437.10	907.10	1888.40	905.10	10098.40
4	904.60	2449.80	906.90	1431.00	907.40	2200.50	904.90	10356.30
5	904.60	2446.40	907.50	1542.60	907.80	1824.10	905.30	10070.70
6	904.30	2383.30	907.90	1430.60	906.70	2103.10	906.00	10042.60
7	904.70	2364.30	906.90	1437.20	907.40	2161.10	905.20	10098.50
8	904.10	2428.80	907.40	1422.00	907.70	2154.80	905.20	10046.10
9	909.50	2455.00	917.30	1451.90	918.20	2156.00	910.80	10250.10
10	908.50	2411.70	913.10	1550.90	913.30	2148.80	912.30	10098.80
11	912.40	2453.90	913.40	1443.10	913.10	1895.40	909.10	10107.40
12	913.60	2459.80	910.90	1436.00	911.40	2208.50	912.90	10361.30
13	911.60	2452.40	915.50	1546.60	911.80	1828.10	913.30	10074.70
14	908.30	2390.30	912.90	1440.60	915.70	2113.10	911.00	10046.60
15	910.70	2370.30	914.90	1445.20	911.40	2168.10	911.20	10102.50
16	908.10	2437.80	911.40	1427.00	917.70	2164.80	913.20	10053.10
17	908.70	2368.30	917.90	1448.20	911.40	2171.10	914.20	10109.50
18	914.10	2436.80	915.40	1433.00	918.70	2160.80	909.20	10056.10
19	910.70	2368.30	914.90	1446.20	914.40	2166.10	914.20	10109.50
20	912.10	2437.80	915.40	1430.00	917.70	2162.80	912.20	10051.10
Average	908.20	2420.83	911.57	1459.50	911.67	2098.47	909.32	10123.31
Change in Time		1512.63		547.93		1186.80		9213.99
Convert to standard time		0:25		0:09		0:19		2:33
Report		0:25		0:09		0:19		2:33



Scenario

Project with SR-135 Access

Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	0.00	0.00	0.00	0.00	0.00	0.00	Min	Max
2	0.00	0.00	0.00	0.00	0.00	0.00	905.50	12175.30
3	0.00	0.00	0.00	0.00	0.00	0.00	905.40	12153.80
4	0.00	0.00	0.00	0.00	0.00	0.00	905.20	12401.30
5	0.00	0.00	0.00	0.00	0.00	0.00	905.60	12562.20
6	0.00	0.00	0.00	0.00	0.00	0.00	905.40	12580.50
7	0.00	0.00	0.00	0.00	0.00	0.00	904.90	12507.20
8	0.00	0.00	0.00	0.00	0.00	0.00	905.70	12211.60
9	0.00	0.00	0.00	0.00	0.00	0.00	905.30	12277.90
10	0.00	0.00	0.00	0.00	0.00	0.00	905.00	12414.90
11	0.00	0.00	0.00	0.00	0.00	0.00	905.30	12493.20
12	0.00	0.00	0.00	0.00	0.00	0.00	905.50	12210.80
13	0.00	0.00	0.00	0.00	0.00	0.00	905.70	12335.30
14	0.00	0.00	0.00	0.00	0.00	0.00	905.00	12319.60
15	0.00	0.00	0.00	0.00	0.00	0.00	905.10	12421.80
16	0.00	0.00	0.00	0.00	0.00	0.00	905.30	12313.40
17	0.00	0.00	0.00	0.00	0.00	0.00	905.10	12449.20
18	0.00	0.00	0.00	0.00	0.00	0.00	905.40	12410.30
19	0.00	0.00	0.00	0.00	0.00	0.00	905.20	12237.60
20	0.00	0.00	0.00	0.00	0.00	0.00	905.70	12083.90
Average	0.00	0.00	0.00	0.00	0.00	0.00	905.33	12345.25
Change in Time		0.00		0.00		0.00		11439.92
Convert to standard time		0:00		0:00		0:00		3:10
Report								3:10



Scenario **Project without SR-135 Access**

Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	0.00	0.00	0.00	0.00	0.00	0.00	905.80	17795.80
2	0.00	0.00	0.00	0.00	0.00	0.00	905.30	18112.30
3	0.00	0.00	0.00	0.00	0.00	0.00	905.10	17671.20
4	0.00	0.00	0.00	0.00	0.00	0.00	904.90	17755.50
5	0.00	0.00	0.00	0.00	0.00	0.00	905.30	17996.20
6	0.00	0.00	0.00	0.00	0.00	0.00	906.00	18514.60
7	0.00	0.00	0.00	0.00	0.00	0.00	905.20	18322.90
8	0.00	0.00	0.00	0.00	0.00	0.00	905.20	18660.90
9	0.00	0.00	0.00	0.00	0.00	0.00	910.80	18126.20
10	0.00	0.00	0.00	0.00	0.00	0.00	912.30	18244.80
11	0.00	0.00	0.00	0.00	0.00	0.00	909.10	18645.30
12	0.00	0.00	0.00	0.00	0.00	0.00	912.90	18756.60
13	0.00	0.00	0.00	0.00	0.00	0.00	913.30	18045.80
14	0.00	0.00	0.00	0.00	0.00	0.00	911.00	17873.40
15	0.00	0.00	0.00	0.00	0.00	0.00	911.20	18280.20
16	0.00	0.00	0.00	0.00	0.00	0.00	913.20	17889.30
17	0.00	0.00	0.00	0.00	0.00	0.00	914.20	18234.60
18	0.00	0.00	0.00	0.00	0.00	0.00	909.20	17394.90
19	0.00	0.00	0.00	0.00	0.00	0.00	914.20	18091.67
20	0.00	0.00	0.00	0.00	0.00	0.00	912.20	17186.34
Average	0.00	0.00	0.00	0.00	0.00	0.00	909.32	18079.93
Change in Time		0.00		0.00		0.00		17170.61
Convert to standard time		0:00		0:00		0:00		4:46
Report								4:46



Scenario		Cumulative							
Run / Evacuation Area	A		B		C		Project		
	Start	End	Start	End	Start	End	Start	End	
1	904.70	2313.60	907.50	1433.40	907.30	2054.50	0.00	0.00	
2	904.80	2356.30	907.40	1414.70	907.50	2091.90	0.00	0.00	
3	904.30	2356.60	907.60	1426.40	907.70	2046.60	0.00	0.00	
4	904.50	2370.70	907.70	1515.70	907.50	2185.20	0.00	0.00	
5	904.50	2372.80	907.50	1542.00	907.80	2117.10	0.00	0.00	
6	904.70	2386.70	907.80	1539.00	907.60	2114.20	0.00	0.00	
7	904.70	2439.90	907.60	1428.50	907.60	2047.80	0.00	0.00	
8	904.60	2425.90	907.60	1487.90	907.10	1970.10	0.00	0.00	
9	904.90	2431.60	907.10	1420.80	907.60	2146.90	0.00	0.00	
10	904.70	2466.50	907.70	1432.00	907.50	2140.30	0.00	0.00	
11	904.50	2463.10	907.50	1415.10	906.80	2147.00	0.00	0.00	
12	904.40	2427.70	906.80	1425.30	907.90	1968.10	0.00	0.00	
13	904.70	2301.40	908.00	1542.90	907.30	2222.00	0.00	0.00	
14	904.60	2345.30	907.40	1521.90	906.90	2158.40	0.00	0.00	
15	904.10	2427.50	907.00	1431.70	907.20	1999.70	0.00	0.00	
16	904.80	2460.40	907.20	1441.40	907.60	2172.30	0.00	0.00	
17	904.50	2470.90	907.60	1511.50	907.70	2226.50	0.00	0.00	
18	904.30	2416.30	907.80	1529.60	906.80	1961.10	0.00	0.00	
19	904.50	2412.30	906.80	1389.80	907.00	2336.80	0.00	0.00	
20	904.70	2516.20	907.10	1562.00	907.20	2028.10	0.00	0.00	
Average	904.58	2408.09	907.44	1470.58	907.38	2106.73	0.00	0.00	
Change in Time		1503.51		563.15		1199.35		0.00	
Convert to standard time		0:25		0:09		0:19		0:00	
Report		0:25		0:09		0:19		0:00	



Scenario **Cumulative with Project with SR-135 Access**

Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	904.50	2708.40	907.30	1443.90	907.20	2304.00	905.80	14642.50
2	904.50	2737.50	907.10	1447.40	907.30	2322.00	905.30	14041.40
3	904.40	2688.70	907.40	1461.40	907.10	2080.70	905.10	14511.10
4	904.60	2712.30	906.90	1435.70	907.40	2189.00	904.90	14605.90
5	904.60	2780.90	907.50	1525.40	907.80	2166.00	905.30	14299.70
6	904.30	2711.70	907.90	1467.10	906.70	2294.20	906.00	14280.60
7	904.70	2711.70	906.90	1426.00	907.40	2120.80	905.20	14051.30
8	904.10	2647.50	907.40	1405.70	907.70	2105.20	905.20	14245.10
9	904.40	2678.60	907.50	1451.60	907.30	2145.40	905.50	13931.80
10	904.10	2648.60	907.00	1463.80	907.10	2269.90	905.50	14560.40
11	904.80	2666.30	907.20	1511.30	906.90	2470.90	905.20	14477.10
12	904.40	2559.60	907.40	1423.40	907.20	2244.00	905.10	14366.10
13	904.60	2828.10	907.10	1418.50	907.30	2281.80	905.60	14688.80
14	904.30	2759.60	907.80	1415.40	907.30	2075.00	905.20	14277.00
15	904.60	2875.50	907.50	1492.50	907.10	1954.30	905.50	14333.30
16	904.30	2769.90	907.40	1420.10	907.10	2279.30	905.40	14563.50
17	904.20	2709.90	907.10	1394.20	907.00	2289.10	905.60	14637.00
18	904.70	2630.50	907.30	1450.30	907.30	2243.80	905.20	14612.60
19	904.60	2740.20	907.80	1555.60	906.80	2217.70	905.20	14235.60
20	904.50	2489.80	907.10	1522.60	906.90	2494.50	905.50	14300.20
Average	904.46	2702.77	907.33	1456.60	907.20	2227.38	905.37	14383.05
Change in Time		1798.31		549.27		1320.19		13477.69
Convert to standard time		0:29		0:09		0:22		3:44
Report		0:29		0:09		0:22		3:44



Scenario **Cumulative with Project without SR-135 Access**

Run / Evacuation Area	A		B		C		Project	
	Start	End	Start	End	Start	End	Start	End
1	904.50	2523.40	907.30	1443.90	907.20	2257.00	905.80	19405.60
2	904.50	2395.00	907.10	1447.40	907.30	2354.10	905.30	18482.70
3	904.40	2429.60	907.40	1461.40	907.10	2040.30	905.10	19087.50
4	904.60	2469.50	906.90	1435.70	907.40	2203.00	904.90	19342.00
5	904.60	2464.00	907.50	1525.40	907.80	2195.90	905.30	19097.90
6	904.30	2382.30	907.90	1467.10	906.70	2308.10	906.00	19021.20
7	904.70	2405.00	906.90	1426.00	907.40	2100.40	905.20	19032.30
8	904.10	2404.50	907.40	1405.70	907.70	2181.00	905.20	18966.90
9	904.40	2473.30	907.50	1451.60	907.30	2216.10	905.50	19013.70
10	904.10	2449.40	907.00	1463.80	907.10	2222.60	905.50	19303.70
11	904.80	2402.10	907.20	1511.30	906.90	2530.00	905.20	19185.60
12	904.40	2452.00	907.40	1423.40	907.20	2213.40	905.10	19161.80
13	904.60	2540.00	907.10	1418.50	907.30	2206.70	905.60	19346.30
14	904.30	2461.70	907.80	1415.40	907.30	2080.30	905.20	18935.40
15	904.60	2504.10	907.50	1492.50	907.10	1899.00	905.50	19055.20
16	904.30	2430.80	907.40	1420.10	907.10	2276.10	905.40	19392.00
17	904.20	2501.40	907.10	1394.20	907.00	2325.00	905.60	19088.50
18	904.70	2433.80	907.30	1450.30	907.30	2338.00	905.20	19243.90
19	904.60	2398.50	907.80	1555.60	906.80	2228.30	905.20	18906.50
20	904.50	2380.30	907.10	1522.60	906.90	2447.60	905.50	19228.20
Average	904.46	2445.04	907.33	1456.60	907.20	2231.15	905.37	19114.85
Change in Time		1540.58		549.27		1323.95		18209.48
Convert to standard time		0:25		0:09		0:22		5:03
Report		0:25		0:09		0:22		5:03

Appendix D

Occupant Quick Reference Guide

Quick Reference - Wildfire Preparedness

The Quick Reference Guide provides helpful tips and educational resources, so occupants (e.g., employees and visitors) are prepared in the event of a wildland fire evacuation.

Evacuation routes for Project occupants are detailed in Section 4 and illustrated in Figure 1. Figure 2 displays the Project's vicinity location, and Figure 3 is the Project's site plan. Occupants should know available routes, stay informed, and follow directions provided by law enforcement or fire agencies, news media, and other credible sources, and should not rely on navigation apps that may inadvertently lead persons toward the approaching wildfire.

Nearest Medical Facilities

Hospitals:

Dignity Health – Marian Regional Medical Center

1400 E Church St., Santa Maria, CA 93454

Head north on US – 101 North
Take exit 164 for Clark Avenue
Turn left onto E Clark Avenue
Turn left onto S Bradley Road
Hospital will be on the left

Santa Ynez Valley Cottage Hospital Emergency

2050 Viborg Road, Solvang, CA 93463

Head south on US – 101 South
Take exit 146 for CA – 154 toward Los Olivos/ Lake Cachuma
Turn left onto CA – 154 East
Turn right onto Foxen Canyon Road
Turn left onto Steele Street
Follow Steele Street as it becomes Alamo Pintado Road
Turn right onto Santa Barbara Avenue
Continue onto Alamo Pintado Road
Turn left onto Viborg Road
Hospital will be on the right

Urgent Care Facilities:

Cottage Urgent Care – Orcutt

1606 E Clark Ave Building C,
Suite 102, Orcutt, CA 93455

Community Health Centers – Los Alamos

490 Bell Street Apt 101, Los Alamos, CA 93440

Dignity Health – Urgent Care - Orcutt

1102 E Clark Ave Ste 120A,
Santa Maria, CA 93455

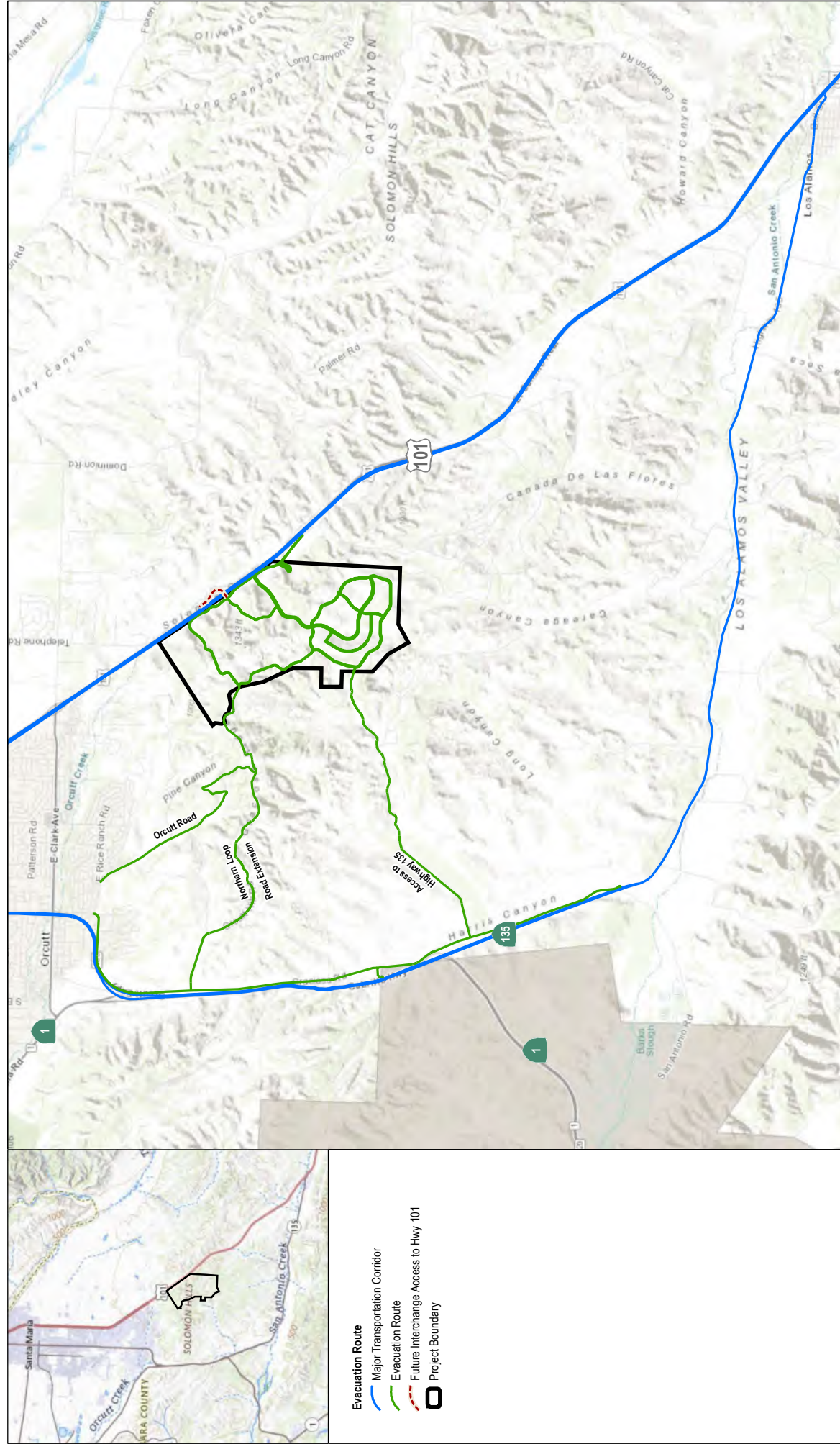
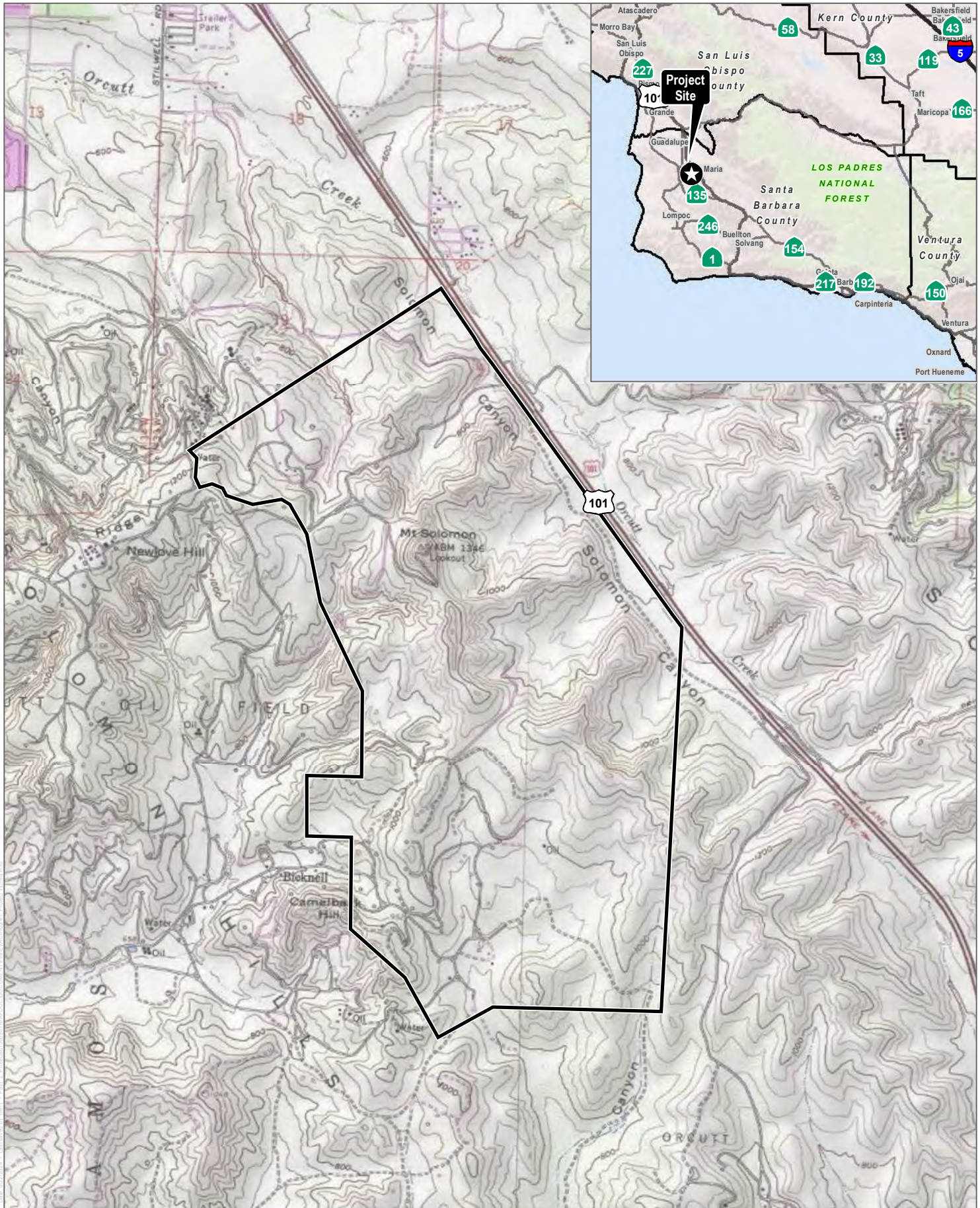


FIGURE 4
Evacuation Routes
 Wildfire Evacuation Plan for the Solomon Hills Project

SOURCE: AERIAL- ESRI MAPPING SERVICE 2023; DEVELOPMENT/RRM DESIGN GROUP 2024





SOURCE: ESRI IMAGERY SERVICE 2023

FIGURE 1
Project Vicinity

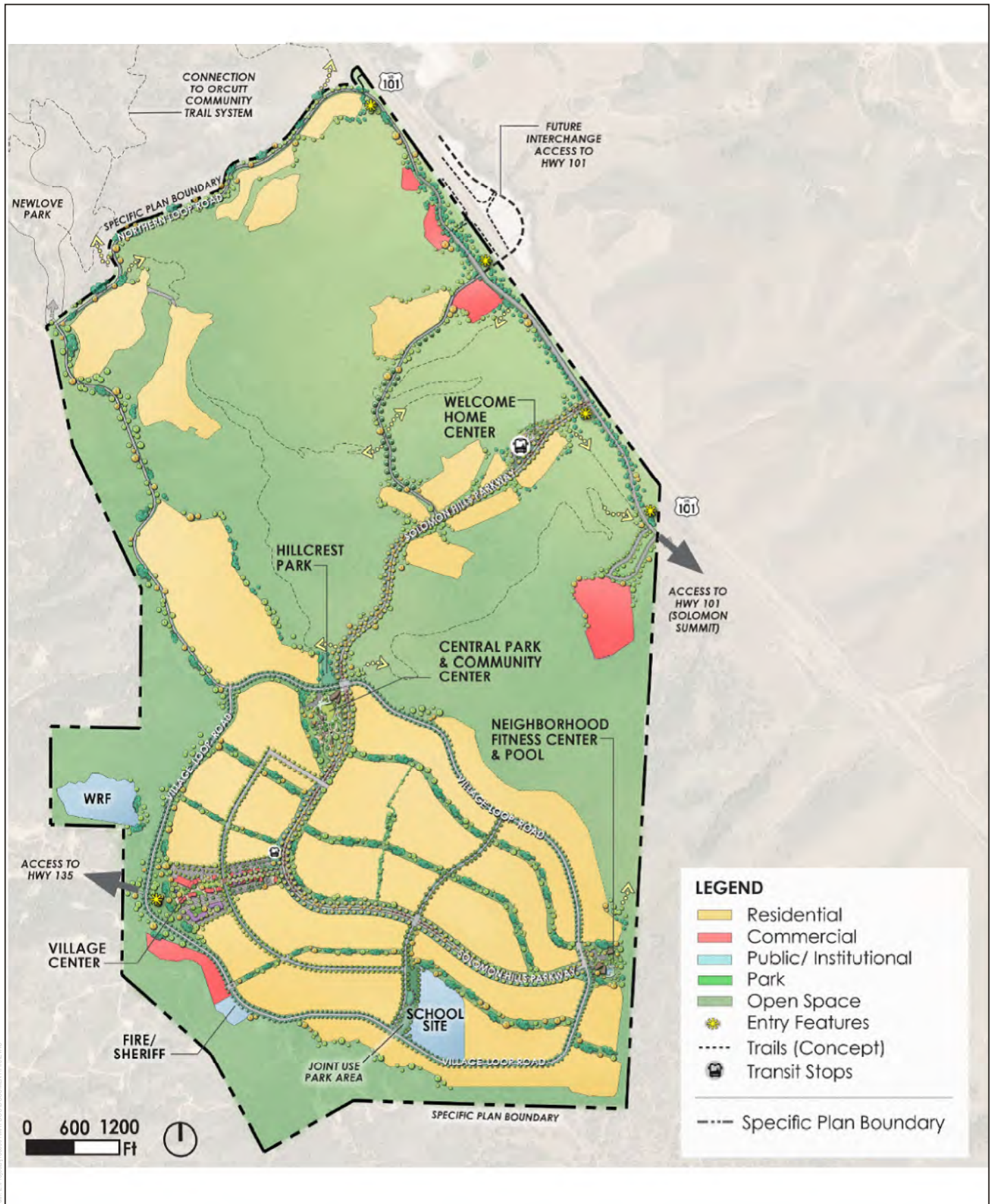


FIGURE 2

Site Land Use Plan

Solomon Hills Wildfire Evacuation Study

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Register to Receive Emergency Alerts

The County of Santa Barbara (County) utilizes Ready SBC Alerts for its Emergency Notification System. The Santa Barbara County Office of Emergency Management (SBCOEM) created Ready SBC, ReadySBC Alerts is the County's notification system that allows public safety officials to alert community members of emergencies and any necessary protective actions, such as evacuation and sheltering in place. Alerts and warnings can be sent to your mobile device (call or text), email, landline phones, and TTY/TDD. Santa Barbara County OEM also utilizes Nixle to deliver emergency alerts. Nixle delivers emergency alerts and information through a short text message or email. To register for Nixle alerts, text your zip code to **88877**. This tool is zip-code based, and therefore is primarily used for emergencies impacting large or widespread geographic areas (SBC OEM).

- Ready SBC Alerts: <https://member.everbridge.net/index/892807736723794#/signup>

SBC OEM operates Radio Ready, during an emergency when the power is out and when critical and timely information must get out to the general public, the SBC Office of Emergency Management will utilize satellite equipment to regularly communicate with designated County radio stations that have generators and can continue to broadcast. Stations that will broadcast emergency alerts include: 89.7 FM KCLU NPR (Santa Maria), 92.1 FM KCLU NPR (Santa Maria), 94.5 FM KSPE SPANISH (Countywide), 95.1 FM KCBX (Lompoc), 99.5 FM KCBX (Santa Maria), 107.77 FM KIST SPANISH (Countywide), 990 AM KTMA (Santa Maria), 1440 AM KUHL (Santa Maria).

Television outlets include:

- Channels 3 KETY, 6 KSBY, 11 KKFX, 12 KCOY & 20 CSBT

Social media provides another outlet for news:

Santa Barbara County OEM

- Facebook: <https://www.facebook.com/santabarbaracountyoem>
- X: <https://x.com/SBCCountyOEM>

Santa Barbara County Fire Department

- Facebook: <https://www.facebook.com/people/Santa-Barbara-County-Fire-Department/100064496537886/>
- X: <https://x.com/PIOSBCFireInfo>

Santa Barbara County

- Facebook: <https://www.facebook.com/santabarbaracounty>
- X: <https://x.com/countyofsb>

Santa Barbara County Sheriff

- Facebook: <https://www.facebook.com/santabarbarasheriff/>
- X: <https://x.com/sbsheriff>

Get Involved in Community Readiness

Occupants of the Solomon Hills Project are encouraged to participate in local Community Emergency Response Team (CERT) training (<https://sbcfire.com/CERT/>). The Owner/Property Manager will organize annual evacuation education for all employees, visitors and any occupants anticipated on the Project site as well as maintaining a fire safe page on the Project's website, including this Wildfire Evacuation Study (WES) and links to important preparedness information. This information will be made available to all anticipated occupants of the Project.

This Wildfire Evacuation Study is prepared specifically for the Eddie Jones Warehouse Project and focuses on wildland fire evacuations, although many of the concepts and protocols will be applicable to other emergency situations. Ultimately, this WES should be used by employees for awareness of evacuation approaches during wildfires and other similar emergencies. It is important for the employees to understand the importance of being prepared, so if/when the time comes where evacuation is necessary, they will be able to calmly implement their personal evacuation plan. Some actions the community occupants can do in advance include:

- Follow the "Ready, Set, Go!" model developed for wildfire evacuations. Occupants should create an individual evacuation plan.
- All employees should know the available evacuation routes, stay informed and follow directions provided by credible sources.
- No employee should rely on navigation apps that may inadvertently lead them toward an approaching fire.
- All employees should be encouraged to prepare a car emergency kit, including cell phone charger, flashlight, jumper cables, water, and food.

Sample emergency preparedness resources available to the Solomon Hills Project occupants are provided in Appendices A1 through A2 (County of Santa Barbara Emergency Preparedness Resources and "Ready, Set, Go!" Wildland Fire Action Plan) and Appendices B1 through B4 (Family Disaster Plan and Personal Survival Guide), and occupants will have training that makes them with the concepts detailed at the following websites:

1. "Ready, Set, Go!" Personal Action plan:

https://sbcfire.com/wp-content/uploads/2022/08/ready_set_go.pdf

2. Red Cross Emergency Planning:

<http://www.redcross.org/get-help/how-to-prepare-for-emergencies/make-a-plan>

3. Hazardous Materials Emergency Preparedness:

<https://www.ready.gov/hazardous-materials-incidents>

4. Building a disaster kit:

<http://www.redcross.org/get-help/prepare-for-emergencies/be-red-cross-ready/get-a-kit>

5. Making a Plan Checklist:

<https://www.ready.gov/make-a-plan>

6. Family Communication Plan:

<https://www.ready.gov/collection/family-communication-plan>

Evacuation Study Purpose and Limitations

Wildfire and other emergencies are often dynamic events and the need for evacuations are typically determined by on-scene first responders or by a collaboration between first responders and designated emergency response teams, including Office of Emergency Services and the IC established for larger emergency events. As such, and consistent with all emergency evacuation plans, this Wildfire Evacuation Study is to be considered a tool that supports existing pre-plans and provides for occupants who are familiar with the evacuation protocol. Consistent with applicable laws and governmental emergency evacuation protocols, this plan is subservient to emergency event-specific directives provided by agencies managing the event.
