

APPENDIX I
Fire Protection Plan

Fire Protection Plan WARNER RANCH

TM 5508 RPL3 Environmental Log #06-02-020
County of San Diego
Pala, CA



2 March 2011

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TM 5508 RPL3 WARNER RANCH FIRE PROTECTION PLAN

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Warner Ranch FIRE PROTECTION PLAN

March 2, 2011

Revised to comments

February 10, 2012

Revised to comments

April 4, 2013

Revised to comments

North County Fire dated 21 October 2014

Jurisdictional Change 10 November 2016

Executive Summary

This Fire Protection Plan (FPP) evaluates the proposed Warner Ranch development to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions and fire history. It considers water supply, access, structure ignitability and fire resistive building materials, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management.

The project was analyzed to identify potential adverse impacts and to identify adequate measures of impacts resulting from wildland fire hazards. The evaluation determined that San Diego County Fire Authority and the California Department of Forestry and Fire Protection (CAL FIRE) along with nearby fire departments would be able to provide adequate emergency services. CAL FIRE (under the State Responsibility Area Agreement) as well as other fire departments and fire protection districts can be requested under a Mutual Aid agreement to respond in the event of wildfire in the area.

In addition, this FPP lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury or death from wildland fires. Zone 1 will be an irrigated landscaped zone and is commonly called the defensible space zone for fire suppression forces and protects structures from radiant and convective heat. This landscaped zone is permanently irrigated and consists of fire resistant and maintained plantings. Zone 2 is the area beyond Zone 1. It will be permanently irrigated and includes manufactured slopes. Zone 3 is a 50 foot thinning zone that excludes all prohibited highly combustible native vegetation, but permits plantings with very specific criteria and reduces the existing native vegetation by 50%. A Home Owners Association (HOA) will be responsible to the Fire Marshal, San Diego County Fire Authority, for the annual completion of all designated Fuel Modification Treatments in common areas prior to June 1st or when fuels become cured.

Finally, this FPP and its requirements will be incorporated by reference into the final project Conditions of Approval to ensure compliance with County codes/regulations and significance standards.

WARNER RANCH FIRE PROTECTION PLAN

1.0 –INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for WHP Warner Ranch. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The plan addresses water supply, access (including secondary/emergency access where applicable), structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management.

The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one or more at-risk communities and essential infrastructures. The plan recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan.

The plan will be submitted to and approved by the San Diego County Fire Authority and San Diego County Planning and Development Services. Plan basis and requirements are vested in, the 2014 Consolidated Code, Wildland Fire Protection Plans and Planning. Document preparation is consistent with County guidance and the Guidelines for Determining Significance and applicable State of California requirements.

1.1 Project Location

The proposed Warner Ranch development is located within the 513-acre Warner Ranch property in Pala, CA. The project site is bordered by the Community of Rainbow to the northwest, Pala-Temecula Road to the east, Highway 76 and Pala Casino Resort and Spa to the south, and the I-15 to the west. The site is located within the U.S. Geological Survey (USGS) 7.5-minute Pala and Pechanga quadrangles; longitude 117°5'23" W and latitude 33°22'18" N.

The Project area includes a portion of Gomez Creek and its channel tributary on the western side of the property, as well as Pala Creek on the eastern-most portion of the project area.

The Assessor Parcel Numbers on site are, 110-090-01,17,18; 110-021-09,10,32 and 110-040-22. Following page, Figures 1 and 2 depict Project Boundary and Conceptional Plot Plan.

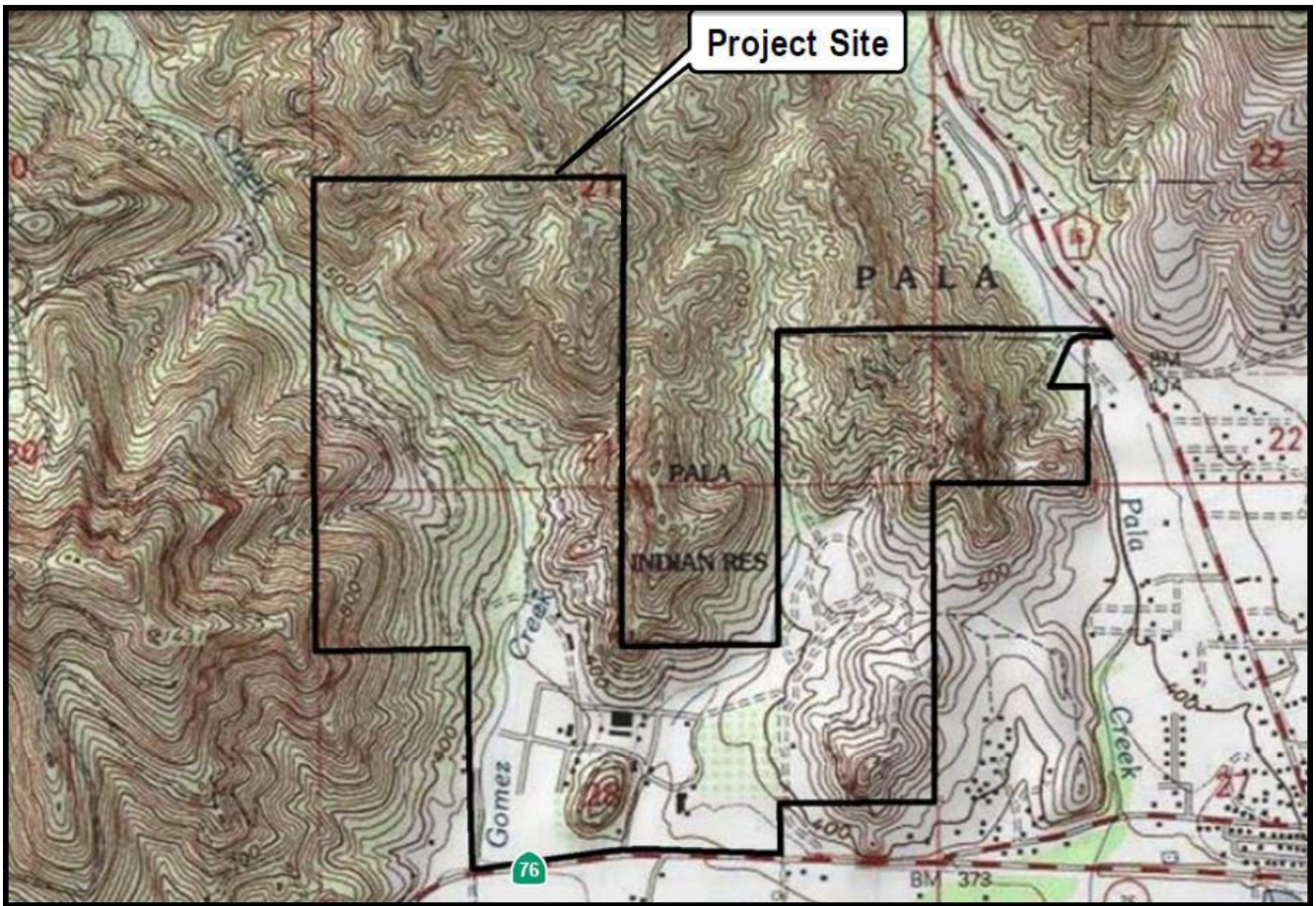


Figure 1 Topographic Map Insert 11 X 17 if printed



Figure 2 Plot Plan Insert 11 X 17 if printed

1.2 Project Description

The proposed Warner Ranch Project is located in the unincorporated area in the northwestern portion of San Diego County, approximately five miles east of Interstate 15 on Pala Road (State Route (SR 76). It is just west of Pala Temecula Road in the Pala Pauma Subregional Planning Area (Figures 1.38 and 1.39). It includes Assessor's Parcel Numbers (APNs) 110-021-09 and 110-090-01, -17, -18; 110-021-32; and 110-040-22.

The Project is intended to provide a range of workforce housing opportunities consistent with the Job/Housing Balance goals and policies of the San Diego County General Plan. The recently adopted General Plan and associated Pala/Pauma Community Plan provide for the implementation of this project by designating this 513.49-acre property as a Special Study Area (SSA). The SSA requires a focused land use planning analysis "to determine the most compatible and consistent land uses for the property". The designation has required additional planning studies intended to address the unique character of the site and surrounding area as well as address property constraints to allow for the creation of a "cohesive and comprehensive land use plan", the Warner Ranch Project proposes a General Plan Amendment, Specific Plan, Rezone Administrative Permit (for gated access) and Vesting Tentative Map to develop 513.49 acres with 780 residential units and associated public and private facilities and services. The following is a summary of the proposed project:

The project area consists of 780 residential units (534 single family detached, with lot size ranging from 3,000 sq. ft. 8,000 sq. ft., and 246 multi-family and attached townhomes)

7.69 acres of private neighborhood parks, clubhouse, and pool

14.63 acres of privately maintained landscaped areas

A 4.23-acre public park (active recreational uses)

358.77 acres of preserved open space

A Fire Station (10,000 sq. ft.)

Public and private community facilities would include sewer pumps, drainage structures, utility vaults, etc. Additionally, a water reservoir would be constructed on the western portion of the property. The reservoir would receive water from an existing 8-inch water line in Jeremy Way that is maintained by the Rainbow Municipal Water District (RMWD). Water would then be distributed to the project via a 12-inch line which is connected to the water reservoir.

Off-site improvements would include frontage improvements and a signalized intersection at the project entry and SR 76 as well as signalized improvements to the existing SR 76 and Cole Grade Road intersection. In order to provide the water reservoir on-site, approximately 3000 linear feet of 8-inch diameter pipeline would be constructed from the terminus of the existing line in Jeremy Way to the property's northern boundary line. Additionally, a 6-inch force sewer main would run from a new pump station on the southwestern boundary of the site, to the west within the right-of-way for SR 76, where it would ultimately connect to another new pump station to be provided by the RMWD.

The project area would be accessed by a central entry road at its current intersection with SR 76, where a signalized intersection is required. The project would also make frontage improvements to the existing 120-foot wide Pala Road/SR 76 easement. These improvements include widening of the existing 24-foot wide pavement to 52 feet, two 12-foot wide drive lanes, a 12-foot wide painted center median, and 8-foot wide shoulders that also include a painted bike lane in each direction. Additionally, a 350-foot long and 12-foot wide acceleration/deceleration lane is proposed adjacent to the project's main entry.

The project would be implemented in phases. Major facilities such as the proposed fire station, water storage reservoir, forced sewer line, frontage improvements, drainage improvements, and public park, are intended to be constructed as a part of the initial phases of the project.

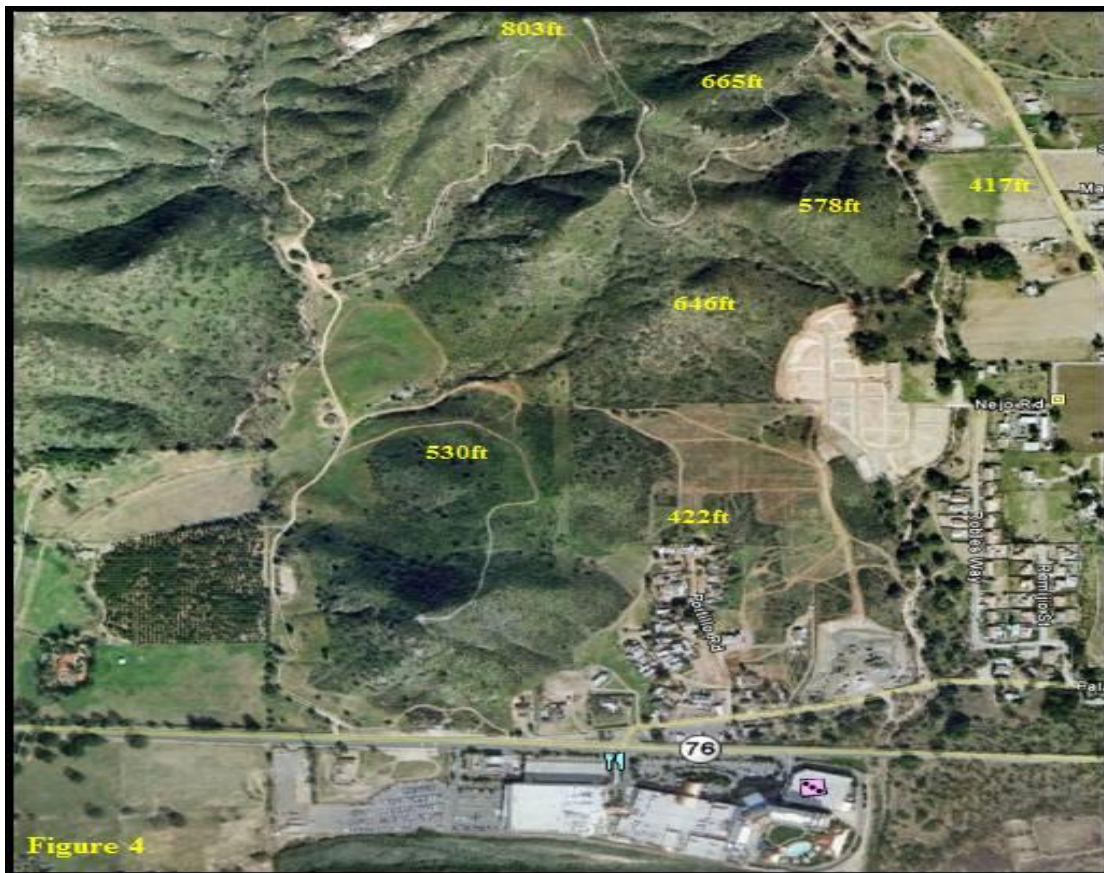
1.3 Environmental Settings

1.3.1 Date of Site Inspections - Three site visits were conducted between the period of October 2010 and January 2011, as well as several telephone calls/e-mails to determine pertinent information.

<u>Site Visit & Purpose</u>	<u>Date</u>
#1 Initial field visit Evaluate lot layout, primary and secondary access road locations, hazardous fuels and topography.	20 Oct 2010
#2 Field visit Evaluate vegetation, road conditions, fire access, and photos	27 Oct 2010
#3 Field visit Continue Site Study, Access from Pala/ Temecula Rd. Slope to Water Tank Area.	06 Nov 2010

1.3.2 Topography - The existing project site of Warner Ranch is presently developed, on mostly level ground, 23 miles inland from the Pacific Ocean. What will remain as Open Space surrounds the flat areas to the west, north and east. South of SR76 is flat pasture lands. Figure 3 depicts the approximate elevation of various locations. The slopes on and adjacent to the site range between 12% and 37% as viewed from SR-76 looking north. Elevation for the area on the eastern boundary is depicted in Figure 3 and 4. Slope at the boundary increases from south to north.





1.3.3 - Climate

The most critical wind pattern to the Project area is an off-shore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (< 15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur. **Climate** - The climate within the Project area would be characterized as Mediterranean, with generally mild, wet (14 -16 inches per year) winters and the bulk of the annual precipitation falling between January and March. Long, hot and very dry summer seasons frequently occur with occasional multi-year droughts.

The most critical wind pattern to the Project area is an off-shore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (5 to 9 percent) relative humidity. Santa Ana winds are caused by high-pressure weather systems and can occur anytime of the year. However, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content.

The typical prevailing summer time wind pattern is out of the south or southwest and normally is of a much lower velocity (5-19 MPH with occasional gusts to 30-MPH) and is associated with higher relative humidity readings (Transitional Zone ranges 10 to 14 percent or greater) due to a moist air on-shore flow from the ocean.

All other (northwest, south, west) wind directions may be occasionally strong and gusty. However, they are generally associated with cooler moist air and often have higher relative humidity (> 40%). They are considered a serious wildland fire weather condition when wind speeds reach > 20-MPH.

The following chart represents the typical summer, Santa Ana and peak fire weather (climate conditions) elements for this Fire Protection Plan:

Period	Temperature	Relative Humidity	Sustained Wind
Summer	90-109 F	10-14 %	19 mph
Santa Ana	90-109 F	5-9%	24 mph
Peak/Gust	90-109 F	5-9%	56mph

1.3.4 - On Site Vegetation

The project site is currently used for agricultural operations. There are several distinct and different native plant communities bordering the property to the west within Gomez Creek drainage, to the north and east lies Open Space (predominantly Coastal Sage Scrub). Species found in the area include ceanothus, chamise, black sage, laurel sumac, California buckwheat, and native, non-native grasses and invasive plant species (See Biological Map Figure 5).

Normally, if left undisturbed, the natural vegetation in the project Open Space Easement areas on the north and east facing slopes could become a Fuel Model SH7 (Chaparral with 1 hour fuels of 5 tons/acre and 10 hour fuels of 4 tons/acre) and/or SCAL 18 (Sage/Buckwheat with 1 hour fuels of 5.5 tons/ac and 10 hour fuels of .8 tons/acre).

Gomez Creek is shown as a “blue-line” stream which runs through the property in a north to south direction parallel to the western project boundary. It has several classifications. However it is predominately SAW, Sycamore Alluvial Woodland and native/non-native grasses. Note the lack of ground fuel in the drainage channel.

Figure 5 provides detailed biological species information for the site.

Photo Depiction of On-Site Follows



Photo 1 View West Parcel line at base of slope



Photo 2 View West Parcel line at Gomez Creek, slope off property



Photo 3 View West North end of Pasture area, Slope off Property



Photo 4 View North Open Space area



Photo 5 View North Open Space Area



Photo 6 View North Open Space Slopes.



Photo 7 View Northeast



Photo 8 View Northeast looking down towards Pala-Temecula Road



Photo 9 View Extreme Northeast at Pala-Temecula Road



Photo 10 View South along Eastern Parcel Line



Photo 11 View of Eastern Property Typical Fuel Load



Photo 12 View of Interior Property



Photo 13 View South of Property



Photo 14 View East off Property - Reservation Property

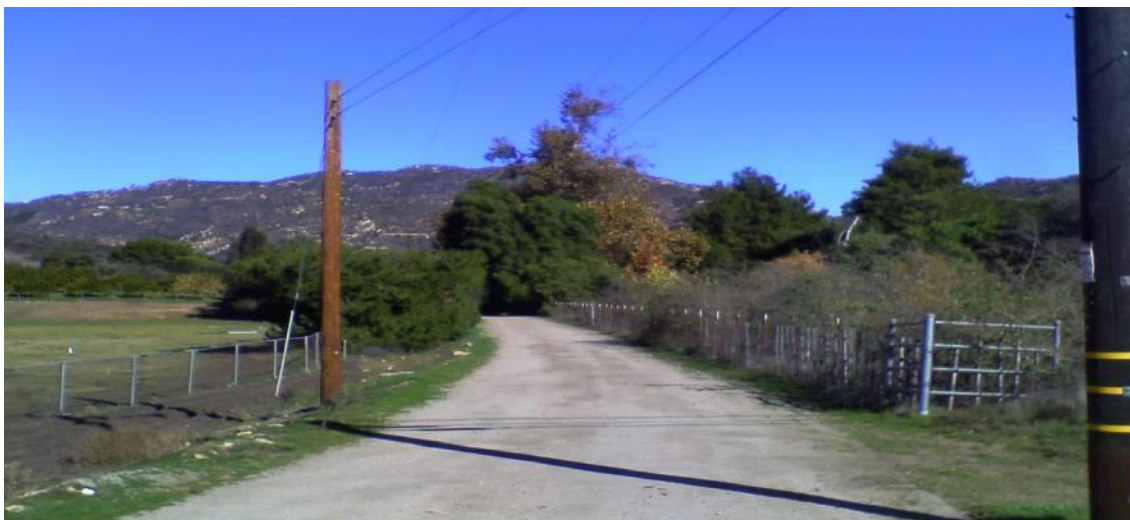


Photo 15 View North just past Gomez Creek SR76 Crossing Access to Properties

1.3.5 – On-Site and Off Site Land Use - The area bounding the site to the west and north is privately owned, there are several private residences, the majority is open space. The area to the east and south is Pala Reservation.

1.3.6 Public and Private Ownership of Land in the Vicinity - The applicant owns all property within TM 5508. All other properties in the vicinity are existing groves, or undeveloped private parcels. Other surrounding land uses consist of Pala Indian Reservation to the south and east. Scattered estate residential development and agricultural operations to the west and southwest.

2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

A Fire Protection Plan evaluates the potential adverse environmental effects that the Warner Ranch residential development may have from wildland fire and proposes appropriate mitigation for any adverse impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard wildland fire. The following guidelines for the determination of significance are used:

1. Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
2. Would the project result in inadequate emergency access?
3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection?
4. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

3.0 - ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

3.1 - Fire History

The available data suggests that in the second half of the 20th Century the frequency of small fires increased in southern California while their average size decreased. In San Diego County this has resulted in an increased rate of burning in low elevation coastal scrub land, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 fires in the foothills and mountains from 1910-1999. However, recently several years of drought have contributed to major fires (in excess of 50,000 acres) that have swept through San Diego County. This has resulted in large losses of property and damaged watershed.

This is supported from past fires: once a fire becomes established in this area, the combination of access, topography, fuels, and weather will affect the ability of resources to provide control.

A broad look at flame lengths (FL) and rates of spread (ROS) from the modeling process confirms this. The northeast area of the project site has the steepest slope and is partially shaded, fuels are similar but have benefited from less exposure to the sun. This area has the greatest projected flame lengths and rate of spread (See Figure 6).

Based on the above information, the fuel modeling in this report reflects the worst case scenarios that could be expected in the future.

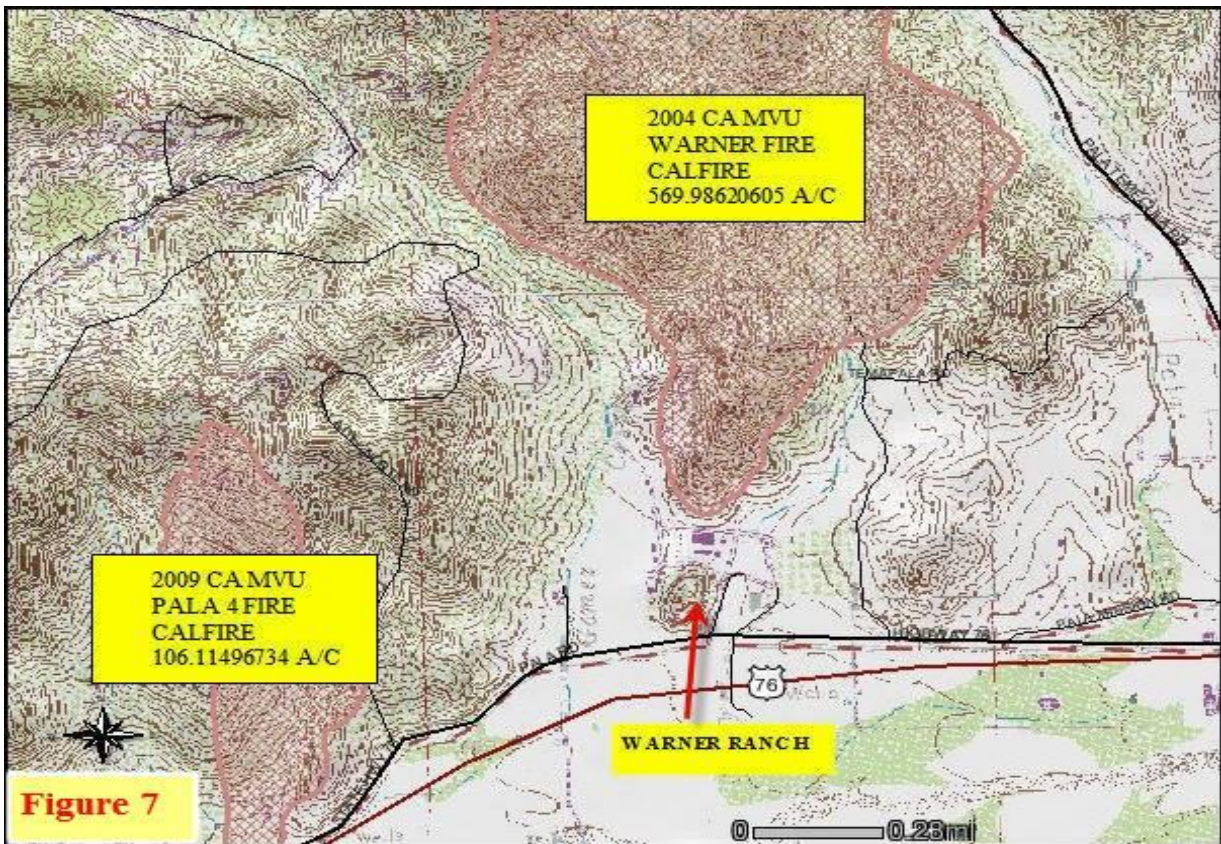
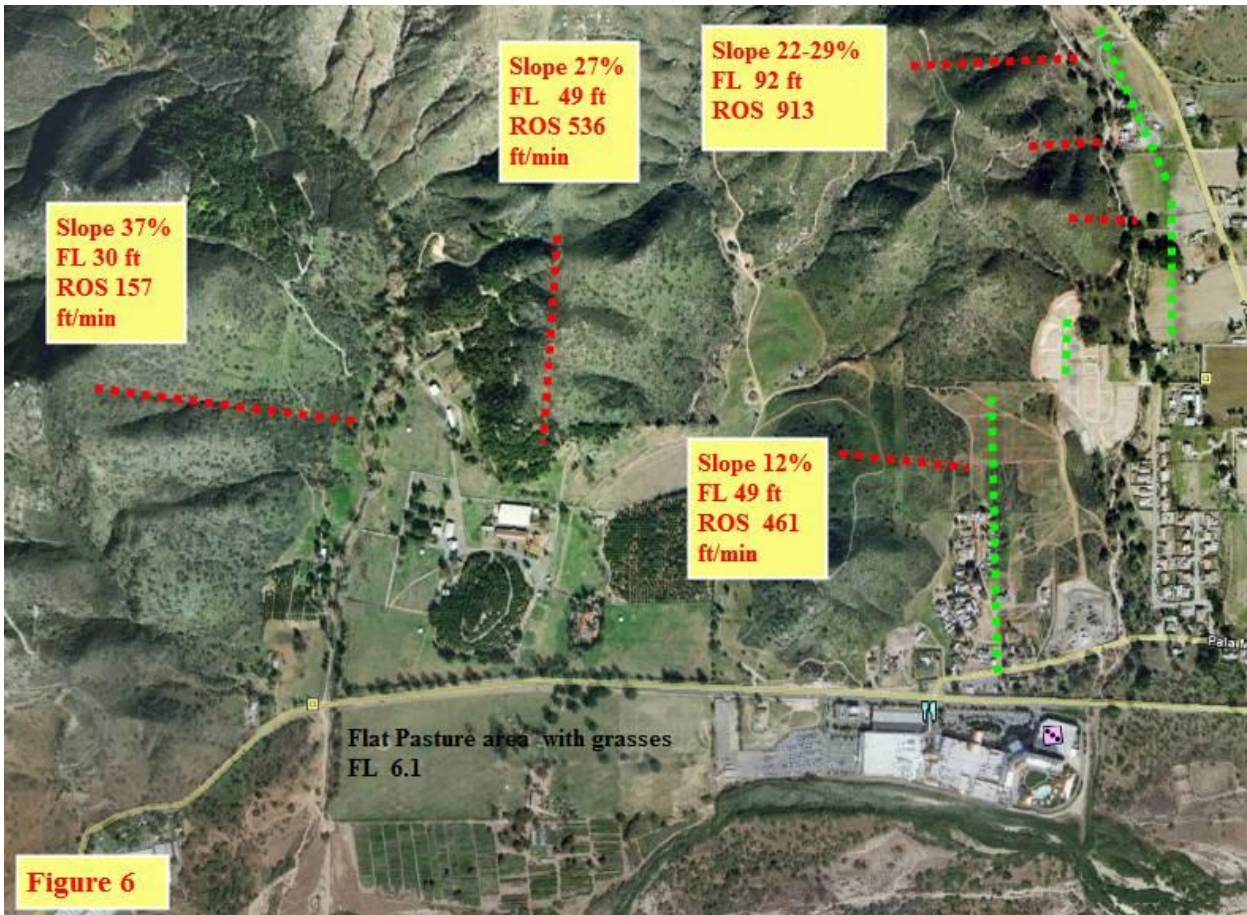


Figure 7 depicts the most recent large area fire that has occurred in the area.

The 2004 fire burned an area just north of the proposed development area. It appears to have been controlled at the area just north of what is a pasture.

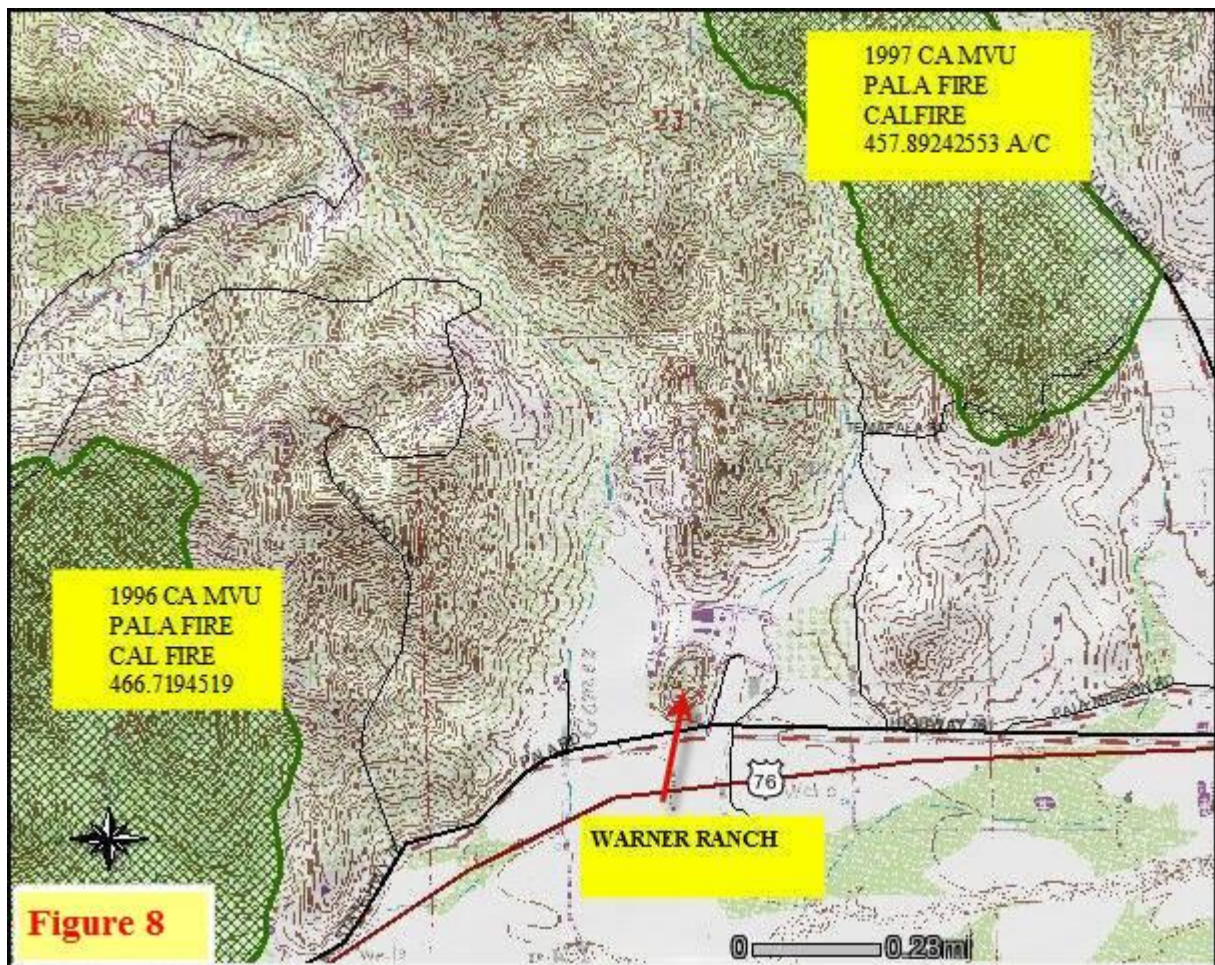


Figure 8 depicts an area east of the site that burned in 1997.

4.0 ANALYSIS OF PROJECT EFFECTS

The Project demonstrates compliance within the requirements of the current San Diego County Consolidated Fire Code Ordinance 10357, approved October 2014. The comprehensive Fire Protection Plan and the project design are consistent with the San Diego County Planning and Development Services recommendations including fuel modification.

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan.

4.1 - Adequate Emergency Services: The travel distance from the fire station to the furthest parcel in the development would be 3,900 feet. Travel time from the fire station to the furthest parcel would be 1.8 minutes per NFPA 1142. Given the density of the proposed development, the maximum allowable travel time to the furthest parcel from the fire station would be 5 minutes. Therefore, with the inclusion of the new fire station, this project would comply with the travel time objective of 5 minutes from the General Plan. The proposed project area will be San Diego County Fire Authority. Through agreement Fire Station construction, equipment and staffing will be funded by the developer. Additional resources will be available from Cal Fire, and Pala Reservation.

4.2 – Access Roads and Gates: The proposed main access to the Project is from SR76. All roads that are gated, shall have gate widths that are 2 feet wider than the travelway. Two (2) additional gated exits will be provide to SR76. These travelway shall accomadate 3 lanes of

traffic. On the western side these lanes will extend to Lot 215. On the eastern side lanes shall extend to Lot 306.

Turnarounds have been provided just inside the development access and egress points. All interior roadways shall comply with San Diego County Private Road standards. The private subdivision interior access roads on the tentative map shall be a minimum of 24 ft. of unobstructed improved width with an unobstructed vertical clearance of not less than 13 ft. and 6 inches. Single family residential driveways shall have a minimum of 16 ft. of improved width. Unobstructed radius width for cul-de-sacs and turn around locations shall be a minimum of 36 ft. All roads within the development and the access roads shall be all-weather, paved surfaces capable of supporting fire apparatus weighing up to 75,000 pounds. No roadways within the subdivision will exceed 20 percent. Those sections of a roadway that are over 15% shall meet the additional requirements listed in the County Consolidated Fire Codes (CFC) for roads over 15% (Portland cement concrete [PCC] surface and have a deep broom finish perpendicular to the direction of travel to enhance traction).

All dead end roadways exceeding 150 ft. in length shall be provided with approved means for the turning around of emergency apparatus. All roads and streets shall meet the minimum 28 ft. turning radius measured from the inside edge of the improvement width. The minimum radius width for all cul-de-sacs shall be 36 ft.

All gates shall allow egress of residents and visitors without the use of a key or special knowledge

The following Code excerpt from the County Consolidated Fire Code shall govern any Automatic Gate used on the project. An automatic gate across a fire access roadway or driveway shall be equipped with an approved emergency key-operated switch overriding all command functions and opening the gate. A gate accessing more than four residences or residential lots or a gate accessing hazardous institutional, educational or assembly occupancy group structure, shall also be equipped with an approved emergency traffic control-activating strobe light sensor or other device approved by the fire code official, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure. An automatic gate shall meet fire department policies deemed necessary by the fire code official for rapid, reliable access.

4.3 –Water Supply

The Project will obtain its water supply from the Rainbow Municipal Water District. A water reservoir would be constructed on the western portion of the property. The reservoir would receive water from an existing 8-inch water line in Jeremy Way that is maintained by the Rainbow Municipal Water District (RMWD). Water would then be distributed to the project via a 12-inch line which is connected to the water reservoir.

An extension of the public water system with new pipelines and hydrants will be built to serve the area.

The required fire flow for the project is 2500 gpm. Section 96.1.508.3 of the San Diego Consolidated Fire Code stipulates these requirements for development in ‘High Fire Hazard’ areas. In addition, the required flow and pressure must meet the demands required for residential sprinkler systems.

Hydrants shall be located at intersections, at the beginning radius of cul-de-sacs and at intervals identified in the Code and approved by the Fire Marshal. Hydrants located across heavily traveled roadways shall not be considered as serving the subject property.

4.4 –Ignition Resistant Construction & Fire Protection Systems. All structures shall meet the standards set in the San Diego County Building Code, as outlined in Section 92.1.704A thru Section 92.1.707A. Components shall meet the Standards of Quality as provided for in Section 703A. A synopsis of construction standards can be found in APPENDIX ‘E’. Suitable products for decks and patios can be found in APPENDIX ‘D’. All residential structures will have automatic fire sprinklers. The fire sprinkler system shall meet National Fire Protection Standard-NFPA 13D.

4.5 –Defensible Space and Vegetation Management.

4.5.1 Off-Site Fire Hazard and Risk Assessment. The proposed developed area is located in a very high fire hazard severity zone about twenty-three (23) miles inland from the ocean. The development will be bordered by developed and undeveloped private land on the west. Access to this area is from SR76, there are two (2) residential structures, with groves and pasture areas. Open space will remain to the north of the Project site. A notable wildland fire threat will come from a wildfire burning in the off-site highly flammable native and non-native vegetation north and northeast east of this proposed development. This is mostly undeveloped land and the greatest threat to this development will be firebrands carried a long distance (one mile or more) by fire drafts or strong winds. An additional wildfire threat is possible from the west under typical or extreme prevailing southwest wind conditions. Open space is minimal along the eastern boundary--property that is a part of the Pala Reservation. It is developed along the base of the slope from south to north. The area south of the site is agricultural use, the majority of which is currently pasture.

4.5.2 – On-Site Fire Hazard and Risk Assessment. As of the date of this plan, all of the vegetation that has the potential to burn is an active irrigated pasture and grove maintained to a high level. A riparian woodland bounds the westerly side of the site, this area would offer some risk. However, it is a substantial distance to any habitable structures. An analysis of past fires in the immediate area found no fire has ever burned through the site.

The entire flat area of the site will be developed. The majority of the surrounding slopes within the development parcel boundaries are comprised of mixed chaparral, characterized as a Fuel Model SCAL 18 – Sage/Buckwheat will be of the most concern for the project area during a worst case scenario northeastern wind pattern (Santa Ana) with hot dry wind speeds that could reach 70 MPH. These conditions would be similar to what was experienced in recent extreme fire events. In this vegetation type, a high percentage of the vegetation would have an abundance of dead material. This is especially true of the black sage and sumac plants. This is due to the effects of the local Mediterranean climate where warm wet winters promote new growth and long, hot and very dry summer seasons sometimes occur. Occasionally, multi-year droughts cause significant parts of these plants to die back. All of these plants are adapted to the intense wildfires that they need for species regeneration. However, when fire occurs at too frequent intervals, the Coastal Sage Scrub plant community reverts to a more flammable, less desirable community of short-lived annual grasses with little wildlife value and poor ability to protect the soil. The on-site wildland fire threat from this native vegetation can be mitigated within the development with the required fuel modification and utilization of “*firewise*” landscaping criteria.

In summary, any wind or topography driven wildfire burning under a northeast (*Santa Ana*) wind pattern creates a very high wildland fire hazard, especially for wildland fires starting northeast of the development. In addition, a typical fire day with a southwest wind will create a high wildland wildfire hazard. However, the proposed fuel modification treatments, “*firewise*” landscaping, and the use of ignition resistive building standards, which include the use of Class ‘A’ roof and non-combustible fire resistive exterior wall materials, will lower the risk for potential loss of structures to less than significant levels. Fuel treatment and setback will all but eliminate direct fire impingement and radiant heat from around the perimeter of the structures.

4.6– Fire Fuel Assessment: The minute-by-minute movement of a wildland fire will probably never be totally predictable—certainly not from weather conditions forecast many hours before the fire. Nevertheless, practice and experienced judgment in assessing the fire environment coupled with a systematic method of calculating fire behavior, yields surprisingly good results (Rothermel 1983).

The BehavePlus Fire Modeling System has been used to predict the wildland fire behavior (rate-of-spread, fireline intensity and flame length) for the northeastern and southwestern boundary vegetative fuels. The BEHAVE: Fire Behavior Prediction and Fuel Modeling System—Burn Subsystem, Part 1 by Patricia L. Andrews, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE fire behavior computer modeling system was developed by USDA—Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts nationwide. Since the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations is the dead fuel less than one-fourth inch in diameter; these are the fine fuels that carry the fire. Fuels larger than three (3”) inches in diameter are not included in the calculations at all (Andrews 1986)”.

BehavePlus, Version 5.0, is an updated and enhanced form of the BEHAVE System. The BEHAVE fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six (6’) feet of the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in fire protection planning purposes.

The **FIREWISE 2000, Inc.** evaluation team used the computer based BEHAVE Plus v5.0 Fire Behavior Prediction Model to make the fire behavior assessments and projections for the hazardous vegetative fuels on the areas in proximity to the proposed residential building lots for Tract 5508 Warner Ranch (See APPENDIX ‘C’ for actual calculations). The projections are based on scenarios that are “worst case” San Diego County fire assumptions.

Three (3) different fire scenarios are presented based on “worst case” fire weather assumptions for the project area, and one (1) fire scenario based on “typical” fire weather projections for comparison. Each fire scenario displays the expected ‘Rate of Fire Spread’ (expressed in feet per minute), ‘Fireline Intensity’ (expressed in British Thermal Units per foot per second) and ‘Flame Length’ (expressed in feet) for two (2) separate BEHAVE Plus predications: one for the untreated fuels, and one for the treated fuels following the completion of the required fuel modification work. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel levels typically observed during the local fire season.

Scenario #1 - Tables 1, 2, & 3: North, Northeast and East Wind Condition Fuel Moisture Assumptions: (70-MPH Santa Ana Wind Condition). ***This is an event often occurring two or three times a year.***

- * 1-Hour Fine Fuel Moisture of.....2%
- * 10-Hour Fuel Moisture of.....3%
- * 100-Hour Fuel Moisture of.....5%
- * Live Herbaceous Fuel Moisture of.....30%
- * Live Woody Fuel Moisture of.....50%

Scenario #2 - Table 4, 5 and 8: South, Southwest and West Wind Condition Fuel Moisture Assumptions: Late fire season strong non-typical (30-MPH) southwest wind pattern. ***This is a rare event causing the following fuel moisture conditions, occurring only one or two times in a ten year frequency cycle.***

- * 1-Hour Fine Fuel Moisture of2%
- * 10-Hour Fuel Moisture of.....3%
- * 100-Hour Fuel Moisture of5%

- * Live Herbaceous Fuel Moisture of.....30%
- * Live Woody Fuel Moisture of.....60%

Scenario #3 – Table 6 and 7: South, Southwest and West Wind Condition Fuel Moisture Assumptions: Fuel Moisture conditions usually found under a *typical prevailing (normal summer) afternoon wind pattern.*

- * 1-Hour Fine Fuel Moisture of.....4%
- * 10-Hour Fuel Moisture of.....6%
- * 100-Hour Fuel Moisture of8%
- * Live Herbaceous Fuel Moisture of.....50%
- * Live Woody Fuel Moisture of..... 60%

Table 4.6.1 <u>Fire Scenario # 1</u> (Late Fire Season With 70 MPH North, Northeast And East Wind Conditions) Open Space Area East <u>Fuel Model SH7 75% and Fuel Model 4 25%</u>	
Fire Behavior Calculation Input Data	Anticipated Fuel Moistures
<ul style="list-style-type: none"> • 22% up slope to ridge top • 28 mph Midflame wind speed • 90 ° aspect from north • 45° wind direction from north 	<ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....50%
Expected Fire Behavior Untreated Combined Fuel Model [SH7 – Dry Climate Shrub 75% and FM 4 Chaparral 25%]	
Rate of Spread	- 913.1 feet/minute
Fireline Intensity	- 105782BTU's/ft2
Flame Length	- 92.1feet in length
Expected Flame Lengths with 50% Fuel Treatment Thinning Zones SH2 Model Results	
Flame Lengths	20.1Feet in length
Rate of Spread	149.7 BTU's/ft2

Table 4.6.2 <u>Fire Scenario #2</u> (Late Fire Season With 70 MPH North, Northeast And East Wind Conditions) Southeast end of Project Site Fuel Model SCal 18 60% and SH7 40%	
Fire Behavior Calculation Input Data <ul style="list-style-type: none"> • 12 percent slope • 28 mph Midflame wind speed • 90° aspect from north • 45° wind direction from north 	Anticipated Fuel Moistures <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of2% * 10-Hour Fuel Moisture of..... 3% * 100-Hour Fuel Moisture of5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....50%
Expected Fire Behavior Fuel Model SH7 SCAL 18	
Rate of Spread - 461.2 feet/minute	
Fireline Intensity - 27244 BTU's/ft2	
Flame Length - 49.4 feet in length	
Expected Flame Lengths with 50% Fuel Treatment In thinning zones	
Flame Length - 23.9 feet in length	

Table 4.6.3 <u>Fire Scenario # 3</u> (Late Fire Season With 70 MPH North, Northeast And East Wind Conditions) North of Project Site Open Space Fuel Model SCal 18 30% and SH7 70%	
Fire Behavior Calculation Input Data <ul style="list-style-type: none"> • 28 mph Midflame wind speed • 180° aspect from north • 0° wind direction from north 	Anticipated Fuel Moistures <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....50%
Expected Fire Behavior Combined Fuel Model [sh7 – Dry Climate Shrub 70% and SCAL 18 - Sage/Buckwheat 30%]	
Rate of Spread - 536.4feet/minute	
Fireline Intensity - 26822 BTU's/foot/second	
Flame Length - 49 feet in length	
Expected Flame Lengths with 50% Fuel Treatment In thinning zones	
Flame Length - 24.5 feet in length	

Table 4.6.4
Fire Scenario #4

South, Southwest and West Wind Condition Fuel Moisture Assumptions: Late fire season strong non-typical (30-MPH) southwest wind pattern.
Fuel Model SCal 18 40% and SH7 60%

Fire Behavior Calculation Input Data	Anticipated Fuel Moistures
<ul style="list-style-type: none"> • 37 percent slope • 12 mph Midflame wind speed • 90° aspect from north • 270° wind direction from north 	<ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....60%
Expected Fire Behavior	
(Simulated Fuel Model 9 – Riparian Hardwoods with Leaf Litter)	
Rate of Spread - 157.4 feet/minute	
Fireline Intensity - 9630 BTU's/foot/second	
Flame Length - 30.6 feet in length	
West down slopes do not join fuel treatment areas	

Table 4.6.5
Fire Scenario #5

South, Southwest and West Wind Condition Fuel Moisture Assumptions: Late fire season strong non-typical (30-MPH) southwest wind pattern.
Fuel Model TL9 50% and GR450%
Riparian Area East of Gomez Creek

Fire Behavior Calculation Input Data	Anticipated Fuel Moistures
<ul style="list-style-type: none"> • Gomez Creek East Flat • 12 mph Midflame wind speed • 0° aspect from north • 270° wind direction from north 	<ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....60%
Expected Fire Behavior	
Fuel Model TL9 40% and GR1 60%	
Rate of Spread - 203.4 feet/minute	
Fireline Intensity - 3072 BTU's/foot/second	
Flame Length - 18.1 feet in length	

Table 4.6.6
Fire Scenario # 6
(Typical Summer South, West and Southwest Wind Conditions)
Fuel Model SCal 18 40% and SH7 60%

<p align="center">Fire Behavior Calculation Input Data</p> <ul style="list-style-type: none"> • 6mph Midflame wind speed • 90° aspect from north • 270° wind direction from north 	<p align="center">Anticipated Fuel Moistures</p> <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of4% * 10-Hour Fuel Moisture of.....6% * 100-Hour Fuel Moisture of8% * Live Herbaceous Fuel Moisture of.....50% * Live Woody Fuel Moisture of.....60%
<p>Expected Fire Behavior Combined Fuel Model [sh7 – Dry Climate Shrub 40% and SCAL 18 - Sage/Buckwheat 60%]</p>	
<p>Rate of Spread - 58.6 feet/minute</p>	
<p>Fireline Intensity - 3326 BTU's/foot/second</p>	
<p>Flame Length - 18.8 feet in length</p>	
<p>No Fuel Modification Thinning Zones on West Side</p>	

Table 4.6.7
Fire Scenario # 7
(Typical Summer South, West and Southwest Wind Conditions)
Gomez Creek Riparian Area
TL9 50% and GR4 50%

<p align="center">Fire Behavior Calculation Input Data</p> <ul style="list-style-type: none"> • 6mph Midflame wind speed • 90° aspect from north • 270° wind direction from north 	<p align="center">Anticipated Fuel Moistures</p> <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of4% * 10-Hour Fuel Moisture of.....6% * 100-Hour Fuel Moisture of8% * Live Herbaceous Fuel Moisture of.....50% * Live Woody Fuel Moisture of.....60%
<p>Expected Fire Behavior Combined Fuel Model [TL9 50% and GR4 50%]</p>	
<p>Rate of Spread - 80.1 feet/minute</p>	
<p>Fireline Intensity - 1141BTU's/foot/second</p>	
<p>Flame Length - 11.5 feet in length</p>	

Table 4.6.8	
South, Southwest and West Wind Condition Fuel Moisture Assumptions: Late fire season strong non-typical (30-MPH) southwest wind pattern.	
Pasture lands	
Fire Behavior Calculation Input Data	Anticipated Fuel Moistures
<ul style="list-style-type: none"> • 0 percent slope • 12 mph Midflame wind speed • 0 aspect from north • 225° wind direction from north 	<ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of4% * 10-Hour Fuel Moisture of.....6% * 100-Hour Fuel Moisture of18% * Live Herbaceous Fuel Moisture of..... 50% * Live Woody Fuel Moisture of.....60%
Expected Fire Behavior	
(Simulated Fuel Model 9 – Riparian Hardwoods with Leaf Litter)	
Rate of Spread - 126.5 feet/minute	
Fireline Intensity - 291BTU's/foot/second	
Flame Length - 6.1 feet in length	
Non-typical event at 30mph cured pasture grassland south of SR76 and on existing project site	

In summary, the tables below show the change in fire rate of spread, intensity and flame length for the worst case scenario following the completion of the required fuel modification as compared to pre-treatment fire behavior.

**TABLE 4.7A (Fire Scenario #1 – 70 mph Northeast Wind)
Worst Case at Northeast end.**

<u>Prior to Fuel Treatment</u>	<u>After Fuel Treatment Non-Irrigated</u>
Rate of Spread 913 ft/min	Rate of Spread 149.7 ft/min
Fireline Intensity 105782 BTU/ft/sec	Fireline Intensity 3,868 BTU/ft/sec
Flame Length 92.1 Feet	Flame Length 20.1 Feet

Modeled using SH2 Full 50% thinning with removal of all High Flammable Species.

**Model Results for the majority of the east boundary slope is contained in Table 4.6.2
Flame Lengths were 49.4 prior to treatment and 18.3 after.**

4.7 Required Fuel Modification Zones for Buildings, Structures and Access Roads

Projects located in Hazardous Fire Areas shall include Fuel Management Zones (FMZ) surrounding all structures. San Diego County Code stipulates that the FMZ is a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified, except for:

- Single specimens of trees or other vegetation which are well-pruned and maintained.
- Grass and other vegetation located more than 50 feet from the structure and less than 18 inches in height above the ground.
- All ornamental landscaping that is consistent with County Wildland Interface plant list (See APPENDIX ‘A’).
- Fencing material shall be on the approve State Fire Marshal and San Diego County Approve List of allowable material. A complete fencing schedule is provided in the Landscape Plans.

Below are detailed definitions and required treatments for the Fuel Modification Zones. There are three (3) Zones, two (2) irrigated Zone 1 & 2, and Zone 3 a non-irrigated Zone. Zone 1 is

homeowner maintained, Zone 2 and 3 are HOA maintained. In addition, the edges of roadways and driveways must be treated to prevent ignition starts and to provide safe ingress and egress should a wildfire occur. Each of these Zones is described below in greater detail.

All distances in this report are measured horizontally. These distances are depicted on the Fuel Treatment Map, included herein as Exhibit 'H'. Prior to construction on any building site, all roads (primary and secondary) for this development shall be accepted by the Fire Marshal San Diego County Fire Authority.

The responsibility for the fuel modification maintenance defined below shall remain with the current owners and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to the property will be responsible for such maintenance. Location of the structure on the pad must meet the County setback requirements. The entire buildable pad area will be maintained to Zone 1 standards with ornamental plantings.

San Diego County Code requires that these fuel modification practices be completed prior to the start of construction.

- **Buildable Pad Area (Parcel Owner Maintained) - Shown as **YELLOW** on the Fuel Treatment Exhibit. Shown as Zone 1 **DARK GREEN** on the Fuel Treatment Exhibit. Homeowner maintained.**

Defined

Zone 1 Standards (Buildable Pad Area) comprises the setback area around a structure (front, back and side yards) and is commonly called the defensible space zone. It is an irrigated zone and shall be free of all combustible construction and materials. The setback area will be a minimum of 30 ft. from the edge of the buildable pad.

Required Landscaping

The area will be cleared of all existing vegetation and replanted with drought tolerant and irrigated fire resistant lawns, ground covers and shrubs. Landscaping shall be irrigated and primarily consist of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. However, this zone may contain occasional fire resistant trees and single well-spaced ornamental shrubs up to 48 inches in height intermixed with ground covers and lawn. Shrubs and ground covers may be located no closer than 5 ft. from the structure provided these plants will not carry fire to the structure. Non-flammable concrete patios, driveways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1.

Plants in this zone need to be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most 'fire resistant'. Refer to APPENDIX 'A' County of San Diego's Desirable Plant List and APPENDIX 'B' for Prohibited Plants for plant selection.

Trees must be planted so that when they reach maturity the tips of their branches are at least 10 feet away from any structure. They must have a minimum of 6 ft. of vertical separation from low growing, irrigated vegetation beneath the canopy of the tree.

Required Maintenance

The pad area surrounding the house shall be maintained year round by the individual property owner(s) within their property boundary (lot lines) as required by this FPP. The parcel owner of record shall maintain all fuel modification within their parcel. Shrubs and trees are to be annually maintained free of dead material. Trees will be maintained so that their crown cover will be more than ten (10) ft. from any structure. All tree crowns will be separated by twenty (20) ft. and maintained to keep a separation of six (6) ft. between the ground fuels (shrubs and ground covers) and the lower limbs. All trees must be maintained to the current ANSI A300 standards (*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices {Pruning}*).

- **Fuel Modification Zone 2 (HOA Maintained), shown as *LIGHT GREEN* on the Fuel Treatment Exhibit.**

Beginning at the outer edge of Zone 1, Zone 2 is the area between the fence line and 50 feet. In most cases this area will generally be 20 ft. It may extend into areas of manufactured slopes. The same general criteria will be used for maintained ornamental vegetation along roadways. Maintenance access will be provided through use of pedestrian access points and additionally at dedicated points Lots 252, 399 and 423. In addition, various trail access points will be used.

Required Landscaping

The area will be cleared of all existing vegetation and replanted with drought tolerant and irrigated fire resistant lawns, ground covers and shrubs. Landscaping shall be irrigated and primarily consist of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. However, this zone may contain occasional fire resistant trees and single well-spaced ornamental shrubs up to 48 inches in height intermixed with ground covers and lawn. Shrubs and ground covers may be located no closer than 5 ft. from the structure provided these plants will not carry fire to the structure. Non-flammable concrete patios, driveways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1.

Plants in this zone need to be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most 'fire resistant'. Refer to APPENDIX 'A' County of San Diego's desirable plant list and APPENDIX 'B' for Prohibited Plants for plant selection.

Trees must be planted so that when they reach maturity the tips of their branches are at least 10 ft. away from any structure. They must have a minimum of 6 ft. of vertical separation from low growing, irrigated vegetation beneath the canopy of the tree.

Required Maintenance

HOA maintained on an as needed basis; however, generally shrubs and trees are to be annually maintained free of dead material. Trees will be maintained so that their crown cover will be more than ten (10) ft. from any structure. All tree crowns will be separated by twenty (20) ft. and maintained to keep a separation of six (6) ft. between the ground fuels (shrubs and ground covers) and the lower limbs. All trees must be maintained to the current ANSI A300 standards (*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices {Pruning}*). Also, see www.ansi.com.

Fuel Modification Zone 3 (HOA Maintained) Shown as *DARK BROWN* on the Fuel Treatment Exhibit.

Defined Natural Slope Thinning Zone @ 50% to Cover

Zone 3 is the area from 50 to 100 feet. Zone 3 maybe cleared, irrigated and replanted with "firewise" landscaping (manufactured slopes), non-irrigated natural slope thinning zones where native vegetation is thinned to 50% of its original fuel loading, and/or mowed (weed-whipped) grasses. This zone may include single or small clusters of trimmed fire resistant native and ornamental shrubs up to 48 inches in height and trimmed native or ornamental trees limbed up to 6 feet from the ground. "firewise" landscaping criteria are also important in this zone. Irrigation, partial irrigation or a non-irrigation well is used in this zone depending upon the plant species selected.

Refer to APPENDIX 'B' for plants that are prohibited in this area.

Mulches, chips and other small multi-cuttings within a Thinning Zone 3 (cut to less than 2 inches in diameter and 4 inches in length) should be evenly spread over the area to prevent grass and weed encroachment within the treated areas. This mulching concept helps to maintain the soil moisture for the designated plants and minimizes any soil erosion. All native grasses or weeds are to be mowed or weed-whipped to a 4 inch stubble height. Yearly maintenance will be required prior to fire season

Additionally, the following native species will be totally removed from natural slope fuel modification areas: Chamise (*Adenostoma fasciculatum*); California sagebrush (*Artemisia californica*); flat-topped buckwheat (*Eriogonum fasciculatum*); and, black sage (*Salvia mellifera*).

Required Maintenance

Low growing plants and ground covers are to be maintained to a height of 18 inches or less. Retained native shrubs will be trimmed and maintained to 48 inches, with occasional interior thinning. It is most important that planting are thinned and maintained in a mosaic. Maintenance will be on-going throughout the year as needed. Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to four (4) inches or less in height. This usually occurs prior to June 1st of each year.

4.8 Streets' and Roadways' Road Side Maintenance HOA Maintained

Interior streets and roadways will be landscaped and irrigated to Zone 1 standards. Access to water storage will be gated and locked

Maintenance: Criteria established for Zone 1 will be required on all access roadways.

4.9 Cumulative Impact Analysis

The combination of San Diego County's weather, fuel, and terrain has often contributed to intense, uncontrolled wildland fires. This was clearly evident in the devastating Cedar, Paradise and Otay Fires of October 2003, and the more recent Witch Creek/Rice Fires of November 2007.

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with contiguous open space. As the population of San Diego County increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. Increased vehicular access for this residential subdivision by way of improving an existing road and building a new access road will increase human activities in the immediate area and therefore an increased risk of fire may result, causing increasing the risk of injury, property loss, or death.

The approval of this proposal, the already approved development in the area, dedicated large acreage open space, and future development will increase fire concerns. Urbanization and the ability to supply adequate fire protection will impact risk factors for the immediate area. At present, the density of development in this area of San Diego County is relatively low and includes properties with large groves and areas that appear to be compliant with fuel modification and weed abatement practices. Fire Protection services and costs will be paid for by the developer.

5.0 - MITIGATION MEASURES AND DESIGN CONSIDERATIONS

- All newly constructed structures will be built to Ignition resistant standards per current Code, and the building requirements (APPENDIX 'E') which includes the installation of automatic fire sprinkler systems (National Fire Protection Association – NFPA Standard 13)
- The entire developed area will be mostly flat with good road circulation. Exiting strategy will be to SR76 through three gates. Large expanse of developed property on Tribal Lands to the east and south will lower the risk of a large area fire impacting the development.
- This report and its recommendations shall be incorporated by reference into the final project conditions of approval to ensure compliance with codes/regulations and significance standards. This plan also sets forth a requirement to manage and control invasives(exotics) in open space easements.

5.1 Parcel Owner Responsibilities and Requirements

1. Each lot owner is personally responsible for all fuel treatment measures within their property.
2. All roadside fuel treatment within the subdivision is the maintenance responsibility of the HOA.
3. **TRASH DUMPING OR DISPOSAL OF YARD TRIMMINGS IN THE FUEL TREATMENT ZONES SHALL NOT BE ALLOWED.**
4. The Fuel Treatment Zones, as depicted on the Fuel Treatment Map, shall be recorded against all lots.
5. All individual plans for additional structures, where allowed, shall be approved by the Fire Marshal and will comply with the Fire Protection Plan. There will be a fee to check these plans.
6. Trees shall be placed and maintained so that their crown cover at maturity will be more than ten (10) ft. from any structure.
7. All plants will be in accordance with the San Diego County Recommended Plant List (See APPENDIX 'A') or as approved by the Fire Marshal.
8. Upon the sale of a lot to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.
9. The SDCFA Fire Chief will be the enforcing agency official, should the requirements of this plan be dismissed. Through the enforcing agency, abatement processes will be used to take corrective action if needed.

5.2- ADDITIONAL REQUIREMENTS

- If the landowner is aware of any state or federal listed species on their property, the U.S. Fish and Wildlife Service should be notified prior to the abatement.
- Debris and trimmings produced by thinning and pruning will be removed from the site, or, if left, shall be converted into mulch and evenly dispersed to a maximum depth of four inches. Such trimmings will not be within 50 ft. of structures.
- Any damaged or replacement window, siding, roof coverings, and specific non-combustible wall will meet or exceed the original intent of the fire protection discussed in this plan.
- This plan and its requirements shall be incorporated by reference into the final project conditions of approval. Maintenance shall include an annual defensible space fire inspection conducted by SDCFA and funded by the HOA. The annual inspection fee shall be based on the adopted fee schedule at the time of inspection. The HOA shall be responsible for any forced abatement fees that may be incurred as a result of non compliance.

5.3 - FUEL TREATMENT MAP

A pocket folder containing Exhibit 'H' - FUEL TREATMENT MAP can be found following this FPP depicting the location of all proposed fuel modification treatment locations and other mitigation measures.

6.0 - CONCLUSIONS

This FPP evaluated the adverse environmental effects that a proposed residential development may have from wildland fire and to properly mitigate those impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death involving wildland fires.

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. The 'buildable pad setback area' and Zone 1 criteria provide the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will also be a landscaped zone that is permanently irrigated and consists of fire resistant and maintained plantings
- The development will have adequate emergency access, roads and streets will be constructed to code compliant standards. San Diego County Fire Authority, CAL FIRE, and/or nearby fire departments through mutual aid, will provide fire protection. Residential sprinklers and 'ignition resistive construction standards', (in conjunction with the 2014 changes to the San Diego County Fire Code) will ensure homes will remain safe in a wildland fire situation that may occur in proximity to the development.
- Water supplies via pipelines, storage tanks, and related requirements will provide adequate water for fire protection.

7.0 - LIST OF PREPARERS, PERSONS AND ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this Fire Protection Plan is David C. Bacon, President of **FIREWISE 2000, Inc.**, a San Diego County certified wildland fire consultant. Other **FIREWISE 2000, Inc.** members contributed to this plan with comments and peer review. These members include Monty Kalin, Senior Wildland Fire Associate.

7.2 List of Persons Contacted During the Course of this Project

1. Marcia Adams, Lonestar
2. Mike Shapouri, Shapouri & Associates
3. Vipul Joshi, Dudek
4. Gerald Gilbert, Land Planning

8.0 REFERENCES

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6. National Fire Protection Association - NFPA 1144 Standard for Protection of Life and Property from Wildfire (2013).
7. National Fire Protection Association - NFPA 13 Standard for the Installation of Sprinkler Systems in One – and Two-Family Dwellings and Manufactured Homes, 13-R & 13-D, 2013 Editions.
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11. County of San Diego. Standards for Private Roads. Department of Public Works, Adopted June 30, 1999.
12. County of San Diego. Plant List and Acceptable Plants for a Defensible Space in Fire Prone Areas. Department of Planning and Land Use, December, 1998.
13. Western Fire Center, Inc. Report on the Fire Testing of “Tedlar” Membrane Roofing Samples in Accordance with ASTM 108-04: Standard Test Methods for Fire Tests for Roof Coverings. Class “A” Burning Brand Tests (4). Report Issued: August 9, 2006.
14. County of San Diego. Guidelines for Determining Significance and Report Format and Content Requirements Wildland Fire and Fire Protection Land Use and Environment Group Department of Planning and Land Use, Department of Public Works, March 19, 2007.
15. Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel’s Surface Fire Spread Model, General Technical Report. RMRS-GTR 153, June 2005 United States Department of Agriculture - Forest Service.
16. The Local Amendments to the 2013 California Fire Code; 2013 California Building Code, Chapter 7A.
17. The California State and Local Responsibility Area Fire Hazard Severity Zone Map – Fire and Resource Assessment Program of CAL FIRE.

9.0 TECHNICAL APPENDICES

The following technical appendices have been attached to this document:

Recommended Plant List

APPENDIX ‘A’

Prohibited/Invasive Plant List
Behave Plus Version 5 Fire Behavior Calculations
Non-combustible & Fire Resistant Building Materials
Ignition Resistive Construction
Project Facility Availability Form - Fire
Project Facility Availability Form - Water
Fuel Treatment Exhibit

APPENDIX 'B'
APPENDIX 'C'
APPENDIX 'D'
APPENDIX 'E'
APPENDIX 'F'
APPENDIX 'G'
APPENDIX 'H'

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APPENDIX 'A'

Acceptable Plant List

COUNTY OF SAN DIEGO

ACCEPTABLE PLANTS FOR DEFENSIBLE SPACE IN FIRE PRONE AREAS

ALL NATIVE PLANTS ON THE FOLLOWING LIST are considered to be drought-tolerant in the particular climate zone they are found. Those that grow best in riparian areas, as indicated by the "R", are generally the least drought-tolerant plants on the list.

SPECIAL NOTE: When planting, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. This watering should continue for at least three years to allow the plants to naturalize. More water should be provided in summer and less (if any) in the winter. These plants should be weaned off the supplemental irrigation and become less dependent on it over the establishment period.

No plant is totally fire resistant. The plants listed were chosen due to their high water content, minimum amount of flammable resins and/or low fuel volume.

Definitions:

Drought-Tolerant Plant Materials: Trees, shrubs, groundcovers, and other vegetation capable of sustained growth and reproduction with only natural moisture. Occasional supplemental irrigation is necessary only in extreme drought situations.

Establishment Period: The time it takes for a plant to become drought-resistant. This is usually a period of three years and is the time when supplemental irrigation is necessary.

Native or Naturalizing Plant Species: Plant species native to the region or introduced which, once established, are capable of sustaining growth and reproduction under local climatic conditions without supplemental irrigation.

FIREWISE 2000, Inc. Note: The plant list which follows was developed using the plants found on the San Diego County approved plant list. This list was then compared to those plants which are suitable for the climatic zone in which the project is located. Only those plants suitable for the project area are listed below. The list is therefore shorter than that provided by the County. By providing this custom list, plants that are likely to be killed or seriously damaged by frost or will not perform in hot dry conditions have been eliminated. ***FIREWISE 2000, Inc.*** believes that the planting of species suited to the site is essential to fire management goals and is an environmentally sound practice.

San Diego County Customized Acceptable Plant List For The Warner Ranch Project

No.	Type	Genus	Species	Common Name
1	Annual	Lupinus spp.	nanus	Lupine
2	Groundcover	Achillea	millefolium	Yarrow
3	Groundcover	Aptenia	cordifolia	Aptenia
4	Groundcover	Arctostaphylos spp.		Manzanita
5	Groundcover	Cerastium	tomentosum	Snow-in-Summer
6	Groundcover	Coprosma	kirkii	Creeping Coprosma
7	Groundcover	Cotoneaster spp.		Redberry
8	Groundcover	Drosanthemum	hispidum	Rosea Ice Plant
9	Groundcover	Dudleya	brittonii	Britton's Chalk Dudleya
10	Groundcover	Dudleya	pulverulenta	Chalk Dudleya
11	Groundcover	Dudleya	virens	Island Live-Forever
12	Groundcover	Eschscholzia	californica	California Poppy
13	Groundcover	Ferocactus	viridescens	Coast Barrel Cactus
14	Groundcover	Gaillardia	grandiflora	Blanket Flower
15	Groundcover	Gazania spp.		Gazania
16	Groundcover	Helianthemum spp.		Sunrose
17	Groundcover	Lantana spp.		Lantana
18	Groundcover	Lasthenia	californica	Common Goldfields
19	Groundcover	Lasthenia	glabrata	Coastal Goldfields
20	Groundcover	Lupinus spp.		Lupine
21	Groundcover	Myoporum spp.		Myoporum
22	Groundcover	Pyracantha spp.		Firethorn
23	Groundcover	Rosmarinus	officinalis	Rosemary
24	Groundcover	Santolina	chamaecyparissus	Lavender Cotton
25	Groundcover	Santolina	virens	Santolina
26	Groundcover	Trifolium	frageriferum	O'Connor's Legume
27	Groundcover	Verbena	rigida	Verbena
28	Groundcover	Viguiera	laciniata	San Diego Sunflower
29	Groundcover	Vinca	major	Periwinkle
30	Groundcover	Vinca	minor	Dwarf Periwinkle
31	Perennial	Coreopsis	gigantea	Giant Coreopsis
32	Perennial	Coreopsis	grandiflora	Coreopsis
33	Perennial	Coreopsis	maritima	Sea Dahlia
34	Perennial	Coreopsis	verticillata	Coreopsis
35	Perennial	Heuchera	maxima	Island Coral Bells
36	Perennial	Iris	douglasiana	Douglas Iris
37	Perennial	Kniphofia	uvaria	Red-Hot Poker
38	Perennial	Lavandula spp.		Lavender
39	Perennial	Limonium	californicum perezii	Coastal Statice
40	Perennial	Limonium	californicum var. mexicanum	Coastal Statice
41	Perennial	Oenothera spp.		Primrose
42	Perennial	Penstemon spp.		Penstemon
43	Perennial	Satureja	douglasii	Yerba Buena
44	Perennial	Sisyrinchium	bellum	Blue-Eyed Grass
45	Perennial	Sisyrinchium	californicum	Golden-Eyed Grass
46	Perennial	Solanum	xantii	Purple Nightshade
47	Perennial	Zauschneria	'Catalina' ?	Catalina Fuschia
48	Perennial	Zauschneria	californica	California Fuschia
49	Perennial	Zauschneria	cana	Hoary California Fuschia
50	Shrub	Agave	americana	Desert Century Plant
51	Shrub	Agave	Amorpha fruticosa	False Indigobush
52	Shrub	Agave	deserti	Shaw's Century Plant

53	Shrub	Agave	shawii	NCN
54	Shrub	Agave		Century Plant
55	Shrub	Arctostaphylos spp.		Manzanita
56	Shrub	Atriplex	canescens	Hoary Saltbush
57	Shrub	Baccharis	pilularis	Coyote Bush
58	Shrub	Baccharis	salicifolia	Mule Fat "R"
59	Shrub	Carissa	macrocarpa	Natal Plum
60	Shrub	Ceanothus spp.		California Lilac
61	Shrub	Cistus spp.		Rockrose
62	Shrub	Cneoridium	dumosum	Bush rue
63	Shrub	Comarostaphylis	diversifolia	Summer Holly
64	Shrub	Convolvulus	cneorum	Bush Morning Glory
65	Shrub	Dalea	attenuata v orcuttii	Orcutt's Delea
66	Shrub	Elaeagnus	pungens	Silverberry
67	Shrub	Encelia	californica	Coast Sunflower
68	Shrub	Encelia	farinosa	White Brittlebush
69	Shrub	Eriobotrya	deflexa	Bronze Loquat
70	Shrub	Eriophyllum	confertiflorum	Golden Yarrow
71	Shrub	Escallonia spp.		Escallonia
72	Shrub	Feijoa	sellowiana	Pineapple Guava
73	Shrub	Fremontodendron	californicum	Flannelbush
74	Shrub	Fremontodendron	mexicanum	Southern Flannelbush
75	Shrub	Galvezia	juncea	Baja Bush-Snapdragon
76	Shrub	Galvezia	speciosa	Island Bush-Snapdragon
77	Shrub	Garrya	elliptica	Coast Silktassel
78	Shrub	Garrya	flavescens	Ashy Silktassel
79	Shrub	Heteromeles	arbutifolia	Toyon
80	Shrub	Lantana spp.		Lantana
81	Shrub	Lotus	scoparius	Deerweed
82	Shrub	Mahonia spp.		Barberry
83	Shrub	Malacothamnus	clementinus	San Clemente Island Bush
84	Shrub	Malacothamnus	fasciculatus	Mallow
85	Shrub	Melaleuca spp.		Mesa Bushmallow
86	Shrub	Mimulus spp.		Melaleuca
87	Shrub	Nolina	parryi	Monkeyflower
88	Shrub	Photinia spp.		Parry's Nolina
89	Shrub	Pittosporum	crassifolium	Photinia
90	Shrub	Pittosporum	rhubifolium	NCN
91	Shrub	Pittosporum	tobira 'Wheeleri'	Queensland Pittosporum
92	Shrub	Pittosporum	undulatum	Wheeler's Dwarf
93	Shrub	Pittosporum	viridiflorum	Victorian Box
94	Shrub	Plumbago	auriculata	Cape Pittosporum
95	Shrub	Prunus	caroliniana	Cape Plumbago
96	Shrub	Prunus	ilicifolia	Carolina Laurel Cherry
97	Shrub	Prunus	lyonii	Hollyleaf Cherry
98	Shrub	Puncia	granatum	Catalina Cherry
99	Shrub	Pyracantha spp.		Pomegranate
100	Shrub	Quercus	dumosa	Firethorn
101	Shrub	Rhamus	alaternus	Scrub Oak
102	Shrub	Rhamus	californica	Italian Buckthorn
103	Shrub	Rhaphiolepis spp.		Coffeeberry
104	Shrub	Rhus	continus	Rhaphiolepis
105	Shrub	Rhus	integrifolia	Smoke Tree
106	Shrub	Rhus	laurina	Lemonade Berry
107	Shrub	Rhus	ovata	Laurel Sumac
				Sugarbush

108	Shrub	Rhus	trilobata	Squawbush
109	Shrub	Romneya	coulteri	Matilija Poppy
110	Shrub	Rosa	californica	California Wild Rose
111	Shrub	Rosa	minutifolia	Baja California Wild Rose
112	Shrub	Salvia spp.		Sage
113	Shrub	Sambucus spp.		Elderberry
114	Shrub	Symphoricarpos	mollis	Creeping Snowberry
115	Shrub	Syringa	vulgaris	Lilac
116	Shrub	Tecomaria	capensis	Cape Honeysuckle
117	Shrub	Teucrium	fruticans	Bush Germander
118	Shrub	Verbena	lilacina	Lilac Verbena
119	Shrub	Xylosma	congestum	Shiny Xylosma
120	Shrub	Yucca	schidigera	Mojave Yucca
121	Shrub	Yucca	whipplei	Foothill Yucca
121	Tree	Acer	macrophyllum	Big Leaf Maple
122	Tree	Acer	saccharinum	Silver Maple
123	Tree	Alnus	rhombifolia	White Alder "R"
124	Tree	Arbutus	unedo	Strawberry Tree
125	Tree	Archontophoenix	cunninghamiana	King Palm
126	Tree	Brahea	armata	Blue Mexican Palm
127	Tree	Brahea	edulis	Guadalupe Palm
128	Tree	Ceratonia	siliqua	Carob
129	Tree	Cercis	occidentalis	Western Redbud
130	Tree	Cornus	stolonifera	Redtwig Dogwood
131	Tree	Eriobotrya	japonica	Loquat
132	Tree	Erythrina	caffra	Kaffirboom Coral Tree
133	Tree	Gingko	biloba "Fairmount"	Fairmount Maidenhair Tree
134	Tree	Juglans	californica	California Walnut
135	Tree	Lagerstroemia	indica	Crape Myrtle
136	Tree	Ligustrum	lucidum	Glossy Privet
137	Tree	Liquidambar	styraciflua	Sweet Gum
138	Tree	Liriodendron	tulipifera	Tulip Tree
	Tree		floribundus ssp.	Fernleaf Catalina Ironwood
139		Lyonothamnus	Asplenifolius	
140	Tree	Melaleuca spp.		Melaleuca
141	Tree	Myoporum spp.		Myoporum
142	Tree	Nerium	oleander	Oleander
143	Tree	Parkinsonia	aculeata	Mexican Palo Verde
144	Tree	Pistacia	chinensis	Chinese Pistache
145	Tree	Pistacia	vera	Pistachio Nut
146	Tree	Pittosporum	phillyreoides	Willow Pittosporum
147	Tree	Pittosporum	viridiflorum	Cape Pittosporum
148	Tree	Platanus	acerifolia	London Plane Tree
149	Tree	Platanus	racemosa	California Sycamore "R"
150	Tree	Populus	alba	White Poplar
151	Tree	Populus	fremontii	Western Cottonwood "R"
152	Tree	Populus	trichocarpa	Black Cottonwood "R"
153	Tree	Prunus	caroliniana	Carolina Laurel Cherry
154	Tree	Prunus	cersifera 'Newport'	Newport Purple-Leaf Plum
155	Tree	Prunus	ilicifolia	Hollyleaf Cherry
156	Tree	Prunus	lyonii	Catalina Cherry
157	Tree	Prunus	xblireiana	Flowering Plum
158	Tree	Quercus	agrifolia	Coast Live Oak
159	Tree	Quercus	engelmannii	Engelmann Oak
160	Tree	Quercus	suber	Cork Oak
161	Tree	Rhus	lancea	African Sumac

162	Tree	Salix spp.		Willow "R"
163	Tree	Tristania	conferta	Brisbane Box
164	Tree	Ulmus	parvifolia	Chinese Elm
165	Tree	Ulmus	pumila	Siberian Elm
166	Tree	Umbellularia	californica	California Bay Laurel "R"
167	Vine	Antigonon	leptopus	San Miguel Coral Vine
168	Vine	Distictis	buccinatoria	Blood-Red Trumpet Vine
169	Vine	Keckiella	cordifolia	Heart-Leaved Penstemon
170	Vine	Lonicera	japonica 'Halliana'	Hall's Honeysuckle
171	Vine	Lonicera	subspicata	Chaparral Honeysuckle
172	Vine	Solanum	jasminoides	Potato Vine

For plants to be used in fuel treatment Zones 1 or 2 that are not found on this list, acquire approval from your local fire department first before installing them. Only "firewise" plants can be used in these zones.

APPENDIX 'B'

Undesirable Plant List

APPENDIX 'B'

<u>Abies species</u>	Fir Trees
<u>Acacia species</u>	Acacia (trees, shrubs, groundcovers)
<u>Adenostoma sparsifolium**</u>	Red Shanks
<u>Adenostoma fasciculatum**</u>	Chamise
<u>Agonis juniperina</u>	Juniper Myrtle
<u>Araucaria species</u>	Monkey Puzzle, Norfolk Island Pine
<u>Artemisia californica**</u>	California Sagebrush
<u>Bambusa species</u>	Bamboo
<u>Cedrus species</u>	Cedar
<u>Chamaecyparis species</u>	False Cypress
<u>Coprosma pumila</u>	Prostrate Coprosma
<u>Cryptomeria japonica</u>	Japanese Cryptomeria
<u>Cupressocyparis leylandii</u>	Leylandii Cypress
<u>Cupressus forbesii**</u>	Tecate Cypress
<u>Cupressus glabra</u>	Arizona Cypress
<u>Cupressus sempervirens</u>	Italian Cypress
<u>Dodonea viscosa</u>	Hopseed Bush
<u>Eriogonum fasciculatum**</u>	Common Buckwheat
<u>Eucalyptus species</u>	Eucalyptus
<u>Heterotheca grandiflora**</u>	Telegraph Plant
<u>Juniperus species</u>	Junipers
<u>Larix species</u>	Larch
<u>Lonicera japonica</u>	Japanese Honeysuckle
<u>Miscanthus species</u>	Eulalia Grass
<u>Muehlenbergia species**</u>	Deer Grass
<u>Palmae species</u>	Palms
<u>Picea species</u>	Spruce Trees
<u>Pickeringia Montana**</u>	Chaparral Pea
<u>Pinus species</u>	Pines
<u>Podocarpus species</u>	Fern Pine
<u>Pseudotsuga menziesii</u>	Douglas Fir
<u>Rosmarinus species</u>	Rosemary
<u>Salvia mellifera**</u>	Black Sage
<u>Taxodium species</u>	Cypress
<u>Taxus species</u>	Yew
<u>Thuja species</u>	Arborvitae
<u>Tsuga species</u>	Hemlock
<u>Urtica urens**</u>	Burning Nettle

** San Diego County native species

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APPENDIX 'C'

Behave Plus Version 5.0.0 Fire Behavior Calculations

Northeast end of Project Site, Slope at Access
Santa Ana Wind Event

Input Worksheet

Inputs: SURFACE, SPOT, IGNITE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		4
First Fuel Model Coverage	%	75
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	5
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	70
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	45
Terrain		
Slope Steepness	%	22
Aspect	deg	90
Ridge-to-Valley Elevation Difference	ft	317
Ridge-to-Valley Horizontal Distance	mi	0.26
Spotting Source Location		VB

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	913.1	ft/min
Fireline Intensity	105782	Btu/ft/s
Flame Length	92.1	ft
Direction of Maximum Spread (from north)	225	deg
Midflame Wind Speed	28.0	mi/h
Max Eff Wind Exceeded?	No	
Spot Dist from a Wind Driven Surface Fire	4.8	mi
Firebrand Ht from a Wind Driven Surface Fire	1054.4	ft

East Boundary at South End
Santa Ana Wind Event

Input Worksheet

Inputs: SURFACE, SPOT, IGNITE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	40
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	5
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	70
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	45
Terrain		
Slope Steepness	%	12
Aspect	deg	90
Ridge-to-Valley Elevation Difference	ft	92
Ridge-to-Valley Horizontal Distance	mi	0.14
Spotting Source Location		VB

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	461.2 ft/min
Fireline Intensity	27244 Btu/ft/s
Flame Length	49.4 ft
Direction of Maximum Spread (from north)	225 deg
Midflame Wind Speed	28.0 mi/h
Max Eff Wind Exceeded?	No
Spot Dist from a Wind Driven Surface Fire	3.3 mi
Firebrand Ht from a Wind Driven Surface Fire	533.1 ft

North of Project Boundary
Santa Ana Wind Event Pushing Down Slope

Input Worksheet**Inputs: SURFACE, SPOT, IGNITE**

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	70
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	5
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	70
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	0
Terrain		
Slope Steepness	%	27
Aspect	deg	180
Ridge-to-Valley Elevation Difference	ft	406
Ridge-to-Valley Horizontal Distance	mi	0.28
Spotting Source Location		VB

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	536.4 ft/min
Fireline Intensity	26822 Btu/ft/s
Flame Length	49 ft
Direction of Maximum Spread (from north)	180 deg
Midflame Wind Speed	28.0 mi/h
Max Eff Wind Exceeded?	No
Spot Dist from a Wind Driven Surface Fire	3.3 mi
Firebrand Ht from a Wind Driven Surface Fire	528.9 ft

West of Project Typical Summer On-Shore

Input Worksheet

Inputs: SURFACE, SPOT, IGNITE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	40
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	6
Fuel Moisture		
1-h Moisture	%	4
10-h Moisture	%	6
100-h Moisture	%	8
Live Herbaceous Moisture	%	50
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	15
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	270
Terrain		
Slope Steepness	%	37
Aspect	deg	90
Ridge-to-Valley Elevation Difference	ft	575
Ridge-to-Valley Horizontal Distance	mi	0.29
Spotting Source Location		RT

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	58.6 ft/min
Fireline Intensity	3326 Btu/ft/s
Flame Length	18.8 ft
Direction of Maximum Spread (from north)	90 deg
Midflame Wind Speed	6.0 mi/h
Max Eff Wind Exceeded?	No
Spot Dist from a Wind Driven Surface Fire	0.6 mi
Firebrand Ht from a Wind Driven Surface Fire	405.5 ft

West of Project 30mph Unusual Wind Event

Input Worksheet

Inputs: SURFACE, SPOT, IGNITE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	40
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	6
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	270
Terrain		
Slope Steepness	%	37
Aspect	deg	90
Ridge-to-Valley Elevation Difference	ft	575
Ridge-to-Valley Horizontal Distance	mi	0.29
Spotting Source Location		RT

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	157.4 ft/min
Fireline Intensity	9630 Btu/ft/s
Flame Length	30.6 ft
Direction of Maximum Spread (from north)	90 deg
Midflame Wind Speed	12.0 mi/h
Max Eff Wind Exceeded?	No
Spot Dist from a Wind Driven Surface Fire	1.3 mi
Firebrand Ht from a Wind Driven Surface Fire	486.2 ft

Riparian at Gomez Creek Unusual Event 30mph**Input Worksheet****Inputs: SURFACE, SPOT, IGNITE**

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		t19
Second Fuel Model		Gr4
First Fuel Model Coverage	%	50
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	0
Fuel Moisture		
1-h Moisture	%	4
10-h Moisture	%	6
100-h Moisture	%	8
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	270
Terrain		
Slope Steepness	%	0
Aspect	deg	0
Ridge-to-Valley Elevation Difference	ft	0
Ridge-to-Valley Horizontal Distance	mi	0
Spotting Source Location		VB

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	203.1	ft/min
Fireline Intensity	3072	Btu/ft/s
Flame Length	18.1	ft
Direction of Maximum Spread (from north)	90	deg
Midflame Wind Speed	12.0	mi/h
Max Eff Wind Exceeded?	Yes	
Spot Dist from a Wind Driven Surface Fire	0.9	mi
Firebrand Ht from a Wind Driven Surface Fire	274.6	ft

Gomez Riparian Typical**Input Worksheet****Inputs: SURFACE, SPOT, IGNITE**

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		t19
Second Fuel Model		Gr4
First Fuel Model Coverage	%	50
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	0
Fuel Moisture		
1-h Moisture	%	4
10-h Moisture	%	6
100-h Moisture	%	8
Live Herbaceous Moisture	%	50
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	15
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	270
Terrain		
Slope Steepness	%	0
Aspect	deg	0
Ridge-to-Valley Elevation Difference	ft	0
Ridge-to-Valley Horizontal Distance	mi	0
Spotting Source Location		VB

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	80.1 ft/min
Fireline Intensity	1141 Btu/ft/s
Flame Length	11.5 ft
Direction of Maximum Spread (from north)	90 deg
Midflame Wind Speed	6.0 mi/h
Max Eff Wind Exceeded?	Yes
Spot Dist from a Wind Driven Surface Fire	0.4 mi
Firebrand Ht from a Wind Driven Surface Fire	237.5 ft

Grassland 30 mph Untypical**Input Worksheet****Inputs: SURFACE, SPOT, IGNITE**

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		1
Second Fuel Model		gr1
First Fuel Model Coverage	%	40
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	0
Fuel Moisture		
1-h Moisture	%	4
10-h Moisture	%	6
100-h Moisture	%	8
Live Herbaceous Moisture	%	50
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30
Wind Adjustment Factor		.4
Wind Direction (from north)	deg	270
Terrain		
Slope Steepness	%	0
Aspect	deg	0
Ridge-to-Valley Elevation Difference	ft	0
Ridge-to-Valley Horizontal Distance	mi	0
Spotting Source Location		VB

Results

Output Variable	Value	Units
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Surface Rate of Spread (maximum)	126.5 ft/min
Fireline Intensity	291 Btu/fts
Flame Length	6.1 ft
Direction of Maximum Spread (from north)	90 deg
Midflame Wind Speed	6 mi/h
Max Eff Wind Exceeded?	Yes
Spot Dist from a Wind Driven Surface Fire	0.3 mi
Firebrand Ht from a Wind Driven Surface Fire	120.0 ft

APPENDIX 'D'

Prior to selection of a non-combustible approve material for your specific design or purpose it is suggested that you first search the Office of the State Fire Marshal web site http://osfm.fire.ca.gov/licensinglistings/licenseslisting_bml_searchcotest.php. Navigate to DECKING FOR WILDLAND URBAN INTERFACE (W.U.I) or search by specific company. If your material is approved, then check with your Local Jurisdiction to see if they also have it on an approved list.

The following examples of non-combustible and fire resistant building materials may be used for balconies, carpports decks, patio covers and floors.

I. NON-COMBUSTIBLE HEAVY GAGE ALUMINUM MATERIALS – *Metals USA Building Products Group - Ultra-Lattice*



Ultra-Lattice Attached Patio Cover



Ultra-Lattice Attached Patio Cover



Ultra-Lattice Stand Alone Shade Cover



Ultra-Lattice Vs. Wood

II. FRX Exterior Fire-Retardant Treated

III. TREX COMPANY, INC

“Trex Accents ®: Fire Defense ™ ” Wood and Polyethylene Composite Deck Board.

Exterior Fire Retardant Treated (FRT) Wood

FRX® fire retardant treated wood may be used in exterior applications permitted by the codes where: public safety is critical, other materials would transfer heat or allow fires to spread, sprinkler systems cannot easily be installed, corrosive atmospheres necessitate excessive maintenance of other materials, or fire protection is inadequate or not readily available. The International Building, Residential and Urban-Wildland Interface Codes and regulations permit the use of fire retardant treated wood in specific instances. See below for typical exterior uses and typical residential uses.



COMMON APPLICATIONS

FRX® fire retardant treated wood may be used in exterior applications permitted by the codes where public safety is critical, other materials would transfer heat or allow fires to spread, sprinkler systems cannot easily be installed, corrosive atmospheres necessitate excessive maintenance of other materials, and where fire protection is inadequate or not readily available.

TYPICAL EXTERIOR USES

- Wall coverings
- Roof coverings
- Balconies
- Stairways
- Decks
- Open-air roof systems
- Canopies and awnings
- Storefronts and facades
- Eaves, soffits and fascia
- Construction staging
- Agricultural buildings and horse stalls
- Scaffolding and scaffold planks
- Various other residential and commercial uses

For information on fire retardant treated wood for exterior uses, visit www.frxwood.com.

Trex Accents Fire Defense Decking

The perfect blend of beauty and brawn.

Trex's #1 selling platform, Trex Accents®, exceeds the strict fire regulations set by the State of California and San Diego County.

- Offers superior safety performance:
 - Exceeds ASTM E84 Class B Flame Spread.
 - Exceeds 12-7A-4 Part A (underflame) and Part B (Burning Brand).
- Self-extinguishing even under extreme fire exposure.
- Approved for use by the California State Fire Marshal's Office and San Diego County. Read the California Department of Forestry and Fire Protection, Office of the State Fire Marshal



IV. SOLID “WOOD” DECKING and HEAVY TIMBER CONSTRUCTION STANDARDS. (refer to San Diego County Building Division for specific building materials)

V. VINYL FENCE (not included in Chapter 7A) should the project use Vinyl Fencing the following reference is provided). Source: <http://firecenterbeta.berkeley.edu/bwmg/attachments-1.html>

Depending on material and location, fencing can increase or decrease the vulnerability of a building to wildfire. A solid perimeter fence made of noncombustible materials (such as steel or concrete) has been shown to be an effective barrier against a radiant energy exposure from the fire front. Even a wood plank fence, if a high density species is selected and the boards are closely spaced, can provide some protection to the building from a purely radiant exposure.

Depending on the pre-fire exposure, however, vegetative debris at the base of a combustible fence could result in ignition, as would direct flame contact.

[Leonard, J. et al. 2006. Research and Investigation into the Performance of Residential Boundary Fencing Systems in Bushfires, Bushfire CRC, Report CMIT 2006-186]

In this fire demonstration, a wood lattice fence, connected to a wood clad wall, was ignited with at burning standard ‘B’ brand. As is shown in the following photograph, fire did not sustain combustion after the ‘B’ brand burned out, and did not spread fire to the wall, even though fine combustible debris was stuffed into areas in the lattice fence.



Fire likely did not spread to the wall because of a lack of pre-wildfire exposure prior to the demonstration (elevated temperatures over many days, high winds, low relative humidity, and pre-radiation exposure from the fire). This observation is in agreement with the results of Leonard, et al. (2006). They reported that the moisture content in the near-surface region of the wood was a more factor that the overall average moisture content in determining whether sustained ignition would occur. During a fire demonstration, it is difficult to exposure materials to true wildfire weather.

[Leonard, J. et al. 2006. Research and Investigation into the Performance of Residential Boundary Fencing Systems in Bushfires, Bushfire CRC, Report CMIT 2006-186]



In this fire demonstration, a vinyl lattice fence, connected to a wood clad wall, was ignited with at burning standard 'A' brand. As is shown in the following photograph, fire did not spread to the wall, even though fine combustible debris was stuffed into areas in the lattice fence.

The vinyl lattice fence deformed, but did not sustain combustion after the 'A' brand burned out, and did not spread fire to the combustible wood wall.

APPENDIX 'E'

Ignition Resistant Construction Requirements

APPENDIX 'E'

As of the date of this FPP, the following requirements for ignition resistant construction including those requirements under Chapter 7A of the California Building Code (CBC) and the 2013 Edition of the California Residential Code (CRC) section R327. In addition, exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments must meet the CBC Chapter 7A and CRC section R327 ignition resistance requirements at the time of building permit application.

1. All structures will be built with a Class A Roof Assembly, including a Class A roof covering. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.
2. Where the roof profile allows a space between the roof covering and roof decking, the roof area will have one layer of minimum 72 pound (32.4 kg) mineral-surfaced, non-perforated cap sheet complying with ASTM D 3909 installed over the combustible decking. Openings on barrel tiles or similar roof coverings shall be constructed to prevent the intrusion of flames and embers, and be fire stopped with approved materials to prevent the accumulation of debris, bird nests, etc. between the tiles and decking material.
3. When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.
4. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other non-combustible material to prevent wildfire ignition along eave assemblies.
5. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris that contribute to roof edge ignition.
6. All chimney, flue or stovepipe openings will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thicknesses or other material found satisfactory, having ½-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.
7. The exterior walls surface materials shall be non-combustible or ignition resistant. In all construction, exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure. Architectural foam may be applied only after the exterior wall surface meets the requirements of CBC Chapter 7A/CRC section R327. A finish and color coat may than be applied.
8. All eaves, fascias and soffits will be enclosed (boxed) with non-combustible materials. Eaves of heavy timber construction are permissible. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. This shall apply to the entire perimeter of each structure. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter tails and 2x decking.
9. Paper-faced insulation shall be prohibited in attics or ventilated spaces.
10. Automatic interior fire sprinklers shall be installed according to the National Fire Protection Association (NFPA) 13D 2013 edition - Standard for the Installation of Sprinkler Systems in One and Two-family Homes and Manufactured Homes. In addition any A Occupancy or Retail construction must have an NFPA 13 approved system. All sprinkler plans must be approved by the Valley Center Fire Marshal.

11. Roof vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with 1/8-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall not be allowed.
12. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with 1/8" inch mesh corrosion-resistant metal screen or other approved material that offers equivalent protection. Attic ventilation shall also comply with the requirements of the Uniform Building Code (U.B.C.). Ventilation louvers and openings may be incorporated as part of access assemblies
13. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.
14. All fences and gate assemblies (fences, gate and gate posts) shall be of non-combustible material.
15. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, and one-hour fire resistive construction, in accordance with CBC Chapter 7A and CRC section R327. All building material shall be ignition resistant, and may be heavy timber, or approved pressure-treated exterior fire-retardant wood. If such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain the same fire-resistant standards as the exterior walls of the structure.
16. Attached and detached accessory structures shall be in built accordance with the CBC Chapter 7A and CRC section R327. When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas and exterior wall construction in accordance with applicable code.
17. CBC Chapter 7A and CRC Section R327 Exterior doors. Exterior doors shall comply with one of the following:
 1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material.
 2. Shall be constructed of solid core wood that comply with the following requirements:
 - Stiles and rails shall not be less than 13/8 inches thick
 - Raised panels shall not be less than 1 1/4 inches thick, except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8 inch thick.
 3. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252.
 4. Shall be tested to meet the performance requirements of SFM Standard 12-7A-1.
 Exterior glazed door assemblies shall comply with the following:
 1. Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing.
 2. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257.
 3. Be tested to meet the performance requirements of SFM 12-7A-2.
18. All glass or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass.
21. Vinyl window assemblies are deemed acceptable if the windows have the following characteristics:
 - Frame and sash are comprised of vinyl material with welded corners
 - Metal reinforcements in the interlock area
 - Glazed with insulating glass, annealed or tempered (one layer of which must be tempered glass).
 - Frame and sash profiles are certified in AAMA Lineal Certification Program
 - Certified and labeled to ANSI/AAMA/NWDA 101/LS2-97 for Structural Requirements

22. All operable windows shall be provided with metal mesh bugs screens or similar non-combustible screens over the operable opening to replace traditional vinyl bug screens to prevent embers from entering the structure during high wind conditions when windows may be inadvertently left open.

APPENDIX 'F'

Project Facility Availability Form DPLU #399-F for Fire



County of San Diego, Planning & Development Services
PROJECT FACILITY AVAILABILITY - FIRE
ZONING DIVISION

Please type or use pen

WHP. Warner Ranch LP c/o Mark Hayden (760) 804-6900
 Owner's Name Phone
 1545 Faraday Ave.
 Owner's Mailing Address Street
 Carlsbad CA 92008
 City State Zip

ORG _____
 ACCT _____
 ACT _____
 TASK _____
 DATE _____ AMT \$ _____
 DISTRICT CASHIER'S USE ONLY

F

SECTION 1. PROJECT DESCRIPTION TO BE COMPLETED BY APPLICANT

A. Major Subdivision (TM) Specific Plan or Specific Plan Amendment
 Minor Subdivision (TPM) Certificate of Compliance:
 Boundary Adjustment
 Rezone (Reclassification) from A70 to S80 & S88 zone.
 Major Use Permit (MUP), purpose:
 Time Extension... Case No.
 Expired Map... Case No.
 Other
 B. Residential Total number of dwelling units 780
 Commercial Gross floor area
 Industrial Gross floor area
 Other Gross floor area
 C. Total Project acreage 513 Total lots 655 Smallest proposed lot 3,000

Assessor's Parcel Number(s)
 (Add extra if necessary)

110-021-09	110-090-01
110-021-10	110-090-17
110-021-32	110-090-18
110-040-22	

Thomas Guide. Page 1029 Grid F3, G34
 Pala Rd. West of Temecula Rd. n/e of Hwy 76
 Project address Street
 Pala/Pauma Community Planning Area 92059
 Community Planning Area/Subregion Zip

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.
 Applicant's Signature: _____ Date: 11/09/2016
 Address: P.O. Box 676221 Rancho Santa Fe, CA 92067-6221 Phone: (858) 756-8340
 (On completion of above, present to the district that provides fire protection to complete Section 2 and 3 below.)

SECTION 2: FACILITY AVAILABILITY TO BE COMPLETED BY DISTRICT

District Name: San Diego County Fire Authority
 Indicate the location and distance of the primary fire station that will serve the proposed project:
New fire station to be provided within the project - see paragraphs B+C below
 A. Project is in the District and eligible for service.
 Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
 Project is not in the District and not within its Sphere of Influence boundary.
 Project is not located entirely within the District and a potential boundary issue exists with the _____ District.
 B. Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 23 minutes.
 Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.
 C. District conditions are attached. Number of sheets attached: _____
 District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by Planning & Development Services.

Within the proposed project 100 feet of clearing will be required around all structures.
 The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.
 Authorized Signature: _____ James Pine, DFM _____
 Phone: 858.485.5434 Date: 11/18/16

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
 Planning & Development Services - Zoning Counter, 5510 Overland Ave, Suite 110, San Diego, CA 92123



APPENDIX 'G'

Project Facility Availability Form Water



County of San Diego, Planning & Development Services
PROJECT FACILITY AVAILABILITY - WATER
 ZONING DIVISION

Please type or use pen

WHP Warner Ranch LP (760) 804-6900 Owner's Name Phone 1545 Faraday Owner's Mailing Address Street Carlsbad CA 92008 City State Zip	ORG _____ ACCT _____ ACT _____ TASK _____ DATE 6/4/13 AMT \$ 30.00 <div style="text-align: right; font-weight: bold; font-size: 2em;">W</div>
DISTRICT CASHIER'S USE ONLY	

SECTION 1. PROJECT DESCRIPTION TO BE COMPLETED BY APPLICANT

A. Major Subdivision (TM) Specific Plan or Specific Plan Amendment
 Minor Subdivision (TPM) Certificate of Compliance: _____
 Boundary Adjustment
 Rezone (Reclassification) from _____ to _____ zone.
 Major Use Permit (MUP), purpose: _____
 Time Extension...Case No. _____
 Expired Map...Case No. _____
 Other _____

B. Residential Total number of dwelling units 780
 Commercial Gross floor area _____
 Industrial Gross floor area _____
 Other Gross floor area _____

C. Total Project acreage 514 Total number of lots 655

D. Is the project proposing the use of groundwater? Yes No
 Is the project proposing the use of reclaimed water? Yes No

Assessor's Parcel Number(s) (Add extra if necessary)	
110-021-09	110-090-01
110-021-10	110-090-17
110-021-32	110-090-18

Thomas Guide Page _____ Grid _____
 Pala Road. West of Temecula Rd, northeast of Hwy78
 Project address Street
 Pala/Pauma Community Planning Area 92059
 Community Planning Area/Subregion Zip

Owner/Applicant agrees to pay all necessary construction costs, dedicate all district required easements to extend service to the project and COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: [Signature] Date: March 23, 2013
 Address: PO Box 6763221, Rancho Santa Fe, CA 92067- 6221 Phone: (858) 756-8340

(On completion of above, present to the district that provides water protection to complete Section 2 below.)

SECTION 2: FACILITY AVAILABILITY TO BE COMPLETED BY DISTRICT

District Name: Rainbow Municipal Water Dist Service area Rainbow/Fallbrook

A. Project is in the district.
 Project is not in the district but is within its Sphere of Influence boundary, owner must apply for annexation.
 Project is not in the district and is not within its Sphere of Influence boundary.
 The project is not located entirely within the district and a potential boundary issue exists with the _____ District.

B. Facilities to serve the project ARE ARE NOT reasonably expected to be available within the next 5 years based on the capital facility plans of the district. Explain in space below or on attached _____. (Number of sheets)
 Project will not be served for the following reason(s): _____

C. District conditions are attached. Number of sheets attached: _____
 District has specific water reclamation conditions which are attached. Number of sheets attached: _____
 District will submit conditions at a later date.

D. How far will the pipeline(s) have to be extended to serve the project? _____

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Authorized Signature: [Signature] Print Name Kirsten Plonka
 Print Title District Engineer Phone (760) 728-1178 Date 6/4/13

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT
 On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
 Planning & Development Services - Zoning Counter, 5510 Overland Ave, Suite 110, San Diego, CA 92123





CONDITIONS

June 26, 2013

PN: 90097

Project Processing Control Center
County of San Diego DPLU
5201 Ruffin Road, Suite B
San Diego, CA 92123

RE: Assessor's Parcel Numbers 110-090-01, 110-90-17, 110-090-18, 110-021-09, 110-021-10,
110-021-32 DPLUs 399W and 399S

To Whom It May Concern:

Rainbow Municipal Water District (District) conditions regarding the parcel referenced above are as follows:

- 1) The development must annex all parcels located outside of the current District.
- 2) All work must conform to the most current edition of District Standards and Specifications.
- 3) Each parcel must be served by its own meter / sewer lateral and installed within 45 days of the purchase date.
- 4) Water and Sewer connection fees must be paid in full.

If you have any questions please contact me at (760) 728-1178.

Sincerely,

A handwritten signature in blue ink that reads 'Kirsten L. Plonka'.

Kirsten Plonka
District Engineer

APPENDIX 'H'

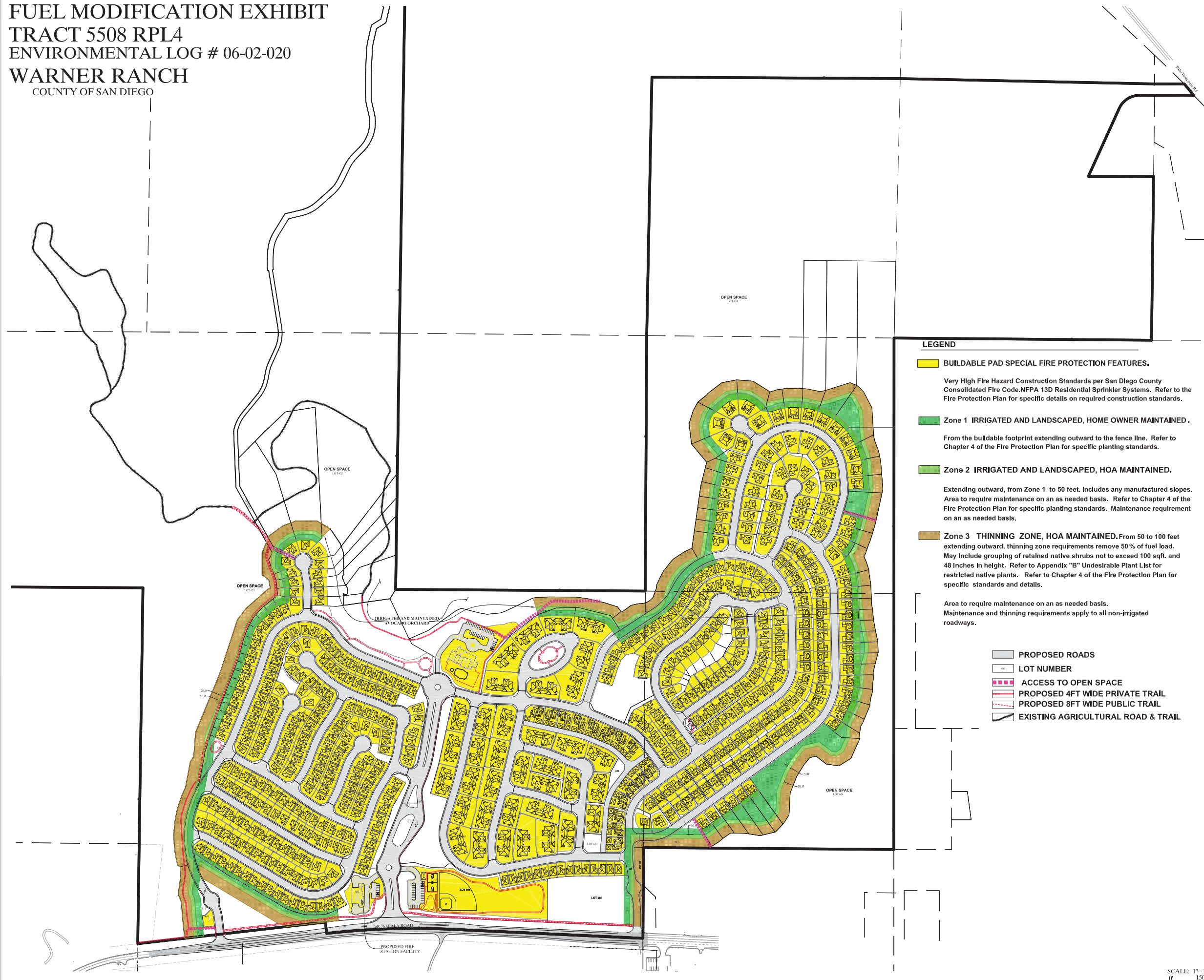
Fuel Treatment Exhibit

FUEL MODIFICATION EXHIBIT
TRACT 5508 RPL4
ENVIRONMENTAL LOG # 06-02-020
WARNER RANCH
 COUNTY OF SAN DIEGO

JOB NO.:
 DRAWING:
 SUBMITTALS:
 REVISIONS:
 A



WARNER RANCH
 COUNTY OF SAN DIEGO



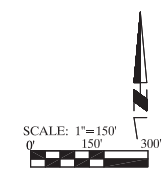
LEGEND

- BUILDABLE PAD SPECIAL FIRE PROTECTION FEATURES.**
 Very High Fire Hazard Construction Standards per San Diego County Consolidated Fire Code, NFPA 13D Residential Sprinkler Systems. Refer to the Fire Protection Plan for specific details on required construction standards.
- Zone 1 IRRIGATED AND LANDSCAPED, HOME OWNER MAINTAINED.**
 From the buildable footprint extending outward to the fence line. Refer to Chapter 4 of the Fire Protection Plan for specific planting standards.
- Zone 2 IRRIGATED AND LANDSCAPED, HOA MAINTAINED.**
 Extending outward, from Zone 1 to 50 feet. Includes any manufactured slopes. Area to require maintenance on an as needed basis. Refer to Chapter 4 of the Fire Protection Plan for specific planting standards. Maintenance requirement on an as needed basis.
- Zone 3 THINNING ZONE, HOA MAINTAINED, From 50 to 100 feet extending outward, thinning zone requirements remove 50% of fuel load. May include grouping of retained native shrubs not to exceed 100 sqft. and 48 inches in height. Refer to Appendix "B" Undesirable Plant List for restricted native plants. Refer to Chapter 4 of the Fire Protection Plan for specific standards and details.**
 Area to require maintenance on an as needed basis. Maintenance and thinning requirements apply to all non-irrigated roadways.
- PROPOSED ROADS**
- LOT NUMBER**
- ACCESS TO OPEN SPACE**
- PROPOSED 4FT WIDE PRIVATE TRAIL**
- PROPOSED 8FT WIDE PUBLIC TRAIL**
- EXISTING AGRICULTURAL ROAD & TRAIL**

SHAPOURI & ASSOCIATES
 PROJECT MANAGEMENT SERVICES - PLANNING
 ENGINEERING - ARCHITECTURE
 # 10000
 CIELO VILLAGE, 18930 CALLE AMANTE, SUITE 500
 P.O. BOX 670231, RANCHO SANTA FE, CALIF. 92087
 PHONE: (858) 756-8340 FAX: (858) 756-8344

FUEL MODIFICATION EXHIBIT

SHEET TITLE:
 FUEL MODIFICATION EXHIBIT
 DATE PRINTED: 08-31-2015 SHEET: 1 of 1
NOT FOR CONSTRUCTION



All drawings and notes prepared by the owner and the contractor are the sole property of the owner. No part of this drawing shall be reproduced or used in any way without the express written permission of the owner. The contractor shall be responsible for the proper use and location of all utilities.