

**FIRE PROTECTION PLAN
Rancho Cielo Lusardi
TM 5456**

Prepared by:

**RC Biological Consulting, Inc.
12737 Campo Road, Spring Valley, CA 91978
(619) 463-1072**

Robin Church

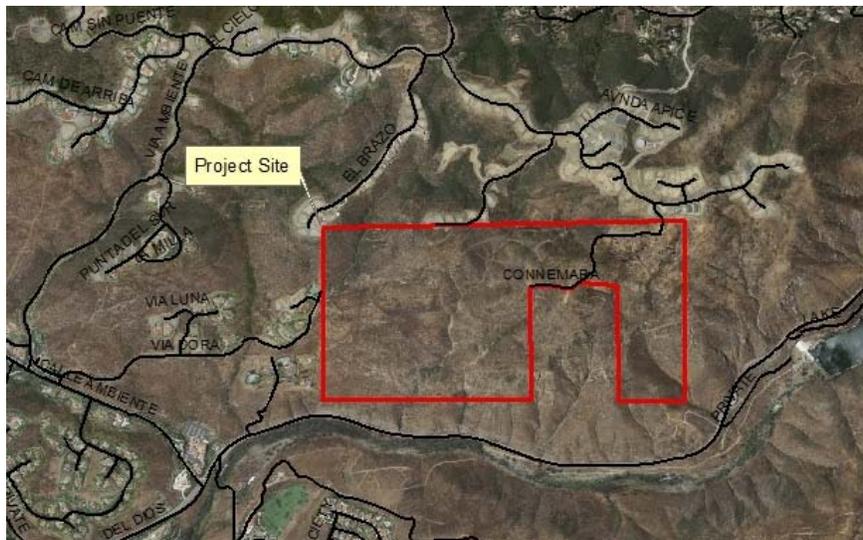
Robin Church, County Approved Fire Consultant

Prepared For:

**Matt Simmons
CCI
160 Industrial Street Suite 200
San Marcos, CA 92078
(760) 471-2365**

and

**County of San Diego
Department of Planning and Land Use**



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EXECUTIVE SUMMARY

This Fire Protection Plan (FPP) has been prepared for the Cielo De Lusardi project (the project) is an integral part of the Rancho Cielo Specific Plan that was first approved by the County of San Diego in 1984 and was subsequently updated and amended in 1998. The project as it is designed today is a culmination of two decades of design effort with the County, the Resource Agencies and the various utility districts to bring the project to fruition. The project will include 18 single family detached homes on lots ranging from 1+ acres to 72+ acres. In accordance with the Rancho Cielo Specific Plan the TM includes a 19 unit condominium development. The project will have thirty-seven dwelling units in total. Tentative Map 5456 (RPL) has combined three contiguous parcels of land currently under a single ownership. The total acreage for the new map is 270 and combined the best features of the 3 previous maps to produce the current project design.

The proposed project is located within an un-served County “island”, but within the Sphere of Influence of the Rancho Santa Fe Fire Protection District. The applicant is initiating annexation to the District, which must be completed prior to Final Map Approval. The Rancho San Diego Fire District requires that the development be built as a “Shelter-in-Place Community” and comply with the Fire District’s Ordinances if more stringent than the County or State Fire Codes. The Fire Protection Plan for the project is subject to the review and approval of the Rancho Santa Fe Fire Protection District and the County of San Diego.

The project is consistent in every way with the Rancho Cielo Specific Plan and has incorporated several enhanced features to accommodate new fire, transportation and open space regulations. The project is requesting an exception to the California Code of Regulations, Title 14, Section 1273.09 “Dead-end Roads”. The project has doubled the fire set back regulations and has widened the interior streets to accommodate on street parking on one side of the street to enhance circulation and fire access along with reducing the distance between fire hydrants by half. Additionally the project has reduced the number of lots from 57 to 37.

The project is designed in conformance and meets or exceeds all applicable codes and standards. The project will not expose people or structures to a significant risk of loss, injury, or death as a result of wildland fires. The project will not have a substantial adverse impact to services including response time that would result in physical impacts with environmental effects. The project will have sufficient water supplies available to serve the project from the Olivenhain Municipal Water District. The project has implemented multiple design considerations and mitigation measures. The Rancho Santa Fe Fire District finds that the mitigation measures offered will provide fire fighter and civilian safety in the event of an emergency and findings meet or exceed the Fire Code requirement for secondary access .

The project will not have significant impact pursuant to CEQA.

1.0 INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the Cielo De Lusardi project (the project) is an integral part of the Rancho Cielo Specific Plan that was first approved by the County of San Diego in 1984 and was subsequently updated and amended in 1998. The project as it is designed today is a culmination of two decades of design effort with the County, the Resource Agencies and the various utility districts to bring the project to fruition. The project will include 18 single family detached homes on lots ranging from 1+ acres to 72+ acres. In accordance with the Rancho Cielo Specific Plan the TM includes a 19 unit condominium development. The project will have thirty-seven dwelling units in total.

Tentative Map 5456 (RPL) has combined three contiguous parcels of land currently under a single ownership. The parcels are aligned from west to east along the southern edge of the Rancho Cielo Specific Plan. The westerly parcel is 182 acres and formally had a Tentative Map (TM) in the application process with the County for 14 one acre lots and subsequently reduced to 8 one acre lots. The middle parcel is 43 acres and has had a TM approved and extended by the County for 13 one acre lots. The TM has expired. The easterly parcel is 45 acres and has a TM approved and extended by the County for 11 one acre lots. The TM has expired. The total acreage for the new map is 270 and combined the best features of the 3 previous maps to produce the current project design.

The project is consistent in every way with the Rancho Cielo Specific Plan and has incorporated several enhanced features to accommodate new fire, transportation and open space regulations. The project is requesting an exception to the California Code of Regulations, Title 14, Section 1273.09 "Dead-end Roads". The project has doubled the fire set back regulations and has widened the interior streets to accommodate on street parking on one side of the street to enhance circulation and fire access along with reducing the distance between fire hydrants by half. Additionally the project has reduced the number of lots from 57 to 37.

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 proposed project is located within an un-served County "island", but within the Sphere of Influence of the Rancho Santa Fe Fire Protection District. The applicant is

initiating annexation to the District, which must be completed prior to Final Map Approval. The Rancho San Diego Fire District requires that the development be built as a “Shelter-in-Place Community” and comply with the Fire District’s Ordinances if more stringent than the County or State Fire Codes. The Fire Protection Plan for the project is subject to the review and approval of the Rancho Santa Fe Fire Protection District and the County of San Diego.

The Fire Service Availability Letter is included as Appendix A.

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

The proposed project is located within the Rancho Cielo Specific Plan area within unincorporated San Diego County (Figures 1 and 2). The project is located within an unserved County “island” but within the Sphere of Influence (SOI) of the Rancho Santa Fe Fire Protection District. The site is in a State Responsibility Area as mapped by the CalFire (Figure 3). The project is located within the Olivenhain Water District.

1.1.2 Project Description

The proposed project is a major subdivision and residential development of approximately 270 gross acres. The project will include 18 single family detached homes on lots ranging from 1+ acres to 72+ acres and a 19 unit condominium development on a 9 acre site (Figure 4). The development also includes extensive open space.

The project will use and/or extend existing private roads within the Community of Rancho Cielo. Via Dora will be extended to provide access to three lots, the condominium development will get access from Cerro Del Sol, the remaining 15 single family residential lots will get access from and extension of Connemara. The project is requesting an exception to the California Code of Regulations, Title 14, Section 1273.09 “Dead-end Roads”. The project has incorporated several mitigation measures such as increased road width, increased fuel management zones, and decreased hydrant spacing by half to provide firefighter and civilian safety in the event of an emergency in lieu of secondary access.

1.1.3 Environmental Setting

Land Use, Topography, Climate

The project site was visited on August 4, 2011 to review the topography, vegetation and existing uses of the property. The project is located within an area of undeveloped land within the rural residential development of the Community of Rancho Cielo (Figure 5)

Due to the size of the project area, 270 acres, the topography of the site has a mixture of moderate to steep terrain. Given the site location and size, slopes are widely variable with

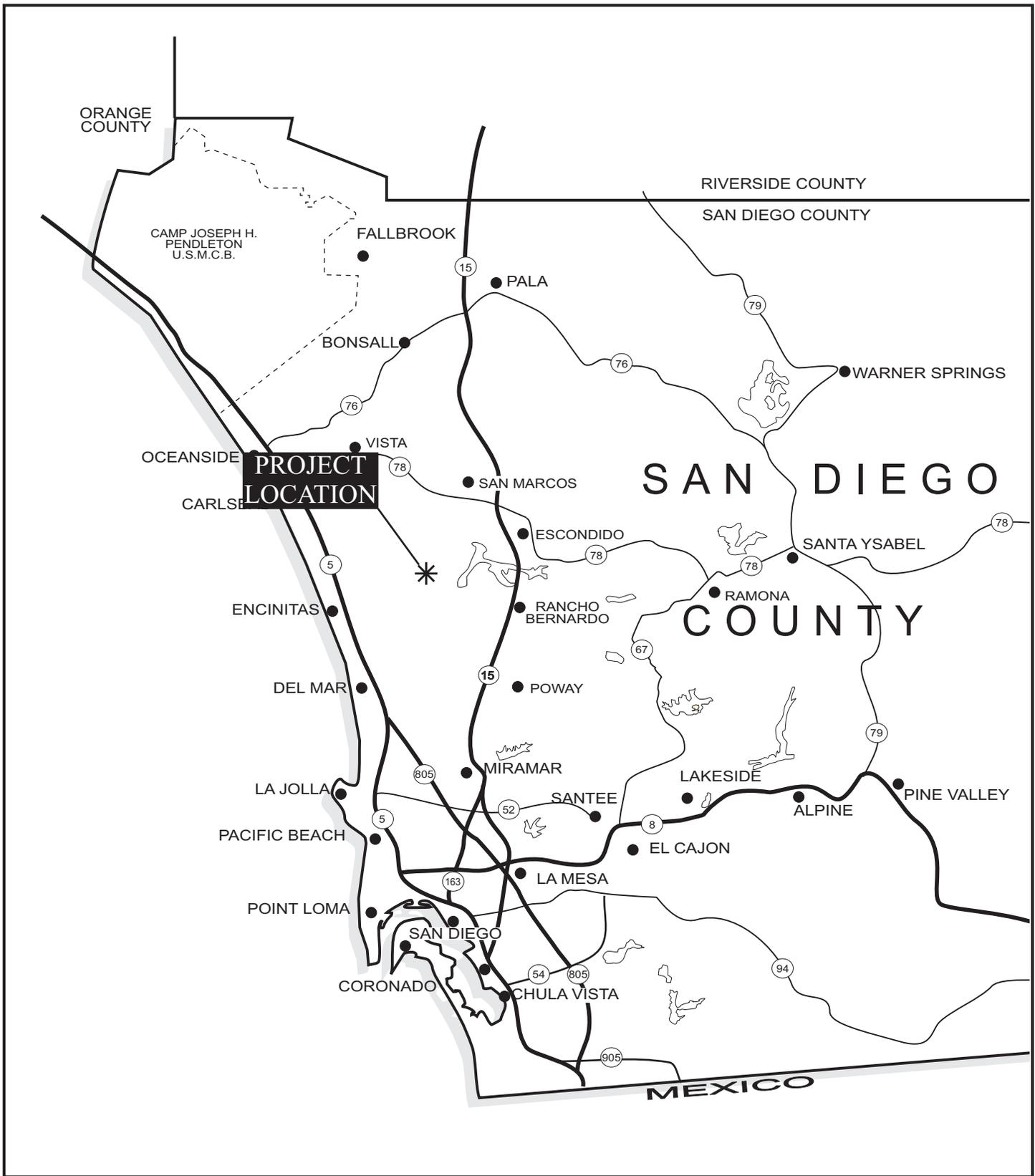
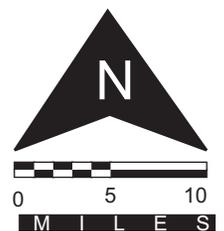


Figure 1
Regional Location Map



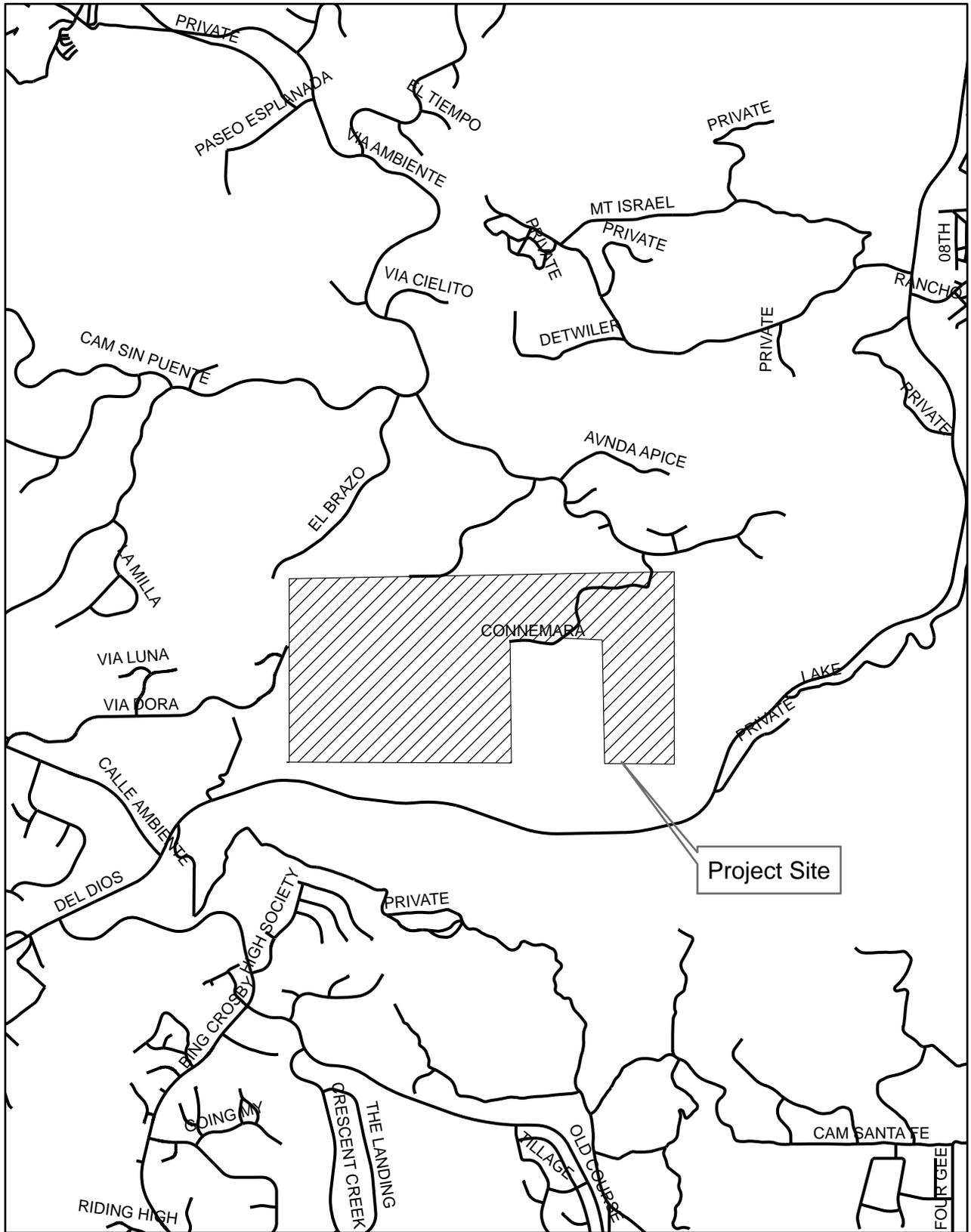
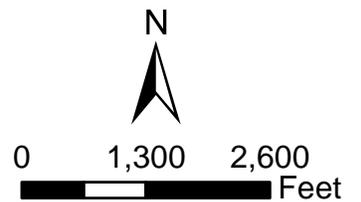


Figure 2 - Vicinity Map



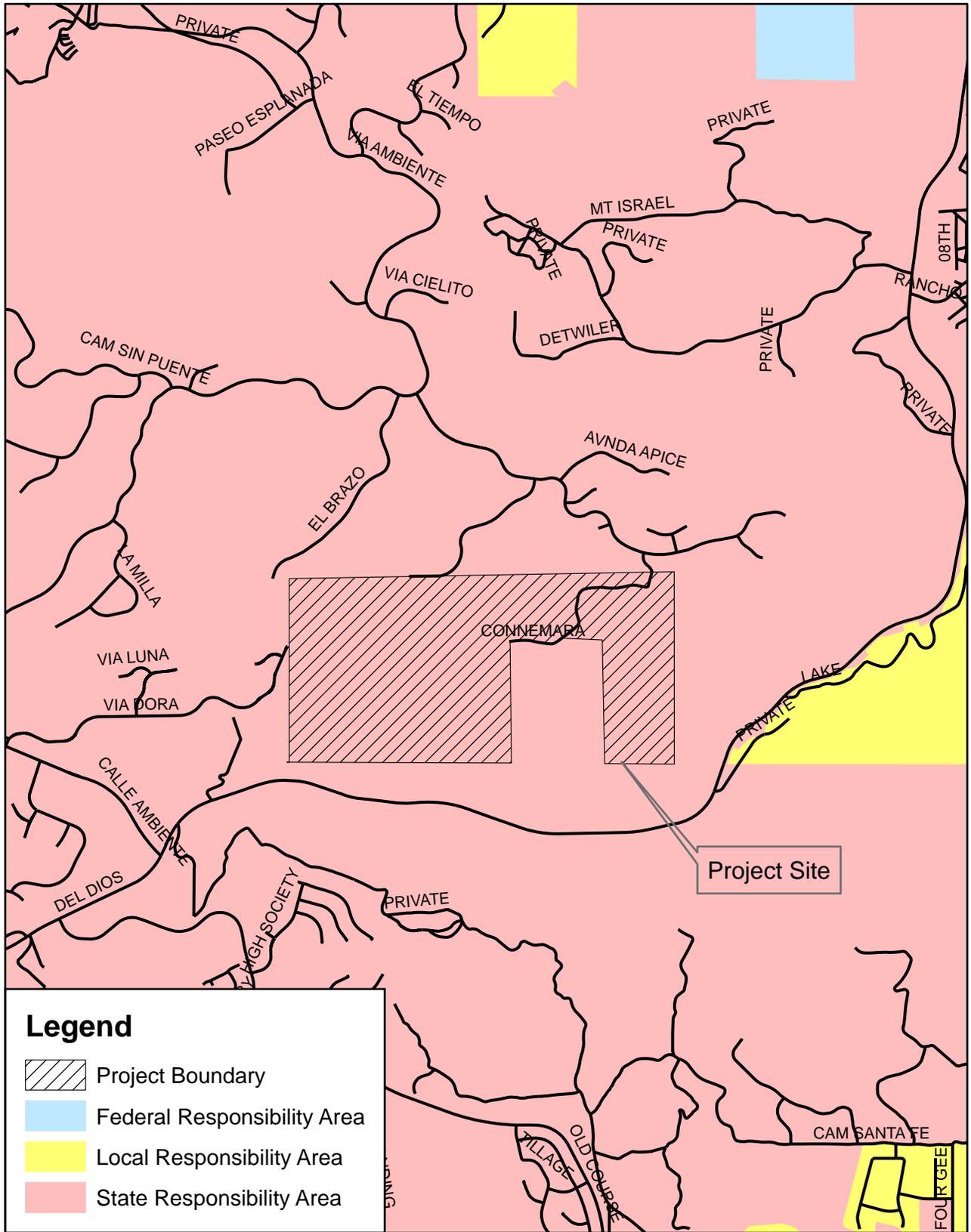
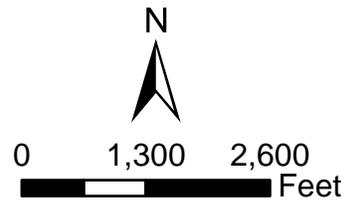


Figure 3 - Responsibility Area



aspects in every direction (Figure 6). The condominium development and fifteen lots are located along a ridgeline and primarily southwesterly facing slope. The three lots at the terminus of Via Dora are located midslope on a southwesterly facing slope. Elevations onsite range from 200 feet to 1350 feet above mean sea level (MSL).

The County is divided into five climate zones from the coast to the desert (Climates of San Diego County, Agricultural Relationships, University of California, Agricultural Extension Service, and U.S. Weather Bureau). These climate zones are determined by several factors: proximity to the ocean, terrain, elevation, and latitude. Using the Koppen system, the metropolitan areas of Southern California have a Mediterranean climate, characterized by mild, sometimes wet winters and warm, very dry summers. The Mediterranean climate includes all coastal areas, valleys and foothills. Annual precipitation amounts increase gradually from the coast to the mountain crests, then drop dramatically into the deserts. Most precipitation comes from winter storms between November and March. The site is located within the transitional climate zone. Average rainfall is 18 inches per year (Western Regional Climate Center).

Vegetation, Fuel Loads, Fire History

The existing vegetation was mapped by the project biologist (Figure 7). The majority of the project site is mapped as southern mixed chaparral and coastal sage scrub. The offsite habitats that also pose a threat are primarily composed of the same habitat types.

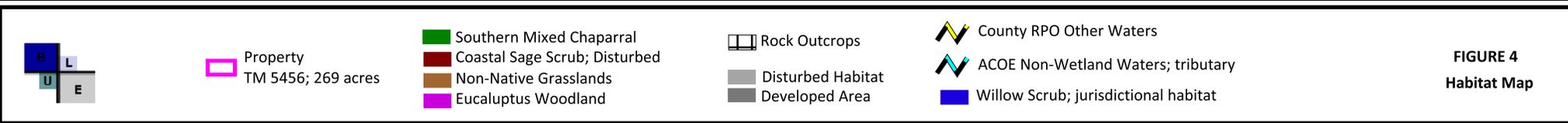
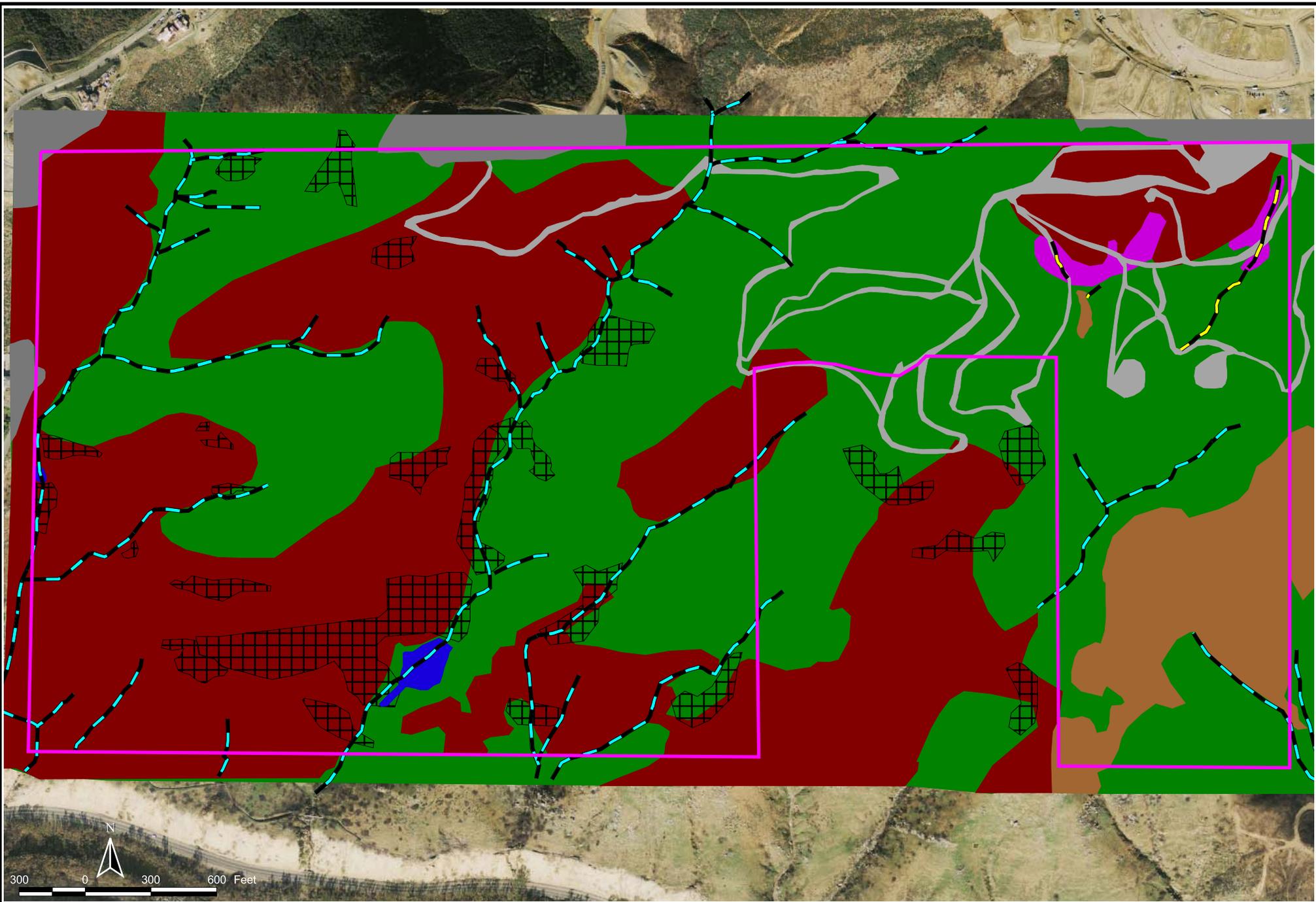
The project site is mapped as being located within an area of very high fuel threat as identified by CalFire (Figure 8). The fire history of the site and surrounding area (approximately 2 mile radius) was reviewed (Figure 9). The source of the fire history information is CalFire and San Diego Geographic Information Source (SanGIS) Data Warehouse. The assessment includes most fires greater than 10 acres in size, however not all historic fires may be documented. A total of 12 documented fires have burned in the project site area between the years 1919 and 2010. The site has burnt four times during that period, in 1919, 1943, the Paint Fire of 1990 and most recently in the Witch Fire of 2007. The 1919 fire and the Paint Fire have almost the same footprint.

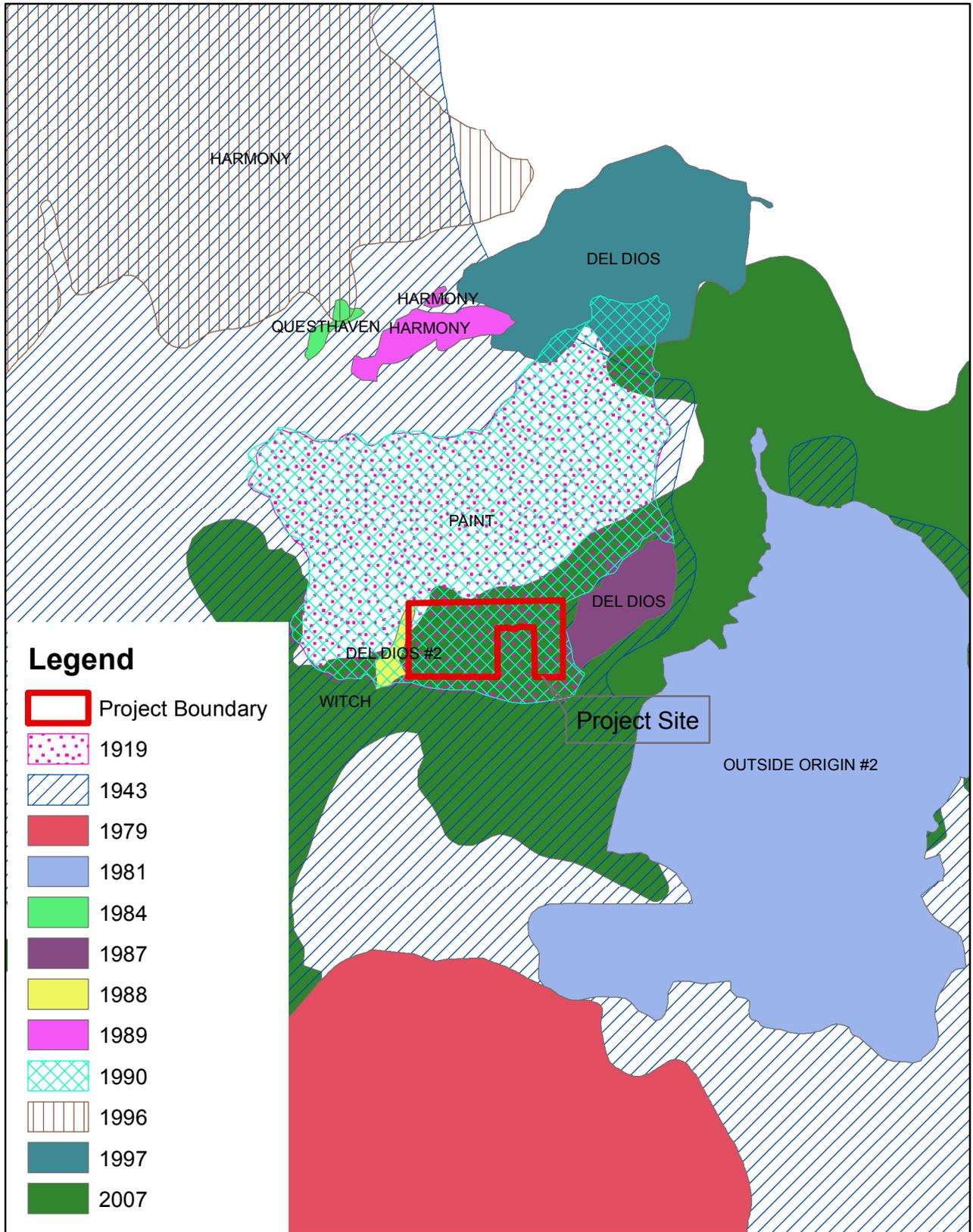


Photograph 1. Southern Mixed Chaparral



Photograph 2. Representative of onsite and offsite vegetation





Legend

- Project Boundary
- 1919
- 1943
- 1979
- 1981
- 1984
- 1987
- 1988
- 1989
- 1990
- 1996
- 1997
- 2007



Figure 9 - Fire History



2.0 ANALYSIS OF PROJECT EFFECTS

2.1 Adequate Emergency Services

The project is located within the SOI for the Rancho Santa Fe Fire Protection District and will annex into the District. The District has provided a Fire Service Availability letter stating that there are adequate services for this project (Appendix A). The nearest fire station, Station 4, is located at 18040 Calle Ambiente, Rancho Santa Fe, at the entrance to the Rancho Cielo Community. The estimated distance from Station 4 to the farthest single family residential lot on Avenida Connemara is 3.25 miles. The estimated travel time is 6 minutes.

The travel time is in compliance with the Safety Element of the San Diego County General Plan (County 2011).

2.2 Primary and Secondary Access

The project has asked for an exception to California Code of Regulations, Title 14 section 1273.09 “Dead-End Roads”. That section mandates that lots of the proposed size within the condominium development have a dead-end road length of not more than 1320 feet. Cerro del Sol, the connecting access road has an onsite length of about 2485 feet serving existing lots. Access to the condominiums will not increase the length of Cerro del Sol. The project is an infill on an existing street. Once at the intersection of Cerro del Sol there are two ways out, to the left it connects with Via Rancho Cielo, to the right it connects to Avenida Connemara to Mt. Isreal. The gate at Mt. Isreal road allows exiting from Rancho Cielo to Mt. Isreal.

Access to the 15 lot subdivision portion of the project is from Via Rancho Cielo or Avenida Connemara to Mt. Isreal Road. The access to the project is approximately 1102 feet. The project has been reduced to have a dwelling density of 1 unit per 5.9 acres. The project will have a lighted map directory at the entrance. The project is providing a 32 foot wide paved road which will allow parking on one side only. This is 8 feet wider than the current County Standards.

Access to the 3 lot subdivision portion of the project is from Via Dora. The access is 5,280 feet from two way access. The project has been reduced from 14 lots to 3 lots resulting in a dwelling density of one unit per 57.45 acres and minimum parcel size is 20 acres. The project is providing a 32 foot wide paved road which will allow parking on one side only. This is 8 feet wider than the current County Standards.

In conformance with Section 503.6 of the Consolidated Fire Code and the Rancho Santa Fe Fire Code, all gated entries shall meet standards approved by the Chief. Any automatic gates on the access roads for the Project shall be equipped with approved emergency key-operated switches overriding all commands and functions opening the gates. Additionally, all gates shall also be equipped with approved emergency traffic control-activating strobe light sensors which will activate the gate on the approach of the

emergency apparatus with a battery backup or manual disconnect in case of power failure. The operation of gates on emergency access/evacuation routes will be conditioned to be in full compliance with the current County Fire Code requirements and shall allow remote operation by either Rancho Cielo Security or a third party security company if and when evacuation becomes necessary.

Road maintenance shall be the responsibility of the Rancho Cielo Home Owner's Association, its successors or assignees, or owner as designated with the County Tax Assessor.

Topographical constraints preclude the development of secondary access. The project is providing the mitigation measures discussed above and in Section 3.0 – Mitigation Measures and Design Considerations. The Rancho Santa Fe Fire District finds that the mitigation measures offered will provide fire fighter and civilian safety in the event of an emergency.

2.3 Water

The project site is located within the Olivenhain Municipal Water District. The Water Service Availability letter and conditions from the water district are included in Appendix B. Due to the project being located within a hazardous fire area the main capacity for the project shall be 2500 gallons per minute in conformance with the Consolidated Fire Code and the District Fire Code.

Fire hydrants shall be located at intersections, at the beginning radius of cul-de-sacs, and every 250 feet along the access roadway. The proposed spacing is half of the distance, 500 feet, that is allowed by the Consolidated Fire Code.

The design of the water supply system shall be reviewed and approved by the District prior to installation. The water supply system shall be installed prior to bringing flammable building materials onsite.

2.4 Ignition Resistant Construction and Fire Protection Systems

The project shall be built in conformance with the ignition resistant requirements set forth in County Building Code Chapter 7A as adopted as of the date building plans are submitted to the County Building Department and Fire District. Construction shall meet or exceed these requirements. The project shall be protected by an automatic fire sprinkler in conformance with the requirements of the Fire District the County Residential Code, and the Nation Fire Protection Association.

2.5 Defensible Space and Vegetation Management

2.5.1 Vegetation

As discussed in Section 1.1.3 the surrounding vegetation is composed largely of southern mixed chaparral, coastal sage scrub and rural development. The photographs in the same

section illustrate the fuel loading of this habitat.

2.5.2 Fuel Modeling

Several factors were taken into consideration when determining the fuel management zones including topography, degree of exposure, parcel size, and proximity to biological open space. Fire modeling was performed using Behave Plus 4.0 for three types of weather conditions, a Santa Ana weather condition, a peak weather condition and a summer weather condition. Weather data for the Santa Ana, peak and summer conditions were determined by the Standard Weather Parameters for the Transitional Zone from the County of San Diego Guidelines For Determining Significance and Report Format and Content Requirements for Wildland Fire and Fire Protection (County 2010). The project site is located within the transitional weather zone. Table 1, identifies the weather inputs for each of the conditions: Santa Ana, peak and summer.

Period	Temperature (Fahrenheit)	Relative Humidity	Sustained Wind Speed (mph)
Santa Ana	109°	5-9%	28
Peak	109°	5-9%	41
Summer	109°	10-14%	19

Modeling was performed for southern mixed chaparral and coastal sage scrub. Table 2 identifies the habitats and fuel models used to represent the habitat.

Habitat	Fuel Model	Description*
Coastal Sage Scrub	SCAL18	This fuel model has been developed for a common southern California habitat, coastal sage scrub.
Dry Climate Shrub	SH7	The primary carrier of fire in this fuel model is woody shrubs and shrub litter. The typical depth is 4-6 feet. This is an appropriate model for southern mixed chaparral which typically has very little herbaceous composition and has leaf litter.

* The complete model parameters are included as Appendix C.

Due to the size of the project area, the topography of the site has a mixture of moderate, to steep terrain along with gentle slopes. Given the site location, slopes and aspects will be highly variable for each proposed pad.

The full results of the modeling are included in Appendix D and summarized below for each weather period.

2.5.2.1 Santa Ana Condition

A Santa Ana weather condition is potentially the worst weather for fire. Santa Ana's typically occur from September to May. The fall Santa Ana can create extremely dangerous fire conditions because they are associated with high temperatures, high winds coming from the north/northeast and low humidity. They also occur after long periods of no rain when the vegetation is in a drought stress condition. The soft shrubs that compose habitats such as coastal sage scrub are semi-drought deciduous and have typically lost the majority of their foliage by the end of summer.

Fire Behavior

Santa Ana winds result in a wind driven fire. These winds typically come from the northeast. Santa Ana winds are Foehn winds which are warm dry winds that result from air spilling over high elevations and moving downhill. These are gravity winds that typically follow the ground. When gravity winds hit an obstacle they can either split around the obstacle and continue or follow the object to the top and then launch over the top resulting in an area behind the obstacle with normal wind conditions.

Fire Modeling

Modeling was performed using the Santa Ana weather conditions identified in Table 1 and the fuel model identified in Table 2. The results varied depending upon the wide array of slopes and aspects. The model conservatively indicates the largest numbers and is presented in Table 3.

Table 3 Results for a Santa Ana Fire		
	Southern Mixed Chaparral	Coastal Sage Scrub
Flame Length	27'	30'
Rate of Spread	162.5 ch/h	124.7 ch/h

2.5.2.2 Peak Conditions

Peak conditions are the extreme conditions during a Santa Ana event. The peak winds represent the gusts that occur during a Santa Ana.

Fire Behavior

The fire behavior would be essentially the same as during a Santa Ana, however the gusts could significantly increase the rate of spread and the distance that fire brands travel during the time that they are occurring.

Fire Modeling

Modeling was performed using the peak weather conditions identified in Table 1 and the fuel model identified in Table 2. The results varied depending upon the wide array of slopes and aspects. The model conservatively indicates the largest numbers and is presented in Table 4.

Table 4 Results for Peak Conditions		
	Southern Mixed Chaparral	Coastal Sage Scrub
Flame Length	33'	34'
Rate of Spread	245.8 ch/h	171.8 ch/h

2.5.2.3 Normal Weather Condition

Normal weather conditions consist of an onshore flow from the southwest. This condition has a lower temperature and higher humidity than does a Santa Ana condition.

Fire Behavior

A fire under normal conditions is typically a fuel driven fire, however wind will also contribute to the rate of spread. A fire that started offsite to the south would also be influenced by topography with a northeast trending canyon leading towards the project. The southwest section of the property is adjacent to rural development (Figure 5) which would slow the fire before reaching the site.

Fuel Modeling

Modeling was performed using the summer weather conditions identified in Table 1 and the fuel model identified in Table 2. The results varied depending upon the wide array of slopes and aspects. The model conservatively indicates the largest numbers and is presented in Table 5.

Table 5 Results for Summer Conditions		
	Southern Mixed Chaparral	Coastal Sage Scrub
Flame Length	23'	26'
Rate of Spread	108.7 ch/h	91.1 ch/h

As can be seen from the modeling, the greatest anticipated flame length is from the vegetation burning during a Peak Santa Ana fire. The resulting flame length is 34 feet. The remaining flame lengths are less than 34 feet. The model is an estimate of the flame lengths that can be anticipated. Actual fire behavior can be more or less intensive.

2.5.3 Fuel Management

The San Diego County Consolidated Fire Code and the Rancho Santa Fe Fire District Code require management of flammable vegetation within 100 feet of structures. The purpose of this zone is to provide the necessary defensible space for fire suppression and to reduce the radiant heat and convective heat that would result from a fire. All fuel management and landscaping shall be in conformance with Section 4704.4 of the Consolidated Fire Code and Fire District Ordinance 2011-001.. Additionally section 4707.4 as adopted by the Rancho Santa Fe Fire Protection District requires that the project submit Landscape Plans to be reviewed and approved by the District. The Rancho Santa Fe Fire District is the only fire district to have a professional urban forester on staff to monitor fuel management and landscaping. All of the plants used for landscaping must be listed on the Wildland/Urban Interface Development plant palette (Appendix E). No plants on the Undesirable Plant List or Invasive Species Plant List shall be planted (Appendix F).

The minimum fuel management zone has been increased to 200 feet. The fuel management zone is almost six times the largest anticipated flame length. The fuel management zones are depicted on the Preliminary Grading Plan, Figure 10 (Map Pocket). The project is in compliance and exceeds the Consolidated Fire Code and Rancho Santa Fe Fire Code for fuel management.

2.5.3.1 Zones

Developable Area

This is the area in which habitable structures may be built. The building official shall establish the minimum setbacks for locating a structure on a lot in a wildland-urban interface fire area. The setbacks may be greater than the minimum setbacks provided in the County Zoning Ordinance, when necessary to protect a structure from an reasonable hazard from a wildfire. The Fire District sets forth the following requirements for

setbacks from top of slope and property lines in Section 4907.2 of the Fire Code Ordinance 2011-001(Rancho Sante Fe Fire Protection District 2010).

- Structure Set Back from Top of Slope (Section 4907.2.1): a single story structure shall be setback a minimum 15 feet (4,572 mm) horizontally from top of slope to the farthest projection from a roof. A single story structure shall be less than 12 feet above grade. A two- story structure shall be setback a minimum of 30 feet (9,144 mm) measured horizontally from top of slope to the farthest projection from a roof. Structures greater than two stories may require greater setback, which is based upon a 2:1 slope.
- General Fire Setbacks (Section 4907.2.2): Buildings and structures shall be setback a minimum of 30 feet from property lines and open space easements unless the County Zoning Ordinance requires a greater minimum. When the property line abuts a roadway the setback shall be measured from the centerline of the roadway.

This area is to be maintained the same as Zone 1, below.

Zone 1

Zone 1 is the first 50' adjacent to the buildable area on the parcel and 30 feet along roadways. This area will be composed of landscaped low fuel plants and/or hardscape. Fuel management within this zone shall consist of landscape plantings that are maintained so that they will not create fire hazards near structures.

Zone 2

Zone 2 is the next 150' of required fuel management. This zone may be maintained the same as Zone 1 or as described here. Native vegetation may occur within this zone provided that it is thinned to ensure that the vegetation does not occupy more than 50% of the area. The thinning shall be performed such that the native vegetation retained is composed of small patches with spacing in between. Thinning shall prioritize the removal of the plants on the Undesirable Plant list. Some native shrubs such as manzanita can be pruned and thinned to reduce fuel load and be aesthetically pleasing.

2.5.3.2 Maintenance

Zone 1

- Conduct annual or more frequent if necessary maintenance to reduce fuel volumes, remove dead and detached material, and maintain in healthy succulent condition;
- Maintain irrigation in a working condition;

- Mature trees greater than 18' shall be limbed up to a minimum of 6' above the ground;
- No tree limbs within 10' of chimneys or dead limbs overhanging structures;
- Trees adjacent to or overhanging roadways, driveways, or other emergency access paths shall be maintained with a minimum height clearance of 13' 6".

Zone 2

- Conduct annual or more frequent if necessary maintenance to reduce fuel volumes, remove dead and detached material, and maintain in healthy succulent condition;
- Annually – Remove plants on the invasive plant list that may have become established.

Vegetation maintenance shall be the responsibility of Home Owners Association, its successors or assignees, or owner as designated with the County Tax Assessor.

2.6 Cumulative Impact Analysis

The project meets or exceeds all codes and standards therefore will not contribute to a significantly cumulative impact to fire services.

3.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The project has incorporated the following design considerations and mitigation measures:

- The single family residential lots have been reduced from 38 to 18 lots decreasing the density of the project.
- Increased the graded right of way to 40 feet which is 8 feet wider than current County standards for private roads
- Provided 42 feet of surfaced cul de sac radius which is 6 feet wider than current private road standards and 4 feet wider than public road standards
- Provided 48 feet of graded right of way cul de sac radius which is 6 feet wider than current County standards for private roads
- Provided a minimum of 200 feet of fuel management from edge of area for "combustible structures"
- Markers at the 200 foot point to aid in annual maintenance
- Access points throughout the development for fuel management and firefighting
- Fire hydrant spacing at 250 feet vs 500 feet, the current standard
- Stepped pads have been removed and pad sizes increased to provide additional fire setback
- Annexation into the Cielo Homeowners Association assuring that all interior roads and offsite connecting roads will be maintained by the Association

- Central control point for opening all gates so that they may be opened during an emergency to these new developments.
- Structures will utilize enhanced fire resistive construction.
- Fuel management and Landscaping will be monitored by the District's Professional Urban Forester.

The mitigation measures can not ensure that structures will not be lost during as a result of a wildland fire however they reduce the risk associated with building within the wildland-urban interface.

4.0 CONCLUSION

The project is designed in conformance and meets or exceeds all applicable codes and standards. The project will not expose people or structures to a significant risk of loss, injury, or death as a result of wildland fires. The project will not have a substantial adverse impact to services including response time that would result in physical impacts with environmental effects. The project will have sufficient water supplies available to serve the project from the Olivenhain Municipal Water District. The project has asked for an exception to California Code of Regulations, Title 14 section 1273.09 "Dead-End Roads". The project has implemented multiple design considerations and mitigation measures. The Rancho Santa Fe Fire District finds that the mitigation measures offered will provide fire fighter and civilian safety in the event of a an emergency and findings meet or exceed the Fire Code requirement for secondary access (Appendix A).

As a result there are no significant impacts pursuant to CEQA.

5.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Preparers

Robin Church, President, RC Biological Consulting, Inc. (619) 463-1072

Persons Contacted

Michael E. Scott, Urban Forester, Rancho Santa Fe Fire Protection District
 18027 Calle Ambiente/ P.O. Box 410
 Rancho Santa Fe, CA 92067
 E-Mail: scott@rsf-fire.org
 Web: www.rsf-fire.org
 Phone (858) 756-6006

6.0 PREPARERS' LIABILITY STATEMENT

RC Biological Consulting, Inc. disclaims liability for any personal injury, property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document by the developer or any regulatory or permitting agency.

7.0 REFERENCES CITED OR CONSULTED

California Fire Code 2010. California Code of Regulations Title 24 Effective January 1, 2011.

County of San Diego 1999. Standards for Private Roads. Department of Public Works. Adopted June 30, 1999.

County of San Diego 2011. Consolidated Fire Code. Adopted October 2011.

County of San Diego 2010. Guidelines For Determining Significance and Report Format and Content Requirements for Wildland Fire and Fire Protection

County of San Diego 2011. San Diego County Code of Regulatory Ordinances, Title 9, Fire and Building Code, Ordinance No. 10146, new series, effective 5-13-2011.

County of San Diego 2011. General Plan – Safety Element.

County of San Diego. Acceptable Plants For A Defensible Space In Fire Prone Areas. http://www.co.san-diego.ca.us/cnty/cntydepts/landuse//fire_resistant.html

Rancho Santa Fe Fire Protection District 2010. Fire Code Ordinance 2011-01. Adopted December 13, 2010.

Western Regional Climate Center. <http://www.wrcc.dri.edu/>

APPENDIX A
FIRE SERVICE LETTER



COUNTY OF SAN DIEGO
DEPARTMENT OF PLANNING AND LAND USE: Zoning
PROJECT FACILITY AVAILABILITY FORM, Fire

Please type or use pen

Warner Lusardi (760) 744 3133
 Owner's Name Phone
 1570 Linda Vista Dr
 Owner's Mailing Address Street
 San Marcos Ca 92069
 City State Zip

ORG _____
 ACCT _____
 ACT _____
 TASK _____
 DATE _____ AMT \$ _____

F

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: 19 Condominiums
 Time Extension... Case No. _____
 Expired Map... Case No. _____
 Other _____

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

265-300-03	
265-300-02	
265-300-05	

- B. Residential Total number of dwelling units 37
 Commercial Gross floor area _____
 Industrial Gross floor area _____
 Other Gross floor area _____
- C. Total Project acreage 270 Total lots 37 Smallest proposed lot 1.004

Thomas Bros. Page 1149 Grid B-6
 Rancho Cielo Specific Plan
 Project address _____ Street _____
 San Dieguito _____ 92067
 Community Planning Area/Subregion _____ Zip _____

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: Warner Lusardi Date: _____
 Address: 1570 Linda Vista Dr San Marcos CA 92069 Phone: (760) 744-3133

(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 Rancho Santa Fe Fire Protection District

Indicate the location and distance of the primary fire station that will serve the proposed project: FIRE STATION #4
15040 CALLE AMBIENTE, Rancho Santa Fe, CA 92067

- 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 _____ minutes.
- C. Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.
 District conditions are attached. Number of sheets attached: 3
 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 the Department of Planning and Land Use.

- 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: Clifford F. Hunter Print name and title: CLIFFORD F. HUNTER Phone: 858-756-6110 Date: 8-16-11
EXPIRES IN TWO YEARS.

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
 Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123





Rancho Santa Fe Fire Protection District

P.O. Box 410 • 18027 Calle Ambiente • Rancho Santa Fe • California 92067-0410
Tel. (858) 756-5971 • Fax (858) 756-4799

Board of Directors
James Ashcraft, President
Thomas Hickerson
Nancy C. Hillgren
Randall Malin
John C. Tanner

Fire Chief
Tony J. Michel

June 14, 2012

COUNTY OF SAN DIEGO

Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

Attn: Larry Hofreiter, Project Planner

Re: Comments on Fire Protection Plan for Rancho Cielo De Lusardi, TM 5456 (RPL2)

Dear Mr. Hofreiter:

Please accept the following comments regarding the above Fire Protection Plan (FPP). It is our understanding that the FPP is a complete re-write by a different County-certified fire consultant. Therefore, we are submitting an entirely new list of FPP corrections.

The following conditions still apply to the project even with the latest project modifications:

The Fire District will require the development to be a **“Shelter-in-Place Community**, and comply with the Fire District’s Ordinances, if more stringent than the County or State Fire Codes. Detail information regarding the Fire District’s Ordinances and Shelter-in-place standards can be found on our website at www.rsf-fire.org.

Specific requirements are as follows:

1. **Section 2.2. Gates.** We do not provide law enforcement agencies with a ‘knox key.’ Remove reference to dual keyed or dual switched for law enforcement agencies. Additionally, the last sentence in the paragraph should read: “The operation of gates on emergency access/evacuation routes will be conditioned to be in full compliance with the current County Fire Code requirements and shall allow remote operation by either Rancho Cielo Security or a third party security company if and when evacuation becomes necessary.”
2. **Section 2.4. Ignition Resistant Construction.** Please indicate that the primary applicable code for ignition resistant building features and materials is the County Building Code (CBC) Chapter 7A version adopted as of the date building plans are submitted to the County Building Department and Fire District. The term “enhanced “construction is no longer valid and phased out in a recent code cycle. The project shall also be protected by an automatic fire sprinkler system in accordance with the requirements or standards of the Fire District, the County Residential Fire Code, and the National Fire Protection Association. The FPP shall address structure setback requirements for building pad top of slope and property lines. The consultant is also encouraged to propose additional building requirements that exceed CBC or Fire District

requirements based on their expertise and site knowledge.

3. **Section 2.5.3. Off-Site Fuel Modification.** All fuels management and landscaping shall comply with Section 4704.4 of the 2011 CFC and Fire District Ordinance No. 2011-01. The thinning requirements shall be the same for Zones 2 and 3. That is, both zones shall be thinned to 50 percent vegetative coverage to a horizontal distance of 200 feet. Additionally, the applicant has provided us with enclosure (1) which shows the adjusted building envelopes for Lots #4 through #7 with a minimum 200 feet FMZ area. We approve of the revised exhibit showing the reduced building envelopes for TM 5456. We request that the applicant address the above building envelope changes and provide enclosure (1) as an appendix in the revised FPP.
4. **Section 7. References Cited.** Please update or add appropriate fire and building codes.

We will provide an approval letter for the County once the Fire District's corrections and concerns are addressed in the Final FPP. The Fire District requests a final hardcopy or electronic copy of the FPP with all of the exhibits and appendices to be sent to us as the final submittal.

If you have any further questions, please feel free to contact me at (858) 756-6007.

Respectfully,



Renee Hill
Deputy Fire Marshal

encl: (1) Open Space Easements Sheet No. 4 prepared by Excel Engineering

cc: Matt Simons, CCI



Rancho Santa Fe Fire Protection District

P.O. Box 410 • 18027 Calle Ambiente • Rancho Santa Fe • California 92067-0410
Tel. (858) 756-5971 • Fax (858) 756-4799

Board of Directors
James Ashcraft, President
Thomas Hickerson
Nancy C. Hillgren
Randall Malin
John C. Tanner

Fire Chief
Tony J. Michel

August 16, 2011

County of San Diego
Department of Planning and Land Use
5201 Ruffin Rd., Suite "B"
San Diego, California 92123-1666

Attn: **Larry Hofreiter, AICP, Planner**, Project Planner

Re: **TM 5456 - Rancho Cielo, Cielo Vistas 19 Condominium & 3 lot subdivisions,
& Cielo De Lusardi II – 15 lot subdivision – Total 37 dwelling Units**

Please accept the following recommendations regarding mitigation for secondary road access. These findings exceed any fire or building code requirements and the project will comply with current Building and Fire Code Requirements at the time of building permits issuance.

It is noted that all three of the above projects are currently in an un-served County "island", but within the Sphere of Influence of Rancho Santa Fe Fire Protection District. The applicant is initiating annexation to the District, which must be completed prior to Final Map approval.

Specific requirements - The Cielo Vistas 19 Condominium Development

1. The Cielo Vistas 19 Condominium Development has requested an exception to California Code of Regulations, Title 14 section 1273.09 "Dead-End Roads". That section mandates that lots of the proposed size have a dead-end road length of not more than 1320 feet. Cerro Del Sol, the connecting access road, passes areas zoned one acre, which specifies a maximum dead-end length of 1320 feet. The on-site length of the access roadway is about 2485 feet. and does not add any length to the road serving existing lots. Once at the intersection of Cerro Del Sol you have two ways out. To the left Via Rancho Cielo or two the right Avenida Connemara to Mt Isreal. The gate at Mt Isreal road has loops to operate the gate when exiting from Cielo to Mt Isreal. Travel Time to cul de sac 5:29 minutes.
2. This project is an infill on an existing street. There is no extension proposed to the length of the existing paved road, Cerro Del Sol. The existing road serves approximately 10 parcels.

Specific requirements for - Cielo De Lusardi II – 15 lot subdivision

1. Access is from Via Rancho Cielo and the water tank 24 foot road approximately 1102 feet to the project. The access is out Via Rancho Cielo or Avenida Connemara to Mt Isreal Road. The gate at Mt Isreal road has loops to operate the gate when exiting from Cielo to Mt Isreal.
2. Project has been reduced from 24 lots to 15 lots which is a dwelling density of 1 unit per 5.9 acres.
3. A lighted map directory will be located at the entrance of this project.
4. The project was reduced from 24 lots to 15 lots dwelling density of one unit per 5.9 acres.
5. Travel Time 6:00 minutes

Specific requirements for the 3 lot subdivisions

1. Access to/from Via Dora – which is 5,280 from two way access, parcel size is 20 acres plus.
2. Provide 32 ft street surfaced widths which is 8 ft wider than the current county standards for private road. (parking on one side).
3. The project was reduced from 14 lots to 3 lots dwelling density of one unit per 57.45 acres.
4. Travel Time is 3:56 minutes

The Rancho Santa Fe Fire Protection District makes the following findings for all three projects:

The proposed Cielo Community has:

1. Provided 40 foot of graded right of way which is 8 ft wider than the current county standards for private road.
2. Provided 42 ft of surfaced cul de sac radius which is 6 ft wider than the current county standards for private road and 4 ft wider than the public road standard.
3. Provided 48 ft of graded right of way cul de sac radius which is 10 ft wider than the current county standards for private road.
4. Provided a minimum 200 ft of clearance from edge of "area for combustible structures" versus 100 ft under current standards. Markers will be installed at the 200 foot point to provide control points for the yearly fuel modification maintenance. In addition, access points will be provided through out the development for maintenance of the fuel modification zones and for firefighting.
5. Provided 250 feet of fire hydrant spacing versus 500 ft to the structure as the vehicle would drive, under current Rancho Santa Fe Fire Protection District.

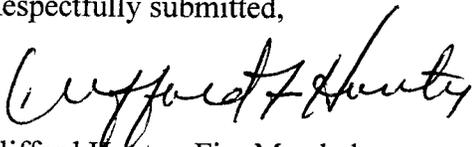
August 16, 2011

Page 3

6. All stepped pads have been removed. Pad sizes were increased to provide additional fire setback.
7. All three projects will be required to annex to the Cielo homeowners Association and therefore, all interior roads and all off-site connecting roads will be maintained by the Cielo Homeowners Association.
8. All signage and address marking will conform to local and San Diego County Standards, which assists in timely emergency response. County design standard DS-13 street name signs will be located at all intersections.
9. All landscaping will be required to meet the Rancho Santa Fire Protection District approval, as for type, location and spacing of landscaping.
10. Parking on one side of the street will only occur on 32 wide streets per the private road standard.
11. The Rancho Santa Fe Fire Protection District is the only fire district to have a professional urban forester on staff to monitor fuel management and landscaping restrictions, with additional staff to monitor road maintenance, construction standards, and hydrant maintenance and provide public education in support of wildfire survival concepts in this project and the community. The project has agreed to exceed the landscape restrictions in order to provide enhanced setbacks from structures. All building construction will meet or exceed requirement for fire protection. Yearly or as needed Fire Inspection is required as necessary to comply with the Shelter-In-Place concept.
12. All structures shall be place 15 feet back from top of slope for a single story and 30 feet back from top of slope for a two story structure.
13. All roadway gates added will have a central control point for opening, so they may be opened during an emergency to these new developments.

The Rancho Santa Fe Fire Protection District finds that the mitigation measures offered will provide for firefighter and civilian safety in the event of an emergency and the findings meet or exceed the Fire code requirement for secondary access.

Respectfully submitted,



Clifford Hunter, Fire Marshal
Rancho Santa Fe Fire Protection District

APPENDIX B
WATER SERVICE LETTER



COUNTY OF SAN DIEGO

DEPARTMENT OF PLANNING AND LAND USE: Zoning PROJECT FACILITY AVAILABILITY FORM, Water

Please type or use pen

W

Warner Lusardi (760) 744-3133
 Owner's Name Phone
 1570 Linda Vista Dr.
 Owner's Mailing Address Street
 San Marcos Ca 92069
 City State Zip

ORG _____
 ACCT _____
 ACT _____
 TASK _____
 DATE _____ AMT \$ _____

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: 19 Condominiums
 Time Extension... Case No. _____
 Expired Map... Case No. _____
 Other _____
- B. Residential Total number of dwelling units 37
 Commercial Gross floor area _____
 Industrial Gross floor area _____
 Other Gross floor area _____
- C. Total Project acreage 270 Total number of lots 19

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

265-300-05	265-300-03
265-300-02	

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

Thomas Bros. Page 1149 Grid B-6
 Rancho Cielo Specific Plan
 Project address Street
 San Dieguito 92067
 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: Warner Lusardi Date: _____
 Address: 1570 Linda Vista Dr San Marcos Ca 92069 Phone: 760 744-3133

(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: Olivenhain MWD Service area: zones C-7, C-11

- 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) dependent upon Rancho Cielo development
 Project will not be served for the following reason(s): _____
- C. District conditions are attached. Number of sheets attached: 4
 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? TBD by improvement plans

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: Karen Ogawa Print name: Karen Ogawa
 Print title: Engineering Project Supervisor Phone: 760-632-4642 Date: 29 Aug 2011

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT
 On completion of Section 2 by the district, applicant is to submit this form with application to:
 Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, San Diego, CA 92123



Board of Directors
Edmund K. Sprague, President
Robert F. Topolovac, Vice President
Mark A. Muir, Treasurer
Gerald E. Varty, Secretary
Christy Guerin, Director



General Manager
Kimberly A. Thorner, Esq.
General Counsel
Wesley W. Peltzer, Esq.

August 29, 2011

County of San Diego
DEPT. OF PLANNING & LAND USE
5201 Ruffin Road, Suite B3
San Diego, CA, 92123

Re: Tax Assessor's Parcel # 265-300-02, -03 and -05

Subject: Water Availability Letter / Warner Lusardi
Supplement to County Form 399W

The fee owner, Warner Lusardi (Applicant), has requested the District to provide a Water Availability Letter for the property identified above for a proposed project Applicant described as: Major Use Permit and Major Residential Subdivision. This property is in the District and eligible to receive domestic service at this time.

The District has or will have adequate facilities in this area to serve the project. There is or will be capacity in these facilities to serve the proposed project at a minimum of 25 psi pressure at the District's main during normal operating conditions and upon completion of all necessary facilities, including any onsite and offsite water lines, facilities and appurtenances that are required, at the sole discretion of the District. While there is adequate water to serve the project at this time, all water received by the District is imported from other agencies. Accordingly, there is no guarantee that water will be available to serve the project when water is requested. The availability of water depends upon a number of complex factors including annual rainfall, drought periods, the amount of water remaining in storage and environmental and other constraints to the delivery of water. No final decision will be made by the District on the ability to serve water to the project until an application for water service is made by the applicant and approved by the District. At that time, the District will determine whether adequate water is available to serve the project in the District's sole discretion.

Both Water Code §350 and Water Code §71640 grant the District the right to restrict the use of water during any emergency caused by a drought or any other threatened or existing water shortage and to prohibit the use of District water during such periods as the District determines to be necessary. The District may also prohibit the use of District water during any periods for specific uses which it finds to be nonessential. Nothing contained in this water availability letter shall be construed as limiting in any way the legislative discretion of the District to declare an emergency or water shortage and to



1966 Olivenhain Road • Encinitas, CA 92024
Phone (760) 753-6466 • Fax (760) 753-1578 • www.olivenhain.com



curtail or prohibit the use of water as determined necessary or appropriate by the District to conserve water during droughts or other threatened or existing water shortages. Certain stages of water shortages may result in a prohibition on new water meters.

The District has been requested to furnish a staff estimate, based on current water service conditions, of the availability of water service in this area. This letter is issued for planning purposes and is not a representation, express or implied, that the District will provide any water service at a future date. Commitments to provide water service are made only when an application for water service is made by the applicant and approved by the District and are subject to the applicants compliance with the Districts' fees, charges, rules and regulations, the Environmental Quality Act of 1970, as amended, and the applicants' agreement to construct any required onsite and off site facilities together with the Applicant's providing security as required by the District for construction of those facilities.

The issuance of this Water Availability Letter does not grant the Applicant any water rights. The Applicant does not secure a right to water until application for service is made and approved by the District in its sole discretion, and the Applicant has complied with all requirements of the District.

The failure of the Applicant to pay any fee or charge of the District's when due, or to comply with other requirements of the District, shall entitle the District to unilaterally terminate this Water Availability Letter, and all further rights of the Applicant to water service.

Improvement fees, when applicable, are paid to the District to reserve future water service for the project contingent upon the Applicant paying all fees and charges and complying with all requirements of the District. The payment of all improvement fees by the date they are due is an express condition precedent to any right of the Applicant to receive future water service. The failure of Applicant to make any improvement fee payment by the date it is due shall automatically terminate the right of Applicant to receive future water service and no previous improvement fee payments paid by the Applicant shall be refunded. Reinstatement of the water commitment requires Applicant to remedy any defects or deficiencies and payment of fees and charges applicable, as determined by the District, in its sole discretion.

This commitment to water service availability is conditioned on the following requirements and/or limitations:

1. The District's determination that adequate water is available to serve the project at the time the applicant submits a request for water service to the District; and

2. Payment of all fees, as appropriate, when due in accordance with District Ordinance 301, or successor Ordinance, not attached hereto, but incorporated herein by reference; and
3. A hydraulic analysis was completed by the District's consulting engineer to ascertain the impact of the project on the District's water system and to determine fire flow availability as required by the Fire Department ((Boyle SD-001-493-13, July 2002). Should this project create any changes to the conditions that the underlying hydraulic analysis was based upon, Applicant is required to conduct a new hydraulic analysis for the new condition; and
4. In accordance with District Assessment District 96-01, not attached hereto, but incorporated herein by reference, lots of $\frac{1}{2}$ acre or less may have a $\frac{3}{4}$ inch meter installed unless owner chooses to upgrade the meter and pay the additional fees and charges. Lots greater than $\frac{1}{2}$ acre but less than 3 acres require one-inch meters to be installed. Lots in excess of 3 acres require a minimum $1\frac{1}{2}$ inch meter to be installed. Larger meters may be required by the District, in its sole discretion; and
5. The District may require larger meters than the Assessment District 96-01 lot size criteria would dictate if the individual residence requires water service greater than can be accommodated by the standard $\frac{3}{4}$ inch meter irrespective of the lot size, in its sole discretion; and
6. Applicant is required to comply with District Ordinance 280 for the mitigation of impacts to the District's Assessment District 96-1R. Ordinance 280 requires an executed agreement to request increased EDU's that this project requires. The Applicant is responsible for payment of all fees and charges as outlined in the executed agreement; and
7. The District has not declared a water shortage that restricts water usage or prohibits new water meters. The District's Board of Directors on May 23, 2010, rescinded Level 2 Drought Alert conditions and returned to a Drought Level 1 water supply shortage conditions July 1, 2010. These restrictions include the prohibition of setting of new water meters per Ordinance 364, not attached hereto, but incorporated herein by reference; and
8. Meter boxes are not permitted within driveways or driveway aprons; and
9. No encroachments, including landscaping, landscaping materials or stepping stones as depicted in the plans submitted to the District, are allowed in the easement recorded December 27, 2004 as File/Page 2004-1215095, of official records, San Diego County, not attached hereto, but incorporated herein by reference.

This letter of water availability pertains solely to the proposed project as described by

Water Availability Letter
Project: Cielo-Lusardi Tract 4909 RPL2

Applicant, is not transferable to any other project, and is not transferable to any other owner or developer without written permission of the Board of Directors of the District. Any purported transfer, sale, or assignment of this Water Availability Letter without the prior written consent of the District renders this letter null and void.

This letter automatically terminates, and is of no further force or effect, on the occurrence of: (1) August 29, 2012 without an approved tentative map; (2) termination of any tentative map; (3) termination of any final map; or (4) five years from the date of recordation of any final map.

OLIVENHAIN MUNICIPAL WATER DISTRICT

By: 

Karen Ogawa
Engineering Project Supervisor

APPENDIX C
FUEL PARAMETERS

Fuel Model SCAL18

Fuel Model Number	0
Fuel Model Name	SCAL18
Fuel Model Type	Static
Description	Sage / Buckwheat
1-h Fuel Load	5.5 tons/ac
10-h Fuel Load	0.8 tons/ac
100-h Fuel Load	0.1 tons/ac
Live Herbaceous Fuel Load	0.75 tons/ac
Live Woody Fuel Load	2.5 tons/ac
1-h Surface Area/Vol Ratio	640 ft ² /ft ³
Live Herbaceous Surface Area/Vol Ratio	1500 ft ² /ft ³
Live Woody Surface Area/Vol Ratio	640 ft ² /ft ³
Fuel Bed Depth	3 feet
Dead Fuel Moisture of Extinction	25 percent
Dead Fuel Heat Content	9200 Btu/lb
Live Fuel Heat Content	9200 Btu/lb

Fuel Model sh7

Fuel Model Number	147
Fuel Model Name	sh7
Fuel Model Type	Static
Description	Very high load, dry climate shrub (S)
1-h Fuel Load	3.5 tons/ac
10-h Fuel Load	5.3 tons/ac
100-h Fuel Load	2.2 tons/ac
Live Herbaceous Fuel Load	0 tons/ac
Live Woody Fuel Load	3.4 tons/ac
1-h Surface Area/Vol Ratio	750 ft ² /ft ³
Live Herbaceous Surface Area/Vol Ratio	1800 ft ² /ft ³
Live Woody Surface Area/Vol Ratio	1600 ft ² /ft ³
Fuel Bed Depth	6 feet
Dead Fuel Moisture of Extinction	15 percent
Dead Fuel Heat Content	8000 Btu/lb
Live Fuel Heat Content	8000 Btu/lb

APPENDIX D
FUEL MODELING



Inputs: SURFACE

Description _____ Rancho Cielo

Fuel/Vegetation, Surface/Understory

Fuel Model sh7, SCAL18

Fuel Moisture

Moisture Scenario d111

Weather

20-ft Wind Speed mi/h 19

Wind Adjustment Factor 0.4

Wind Direction (from north) deg 225

Terrain

Slope Steepness % 40

Aspect deg 225

Run Option Notes

Maximum reliable effective wind speed limit IS imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Notes

[Empty rectangular box for notes]

Rancho Cielo

Fuel Model	ROS (max) ch/h	Flame Length ft
sh7	108.7	22.8
SCAL18	91.1	26.1



Discrete Variable Codes Used Rancho Cielo

Fuel Model

sh7	Very high load, dry climate shrub (S) (147)
SCAL18	Sage / Buckwheat

Moisture Scenario

d1l1	D1L1 - Very low dead, fully cured herb (3,4,5,30,60)
------	--



Inputs: SURFACE

Description Rancho Cielo Santana

Fuel/Vegetation, Surface/Understory

Fuel Model sh7, SCAL18

Fuel Moisture

Moisture Scenario d111

Weather

20-ft Wind Speed mi/h 28

Wind Adjustment Factor 0.4

Wind Direction (from north) deg 45

Terrain

Slope Steepness % 40

Aspect deg 45

Run Option Notes

- Maximum reliable effective wind speed limit IS imposed [SURFACE].
- Calculations are only for the direction of maximum spread [SURFACE].
- Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].
- Wind and spread directions are degrees clockwise from north [SURFACE].
- Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Notes

[Empty rectangular box for notes]

Rancho Cielo Santana

Fuel Model	ROS (max) ch/h	Flame Length ft
sh7	162.5	27.4
SCAL18	124.7	30.1



Discrete Variable Codes Used Rancho Cielo Santana

Fuel Model

sh7 Very high load, dry climate shrub (S) (147)
SCAL18 Sage / Buckwheat

Moisture Scenario

d1l1 D1L1 - Very low dead, fully cured herb (3,4,5,30,60)

Inputs: SURFACEDescription Rancho Cielo Peak**Fuel/Vegetation, Surface/Understory**Fuel Model sh7, SCAL18**Fuel Moisture**Moisture Scenario d111**Weather**20-ft Wind Speed mi/h 41Wind Adjustment Factor 0.4Wind Direction (from north) deg 45**Terrain**Slope Steepness % 40Aspect deg 45**Run Option Notes**

Maximum reliable effective wind speed limit IS imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Notes



Rancho Cielo Peak

Fuel Model	ROS (max) ch/h	Flame Length ft
sh7	245.8	33.2
SCAL18	171.8	34.9



Discrete Variable Codes Used Rancho Cielo Peak

Fuel Model

sh7	Very high load, dry climate shrub (S) (147)
SCAL18	Sage / Buckwheat

Moisture Scenario

d111	D1L1 - Very low dead, fully cured herb (3,4,5,30,60)
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APPENDIX E
ACCEPTABLE PLANTS

GUIDELINES FOR PLANTING IN FUEL MODIFICATION ZONES

Planting in fuel modification areas on private property shall be in accordance with the following guidelines:

1. Limit planting in large unbroken masses especially trees and large shrubs, while at the same time trying to achieve the desired screening required by the jurisdictional planning/building department. Groups should be two (2) or three (3) maximum, with mature foliage of any group separated horizontally by at least twenty (20) feet.*
2. Avoid massing of shrubs at bases of trees or larger shrubs.
3. Avoid massing of vegetation adjacent to structures especially under eaves, overhangs, decks, etc.
4. Limit the use of plants which have the following characteristics:
 - a. Are known to be especially combustible. (eg.: conifers, eucalyptus, acacias)
 - b. Have dry or deciduous foliage during part of the year.
 - c. Develop deciduous or shaggy bark.
 - d. Develop dry or dead undergrowth.
5. Conduct periodic maintenance to reduce fuel volumes, eliminate weeds, remove dead vegetation, etc.
6. Provide reliable automatic irrigation systems to maintain vegetation in a healthy, turgid state.
7. Avoid topping trees as this causes excessive branching, which can increase fire danger.
8. Adhere to the plant spacing guidelines on page 10 of these guidelines.
9. Avoid planting of trees within 10 feet of the roadway. Care should be given to the type of tree selected that will not encroach into the roadway, nor produce a canopy effect.
10. Avoid species that are known to be especially flammable such as conifers and eucalyptus

Planting vegetation adjacent to structures and within the Fuel Modification Zone when the zone is located on adjacent property is considered complementary to the fuel modification program and may be subject to periodic inspections by the enforcing agency.

*Agricultural crops, groves and orchards may be exempted from this requirement.

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION
 FUEL MODIFICATION ZONE PLANT LIST
 July 15, 1997

	Code	Botanical Name	Common Name	Plant Form
1	W	Abelia x grandiflora	Glossy Abelia	Shrub
2	☐	Acacia redolens	Desert Carpet	Shrub
3	☐	Acer macrophyllum	Big Leaf Maple	Tree
4	X	Achillea millefolium	Common Yarrow	Low shrub
5	W	Achillea Tomentosa	Woolly Yarrow	Low shrub
6	X	Aeonium decorum	Aeonium	Ground cover
7	X	Aeonium simsii	ncn	Ground cover
8	W	Agave attenuata	Century Plant	Succulent
9	☐	Agave shawii	Shaw's Century Plant	Succulent
10	N	Agave victoriae-reginae	ncn	Ground cover
11	X	Ajuga reptans	Carpet Bugle	Ground cover
12	W	Alnus cordata	Italian Alder	Tree
13	☐	Alnus rhombifolia	White Alder	Tree
14	N	Aleo arborescens	Tree Aloe	Shrub
15	N	Aloe aristata	ncn	Ground cover
16	N	Aloe brevifolia	ncn	Ground cover
17	W	Aloe vera	Medicinal Aloe	Succulent
18	W	Alyogyne huegelii	Blue Hibiscus	Shrub
19	☐	Ambrosia chamissonis	Beach Bur-Sage	Perennial
20	☐	Amorpha fruticosa	Western False Indigobush	Shrub

FUEL MODIFICATION ZONE PLANT LIST
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	Code	Botanical Name	Common Name	Plant Form
21	W	Anigozanthus flavidus	Kangaroo Paw	Perennial accent
22	<input type="checkbox"/>	Antirrhinum nuttalianum ssp. nuttalianum	ncn	Subshrub
23	X	Aptenia cordifolia x 'Red Apple'	Red Apple Aptenia	Ground cover
24	W	Arbutus unedo	Strawberry Tree	Tree
25	W	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	Ground cover
26	W	Arctostaphylos edmundsii	Little Sur Manzanita	Ground cover
27	<input type="checkbox"/>	Arctostaphylos glandulosa ssp.	Eastwood Manzanita	Shrub
28	W	Arctostaphylos hookeri 'Monterey Carpet'	Monterey carpet Manzanita	Low Shrub
29	N <input type="checkbox"/>	Arctostaphylos pungens		Shrub
30	N	Arctostaphylos refugioensis	Refugio Manzanita	Shrub
31	W	Arctostaphylos uva-ursi	Bearberry	Ground cover
32	W	Arctostaphylos x 'Greensphere'	Greensphere Manzanita	Shrub
33	N	Artemisia caucasica	Caucasian Artemisia	Ground cover
34	X	Artemisia pycnocephala	Beach Sagewort	Perennial
35	X	Atriplex canescens	Four-Wing Saltbush	Shrub
36	X <input type="checkbox"/>	Atriplex lentiformis ssp. breweri	Brewer Saltbush	Shrub
37	<input type="checkbox"/>	Baccharis emoryi	Emory Baccharis	Shrub
38	W <input type="checkbox"/>	Baccharis pilularis ssp. consanguinea	Chaparral Bloom	Shrub
39	X	Baccharis pilularis var. pilularis 'Twin Peaks#2'	Twin Peaks	Ground cover
40	<input type="checkbox"/>	Baccharis salicifolia	Mulefat	Shrub

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	Code	Botanical Name	Common Name	Plant Form
41	N	Baileya pauciradiata	Desert Marigold	Ground cover
42	W	Beaucarnea recurvata	Bottle Palm	Shrub/Small tree
43	N☐	Bougainvillea spectabilis	Bougainvillea	Shrub
44	N☐	Brahea armata	Mexican Blue Palm Blue Hesper Palm	Palm
45	N☐	Brahea brandegeei	San Jose Hesper Palm	Palm
46	N☐	Brahea edulis	Guadalupe Palm	Palm
47	☐	Brickellia californica		Subshrub
48	w ☐	Bromus carinatus	California Brome	Grass
49	☐	Camissonia cheiranthifolia	Beach Evening Primrose	Perennial subshrub
50	N	Carissa macrocarpa	Green Carpet Natal Plum	Ground cover/Shrub
51	X	Carpobrotus chilensis	Sea Fig Ice Plant	Ground cover
52	W	Ceanothus gloriosus 'Point Reyes'	Point Reyes Ceanothus	Shrub
53	W	Ceanothus griseus 'Louis Edmunds'	Louis Edmunds Ceanothus	Shrub
54	W	Ceanothus griseus horizontalis	Yankee Point	Ground Cover
55	W	Ceanothus griseus var. horizontalis	Carmel Creeper Ceanothus	Shrub
56	W	Ceanothus griseus var. Horizontalis 'Yankee Point'	Yankee Point Ceanothus	Shrub
57	☐	Ceanothus megacarpus	Big Pod Ceanothus	Shrub
58	W	Ceanothus prostratus	Squaw Carpet Ceanothus	Shrub
59	☐	Ceanothus spinosus	Green Bark Ceanothus	Shrub

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION
FUEL MODIFICATION ZONE PLANT LIST
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	Code	Botanical Name	Comman Name	Plant Form
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60	N☐	Ceanothus verrucosus	Wart-Stem Ceanothus	Shrub
61	W	Cerastium tomentosum	Snow-in-Summer	Ground cover/Shrub
62	W	Ceratonia siliqua	Carob	Tree
63	W☐	Cercis occidentalis	Western Redbud	Shrub/Tree
64	X	Chrysanthemum leucanthemum	Oxeye Daisy	Ground cover
65	W	Cistus crispus	ncn	Ground cover
66	W	Cistus hybridus	White Rockrose	Shrub
67	W	Cistus incanus	ncn	Shrub
68	W	Cistus incanus ssp. corsicus	ncn	Shrub
69	W	Cistus salviifolius	Sageleaf Rockrose	Shrub
70	W	Cistus x purpureus	Orchid Rockrose	Shrub
71	W	Citrus species	Citrus	Tree
72	☐	Clarkia purpurea or unguiculata	Showy Fairwell to spring	Annual
73	☐	Cneoridium dumosum	Bushrue	Shrub
74	☐	Collinsia heterophylla	Chinese Houses	Annual
75	w☐	Comarostaphylis diversifolia	Summer Holly	Shrub
76	N	Convolvulus cneorum	Bush Morning Glory	Shrub
77	W	Coprosma kirkii	Creeping Coprosma	Ground cover/Shrub
78	W	Coprosma pumila	Prostrate Coprosma	Low Shrub
79	☐	Coreopsis californica	California Coreopsis	Annual
80	W	Coreopsis Lanceolata	Coreopsis	Ground Cover

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	Code	Botanical Name	Common Name	Plant Form
81	N	Correa pulchella	Australian Fushsia	Ground cover
82	W	Cotoneaster buxifolius	ncn	Shrub
83	W	Cotoneaster congestus 'Likiang'	Likiang Cotoneaster	Ground cover/Vine
84	W	Cotoneaster Parneyi	ncn	Shrub
85	X	Crassula Lactea	ncn	Ground cover
86	X	Crassula multicava	ncn	Ground cover
87	X	Crassula ovata	Jade Tree	Shrub
88	X	Crassula tetragona	ncn	Ground cover
89	w□	Croton californicus	California Croton	Ground cover
90	X	Delosperma 'alba'	White Trailing Ice Plant	Ground cover
91	□	Dendromecon rigida	Bush Poppy	Shrub
92	□	Dichelostemma Capitatum	Blue Dicks	Herb
93	N	Distictis buccinatoria	Blood-Red Trumpet Vine	Vine/Climbing vine
94	N	Dodonaea viscosa	Hopseed Bush	Shrub
95	X	Drosanthemum floribundum	Rosea Ice Plant	Ground cover
96	X	Drosanthemum hispidum	ncn	Ground cover
97	X	Drosanthemum speciosum	Dewflower	Ground cover
98	□	Dudleya lanceolata	Lance-leaved Dudleya	Succulent
99	□	Dudleya pulverulenta	Chalk Dudleya	Succulent
100	W	Elaeagnus pungens	Silverberry	Shrub
101	□	Encelia californica	California Encelia	Small Shrub

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	Code	Botanical Name	Common Name	Plant Form
102	<input type="checkbox"/>	Epilobium canum (Zauschneria californica)	Hoary California Fuchsia	Shrub
103	<input type="checkbox"/>	Eriastrum sapphirinum	Majave Woolly Star	Annual
104	N	Eriobotrya japonica	Loquat	Tree
105	<input type="checkbox"/>	Eriodictyon crassifolium	Thick-Leaf Yerba Santa	Shrub
106	<input type="checkbox"/>	Eriodictyon trichocalyx	Yerba Santa	Shrub
107	w <input type="checkbox"/>	Eriophyllum confertiflorum	ncn	Shrub
108	W	Erythrina species	Coral Tree	Tree
109	N	Escallonia species	several varieties	Shrub
110	w <input type="checkbox"/>	Eschscholzia californica	California Poppy	Flower
111	X	Eschscholzia mexicana	Mexican Poppy	Herb
112	N	Euonymus fortunei	Winter Creeper Euonymus	Ground cover
113	N	Feijoa sellowiana	Pineapple Guava	Shrub/Tree
114	N	Fragaria chiloensis	Wild Strawberry /Sand Strawberry	Ground cover
115	<input type="checkbox"/>	Frankenia salina	Alkali Heath	Ground cover
116	W <input type="checkbox"/>	Fremontodendron californicum	California Flannelbush	Shrub
117	X	Gaillardia x grandiflora	Blanketflower	Ground cover
118	W	Galvezia speciosa	Bush Snapdragon	Shrub
119	W	Garrya veatchii	Silktassel	Shrub
120	X	Gazania hybrids	South African Daisy	Ground cover
121	X	Gaxania rigens leucolaena	Trailing Gazania	Ground cover

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	Code	Botanical Name	Common Name	Plant Form
122	<input type="checkbox"/>	<i>Gilia capitata</i>	Globe Gilia	Perennial
123	W	<i>Gilia leptantha</i>	Showy Gilia	Perennial
124	W	<i>Gilia tricolor</i>	Bird's Eyes	Perennial
125	W	<i>Ginkgo biloba</i>	Maidenhair Tree	Tree
126	<input type="checkbox"/>	<i>Gnaphalium californicum</i>	California Everlasting	Annual
127	W	<i>Grewia occidentalis</i>	Starflower	Shrub
128	<input type="checkbox"/>	<i>Grindelia camporum bracteosum</i>	Gum Plant	Ground cover
129	N <input checked="" type="checkbox"/>	<i>Hakea suaveolens</i>	Sweet Hakea	Shrub
130	W	<i>Hardenbergia comptoniana</i>	Lilac Vine	Shrub
131	N	<i>Helianthemum mutabile</i>	Sunrose	Ground cover /Shrub
132	<input type="checkbox"/>	<i>Helianthemum scoparium</i>	Rush Rose	Shrub
133	<input type="checkbox"/>	<i>Heliotropium curassavicum</i>	Salt Heliotrope	Ground cover
134	X	<i>Helix canariensis</i>	English Ivy	Ground cover
135	W	<i>Hesperaleo parviflora</i>	Red Yucca	Perennial
136	<input checked="" type="checkbox"/>	<i>Heteromeles arbutifolia</i>	Toyon	Shrub
137	X	<i>Hypericum calycinum</i>	Aaron's Beard	Shrub
138	N	<i>Iberis Sempervirens</i>	Edging Candytuft	Ground cover
139	N	<i>Iberis Umbellatum</i>	Globe Candytuft	Ground cover
140	<input type="checkbox"/>	<i>Isocoma menziesii</i>	Coastal Goldenbush	Small shrub
141	<input type="checkbox"/>	<i>Isomeris arborea</i>	Bladderpod	Shrub

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	Code	Botanical Name	Common Name	Plant Form
142	W <input type="checkbox"/>	<i>Iva hayesiana</i>	Poverty Weed	Ground cover
143	N <input type="checkbox"/>	<i>Juglans californica</i>	California Black Walnut	Tree
144	<input type="checkbox"/>	<i>Juncus acutus</i>	Yellow Bush Penstemon	Subshrub
145	<input type="checkbox"/>	<i>Keckiella antirrhinoides</i>	Yellow Bush Penstemon	Subshrub
146	<input type="checkbox"/>	<i>Keckiella cordifolia</i>	Heart Leaved Penstemon	Subshrub
147	<input type="checkbox"/>	<i>Keckiella ternata</i>	Blue Stemmed Bush Penstemon	Subshrub
148	W	<i>Kniphofia uvaria</i>	Red Hot Poker	Perennial
149	W	<i>Lagerstroemia indica</i>	Crape Myrtle	Tree
150	W	<i>Lagunaria patersonii</i>	Primrose Tree	Tree
151	X	<i>Lampranthus aurantiacus</i>	Bush Ice Plant	Ground cover
152	X	<i>Lampranthus filicaulis</i>	Redondo Creeper	Ground cover
153	X	<i>Lampranthus spectabilis</i>	Trailing Ice Plant	Ground cover
154	W	<i>Lantana camara</i> cultivars	Yellow Sage	Shrub
155	W	<i>Lantana montevidensis</i>	Trailing Lantana	Shrub
156	<input type="checkbox"/>	<i>Lasthenia californica</i>	Dwarf Goldfields	Annual
157	W	<i>Lavandula dentata</i>	French Lavendar	Shrub
158	W	<i>Leptospermum laevigatum</i>	Australian Tea Tree	Shrub
159	W	<i>Leucophyllum frutescens</i>	Texas Ranger	Shrub
160	<input type="checkbox"/>	<i>Leymus condensatus</i>	Giant Wild Rye	Large grass
161	N	<i>Ligustrum japonicum</i>	Texas Privet	Shrub

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	Code	Botanical Name	Common Name	Plant Form
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162	X	<i>Limonium pectinatum</i>	nen	Ground cover
163	X	<i>Limonium perezii</i>	Sea Lavender	Shrub
164	w☐	<i>Liquidambar styraciflua</i>	American Sweet Gum	Tree
165	W	<i>Liriodendron tulipifera</i>	Tulip Tree	Tree
166	X	<i>Lonicera japonica</i> ‘Halliana’	Hall’s Japanese Honeysuckle	Vining shrub
167	☐	<i>Lonicera subspicata</i>	Wild Honeysuckle	Vining shrub
168	X	<i>Lotus corniculatus</i>	Bird’s Foot Trefoil	Ground cover
169	☐	<i>Lotus heermannii</i>	Northern Woolly Lotus	Perennial
170	☐	<i>Lotus scoparius</i>	Deerweed	Shrub
171	W ☐	<i>Lupinus arizonicus</i>	Desert Lupine	Annual
172	W	<i>Lupinus benthamii</i>	Spider Lupine	Annual
173	☐	<i>Lupinus bicolor</i>	Sku Lupine	Flowering annual
174	☐	<i>Lupinus sparsiflorus</i>	Lupini/Coulter’s Lupine	Annual
175	W	<i>Lyonothammus florbundus</i> ssp. <i>asplenifollus</i>	Fernleaf Ironwood	Tree
176	W	<i>Macadamia integrifolia</i>	Golden Abundance Oregon	Shrub
177	W	<i>Mahonia aquifolium</i> ‘Golden Abundance’	Golden Abundance Oregon Grape	Shrub
178	W	<i>Mahonia nevinii</i>	Nevin Mahonia	Shrub
179	☐	<i>Malacothamnus fasciculatus</i>	Chaparral Mallow	Shrub
180	X	<i>Malephora luteola</i>	Trailing Ice Plant	Ground cover
181	W	<i>Maytenus boaria</i>	Mayten Tree	Tree

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	Code	Botanical Name	Common Name	Plant Form
182	W	<i>Melaleuca nesophila</i>	Pink Melaleuca	Shrub

183	N	<i>Metrosideros excelsus</i>	New Zealand Christmas Tree	Tree
184	<input type="checkbox"/> *	<i>Mimulus aurantiacus</i>	Monkeyflower	Flower
185	<input type="checkbox"/>	<i>Mirabilis californica</i>	Wishbone Bush	Perennial
186	N	<i>Myoporum debile</i>	ncn	Shrub
187	N	<i>Myoporum insulare</i>	Boobyalla	Shrub
188	W	<i>Myoporum parvifolium</i>	ncn	Ground cover
189	W	<i>Myoporum 'Pacificum'</i>	ncn	Shrub
190	<input type="checkbox"/>	<i>Nassella (=Stipa) lepida</i>	Foothill Needlegrass	Ground cover
191	<input type="checkbox"/>	<i>Nassella (=Stipa) pulchra</i>	Purple Needlegrass	Ground cover
192	<input type="checkbox"/>	<i>Nemophila menziesli</i>	Baby Blue Eyes	Annual
193	X	<i>Nerium oleander</i>	Oleander	Shrub
194	<input type="checkbox"/>	<i>Nolina cismontana</i>	Chaparral Nolina	Shrub
195	N	<i>Nolina bigelovii</i> , or <i>N. interrata</i>	Mexican Grasstree	Shrub
196	W	<i>Oenothera berlandieri</i>	Mexican Evening Primrose	Ground cover
197	N	<i>Oenothera hookeri</i>	California Evening Primrose	Flower
198	W	<i>Oenothera speciosa</i>	Showy Evening Primrose	Perennial
199	X	<i>Ophiopogon japonicus</i>	Mondo Grass	Ground cover
200	<input type="checkbox"/> *	<i>Opuntia littoralis</i>	Prickly Pear	Cactus
201	<input type="checkbox"/> *	<i>Opuntia oricola</i>	Oracle Cactus	Cactus

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	Code	Botanical Name	Common Name	Plant Form
202	<input type="checkbox"/> *	<i>Opuntia polifera</i>	Coast Cholla	Cactus

203	W	<i>Osmanthus fragrans</i>	Sweet Olive	Shrub
204	X	<i>Osteospermum fruticosum</i>	Trailing African Daisy	Ground cover
205	X	<i>Parkinsonia aculeata</i>	Mexican Palo Verde	Tree
206	W	<i>Pelargonium peltatum</i>	Ivy Geranium	Ground cover
207	X	<i>Penstemon spectabilis</i>	Beard Tongue	Shrub
208	W	<i>Photinia fraseri</i>	ncn	Shrub
209	W	<i>Pistacla chinensis</i>	Chinese Pistache	Tree
210	X	<i>Pittosporum undulatum</i>	Victorian Box	Tree
211	<input type="checkbox"/>	<i>Plantago erecta</i>	California Plantain	Annual
212	**	<i>Plantago insularis</i>	Woolly Plantain	Annual
213	X	<i>Plantago sempervirens</i>	Evergreen Plantain	Ground cover
214	W <input type="checkbox"/>	<i>Platanus racemosa</i>	California Syoamore	Tree
215	W	<i>Plumbago auriculata</i>	Plumbago Cape	Shrub
216	<input type="checkbox"/>	<i>Populus fremontii</i>	Western Cottonwood	Tree
217	X	<i>Portulacaria afra</i>	Elephant's Food	Shrub
218	<input type="checkbox"/>	<i>Potentilla glandulosa</i>	Sticky Cinquefoil	Subshrub
219	X	<i>Potentilla tabernaemontanii</i>	Spring Cinquefoil	Ground cover
220	X	<i>Prunus caroliniana</i>	Carolina Cherry Laurel	Shrub/Tree
221	<input type="checkbox"/>	<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	Holly Leaved Cherry	Shrub

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	Code	Botanical Name	Common Name	Plant Form
222	X	<i>Prunus lyonil</i>	Catalina Cherry	Shrub/Tree

223	N	<i>Punica granatum</i>	Pomegranate	Shrub/Tree
224	W	<i>Puya</i> species	Puya	Succulent/Shrub
225	W	<i>Pyracantha</i> species	Firethorn	Shrub
226	<input type="checkbox"/>	<i>Quercus agrifolia</i>	Coast Live Oak	Tree
227	<input type="checkbox"/> ●*	<i>Quercus berberdifolia</i>	California Scrub Oak	Shrub
228	<input type="checkbox"/> ●*	<i>Quercus dumosa</i>	Coastal Scrub Oak	Shrub
229	X <input type="checkbox"/>	<i>Quercus engelmannii</i>	Engelmann Oak	Tree
230	X	<i>Quercus suber</i>	Cork Oak	Tree
231	X	<i>Rhamnus alaternus</i>	Italian Buckthorn	Shrub
232	<input type="checkbox"/>	<i>Rhamnus californica</i>	California Coffee Berry	Shrub
233	<input type="checkbox"/>	<i>Rhamnus crocea</i>	Redberry	Shrub
234	<input type="checkbox"/>	<i>Rhamnus crocea</i> sp. <i>ilicifolia</i>	Hollyleaf Redberry	Shrub
235	N	<i>Rhaphiolepis</i> species	Indian Hawthorn	Shrub
236	<input type="checkbox"/>	<i>Rhus integrifolia</i>	Lemonade Berry	Shrub
237	N	<i>Rhus lancea</i>	African Sumac	Tree
238	<input type="checkbox"/> ●	<i>Rhus ovata</i>	Sugarbush	Shrub
239	<input type="checkbox"/>	<i>Ribes aureum</i>	Golden Currant	Shrub
240	<input type="checkbox"/>	<i>Ribes indecorum</i>	White Flowering Currant	Shrub
241	<input type="checkbox"/>	<i>Ribes speciosum</i>	Fuchsia Flowering Gooseberry	Shrub

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	Code	Botanical Name	Common Name	Plant Form
242	W	<i>Ribes viburnifolium</i>	Evergreen Currant	Shrub

243	<input type="checkbox"/> *	<i>Romneya coulteri</i>	Matilija Poppy	Shrub
244	X	<i>Romneya coulteri</i> 'white cloud'	White Cloud Matilija Poppy	Shrub
245	w☐	<i>Rosmarinus officinalis</i>	Rosemary	Shrub
246	w☐	<i>Salvia greggii</i>	Autumn Sage	Shrub
247	w☐	<i>Salvia sonomensis</i>	Creeping Sage	Ground cover
248	<input type="checkbox"/>	<i>Sambucus mexicana</i>	Mexican Elderberry	Tree
249	W	<i>Santolina chamaecyparissus</i>	Lavender Cotton	Ground cover
250	W	<i>Santolina virens</i>	Green Lavender Cotton	Shrub
251	<input type="checkbox"/>	<i>Satureja chandleri</i>	San Miquel Savory	Perennial
252	<input type="checkbox"/>	<i>Scirpus acutus</i>	Hard-Stem Bulrush	Perennial
253	<input type="checkbox"/>	<i>Scirpus californicus</i>	California Bulrush	Perennial
254	X	<i>Sedum acre</i>	Goldmoss Sedum	Ground cover
255	X	<i>Sedum album</i>	Green Stonecrop	Ground cover
256	X	<i>Sedum confusum</i>	ncn	Ground cover
257	X	<i>Sedum ilineare</i>	ncn	Ground cover
258	X	<i>Sedum x rubrotinctum</i>	Pork and Beans	Ground cover
259	X	<i>Senecio serpens</i>	ncn	Ground cover
260	<input type="checkbox"/>	<i>Sisyrinchium bellum</i>	Blue-Eyed Grass	Ground cover
261	<input type="checkbox"/>	<i>Solanum douglasii</i>	Douglas Nightshade	Shrub

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION
FUEL MODIFICATION ZONE PLANT LIST
July 15, 1997

	Code	Botanical Name	Common Name	Plant Form
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262	<input type="checkbox"/>	<i>Solanum xanthii</i>	Purple Nightshade	Perennial
263	W	<i>Stenocarpus sinuatus</i>	Firewheel Tree	Tree
264	W	<i>Strelitzia nicolai</i>	Giant Bird of Paradise	Perennial
265	W	<i>Strelitzia reginae</i>	Bird of Paradise	Perennial
266	<input type="checkbox"/>	<i>Symphoricarpos mollis</i>	Creeping Snowberry	Shrub
267	W	<i>Tecoma stans</i> (<i>Stenolobium stans</i>)	Yellow Bells	Shrub/Small tree
268	X	<i>Tecomaria capensis</i>	Cape Honeysuckle	Ground cover
269	N	<i>Teucrium chamaedrys</i>	Germander	Ground cover
270	N	<i>Thymus serpyllum</i>	Lemon Thyme	Ground cover
271	N	<i>Trachelospermum jasminoides</i>	Star Jasmine	Shrub
272	<input type="checkbox"/>	<i>Trichostema lanatum</i>	Woolly Blue-Curis	Shrub
273	X	<i>Trifolium hirtum</i> 'Hyron'	Hyron Rose Clover	Ground cover
274	X	<i>Trifolium fragiferum</i> 'O'Connor's'	O'Connor's Legume	Ground cover
275	<input type="checkbox"/>	<i>Umbellularia californica</i>	California Laurel	Tree
276	<input type="checkbox"/>	<i>Verbena lasiostachys</i>	Western Vervain	Perennial
277	N	<i>Verbena peruviana</i>	nen	Ground cover
278	X	<i>Verbena</i> species	Verbena	Ground cover
279	X	<i>Vinca minor</i>	Dwarf Periwinkle	Ground cover
280	<input type="checkbox"/>	<i>Vitis girdiana</i>	Desert Wild Grape	Vine
281	X	<i>Vulpia myuros</i> 'Zorro'	Zorro Annual Fescue	Grass

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION
FUEL MODIFICATION ZONE PLANT LIST
July 15, 1997

	Code	Botanical Name	Common Name	Plant Form
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282	W	Westringia fruticosa		Shrub
283	W	Xanthorrhoea species	Grass Tree	Perennial accent /Shrub
284	W	Xylosma congestum	Shiny Xylosma	Shrub
285	X	Yucca species	Yucca	Shrub
286	<input type="checkbox"/>	Yucca whipplei	Yucca	Shrub

*****Plants listed in gray boxes may not be appropriate for use in certain locations based on invasiveness and ability to hybridize and will be reviewed on a case by case bases by the appropriate jurisdiction.*

- X = Plant species prohibited in fuel modification zones adjacent to reserve lands. Acceptable on all other fuel modification locations and zones.
- W = Plant species appropriate for use in irrigated portions of fuel modification zones adjacent to reserve lands. Acceptable in all other fuel modification locations and zones.
- = Plant species native to San Diego County. Acceptable in all fuel modification zones in all locations.
- N = Plant species acceptable on a limited basis (maximum 30% of the area at time of planting) in irrigated portions of fuel modification zones adjacent to reserve lands. Acceptable in all other fuel modification locations and zones.
- * = If locally collected.
- ** = Not native but can be used in all zones.
- = Plant species acceptable on a limited use basis. Refer to qualification requirements following plant palette.

UNDESIRABLE PLANTS AND WEEDS

Within Fuel Modification Zone

BOTANIC NAME

Adenostoma fasciculatum

Adenostoma sparsifolium

COMMON NAME

Chamise

Red Shanks

Rancho Santa Fe
Fire Protection District

Desirable
Tree
List



Rancho Santa Fe Fire Protection District
Proudly Serving the Community Since 1946

Updated September, 2002

PO Box 410/16936 El Fuego ~ Rancho Santa Fe, CA 92067
Business (858) 756-5971 ~ Fax (858) 756-4799
www.rsf-fire.org

The Desirable Tree List is arranged alphabetically by botanical name, followed by common name. Also included is the height of each tree at maturity, and the distance each tree should be planted apart from one another. When referring to the tree list, please use the tree legend and comment codes listed below.

TREE LIST LEGEND

Geographical Area	Water Needs	Evergreen/Deciduous
C = Coastal	H = High	E = Evergreen
IV = Interior Valleys	M = Moderate	D = Deciduous
D = Deserts	L = Low	
	VL = Very Low	



COMMENT CODES

1	Not for use in coastal areas	13	Tends to be short lived
2	Should not be used on steep slopes	14	Highly fire-resistive
3	May be damaged by frost	15	Dead fronds or leaves need to be removed to maintain fire-resistive status
4	Should be thinned bi-annually to remove dead or unwanted growth	16	Tolerant of heavy pruning
5	Good for erosion control	17	Must be cut back after flowering
6	Grows best in well-drained soils	18	May require partial shade in desert or valley areas
7	Produces flowers or fruit that attracts birds and/or butterflies	19	Perennial
8	Adaptability can vary	20	Tolerates saline soils
9	Can be used as a lawn substitute	21	Grows naturally in riparian areas
10	Showy flowers	22	Good tree for lawns
11	Produces edible fruit	23	Produces habitat or food for wildlife
12	California native or native cultivar	24	Trees acceptable for under/near primary (up to 12 kv) power lines.



The enclosed Desirable Tree List is provided as a suggested guideline (not exclusive) for fuel modification landscapes within the Rancho Santa Fe Fire Protection District.



Pine trees, eucalyptus, cypress, junipers and firs are not recommended for planting, especially within 30-feet of a structure, due to their exceptionally high flammability. Flammable trees and shrubs may render your home indefensible during a wildfire.

All trees should be chosen with on-going maintenance in mind, and trimmed at least 10 to 30-feet from combustible construction, roofs and wood siding. Trees must also be limbed up to a minimum of six-feet above surrounding vegetation to prevent a ground fire from 'laddering' into tree crowns.

The Desirable Tree List is based on comments from numerous professionals and public agencies, including:

- [Sunset Western Garden Book](#)
- Bob Perry's [Landscape Plants for Western Regions](#)
- [Street Trees Recommended for Southern California](#)
- And the California Department of Water Resources study entitled, [WUCOLS \(Water Use Classification of Landscape Species\)](#)

More information about fire-resistive landscaping is available through these resources:

"Firescape" Gardening:

Quail Botanical Gardens
 230 Quail Gardens Drive, Encinitas, CA 92024
 (760) 436-3036 / Fax: (760) 632-0917
www.qbgardens.com

"SelectTree" tree selection guidelines for California:

<http://selecttree.calpoly.edu>



Rancho Santa Fe Fire Protection District Desirable Tree List

Botanical Name (Alphabetical)	Common Name	Height (In Feet)	Spread (In Feet)	Geograph- ical Area	Water Needs	D/E	Other Comment Codes
<i>Acer macrophyllum</i>	Bigleaf Maple	30-95'	30-95'	C, IV	M	D	12, 23
<i>A. negundo</i>	Box Elder	<60'	<50'	IV, D	M, L	D	12, 23
<i>A. palmatum</i>	Japanese Maple	<20'	<20'	C, IV	M	D	6
<i>A. saccharinum</i>	Silver Maple	40-100'	40-100'	C, IV, D	M	D	22
<i>Agonis flexuosa</i>	Peppermint Tree	25-35'	25-35'	C, IV	M, L	E	3, 22
<i>Albizia julibrissin</i>	Silk Tree	<40'	>40'	C, IV, D	M	D	7, 10, 22
<i>Alnus cordata</i>	Italian Alder	40'	25'	C, IV, D	M	D	22
<i>A. rhombifolia</i>	White Alder	50-90'	40'	IV	H, M	D	12, 21, 23
<i>Arbutus Marina</i>	Arbutus	<40'	<40'	C, IV, D	M, L	E	5, 7, 10, 11, 23
<i>A. unedo</i>	Strawberry Tree	12-35'	20-35'	C, IV, D	M, L	E	5, 7, 10, 11, 23, 24
<i>Archontophoenix alexandrae</i>	Alexandrea Palm	50'	10-15'	C, IV	M	E	3, 10, 15
<i>A. cunningham</i>	King Palm	50'	10-15'	C, IV	M	E	3, 10, 15
<i>Avocado species</i>	Avocado	varies	varies	C, IV	M	E	--
<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree	20-25'	20-25'	C, IV	L	D	4, 10
<i>B. variegata</i>	Purple Orchid Tree	20-35'	35'	C, IV	M	D/E	4, 10
<i>Betula pendula</i>	European White Birch	30-40'	30'	C, IV, D	M	D	6, 22
<i>Brachychiton acerifolius</i>	Flame Tree	60'	45-50'	C, IV, D	L	D	10, 22
<i>B. populneus</i>	Kurrajong Bottle Tree	30-50'	30'	C, IV, D	L	E	10, 22
<i>Brahea armata</i>	Blue Hesper Palm	40'	10'	C, IV, D	L, VL	E	6, 10, 15
<i>B. brandegeei</i>	San Jose Hesper Palm	<125'	10'	C, IV	L, VL	E	15
<i>B. edulis</i>	Guadalupe Palm	30'	10'	C, IV, D	L, VL	E	6, 15
<i>Calodendrum capense</i>	Cape Chestnut	30'	25-40'	C, IV	M	D	7, 10
<i>Carya illinoensis</i>	Pecan	70'	70'	C, IV, D	M, L	D	6, 11
<i>Cassia leptophylla</i>	Gold Medallion Tree	20-25'	10'	C, IV	L, M	E	10, 16, 17, 22
<i>Ceratonia siliqua</i>	Carob	30-40'	15-30'	C, IV	M, L	E	--
<i>Cercis occidentalis</i>	Western Redbud	20'	20'	C, IV, D	M, L	D	7, 10, 12, 23, 24
<i>Chamaerops humilis</i>	Mediterranean Fan Palm	20'	20'	C, IV, D	M	E	15
<i>Chionanthus retusus</i>	Chinese Fringe Tree	20'	20'	C, IV	M	D	10, 24
<i>Chitalpa tashkentensis</i>	Chitalpa	20-30'	20'	C, IV, D	M, L	D	7, 10, 24
<i>Chorisia speciosa</i>	Floss Silk Tree	30-60'	30-40'	C, IV, D	M	D	10, 22
<i>Cinnamomum camphora</i>	Camphor Tree	>50'	>60'	C, IV, D	M, L	E	22
<i>Citrus species</i>	Citrus	20-30'	20-30'	C, IV	M	E	--
<i>Cordyline australis</i>	Giant Dracaena	30'	15'	C, IV, D	M	E	15
<i>Cupaniopsis anacardioides</i>	Carrot Wood	40'	40'	C, IV, D	M	E	20
<i>Dracaena drago</i>	Dragon Tree	20'	20'	C, IV	M, L	E	3, 10, 14, 15
<i>Eriobotrya deflexa</i>	Bronze Loquat	20'	20'	C, IV, D	M, L	E	10, 24
<i>E. japonica</i>	Loquat	15-30'	20-30'	C, IV	M, L	E	--
<i>Erythrina species</i>	Coral Tree	varies	varies	C, IV, D	M, L	D	3, 7, 8
<i>Eucalyptus torquata</i>	Coral Gum	<25'	<20'	IV, D	M, L	E	1, 5, 7, 10, 20, 24
<i>Feijoa sellowiana</i>	Pineapple Guava	18-25'	<25'	C, IV, D	M, L	E	3, 7, 8, 10, 11, 16, 24
<i>Ficus species</i>	Fig	varies	varies	C, IV, D	M, L	D/E	3, 8, 24
<i>Fraxinus augustifolia</i>	Raywood Ash	25-35'	30'	C, IV, D	M	D	22
<i>F. dipetala</i>	Foothill Ash	18-20'	20-30'	C, IV, D	L, VL	D	12, 21, 22, 23
<i>F. latifolia</i>	Oregon Ash	40-80'	40-60'	C, IV, D	M	D	12, 22, 23
<i>F. velutina</i>	Arizona Ash	20-50'	30-50'	C, IV, D	M, L	D	22, 23
<i>F. velutinacoriacea</i>	Montebello Ash	20-40'	20-40'	C, IV, D	M, L	D	12, 22, 23
<i>Geijera parviflora</i>	Australian Willow	25-30'	20-30'	C, IV, D	M, L	E	6, 24
<i>Gingko Biloba</i>	Maidenhair Tree	35-80'	30-60'	C, IV, D	M, L	D	6, 22
<i>Gleditsia triacanthos</i>	Honey Locust	35-70'	<30'	IV, D	M, L	D	6, 22
<i>Grevillea robusta</i>	Silk Oak	50-60'	50'	C, IV	L, M	E	--
<i>Hymenosporum flavum</i>	Sweetshade	20-40'	15-20'	IV	M, L	E	10
<i>Jacaranda mimosifolia</i>	Jacaranda	25-40'	<30'	C, IV, D	M, L	D	10, 22
<i>Juglans californica</i>	So. Calif. Black Walnut	20-35'	30-45'	C, IV	L	D	5, 6, 12, 23
<i>Koelreuteria bipinnata</i>	Chinese Flame Tree	20-40'	<45'	C, IV, D	M	D	6, 22

Botanical Name (Alphabetical)	Common Name	Height (In Feet)	Spread (In Feet)	Geographical Area	Water Needs	D/E	Other Comment Codes
<i>K. paniculata</i>	Golden Rain Tree	20-35'	<40'	IV, D	M, L	D	20, 22, 24
<i>Lagerstroemia indica</i>	Crape Myrtle	<30'	<20'	IV, D	M, L	D	10, 22, 24
<i>Lagunaria patersonii</i>	Primrose Tree	20-40'	30'	C, IV	M	E	--
<i>Liquidambar formosana</i>	Chinese Sweet Gum	40-60'	25'	C, IV, D	M	D	7
<i>L. styraciflua</i>	American Sweet Gum	60'	<25'	C, IV, D	M	D	8
<i>Liriodendron tulipifera</i>	Tulip Tree	60-80'	40'	C, IV, D	M	D	22
<i>Lithocarpus densiflorus</i>	Tanbark Oak	<60'	<40'	C, IV	L	E	6, 12, 23
<i>Magnolia species</i>	Magnolia	varies	varies	C, IV, D	M	E/D	6, 7, 8, 9, 10, 22, 24
<i>Metrosideros excelsus</i>	New Zealand Christmas	<30'	<30'	C, IV	L, VI	E	5, 6, 7, 10
<i>Morus alba</i>	White Mulberry	20-60'	30-50'	IV, D	M, L	D	11, 16
<i>Olea europea</i>	Olive	<35'	20-30'	C, IV, D	L, VL	E	11, 16, 20
<i>Phoenix canariensis</i>	Canary Island Date Palm	<60'	50'	C, IV	L, M	E	15
<i>P. dactylifera</i>	Date Palm	<80'	30'	IV	L, M	E	15
<i>P. reclinata</i>	Sinegal Date Palm	20-30'	20'	C, IV	L, M	E	15
<i>P. roebelenii</i>	Pigmy Date Palm	6'	10'	C, IV	L, M	E	15
<i>Pistacia chinensis</i>	Chinese Pistache	<60'	<50'	C, IV, D	M, L	D	22
<i>Pittosporum phylliraeoides</i>	Willow Pittosporum	15-25'	10-15'	C, IV, D	L	E	10
<i>P. rhombifolium</i>	Queensland Pittosporum	15-35'	<25'	C, IV, D	M	E	22
<i>P. undulatum</i>	Victorian Box	<25'	<25'	C, IV	M	E	22
<i>Platanus acerifolia</i>	London Plane Tree	40-80'	30-40'	C, IV, D	L	D	22
<i>P. racemosa</i>	California Sycamore	50-100'	50-100'	C, IV, D	L	D	12, 21, 22, 23
<i>Podocarpus gracillor</i>	Fern Pine	<60'	<60'	C, IV, D	M	E	16, 22
<i>P. macrophyllus</i>	Yew Pine	<50'	<45'	C, IV, D	M	E	16, 22
<i>Populus fremontii</i>	Fremont Cottonwood	40-60'	40-60'	C, IV, D	M	D	12, 21, 22, 23
<i>P. nigra 'Italica'</i>	Lombardy Poplar	40-100'	10-20'	C, IV	M	D	22
<i>Prunus caroliniana</i>	Carolina Cherry Laurel	35-40'	30-40'	C, IV	L, M	E	--
<i>P. ilicifolia</i>	Hollyleaf Cherry	15-30'	15-30'	C, IV, D	L, VL	E	7, 11, 12, 16, 23
<i>P. lyonii</i>	Catalina Cherry	20-45'	>30'	C, IV, D	L, VL	E	7, 11, 12, 16, 23
<i>P. species & 'cultivars'</i>	Cherry	varies	varies	C, IV, D	varies	E/D	7, 8, 10, 11, 16, 24
<i>Punica granatum</i>	Pomegranate	12-18'	<20'	C, IV, D	L	D	7, 11, 20, 24
<i>Pyrus kawakamii</i>	Evergreen Pear	<30'	20-30'	C, IV	L, M	E	--
<i>Quercus agrifolia</i>	Coast Live Oak	30-70'	>70'	C, IV, D	L, VL	E	6, 12, 23
<i>Q. chrysolepis</i>	Canyon Live Oak	30-60'	20-60'	C, IV	M, L	E	6, 12, 36
<i>Q. douglasii</i>	Blue Oak	50'	>50'	C, IV, D	M	D	6, 12, 23
<i>Q. engelmannii</i>	Engelmann Oak	60'	>60'	IV, D	L	E	6, 12, 23
<i>Q. ilex</i>	Holly Oak	40-70'	40-70'	C, IV, D	M	E	6, 23
<i>Q. palustris</i>	Pin Oak	50-80'	50-70'	C, IV, D	H, M	D	6, 22, 23
<i>Q. rubra</i>	Red Oak	<90'	90'	C, IV	H, M	D	6, 23
<i>Q. suber</i>	Cork Oak	70-100'	<100'	C, IV, D	M	E	6, 23
<i>Q. virginia</i>	Southern Live Oak	60'	100'	C, IV, D	M, H	E/D	22
<i>Rhus lancea</i>	African Sumac	20-30'	20-30'	C, IV, D	L	E	20, 22, 24
<i>Robina ambigua</i>	Locust	30-50'	<30'	IV, D	M, L	D	1, 7, 10, 22
<i>R. pseudoacacia</i>	Black Locust	75'	30-40'	IV, D	L	D	1, 5, 7, 10, 22
<i>Schefflera actinophylla</i>	Queensland Umbrella Tree	>20'	>20'	C	H, M	E	3, 8, 18
<i>S. pueckleri</i>	Tupidanthus	>20'	>20'	C	H, M	E	3, 8, 18
<i>Stenocarpus sinvatus</i>	Firewheel Tree	30'	10-20'	C, IV	L	E	--
<i>Syagrus romanzoffianum</i>	Queen Palm	50'	20'	C, IV	L, M	E	--
<i>Tabebuia chrysostricha</i>	Golden Trumpet Tree	25-30'	<30'	C, IV	M	E	6, 10, 22, 24
<i>T. impetiginosa</i>	Pink Trumpet Tree	35'	<30'	C, IV	M	E	6, 10, 22
<i>Tipuana tipu</i>	Tipu Tree	<50'	<50'	C, IV	M	D	10, 22
<i>Trachycarpus fortunei</i>	Windmill Palm	<30'	<6'	C, IV, D	M	E	15
<i>Tristania conferta</i>	Brisbane Box	30-60'	<40'	C, IV	L, VL	E	22
<i>Umbellularia californica</i>	California Bay	30-75'	30-75'	C, IV, D	L, VL	E	5, 12, 23
<i>Ulmus parvifolia</i>	Chinese Elm	40-60'	50-70'	C, IV	L, M	D/E	22
<i>Washingtonia filifera</i>	California Fan Palm	<60'	10-15'	C, IV	L, M	E	15
<i>W. robusta</i>	Mexican Fan Palm	100'	10-15'	C, IV	L, M	E	--
<i>Zelkova serrata</i>	Sawleaf Zelkova	60'	60'	IV, D	M	D	22
<i>Ziziphus jujuba</i>	Chinese Jujube	20-30'	20-30'	C, IV, D	M, L	D	11, 20, 22

APPENDIX F
UNDESIRABLE PLANTS

Undesirable Plant and Weed List

This list has been reproduced from the San Diego County Fire Chief's Association [Wildland-Urban Interface Development Standards, June 1997 Revision](#), pages 35-36.

The following plants and weeds have been declared "undesirable" within the 100-foot Fuel Modification Zone surrounding all structures. All vegetation is listed alphabetically by botanical name, followed by the common name.

BOTANICAL NAME	COMMON NAME
Adenostoma fasciculatum	Chamise
Adenostoma sparsifolium	Red Shanks
Anthemix cotula	Mayweed
Artemisia californica	California Sagebrush
Arundo Donax	Giant Cane
Brassica rapa	Wild Turnip, Yellow Mustard, Field
Brassica nigra	Black Mustard
Cardaria draba	Hoary Cress, Perennial Peppergrass
Cirsium vulgare	Wild Artichoke
Conyza canadensis	Horseweed
Cortaderia selloana	Pampas Grass
Cytisus Spp.	Scotch Broom, French Broom
Eriogonum fasciculatum	Common Buckwheat
Heterotheca grandiflora	Telegraph plant
Lactuca serriola	Prickly Lettuce
Nicotiana bigelovii	Indian Tobacco
Nicotiana glauca	Tree Tobacco
Salsola australis	Russian Thistle or Tumbleweed
Salvia mellifera	Black Sage
Silybum marianum	Milk Thistle
Tamarix Spp.	Tamarisk
Urtica urens	Burning Nettle
Most species of Eucalyptus	

Acceptable plants are listed in the approved fuel modification plant list, *Wildland-Urban Interface Development Standards, June 1997 Revision*.

Additional plants may be added to the landscape Plant Material Palette with approval from the Rancho Santa Fe Fire Protection District and the County of San Diego.

 Vegetation Management

[Fire, Brush, and Building Information for Municipalities and Fire Protection Districts in the County of San Diego](#)

Contact Us

For answers to your basic questions about undesirable plants, please contact us via email at Ask-FireMarshal@rsf-fire.org. If more in depth information is needed please call us 858-756-5971 and make an appointment. Thank you.

COUNTY OF SAN DIEGO TRACT NO. 5456-RPL2

A 19 LOT SUBDIVISION - LOTS 1-18 AS TO SINGLE FAMILY RESIDENTIAL
 LOT 19 (THE COLONY AT CIELO) AS A CONDOMINIUM LOT FOR 19 AIR SPACE UNITS

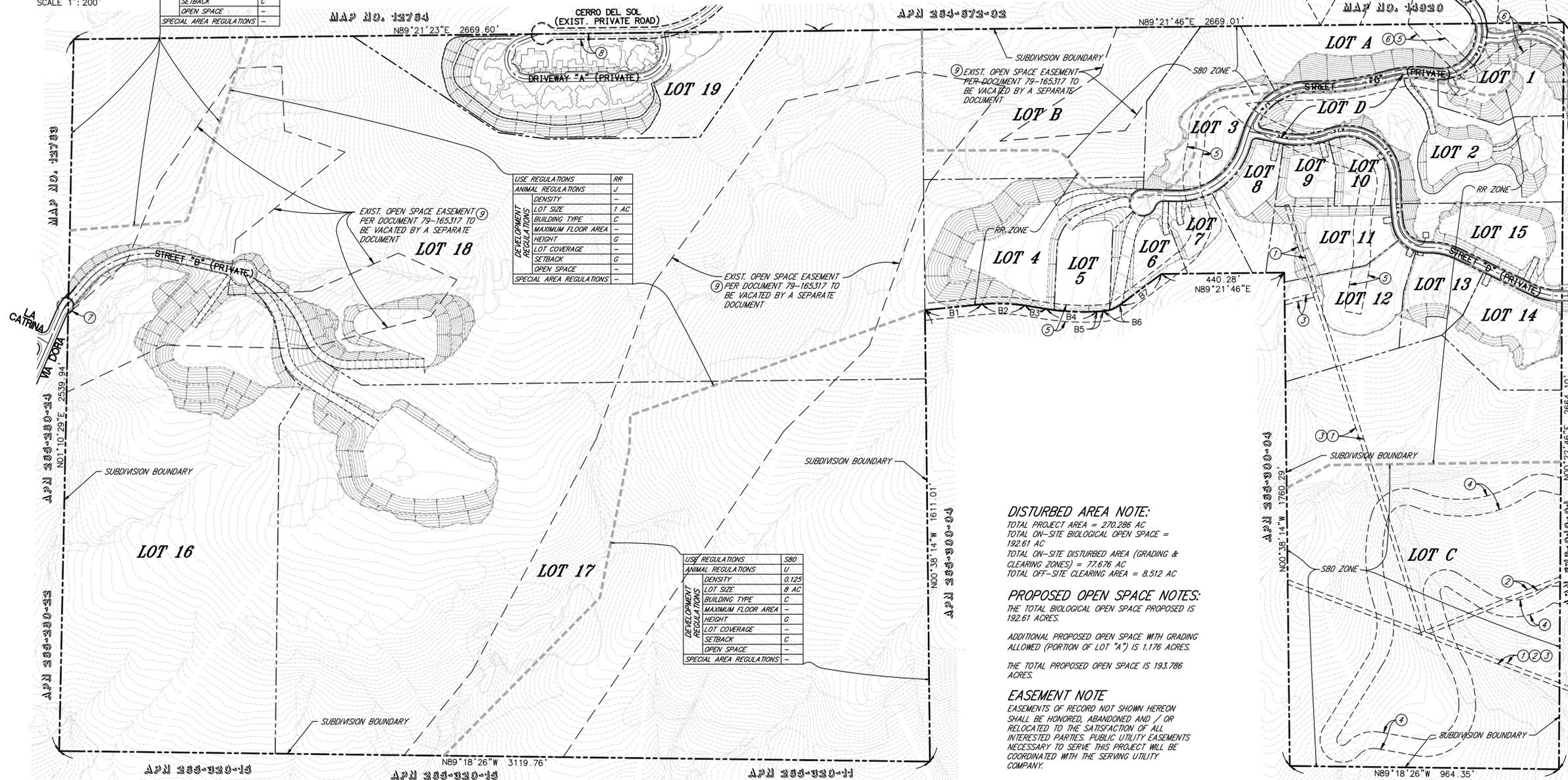


SCALE 1" = 200'

USE REGULATIONS	SRD
ANIMAL REGULATIONS	U
DENSITY	0.125
LOT SIZE	8 AC
BUILDING TYPE	C
MAXIMUM FLOOR AREA	-
HEIGHT	G
LOT COVERAGE	-
SETBACK	C
OPEN SPACE	-
SPECIAL AREA REGULATIONS	-

USE REGULATIONS	RR
ANIMAL REGULATIONS	J
DENSITY	-
LOT SIZE	1 AC
BUILDING TYPE	C
MAXIMUM FLOOR AREA	-
HEIGHT	G
LOT COVERAGE	-
SETBACK	G
OPEN SPACE	-
SPECIAL AREA REGULATIONS	-

USE REGULATIONS	SRD
ANIMAL REGULATIONS	U
DENSITY	0.125
LOT SIZE	8 AC
BUILDING TYPE	C
MAXIMUM FLOOR AREA	-
HEIGHT	G
LOT COVERAGE	-
SETBACK	C
OPEN SPACE	-
SPECIAL AREA REGULATIONS	-



- EXISTING EASEMENTS**
- 15 FOOT WIDE EASEMENT FOR OVERHEAD AND UNDERGROUND ELECTRIC POWER AND TELEPHONE FACILITIES RECORDED SEPTEMBER 26, 1979 AS INSTRUMENT #79-402714 O.R. PORTION TO BE VACATED.
 - 15 FOOT WIDE EASEMENT FOR OVERHEAD AND UNDERGROUND ELECTRIC POWER AND TELEPHONE FACILITIES RECORDED SEPTEMBER 26, 1979 AS INSTRUMENT #79-402715 O.R. TO REMAIN.
 - 15 FOOT WIDE EASEMENT FOR OVERHEAD AND UNDERGROUND ELECTRIC POWER AND TELEPHONE FACILITIES RECORDED JUNE 9, 1980 AS INSTRUMENT #80-009302 O.R. PORTION TO BE VACATED.
 - 60 FOOT WIDE EASEMENT FOR ROAD, WATERLINES, UTILITIES, AND UTILITY COMPANY ACCESS RECORDED SEPTEMBER 26, 1979 AS INSTRUMENT #79-402710 O.R. TO REMAIN.
 - 60 FOOT WIDE EASEMENT FOR ROAD AND PUBLIC UTILITY PURPOSES RECORDED MAY 4, 1979 AS INSTRUMENT #79-183678, MAY 8, 1979 AS INSTRUMENT #79-186121 AND FEBRUARY 3, 1984 AS INSTRUMENT #84-043358 O.R. TO BE VACATED.
 - 60 FOOT WIDE EASEMENT FOR ROAD, WATERLINES, UTILITIES, AND UTILITY COMPANY ACCESS GRANTED TO THEODORE AND FRANCES KOONS RECORDED SEPTEMBER 26, 1979 AS INSTRUMENT #79-402711 O.R. TO BE VACATED.
 - AN EASEMENT FOR PRIVATE ROAD AND PUBLIC UTILITY PURPOSES GRANTED TO PACIFIC CIELO DEVELOPMENT, INC., A CALIFORNIA CORPORATION, RECORDED OCTOBER 10, 1990 AS INSTRUMENT #1991-0012821 SCH. C, O.R. TO REMAIN.
 - AN EASEMENT FOR PRIVATE ROAD AND PUBLIC UTILITY PURPOSES GRANTED TO PACIFIC CIELO DEVELOPMENT, INC., A CALIFORNIA CORPORATION, RECORDED OCTOBER 10, 1990 AS INSTRUMENT #1991-0012821 SCH. D, O.R. TO REMAIN.
 - AN EASEMENT FOR OPEN SPACE & RECREATIONAL PURPOSES GRANTED TO THE COUNTY OF SAN DIEGO, RECORDED APRIL 23, 1979 AS INSTRUMENT #1979-165317 O.R. TO BE VACATED.
- PUBLIC ACCESS STATEMENT**
- PUBLIC ACCESS TO STREET "A" IS FROM DEL DIOS HIGHWAY TO CALLE AMBIENTE TO VIA AMBIENTE TO VIA RANCHO CIELO TO CERRO DEL SOL. PUBLIC ACCESS TO STREET "B" IS FROM DEL DIOS HIGHWAY TO CALLE AMBIENTE TO VIA DORA. PUBLIC ACCESS TO STREETS "C" & "D" IS FROM DEL DIOS HIGHWAY TO CALLE AMBIENTE TO VIA AMBIENTE TO VIA RANCHO CIELO TO AVENIDA BARRANCA.

DISTURBED AREA NOTE:
 TOTAL PROJECT AREA = 270.286 AC
 TOTAL ON-SITE BIOLOGICAL OPEN SPACE = 192.61 AC
 TOTAL ON-SITE DISTURBED AREA (GRADING & CLEARING ZONES) = 77.676 AC
 TOTAL OFF-SITE CLEARING AREA = 8.512 AC

PROPOSED OPEN SPACE NOTES:
 THE TOTAL BIOLOGICAL OPEN SPACE PROPOSED IS 192.61 ACRES.
 ADDITIONAL PROPOSED OPEN SPACE WITH GRADING ALLOWED (PORTION OF LOT "A") IS 1.176 ACRES.
 THE TOTAL PROPOSED OPEN SPACE IS 193.786 ACRES.

EASEMENT NOTE
 EASEMENTS OF RECORD NOT SHOWN HEREON SHALL BE HONORED, ABANDONED AND / OR RELOCATED TO THE SATISFACTION OF ALL INTERESTED PARTIES. PUBLIC UTILITY EASEMENTS NECESSARY TO SERVE THIS PROJECT WILL BE COORDINATED WITH THE SERVING UTILITY COMPANY.

LOT AREA SUMMARY

LOT NO.	GA [acres]	NA [acres]	PA [sq. ft.]
1	2.772	2.497	17,439.97
2	6.206	6.206	39,881.18
3	4.218	4.218	73,600.76
4	5.688	5.688	65,064.30
5	1.714	1.714	57,826.05
6	1.424	1.110	26,110.46
7	1.285	1.285	21,049.61
8	1.552	1.552	30,232.71
9	1.004	1.004	27,578.59
10	1.019	1.019	30,552.68
11	2.280	2.280	52,319.66
12	3.446	3.446	71,018.50
13	1.532	1.532	41,094.72
14	2.813	2.813	59,404.20
15	2.735	2.735	56,515.95
16	30.392	30.033	78,042.45
17	72.394	72.377	100,160.07
18	69.840	69.453	41,468.85
19	9.399	9.150	-
A	3.189	3.189	-
B	10.410	10.410	-
C	32.102	32.102	-
D	2.854	2.854	-
TOTAL	270.286	-	-

LEGAL DESCRIPTION
 THE NORTHWEST QUARTER AND A PORTION OF NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 13 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

SOURCE OF TOPOGRAPHY
 AERIAL PHOTOGRAMMETRY BY ANALYTICAL PHOTOGRAMMETRIC SURVEYS, INC. DATED MARCH 15, 2002.

ASSESSOR'S PARCEL NUMBERS
 265-300-02, 03 & 05

OWNER CERTIFICATE
 I HEREBY CERTIFY THAT I AM THE RECORD OWNER OF THE PROPERTY SHOWN ON THIS TENTATIVE SUBDIVISION MAP AND THAT SAID MAP SHOWS MY ENTIRE CONTIGUOUS OWNERSHIP. I UNDERSTAND THAT PROPERTY IS CONSIDERED SEPARATED EVEN IF IT SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS OR RAILROAD RIGHTS OF WAY.

OWNER / DEVELOPER
 CIELO 182, LLC
 1570 LINDA VISTA DRIVE
 SAN MARCEOS, CA 92069

Warner Lusardi
 WARNER LUSARDI TRUSTEE
 MANAGING MEMBER

Warner Lusardi
 WARNER LUSARDI TRUSTEE
 MANAGING MEMBER

03/14/2012
 DATE

CONDOMINIUM MAP STATEMENT (FOR LOT 19 ONLY)
 LOT 19 OF THIS MAP IS A CONDOMINIUM PROJECT AS DEFINED IN SECTION 1350 OF THE STATE OF CALIFORNIA CIVIL CODES. THE MAXIMUM NUMBER OF DWELLING UNITS IS 19.

- GENERAL NOTES**
- GROSS AREA WITHIN SUBDIVISION BOUNDARY: 270.287 ACRES.
 - GROSS AREA OF LOT 19 IS 9.40 ACRES & NET AREA IS 9.15 ACRES.
 - LOT 19 OF THE PROJECT IS FOR 19 UNIT CONDOMINIUMS. LOTS 1-18 ARE FOR SINGLE FAMILY DWELLINGS.
 - PROJECT IS WITHIN THE SAN DIEGUITO COMMUNITY PLAN AREA.
 - LAND USE DESIGNATION: COUNTRY ESTATES, OPEN SPACE AND PLANNED DEVELOPMENT PER RANCHO CIELO SPECIFIC PLAN CAT. 21.
 - POLICE PROTECTION PROVIDED BY THE COUNTY OF SAN DIEGO SHERIFF'S DEPARTMENT.
 - SETBACKS TO CONFORM TO ZONE REGULATIONS.
 - THIS IS A SOLAR SUBDIVISION AS REQUIRED BY SECTION 81.401(N) SUBDIVISION ORDINANCE. ALL LOTS HAVE AT LEAST 100 SF OF UNOBSTRUCTED ACCESS TO SUNLIGHT ON THE BUILDABLE PORTION OF THE LOT.
 - NO SPECIAL ASSESSMENT PROCEEDING PROPOSED AT THIS TIME.
 - PARK IN LIEU FEES TO BE PAID.
 - THIS PROJECT SHALL COMPLY WITH THE STREET LIGHTS REQUIREMENTS SPECIFIED IN THE COUNTY STANDARDS.
 - PROJECT IS NOT SUBJECT TO 100-YEAR FLOODPLAINS.
 - SEE GRADING EXHIBIT FOR DETAIL GRADING CONCEPT PROPOSED.
 - TOTAL OPEN SPACE TO BE VACATED IS 193.20 ACRES.
 - TOTAL OPEN SPACE TO BE GRANTED IS 193.786 ACRES.

SHEET INDEX

SHEET 1 TITLE SHEET
 SHEETS 2 & 3 TENTATIVE MAP
 SHEET 4 EASEMENT DIMENSIONS

EARTHWORK QUANTITIES

TOTAL CUT: 468,500 CY
 TOTAL FILL: 468,500 CY

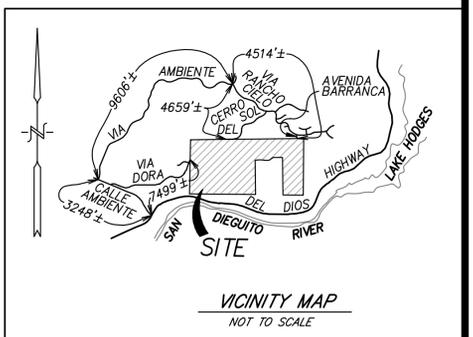
PUBLIC UTILITIES & DISTRICTS

SEWER - RANCHO CIELO SANITATION DISTRICT
 WATER - OLIVENHAIN MUNICIPAL WATER DISTRICT
 GAS & ELECTRIC - SAN DIEGO GAS & ELECTRIC
 TELEPHONE - PACIFIC BELL TELEPHONE COMPANY
 FIRE - RANCHO SANTA FE FIRE PROTECTION DISTRICT
 SCHOOLS - ESCONDIDO UNION HIGH SCHOOL DISTRICT AND ESCONDIDO UNION SCHOOL DISTRICT.

SURVEYOR OF WORK
 EXCEL ENGINEERING
 440 STATE PLACE
 ESCONDIDO, CA 92029
 PHONE (760) 745-8118
 FAX (760) 745-1890

Michael D. Levin
 MICHAEL D. LEVIN, PLS 6896

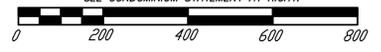
LICENSED LAND SURVEYOR
 Michael D. Levin
 Exp. 6-30-13
 No. 6896
 STATE OF CALIFORNIA



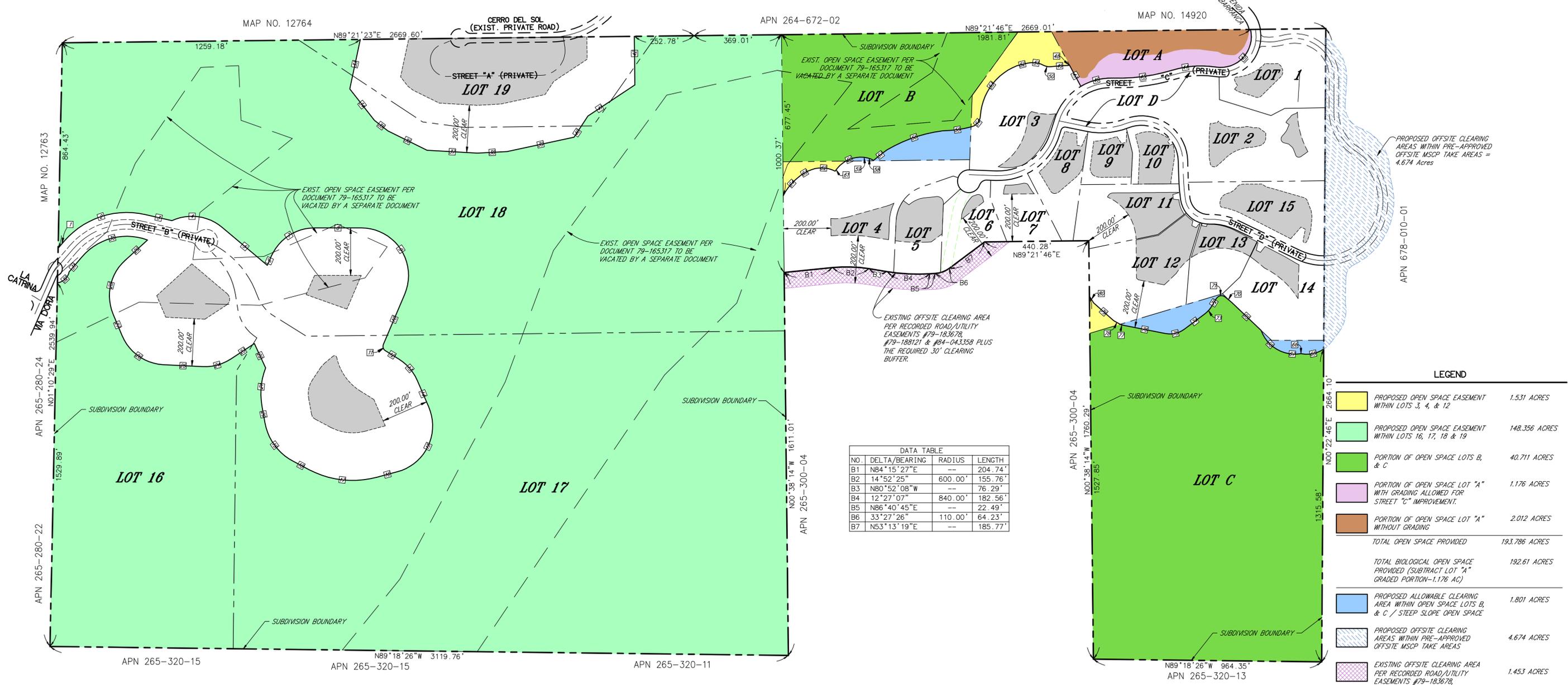
DATA TABLE

NO.	DELTA/BEARING	RADIUS	LENGTH
B1	N84°15'27"E	--	204.74'
B2	14°52'25"	600.00'	155.76'
B3	N80°52'08"W	--	76.29'
B4	12°27'07"	840.00'	182.56'
B5	N86°40'45"E	--	22.49'
B6	33°27'26"	110.00'	64.23'
B7	N53°13'19"E	--	185.77'

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 LAND PLANNING • ENGINEERING • SURVEYING
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 PH (760) 745-8118 FX (760) 745-1890



COUNTY OF SAN DIEGO TRACT NO. 5456-RPL2



DATA TABLE			
NO.	DELTA/BEARING	RADIUS	LENGTH
B1	N84°15'27"E	---	204.74'
B2	14°52'25"	600.00'	155.76'
B3	N80°52'08"W	---	76.29'
B4	12°27'07"	840.00'	182.56'
B5	N86°40'45"E	---	22.49'
B6	33°27'26"	110.00'	64.23'
B7	N53°13'19"E	---	185.77'

LEGEND	
	PROPOSED OPEN SPACE EASEMENT WITHIN LOTS 3, 4, & 12 1.531 ACRES
	PROPOSED OPEN SPACE EASEMENT WITHIN LOTS 16, 17, 18 & 19 148.356 ACRES
	PORTION OF OPEN SPACE LOTS B, & C 40.711 ACRES
	PORTION OF OPEN SPACE LOT "A" WITH GRADING ALLOWED FOR STREET "C" IMPROVEMENT. 1.176 ACRES
	PORTION OF OPEN SPACE LOT "A" WITHOUT GRADING 2.012 ACRES
TOTAL OPEN SPACE PROVIDED 193.786 ACRES	
TOTAL BIOLOGICAL OPEN SPACE PROVIDED (SUBTRACT LOT "A" GRADED PORTION-1.176 AC) 192.61 ACRES	
	PROPOSED ALLOWABLE CLEARING AREA WITHIN OPEN SPACE LOTS B, & C / STEEP SLOPE OPEN SPACE 1.801 ACRES
	PROPOSED OFFSITE CLEARING AREAS WITHIN PRE-APPROVED OFFSITE MSCP TAKE AREAS 4.674 ACRES
	EXISTING OFFSITE CLEARING AREA PER RECORDED ROAD/UTILITY EASEMENTS #79-183678, #79-188121 & #84-043358 PLUS THE REQUIRED 30' CLEARING BUFFER. 1.453 ACRES
	LIMITS OF COMBUSTIBLE RESIDENTIAL CONSTRUCTION

OPEN SPACE EASEMENT DATA				
NO	DELTA/BRG	RADIUS	LENGTH	REMARK
1	N40°47'17"E	---	38.49'	"
2	Δ=62°05'48"	350.00'	379.33'	"
3	N77°06'55"W	---	115.36'	"
4	Δ=64°54'27"	200.00'	226.57'	"
5	N49°57'44"W	---	248.28'	"
6	N23°58'51"E	---	42.72'	"
7	Δ=66°01'09"	200.00'	230.45'	"
8	N90°00'00"W	---	196.93'	"
9	Δ=113°02'43"	200.00'	394.60'	"
10	N23°02'43"E	---	231.48'	"
11	Δ=81°15'18"	20.00'	28.36'	"
12	N58°12'35"W	---	67.92'	"
13	Δ=34°45'46"	200.00'	121.35'	"
14	N23°26'49"W	---	120.61'	"
15	Δ=98°26'55"	200.00'	343.65'	"
16	N75°00'06"E	---	88.59'	"
17	Δ=42°43'53"	400.00'	298.32'	"
18	N62°16'01"W	---	74.25'	"
19	Δ=52°05'36"	230.00'	209.12'	"
20	N10°10'26"W	---	70.25'	"
21	Δ=31°13'57"	300.00'	163.53'	"
22	N24°51'14"W	---	112.80'	"
23	N56°52'53"E	---	118.94'	"

OPEN SPACE EASEMENT DATA				
NO	DELTA/BRG	RADIUS	LENGTH	REMARK
24	Δ=36°00'18"	200.00'	125.68'	"
25	N87°06'49"W	---	165.79'	"
26	Δ=64°21'47"	200.00'	224.67'	"
27	N22°45'02"W	---	98.07'	"
28	Δ=70°34'36"	200.00'	246.36'	"
29	N47°49'34"E	---	128.24'	"
30	Δ=69°39'58"	250.00'	303.98'	"
31	N40°47'17"E	---	82.85'	"
32	Δ=69°16'24"	60.00'	72.54'	"
33	N12°06'52"E	---	212.99'	"
34	N38°12'26"W	---	168.13'	"
35	N52°04'42"W	---	72.55'	"
36	N63°52'22"W	---	184.49'	"
37	N86°40'04"W	---	212.48'	"
38	N86°49'42"E	---	126.04'	"
39	N77°59'21"E	---	289.03'	"
40	N33°23'05"E	---	106.87'	"
41	N56°33'05"E	---	237.57'	"
42	N00°38'37"W	---	204.25'	"
43	Δ=112°01'33"	130.00'	254.18'	"
44	Δ=25°33'19"	420.00'	187.33'	"
45	Δ=18°38'42"	780.00'	253.83'	"
46	Δ=32°19'50"	250.00'	141.07'	"

OPEN SPACE EASEMENT DATA				
NO	DELTA/BRG	RADIUS	LENGTH	REMARK
47	N28°18'11"W	---	103.34'	"
48	N33°48'33"E	---	3.90'	"
49	Δ=04°54'57"	900.19'	77.23'	"
50	Δ=34°03'49"	50.00'	29.73'	"
51	Δ=39°52'20"	100.00'	69.59'	"
52	Δ=02°52'17"	930.19'	46.61'	"
53	Δ=65°23'01"	242.58'	276.82'	"
54	Δ=71°38'24"	50.00'	62.52'	"
55	Δ=13°42'36"	511.90'	122.49'	"
56	Δ=23°19'44"	616.68'	251.09'	"
57	Δ=04°41'15"	881.17'	72.09'	"
58	Δ=22°40'34"	100.00'	39.58'	"
59	N83°17'42"W	---	4.61'	"
60	Δ=56°05'58"	128.34'	125.66'	"
61	N37°28'13"E	---	15.06'	"
62	Δ=47°04'01"	123.85'	101.74'	"
63	Δ=22°13'34"	172.40'	66.88'	"
64	Δ=25°24'21"	225.12'	99.82'	"
65	Δ=43°11'13"	129.24'	97.42'	"
66	Δ=17°12'28"	19.87'	5.97'	"
67	Δ=23°57'52"	162.76'	68.07'	"
68	Δ=53°51'01"	148.30'	139.38'	"
69	N46°38'22"W	---	172.28'	"

OPEN SPACE EASEMENT DATA				
NO	DELTA/BRG	RADIUS	LENGTH	REMARK
70	N50°21'46"W	---	34.95'	"
71	Δ=98°01'22"	25.00'	42.77'	"
72	N31°36'52"E	---	41.73'	"
73	Δ=21°40'08"	100.00'	37.82'	"
74	N53°17'00"E	---	110.60'	"
75	Δ=47°47'42"	100.00'	83.42'	"
76	N78°55'18"W	---	178.83'	"
77	Δ=09°13'53"	100.00'	16.11'	"
78	N60°39'39"W	---	31.39'	"
79	N48°29'23"W	---	112.68'	"
80	N31°23'24"W	---	34.21'	"

- ### EASEMENT NOTES
- THREE (3) LEGAL OPEN SPACE LOTS ARE PROPOSED IN THIS MAP. THESE ARE LOTS "A", "B" & "C".
 - PORTIONS OF OPEN SPACE LOTS "B" & "C" ARE WITHIN THE ALLOWABLE CLEARING AREA.
 - GRADING FOR THE PURPOSE OF BUILDING STREET "C" IS PROPOSED TO BE ALLOWED WITHIN OPEN SPACE LOT "A".
 - OPEN SPACE EASEMENTS ARE PROPOSED WITHIN LOTS 3, 4, 12, 16, 17, 18 & 19.
 - THE EXISTING OPEN SPACE NOTED IN THE FEDERAL REGISTER FOR CIELO RIDGE & RANCHO CIELO DE LUSARDI SITES IS 51.20 ACRES AND THE MADURA HAS 142 ACRES FOR A TOTAL OF 193.20 ACRES.
 - THIS TENTATIVE MAP PROPOSES A TOTAL OF 193.786 ACRES OF OPEN SPACE. THIS IS A 0.586 ACRES IN EXCESS OF THE AREA SHOWN IN THE FEDERAL REGISTER FOR THE SITES.



SCALE 1" = 200'



Figure 10