Appendix R2
Fire Evacuation Study

DRAFT

Wildfire Evacuation Study

Carlton Oaks Project

JANUARY 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CAL FIRE	California Department of Forestry and Fire Protection
CALTRANS	California Department of Transportation
CERT	Community Emergency Response Team
CHP	California Highway Patrol
City	City of Santee
County	County of San Diego
DAS	Department of Animal Services
EAS	Emergency Alert System
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
HOA	Homeowner's Association
IC	Incident Command
IFTSA	International Fire Service Training Association
NIMS	National Incident Command System
NWFCG	National Wildland Fire Coordinating Groups
OA	Operational Area
OES	Office of Emergency Services
Project	Carlton Oaks Project
SANDAG	San Diego Association of Governments
SFD	Santee Fire Department
SDCFA	San Diego County Fire Authority
SDSD	San Diego Sheriff's Department
SEMS	State Emergency Management System
TRA	Temporary Refuge Area
VoIP	Voice over Internet Protocol
WES	Wildfire Evacuation Study
WUI	Wildland-Urban Interface

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1 Introduction

This Wildfire Evacuation Study (WES) was prepared based on guidance from the County of San Diego Emergency Operations Plan (EOP) including Annex Q- Evacuation (County of San Diego 2022). The format and content of this report is consistent with the recommendations of the Evacuation Annex. A complete copy of the EOP can be downloaded here:

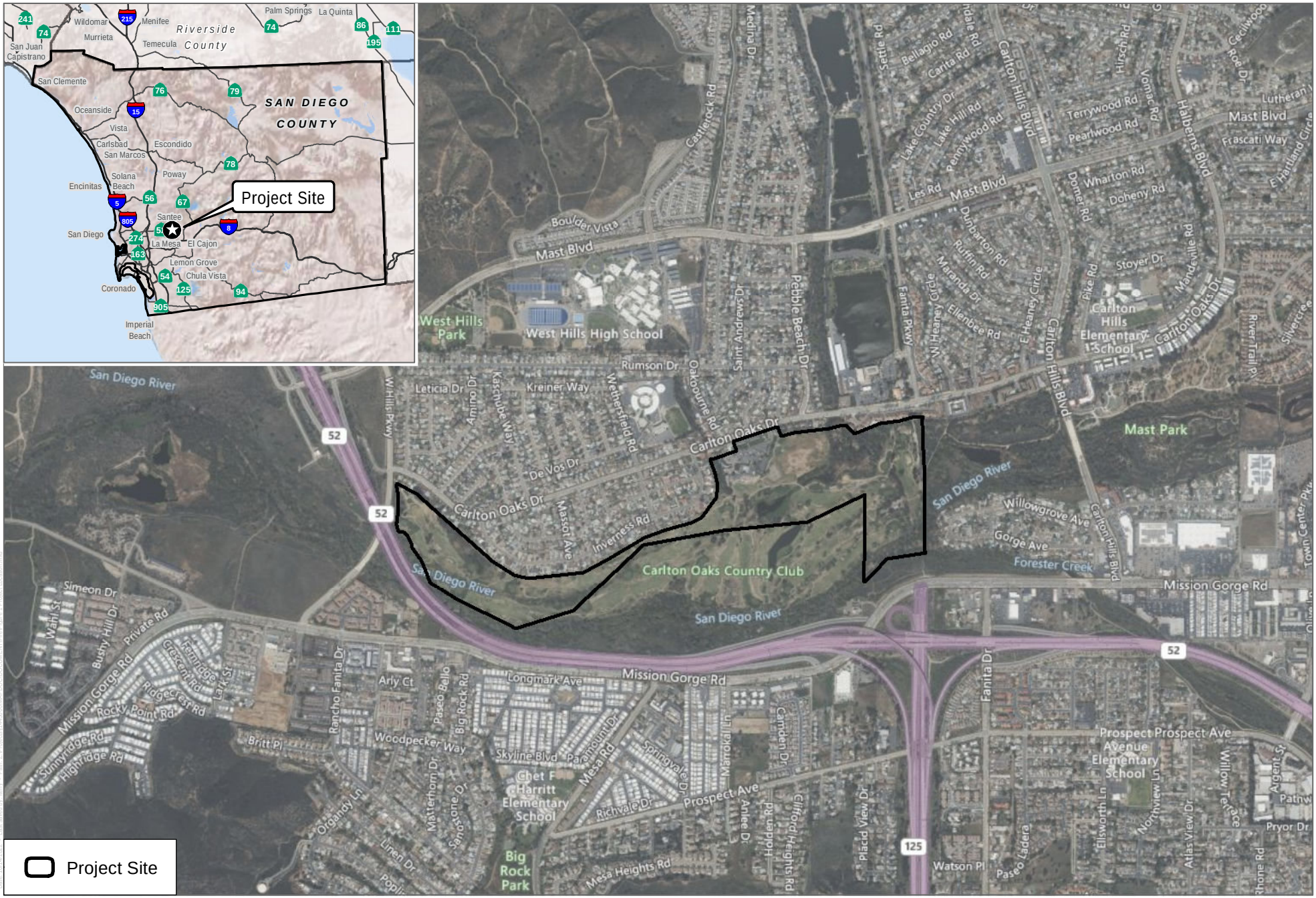
https://www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_oparea.html.

Evacuation is defined by the State of California as the organized, phased and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas and their reception and care in safe areas (Cal OES, 2017). 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 evacuation planning in the San Diego 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 (County of San Diego 2022).

This Wildfire Evacuation Study will outline strategies, procedures, recommendations, and organizational structures that can be used to implement a coordinated evacuation effort in the case of a wildfire emergency effecting the Carlton Oaks Project. It is noted, that the on-set of a wildfire or other emergency is generally unplanned and often, residents and visitors will be faced with decisions that need to be made quickly and determined by on-scene first responders or by a collaboration between first responders and designated emergency response teams. Therefore, this Wildfire Evacuation Study is to be considered a tool that supports existing pre-plans and provides for residents who are familiar with the evacuation protocol but is subservient to emergency event-specific directives provided by agencies managing the event.

1.1 Project Description

The Project site is located on approximately 165 acres (Figure 2, Proposed Land Use Map) in the City of Santee (100.6 acres) and a portion (64.2 acres) in the City of San Diego, California. Approximately 3.5 acres consist of areas outside of the project site that would will be developed with improvements associated with the project and are located either in the City of San Diego or City of Santee (offsite improvement areas). The CEQA Study Area includes offsite improvement areas plus the proposed project site for a total study area of approximately 168.5 acres. The Project proposes includes the following components: (1) the demolition of the existing Carlton Oaks Golf Course, (2) redesign of the golf course, (3) reconstruction of the clubhouse with a new pro shop, practice area, and learning center structure; (4) a hotel and associated cottages; (5) residential accessory uses consisting of two residential neighborhoods with open space areas; and (6) related on-site infrastructure.



SOURCE: BING MAPPING SERVICE

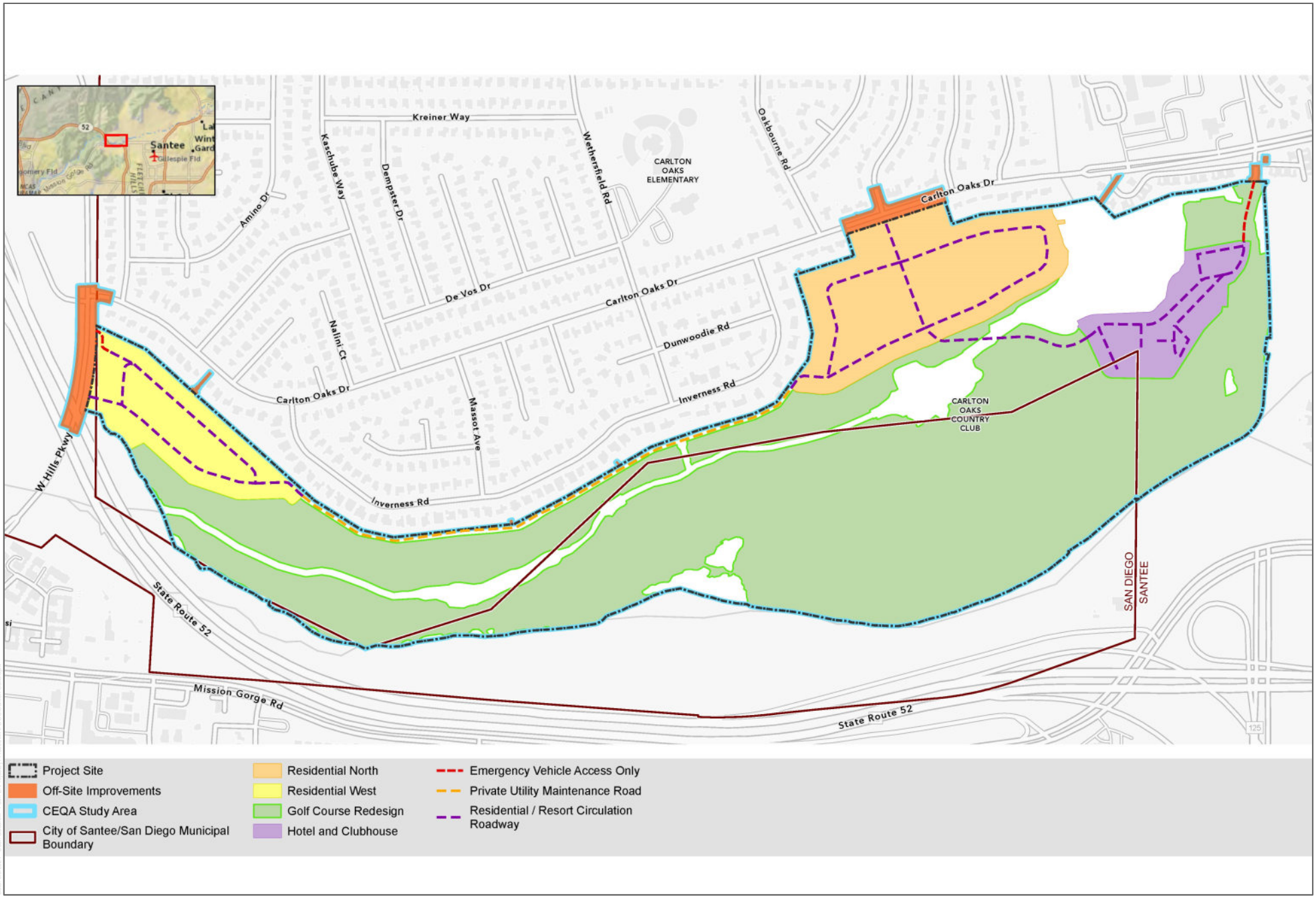
DUDEK

0 750 1,500 Feet

FIGURE 1

Project Location

Wildfire Evacuation Study for the Carlton Oaks Project



SOURCE: Hunsaker & Associates 2024

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0 355 710 Feet

FIGURE 2

Project Site Plan

Wildfire Evacuation Study for the Carlton Oaks Project

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Golf Course Redesign

The existing 145-acre, 18-hole golf course would be redesigned to a 104-acre, 18-hole golf course with a reduced length from approximately 7,300 yards to 6,450 yards (Figure 2). The new course design would have a 50 percent reduction in turf irrigation and would utilize a new modern irrigation system. The existing ponds on the golf course would be reshaped, and the existing drainage patterns would be improved. Out-of-play areas around the golf course would be planted with native grasses and smaller shrubs native to the region. The maintenance facility in the eastern portion of the project site would remain in its current location.

Carlton Oaks Country Club and Resort

The Carlton Oaks Country Club and Resort would consist of approximately 51,926 square feet of golf related resort amenities including 10 cottage-style hotel units, 42-room hotel, a clubhouse with a restaurant, event space, a golf learning center, a cart barn, a pro shop, and a store all located in the eastern portion of the project site (Figure 2). There would also be a golf cart waiting area and a shared, surface parking lot. The hotel and cottage buildings would be constructed as two-story structures. The clubhouse and resort would also provide an outdoor pool and deck area, a patio, and a courtyard.

Residential Development

The Carlton Oaks Country Club and Resort would include a residential component in the western and northeastern portions of the project site. Residential West, in the western portion of the project site, would consist of 86 multi-family detached residential units. Residential North would be located in the northern portion of the project site and would consist of 150 detached multi-family residential units (Figure 2). In addition, six single-family lots would front Carlton Oaks Drive and allow for single-story homes on a minimum 6,000 square-foot lots. One existing home located at 9225 Inwood Drive has also been included within the project area to allow for minor driveway modifications but no changes to the structure are proposed. The applicant is requesting approval of required easements from the City of San Diego for grading, landscaping, utilities, access, and maintenance.

Access

As discussed in further detail, all roadways within the Project site would be built to to comply with the requirements of the 2022, or most recently adopted, Santee Fire Code and City Ordinance No. 570 (with an exception approved by the Santee Fire Chief, as described in the Fire Protection Plan. In addition, the street design criteria set forth in the City of Santee Public Works Standards for Local Streets (City of Santee 1982) would apply to all internal streets within the project site, except for alternative standards designed for the project (see also Appendix S, Planned Development District Standards.

The internal streets would be accessible for emergency-response vehicles by including on-street parking on both sides when there is at least 36 feet of paved-road width and parking on one side when there is at least 30 feet of paved-road width. No building elements, balconies, drains, projections, or any other object would encroach into this clear space. Fire lane(s) would be identified by painting curbs red with white-stenciled letters, indicating "NO PARKING – FIRE LANE" every 30 feet along all portions of the fire lane. The signs

would include language identifying the towing company and its phone number, enabling legal enforcement of the no-parking areas.

Access to Residential West would be from a private driveway at West Hills Parkway,a public road, which would be widened and restriped. An access easement would be required from the City of the San Diego across vacant, previously disturbed, City of San Diego Public Utilities Department–owned lands to gain access to the site. The proposed easements would allow private and emergency access and other improvements for the proposed subdivision. Access to Residential North and the resort would be from Carlton Oaks Drive at the intersection of Burning Tree Way. Internal streets and a roundabout would provide access to homes and to the resort facilities. A private utility maintenance road would be provided between Residential North and Residential West. Access to the golf course and resort would be provided by a private drive through Residential North from Carlton Oaks Drive southerly via a new bridge across the San Diego River (North Channel).

A 26-foot-wide private emergency access road would be provided through the existing Vista del Verde condominiums located in the northeastern corner of the project site (Figure 2). The emergency access road would be constructed with curb and gutter and asphalt concrete pavement and base, with grades, horizontal alignment, and turnarounds that meet the City of Santee's fire requirements. This emergency access would be for the proposed project only and would not be open to the public except during times of emergency. A new fence with an emergency access gate will also be erected between buildings of the existing adjacent condominium complexes. A private emergency access road would be provided in the northern corner of Residential West from West Hills Parkway.

Proposed Trail Segments

Multipurpose, public trail segments will be provided on the project site that will link with existing and planned trails to the east and west of the site. In the western portion of the site, the trail segment will be constructed beginning at the Santee jurisdictional line ending at the property line (Station 38+60 as shown on Figure 2).and link to the future planned trail known as the Carlton Oaks Golf Course Segment. A graded bench (located within the Carlton Oaks Golf Course Segment) would also be provided within the easement areas that will be granted to the applicant by the City of San Diego as a part of this project. In the eastern portion of the site, an onsite trail segment will traverse through the resort to Carlton Oaks Drive and will extend the offsite Mast Park West Trail (east of the project boundary to the south to the property line), as well as link to the future planned trail known as the Carlton Oaks Golf Course Segment.

In addition to the proposed trail alignment currently proposed through Residential North and the County Club and Resort Area, a supplemental trail offer of dedication is shown on the applicant's map should the City request this supplemental trail alignment. The supplemental trail offer of dedication starts from an area east of the Country Club and Resort parking lot to the property line of the Vista del Verde community. If the City were to request this supplemental segment, the applicant will agree to dedicate the trail alignment and construct this trail at a later date if the city determines that it desires to build this trail in the future.

100-Year Floodway Improvements

The project site is located within the regulatory limits of the San Diego River (floodplain and floodway) and receives runoff from Sycamore Canyon Creek (Santee Lakes) channel, the San Diego River (North Channel), several storm drain outfalls from the existing developments along Carlton Oaks Drive and Mast Boulevard roadway corridors, and runoff from Forester Creek.

The proposed grading for the clubhouse, hotel, and golf course would occur within the regulatory floodway. The proposed development would require elevating the grade of the proposed clubhouse and hotel above the floodplain. In addition, a small portion of the Residential North development encroaches into the existing floodplain. A Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) would be processed through the Federal Emergency Management Agency (FEMA) to revise the flood mapping associated with the proposed alteration of the floodway.

Offsite Improvements (Additional APNs 383-221-05, -08, 383-223-02, 383-330-39, 383-381-22, 383-425-10, 383-431-01, 383-480-04, -44, -47, -48, -51)

1. Emergency Vehicle Access: The project will include the construction of a 26-foot-wide emergency vehicle access roadway, from the Vista del Verde community south onto the golf course property to the developed portion of the resort. One parking spot on the Vista del Verde property may be removed but will be relocated within that property. The project also includes installation of a motorized gate and replacement of the existing chain link fence with a steel tubular fence, on the boundary of the Golf Course property.

2. West Hills Parkway: West Hills Parkway will be widened within the existing right-of-way from Carlton Oaks Drive approximately 700 feet southerly to the existing bridge, to provide a dedicated left-turn lane into Residential West. New striping will include a striped median and increased width for bike lanes. This work would be located within the City of San Diego's jurisdiction, and therefore would follow their standards.

3. Extension of a Padre Dam Municipal Water District (PDMWD) public water main: A PDMWD water main would be extended from Carlton Oaks Drive south along West Hills Parkway and into Residential West to provide a connection to the proposed private water system.

4. Access to Residential North and the Resort Area: Access to these areas would be provided by Carlton Oaks Drive at the intersection of Burning Tree Way. This access point is approximately 200 feet east of the existing hotel access road (Inwood Drive). Inwood Drive will be closed and replaced with curb and sidewalk. Additionally, several existing driveway aprons along the project frontage will be closed and replaced with curb and landscaping along with other miscellaneous frontage improvements such as overhead power undergrounding and landscaping. Overhead power undergrounding would extend north of Carlton Oaks Drive. Potable and recycled water would be connected to existing main lines in Carlton Oaks Drive and extended into the project.

5. Drainage Improvements: Existing drainage pipes discharge to the golf course at five locations along the north subdivision boundary. All improvements will be constructed in a manner that will maintain the existing flow and drainage patterns.

    a) *An existing 42-inch storm drain discharges to the site from a headwall located approximately 15 feet offsite, within a public easement (City of Santee) on an existing residential lot (Lot 17 of Map 4402).* The offsite flows will be picked up onsite by proposed storm drain improvements and discharged into the San Diego River (North Channel).

    b) *An existing 27-inch storm drain extends onto the project site from an existing residential lot (Lot 14 of Map 5417).* This pipe will be extended under the proposed access road to a new headwall and discharge onto the golf course.

    c) *An existing 18-inch storm drain discharges to the site from a headwall located approximately 15 feet offsite, located within a public easement (City of Santee) on an existing residential lot (Lot 230 of Map 6973).* The offsite flows will be picked up onsite by proposed storm drain improvements and discharged onto the golf course.

    d) *An existing 47"x71" storm drain discharges to the site from a headwall located approximately 20 feet offsite, located within a public easement (City of Santee) on an existing residential lot (Lot 239 of Map 6973).* The offsite flows will be picked up onsite by proposed storm drain improvements and discharged onto the golf course.

    e) *An existing 72-inch diameter storm drainpipe discharges to the site from the headwall located approximately immediately offsite at the north property line of Residential West.* The existing headwall includes a large concrete energy dissipator and concrete channel. These storm drain facilities are located offsite on existing residential lots (Lots 679 & 680 of Map 7295) and within an existing public easement (City of Santee). The offsite flows will be picked up onsite by proposed storm drain improvements and discharged onto the golf course.

6. Sewer Maintenance Hole Improvements: There are three, existing sewer maintenance holes located offsite within a PDMWD easement within the Vista del Verde condominium property. The need for engineered sewer maintenance hole liners will be determined in the project design phase. All work will be limited to within the public easement area.

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 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 (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 zones for State Responsibility Areas and identify VHFHSZ for Local Responsibility Areas. A portion of the Specific Plan is located within a VHFHSZ.

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). Section 701A 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 or High Fire Hazard Severity Zones in Local Response Areas. The Project includes a small area of development that complies with required codes.

1.2.2.3 California Fire Code

The 2016 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 City has adopted the California Fire Code as Chapter 5, Article 5, Division 1 of the City's Municipal Code (SDMC), including appendices addressing fire-flow requirements for buildings.

1.2.2.4 California Emergency Services Act

The California Emergency Services Act (California Government Code §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)

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.

1.2.3 Local

1.2.3.1 San Diego County Multi-Jurisdictional Hazard Mitigation Plan

The purpose of the County's Multi-Jurisdictional Hazard Mitigation Plan (County of San Diego 2017) 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 San Diego 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 San Diego County Emergency Operations Plan

The 2022 San Diego County Emergency Operations Plan (EOP) 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.

1.2.3.3 Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan – Evacuation Annex

The Evacuation Annex is intended to be used as a template for the development of jurisdictional evacuation plans and will support or supplement the evacuation plans prepared and maintained by each local jurisdiction. The annex outlines strategies, procedures, recommendations and organizational structures that can be used to implement a coordinated evacuation effort in the San Diego County Operational Area (OA).

1.2.3.4 County of SD Resilience Review Report: Wildland Fires

Prepared by the s Chief Administrative Officer's Resilience Review Working Group, the Resilience Review Report: Wildland Fires provides recommendations for achieving community goals related to actively reducing risk of wildfire and improving efforts to respond and recover from wildfire events. The Working Group recommends 16 principal objectives divided among three focus areas: pre-fire, response, and recovery.

1. Pre-Wildfire: Focus on fire preparedness at the neighborhood-level. Specific community recommendations include:

- Implementing a cohesive County pre-fire strategy
- Enhancing pre-fire vegetation management
- Improving pre-fire emergency planning
- Strengthening fire safety measures in new construction
- Reducing loss from wildfires in existing structures

2. Response: Improve fire suppression capabilities and on the ground safety measures including:
    - Increase County Fire's firefighting capabilities
    - Enhancement of accessible transportation services to include the evacuation of at-risk populations and large animals
    - Improved operational communications among response personnel
    - More rapid and efficient restoration of essential services and systems
    - Improved delivery of coordinated, timely, reliable, and actionable information to the whole community during a wildfire
3. Recovery: Enhance fire recovery effort including:
    - The ongoing development of a County Debris Removal Framework
    - Developing administrative tools and processes that improve the speed and efficiency in providing emergency interim housing options to victims of a wildfire
    - Improvements in health and social services capabilities
    - Increased County capacity to coordinate large-scale recovery operations

1.2.3.6 City of Santee Fire Code

Although the Project spans both the City of Santee's and the City of San Diego jurisdictional boundaries, the fire authority having jurisdiction (FAHJ) is the Santee Fire Department (SFD), as all habitable structures are proposed within the City of Santee's jurisdiction. Therefore, this Project is subject to the code and standards established in the City of Santee's municipal code as described below. The Santee Fire Code consists of SDMC Chapter 11, Article 4, Sections 11.04.10 through 11.04.50, which adopts the 2019 California Fire Code with some modifications, and applicable sections of the CCR. Provisions of the California Fire Code are described under State Regulations, above.

1.2.3.7 City of Santee Building Regulations

The City's Building Regulations (Santee Municipal Code Title 11, Buildings and Construction) 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 City's Building Regulations also establish acceptable construction materials for development near open space to minimize fire risk through adoption of Title 11, Chapter 11.18, Section 11.18.020, which adopts the CFC and CBC Chapter 7A.

2 Background

This Carlton Oaks Wildfire Evacuation Study was prepared based on the City's Emergency Operations Procedures and the County of San Diego Emergency Operations Plan (EOP).

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 defined by the State of California as the organized, phased and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas and their reception and care in safe areas (Cal OES, 2017). 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 County Sheriff's Department have primary responsibility for emergency evacuations, with support from the City's Fire Department. These agencies work closely within the Unified IC System, with the City's Emergency Operations Center (EOC) and County OES. To that end, the Santee Fire Department (SFD), San Diego Sheriff's Department (SDSD), Public Works, Planning, Emergency Services Departments, and California Department of Transportation (Caltrans), amongst others, have worked as part of a Pre-Fire Mitigation Task Force to address wildland fire evacuation planning for the County of San Diego.

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. Risk is considered high when evacuees are evacuating late, 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.

Equally as important, the evacuation procedures should be regularly updated with lessons learned from actual evacuation events, as they were following the 2003, 2007, and 2014 San Diego County fires. The authors of this Wildfire Evacuation Study recommend that occasional updates are provided, especially following lessons learned from actual incidents, as new technologies become available that would aid in the evacuation process, and as changing landscapes and development patterns occur within and adjacent to the Project area that may impact how evacuation is accomplished. At the time of this Plan's preparation, there is no encompassing emergency evacuation plan available for the San Diego region. This Wildfire Evacuation Study is consistent with the County evacuation planning standards and can be integrated into a regional evacuation plan

and other pre-plans when and if the area officials and stakeholders (CAL FIRE, SFD, OES, San Diego Sheriff's Department, SDCFA, and others) complete one.

As demonstrated during large and localized evacuations occurring throughout San Diego County over the last 15 years, 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 radio, television, social media/internet, neighborhood City patrol car and aerial public address notifications, and Reverse 9-1-1 or Alert San Diego. The County of San Diego, in partnership with Blackboard Connect Inc., instituted this regional notification system that is able to send telephone notifications to residents and businesses within San Diego County impacted by, or in danger of being impacted by, an emergency or disaster. This system, called Alert San Diego, is used by emergency response personnel to notify homes and businesses at risk with information on the event and/or actions (such as evacuation, shelter-in-place, gas leak, missing person, etc.) they are advised to implement. The system utilizes the region's 9-1-1 database, provided by the local telephone company(ies), and thus is able to contact landline telephones whether listed or unlisted. It is TTY/TDD capable.

Please also note that the major fire events that have occurred in San Diego County in the past 17 years (including the Cedar Creek and Witch fires) have also resulted in substantial change in the individual and united approaches between City, County and State agencies, as well as substantial investment in fire-fighting resources. For example, San Diego County Fire Agencies and related partners have developed a robust ability to rationally predict wildfire movement. This is accomplished through pre-fire planning and fire behavior modeling, working with UCSD's WIFIRE lab advanced wildfire behavior projection technology, and SDG&E's nationally renowned weather system network. In addition, more than 500 million dollars has been invested to enhance the county's fire prevention, detection, response, suppression and recovery capabilities since the 2003 Cedar Fire. These efforts have proven effective in managing and responding to wildfire events, such as was accomplished during the successfully managed 2017 Lilac Fire.

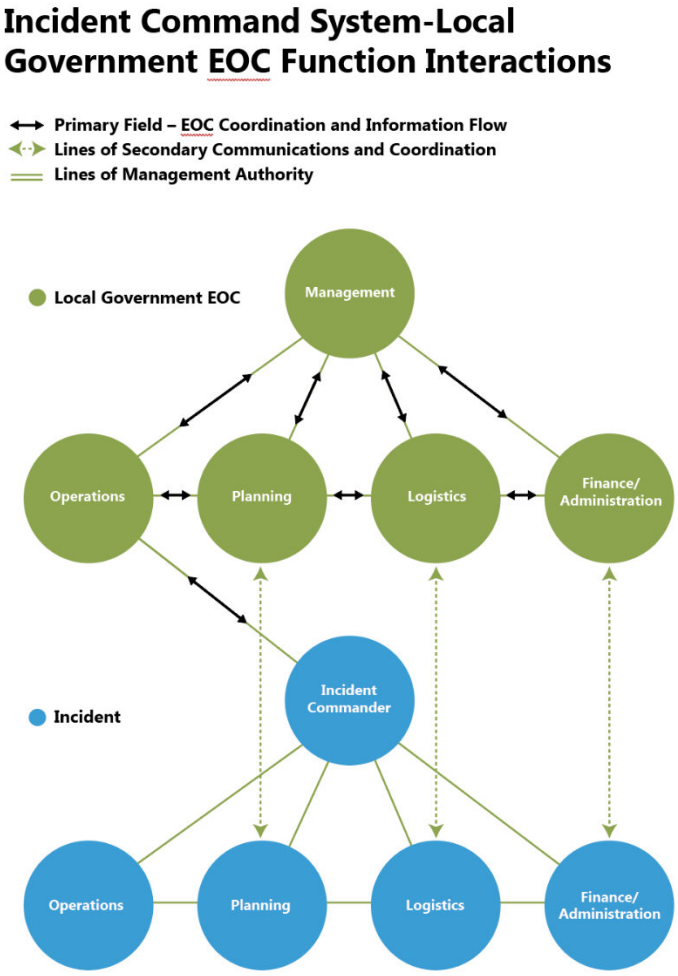
Because the system uses the 9-1-1 database, only landline numbers are in the system. If you have a Voice over IP (VoIP) or cellular telephone and would like to be notified over that device, or if you would like an email notification, you must register those telephone numbers and/or email address for use by the system to receive voice, text, and email messages.

3 San Diego County Evacuation Planning

This Wildfire Evacuation Study incorporates concepts and protocols practiced throughout San Diego County. The City's EOP follows basic protocols set forth in the County's Operation Area Emergency Operations Plan and the California Master Mutual Aid Agreement, which dictate who is responsible for an evacuation effort and how regional resources will be requested and coordinated.

First responders are responsible for determining initial protective actions before EOCs and emergency management personnel have an opportunity to convene and gain situational awareness. 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 an evacuation effort, the designated City Evacuation Coordinator is the Police Chief, who is also the Law Enforcement Coordinator, although several official City positions are allowed to declare evacuations. The Evacuation Coordinator will 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:

- County Sheriff's Department
- Santee Fire Department
- American Red Cross
- San Diego Humane Society
- San Diego County Department of Animal Services
- Department of Planning and Development Services
- Department of Environmental Services
- Department of Public Works
- Other City, County and state agencies, as needed

The following overview contains information from the San Diego County Evacuation Annex and is consistent with the City's EOP.

3.1 Evacuation Objectives

The overall objectives of emergency evacuation operations and notifications for the City of Santee are to:

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 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 City of Santee contracts SDSD to provide law enforcement services. SDSD the lead agency for conducting evacuations for the City. Unified Command assesses and evaluates the need for evacuations with cooperating agencies, and SDSD orders and conducts evacuations according to established procedures, which are outlined in the County's EOP Evacuation Annex. Additionally, as part of the Unified Command, the SDSD 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.

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.

3.2 Evacuation Coordination Process

a. If the emergency only impacts the City, the decision to evacuate will be made at the local jurisdiction level. Regional coordination is required for any evacuation impacting multiple jurisdictions. Based on the information gathered, local jurisdictions will generally make the determination on whether to evacuate communities as the need arises, on a case-by-case basis.

b. 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.

c. Local jurisdictions may activate their EOC and conduct evacuations according to procedures outline in their EOP.

d. All evacuations from, though, or into a local jurisdiction will be coordinated with that jurisdiction's public safety partners.

e. The OA EOC may make recommendations on whether a jurisdiction should evacuate and may help coordinate the evacuation effort, if requested by the jurisdiction.

f. The Evacuation Annex is automatically activated when an incident occurs requiring an evacuation effort that impacts two or more jurisdictions within the OA or when there is an evacuation in the unincorporated area necessitating response from the County.

g. If the emergency impacts multiple jurisdictions within the OA:

   i. All impacted jurisdictions may activate their EOCs

   ii. The OA EOC may be activated, including the OA EOC JIC

iii. The OA EOC with begin obtaining situational awareness, understanding the severity of the incident

iv. 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.

v. The Director of Emergency Services or designee or the Policy Group if it is established will coordinate with City Managers and other leaders within the OA to identify strategic decisions that will:

- Gain regional situational awareness
- Determine response status
- Review statis if initial protective actions
- Consider additional protective actions
- Evaluate public information needs
- Determine next steps
- Establish a schedule for internal and external updates

vi. Evaluate health and welfare of affected residents 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

vii. The OA EOC may support the evacuation response according to the OA EOP and:

- Coordinate transportation for those who need assistance through the activation of emergency transportation services agreements.
- 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.
- 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.
- Coordinate the provision of accessible care and shelter services.

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 residents time to gather belongings and make arrangements for evacuation. On the other hand, 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; a no-notice event will not allow for contra flow to be established). Every attempt will be made to assist people with safe evacuation, and risk to first responders is an additional important consideration. People are encouraged 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 SDSD implements an evacuation order, they will coordinate with the Incident Commander to decide on a location to use as a Temporary Evacuation Point (TEP). ARC representatives located in the OA EOC and/or ICP, along with the OA EOC Care & Shelter Branch will coordinate the locations to be used as emergency shelters if necessary. The SDSD Dispatch Center in conjunction with the OA EOC and JIC will utilize the AlertSanDiego system, social media, radio, television, IPAWS, etc. to direct evacuees to the established TEP or shelter. Local jurisdictions all have access to the same alert and warning tools as the OA and should follow their internal protocols for sharing information with the public. 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 that can provide at least short-term refuge and that would be designated by emergency managers during an evacuation include:

- Town Center Parkway Plaza
- Carlton Oaks School
- West Hills High School
- Carlton Hills School

Other refuge sites are available within urbanized areas south along SR-125 or west along SR-52. If there are residents unable to evacuate or in need of transportation assistance to get to a TEP or shelter, the SDSD may establish transportation points to collect and transport people without transportation resources to evacuation points. These transportation points should 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 Pet Evacuations

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

The San Diego County Department of Animal Services (DAS) has plans in place to transport and shelter pets in a disaster under Annex O of the OA EOP, including the Animal Control Mutual Aid Agreement. Animal Control Officers, the San Diego Humane Society, and private animal care shelters will assist in the rescue, transport, and sheltering of small and large animals. In addition, potential volunteer resources and private groups are identified and tracked in WebEOC by the County. Only non-emergency resources and personnel, such as public and private animal services agencies, will be used to rescue and transport animals during an evacuation effort.

In most cases, DAS and the OA EOC will coordinate and attempt to co-locate animal shelters with people shelters.

3.3.3 Shelter-in-Place (County EOC Discussion)

As stated in the County EOC, 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 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.

The decision on whether to evacuate or shelter-in-place is carefully considered with the timing and nature of the incident (San Diego County 2022). Sheltering-in-place is the preferred method of protection for people that are not directly impacted or in the direct path of a hazard. This will reduce congestion and transportation demand on the major transportation routes for those that have been directed to evacuate by police or fire personnel. The communities adjacent to the proposed Carlton Oaks Project includes homes built in the 2000s and are in varying states of ignition resistance. Unlike most new master planned communities that incorporate ignition-resistant construction and provide defensibility throughout (like Carlton Oaks will), responding fire and law enforcement personnel may not be able to direct existing residents to temporarily refuge in their homes; however, it would be possible for residents of Carlton Oaks. Homes that are not built to the ignition-resistant standards can be retrofitted to increase their ability to withstand wildfire and ember storms by focusing on roofs, windows, walls, vents, appendages and defensible space.

Options when evacuation is not considered feasible that may be available to responding fire and law enforcement personnel may include temporary refuge/sheltering on site where residents are instructed to remain in their homes while firefighters perform their structure protection function if it is considered unsafe to evacuate. This approach is consistent with San Diego County's (San Diego County 2022) evacuation approach which states, "The concept of shelter-in-place is an available option in those instances where physical evacuation is impractical. This procedure may be effective for residential dwellings in the immediately impacted areas, or for large facilities that house a high percentage of non-ambulatory persons (i.e., hospitals and convalescent homes). Sheltering-in-place attempts to provide a haven within the impacted area."

The surrounding communities do not currently include attributes that would allow a community-wide sheltering in place option, due primarily to the older construction methods and codes that guided construction at the time the homes were built. The structures in the Carlton Oaks project area, including the proposed homes would conform to the ignition-resistant building codes codified in Chapter 7A of the California Building Code, would be ignition-resistant, defensible and designed to require minimal firefighting resources for protection, which enables this contingency option when it is considered safer than evacuation.

4 Carlton Oaks Evacuation Road Network

As evidenced by mass evacuations during the 2007 Witch Fire along with other San Diego County evacuations, even with roadways that are designed to the 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 evacuations enable more streamlined evacuations where those at highest risk are moved first. Road infrastructure throughout the United States, and including San Diego 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 evacuations becomes very important for improving evacuation effectiveness. Among the most important factors for successful evacuations in urban settings is control of intersections downstream of the evacuation area. If intersections are controlled by law enforcement, barricades, signal control, and other means, potential backups and slowed evacuations can be minimized. Multiple evacuation points enable more evacuees the ability to evacuate with less impact on roadways.

Wildfire Risk

As noted in the Carlton Oaks Fire Protection Plan, understanding the existing wildland vegetation and urban fuel conditions on and adjacent to the Project site is necessary to understand the potential for fire within and around the Project site. Moreover, fire behavior modeling was conducted to document the type and intensity of the fire that would be expected adjacent to the Project site given characteristic site features such as topography, vegetation, and weather. The proximity of the Project to the open space associated with the Mission Trails Regional Park to the west and north has the potential to increase wildfire hazard in the Project vicinity. Further, wildfire risk for the Project site is also associated with a Santa Ana wind-driven wildfire burning or spotting on-site from the east/northeast, although a fire approaching from the west during more typical on-shore weather patterns is possible. While risk from embers is reduced for dwellings in the Carlton Oaks project given modern construction methods, an early evacuation of Carlton Oaks project may occur if a wildfire burns closely in the adjacent San Diego River riparian area within and adjacent to the Project site. However, the surrounding terrain does not support aggressive runs at the community, much of which is separated from the preserved open space by developed areas including the Carlton Oaks Golf course which is a large fuel break of landscaped, irrigated and maintained low fuel buffer. Wildfires during typical weather conditions (lower wind, higher humidity) are less aggressive and more manageable, rarely resulting in large evacuations. As conducted in past wildfires, an early evacuation of the area may occur several or more hours prior to actual threatening conditions at Carlton Oaks, depending on conditions and fire spread projections.

Fire history is an important component of understanding the potential fire risk for the Project. 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 in the vicinity of the Project site, and how a fire may spread.

Fire history data is available through the California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Program (FRAP) database. According to available data from the CAL FIRE in the FRAP database, there have been 44 fires recorded since 1910 within five miles, which range from approximately 24 acres to 270,686 acres (2003 Cedar Fire) and the average fire size is approximately 964 acres (not including the

2003 Cedar Fire or fires smaller than 10 acres). It should be noted that one wildfire has burned on the Project site (Un-named 1942) and one fire has burned adjacent to the Project site (Assist #59 1981).

Since the Cedar Fire in 2003, no fires greater than 10 acres have occurred within 5 miles of the Project, including within the large expanse of unmaintained open space to the west and north of the Project site, such as Mission Trails Regional Park and Goodan Ranch. As development urbanizes previously undeveloped areas, it makes the spread of wildfire less likely due to the presence of infrastructure , that is non-combustible, or less likely to ignite than natural fuels. Additionally, as an area develops, additional emergency response resources are provided, which allows for a quick response, reducing the spread of fire and the need for evacuations.

The Project is located within an area that is subject to occasional wildfires, with the average fire return interval within a 5-mile radius at roughly two years, but based on the residential uses to the west, east, and south, and the presence of the nearly 100 acres of maintained golf course buffer, the wildfire potential within the Project structures' direct sphere of influence is considered minimal and exposure to unmaintained fuels is limited. Similarly, fire intensity would be expected to be lower in the riparian area due to the high moisture content of the fuels within and south of the Project site. This reduced fire behavior (primarily slower spread rates) would be expected to facilitate evacuations as well as potential on-site sheltering for properly constructed residences, if considered safer than a short-notice evacuation. As previously discussed, the site's structures benefit from the golf course that provides a converted landscape representing a landscape-level fuel break. This land use would provide staging areas and safe zones for responding firefighters along with a low fuel area between structures and potentially flammable fuels where fire behavior is reduced to levels that would not be anticipated to have a direct impact on the ignition resistant project structures, based on historical successes of wildfire tested buildings constructed to Chapter 7A of the California Building Code.

Evacuation Routes

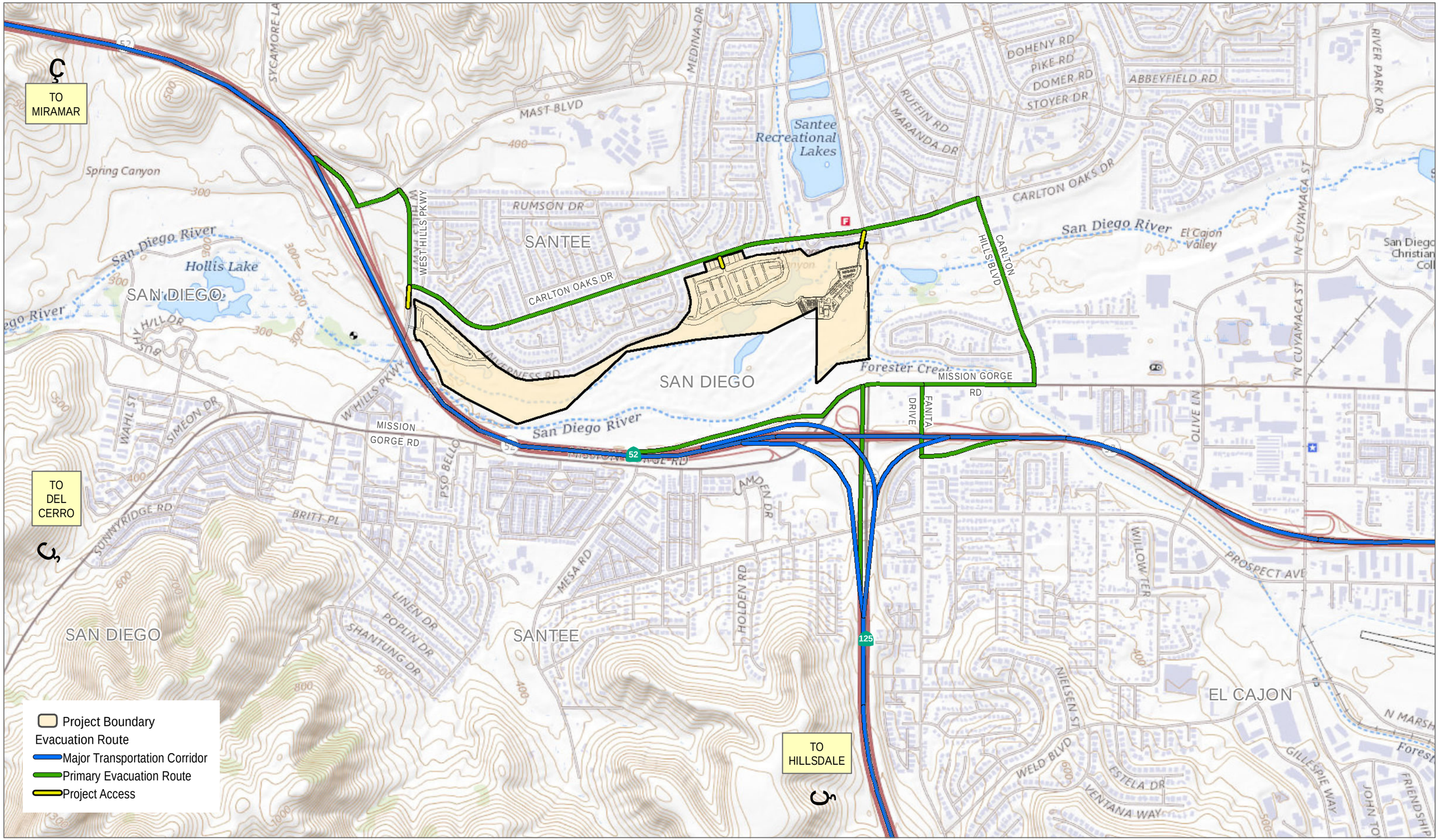
The Project roads and adjacent road circulation system will be able to effectively handle average daily trips generated by the Project. As evidenced by historical mass evacuations in San Diego County and throughout Southern California, even with roadways that are designed to the applicable requirements, 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.

Among the most important factors for successful evacuations at the Project site is control of intersections downstream of the evacuation area. If intersections are controlled by law enforcement, barricades, signal control, firefighters or other means, potential backups and slowed evacuations can be minimized. Another important aspect of successful evacuation is a managed and phased evacuation declaration. 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 defers to Law Enforcement and OES to appropriately phase evacuations and to consider the vulnerability of communities when making decisions. For example, newer development in the area, including the Project's protected structures, will offer a high level of fire safety on site, along with open-air options for firefighter safety zones and temporary on-site refuge as a contingency due to the setbacks from the nearest wildland areas.

Consistent with the County of San Diego EOP Evacuation Annex (2022), major ground transportation corridors in the area will be used as primary evacuation routes during an evacuation effort. The road systems were evaluated to determine the best routes for fire response equipment and "probable" evacuation routes for relocating people to designated safety areas. The primary roadways that would be used for evacuation from the Project are:

- Carlton Oaks Drive
- West Hills Parkway
- Carlton Hills Boulevard
- Mission Gorge Road
- Cuyamaca Street
- Mast Boulevard

These roads provide access to urbanized areas and major traffic corridors including SR-125 and SR-52. Figure 4, Evacuation Routes, illustrates the available roadways to evacuate the Project site and surrounding communities.



SOURCE: BACKGROUND- ESRI MAPPING SERVICE

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FIGURE 4

Evacuation Routes

Wildfire Evacuation Study for the Carlton Oaks Project

During a Project emergency evacuation, the primary and secondary roadways may be providing citizen egress while responding emergency vehicles are inbound. Because the required fire access roads throughout the area are designed to meet or exceed County of San Diego Consolidated Fire Code, including 24 foot-wide, unobstructed roadways, adequate parking, turning radius, grade maximums, and roadside fuel modification zones, potential conflicts that could reduce the roadway efficiency are minimized, allowing for smoother evacuations.

The primary evacuation routes are accessed from internal roadways, which connect to primary evacuation routes (i.e. Carlton Oaks Drive, West Hills Parkway). Evacuees are anticipated to be considered in a "safe zone" once they are a reasonable distance from open space and in a dense urbanized area. For this analysis, the Mission Gorge Road and SR-125 interchange and the Santee Town Square were considered to be the gateways of safe zones for evacuees to seek refuge from wildfire. The evacuation areas are anticipated to utilize the following roadway facilities as evacuation routes:

North-South Roadways

Carlton Hills Boulevard – Carlton Hills Boulevard provides a connection between the Proposed Project and SR-125, SR-52, and the commercial centers along Mission Gorge Road. Carlton Hills Boulevard between Mast Boulevard and Mission Gorge Road is a 4-lane roadway with a raised median and a posted speed limit of 35 mph. Sidewalks, on-street parking, and Class II bike lanes are provided on both sides of Carlton Hills Boulevard. The City of Santee General Plan Mobility Element Classifies Carlton Hills Boulevard as a Four-Lane Major Arterial. Vehicles evacuating the project and adjacent neighborhoods are anticipated to travel south on this roadway to access Mission Gorge Road.

West Hills Parkway – West Hills Parkway runs along the western edge of the Proposed Project and will provide direct access to the Proposed Project via a single driveway. West Hills Parkway is a 4-lane roadway with a striped or raised median (depending on the location) and a posted speed limit of 45 mph. Sidewalks are provided along the eastern side of West Hills Parkway and intermittently provided along the western side of the roadway. Parking is prohibited on both sides of the roadway. This segment of West Hill Parkway is located within the City of San Diego; however, the East Elliott Community Plan does not identify an ultimate classification for the roadway. It should be noted that the City of Santee General Plan Mobility Element classifies West Hills Boulevard as a Four-Lane Major Arterial. Vehicles evacuating the project from the western project driveway on West Hills Parkway are anticipated to travel south on West Hills Parkway, then east on Mission Gorge Road to access SR-125 south for safety.

Cuyamaca Street – Cuyamaca Street provides connection from its existing northern terminus to Fletcher Parkway in the City of El Cajon. Cuyamaca Street is classified as a Major Arterial and provides four travel lanes between its northern terminus and Town Center Parkway, then widens six-lanes from Town Center Parkway to the southern city limits. It has a posted speed limit of 35 mph and provides pedestrian sidewalks on both sides of the roadway. Vehicles evacuating the study area are anticipated to be traveling on this roadway to access Santee Town Center for safety.

East-West Roadways

Mast Boulevard – Mast Boulevard between the SR-52 EB Ramps and West Hills Parkway provides a regional connection between the Project and SR-52. This segment of Mast Boulevard is a 4- lane roadway with a raised or striped median (depending on location) and a posted speed limit of 40 mph. Parking is currently prohibited along this segment Mast Boulevard. Sidewalks are available on both sides of this segment, with the exception of the

southern side of the roadway between SR-52 EB Ramps and SR-52 WB Ramps. Class II Bike Lanes are provided in both directions. The City of Santee General Plan Mobility Element Classifies Mast Boulevard as a Four-Lane Major Arterial, east of the SR-52 Ramps. The East Elliott Community Plan does not identify a classification for the portions of Mast Boulevard that are located within the City of San Diego. Vehicles evacuating the area are anticipated to either travel west on Mast Boulevard to access West Hills Parkway or travel east to access Cuyamaca Street for safety.

Carlton Oaks Drive – Carlton Oaks Drive will provide direct access for the Project via a single driveway location at the Burning Tree Way intersection. Along the Project frontage, between West Hills Parkway and Fanita Parkway, Carlton Oaks Drive is constructed as a 2-lane roadway with a continuous left-turn lane and a 35-mph posted speed limit. Sidewalks and Class II bike lanes are available on both sides of Carlton Oaks Drive. No transit routes or services are currently available along Carlton Oaks Drive. The City of Santee General Plan Mobility Element Classifies Carlton Oaks Drive as a Two-Lane Collector with Two-Way Left-Turn Lane. Vehicles evacuating the project from the eastern project driveway at Burning Tree Way and the adjacent neighborhoods are primarily anticipated to travel east on Carlton Oaks Drive to travel to the Santee Town Center, the center and urbanized center of the City of Santee.

Access to the golf course/resort and Residential North would occur via a private drive at Carlton Oaks Drive, which would travel southerly across a new steel bridge over the San Diego River (North Channel). The bridge will be 265 feet long, and will accommodate two travel lanes, a multi-use trail (6 feet in width), and a 6 foot wide pathway. The bridge will also be protected by 50 foot wide fuel modification zones on both sides. The bridge will connect the Project occupants in the hotel and resort area to the Residential North area and Carlton Oaks Drive. The proposed bridge, constructed of steel truss, will be able to withstand fire and will assist in safe and efficient evacuation from the Project site. The golf course operator as part of the maintenance of the golf course, will be responsible for proper brush management and defensible space will be cleared underneath the bridge and extending outward from the bridge. Given the reduced vegetation around the bridge, and its construction with steel and fire-resistant materials, the bridge would not be threatened by radiant heat exposure or ember cast from a nearby wildfire event.

Mission Gorge Road – Mission Gorge Road is a major east-west roadway that provides regional connections between the Cities of San Diego and Santee. Within the study area, Mission Gorge Road is four lanes between West Hills Parkway and SR-125, then widens to six lanes east of SR-125 to Magnolia Avenue. The roadway is separated by a raised median and has a posted speed limit ranging between 35 mph and 45 mph within the study area. Sidewalks and Class II bike lanes are available on both sides of Mission Gorge Road, as well as a Class I path on the south side of the roadway between Big Rock Road and SR-125. Vehicles evacuating the area are anticipated to travel east on Mission Gorge Road to access SR-125 south or SR-52 west for safety. SR-52 east is accessible from Fanita Drive.

Evacuation movement will be determined primarily by the fire's location, its spread rate direction, and time available before it could threaten evacuation routes and traffic levels. If less time is available, or one or more potential routes are considered unsafe, fire and law enforcement officials may direct all traffic in one direction and may consider directing some area communities or the Project site's residents and guests, to temporarily refuge in protected structures.

The large developed and converted landscapes and lack of uninterrupted open space through the developed portions of this area significantly reduces the potential for dangerous evacuation conditions and evacuee exposure to wildfire.

Evacuation Alternatives

Fires occurring on typical (non-extreme) fire weather days, when humidity is higher and winds are not as high or gusty, have been very successfully controlled at small sizes within minutes of ignition and would not typically trigger a need to evacuate the Carlton Oaks community. Partial evacuation of some dwellings could be an option in on-shore wind wildfire, particularly those homes that are closest to an ignition in the riparian area where the golf course would provide a buffer setback on the perimeter of the development areas, .

If a wildfire ignited closer to the Carlton Oaks community during weather that facilitates fire spread, where multiple hours are not available for evacuation and placing residents on the roads could expose them to wildfire, an alternative evacuation approach would need to be explored. It is preferred to evacuate long before a wildfire is near, and in fact, history indicates that most human fatalities from wildfires are due to late evacuations when they are overtaken on roads. Therefore, it is prudent to consider a contingency option of temporary on-site refuge. For example, if a wildfire is anticipated to encroach upon the community in a timeframe that is shorter than would be required to evacuate all residents, then evacuations could be significantly impacted and the ability to temporarily shelter residents in their homes is a prudent contingency.

This approach is consistent with San Diego County's (2022) Evacuation approach which states, "The concept of shelter-in-place is an available option in those instances where physical evacuation is impractical. This procedure may be effective for residential dwellings in the immediately impacted areas, or for large facilities that house a high percentage of non-ambulatory persons (i.e., hospitals and convalescent homes). Sheltering-in-place attempts to provide a haven within the impacted area." Although not a designated shelter-in-place community, the structures at Carlton Oaks would include the same level of ignition resistance and landscape maintenance, are defensible against the short duration wildfire exposure anticipated, and are designed to require minimal resources for protection, which enables these contingency options that may not be available to other vicinity communities.

4.1 Evacuation Time Discussion

This analysis was performed by Intersecting Metrics (Appendix C) in accordance with the requirements of the *County of San Diego – Operational Area Emergency Operation Plan – Annex Q (Evacuation), September 2018* for the calculation of evacuation times. The evacuation analysis was conducted using Synchro/SimTraffic microsimulation software package (Version 10) by Trafficware Ltd. It considers lane utilization, turn pocket storage lengths, upstream and downstream queue spillbacks, and coordinated signal timings on intersection and roadway operations. Intersection delay/level of service results are based on the SimTraffic results, which are calculated from the simulated vehicles tracked throughout the network. A total of 10 simulations run were conducted to obtain a reasonable sample size, and the results of those runs were averaged to obtain the evacuation travel time.

The following assumptions were coded into the Synchro/SimTraffic network:

Simulation Area

The simulation area used for this modeling includes the existing land uses and roadway network bounded by West Hills Parkway to the west, Mast Boulevard to the north, Cuyamaca Street to the east, and Mission Gorge to the south. The same intersections analyzed in the *Carlton Oaks Country Club and Resort Draft Local Transportation Analysis* (Intersecting Metrics, November 6, 2022) were included in this model, as well as Cuyamaca Street to simulate the vehicles traveling to the Santee Town Center.

The residential neighborhoods included in the evacuation analysis are neighborhoods adjacent to the project site and close proximity to native fuels, which are most likely to be compromised during a wildfire. These neighborhoods include the residential units immediately north of the project site, the units north of Mast Boulevard and west of Fanita Parkway, and the units in the northwestern area of the City of Santee, north of El Nopal.

Vehicle Volumes

The base intersection volumes were developed using existing traffic counts collected between 2017 and 2018 and validated against 2021 vehicle counts, as well as the number of households in the evacuating areas multiplied by the average number of vehicle ownership in that area to represent evacuating vehicles. Consistent with standard evacuation modeling procedures, a purposely-conservative estimate was used for the analysis to represent the worst-case mass evacuation scenario during late night conditions. Accordingly, it is assumed all Project occupants and residents within the study area would be home.

For this analysis, late night conditions are represented by reducing the PM peak hour volumes, which includes traffic associated with all land uses (e.g., commercial, industrial, etc.), by 90 percent. The intersection counts were developed by comparing the late-night roadway volume to the PM peak hour volume, then applying that ratio to the PM intersection volume to yield late night volumes. Count worksheets are included in Attachment A of Appendix C.

Evacuating Vehicles

The number of vehicles existing the evacuation area was developed based on the American Community Services 2020 data for six census tracts[1] in the study area. The evacuating traffic from these neighborhoods would not all load onto the study roadways, so a cordon analysis of the study area was conducted to determine the amount of existing traffic loading onto the study roadways, which resulted in approximately 87 percent of traffic traveling within the study network and the remaining traffic. The Project's evacuation vehicles were calculated using the Institute of Transportation Engineer's Parking Trip Generation Rates for the hotel use and census vehicle ownership data for the residential units. The Golf Course was not assumed to have any evacuating vehicles, other than for five employees, as the evacuation scenario was assumed to be after twilight when the golf course would be closed. The evacuation volumes development summary sheets are provided in Attachment B of Appendix C.

Additionally, heavy vehicles and equipment used during the construction phase would not interfere with the evacuation process. During the construction phase, the Project would be required to prepare and implement a construction traffic management plan. A construction traffic management plan would require the minimization of obstructions in traffic lanes, maintenance of emergency access throughout construction activities through methods such as the use of flag persons to minimize obstructions along roadways, signage, scheduling of vehicle movements to ensure traffic flow, and limiting schedule of deliveries and truck traffic, among other requirements. The construction traffic management plan would ensure short-term construction related impacts related to impairment of an emergency response or evacuation plan would be limited.

Table 1 displays the number of vehicles evacuating under each scenario.

[1] ACS 2020 vehicle and household data obtained for the 166.06, 166.08, 166.09 166.13, 166.20, and 166.21 census tracts.

Table 1. Evacuating Vehicles

Scenario	Evacuating Vehicles		
	Adjacent Neighborhoods	Proposed Project	Total
Existing Land Uses	12,652	N/A	**12,652**
Existing Land Uses with Project		576	**13,228**

As detailed in Appendix C, certain roadway network modifications were assumed in the model to represent potential traffic mitigation for roadways with available capacity and/or deployed traffic personnel directing traffic at key intersections. Additionally, the model assumes that under emergency evacuation conditions, traffic signals would revert to special timing plans and/or traffic personnel will be deployed at key intersections to help regulate traffic flow for primary evacuation approaches. Further, the model was coded to include primarily aggressive drivers, with drivers travelling with faster reaction times and shorter headways.

4.1.1 Potential for Project Evacuation Impact on Existing Conditions

Based on the analysis methodology described in the previous section, Table 2 summarizes the evacuation time for each analysis scenario. The evacuation time does not depict the evacuation time for each population modeled, but rather the time needed to evacuate all populations modeled. Populations located in closer proximity to the safe zone will safely evacuate sooner than the calculated evacuation time. Detailed evacuation travel time analysis information is provided in Attachment C of Appendix C.

Table 2. Evacuation Travel Time

Safe Zone	Total Evacuation Traffic		Evacuation Travel Time		
	Existing Land Uses	Existing Land Uses w/ Project	Existing Land Uses	Existing Land uses w/ Project	Delta
Mission Gorge Road / SR-125 Interchange	9,245	9,533	85.4 mins (1 hr & 25 mins)	91.7 mins (1 hr & 31 mins)	6.3 mins
Santee Town Center	3,407	3,695	55.5 mins	63.2 mins (1 hr & 3 mins)	7.7 mins
Study Area Total	**12,652**	**13,228**	**84.5 mins (1 hr & 24 mins)**	**89.2 mins (1 hr & 29 mins)**	**4.7 mins**

As shown in Table 2, under an existing condition mass evacuation of the evacuation study area, the maximum time for evacuation of populations to the Mission Gorge Road/SR-125 Interchange would be approximately 1 hour and 25 minutes. With the addition of Project traffic the maximum time for evacuation would increase to approximately

1 hour and 31 minutes, which is a total increase of approximately 6.3 minutes. Whereas, under the same mass evacuation scenario, the maximum time for evacuation of existing condition populations to the Santee Town Center would be approximately 55.5 minutes. With the addition of Project traffic, the maximum time for evacuation would increase to approximately 1 hour and 3 minutes, which is a total increase of approximately 7.7 minutes. It is anticipated to take the Proposed Project and adjacent residential neighborhoods up to 91.7 minutes and 63.2 minutes to evacuate to the two safe zones, Mission Gorge Road / SR-125 Interchange and Santee Town Square, respectively.

The Study Area Total evacuation time is also the mass-evacuation scenario and is the weighted average of the two safe zones, Mission Gorge Road / SR-125 Interchange and the Santee Town Square. The weighted average is calculated to consolidate the two evacuation times to provide an overall evacuation estimate for the study area. This allows for a clear comparison of without and with project conditions for the study area. The individual evacuation times to each safe zone are also disclosed to provide the magnitude of change of the evacuation travel time estimates that would be associated with the implementation of the proposed project. Therefore, the study area's total evacuation time is slightly lower than the Mission Gorge Road / SR-125 Interchange time as it accounts for the lower travel time to the Santee Town Center.

In addition to reviewing the evacuation travel time, the total intersections delay for the study area was evaluated to see the impact off the Projects traffic at the intersections. Table 3 displays the total intersections for the two scenarios. Detailed evacuation intersection delay information is provided in Attachment D of Appendix C.

Table 3. Evacuation Intersection Delay – Total Study Area

Total Intersection Delay (Seconds)		
Existing Land Uses	Existing Land Uses w/ Project	Delta
469.9 seconds	489.7 seconds	19.8 seconds

As shown in Table 3, the total intersection delay for the study area with the Proposed Project is 489.7 seconds, which is a 19.8 second increase from the scenario with only the Existing Land Uses.

There are currently no significance standards for evacuation travel time for the City of Santee or CEQA. Public safety, not time, is generally the guiding consideration for evaluating impacts related to emergency evacuation. The City considers a Project's impact on evacuation significant if the Project will significantly impair or physically interfere with implementation of an adopted emergency response or evacuation plan; or if the Project will expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

The City of Santee has historically had an extremely high success rate for safely evacuating large numbers of people and doing so in a managed and strategic way using available technological innovations. Safely undertaking large-scale evacuations 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, residents' awareness and preparedness, evacuation messaging and direction, and on-site law enforcement control.

Notwithstanding evacuation challenges and variables, the success rate in the City of Santee in safely managing both mass and targeted evacuations is nearly 100% safe evacuations based on research showing there were no fire-caused deaths during an evacuation. Technological advancements and improved evacuation strategies learned

from prior wildfire evacuation events have resulted in a system that is many times more capable of managing evacuations. With the technology in use today in the City, 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 populations are able to safely evacuate.

Based on the evacuation simulations above, evacuation traffic generated by the Project would not significantly increase the average evacuation travel time or result in unsafe evacuation timeframes. In a likely evacuation scenario, existing residents on the northern area of the City of Santee that are immediately adjacent to native fuels and the most compromised residents in a wildfire scenario would be able to evacuate via Cuyamaca Street to the center of City and would not be disrupted by evacuation from the proposed project's traffic. Evacuation flow would be able to be effectively managed.

The Project would provide emergency managers the alternative option of recommending residents temporarily seeking refuge on-site in fire-resistant buildings or within the wide, converted landscapes and hardscapes that would not readily facilitate wildfire spread. This would provide emergency managers with a safer alternative to risking a late evacuation. By contrast, the examples of Southern California evacuations that have included loss of life have been the result of residents who did not evacuate when directed, and then attempted a late evacuation with travel through long distances of exposed travel ways as wildfire were overtaking the area. These examples occurred in fire environments that were more aggressive and included less maintenance than would occur at the Project area.

The Project would not cut off or otherwise modify existing evacuation routes. It would, instead, implement certain roadway improvements that would improve evacuation, as discussed above.

This information will be provided to emergency managers for use in pre-planning scenarios to better inform in the field decisions made pursuant to adopted Emergency Operations Plans. Emergency personnel who issue an evacuation order may take into account 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, 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 out in the sparse 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.

4.1.2 Mass Evacuation Vehicle Traffic

Mass evacuation events have become extremely rare as wildfire evacuation technology and capabilities have improved dramatically in the last 20 years. Wildfire evacuations are managed to move smaller populations in a successive phasing to minimize traffic surges. Populated areas are evacuated in phases based on proximity to the event and risk levels. For example, it is anticipated that wildfire evacuations of the Project area will likely include the relocation of perimeter populations that are closest to open space, either to on-site temporary shelter sites or

off-site, rather than mass evacuating the entire area. The Project is built to ignition resistant standards and represent fire-safe fuel breaks that provide emergency managers many options that do not all include a mass evacuation. The result of this type of evacuation is that residents that may be in locations that would be closest to a wildfire burning in open space areas are temporarily moved from the vicinity and vehicle congestion on evacuation routes is minimized, enabling a more efficient evacuation. Under this evacuation approach, the evacuation would include a much smaller population and would be implemented in a surgical way. The evacuation time would be even lower and would have very little impact on the existing communities, except for evacuees who decide to leave the area despite not being directed to do so (Sorensen and Vogt 2006).

PHASED EVACUATION The purpose of a phased evacuation is to reduce congestion and transportation demand on designated evacuation routes by controlling access to evacuation routes in stages and sections. This strategy can also be used to prioritize the evacuation of certain communities that are in proximity to the immediate danger. A phased evacuation effort will need to be enforced by law enforcement agencies and coordinated with the EOC and affected jurisdictions.

Evacuations in San Diego County will soon be managed by a system that enables emergency managers to designate small areas in a surgical approach that can target neighborhoods, blocks or streets for alert messaging. Similarly, numerous cities and counties are implementing similar plans, with one example being an evacuation planning system called Genasys Protect. Genasys Protect is a software program that uses an algorithm incorporating various factors or inputs affecting disasters or emergency events to produce a digital evacuation map or real-time guide based on numerous, pre-set, community zones vs large swaths of a community. These factors include weather, traffic flows, street design, historical disaster data, geography and more. They are used to build a communitywide (city or county or whatever entity is purchasing the program) baseline digital map of evacuation zones.

When evacuations occur during peak traffic conditions, law enforcement historically prioritizes hierarchically managing traffic to move populations that are at highest risk. Downstream intersections are managed by the emergency management team to allow evacuation of people to occur based on vulnerability, fire location, and potential impacts. In these scenarios, it is not uncommon for commuters to be stopped on a roadway while evacuating populations are given priority for movement out of an area that is at risk. While frustrating to drivers, they are not at risk and if that situation changed, they would then become a priority and through additional road closures and intersection control, those populations would then be moved out of the area.

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, as it has been analyzed in this evacuation study. However, current evacuation practice typically targets the scope of the evacuation only to the area in immediate danger. Specifically, the City of Santee and County of San Diego utilize the Genasys Evacuation system to provide precise evacuation information[2]. 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.

As the City of Santee has adopted the San Diego OA EOP, the Evacuation and Repopulation Policy #8-B[3] provides the following procedures when an evacuation is needed:

[2]https://www.sandiegouniontribune.com/news/public-safety/story/2024-05-30/new-evacuation-notification-system
[3] https://sdoparea.org/wp-content/uploads/documents/8B%20Evacuation%20and%20Repopulation.pdf

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

The approach above is demonstrated in a recent evacuation order where the roadway is closed to non-essential traffic prior to an evacuation order being issued. During the Border Fire 32 in August 2022[4]. 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.[5]. 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.

When the incident commander (IC) deemed certain areas at risk due to fire conditions, an evacuation order was issued. 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 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 in the Border Fire #32, the Thomas Fire, and other recent fires, evacuation orders were issued only to those populations facing a potential or imminent 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.

Dept of Homeland Security (2019) provides supporting data for why jurisdictions have moved to the surgical evacuation approach that leverages the power of situation awareness to support decision making. According to

[4] https://x.com/SDSheriff/status/1565096377494818817
[5] https://x.com/SDSheriff/status/1565104232688074752

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.

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 a CEQA impact or to be consistent with codes, regulations or policies. Regardless, the Project has provided a comprehensive mass-evacuation evaluation including the Project and most-likely surrounding populations, 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. 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.

The potential occurrence of a large evacuation event including evacuation of existing populations is minimal, but possible. In this case, the existing populations for the Project would be existing residential to the east and south, commercial to the south, and Kaiser to the south. During a large wildfire moving from east to west, it is most likely, that evacuations would be directed north along I-805, depending on the fire location and movement. The vehicle capacity estimates utilized for this evacuation plan are based the current Highway Capacity Manual methodology for calculating adjusted saturation flow rates and are discounted for various assumed traffic-related slowing, such as higher volume and downstream bottlenecks; therefore, the discounted vehicle capacity (2,500 vehicles per hour, per Table 1) includes capability to absorb additional vehicles.

In an actual evacuation scenario, a phased evacuation would be implemented where orders are given to evacuate based on vulnerability, location, and/or other factors, which enables the subsequent traffic surges on major roadways to be smoothed over a longer time frame and improve traffic flow. A phased strategy can also be used to prioritize the evacuation of certain communities that are in proximity to the immediate danger. The limitations of the model used for this analysis are such that it cannot accurately reflect phased evacuation conditions; hence, a worst-case mass evacuation scenario was assumed.

This WES assumes that law enforcement personnel are controlling downstream intersections to maintain traffic flow out of the area. If traffic flow is not maintained, then the estimated evacuation times would be expected to increase, potentially substantially, as is the case in any urban area. Additionally, this analysis assumes that all existing populations within the Project area and the Project are evacuating simultaneously.

4.2 Evacuation Route Determination

Typically, fire and law enforcement officials will identify evacuation points before evacuation routes are announced to the public. Evacuation routes are determined based on the location and extent of the incident and its spread rate and direction and include as many pre-designated transportation routes as possible. However, field conditions and shifting fire behavior may result in real-time changes to predetermined routes. Having additional evacuation route options is considered critical in these conditions. Under extreme fire weather events, it is unlikely that evacuation would occur to the east and this analysis assumes all traffic, existing and proposed Project related would be sent to the Mission Gorge Road and SR-125 interchange and the Santee Town Square were considered to be the gateways or safe zones for evacuees to seek refuge from the wildfire.

5 Carlton Oaks Wildfire/Evacuation Awareness

The Carlton Oaks HOA should be active in its outreach to its residents regarding fire safety and general evacuation procedures. There are aspects of fire safety and evacuation that require a significant level of awareness by the residents and emergency services to reduce and/or avoid problems with an effective evacuation. Mitigating potential impediments to successful evacuations requires focused and repeated information through a strong educational outreach program. The Carlton Oaks HOA should engage residents and coordinate with local fire agencies for fire safety awareness through a variety of methods.

This WES will be accessible on the HOA's website. Annual reminder notices will be provided to each homeowner encouraging them to review the plan and be familiar with community evacuation protocols. The HOA will coordinate with local fire agencies to hold an annual fire safety and evacuation preparedness informational meeting. The meeting will be attended by representatives of appropriate fire agencies and important fire and evacuation information will be reviewed. One focus of these meetings and of the HOA's annual message will be on the importance of each resident to prepare and be familiar with their own "Ready, Set, Go!" evacuation plan. The "Ready, Set, Go!" program is defined at:

http://www.readysandiego.org/Resources/wildfire_preparedness_guide.pdf, and information about preparing a personalized evacuation plan is provided in Appendix A of this document.

The focus of the "Ready, Set, Go!" program is on public awareness and preparedness, especially for those living 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 and your home are ready when a wildfire occurs. Create defensible space by planting and maintaining ignition-resistant vegetation near your home. Use only fire-resistant landscaping and maintain the ignition resistance of your home. Assemble emergency supplies and belongings in a safe spot. Confirm you are registered for Reverse 911, AlertSanDiego, and Community alert system. Make sure all residents residing within the home understand the plan, procedures and escape routes.
- "SET" – Situational Awareness When a Fire Starts: If a wildfire occurs and there is potential for it to threaten Carlton Oaks 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 your community, 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 residents 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 Carlton Oaks Wildfire Evacuation Study provides key information that can be integrated into the individual evacuation plans, including the best available routes to use in the event of an emergency evacuation.

Situation awareness requires a reliable information source. One of the most effective public notification methods is Reverse 911. The San Diego OES operates the Reverse 911 notification system that provides a recorded message over land line telephone systems relating to evacuation notices. In addition, OES operates a program known as "Alert San Diego" that has the capability to send emergency notifications over both land lines as well as to cell phones and via text messages. It is up to individual residents to register their cell phones for "Alert San Diego." The registration of cell phones can be done online at www.ReadySanDiego.com. In addition, the San Diego Emergency Alert System (EAS) is county-wide and broadcasts emergency information via two radio stations: KOGO AM 600 and KLSD AM 1360.

As part of the approval of the Carlton Oaks Project, it shall be binding on the HOA to actively participate as a partner with the SFD to assist with the coordination and distribution of fire safety information they develop to Project residents.

6 Carlton Oaks Evacuation Procedures

6.1 Relocation/Evacuation

It is estimated that the minimum amount of time needed to move the Carlton Oaks population to urbanized and/or designated evacuation areas may require approximately 1 hour and 29 minutes or more under varying constraints that may occur during an evacuation. 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 (IC, SFD, CAL FIRE, SDSD, and/or County Office of Emergency Management) can assess the situation and determine the best course of action. Based on the Carlton Oaks 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 [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 Carlton Oaks 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, such as those within Carlton Oaks. 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 IC level and at the field level for enacting a contingency to evacuation when conditions dictate.

Indications from past fires and related evacuations, in San Diego 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 IC, law enforcement and OES would jointly enact evacuations based on fire behavior.

6.2 Carlton Oaks Project Evacuation Baseline

For purposes of this Wildfire Evacuation Study, the first and most logical choice for all of the residents and guests within the boundaries of Carlton Oaks Project is to adhere to the principles and practices of the "Ready, Set, Go!" Program previously mentioned in this document. As part of this program, it is important that each household develop a plan that is clearly understood by all family members and participates in the educational and training programs sponsored by the Carlton Oaks HOA and the SFD. In addition, it is imperative that the "Ready, Set, Go!" program information be reviewed on a routine basis along with the accompanying maps illustrating evacuation routes, temporary evacuation points and pre-identified evacuation points. It must be kept in mind that conditions may arise that will dictate a different evacuation route than the normal roads used on a daily basis.

Residents 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, residents of the Project will proceed according to known available routes away from the encroaching fire as detailed in Quick Reference section of this report. Residents are cautioned not to rely on navigation aid apps which may inadvertently lead them toward an oncoming fire. Depending on the type of emergency and the resulting evacuation, it could take approximately 1 hour and 29 minutes or more to complete a Carlton Oaks community-wide evacuation, based on road capacities and competing use of the roads by residents from other areas.

Note: This Wildfire Evacuation Study will require adjustment and continued coordination by the Carlton Oaks HOA and/or developer 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.

6.3 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 Carlton Oaks community 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

It is recommended that local law enforcement and fire agencies conduct concerted pre-planning efforts focusing on evacuation contingency planning for civilian populations when it is considered safer to temporary seek a safer refuge than evacuation. Carlton Oaks structures would allow for the possibility of temporary sheltering while structures in surrounding communities would not typically be considered ignition-resistant and therefore, not appropriate for temporary refuge.

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, helispots)

- 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. For example, considering worst-case 41-foot tall flame lengths that may be possible in open space near this site (Dudek 2023), then a 164-foot separation would be required, and potentially more could be needed if there were site-specific features that would result in more aggressive fire behavior. Additionally, under extreme fall weather conditions, embers could spot within 2.3 miles of the Project site and a crown fire could potentially occur within the riparian woodland areas near the Project site; therefore, potential crown fire flame lengths could reach 136 feet with sustained winds of 16 mph, which would require a 544-foot separation.

Safety zones are available within the Carlton Oaks community, but the Town Center Parkway Plaza just east of the community offers the best possibility for a safety zone for firefighter use. The Carlton Oaks community will include the ability for firefighters to seek safety zones within the ignition-resistant landscapes, but identification of other potential safety zones will require additional focused study by SFD 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 Carlton Oaks community, 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 entire developed portion of Carlton Oaks development, but especially the interior dwellings, are considered TRAs. This is an important concept because it offers last-resort, temporary refuge of firefighters, and in a worst-case condition, residents. 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 site's residences that can be considered for TRA include the following features:

- Ignition-resistant construction
- Annual landscape inspections by 3rd party inspectors
- Wide roadways with fire hydrants
- 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 some properly designed, constructed and maintained residences onsite is considered a contingency plan for the Carlton Oaks Project. 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 on site will be made by responding law enforcement and/or fire personnel.

6.3.3 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 back up 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 does not mitigate the risk, then the evacuation reverts to the Emergency plan. P.A.C.E. Planning is a simple and effective tool used to accomplish evacuations with flexibility and redundant contingencies.

A P.A.C.E. Evacuation 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 PACE 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.

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

2. Alternate: The Alternate plan should be as viable as your Primary plan. That isn't always the case, but that should be the goal whenever possible. Alternate plans are needed because unforeseen circumstances arise during emergency evacuations.

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

3. Contingency: The contingency evacuation plan is the action that will be implemented if you cannot implement either the Primary or the Contingency 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.

4. 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.

The Plan applies when Project occupants are directed to evacuate by law enforcement/emergency managers, the notification systems, or on-site emergency personnel, media and social media. As discussed above, given its urban infill location, it is unlikely the entire Project site will be directed to evacuate in a wildfire scenario.

The Project's PACE Evacuation Plan is summarized in Table 1 and must be maintained, reviewed, and updated at least every 2 years.

Table 1. P.A.C.E Evacuation Plan for Carlton Oaks Project Area

1. Primary: Project will evacuate via the primary evacuation route(s) early after receiving evacuation notice utilizing the primary evacuation route(s) as directed by law enforcement/emergency managers.
2. Alternate: Project will follow evacuation instructions which 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.
3. 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 may include evacuating until direction is provided to cease evacuation and initiate on-site sheltering of a smaller on-site population.
4. 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, the Project population will be directed to shelter in place. Sheltering in place is possible due to the urbanized location of the Project site. Sheltering in place may also be the preferred option for other emergencies (e.g., active shooter, earthquake) or directed via the notification systems or on-site emergency personnel, media and social media to reduce congestion and transportation demand on major transportation routes for those directly impacted or in the direct path of a wildfire. 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.

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 San Diego County. 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 residents (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 would be anticipated that law enforcement and/or fire personnel would be on site to help direct traffic and would be viewed by evacuees as knowledgeable and credible. The importance of training these personnel cannot be overstated and annual education and training regarding fire safety and evacuation events will be essential for successful future evacuations.

6.4.1 Evacuation of Special Populations

Vogt (1990 and 1991) defines special populations as those groups of people who, because of their special situations or needs, require different planning strategies from those of the general population. Special needs populations include those in institutions or special facilities, those with disabilities in homes, those who need care, children, and others who cannot provide for their own evacuation if necessitated. The special needs population is concentrated in facilities but is also widespread in terms of facility locations and those who live in residences. Special needs populations in Carlton Oaks include the hearing or visually impaired, foreign speaking, visitors passing through the area, temporary visitors such as day workers, and the non-ambulatory confined to residences either temporarily or permanently.

Tourists 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. Conversely, this segment of the population would typically be easier to evacuate quickly as they have no possessions or pets they would need to prepare. They can get in their cars and be directed out of the area.

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.

The Carlton Oaks Project would not accommodate livestock onsite. However, household pets are a common occurrence.

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 re-entry into impacted communities following an incident is provided in the County of San Diego Re-Entry Protocol.

Guidance and procedures to ensure a coordinated, safe, and orderly repopulation into impacted communities following an incident is provided in the County of San Diego Evacuation and Repopulation Plans.

Repopulation will be initiated by the Incident Commander/Unified Command of the Incident Management Team, with the support of the Director of Emergency Services, 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. 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 annex, which may include AlertSD.org, the SD Emergency App for smart phones, emergency broadcast radio, television, press releases, informational phone lines such as 2-1-1, community briefings, and informational updates at shelters.

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7 Limitations

This Wildfire Evacuation Study has been developed based on City of Santee wildfire and evacuation standards and the San Diego County Evacuation Annexes and is specifically intended as a guide for evacuations for the Carlton Oaks Project. This Wildfire Evacuation Study provides basic evacuation information that will familiarize residents of the Project with the evacuation route options that may be available to them during an emergency. However, because emergencies requiring evacuation have many variables and must be evaluated on a case-by-case basis, real-time law enforcement and fire personnel/agencies' decision-making and direction during an emergency requiring evacuation would supersede this WES.

This WES analyzes the existing community's evacuation times currently and with the proposed Carlton Oaks Project. The estimated evacuation times are based on several assumptions as 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, the time of day, and other factors. A collective, community–wide evacuation of existing populations would include congested roads in its existing condition. Congested roads are normal in any urban setting when a mass evacuation is declared unless it is managed and evacuation areas are staggered to reduce the potential traffic surges that can significantly impact evacuations. Therefore, with the Project evacuation traffic, although minimal, there would still be congestion and delays.

This Wildfire Evacuation Study promotes the "Ready, Set, Go!" model, adopted by County OES, CAL FIRE, and many fire agencies statewide, including SDCFA. 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, visitor education, and evacuation planning efforts. The Carlton Oaks populace will be "Set" by closely monitoring the situation whenever fire weather occurs and/or when wildland fire occurs and elevating pre-planned protocol activities and situation awareness. Lastly, officials will implement the plan and mandate that populations "Go" by executing pre-planned evacuation procedures in a conservative manner (i.e., evacuation will occur based on conservative decision points, as proposed in this evacuation plan or when directed by fire and law enforcement personnel, whichever is more conservative). The preferred alternative will always 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. For example, should a fire occur and make evacuation from the Project area ill advised, a contingency plan for residents should be available. This contingency would include moving people to pre-designated TRAs until it is safe to evacuate or the threat has been mitigated.

Ultimately, it is the intent of this Wildfire Evacuation Study to guide the implementation of evacuation procedures such that the process of evacuating people from the Carlton Oaks Project and surrounding communities is facilitated in an efficient manner and according to a pre-defined evacuation protocol as well as providing a contingency option of temporarily refuging (for Carlton Oaks), if evacuation is considered less safe. The Carlton Oaks residents will be aware of this evacuation plan as the Project's HOA will post it on its website and provide reminders to residents on at least an annual basis. This educational outreach will result in a populace that understands the potential for evacuations and the routes and options that may be presented to them.

During extreme fire weather conditions, there are no guarantees that a given structure will not burn or that evacuations will be successful all of the time. Wildfires may occur in the area that could damage property or harm

persons. However, successful implementation of the procedures outlined in this Wildfire Evacuation Study will provide for an informed populace regarding evacuations.

This WES does not provide a guarantee that all persons will be safe at all times because of the procedures discussed. There are many variables that may influence overall safety. This WES provides a summary for implementation of standard evacuation protocols, suggested roadway enhancements, and public outreach, which should result in reduced wildfire related risk and hazard. Even then, fire can compromise the procedures through various, unpredictable ways. The goal is to reduce the likelihood that the system is compromised through implementation of the elements of this WES and regular occurring program maintenance and updates.

It is recommended that the evacuation process is carried out with a conservative approach to fire safety. This approach must include establishing and maintaining the Carlton Oaks Project's fuel modification landscape on a property-by-property basis, infrastructural, and ignition-resistant construction components (retrofitting as possible) according to the appropriate standards and embracing a "Ready, Set, Go!" stance on evacuation. Accordingly, evacuation of the wildfire areas should occur according to pre-established evacuation decision points, or as soon as they receive notice to evacuate, which may vary depending on many environmental and other factors. Fire is a dynamic and somewhat unpredictable occurrence, and it is important for anyone living at the wildland-urban interface to educate themselves on practices that will improve safety.

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Appendix A
Quick Reference Guide

Quick Reference - Wildfire Preparedness

The Quick Reference Guide provides helpful tips and educational resources, so residents are prepared in the event of a wildland fire evacuation.

Figure 1 illustrates the emergency evacuation routes potentially available to Carlton Oaks project and surrounding communities. Figure 2 displays the Carlton Oaks Project's vicinity location and Figure 3 is the Project's land use plan.

The Project's evacuation routes for residents and guests of the Carlton Oaks community are detailed in Section 4[1] and illustrated in Figure 1. Visitors should know available routes, stay informed, and follow directions provided by law enforcement or fire agencies, news media, and other credible sources. Do not rely on navigation apps that may inadvertently lead persons toward the approaching wildfire.

Nearest Medical Facilities

Hospitals:

Kaiser Permanente San Diego Medical Center
9455 Clairemont Mesa Blvd,
San Diego, CA 92123

Head west toward Carlton Oaks Dr
Sharp right onto Inwood Dr
Turn left to stay on Inwood Dr
Turn left onto Carlton Oaks Dr
Turn right onto W Hills Pkwy
Turn left onto Mast Blvd
Take exit 7 for I-15 S
Keep right, follow signs for Clairemont Mesa Blvd
Turn right onto Clairemont Mesa Blvd
Turn right to merge onto CA-52 W
Use the left lane to turn left onto Ruffin Rd
Make a U-turn at Ruffin Ct
Destination will be on the right.

Alvarado Hospital
6655 Alvarado Rd,
San Diego, CA 92120

Head west toward Carlton Oaks Dr
Sharp right onto Inwood Dr
Turn left to stay on Inwood Dr
Turn right onto Carlton Oaks Dr
Turn right onto Carlton Hills Blvd
Turn right onto Mission Gorge Rd
Turn left onto the CA-125 S ramp
Continue onto CA-125 S
Take exit 18B to merge onto I-8 W
Take exit 11 toward 70th St/Lake Murray Blvd
Slight left onto Parkway Dr
Turn left onto Lake Murray Blvd
Turn right onto Alvarado Rd
Destination will be on the left

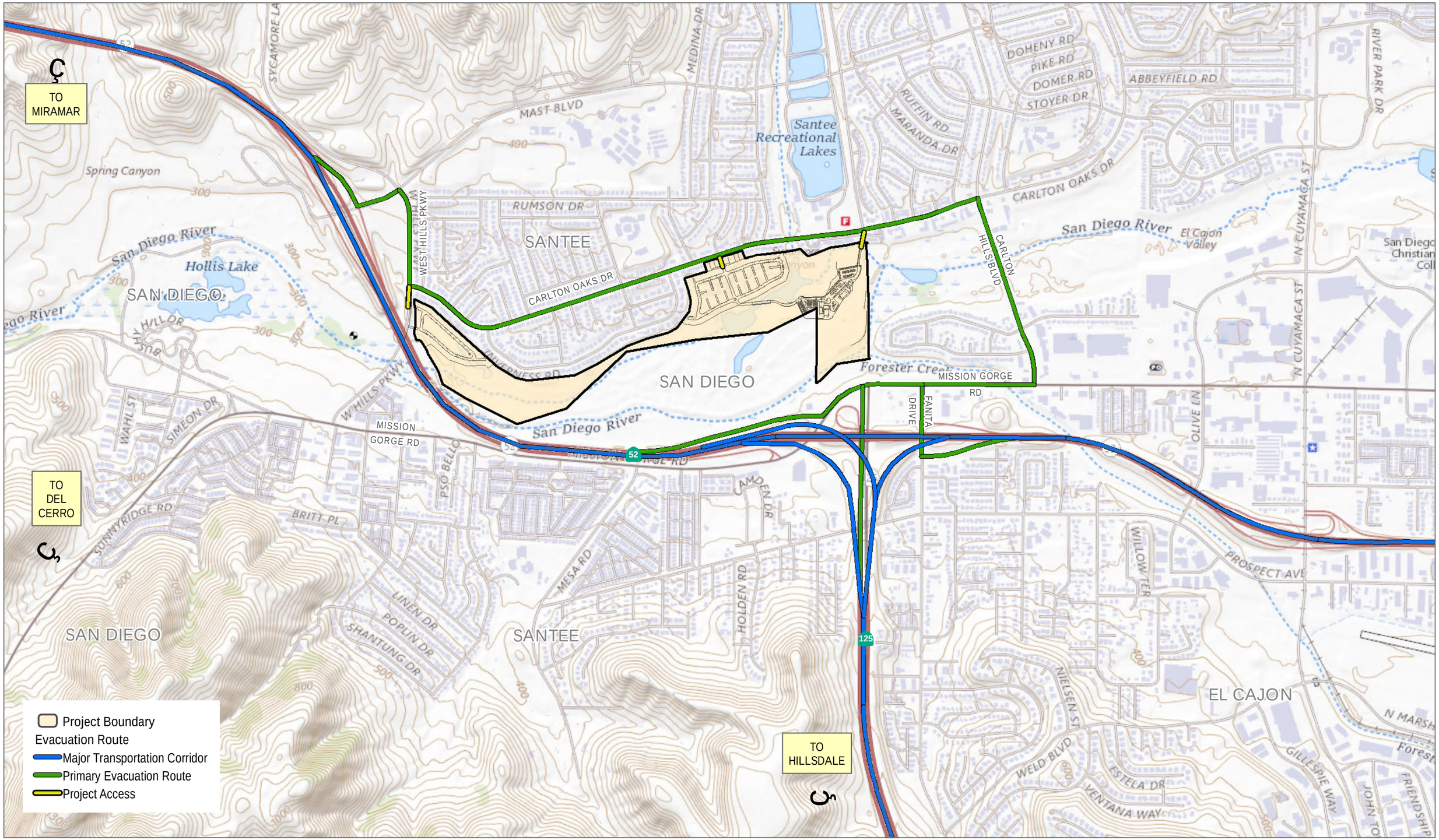
Urgent Care Facilities:

[1] Directions of travel and use of routes noted here will be controlled by Emergency Personnel in the event of a wildfire based upon location of emergency and conditions such as weather, fire movement, and evacuation conditions.

AFC Urgent Care Santee
10538 Mission Gorge Rd
#100
Santee, CA 92071

Concentra Urgent Care
9745 Prospect Ave Suite 100,
Santee, CA 92071

Sharp Rees-Stealy Santee Urgent Care
8701 Cuyamaca St,
Santee, CA 92071



SOURCE: BACKGROUND- ESRI MAPPING SERVICE

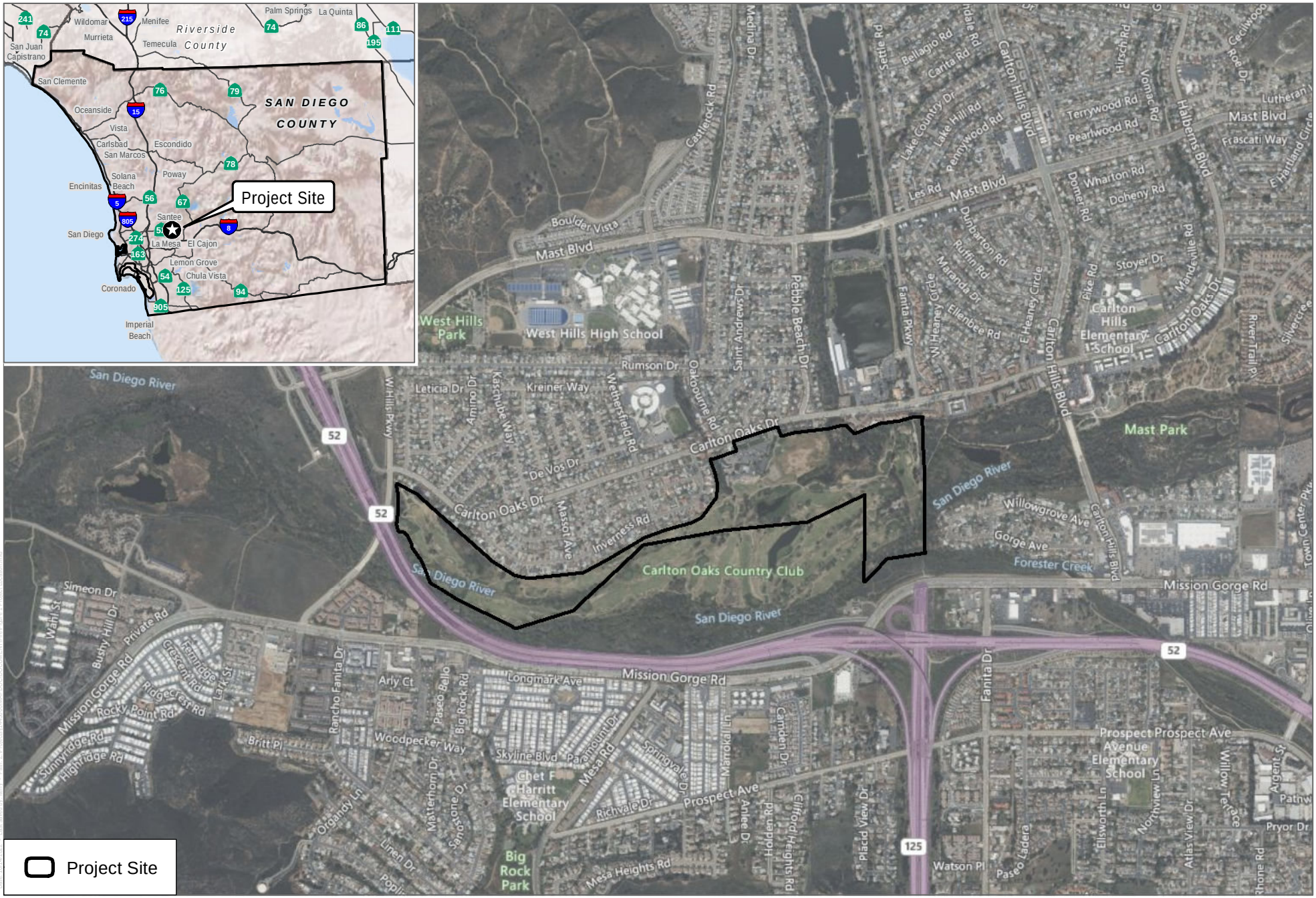
DUDEK

0 600 1,200 Feet

FIGURE 1

Evacuation Routes

Quick Reference Guide for the Carlton Oaks Project



SOURCE: BING MAPPING SERVICE

DUDEK

0 750 1,500 Feet

FIGURE 2

Project Location

Quick Reference Guide for the Carlton Oaks Project

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Register to Receive Emergency Alerts

The City of Santee (City) utilizes Alert San Diego for its Community Emergency Notification System. Alert San Diego is a countywide standard system that is managed as a regional asset by the County of San Diego Office of Emergency Services. In the event of a wildfire within the City limits, the Incident Command (IC) or other City departments will contact the San Diego Sheriff's Department, which will activate the Alert San Diego system. Therefore, residents of the Carlton Oaks Project are strongly advised to register their land lines, mobile phone numbers and email addresses with Reverse 9-1-1, Alert San Diego system (http://www.readysandiego.org/AlertSanDiego/) in order to receive emergency evacuation instructions. The residents of Carlton Oaks are part of the greater San Diego media market and the media outlets will also be a good source of information, via television and radio, on overall emergency situations and how residents should respond. In addition, the San Diego Emergency Alert System (EAS) is county-wide and broadcasts emergency information via two radio stations: KOGO AM 600 and KLSD AM 1360. The following television stations will provide information during an emergency:

- CityTV, which can be found online (http://granicus.sandiego.gov/MediaPlayer.php?publish_id=1648)
- Channel 24 - Cox Communications
- Channel 24 - Time Warner Cable
- Channel 99 - AT&T

Social media provides another outlet for news:

- https://twitter.com/CityofSantee

Get Involved in Community Readiness

Residents of the Carlton Oaks Project are encouraged to volunteer with the East County Community Emergency Response Team (CERT) (https://eastcountycacert.samariteam.com/). The Carlton Oaks Homeowner's Association (HOA) is encouraged to organize annual evacuation public outreach, engage directly with organizations such as Fire Safe Council of San Diego County, as well as maintain a fire safe page on the community's website, including this Wildfire Evacuation Study and links to important citizen preparedness information[2]. This information shall be made available to all residents of the Project.

This Wildfire Evacuation Study is prepared specifically for the Carlton Oaks Project and focuses on wildland fire evacuations, although many of the concepts and protocols will be applicable to other emergency situations. Ultimately, this plan should be used by residents for awareness of evacuation approaches during wildfires and other similar emergencies. It is important for the residents 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 evacuation plan. Some actions the community residents can do in advance include:

- Follow the "Ready, Set, Go!" model developed for wildfire evacuations.

[2] Links to important preparedness information can be found at https://www.cityofsanteeca.gov/government/fire-department/public-education-emergency-prep

- Create an escape plan from the residence, as well as an escape route once outside of the home.
- Know your available routes, stay informed and follow directions provided by credible sources.
- Do not rely on navigation apps that may inadvertently lead you toward an approaching fire.
- Create a car emergency kit, including cell phone charger, flashlight, jumper cables, water, and food.
- Gather important paperwork, including birth and marriage certificates, account documents, passports, Social Security cards, and any other important family photos or irreplaceable items and documents.
- As time allows, make sure to secure your home by locking all doors and windows, and unplugging electrical equipment, such as appliances and electronics.

Sample emergency preparedness resources available to the Carlton Oaks residents are provided in Appendix A-1 through A-2 (Resident "Ready, Set, Go!" Wildland Fire Action Plan and Wildfire Preparedness Checklist) and Appendices B-1 through B-4 (Family Disaster Checklists and Communications Plans), and residents are encouraged to become familiar with the concepts detailed at the following websites:

1. "Ready, Set, Go!" Personal Action plan:
2. https://www.readysandiego.org/content/dam/oesready/en/wildfire/wildfire_preparedness_guide.pdfRed 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.fema.gov/media-library-data/1440449346150-1ff18127345615d8b7e1effb4752b668/Family_Comm_Plan_508_20150820.pdf

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 residents who are familiar with the evacuation protocol but is subservient to emergency event-specific directives provided by agencies managing the event.

Appendix B

Local and State Preparedness Resources

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 braches, etc. on the ground are burning; Crown - the top layer of foliage from trees is burning.

7. True:!

READY, SET, GO!

YOUR PERSONAL WILDLAND FIRE ACTION GUIDE

THE NOBLEST MOTIVE IS THE PUBLIC GOOD
COUNTY OF SAN DIEGO
MDCCCLI

READY, SET, GO!

OFFICE OF EMERGENCY SERVICES
OES
COUNTY OF SAN DIEGO

READY, SET, GO!

Wildland Fire Action Guide

Saving Lives and Property
through Advance Planning

Fire is a constant threat in San Diego County, and drought, high temperatures in the summer and fall, combined with seasonal Santa Ana winds can lead to explosive fire growth.

In San Diego County, first responders are busy year-round fighting fires. When large fires threaten our community, local, state, federal, tribal, military and other agencies work together to save lives, protect property, and help those impacted by the disaster.

First responders can't do it alone though. Residents, especially those in the Wildland Urban Interface, play a critical role in being prepared for wildfires before, during, and after the next one strikes.

This guide has been modeled off of the Ready, Set, Go! program that is used locally, throughout California, and across the nation. This version is customized for San Diego County, with important local tips and information.

Use this guide to get "Ready" by making your home hardened against wildfire by using defensible space and smart fire resistant building and design choices. Create and practice a family disaster plan that includes storing essentials like food and water supplies, knowing how you'll meet up or communicate with each other, where you can safely evacuate to, and other important information.

Visit ReadySanDiego.org to register with AlertSanDiego to receive emergency alerts via email, text, cell and landline phones, and download the SD Emergency App to get the latest emergency updates delivered to your Android/iOS devices.

Be "Set" and prepared to leave when in danger by monitoring local media, viewing disaster updates on SDCountyEmergency.com, talking with 2-1-1 San Diego, and taking important steps to harden your home even further when you decide to evacuate.

Finally, be able to "Go" and go early, both to keep you and your family safe, and to make it easier for first responders to get into your community.

This guide is a great place to start as you take action to protect your family home, and community.

Tony Mecham, County Fire Chief

INSIDE

Photos courtesy of CAL FIRE, FEMA and ©Kevin Pack/K.E. Photography

This publication was prepared by the International Association of Fire Chief's RSG! Program and; the USDA Forest Service, U.S. Department of the Interior, and the U.S. Fire Administration. Special thanks to Insurance Institute for Business and Home Safety for program support. To learn more about the Ready, Set, Go! Program and its partners, visit www.wildlandfireRSG.org.

This publication was prepared under a grant from FEMA's Grant Programs Directorate, U.S. Department of Homeland Security. Points of view or opinions expressed in this document are those of the authors and do not necessarily represent the official position or policies of FEMA's Grant Programs Directorate or the U.S. Department of Homeland Security.

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 naturally vegetated area, often called the Wildland Urban Interface, provide firefighters with 100 feet of defensible space to protect your home. The buffer zone you create by removing weeds, brush and thinning vegetation helps keep the fire away from your home and reduces the risk from flying embers. Firewise Communities and your local fire department's brush management guidelines provide valuable guidance on property enhancements.

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 wildland fire.

What is Defensible Space?

Defensible space is the required space between a structure and the wildland area that, under normal conditions, creates a sufficient buffer to slow or halt the spread of wildland fire to a structure. It protects the home from igniting due to direct flame or radiant heat. Defensible space is essential for structure survivability during wildland fire conditions. For more information about defensible space zones and preparedness techniques within each, visit ReadySanDiego.org/wildland-fire

ZONE ONE

Zone One extends 50 feet from your home.

- Must be permanently irrigated to maintain green and healthy plants.
- Is primarily low-growing plant material, with the exception of trees. Plants shall be low-fuel and fire-resistive.
- Trim tree canopies regularly to remove dead wood and keep branches a minimum of 10 feet from structures, chimney outlets and other trees.
- Remove leaf litter (dry leaves/pine needles) from yard, roof and rain gutters.
- Relocate woodpiles and other combustible materials into Zone Two.
- Remove combustible material and vegetation from around and under decks.
- Remove or prune vegetation near windows.
- Remove “ladder fuels” (low-level vegetation that would allow the fire to spread from the ground to the tree canopy). Create a separation between low-level vegetation and tree branches by reducing the height of the vegetation and/or trimming low branches.

ZONE TWO

Zone Two extends 50 to 100 feet from your home.

- Minimize the chance of fire jumping from plant to plant by removing dead material and removing or thinning vegetation seasonally. The minimum spacing between vegetation is three times the dimension of the plant.
- There should be no permanent irrigation in Zone Two.
- Remove “ladder fuels.”
- Cut or mow annual grass down to a maximum height of 4 inches.
- Trim tree canopies regularly to keep branches a minimum of 10 feet from other trees.

What is a Hardened Home?

Construction materials and the quality of the defensible space surrounding a home are what gives it the best chance to survive a wildland fire. Embers from a wildland fire can 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 wildland fire. While you may not be able to accomplish all the measures listed below, each will increase your home's, and possibly your family's, safety and survival during a wildland fire.

ROOFS

Roofs are the most vulnerable surface where embers land because they can lodge and start a fire. Roof valleys, open ends of barrel tiles and rain gutters are all points of entry.

EAVES

Embers can gather under open eaves and ignite exposed wood or other combustible material.

VENTS

Embers can enter the attic or other concealed spaces through vents and ignite combustible materials. Vents in eaves and cornices are particularly vulnerable, as are any unscreened vents.

WALLS

Combustible siding or other combustible or overlapping materials provide surfaces or crevices for embers to nestle and ignite.

WINDOWS and DOORS

Embers can enter through open windows and gaps in doors, including garage doors. Plants or combustible storage near windows can ignite from embers and generate heat that can break windows and/or melt combustible frames.

BALCONIES and DECKS

Embers can collect in or on combustible surfaces or the undersides of decks and balconies, ignite the material and enter the home through walls or windows.

To harden your home further, consider protecting your home with a residential fire sprinkler system. In addition to extinguishing a fire started by an ember that enters your home, it also protects you and your family year-round from any fire that may start in your home.

Tour a Wildland Fire Prepared Home

Home Site and Yard: Ensure you have at least a 100-foot radius of defensible space (thinned vegetation) around your home. Note that even more clearance may be needed for homes in severe hazard areas. This means looking beyond what you own to determine the impact a common slope or neighbors' yard will have on your property during a wildland fire.

Cut and remove dry weeds and grass before noon when temperatures are cooler to reduce the chance of sparking a fire.

Landscape with fire-resistant plants that have a high moisture content and are low-growing.

Keep woodpiles, propane tanks and combustible materials away from your home and other structures such as garages, barns and sheds.

Ensure that trees are far away from power lines.

Inside: Keep working fire extinguishers on hand. Install smoke alarms and carbon monoxide detectors on each level of your home and near bedrooms. Test them monthly and change the batteries twice a year.

Address: Make sure your address is clearly visible from the road.

Roof: 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 high risk of being destroyed during a wildland fire.

Build your roof or re-roof with fire-resistant materials such as 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 ten feet of your roof.

Vents: Vents on homes are particularly vulnerable to flying embers.

All vent openings should be covered with ⅛ inch 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 protected to prevent ember intrusion (mesh is not enough).

Windows: Heat from a wildland fire 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 the 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.

Walls: 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-fiber board, masonry or stucco.

Be sure to extend materials from foundation to roof.

Garage: 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 door to prevent ember intrusion.

Store all combustibles and flammable liquids away from ignition sources.

Driveways and Access Roads: Driveways should be designed to allow fire and emergency vehicles and equipment to reach your house.

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.

Ensure that all gates open inward and are wide enough to accommodate emergency equipment.

Trim trees and shrubs overhanging the road to a minimum of 13½ feet to allow emergency vehicles to pass.

Non-Combustible Fencing: Make sure to use non-combustible fencing to protect your home during a wildland fire.

Non-Combustible Boxed In Eaves: Box in eaves with non-combustible materials to prevent accumulation of embers.

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

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

If you have a pool or well, consider a pump.

Chimney: Cover your chimney and stovepipe outlets with a non-flammable screen of ½ inch wire mesh or smaller to prevent embers from escaping and igniting a fire.

Make sure that your chimney is at least 10 feet away from any tree branches.

Decks and Balconies: Decks, balconies, and other floor projections and attachments must be of one – or a combination – of the following:

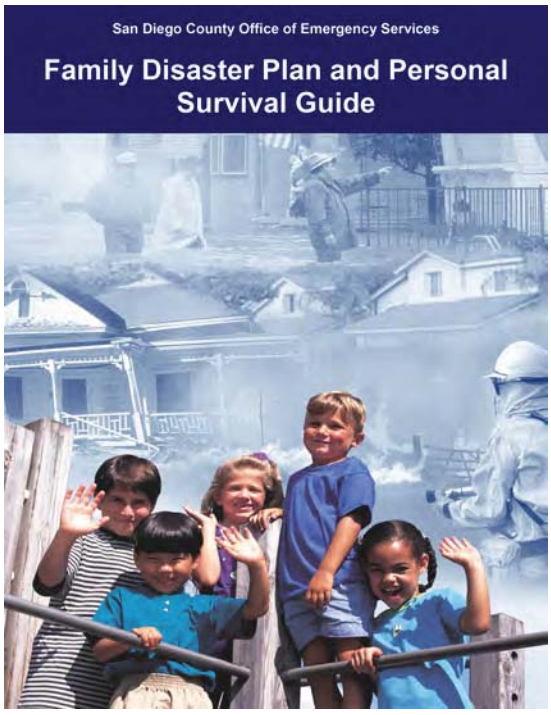
- non-combustible construction (e.g., concrete, metal)
- protected by one-hour fire-resistive material (e.g., stucco, cement-fiber board, ceramic tile, deck surface listed by approved evaluation service as one-hour-rated or Class A roof covering)
- approved fire-retardant treated materials (factory-applied fire retardant, pressure-treated lumber, listed for exterior use, installed per listing)
- heavy timber construction (minimum 4x8 joists, 4x10 or 6x8 beams, 3x ledgers, and 6x6 columns/posts)
- alternative decking materials per County Building Code 92.1.709A.1.4

READY, SET, GO!

Create Your Own Action Guide

Now that you've done everything you can to protect your house, its time to prepare your family. Your **Wildland Fire Action Guide** must be prepared well in advance of a fire. Include *all* members of your household. Use these checklists to help you gain a situational awareness of the threat and to prepare your Wildland Fire Action Guide. For more information on property and home preparedness before a fire threat, review the preparedness checklist on the Firewise Communities website, www.firewise.org

Ready – Preparing for the Fire Threat



For a more extensive survival guide, please visit: ReadySanDiego.org/make-a-plan

- ☐ Create an in-depth family disaster plan at ReadySanDiego.org
- ☐ Register to receive emergency notifications on phone, cell, text, and email for your area. Sign up at AlertSanDiego.org
- ☐ Have fire extinguishers on hand
- ☐ Ensure that your family knows the location of your utility shut-off controls
- ☐ Plan and practice several different evacuation routes
- ☐ Designate an emergency meeting location
- ☐ Assemble an emergency supply kit (water, food, medicine)
- ☐ Maintain a list of emergency contact numbers
- ☐ Have a portable radio

San Diego County

All the information in your hands when you need it! Get the SD Emergency App for Android and iOS!

2-1-1 SAN DIEGO DISASTERRESPONSE

Find out how to volunteer, and get the most up-to-date disaster information! Call 2-1-1

ReadySanDiego.org
Prepare. Plan. Stay Informed.

Visit ReadySanDiego.org for all your preparedness needs! Get a plan, get the app, get informed!

Set – Situational Awareness when a Fire Starts

- [ ] Alert family and neighbors
- [ ] Ensure that you have your emergency supply kit
- [ ] Stay tuned to media, visit: SDCountyEmergency.com
- [ ] Close all windows and doors, leaving them unlocked
- [ ] Remove flammable window shades and curtains
- [ ] Move furniture to the center of the room
- [ ] Turn off pilot lights and air conditioning
- [ ] Leave inside and outside lights on so firefighters can see your house through smoke
- [ ] Bring patio furniture, children's toys, etc. inside
- [ ] Turn off propane tanks and other gas at the meter
- [ ] Don't leave sprinklers on or water running
- [ ] Back your car into the driveway to facilitate a quick departure

- [ ] Cover attic and ground vents with pre-cut plywood or commercial covers
- [ ] Call 2-1-1 for all non-emergency inquiries or visit: 211SanDiego.org

IF YOU ARE TRAPPED: SURVIVAL TIPS

- [ ] Call 9-1-1
- [ ] Remain inside your home until the fire passes
- [ ] Shelter away from outside walls
- [ ] Bring garden hoses inside the house so embers don't destroy them
- [ ] Patrol inside your home for spot fires and extinguish any you find
- [ ] 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 is hot inside the house, it is four to five times hotter outside)
- [ ] Fill sinks and tubs for an emergency water supply
- [ ] Place wet towels under doors to keep smoke and embers out
- [ ] After the fire has passed, check your home and roof. Extinguish any fires, sparks or embers
- [ ] Check inside the attic for hidden embers
- [ ] If there are fires that you cannot extinguish with a small amount of water or in a short period of time, call 9-1-1

Go – Leave Early

By leaving early, you give your family the best chance of surviving a wildland fire. You also help firefighters by keeping roads clear of congestion.

WHEN TO LEAVE

Do not wait to be advised to leave if there is a possible threat to your home or evacuation route. Leave early enough to avoid being caught in fire, smoke or road congestion. If you are advised to leave by local authorities, do not hesitate!

MEETING LOCATION

Travel to a predetermined location. It should be a low-risk area, such as a well-prepared neighbor or relative's house, a shelter or motel, etc.

HOW TO GET THERE

Know several travel routes out of your community in case one route is blocked by the fire or by emergency vehicles.

WHAT TO TAKE

Take your emergency supply kit containing your prepared family and pet's necessary items.

The County of San Diego Office of Emergency Services has a free, printable, All Hazards Family Disaster Plan and Survival Guide at: ReadySanDiego.org/make-a-plan

Here is a brief checklist to get your emergency supply kit started.

- ☐ Three-day supply of water (one gallon per person per day)
- ☐ Non-perishable food for all family members and pets (three-day supply)
- ☐ First aid kit
- ☐ Flashlight, battery-powered radio, and extra batteries
- ☐ An extra set of car keys, credit cards and cash or traveler's checks
- ☐ Sanitation supplies
- ☐ Extra eyeglasses or contact lenses
- ☐ Important family documents and contact numbers
- ☐ Map marked with evacuation routes
- ☐ Prescriptions or special medications
- ☐ Family photos, valuable and other irreplaceable items that are easy to carry
- ☐ Personal computers, hard drives, disks and flash drivers
- ☐ Chargers for electronic communication devices

Note: Keep a pair of old shoes and a flashlight handy in case of a sudden evacuation at night.

Why can't I immediately return home?

Although a fire has been contained or extinguished there are post-hazard concerns that must be addressed before re-entry into the impacted area(s) may be permitted. Priorities for re-entry include:

1. Safety
2. Security
3. Damage Assessment
4. Restoration of Services
5. Communication of Information

The impacted areas must be thoroughly investigated to ensure it is safe for residents to return and that services have been restored. You will be notified of the re-entry status through: *emergency broadcast radio, television, internet www.SDCountyEmergency.com, 2-1-1, community briefings, and informational updates at shelters.*

Returning Home

After a disaster, **DO NOT attempt to return to your home or cross any barriers or caution tape without permission from law enforcement officials**. When returning home, be cautious in your neighborhood and watch out for:

- Emergency personnel still operating in the area.
- Power lines lying on the ground.
- Small fires that may flare up without warning.
- Ash pits, which are holes filled with hot ash created by burned trees.
- Damaged buildings or debris (including glass, nails, etc.)
- Charred power poles and trees that may be unstable and fall.

Take the following precautions when attempting to enter your house:

POWER:

If a person or piece of equipment comes in contact with an electric line, or if a line is down or broken.

- ☐ **Call 9-1-1**.
- ☐ If you see an electrical fire, fight it with a dry CO(2) extinguisher.
- ☐ If possible, shut off the power.
- ☐ **Don't touch the person or any equipment involved**. The line may still be energized and dangerous.
- ☐ Freeing someone from energized power lines or equipment should only be attempted by a qualified SDG&E employee or a trained rescuer such as a fire fighter.
- ☐ Always assume that power lines are energized.
- ☐ Do not smoke or attempt to light anything. Use a **flashlight instead**.

GAS:

- ☐ Check to see if your gas utility is working properly. If you smell gas, leave your home immediately, and call (24/7) SDG&E at 1-800-411-7343.
- ☐ **DO NOT** light a match, candle, or cigarette.
- ☐ **DO NOT** turn electrical devices on or off, including light switches.
- ☐ **DO NOT** start an engine or use any device, including a telephone, which could cause a spark.
- ☐ **DO NOT** attempt to control the leak or repair the damaged pipe or meter. Do not use or turn off any equipment that could cause a spark.

- ☐ Check for burning embers on roofs, gutters, porches, attic, crawlspace, and throughout your property for several days after a wildfire.

- ☐ Check for any structural damage before entering your home. If you are uncertain, have your home professionally inspected before returning.

- ☐ Do not smoke or attempt to light anything as there could be flammables or leaking gases. Use a flashlight instead.

- ☐ Open windows and doors to allow airflow, which will help dry out of any water damage areas.

San Diego Gas & Electric can be reached at 1-800-411-7343 or SDGE.com/customer-service/contact-us
For more information on damage assessment visit the County's Recovery page at SDCountyRecovery.com.

Fire Action Guide

Out of Area Contact: _____ **Phone #:** _____

Work: _____ **School:** _____ **Other:** _____

Evacuation Routes: _____

_____

_____

Meeting Location: _____ **Location of Supply Kit:** _____

Information: SDCountyEmergency.com 211SanDiego.org SD Emergency App

You can create a more in-depth plan for free at: ReadySanDiego.org/make-a-plan

READY, SET, GO!

Safety Checklist

Tips To Improve Family and Property Survival During A Wildland Fire

Home	Yes	No
1. Does your home have a metal, composition, tile or other non-combustible roof with capped ends and covered fascia?	☐	☐
2. Are the rain gutters and roof free of leaves, needles and branches?	☐	☐
3. Are all vent openings screened with 1/8 inch non-combustible, corrosion-resistant metal mesh?	☐	☐
4. Are approved spark arrestors on chimneys?	☐	☐
5. Does the house have non-combustible siding material?	☐	☐
6. Are the eaves "boxed in" and the decks enclosed?	☐	☐
7. Are the windows dual-paned or tempered glass?	☐	☐
8. Are decks, porches and similar areas made of non-combustible material and are they free of easily combustible material?	☐	☐
9. Is all firewood at least 30 feet from the house?	☐	☐

Defensible Space	Yes	No
1. Has dead vegetation been removed from the defensible space zones around your home? (Consider adding distance due to slope of property.)	☐	☐
2. Is the required separation between shrubs maintained?	☐	☐
3. Have ladder fuels been removed?	☐	☐
4. Is there a clean and green area extending at least 50 feet from the house?	☐	☐
5. Is there a non-combustible area within five feet of the house?	☐	☐
6. Is the required separation between trees and crowns maintained?	☐	☐

Emergency Access	Yes	No
1. Is the home address plainly legible and visible from the street?	☐	☐
2. Are trees and shrubs overhanging the street trimmed to 15½ feet?	☐	☐
3. If your home has a long driveway, does it have a suitable turnaround area?	☐	☐

ReadySanDiego.org
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Insurance Institute for Business & Home Safety

Appendix C
Federal Preparedness Resources

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

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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.

Ready

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.

SHARE

MAKE SURE EVERYONE HAS THE INFORMATION

- [ ] 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.

NOW IT'S TIME TO PRACTICE!

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 DISASTERS[1]

- [ ] 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: .....#: .....

AMERICA'S PrepareAthon!
BE SMART. TAKE PART. PREPARE.

Ready

Write your family's name above

Family Emergency Communication Plan

IN CASE OF EMERGENCY (ICE) CONTACT

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

OUT-OF-TOWN CONTACT

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

FOLD HERE

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 .....

FOLD HERE

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

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

FOLD HERE

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: .....

FOLD HERE

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

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

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: .....

American Red Cross

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 D
Evacuation Modeling

MEMORANDUM

To: Dave Shepherd, Lennar
From: Dale Aquino, Intersecting Metrics & Michael Huff, Dudek
Date: February 13, 2023
Regarding: **Carlton Oaks Country Club and Resort – Fire Evacuation Analysis**

The purpose of this technical memorandum (memo) is to analyze and document the travel time required for an emergency fire evacuation of the Carlton Oaks Country Club and Resort Project (Proposed Project) and surrounding neighborhoods in the City of Santee.

1.0 Background

The Proposed Project is located at 9200 Inwood Drive, which is on the south side of Carlton Oaks Drive and the east side of West Hills Parkway. The total project area encompasses approximately 165 acres. The Proposed Project is proposing to redevelop the existing Country Club and 52-room hotel, into a recreational-oriented mixed-use resort community. The Proposed Project will include an improved golf course, clubhouse, hotel, pro shop, practice area, tournament hall, and residential accessory uses. The following is a summary of the proposed project uses:

Golf Course (Existing use that will be redeveloped)

- Redesign of the existing 18-hole golf course (approximately 104 acres)
- Practice areas
- 1,258 square foot (SF) golf learning center
- 6,012 SF cart barn
- 1,258 SF exterior storage

Golf Clubhouse and Hotel/Cottages (Existing uses that will be redeveloped)

- 50,719 SF Clubhouse and Hotel/Cottages
- 52 rooms (27 studio hotel rooms and 25 cottage style rooms)

Residential area

- 242 residential units

The Proposed Project would take access via a new driveway on West Hills Parkway, as well as a second driveway on Carlton Oaks Drive that will create the southern leg of the existing Burning Tree Way Drive intersection. **Figure 1** displays the project site plan.

Figure 1.2 A

Project Site Plan (Clubhouse & Hotel)

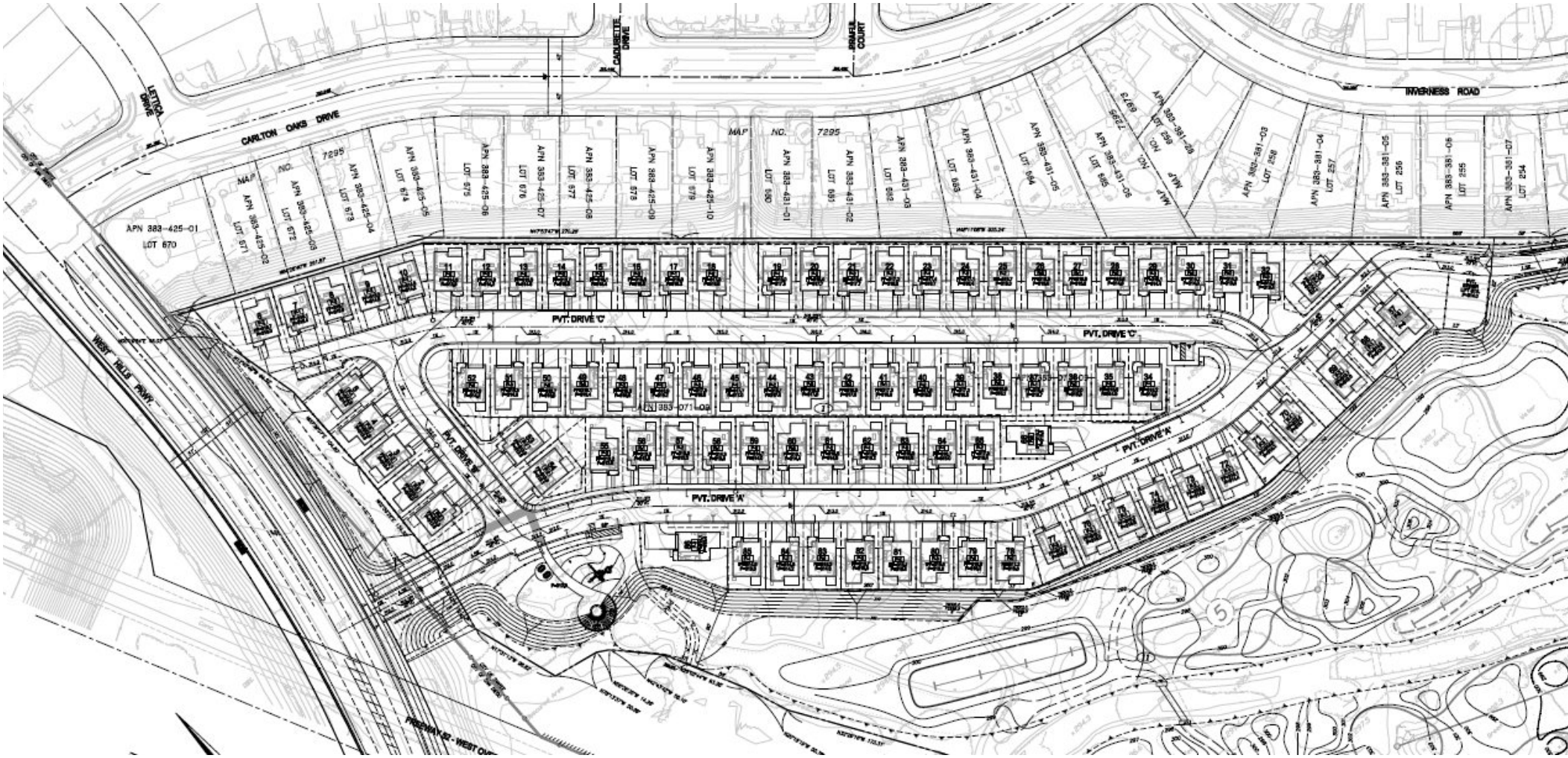
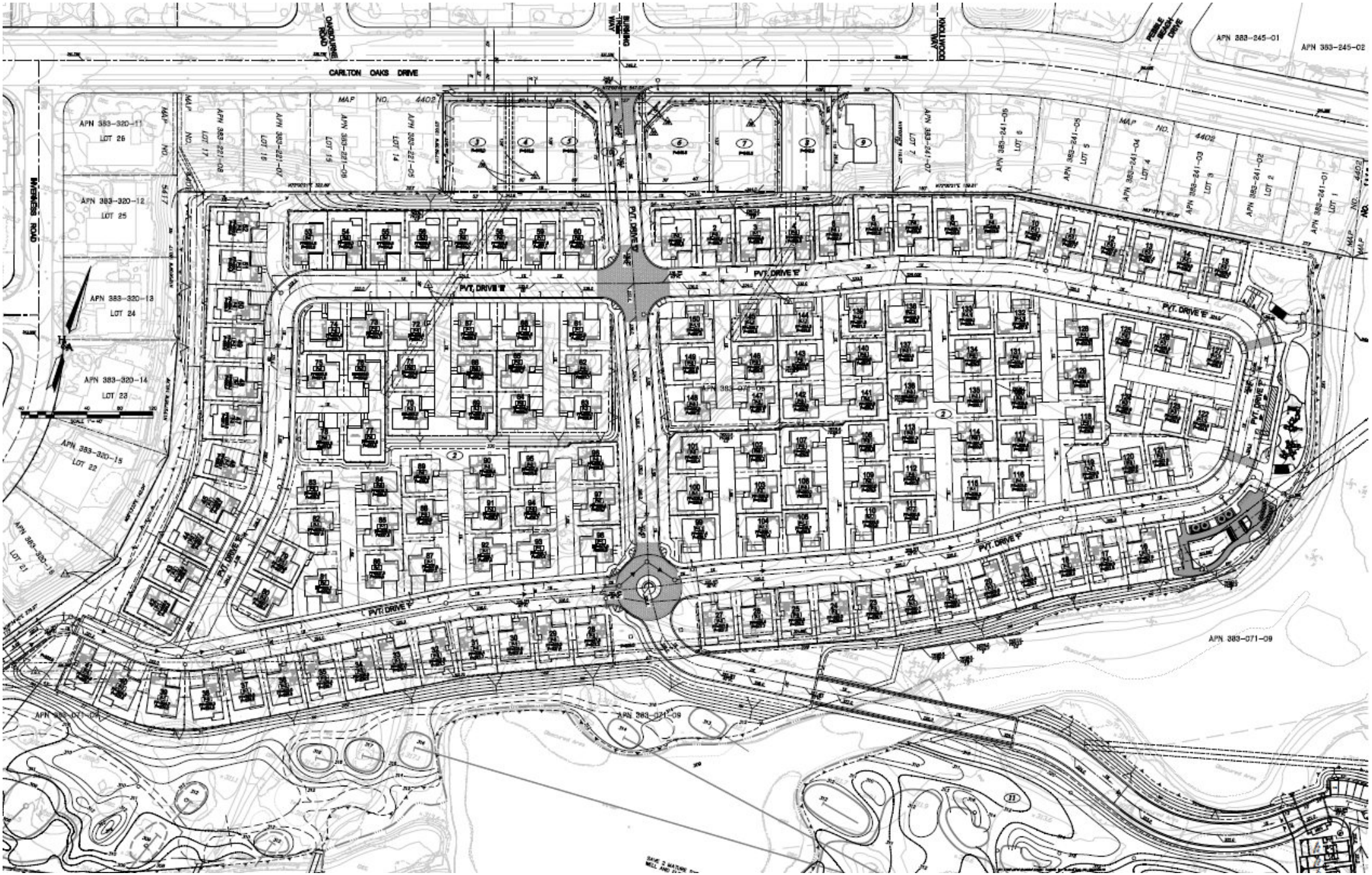


Figure 1.2 B

Project Site Plan (Western Residential)



N

Figure 1.2 C

Project Site Plan (Northern Residential)

2.0 Fire Emergency Evacuation

An evacuation analysis was performed for the Proposed Project to quantify the time it would take for residents and patrons of the Proposed Project, as well as adjacent residential communities, to evacuate to nearby urban areas in the event of a mass evacuation due to a wildfire. The analysis performed was based on traffic simulation models developed using existing travel data, roadway network, signal controls, and calibrated aggressive driver behaviors.

The evacuation analysis assumes a Santa Ana-wind driven fire from the north and/or east of the study area and travels in the westbound and southbound direction. This fire condition is the one most likely to require a large-scale evacuation and one that crates the most risk to property and human life. A mass evacuation scenario was modeled, which analyzes a mass exodus of residents and patrons from the Proposed Project and residents of nearby neighborhoods. The neighborhoods included in the evacuation analysis are the Carlton Oaks residents, immediately adjacent to the project site, as well residents north of Mast Boulevard and adjacent to the open space in the north. **Figure 2** displays the evacuation neighborhoods and evacuation routes.

This scenario assumes nighttime conditions when majority of residents are at home, and represents a worst-case scenario as it assumes all traffic would be released onto the roadway network at once; however, there are robust emergency evacuation plans that include preemptive warning and phased evacuation protocols to help efficiently and effectively evacuate residents without overwhelming the transportation network.

Large open space vegetated areas surround the north, west, and east sides of the study area, and the greater regional area of the cities of Santee and Lakeside. The roadway network was evaluated to determine the best routes for fire response equipment and possible evacuation routes for relocating people to designated safety areas. Consequently, given the surrounding vegetation and the movement of a Santa Ana wind fire, the evacuees of the residents in the study area and Proposed Project are considered to travel south on State Route 125 (SR-125) or Cuyamaca Road to more urbanized areas. As a worst case scenario, State Route 52 (SR-52) west of the project was not assumed as a possible evacuation route as it could be compromised to a wildfire.

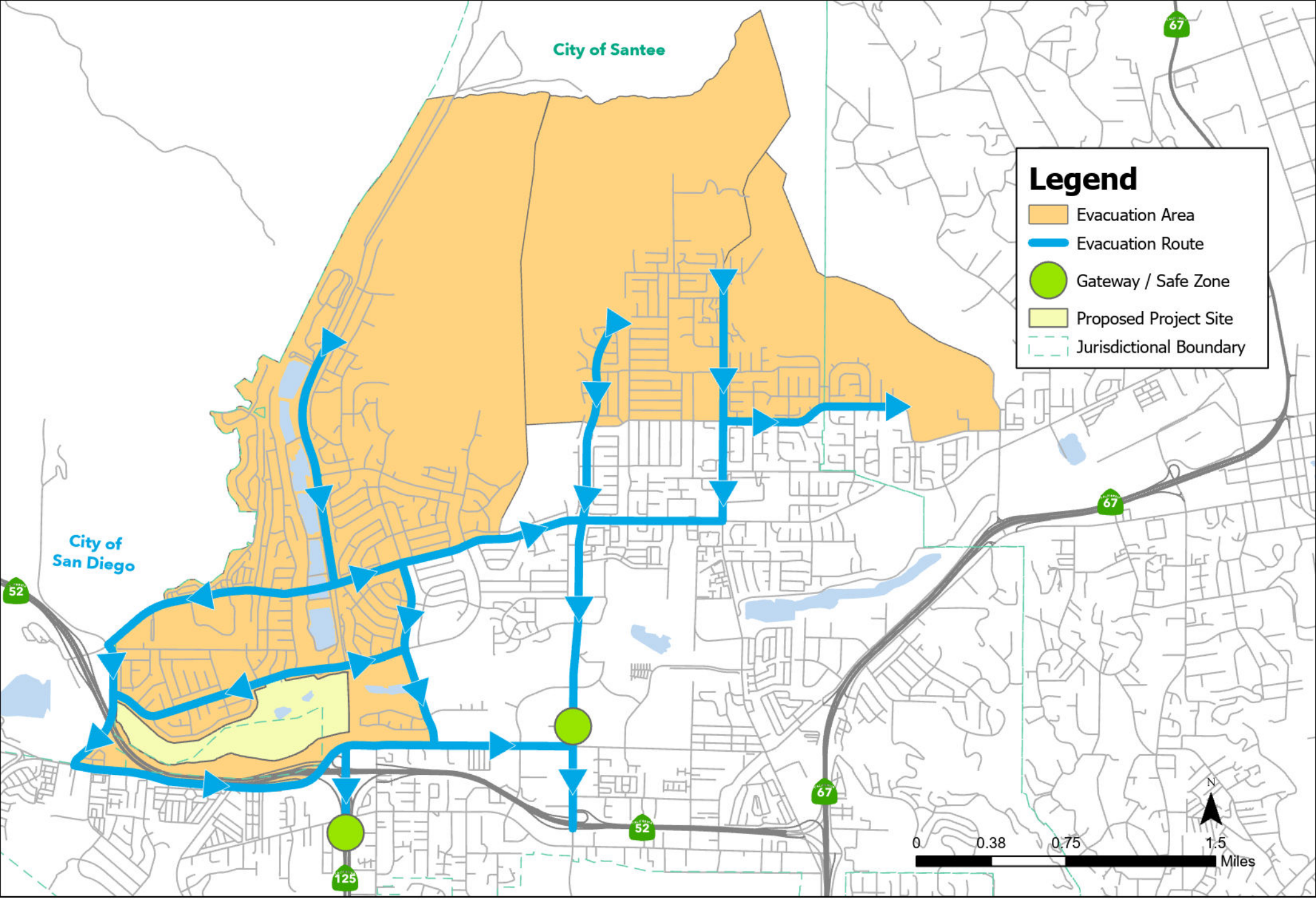
The following analysis is intended to present representative evacuation scenarios using the best available information, conservative assumptions, and the best available modeling technology.

Analysis Scenarios

The evacuation analysis includes the following two (2) scenarios that considered traffic from Proposed Project and as evacuees from the adjacent neighborhoods:

- **Existing Land Uses** – This scenario estimates the evacuation time of the existing residential areas adjacent to the Carlton Oaks Golf Course and adjacent to open space. Under this scenario, it is assumed that SR-52 and Mission Gorge Road to the west are inaccessible due to potential fire conditions.

- **Existing Land Uses With Project** – This scenario evacuation time of the Proposed Project and existing residential areas adjacent to the project and adjacent to open space. Under this scenario, it is assumed that SR-52 and Mission Gorge Road to the west are inaccessible due to potential fire conditions.



Intersecting Metrics

Carlton Oaks Country Club and Resort
Fire Evacuation Route Travel Time Analysis

Figure 2
Evacuation Areas and Routes

Analysis Methodology

This analysis was performed in accordance with the requirements of the *County of San Diego – Operational Area Emergency Operation Plan – Annex Q (Evacuation), September 2018* for the calculation of evacuation times. The evacuation analysis was conducted using Synchro/SimTraffic microsimulation software package (Version 10) by Trafficware Ltd. It considers lane utilization, turn pocket storage lengths, upstream and downstream queue spillbacks, and coordinated signal timings on intersection and roadway operations. Intersection delay/level of service results are based on the SimTraffic results, which are calculated from the simulated vehicles tracked throughout the network. A total of 10 simulations run were conducted to obtain a reasonable sample size, and the results of those runs were averaged to obtain the evacuation travel time.

The following assumptions were coded into the Synchro/SimTraffic network:

Simulation Area

The simulation area used for this modeling includes the existing land uses and roadway network bounded by West Hills Parkway to the west, Mast Boulevard to the north, Cuyamaca Street to the east, and Mission Gorge to the south. The same intersections analyzed in the *Carlton Oaks Country Club and Resort Draft Local Transportation Analysis* (Intersecting Metrics, November 6, 2022) were included in this model, as well as Cuyamaca Street to simulate the vehicles traveling to the Santee Town Center.

The residential neighborhoods included in the evacuation analysis are neighborhoods adjacent to the project site and close proximity to native fuels, which are most likely to be compromised during a wildfire. These neighborhoods include the residential units immediately north of the project site, the units north of Mast Boulevard and west of Fanita Parkway, and the units in the northwestern area of the City of Santee, north of El Nopal.

Vehicle Volumes

The base intersection volumes were developed using existing traffic counts collected between 2017 and 2018 and validated against 2021 vehicle counts, as well as the number of households in the evacuating areas multiplied by the average number of vehicle ownership in that area to represent evacuating vehicles. Since the analysis represents late night conditions, the intersection counts were developed by comparing the late night roadway volume to the PM peak hour volume, then applying that ratio to the PM intersection volume to yield late night volumes. For this analysis, the PM peak hour volumes were reduced by 90 percent to represent late night conditions. Count worksheets are included in **Attachment A**.

Evacuating Vehicles

The number of vehicles existing the evacuation area was developed based on the American Community Services 2020 data for six census tracts[1] in the study area. The evacuating traffic from these neighborhoods would not all load onto the study roadways, so a cordon analysis of the study area was conducted to determine the amount of existing traffic loading onto the study roadways, which resulted in approximately 87 percent of traffic traveling within the study network and the remaining traffic. The Proposed Project's evacuation vehicles were calculated using the Institute of Transportation Engineer's

[1] ACS 2020 vehicle and household data obtained for the 166.06, 166.08, 166.09 166.13, 166.20, and 166.21 census tracts.

Parking Trip Generation Rates for the hotel use and census vehicle ownership data for the residential units. The Golf Course was not assumed to have any evacuating vehicles, other than for five employees, as the evacuation scenario was assumed to be after twilight when the golf course would be closed. The evacuation volumes development summary sheets are provided in **Attachment B.**

Table 1 displays the number of vehicles evacuating under each scenario.

Table 1 Evacuating Vehicles

Scenario	Evacuating Vehicles		
	Adjacent Neighborhoods	Proposed Project	Total
Existing Land Uses	12,652[1]	N/A	**12,652**
Existing Land Uses with Project		576	**13,228**

Roadway Network Assumptions

Certain roadway network modifications were assumed in the model to represent potential traffic mitigation for roadways with available capacity and/or deployed traffic personnel directing traffic at key intersections. The following four (4) roadway and eight (8) intersection modifications were assumed:

Roadway Modifications

- *Carlton Oaks Drive between West Hill Parkway and Burning Tree Way* – Convert the TWLTL to an additional westbound through lane.
- *Carlton Oaks Drive between Burning Tree Way and Carlton Hills Boulevard* – Convert the two-way-left-turn lane (TWLTL) to an additional eastbound lane.
- *Carlton Oaks Boulevard between Willowgrove Avenue and Mission Gorge Road* – Convert the TWLTL to an additional southbound lane.
- *West Hills Parkway between Mast Boulevard and Mission Gorge Road* – Convert either the Striped median/TWLTL or one of the northbound through lanes to an additional southbound lane.

Intersection Modifications

- *Mast Boulevard / West Hills Parkway* – Convert one of the westbound though lanes to a third westbound left-turn lane.
- *Carlton Oaks Drive / West Hills Parkway* – Convert the southbound left-turn lane to a through lane and the dual westbound right-turns to a second left-turn lane and a shared left/right-turn lane.
- *Mission Gorge Road / West Hills Parkway* – Convert the southbound through lane to a left-turn lane.
- *Mast Boulevard / Cuyamaca Street* – Convert an eastbound through lane to a second eastbound right-turn lane.
- *Carlton Hills Drive / Pebble Beach Drive* – Convert the southbound left-turn lane to a shared left/right-turn lane and TWLTL to an additional eastbound through lane.
- *Carlton Oaks Drive / Fanita Parkway* – Convert the southbound through lane to a shared through/right lane and TWLTL to an additional eastbound through lane.

- *Carlton Oaks Drive / Carlton Hills Boulevard* – Convert the eastbound through lane to a shared through/right lane.
- *Mission Gorge Road / State Route 125 Ramps* – Convert the eastbound approach to provide an eastbound through/right-turn lane and two right-turn lanes, and one westbound through lane converted to a third left-turn lane.

Traffic Signals

It is assumed that under emergency evacuation conditions, traffic signals would revert to special timing plans and/or traffic personnel will be deployed at key intersections to help regulate traffic flow for primary evacuation approaches. As such, all signalized study intersections were optimized giving ample green time to the major traffic direction movements and to represent optimal signal control along the evacuation corridors. Additionally, the pedestrian calls were removed as pedestrian crossings are assumed to be nulled during a fire evacuation.

Driver Behavior

The simulation models were calibrated to imitate aggressive drivers during an evacuation scenario. The SimTraffic software includes 10 different type of drivers in a simulation, ranging from conservative to aggressive drivers. The model was coded to include primarily aggressive drivers, with drivers travelling with faster reaction times and shorter headways.

Evacuation Routes

Evacuees are anticipated to be considered in a "safe zone" once they are a reasonable distance away from open space and in a dense urbanized area. For this analysis, the Mission Gorge Road and SR-125 interchange and the Santee Town Square were considered to be the gateways or safe zones for evacuees to seek refuge from the wildfire. The evacuation areas are anticipated to utilize the following roadway facilities as evacuation routes:

North-South Roadways

Carlton Hills Boulevard – Carlton Hills Boulevard provides a connection between the Proposed Project and SR-125, SR-52, and the commercial centers along Mission Gorge Road. Carlton Hills Boulevard between Mast Boulevard and Mission Gorge Road is a 4-lane roadway with a raised median and a posted speed limit of 35 mph. Sidewalks, on-street parking, and Class II bike lanes are provided on both sides of Carlton Hills Boulevard. The City of Santee General Plan Mobility Element Classifies Carlton Hills Boulevard as a Four-Lane Major Arterial. Vehicles evacuating the project and adjacent neighborhoods are anticipated to travel south on this roadway to access Mission Gorge Road.

West Hills Parkway – West Hills Parkway runs along the western edge of the Proposed Project and will provide direct access to the Proposed Project via a single driveway. West Hills Parkway is a 4-lane roadway with a striped or raised median (depending on the location) and a posted speed limit of 45 mph. Sidewalks are provided along the eastern side of West Hills Parkway and intermittently provided along the western side of the roadway. Parking is prohibited on both sides of the roadway. This segment of West Hill Parkway is located within the City of San Diego; however, the East Elliott Community Plan does not identify an ultimate classification for the roadway. It should be noted that the City of Santee General Plan Mobility Element classifies West Hills Boulevard as a Four-Lane Major Arterial. Vehicles evacuating the project from the western project driveway on West Hills Parkway are

anticipated to travel south on West Hills Parkway, then east on Mission Gorge Road to access SR-125 south for safety.

Cuyamaca Street – Cuyamaca Street provides connection from its existing northern terminus to Fletcher Parkway in the City of El Cajon. Cuyamaca Street is classified as a Major Arterial and provides four travel lanes between its northern terminus and Town Center Parkway, then widens six-lanes from Town Center Parkway to the southern city limits. It has a posted speed limit of 35 mph and provides pedestrian sidewalks on both sides of the roadway. Vehicles evacuating the study area are anticipated to be traveling on this roadway to access Santee Town Center for safety.

East-West Roadways

Mast Boulevard – Mast Boulevard between the SR-52 EB Ramps and West Hills Parkway provides a regional connection between the Proposed Project and SR-52. This segment of Mast Boulevard is a 4-lane roadway with a raised or striped median (depending on location) and a posted speed limit of 40 mph. Parking is currently prohibited along this segment Mast Boulevard. Sidewalks are available on both sides of this segment, with the exception of the southern side of the roadway between SR-52 EB Ramps and SR-52 WB Ramps. Class II Bike Lanes are provided in both directions. The City of Santee General Plan Mobility Element Classifies Mast Boulevard as a Four-Lane Major Arterial, east of the SR-52 Ramps. The East Elliott Community Plan does not identify a classification for the portions of Mast Boulevard that are located within the City of San Diego. Vehicles evacuating the area are anticipated to either travel west on Mast Boulevard to access West Hills Parkway or travel east to access Cuyamaca Street for safety.

Carlton Oaks Drive – Carlton Oaks Drive will provide direct access for the Proposed Project via a single driveway location at the Burning Tree Way intersection. Along the Proposed Project frontage, between West Hills Parkway and Fanita Parkway, Carlton Oaks Drive is constructed as a 2-lane roadway with a continuous left-turn lane and a 35-mph posted speed limit. Sidewalks and Class II bike lanes are available on both sides of Carlton Oaks Drive. No transit routes or services are currently available along Carlton Oaks Drive. The City of Santee General Plan Mobility Element Classifies Carlton Oaks Drive as a Two-Lane Collector with Two-Way Left-Turn Lane. Vehicles evacuating the project from the eastern project driveway at Burning Tree Way and the adjacent neighborhoods are primarily anticipated to travel east on Carlton Oaks Drive to travel to the Santee Town Center, the center and urbanized center of the City of Santee.

Mission Gorge Road – Mission Gorge Road is a major east-west roadway that provides regional connections between the Cities of San Diego and Santee. Within the study area, Mission Gorge Road is four lanes between West Hills Parkway and SR-125, then widens to six lanes east of SR-125 to Magnolia Avenue. The roadway is separated by a raised median and has a posted speed limit ranging between 35 mph and 45 mph within the study area. Sidewalks and Class II bike lanes are available on both sides of Mission Gorge Road, as well as a Class I path on the south side of the roadway between Big Rock Road and SR-125. Vehicles evacuating the area are anticipated to travel east on Mission Gorge Road to access SR-125 south for safety.

Evacuation Results

Based on the analysis methodology described in the previous section, **Table 2** summarizes the evacuation time for each analysis scenario. The evacuation time does not depict the evacuation time

for each population modeled, but rather the time needed to evacuate all populations modeled. Populations located in closer proximity to the safe zone will safely evacuate sooner than the calculated evacuation time. Detailed evacuation travel time analysis information is provided in **Attachment C.**

Table 2 Evacuation Travel Time

Safe Zone	Total Evacuation Traffic		Evacuation Travel Time		
	Existing Land Uses	Existing Land Uses w/ Project	Existing Land Uses	Existing Land Uses w/ Project	Delta
Mission Gorge Road / SR-125 Interchange	9,245	9,533	85.4 minutes (1 hr & 25 mins)	91.7 minutes (1 hr & 31 mins)	6.4 mins
Santee Town Center	3,407	3,695	55.5 minutes	63.2 minutes (1 hr & 3 mins)	7.7 mins
STUDY AREA TOTAL	**12,652**	**13,228**	**84.5 minutes (1 hr & 25 mins)**	**89.2 minutes (1 hr & 28 mins)**	**4.7 mins**

As shown in Table 2, it is anticipated to take the Proposed Project and adjacent residential neighborhoods 91.7 minutes and 63.2 minutes to evacuate to the two safe zones, Mission Gorge Road / SR-125 Interchange and Santee Town Square, respectively. Collectively, it is anticipated to take approximately 89.2 minutes for the Proposed Project and adjacent residential neighborhoods to evacuate the evacuation area.

In addition to reviewing the evacuation travel time, the total intersections delay for the study area was evaluated to see the impact off the Proposed Project's traffic at the intersections. **Table 3** displays the total intersections for the two scenarios. Detailed evacuation intersection delay information is provided in **Attachment D.**

Table 3 Evacuation Intersection Delay – Total Study Area

Total Intersection Delay (seconds)		
Existing Land Uses	Existing Land Uses w/ Project	Delta
469.9	489.7	19.8

As shown in Table 3, the total intersection delay for the study area with the Proposed Project is 489.7 seconds, which is a 19.8 second increase from the scenario with only the Existing Land Uses.

Conclusions

There are currently no significance standards for evacuation travel time for the City of Santee or CEQA. Public safety, not time, is generally the guiding consideration for evaluating impacts related to emergency evacuation. The City considers a Project's impact on evacuation significant if the Project will significantly impair or physically interfere with implementation of an adopted emergency response or evacuation plan; or if the Project will expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

The City of Santee has historically had an extremely high success rate for safely evacuating large numbers of people and doing so in a managed and strategic way using available technological innovations. Safely undertaking large-scale evacuations 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, residents' awareness and preparedness, evacuation messaging and direction, and on-site law enforcement control.

Notwithstanding evacuation challenges and variables, the success rate in the City of Santee in safely managing both mass and targeted evacuations is nearly 100% safe evacuations based on research showing there were no fire-caused deaths during an evacuation. Technological advancements and improved evacuation strategies learned from prior wildfire evacuation events have resulted in a system that is many times more capable of managing evacuations. With the technology in use today in the City, 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 populations are able to safely evacuate.

Based on the evacuation simulations above, evacuation traffic generated by the Project would not significantly increase the average evacuation travel time or result in unsafe evacuation timeframes. In a likely evacuation scenario, existing residents on the northern area of the City of Santee that are immediately adjacent to native fuels and the most compromised residents in a wildfire scenario would be able to evacuate via Cuyamaca Street to the center of City, and would not be disrupted by evacuation from the proposed project's traffic. Evacuation flow would be able to be effectively managed.

The Project would provide emergency managers the alternative option of recommending residents temporarily seeking refuge on-site in fire-resistant buildings or within the wide, converted landscapes and hardscapes that would not readily facilitate wildfire spread. This would provide emergency managers with a safer alternative to risking a late evacuation. By contrast, the examples of Southern California evacuations that have included loss of life have been the result of residents who did not evacuate when directed, and then attempted a late evacuation with travel through long distances of exposed travel ways as wildfire were overtaking the area. These examples occurred in fire environments that were more aggressive and included less maintenance than would occur at the Project area.

The Project would not cut off or otherwise modify existing evacuation routes. It would, instead, implement certain roadway improvements that would improve evacuation, as discussed under the "Analysis Methodology" section above.

This information will be provided to emergency managers for use in pre-planning scenarios to better inform in the field decisions made pursuant to adopted Emergency Operations Plans. Emergency personnel who issue an evacuation order may take into account 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, 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 out in the sparse 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.

Limitations

In coordination with fire professionals at Dudek and the Santee Fire Department, Intersecting Metrics 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 cannot and should not be evaluated using this evacuation analysis alone. A comprehensive view of Project fire safety is gained by understanding this memorandum, the Fire Protection Plan and Construction Fire Protection Plan, the Evacuation Plan, along with the standard protocols and "in-the-field" decision making of emergency responders as detailed in the County and City Emergency Operations Plans.

This travel time analysis presents a reasonable vehicle travel time estimate based on professional judgment made by Intersecting Metrics, Dudek, and fire operations experts with experience participating in evacuations in the City and San Diego County. 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 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 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 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 community based upon either evacuation timing and other qualitative considerations.

Attachment A
Existing Traffic Volumes

THURSDAY - DECEMBER 2, 2021 AREA: SANTEE PROJECT: ETD21-1203-01

Carlton Oaks Drive - Fanita Parkway to Carlton Hills Boulevard

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			8		8			12:00			57		59		
00:15			4		9			12:15			55		63		
00:30			4		7			12:30			52		43		
00:45			1	17	5	29	46	12:45			62	226	54	219	445
01:00			6		7			13:00			63		66		
01:15			1		4			13:15			80		77		
01:30			0		0			13:30			71		62		
01:45			2	9	1	12	21	13:45			70	284	45	250	534
02:00			1		1			14:00			58		61		
02:15			3		1			14:15			72		57		
02:30			2		3			14:30			64		61		
02:45			0	6	0	5	11	14:45			79	273	77	256	529
03:00			1		1			15:00			80		84		
03:15			0		1			15:15			80		85		
03:30			4		5			15:30			83		103		
03:45			2	7	3	10	17	15:45			174	417	105	377	794
04:00			0		1			16:00			130		77		
04:15			0		2			16:15			87		85		
04:30			0		4			16:30			93		71		
04:45			2	2	7	14	16	16:45			83	393	82	315	708
05:00			7		5			17:00			98		80		
05:15			5		1			17:15			89		84		
05:30			3		1			17:30			91		72		
05:45			5	20	6	13	33	17:45			113	391	74	310	701
06:00			8		7			18:00			91		79		
06:15			8		11			18:15			98		73		
06:30			11		7			18:30			89		62		
06:45			10	37	18	43	80	18:45			66	344	70	284	628
07:00			8		24			19:00			67		57		
07:15			28		34			19:15			48		51		
07:30			35		55			19:30			45		60		
07:45			43	114	50	163	277	19:45			42	202	46	214	416
08:00			63		123			20:00			39		41		
08:15			88		61			20:15			29		43		
08:30			67		108			20:30			24		47		
08:45			67	285	145	437	722	20:45			23	115	38	169	284
09:00			101		157			21:00			27		30		
09:15			100		128			21:15			17		30		
09:30			82		60			21:30			19		30		
09:45			55	338	67	412	750	21:45			23	86	16	106	192
10:00			58		55			22:00			14		20		
10:15			50		52			22:15			10		22		
10:30			57		48			22:30			18		21		
10:45			49	214	45	200	414	22:45			8	50	6	69	119
11:00			61		59			23:00			13		17		
11:15			56		52			23:15			14		11		
11:30			56		57			23:30			7		5		
11:45			58	231	47	215	446	23:45			1	35	3	36	71
Total Vol.				1280		1553	2833					2816		2605	5421

Daily Totals				
NB	SB	EB	WB	Combined
		4096	4158	8254

	AM			PM		
Split %	45.2%	54.8%	34.3%	51.9%	48.1%	65.7%
Peak Hour	08:45	08:30	08:30	15:45	15:00	15:30
Volume	350	538	873	484	377	844
P.H.F.	0.87	0.86	0.85	0.70	0.90	0.76

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THURSDAY - DECEMBER 2, 2021 AREA: SANTEE PROJECT: ETD21-1203-01

Carlton Hills Boulevard - Carlton Oaks Drive to Mission Gorge Road

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	30		23					12:00	193		187				
00:15	28		8					12:15	209		175				
00:30	26		9					12:30	228		181				
00:45	28	112	7	47			159	12:45	220	850	201	744			1594
01:00	24		9					13:00	244		209				
01:15	18		13					13:15	250		169				
01:30	13		6					13:30	216		236				
01:45	9	64	3	31			95	13:45	213	923	198	812			1735
02:00	14		8					14:00	207		215				
02:15	13		10					14:15	205		170				
02:30	11		4					14:30	224		198				
02:45	4	42	7	29			71	14:45	258	894	247	830			1724
03:00	7		2					15:00	255		221				
03:15	5		6					15:15	285		243				
03:30	4		7					15:30	277		227				
03:45	3	19	6	21			40	15:45	271	1088	266	957			2045
04:00	4		6					16:00	276		231				
04:15	0		7					16:15	277		240				
04:30	5		8					16:30	294		220				
04:45	10	19	10	31			50	16:45	257	1104	191	882			1986
05:00	7		15					17:00	273		224				
05:15	7		17					17:15	281		222				
05:30	7		27					17:30	259		256				
05:45	9	30	33	92			122	17:45	282	1095	219	921			2016
06:00	10		38					18:00	289		265				
06:15	21		54					18:15	276		216				
06:30	15		86					18:30	256		230				
06:45	26	72	82	260			332	18:45	263	1084	195	906			1990
07:00	37		74					19:00	224		182				
07:15	52		97					19:15	227		171				
07:30	63		107					19:30	215		185				
07:45	122	274	142	420			694	19:45	204	870	137	675			1545
08:00	134		170					20:00	179		128				
08:15	155		252					20:15	163		133				
08:30	201		257					20:30	157		135				
08:45	256	746	216	895			1641	20:45	149	648	102	498			1146
09:00	221		217					21:00	131		106				
09:15	216		197					21:15	124		100				
09:30	142		228					21:30	135		105				
09:45	181	760	193	835			1595	21:45	100	490	66	377			867
10:00	147		165					22:00	73		97				
10:15	158		144					22:15	77		48				
10:30	126		159					22:30	84		42				
10:45	169	600	170	638			1238	22:45	67	301	43	230			531
11:00	167		168					23:00	57		34				
11:15	155		169					23:15	54		27				
11:30	166		170					23:30	42		25				
11:45	182	670	162	669			1339	23:45	42	195	17	103			298
Total Vol.		3408		3968			7376			9542		7935			17477

Daily Totals				
NB	SB	EB	WB	Combined
12950	11903			24853

	AM			PM		
Split %	46.2%	53.8%	29.7%	54.6%	45.4%	70.3%
Peak Hour	08:30	08:15	08:30	15:45	15:15	15:15
Volume	894	942	1781	1118	967	2076
P.H.F.	0.87	0.92	0.94	0.99	0.91	0.97

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

THURSDAY - DECEMBER 2, 2021 AREA: SANTEE PROJECT: ETD21-1203-01

Mast Boulevard -SR-52 WB Ramps to West Hills Parkway

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			46		15			12:00			124		202		
00:15			48		6			12:15			127		178		
00:30			40		14			12:30			165		217		
00:45			33	167	7	42	209	12:45			142	558	179	776	1334
01:00			21		5			13:00			155		159		
01:15			24		5			13:15			181		195		
01:30			14		7			13:30			156		225		
01:45			21	80	6	23	103	13:45			147	639	183	762	1401
02:00			12		4			14:00			153		184		
02:15			10		7			14:15			158		199		
02:30			14		5			14:30			202		184		
02:45			5	41	6	22	63	14:45			224	737	215	782	1519
03:00			10		8			15:00			218		222		
03:15			8		3			15:15			220		221		
03:30			4		11			15:30			264		221		
03:45			11	33	7	29	62	15:45			303	1005	259	923	1928
04:00			7		13			16:00			271		226		
04:15			7		14			16:15			271		163		
04:30			7		32			16:30			265		200		
04:45			1	22	22	81	103	16:45			287	1094	174	763	1857
05:00			6		30			17:00			285		168		
05:15			12		64			17:15			296		149		
05:30			23		72			17:30			279		167		
05:45			30	71	88	254	325	17:45			281	1141	148	632	1773
06:00			32		128			18:00			289		132		
06:15			34		150			18:15			274		133		
06:30			42		219			18:30			276		119		
06:45			52	160	215	712	872	18:45			297	1136	117	501	1637
07:00			53		283			19:00			261		105		
07:15			50		326			19:15			277		87		
07:30			66		389			19:30			294		108		
07:45			119	288	368	1366	1654	19:45			196	1028	80	380	1408
08:00			155		391			20:00			132		75		
08:15			101		504			20:15			110		64		
08:30			104		587			20:30			135		55		
08:45			138	498	461	1943	2441	20:45			124	501	104	298	799
09:00			128		455			21:00			101		72		
09:15			109		477			21:15			123		59		
09:30			138		376			21:30			88		82		
09:45			118	493	286	1594	2087	21:45			119	431	48	261	692
10:00			131		213			22:00			82		41		
10:15			132		227			22:15			87		34		
10:30			130		245			22:30			73		44		
10:45			149	542	205	890	1432	22:45			64	306	38	157	463
11:00			156		176			23:00			65		36		
11:15			138		175			23:15			72		22		
11:30			124		218			23:30			43		18		
11:45			116	534	205	774	1308	23:45			53	233	24	100	333
Total Vol.				2929		7730	10659					8809		6335	15144

Daily Totals				
NB	SB	EB	WB	Combined
		11738	14065	25803

	AM			PM		
Split %	27.5%	72.5%	41.3%	58.2%	41.8%	58.7%
Peak Hour	10:30	08:15	08:15	16:45	15:15	15:15
Volume	573	2007	2478	1147	927	1985
P.H.F.	0.92	0.85	0.90	0.97	0.89	0.88

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Roadway	Segment	PM Pk Hr	Late Night Pk Hr	ADT	Late Nt to PM %
Mast Blvd	SR-52 to West Hills Pkwy	1928	100	25803	5%
Carlton Oaks Dr	Fanita Pkwy to Carlton Hills Blvd	794	71	8254	9%
Carlton Hills Blvd	Carlton Oaks Dr to Mission Gorge Blvd	2045	298	24853	15%

	TOTAL	**4767**	**469**	**58910**	**10%**

PM to Late Night Ratio 10%

60 Minute Counts

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
########	1700	1				114				2	1	31	1	
########	1700	2			28				1	114				57
########	1700	3	23	1	18	0	1	6	2	86	40	8	28	0
########	1700	4		108	9	4	7					22		31
########	1700	5	1	1	0	7	0	5	5	15	1	0	32	21
########	1700	6				14		3	1	27			55	13
########	1700	7	34	20	12	1	42	5	1	10	46	26	16	2
########	1700	8	1	1	3	20	2	23	34	69	2	2	39	19
########	1700	9	4	3	0	30	2	79	65	60	3	1	65	38
########	1700	10		118			29							
########	1700	11				1		0	0	24			55	0
########	1700	12	1	0	1	19	0	11	4	39	0	1	64	11
########	1700	13	2	2	2	3	8	18	8	36	7	13	139	2
########	1700	14	20	29	47	1	20	9	19	67	25	30	31	2
########	1700	15	27	44	8	6	41	29	42	25	23	6	14	3
########	1700	16				33		5		87			70	
########	1700	17							1	119			70	18
########	1700	18	14		86					113	10	61	66	
########	1700	19	31		23					158	43	26	89	
########	1700	20	20	19	7	22	14	42	53	86	14	7	56	36
########	1700	21	47	84	14	31	79	20	36	58	29	27	49	26
########	1700	22	5	3	4	25		9	6	87	3	4	71	15
########	1700	23	30	86			70	35	46		25			
########	1700	24		116	23		164							58
########	1700	25		79	22	65	55		60		16			
########	1700	26	14	76	3	15	55	9	13	10	11	4	8	14

Attachment B
Evacuation Traffic Volumes

SANTEE TRACT (SANGIS)	No Vehicles	1 vehicle	2 vehicles	3+ vehicles	Occupied Housing Units	Total Vehicles	% in Study Area	Veh Per Houshold
166.06	0	421	472	452	1245	2721	**2355**	
166.13	16	157	244	229	646	1332	**1153**	
166.2	11	546	293	331	881	2125	**1839**	
166.21	0	207	519	435	1161	2550	**2207**	
166.09	7	362	830	704	1857	4134	**3577**	
166.08	24	100	304	350	778	1758	**1521**	

TOTAL VEHICLES EXITING STUDY AREA **12652**

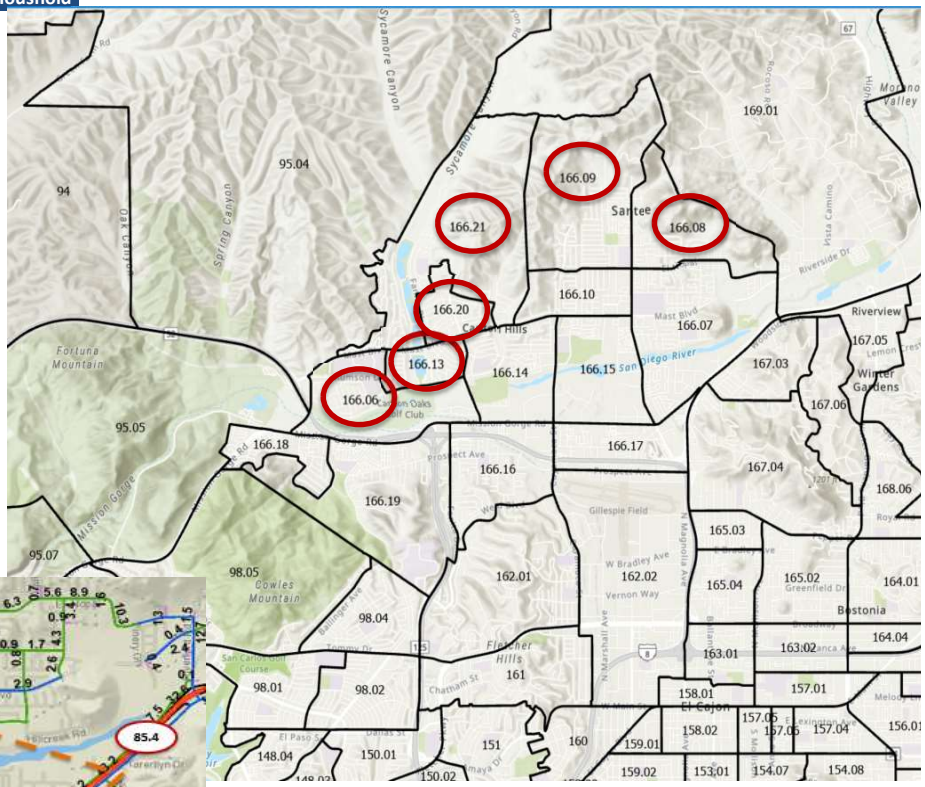
^^NEED TO REFINE TO CAPTURE TRIPS ONLY TRAVELING THROUGH STUDY AREA

**KEY

CORDON ANALYSIS

Traffic % To — Total External Traffic= 481.1

SR-52	26%
Cuyamaca	2%
SR-125	12%
Mission Gorge	3%
SR67 S	26%
SR67 N	18%
TOTAL	**87%**



Attachment C
SimTraffic Evacuation Time Worksheets

1: SR-52 EB Ramps & Mast Blvd Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.3	0.1	0.4
Travel Time (hr)	0.0	0.4	0.7	1.1
Vehicles Entered	4	45	185	234
Vehicles Exited	4	45	185	234
Hourly Exit Rate	4	45	185	234
Input Volume	4	48	172	224
% of Volume	100	94	108	104

2: SR-52 WB Ramps & Mast Blvd/Mast Blvd. Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.3	0.4
Travel Time (hr)	0.7	0.3	0.5	1.4
Vehicles Entered	187	75	43	305
Vehicles Exited	187	75	43	305
Hourly Exit Rate	187	75	43	305
Input Volume	175	86	42	303
% of Volume	107	87	102	101

3: West Hills Pkwy & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	5.9	0.0	0.0	5.9
Total Delay (hr)	5.3	289.0	0.7	0.0	295.1
Travel Time (hr)	5.8	316.5	1.9	0.0	324.2
Vehicles Entered	226	1398	208	4	1836
Vehicles Exited	224	1012	209	5	1450
Hourly Exit Rate	224	1012	209	5	1450
Input Volume	212	1453	208	9	1882
% of Volume	106	70	100	56	77

4: West Hills Pkwy & Carlton Oaks Dr Performance by approach

Approach	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Total Delay (hr)	34.0	2.0	139.9	175.9
Travel Time (hr)	84.8	2.3	146.5	233.6
Vehicles Entered	3099	178	1046	4323
Vehicles Exited	3065	174	1037	4276
Hourly Exit Rate	3065	174	1037	4276
Input Volume	3125	177	1472	4774
% of Volume	98	98	70	90

5: Wethersfield Rd & Carlton Oaks Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1
Total Delay (hr)	0.3	11.8	5.6	0.3	18.0
Travel Time (hr)	0.6	21.5	15.1	11.8	49.0
Vehicles Entered	27	1478	831	814	3150
Vehicles Exited	26	1479	827	814	3146
Hourly Exit Rate	26	1479	827	814	3146
Input Volume	31	1489	822	838	3180
% of Volume	84	99	101	97	99

6: Carlton Oaks Dr & Pebble Beach Dr Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1
Total Delay (hr)	0.1	0.4	7.3	7.8
Travel Time (hr)	0.2	1.1	17.9	19.2
Vehicles Entered	37	108	1246	1391
Vehicles Exited	37	108	1254	1399
Hourly Exit Rate	37	108	1254	1399
Input Volume	41	112	1249	1402
% of Volume	90	96	100	100

7: Carlton Hills Blvd & Carlton Oaks Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	7.1	0.8	0.5	4.0	12.3
Travel Time (hr)	8.4	1.6	2.1	8.9	21.0
Vehicles Entered	964	57	136	947	2104
Vehicles Exited	962	58	135	944	2099
Hourly Exit Rate	962	58	135	944	2099
Input Volume	960	64	154	945	2123
% of Volume	100	91	88	100	99

8: Mission Gorge Ave & West Hills Pkwy Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Delay (hr)	3.0	1.0	0.1	18.8	22.9
Travel Time (hr)	7.2	4.7	0.2	56.5	68.7
Vehicles Entered	170	99	9	4020	4298
Vehicles Exited	170	98	9	3925	4202
Hourly Exit Rate	170	98	9	3925	4202
Input Volume	157	120	7	4511	4795
% of Volume	108	82	129	87	88

9: Carlton Hills Blvd & Mission Gorge Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.5	20.2	0.1	76.9	98.7
Travel Time (hr)	2.3	49.4	0.1	100.7	152.5
Vehicles Entered	250	1757	5	1909	3921
Vehicles Exited	249	1736	5	1698	3688
Hourly Exit Rate	249	1736	5	1698	3688
Input Volume	272	2337	6	1915	4530
% of Volume	92	74	83	89	81

10: West Hills Pkwy & West Project Dwy Performance by approach

Approach	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0
Total Delay (hr)	0.0	2.7	2.7
Travel Time (hr)	0.9	15.6	16.5
Vehicles Entered	177	4008	4185
Vehicles Exited	177	3997	4174
Hourly Exit Rate	177	3997	4174
Input Volume	176	4488	4664
% of Volume	101	89	89

11: East Project Dwy/Burning Tree Way & Carlton Oaks Dr Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	3.2	0.1	3.5
Travel Time (hr)	0.3	5.6	5.3	11.3
Vehicles Entered	32	692	787	1511
Vehicles Exited	32	693	789	1514
Hourly Exit Rate	32	693	789	1514
Input Volume	35	670	823	1528
% of Volume	91	103	96	99

12: Calle Del Verde/Fanita Pkwy & Carlton Oaks Dr Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Total Delay (hr)	2.4	0.6	2.3	5.2
Travel Time (hr)	7.6	1.1	5.9	14.7
Vehicles Entered	678	104	645	1427
Vehicles Exited	678	105	648	1431
Hourly Exit Rate	678	105	648	1431
Input Volume	705	113	627	1445
% of Volume	96	93	103	99

13: Fanita Pkwy. & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	7.4	1.2	1.8	9.6	20.0
Travel Time (hr)	23.9	4.2	4.4	17.7	50.2
Vehicles Entered	1817	209	361	636	3023
Vehicles Exited	1818	208	362	632	3020
Hourly Exit Rate	1818	208	362	632	3020
Input Volume	1824	232	372	627	3055
% of Volume	100	90	97	101	99

14: Cuyamaca St. & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	600.9	600.9
Total Delay (hr)	22.4	310.3	1.0	363.7	697.4
Travel Time (hr)	37.7	321.0	2.5	991.3	1352.5
Vehicles Entered	2242	829	136	1182	4389
Vehicles Exited	2239	580	137	1181	4137
Hourly Exit Rate	2239	580	137	1181	4137
Input Volume	2266	924	145	2226	5561
% of Volume	99	63	94	53	74

15: Magnolia Ave. & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.5	0.2	0.6	10.3	11.5
Travel Time (hr)	3.0	0.5	1.1	19.5	24.0
Vehicles Entered	168	38	124	914	1244
Vehicles Exited	167	36	126	833	1162
Hourly Exit Rate	167	36	126	833	1162
Input Volume	174	35	120	932	1261
% of Volume	96	103	105	89	92

16: Cuyamaca St. & Town Square Performance by approach

Approach	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0
Total Delay (hr)	0.0	6.0	6.0
Travel Time (hr)	0.5	88.6	89.1
Vehicles Entered	119	3836	3955
Vehicles Exited	119	3845	3964
Hourly Exit Rate	119	3845	3964
Input Volume	133	5211	5344
% of Volume	89	74	74

18: SR-125 & Mission Gorge Ave Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	11.7	7.5	0.0	19.2
Total Delay (hr)	495.4	73.3	0.6	569.3
Travel Time (hr)	672.2	89.4	1.7	763.3
Vehicles Entered	4030	1810	141	5981
Vehicles Exited	3602	1810	141	5553
Hourly Exit Rate	3602	1810	141	5553
Input Volume	4629	2371	149	7149
% of Volume	78	76	95	78

19: Fanita Dr & Mission Gorge Ave Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Total Delay (hr)	2.0	103.7	34.1	139.7
Travel Time (hr)	3.1	118.9	34.5	156.5
Vehicles Entered	260	3305	85	3650
Vehicles Exited	261	3275	43	3579
Hourly Exit Rate	261	3275	43	3579
Input Volume	301	4150	82	4533
% of Volume	87	79	52	79

21: Fanita Pkwy. Performance by approach

Approach	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.2	0.2
Travel Time (hr)	0.2	0.1	10.1	10.4
Vehicles Entered	28	15	1463	1506
Vehicles Exited	29	15	1461	1505
Hourly Exit Rate	29	15	1461	1505
Input Volume	34	18	1457	1509
% of Volume	85	83	100	100

42: Magnolia Ave. Performance by approach

Approach	NB	SB	All
Denied Delay (hr)	0.0	0.1	0.1
Total Delay (hr)	0.1	6.7	6.7
Travel Time (hr)	0.9	69.5	70.4
Vehicles Entered	137	3224	3361
Vehicles Exited	138	3229	3367
Hourly Exit Rate	138	3229	3367
Input Volume	135	3271	3406
% of Volume	102	99	99

100: Mast Blvd/Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.2
Total Delay (hr)	0.2	9.1	8.1	18.2	35.6
Travel Time (hr)	1.8	11.6	14.3	45.2	72.9
Vehicles Entered	167	382	1333	1402	3284
Vehicles Exited	170	376	1328	1404	3278
Hourly Exit Rate	170	376	1328	1404	3278
Input Volume	156	408	1340	1398	3302
% of Volume	109	92	99	100	99

Total Network Performance

Denied Delay (hr)	626.9
Total Delay (hr)	2198.0
Travel Time (hr)	3799.1
Vehicles Entered	14454
Vehicles Exited	12854
Hourly Exit Rate	12854
Input Volume	93688
% of Volume	14

1: SR-52 EB Ramps & Mast Blvd Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0
Total Delay (hr)	0.0	0.4	0.1	0.4
Total Del/Veh (s)	19.4	25.6	1.2	6.7
Travel Time (hr)	0.0	0.4	0.7	1.2
Vehicles Entered	1	52	179	232
Vehicles Exited	1	52	179	232
Hourly Exit Rate	1	52	179	232
Input Volume	4	48	172	224
% of Volume	25	108	104	104

2: SR-52 WB Ramps & Mast Blvd/Mast Blvd. Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.4	0.5
Total Del/Veh (s)	1.4	0.8	26.8	5.3
Travel Time (hr)	0.6	0.4	0.6	1.6
Vehicles Entered	180	94	50	324
Vehicles Exited	180	94	52	326
Hourly Exit Rate	180	94	52	326
Input Volume	175	86	42	303
% of Volume	103	109	124	108

3: West Hills Pkwy & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	1.7	13.4	0.5	0.0	15.5
Total Del/Veh (s)	26.7	32.6	8.6	7.7	29.4
Travel Time (hr)	2.2	39.4	1.5	0.0	43.2
Vehicles Entered	229	1457	190	7	1883
Vehicles Exited	211	1413	194	7	1825
Hourly Exit Rate	211	1413	194	7	1825
Input Volume	212	1453	208	9	1882
% of Volume	100	97	93	78	97

4: West Hills Pkwy & Carlton Oaks Dr Performance by approach

Approach	WB	NB	SB	All
Denied Delay (hr)	10.8	0.0	0.0	10.8
Denied Del/Veh (s)	14.2	0.0	0.0	9.0
Total Delay (hr)	255.7	1.8	98.6	356.0
Total Del/Veh (s)	324.4	39.2	234.0	283.8
Travel Time (hr)	308.9	2.1	107.8	418.7
Vehicles Entered	2716	162	1418	4296
Vehicles Exited	2472	162	1360	3994
Hourly Exit Rate	2472	162	1360	3994
Input Volume	3125	177	1472	4774
% of Volume	79	92	92	84

5: Wethersfield Rd & Carlton Oaks Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	22.4	0.0	22.4
Denied Del/Veh (s)	0.4	0.0	92.7	0.1	26.3
Total Delay (hr)	0.4	40.1	24.8	2.2	67.5
Total Del/Veh (s)	40.3	106.3	117.3	9.3	81.0
Travel Time (hr)	0.8	48.6	55.3	13.9	118.6
Vehicles Entered	31	1335	746	827	2939
Vehicles Exited	32	1247	691	820	2790
Hourly Exit Rate	32	1247	691	820	2790
Input Volume	31	1489	822	838	3180
% of Volume	103	84	84	98	88

6: Carlton Oaks Dr & Pebble Beach Dr Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.0	0.2	0.1
Total Delay (hr)	1.9	0.9	12.8	15.6
Total Del/Veh (s)	20.1	29.7	35.7	32.3
Travel Time (hr)	3.0	1.5	23.4	27.8
Vehicles Entered	335	104	1272	1711
Vehicles Exited	339	97	1223	1659
Hourly Exit Rate	339	97	1223	1659
Input Volume	329	112	1249	1690
% of Volume	103	87	98	98

7: Carlton Hills Blvd & Carlton Oaks Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.0
Total Delay (hr)	8.2	0.7	0.4	4.3	13.5
Total Del/Veh (s)	22.3	53.2	10.3	16.9	20.2
Travel Time (hr)	10.1	1.4	1.9	8.9	22.2
Vehicles Entered	1305	46	130	906	2387
Vehicles Exited	1297	48	131	900	2376
Hourly Exit Rate	1297	48	131	900	2376
Input Volume	1248	64	154	945	2411
% of Volume	104	75	85	95	99

8: Mission Gorge Ave & West Hills Pkwy Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	3.5	3.5
Denied Del/Veh (s)	0.1	0.0	0.1	3.2	3.0
Total Delay (hr)	3.0	0.8	0.2	62.7	66.6
Total Del/Veh (s)	64.3	28.6	56.0	56.7	56.3
Travel Time (hr)	7.0	4.0	0.3	89.8	101.1
Vehicles Entered	160	92	10	3952	4214
Vehicles Exited	164	91	11	3849	4115
Hourly Exit Rate	164	91	11	3849	4115
Input Volume	157	120	7	4799	5083
% of Volume	104	76	157	80	81

9: Carlton Hills Blvd & Mission Gorge Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.0
Total Delay (hr)	1.4	19.9	0.2	49.3	70.9
Total Del/Veh (s)	22.1	40.2	71.1	78.5	59.5
Travel Time (hr)	2.2	49.2	0.3	77.4	129.1
Vehicles Entered	234	1759	11	2180	4184
Vehicles Exited	235	1739	11	2047	4032
Hourly Exit Rate	235	1739	11	2047	4032
Input Volume	272	2337	6	2203	4818
% of Volume	86	74	183	93	84

10: West Hills Pkwy & West Project Dwy Performance by approach

Approach	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0
Total Delay (hr)	0.4	0.1	16.9	17.4
Total Del/Veh (s)	4.9	1.2	16.3	14.9
Travel Time (hr)	7.2	0.3	28.0	35.5
Vehicles Entered	299	161	3726	4186
Vehicles Exited	298	161	3700	4159
Hourly Exit Rate	298	161	3700	4159
Input Volume	288	176	4488	4952
% of Volume	103	91	82	84

11: East Project Dwy/Burning Tree Way & Carlton Oaks Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	2.4	2.4
Denied Del/Veh (s)	0.0	0.0	0.1	9.5	4.7
Total Delay (hr)	0.1	7.3	0.4	7.4	15.2
Total Del/Veh (s)	9.6	45.6	4.6	31.6	31.2
Travel Time (hr)	0.3	9.3	1.4	15.0	25.9
Vehicles Entered	34	578	296	836	1744
Vehicles Exited	33	552	298	787	1670
Hourly Exit Rate	33	552	298	787	1670
Input Volume	35	670	288	823	1816
% of Volume	94	82	103	96	92

12: Calle Del Verde/Fanita Pkwy & Carlton Oaks Dr Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	3.2	0.4	2.4	6.0
Total Del/Veh (s)	11.1	13.0	13.7	12.1
Travel Time (hr)	11.0	0.9	5.8	17.6
Vehicles Entered	1055	103	602	1760
Vehicles Exited	1047	102	615	1764
Hourly Exit Rate	1047	102	615	1764
Input Volume	993	113	627	1733
% of Volume	105	90	98	102

13: Fanita Pkwy. & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1
Total Delay (hr)	7.9	1.3	1.7	9.4	20.2
Total Del/Veh (s)	16.0	21.9	16.7	52.5	24.4
Travel Time (hr)	23.7	4.3	4.2	17.3	49.6
Vehicles Entered	1749	199	358	625	2931
Vehicles Exited	1757	203	362	619	2941
Hourly Exit Rate	1757	203	362	619	2941
Input Volume	1824	232	372	627	3055
% of Volume	96	88	97	99	96

14: Cuyamaca St. & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	666.3	666.3
Denied Del/Veh (s)	0.0	0.0	0.1	1005.3	430.6
Total Delay (hr)	23.9	314.9	1.0	362.9	702.7
Total Del/Veh (s)	37.7	1149.6	26.3	821.2	505.7
Travel Time (hr)	39.2	325.5	2.6	1056.5	1423.8
Vehicles Entered	2229	816	140	1211	4396
Vehicles Exited	2232	587	139	1211	4169
Hourly Exit Rate	2232	587	139	1211	4169
Input Volume	2266	924	145	2226	5561
% of Volume	98	64	96	54	75

15: Magnolia Ave. & Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.1	1.7	0.0	0.2
Total Delay (hr)	0.6	0.1	0.6	7.7	9.0
Total Del/Veh (s)	11.2	11.4	18.8	30.1	25.8
Travel Time (hr)	3.2	0.4	1.2	16.9	21.7
Vehicles Entered	181	34	116	913	1244
Vehicles Exited	183	33	117	835	1168
Hourly Exit Rate	183	33	117	835	1168
Input Volume	174	35	120	932	1261
% of Volume	105	94	98	90	93

16: Cuyamaca St. & Town Square Performance by approach

Approach	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	6.1	6.1
Total Del/Veh (s)	0.1	5.6	5.1
Travel Time (hr)	1.6	88.3	89.9
Vehicles Entered	378	3828	4206
Vehicles Exited	383	3826	4209
Hourly Exit Rate	383	3826	4209
Input Volume	421	5211	5632
% of Volume	91	73	75

18: SR-125 & Mission Gorge Ave Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	21.8	8.3	0.0	30.1
Denied Del/Veh (s)	19.7	16.5	0.1	18.3
Total Delay (hr)	646.1	73.3	0.6	720.0
Total Del/Veh (s)	520.3	140.5	15.0	399.2
Travel Time (hr)	827.6	90.0	1.7	919.3
Vehicles Entered	3939	1791	140	5870
Vehicles Exited	3598	1792	143	5533
Hourly Exit Rate	3598	1792	143	5533
Input Volume	4917	2371	149	7437
% of Volume	73	76	96	74

19: Fanita Dr & Mission Gorge Ave Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Delay (hr)	1.9	101.9	41.6	145.4
Total Del/Veh (s)	27.3	106.5	1561.2	138.1
Travel Time (hr)	2.9	117.4	42.0	162.4
Vehicles Entered	245	3387	77	3709
Vehicles Exited	251	3334	33	3618
Hourly Exit Rate	251	3334	33	3618
Input Volume	301	4150	82	4533
% of Volume	83	80	40	80

21: Fanita Pkwy. Performance by approach

Approach	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.0	0.2	0.2
Total Delay (hr)	0.0	0.0	0.2	0.2
Total Del/Veh (s)	0.0	1.5	0.5	0.5
Travel Time (hr)	0.2	0.1	10.0	10.3
Vehicles Entered	41	14	1445	1500
Vehicles Exited	41	14	1443	1498
Hourly Exit Rate	41	14	1443	1498
Input Volume	34	18	1457	1509
% of Volume	121	78	99	99

42: Magnolia Ave. Performance by approach

Approach	NB	SB	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.1	0.1
Total Delay (hr)	0.1	6.9	6.9
Total Del/Veh (s)	1.5	7.5	7.3
Travel Time (hr)	0.8	69.7	70.6
Vehicles Entered	125	3231	3356
Vehicles Exited	122	3208	3330
Hourly Exit Rate	122	3208	3330
Input Volume	135	3271	3406
% of Volume	90	98	98

100: Mast Blvd/Mast Blvd. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.1	0.2	0.1	0.1
Total Delay (hr)	0.1	11.8	8.4	14.6	35.0
Total Del/Veh (s)	3.2	100.8	22.9	37.7	38.2
Travel Time (hr)	1.6	14.4	14.5	40.8	71.3
Vehicles Entered	154	386	1315	1369	3224
Vehicles Exited	154	418	1306	1354	3232
Hourly Exit Rate	154	418	1306	1354	3232
Input Volume	156	408	1340	1398	3302
% of Volume	99	102	97	97	98

Attachment D
SimTraffic Intersection Delay Results

Total Network Performance

Denied Delay (hr)	626.9
Denied Del/Veh (s)	144.2
Total Delay (hr)	2198.0
Total Del/Veh (s)	469.9
Travel Time (hr)	3799.1
Vehicles Entered	14454
Vehicles Exited	12854
Hourly Exit Rate	12854
Input Volume	93688
% of Volume	14

Total Network Performance

Denied Delay (hr)	735.9
Denied Del/Veh (s)	161.3
Total Delay (hr)	2366.6
Total Del/Veh (s)	489.7
Travel Time (hr)	4085.3
Vehicles Entered	14968
Vehicles Exited	13215
Hourly Exit Rate	13215
Input Volume	102002
% of Volume	13