

***FIREWISE* 2000, Inc.**

An International Consulting Firm  
Ronald J. Woychak, President

***"Wildland Fire/Urban Intermix Planning"***

December 20, 2016

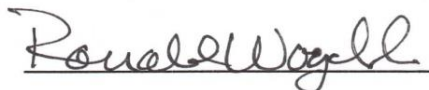
Howard Cooper  
Development Manager  
Harper Communities Inc.  
8110 El Paseo Grande Ste 105  
San Diego, CA 92037

RE: MUP 10-037 CHANGES TO PROJECT DESCRIPTION

Howard,

The changes in the project description, i.e. no preschool and the addition of solar power, will have no impact on the project CEQA Fire Protection Plan dated August 22, 2012, updated on May 1, 2015. The solar power system will be a roof-mounted array and should not affect the determination of the Fire Protection Plan.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ronald Woychak", written over a horizontal line.

Ronald Woychak, President

***FIREWISE* 2000, Inc.**  
1320 Scenic Drive  
Escondido, CA 92029  
(760)745-3947



**FIRE PROTECTION PLAN**  
**CHINESE BIBLE CHURCH OF SAN DIEGO**  
16919 Four Gee Road  
San Diego, California  
3300 10-037(MUP),  
APN 678-060-27-00, Kiva Project: 09-0117132

**Original Report: Aug 22, 2012**  
**Updated Report: May 1, 2015**

**Prepared by:**

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

*Robin Church*

**Robin Church, County Approved Fire Consultant**

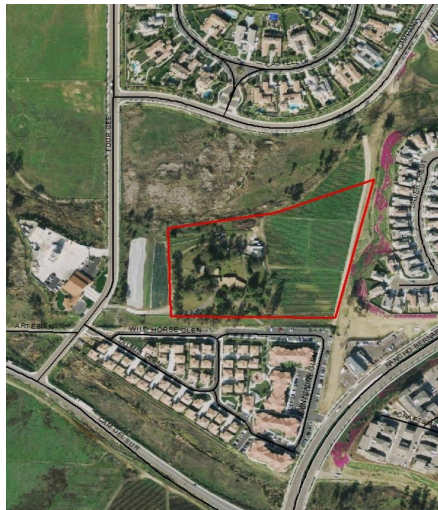
**Peer Review by:**

*Ronald Woychak*

**Ronald Woychak**  
***FIREWISE 2000, Inc.***

**Prepared For:**

**County of San Diego**  
**Planning & Development Services**  
5510 Overland Drive  
San Diego, CA 92123  
and  
**Harper Communities, Inc.**  
8110 El Paseo Grande, Ste 105  
San Diego, CA 92037







## **TABLE OF CONTENTS**

<b>SECTION</b>	<b>PAGE</b>
<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>1.0 INTRODUCTION</b>	<b>2</b>
<b>1.1 Project Location, Description &amp; Environmental Setting</b>	<b>2</b>
<b>1.1.1 Project Location</b>	<b>2</b>
<b>1.1.2 Project Description</b>	<b>6</b>
<b>1.1.3 Environmental Setting</b>	<b>6</b>
<b>2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE</b>	<b>11</b>
<b>3.0 ANTICIPATED FIRE BEHAVIOR IN THE VICINITY</b>	<b>12</b>
<b>4.0 ANALYSIS OF PROJECT EFFECTS</b>	<b>12</b>
<b>4.1 Adequate Emergency Services</b>	<b>12</b>
<b>4.2 Primary and Secondary Access</b>	<b>13</b>
<b>4.2.1 Access</b>	<b>13</b>
<b>4.2.2 Impacts to Emergency Vehicle Response from Fire Station No. 2</b>	<b>16</b>
<b>4.3 Water</b>	<b>17</b>
<b>4.4 Ignition Resistant Construction and Fire Protection Systems</b>	<b>17</b>
<b>4.5 Fire Fuel Assessment</b>	<b>17</b>
<b>4.6 Fire Behavior Modeling</b>	<b>18</b>
<b>4.7 Defensible Space and Vegetation Management</b>	<b>18</b>
<b>4.7.1 Vegetation</b>	<b>18</b>
<b>4.7.2 Fuel Modeling</b>	<b>18</b>
<b>4.7.3 Fuel Management</b>	<b>21</b>
<b>4.8 Cumulative Impact Analysis</b>	<b>22</b>
<b>5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS</b>	<b>22</b>
<b>6.0 CONCLUSION</b>	<b>23</b>
<b>7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED</b>	<b>23</b>
<b>8.0 PREPARER'S LIABILITY STATEMENT</b>	<b>23</b>
<b>9.0 REFERENCES CITED OR CONSULTED</b>	<b>24</b>
<b>LIST OF TABLES</b>	
<b>Table 1 Weather Inputs for the Coastal Zone</b>	<b>18</b>

<b>Table 2 Habitats and Corresponding Fuel Models</b>	<b>19</b>
<b>Table 3 Fire Modeling Results for Santa Ana</b>	<b>20</b>
<b>Table 4 Fire Modeling Results for Peak</b>	<b>20</b>
<b>Table 5 Fire Modeling Results for Summer</b>	<b>21</b>

## **TABLE OF CONTENTS**

### **LIST OF FIGURES**

<b>Figure 1</b>	<b>Regional Location</b>	<b>3</b>
<b>Figure 2</b>	<b>Vicinity Map</b>	<b>4</b>
<b>Figure 3</b>	<b>State Responsibility Area Map</b>	<b>5</b>
<b>Figure 4</b>	<b>Site Plan</b>	<b>Map Pocket</b>
<b>Figure 5</b>	<b>Aerial Map</b>	<b>7</b>
<b>Figure 6</b>	<b>Topographic Map</b>	<b>8</b>
<b>Figure 7</b>	<b>Vegetation Map</b>	<b>9</b>
<b>Figure 8</b>	<b>Fire Hazard Severity Zones</b>	<b>14</b>
<b>Figure 9</b>	<b>Fire History</b>	<b>15</b>
<b>Figure 10</b>	<b>Landscape Plan</b>	<b>Map Pocket</b>

### **LIST OF APPENDICES**

<b>Appendix A</b>	<b>Fire Service Availability Letter</b>
<b>Appendix B</b>	<b>Fuel Parameters</b>
<b>Appendix C</b>	<b>Fuel Modeling</b>
<b>Appendix D</b>	<b>Acceptable Plants</b>
<b>Appendix E</b>	<b>County of San Diego's List of Undesirable Plants</b>
<b>Appendix F</b>	<b>Maintenance of Palms</b>
<b>Appendix G</b>	<b>FPP Letter of Approval</b>



## EXECUTIVE SUMMARY

This Fire Protection Plan (FPP) has been prepared for the Chinese Bible Church San Diego which is located within the Santa Fe Valley Specific Plan at 16919 Four Gee Road. The proposed project is a religious assembly in the Santa Fe Valley Specific Plan on a 9.09 gross acre site (8.42 acres net.) The project will include a sanctuary and administrative building as well as several church related buildings. At completion of Phase II the total building area will be approximately 89,000 square feet in five separate buildings. Access to the project will be from Four Gee Road via a driveway called Grace Way. The site contains an existing open space easement in the northwest corner.

The proposed project is located within the Rancho Santa Fe Fire Protection District (District). 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. Water will be provided by the Olivenhain Municipal Water District. The site is in a State Responsibility Area and an area mapped as high hazard fire severity by CalFire. The District has mapped all areas within its boundary as *Very High Fire Hazard Severity Zone* however. The proposed project is being located in the District, is required to comply with all applicable fire protection and construction related local regulations and standards including but not limited to: District Ordinance 2014-01A, County of San Diego Ordinances 10146-10148 and the Consolidated Fire Code, County Ordinance 10172.

The District also requires that the project comply with all applicable national, federal and state fire regulations and standards. Fire Station No. 2 is located directly across Four Gee Road from the proposed project. Fire Station No. 2 is a regional training facility whereby multiple fire agencies use it for live fire training exercises which can produce smoke and flames. These live training exercises may impact the proposed project depending on the wind direction and time of day. The Fire Marshall has requested that this information be disclosed to the project applicant.

In order to prevent delays to Emergency Response time, Camino de Sur and the intersection with Four Gee Road shall be signalized as shall the intersection of Grace Way and Four Gee Road. Both signals shall be capable of being activated from within Fire Station No. 2, located directly across from Grace Way. These signals shall also be strobe controlled for traffic safety. The signalization of the lights will prevent delays in response time as a result of church related activities.

The project is designed in conformance with 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 as a result there are no significant impacts pursuant to CEQA.



## **1.0 INTRODUCTION**

This Fire Protection Plan (FPP) has been prepared for the Chinese Bible Church San Diego. 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 the Rancho Santa Fe Fire Protection District (District). 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 District has mapped all areas within its boundary as *Very High Fire Hazard Severity Zone*. The proposed project, being located in the District, is required to comply with all applicable fire protection and construction related local regulations and standards including but not limited to: District Ordinance 2014-01A, County of San Diego Ordinances 10146-10148 and the Consolidated Fire Code, County Ordinance 10172. The Fire Service Availability Letter is included as Appendix A.

### **1.1 Project Location, Description and Environmental Setting**

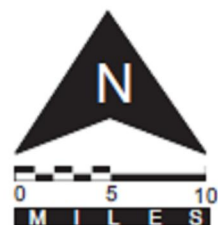
#### **1.1.1 Project Location**

The proposed project is located within the Santa Fe Valley Specific Plan within unincorporated San Diego County (Figure 1). The project is located at 16919 Four Gee Road (Figure 2). The site is in a State Responsibility Area as mapped by the CalFire (Figure 3). The project is located within the Olivenhain Municipal Water District.

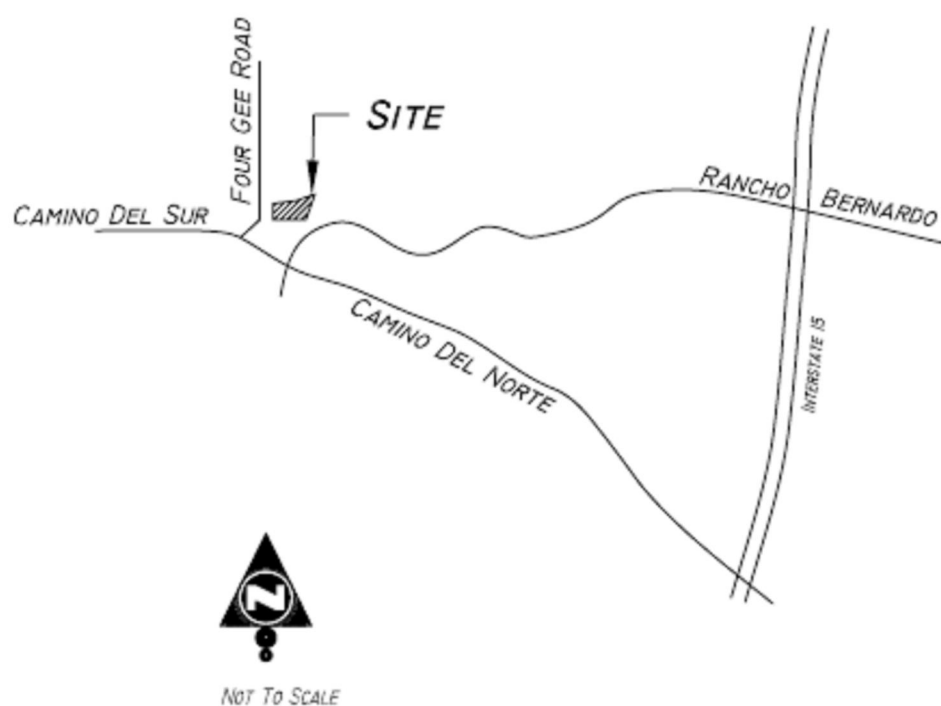
Fire Station No. 2 is located directly across Four Gee Road from the proposed project. Fire Station No. 2 is a regional training facility whereby multiple fire agencies use it for live fire training exercises which can produce smoke and flames. These live training exercises may impact the proposed project depending on the wind direction and time of day. This information is placed in this document for disclosure purposes for the project applicant.



Figure 1  
Regional Location Map







**RC**

Biological Consulting, Inc.

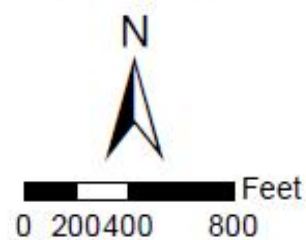
Vicinity Map

Figure 2



Source: CalFire FRAP Data

Figure 3  
Responsibility Area



### **1.1.2 Project Description**

The proposed project is a religious assembly in the Santa Fe Valley Specific Plan on a 9.09 gross acre site (8.42 acres net)(Figure 4 – Site Plan – Map Pocket). The project will include a sanctuary, ancillary fellowship hall, classrooms, offices, recreation, Church café, Bible book store, kitchen/food preparation area, and preschool/kindergarten. At completion of Phase II the total building area will be approximately 89,000 square feet in five separate buildings. The capacity of the main sanctuary is 1000 seats at phase I and at final build out is 1500 seats.

Access to the project will be from Four Gee Road via a driveway called Grace Way. Construction of Grace Way will result in offsite impacts. Sewer will be provided by the Rancho Santa Fe Community Services District. Water will be provided by the Olivenhain Municipal Water District. The site contains an existing open space easement in the northwest corner.

### **1.1.3 Environmental Setting**

#### Land Use, Topography, Climate

The project site was visited on January 12<sup>th</sup>, 2012 to review the topography, vegetation and existing uses of the property. The entire site has been graded in the past. The site is composed of residentially developed and agricultural lands with the exception of a small area of open space in the northwestern corner. The site has residential development to the south and east, a fire station to the west and the small tributary of the San Dieguito River to the north (Figure 5).

The project site is shown on the Escondido USGS 7.5' Quadrangle. The project site is a small knoll and gently slopes. The onsite elevations range from approximately 493 feet above mean sea level to 511 feet above mean sea level (Figure 6).

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 (which includes the site) 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 coastal climate zone. Average rainfall is 13 inches per year (Western Regional Climate Center).

#### Vegetation, Fuel Loads, Fire History

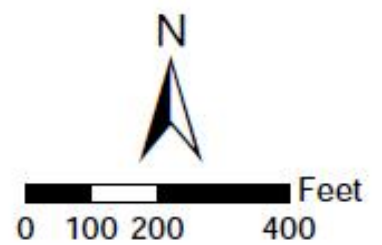
The existing vegetation was mapped by the project biologist (Figure 7). The entire site with the exception of the open space limit in the northwest corner will be developed as part of the project (Figure 5). The open space currently contains emergent wetlands and non-native grassland. The non-native grassland may develop into a shrub community through time. The site is surrounded by development to the south, east and southwest. Offsite fuel threat from the north and northwest are primarily additional emergent wetlands and non-native grassland.





Source: Terraserver 1/1/2008

Figure 5  
Surrounding Land Use





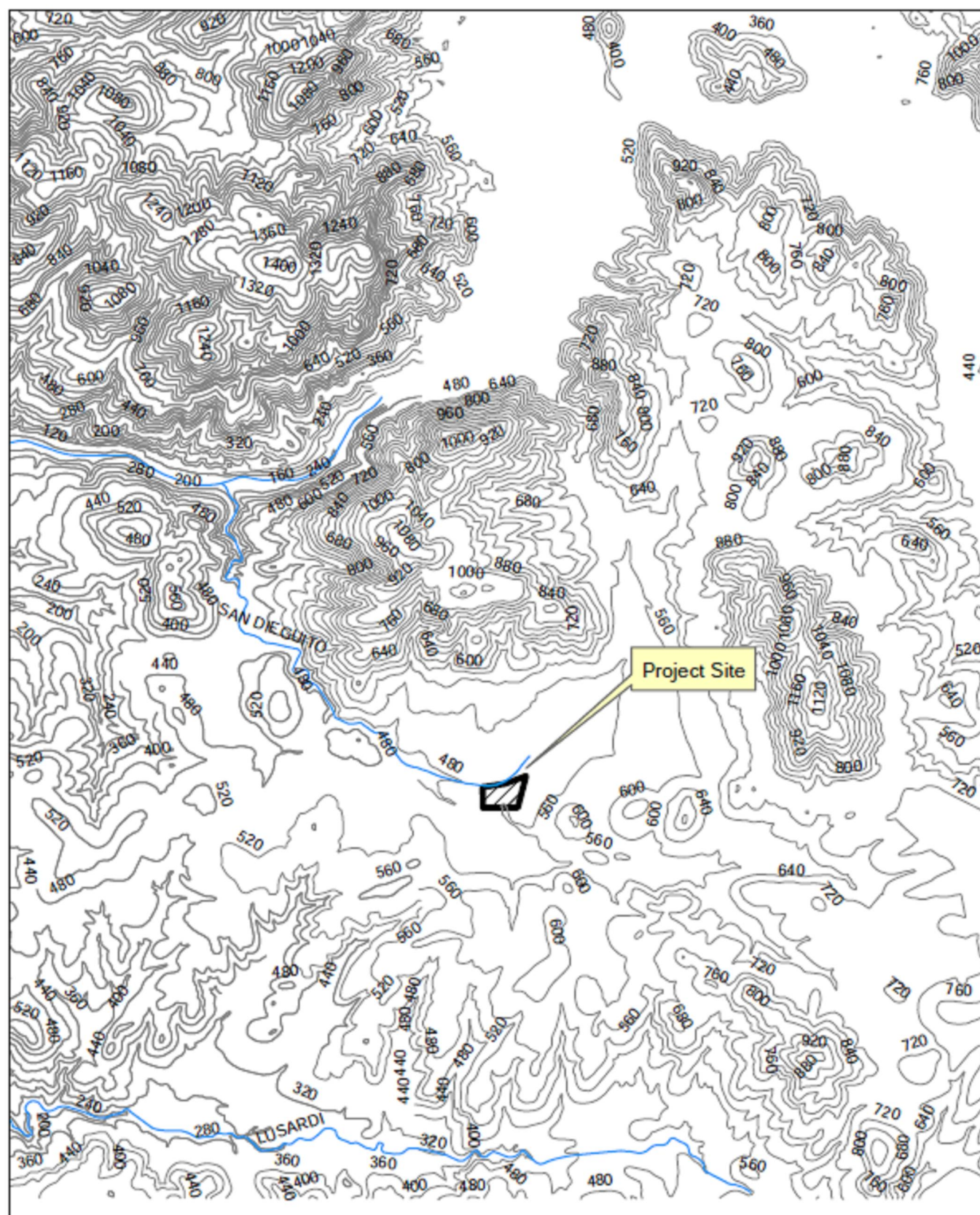


Figure 6  
Topography

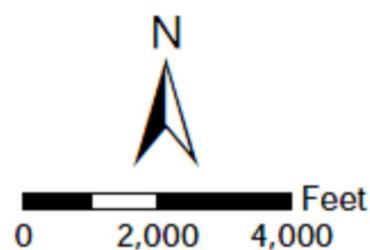






FIGURE 7 - BIOLOGICAL RESOURCES MAP





Photograph 1. Emergent Wetlands and Non-native Grassland



Photograph 2. Non-native Grassland Offsite to North

The project site is mapped as being located within a high fire hazard severity zone by CalFire (Figure 8) with the adjacent areas being mapped as very high, moderate and urban/developed. However the Fire District has declared all within its boundaries as *Very High Fire Hazard Severity Zone* by adopting a more stringent ordinance (District Ordinance 2014-01A). 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 two times during that period, in 1943 and 1981. The Witch Fire of 2007 came within 200 feet of the western property line.

## **2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE**

The County of San Diego's Guidelines for Determining Significance for Wildland Fire and Fire Protection, Second Revision was approved on August 31, 2010 by Eric Gibson, the Director of Planning and Land Use, to provide the following thresholds to generally decide, as related to Wildland Fire and Fire Protection, if a project will cause a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air and water. An affirmative response to, or confirmation of any one of the following Guidelines, will generally be considered a significant impact, related to Wildland Fire and Fire Protection as a result of the project, in the absence of evidence to the contrary:

1. The project cannot demonstrate compliance with all applicable fire codes.
2. A comprehensive Fire Protection Plan has been accepted, and the project is inconsistent with its recommendations.
3. The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

The project, with the design considerations and mitigation measures as required in section 5.0 below, does not exceed the County Wildland Fire and Fire Protection thresholds based on the evidence found in this report.

1. The project demonstrates compliance with all applicable fire codes.
  - The proposed project is being located in the District
  - All projects in the District are required to comply with all applicable fire protection and construction related local regulations and standards.
  - These codes including but not limited to: District Ordinance 2014-01A, County of San Diego Ordinances 10146-10148 and the Consolidated Fire Code, County Ordinance 10172.
2. A comprehensive Fire Protection Plan has been accepted, and the project is consistent with its recommendations.
  - The original FPP was approved by the District's Fire Marshal Chris Galindo on September 27, 2012 (Appendix G).
  - This updated FPP report is being resubmitted to the District for final approval.



- The project will be required to be constructed consistent with the final approved FPP which includes the Mitigation Measures and Design Considerations shown in section 5.0 below.
3. The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.
- The Adequate Emergency Services section 4.1 below points out that the the project is located across the street from the District's Fire Station 2 and the expected emergency travel time is less than 2 minutes.
  - The travel time is in compliance with the Safety Element of the San Diego County General Plan (County 2011) as noted in section 4.1 below.

### **3.0 ANTICIPATED FIRE BEHAVIOR IN THE VICINITY**

As discussed in section 1.1.3, the fire history since 1919 shows that the area has burnt at least 12 times, while the project site has burnt only twice (Figure 9). CalFire has mapped the adjacent areas as very high, moderate and urban/developed (Figure 8) but the District has mapped all areas as *Very High Fire Hazard Severity Zone* through adoption of the more stringent District Ordinance 2014-01A. Santa Ana, peak and summer weather conditions reach temperatures of 109° but Santa Ana and peak periods can have sustained winds of 22 to 26 mph. (See section 4.7.2 Table 1)

The entire site will be developed, including the 100 foot fuel management zone around buildings, except for non-native grassland in the the northwest corner (Figure 10). Only District approved plants will be included in the project (Appendix D and E). Adjacent to the site is development to the south, east and southwest with the only fuel threat being the emergent wetlands and non-native grasslands to the north and northwest.

As can be seen from the modeling section 4.7.2 (Table 4), including all subsections and Appendixes B and C, the greatest anticipated flame length is 28 feet resulting from the vegetation burning during a Peak Santa Ana fire. The fuel management zone is almost four times the largest anticipated flame length (section 4.7.3). As discussed in section 4.7.2, because the terrain leading to the sight is a gentle slope and developed on all sides, except a narrow swath 400 feet to the east, a Santa Ana wind driven fire would not be able to get a large run on the site from wildland fuels. The balance of the project is adjacent to development. The project is in compliance with the Consolidated Fire Code and Rancho Santa Fe Fire Code for fuel management. The project will not expose people or structures to a significant risk of loss, injury, or death as a result of wildland fires.

## **4.0 ANALYSIS OF PROJECT EFFECTS**

### **4.1 Adequate Emergency Services**

The project is located within the Rancho Santa Fe Fire Protection 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 2, is located at 16930 Four Gee Road. The proposed project is across the street from the fire station. The estimated travel time is less than 2 minutes. The Project Facility Availability form dated 2-11-14 completed by Deputy Fire Marshal Renee Hill states that the expected travel time to the proposed project is less than 2 minutes (Appendix A).

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

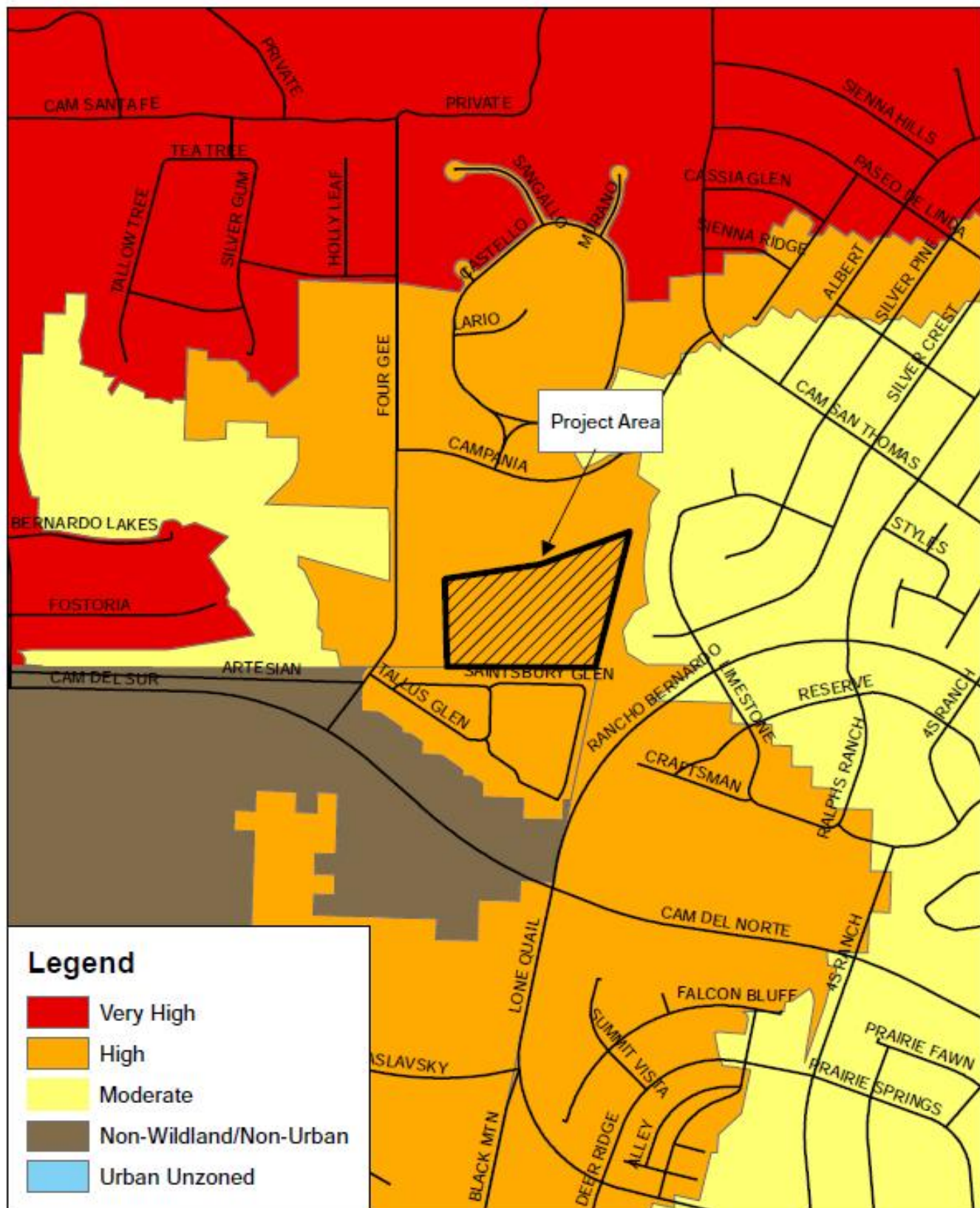
### **4.2 Primary and Secondary Access**

#### **4.2.1 Access**

Road maintenance shall be the responsibility of the Chinese Bible Church of San Diego, its successors or assignees. Primary access will be provided by Grace Way. Grace Way will be improved as shown on the site plan. The proposed improved width is approximately 44 feet which is 20 feet wider than the minimum required of 24 feet in the Fire Service Availability Letter. The intersection of Grace Way and Four Gee Road is the first location from which a car may turn left or right to leave the area. The project is not required to provide secondary access.

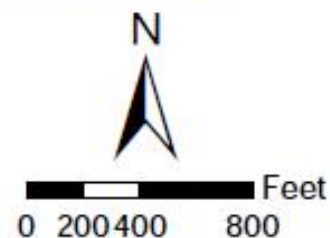
The access road, Grace Way and internal loop shall be constructed in conformance with Section 503 of the Consolidated Fire Code, County Ordinance 10148, and District Ordinance 2014-01A. Fire apparatus access roads shall be required for every building hereafter constructed when any portion of an exterior wall of the first story is located more than 150 feet from the closest point of fire department vehicle access.

F



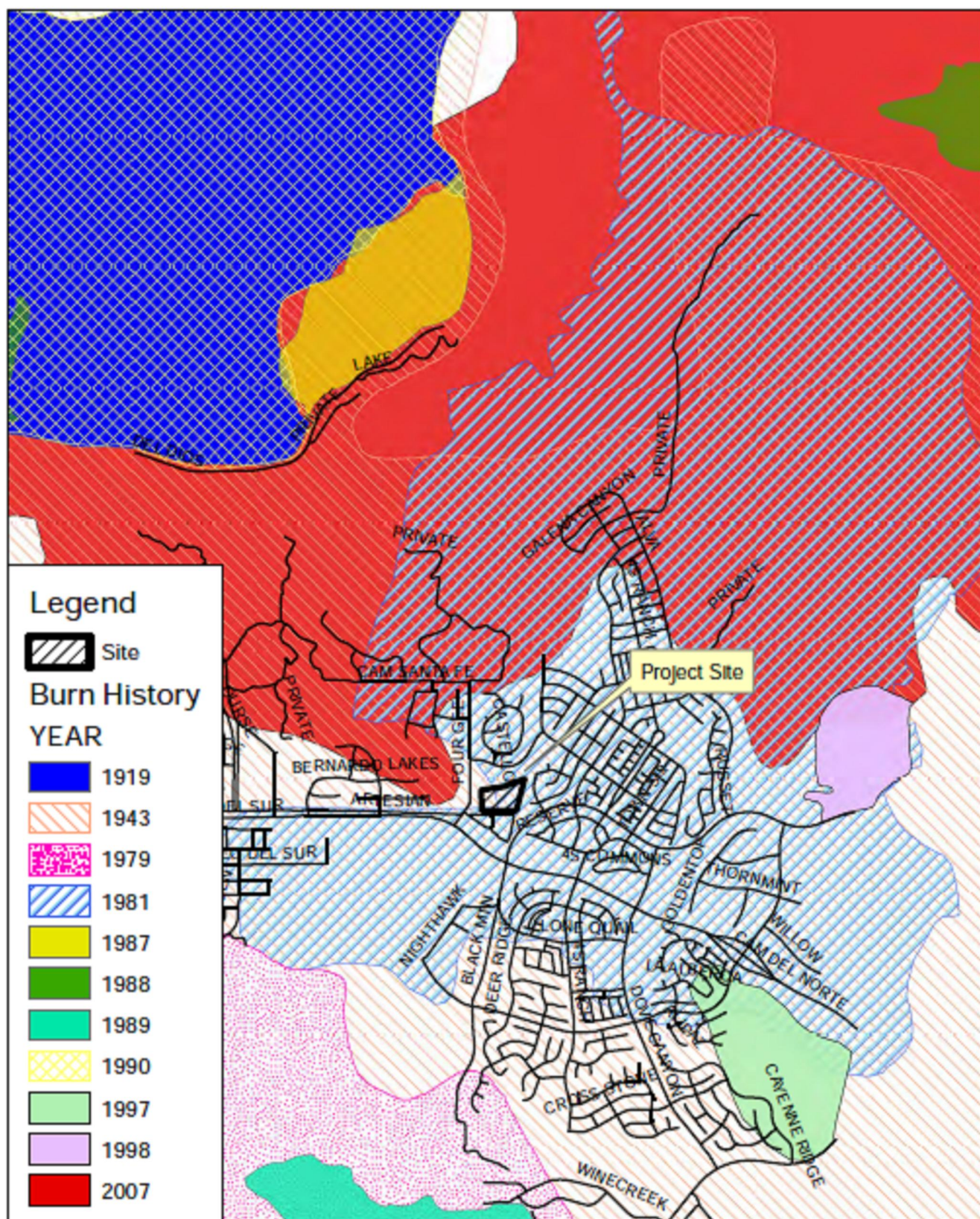
Source: CalFire FRAP Data

Figure 8  
Fire Hazard Severity Zones



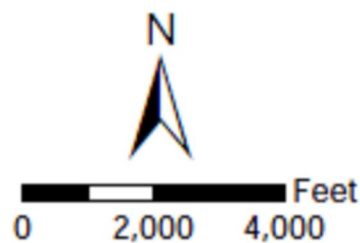






Source: CalFire FRAP Data

Figure 9  
Fire History





Fire apparatus access roads shall be provided and maintained in compliance with this section and the most recent edition and any amendments thereto, of public and private road standards as adopted by the County of San Diego (San Diego County Standards for Private Roads and Public Roads, San Diego County Department of Public Works). The fire code official may modify the requirements of this section if the modification provides equivalent access.

**Sec. 503.1.1 Buildings and facilities.** Approved fire apparatus access roads shall be provided for every facility, building or portion of building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

**Exceptions:** The fire code official may increase the 150 foot minimum where:

1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with sections 903.3.1.1, 903.3.1.2 or 903.3.1.3.

The internal loop road allows for Fire Truck access to within 150 feet of all portions of the building as required when a truck is parked perpendicular to parked cars. All of the buildings shall have approved automatic sprinkler systems.

All other portions of Section 503 apply including but not limited to: dimensions, vertical clearance, grade, surface and imposed loads. The first layer of asphalt must be in place and serviceable prior to delivery of combustible materials to the site.

To assist emergency personnel to find a building, a lighted directory map, meeting current Fire District Standards shall be installed in a pre-approved location.

The project including Grace Way plus all existing roads would result in adequate emergency access.

No traffic calming devices shall be installed and all fire lane markings shall be labeled and/or installed where necessary.

Fire alarms will be required according to the use and occupancy.

#### **4.2.2 Impacts to Emergency Vehicle Response From Fire Station No. 2**

Regularly scheduled services and facility uses may result in large volumes of vehicles entering and exiting the Proposed Project during a consolidated period of time. Due to the fact that the driveway for Fire Station No. 2 is located directly across from Grace Way, the proposed project entrance, there is a potential for the traffic to result in delays to emergency vehicle response from the fire station. No feasible alternatives exist to relocate the access. In order to reduce the potential for delays to emergency vehicle response from Fire Station No. 2, the intersection of Camino de Sur and Four Gee Road shall be signalized as shall the intersection of Grace Way and Four Gee Road. Both signals shall be capable of being activated from within Fire Station No. 2, located directly across from Grace Way. These signals shall also be strobe controlled for traffic safety. The signalization of the lights will prevent delays in response time as a result of church related activities. This design measure was identified in cooperation



with the District. Additionally, road striping “Do Not Block” shall be painted in front of the Fire Station entrance.

The project signal at Grace Way along with remote activation features and added road striping would result in adequate emergency access.

#### **4.3 Water**

The project site is located within the Olivenhain Municipal Water District. Due to the project being located within a hazardous fire area, the main capacity for the project shall be 2500 gallons per minute at 20 psi residual pressure in conformance with the Consolidated Fire Code, the District Fire Code and the letter from the District dated February 11, 2014 (Appendix A).

Fire hydrants must be installed at locations acceptable to the District and within 300 feet to all parts of buildings. The location of the hydrants shall be identified during the Construction Drawing Phase of the project. 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 bring flammable building materials onsite.

The project will have sufficient water supplies available to serve the project from the Olivenhain Municipal Water District.

#### **4.4 Ignition Resistant Construction and Fire Protection Systems**

Due to the location of the project, in a very high fire hazard severity zone, the project shall be required to use construction methods for exterior wildfire exposure per Sec. 4910.1 of the County Ordinance 10148, County Fire Code. The construction methods for exterior wildfire exposure in a wildland-urban interface fire area shall be as provided in Chapter 7A of the County Building Code. The project shall also comply with District Ordinance 2014-01A.

The project shall install an automatic fire protection system appropriate to the use of each building in conformance with the requirements as identified by NFPA 13, the State, District and the County Codes.

#### **4.5 Fire Fuel Assessment**

The entire site will be developed, including the 100 foot fuel management zone around buildings, except for non-native grassland in the the northwest corner (Figure 10). Only District approved plants will be included in the project (Appendix D and E). Adjacent to the site is development to the south, east and southwest. The only adjacent fuel threat are the emergent wetlands and non-native grasslands, to the north and northwest.

The greatest anticipated flame length is 28 feet resulting from the vegetation burning during a Peak Santa Ana fire (Table 4). As discussed in section 4.7.2, because the terrain leading to the sight is a gentle slope and developed on all sides, except a narrow swath 400 feet to the east, a Santa Ana wind driven fire would not be able to get a large run on the site from wildland fuels.

The fuel management zone is almost four times the largest anticipated flame length (section 4.7.3).

The wildlands and non-native fuels on and adjacent to the site will not expose people or structures to a



significant risk of loss, injury, or death as a result of wildland fires.

#### **4.6 Fire Behavior 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.

Santa Ana, peak and summer weather conditions were found to reach temperatures of 109° but Santa Ana and peak periods can have sustained winds of 22 to 26 mph. (See section 4.7.2 Table 1).

During a Peak Period, 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 (section 4.7.2.2). Normal Weather Condition could drive flames of 16 to 25 feet (Table 5). As can be seen from the modeling, the greatest anticipated flame length is from the vegetation burning during a Peak Santa Ana fire, resulting in flame length of up to 28 feet. (Table 4 and section 4.7.2.3). The fuel management zone is almost four times the largest anticipated flame length (section 4.7.3). A Santa Ana wind driven fire would not be able to get a large run on the site from wildland fuels as a result of the adjacent development (section 4.7.2.1).

The fire behavior modeling detailed results can be found in section 4.7.2, Fuel Parameters (Appendix B) and Fuel Modeling (Appendix C).

#### **4.7 Defensible Space and Vegetation Management**

##### **4.7.1 Vegetation**

As discussed in Section 1.1.3 the surrounding vegetation is composed largely of emergent wetland and non-native grassland. The photograph in the same section illustrates the fuel loading of this habitat. However the non-native grassland within the open space may type convert to a shrub community through time.

##### **4.7.2 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 Coastal 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). Table 1, identifies the weather inputs for each of the conditions: Santa Ana, peak and summer.

<b>Table 1</b>			
<b>Weather Inputs for the Coastal Zone</b>			
<b>Period</b>	<b>Temperature (Fahrenheit)</b>	<b>Relative Humidity</b>	<b>Sustained Wind Speed (mph)</b>
Santa Ana	109°	0-4%	21
Peak	109°	0-4%	26
Summer	109°	10-14%	19

Modeling was performed for non-native grassland and, as a conservative estimate if the grassland converts to a shrub community, coastal sage scrub. Table 2 identifies the habitats and fuel models used to represent the habitat.

<b>Table 2</b> <b>Habitats and Fuel Models</b>		
<b>Habitat</b>	<b>Fuel Model</b>	<b>Description*</b>
Moderate Load Dry Climate Grass	GR4	The primary carrier of the fire are fine fuels.
Coastal Sage Scrub	SCAL18	This fuel model has been developed for a common southern California habitat, coastal sage scrub.

\* The complete model parameters are included as Appendix B

The topographic element that most influences the site is the small tributary of the San Dieguito River to the north of the project site. The topography leading to the sight is a gentle slope.

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

#### **4.7.2.1 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. The primary topographic feature near the site is the small tributary of the San Dieguito River to the north with a generally northeast to southwest trending path upstream and adjacent to the project site. The fork of the river the project is located on ends upstream to the east approximately 400 feet and is a narrow swath surrounded by development. A Santa Ana wind driven fire would not be able to get a large run on the site from wildland fuels as a result of the adjacent development.

## Fire Modeling

Modeling was performed using the Santa Ana weather conditions identified in Table 1 and the fuel model identified in Table 2. A slope of 10% was used. The model conservatively indicates the largest numbers and is presented in Table 3.

<b>Table 3</b>		
<b>Results for a Santa Ana Fire</b>		
	<b>Grassland</b>	<b>Coastal Sage Scrub</b>
<b>Flame Length</b>	17 feet	26 feet
<b>Rate of Spread</b>	275 ch/h	88 ch/h

(ch/h “chains per hour”)

### **4.7.2.2 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 model conservatively indicates the largest numbers and is presented in Table 4.

<b>Table 4</b>		
<b>Results for Peak Conditions</b>		
	<b>Grassland</b>	<b>Coastal Sage Scrub</b>
<b>Flame Length</b>	19 feet	28 feet
<b>Rate of Spread</b>	374 ch/h	107 ch/h

### **4.7.2.3 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. The site has a limited exposure to wildland fuels (Figure 5).

## Fuel Modeling

Modeling was performed using the summer weather conditions identified in Table 1 and the fuel model identified in Table 2. The model conservatively indicates the largest numbers and is presented in Table 5.

<b>Table 5</b>		
<b>Results for Summer Conditions</b>		
	<b>Grassland</b>	<b>Coastal Sage Scrub</b>
<b>Flame Length</b>	16 feet	25 feet
<b>Rate of Spread</b>	237 ch/h	80 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 28 feet. The remaining flame lengths are less than 28 feet. Whereas a shrub fire will have greater flame lengths a grassland fire will have a much faster rate of spread due to the fast ignition of the fine fuels. The model is an estimate of the flame lengths that can be anticipated. Actual fire behavior can be more or less intensive.

### **4.7.3 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 main entrance roadway, Grace Way, requires 30 feet of fuel management from the improved surface. 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 District Ordinance 2014-01A. 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 landscaping must be installed prior to final inspection and certificate of occupancy.

The minimum fuel management zone adjacent to open space is 100 feet. All of the buildings are a minimum of 100 feet from the onsite or offsite open space. The fuel management zone is almost four times the largest anticipated flame length. The balance of the project is adjacent to development. The project is in compliance with the Consolidated Fire Code and Rancho Santa Fe Fire Code for fuel management.

The Landscape Concept Plan (Figure 10-Map Pocket) shows that the fuel management zone will be composed of hardscape primarily in the form of parking with landscaping. All of the plants used for landscaping must be listed on the Wildland/Urban Interface Development plant palette (Appendix D). No plants on the Undesirable Plant List or Invasive Species Plant List shall be planted (Appendix E).

## ***Maintenance***

- 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 or roadways;
- Trees adjacent to or overhanging roadways, driveways, or other emergency access paths shall be maintained with a minimum height clearance of 13' 6".
- Palm trees to be maintained in conformance with the Rancho Santa Fe Fire District Policy (Appendix F).
- Additional measures may be required by the Fire District.

Vegetation maintenance shall be the responsibility of the Chinese Bible Church of San Diego, its successors or assignees, or owner as designated with the County Tax Assessor.

## **4.8 Cumulative Impact Analysis**

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

## **5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS**

The proposed project has been redesigned from the original submittal reducing the total building area from 104,981 square feet at build out to approximately 89,000 square feet at build out. Additionally the buildings have been located closer together to shorten the distance to the most remote building.

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

- The project shall be constructed with ignition resistant construction features as discussed in Section 2.4.
- The project shall install fire safety sprinklers as discussed in Section 2.4.
- Grace Way is more than 20 feet wider than the Fire Service Availability Letter required improved width of 24 feet.
- Project has been designed with the buildings located closer to the center with hardscape surrounding the buildings providing the greatest possible distance from wildland fuels.
- To assist emergency personnel to find a building, a lighted directory map, meeting current Fire District Standards shall be installed in a pre-approved location.
- Fuel management and Landscaping will be monitored by the District's Professional Urban Forester.
- The project shall provide a traffic signal at the intersection of Grace Way and Four Gee Road.
- The project shall provide a traffic signal at the intersection of Four Gee Road and Camino del Sur if one is not in place at the time of construction.
- Traffic signals shall be controllable from inside Fire Station No. 2 as well as by strobe.
- The project shall provide a south bound turn lane on Four Gee. This can be accommodated within the existing improved width provided that no parking is allowed on Four Gee Road between

Grace Way and the intersection with Camino del Sur.

- “Do Not Block” shall be painted in front of the Fire Station entrance

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

## **6.0 CONCLUSION**

The project is designed in conformance with 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 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.

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

## **7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED**

### Preparers

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

### Peer Reviewer

Ronald Woychak, *FIREWISE* 2000, Inc., (760)745-3947.

## **8.0 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.

## **9.0 REFERENCES CITED OR CONSULTED**

California Fire Code 2013. California Code of Regulations Title 24. Effective January 1, 2013.

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

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 2014. Consolidated Fire Code. Ordinance 10172. Adopted November 2014.

County of San Diego 2011. San Diego County Code of Regulatory Ordinances, County Building, Electrical, Plumbing and Mechanical Codes and Adopting the County Residential Code, Ordinance No. 10146, new series, effective 4-13-2011.

County of San Diego 2011. San Diego County Code of Regulatory Ordinances, Defensible Space for Fire Protection Purposes, Ordinance No. 10147, new series, effective 6-09-2011.

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](http://www.co.san-diego.ca.us/cnty/cntydepts/landuse//fire_resistant.html)

Rancho Santa Fe Fire Protection District 2010. Fire Code Ordinance 2014-01A. Adopted December 13, 2010.

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





## **APPENDIX ‘A’**

### **Fire Service Letter**



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

Please type or use pen

Chinese Bible Church of San Diego 858-705-3183  
Owner's Name Phone  
C/O Harper Communities Inc. 8110 El Paseo Grande Suite 105  
Owner's Mailing Address Street  
San Diego CA 92037  
City State Zip

ORG \_\_\_\_\_

ACCT \_\_\_\_\_

ACT \_\_\_\_\_

TASK \_\_\_\_\_

DATE \_\_\_\_\_

AMT \$ \_\_\_\_\_

DISTRICT CASHIER'S USE ONLY

F

**SECTION 1. PROJECT DESCRIPTION**

**TO BE COMPLETED BY APPLICANT**

- A. ☐ Major Subdivision (TM) ☒ Specific Plan or Specific Plan Amendment  
☐ Minor Subdivision (TPM) ☐ Certificate of Compliance: \_\_\_\_\_  
☐ Boundary Adjustment  
☒ Rezone (Reclassification) from S-88(1/2 ac to RS zone.  
☒ Major Use Permit (MUP), purpose: Church and Pre-school  
☐ Time Extension... Case No. \_\_\_\_\_  
☐ Expired Map... Case No. \_\_\_\_\_  
☐ Other \_\_\_\_\_
- B. ☐ Residential ..... Total number of dwelling units \_\_\_\_\_  
☐ Commercial ..... Gross floor area \_\_\_\_\_  
☐ Industrial ..... Gross floor area \_\_\_\_\_  
☒ Other ..... Gross floor area 104,981
- C. Total Project acreage 9 Total lots 4 Smallest proposed lot N/A

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

678-060-2700	678-422-0300
678-490-01-00	678-490-36-00

Thomas Guide. Page 1169 Grid E-2  
16919 Four Gee Rd. Street  
Project address  
San Dieguito 92127  
Community Planning Area/Subregion Zip

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

Applicant's Signature: \_\_\_\_\_ Date: November 2, 2015  
Address: 8110 El Paseo Grande Suite 105 San Diego, CA 92037 Phone: 858-705-3183  
(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 District RSF Station #2  
Indicate the location and distance of the primary fire station that will serve the proposed project:  
16930 Four Gee Rd. San Diego CA 92127
- 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 4 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: 2  
☐ District will submit conditions at a later date.

**SECTION 3. FUELBREAK REQUIREMENTS**

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

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

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

Renee Hill Renee Hill, Fire Marshal 758-756-6007 12-30-15  
Authorized Signature Print Name and Title Phone Date

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



PDS-399F (Rev. 09/21/2012)

# APPENDIX ‘B’

## APPENDIX B FUEL PARAMETERS

### Fuel Model gr4

---

Fuel Model Number	104
Fuel Model Name	gr4
Fuel Model Type	Dynamic
Description	Moderate load, dry climate grass (D)
1-h Fuel Load	0.25 tons/ac
10-h Fuel Load	0 tons/ac
100-h Fuel Load	0 tons/ac
Live Herbaceous Fuel Load	1.9 tons/ac
Live Woody Fuel Load	0 tons/ac
1-h Surface Area/Vol Ratio	2000 ft <sup>2</sup> /ft <sup>3</sup>
Live Herbaceous Surface Area/Vol Ratio	1800 ft <sup>2</sup> /ft <sup>3</sup>
Live Woody Surface Area/Vol Ratio	1500 ft <sup>2</sup> /ft <sup>3</sup>
Fuel Bed Depth	2 feet
Dead Fuel Moisture of Extinction	15 percent
Dead Fuel Heat Content	8000 Btu/lb
Live Fuel Heat Content	8000 Btu/lb

## 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 <sup>2</sup> /ft <sup>3</sup>
Live Herbaceous Surface Area/Vol Ratio	1500 ft <sup>2</sup> /ft <sup>3</sup>
Live Woody Surface Area/Vol Ratio	640 ft <sup>2</sup> /ft <sup>3</sup>
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

## **APPENDIX ‘C’**

### **Fuel Modeling**

**Inputs: SURFACE**Description Chinese Bible Church of San Diego - Santa Anna**Fuel/Vegetation, Surface/Understory**

Fuel Model

gr4, SCAL18**Fuel Moisture**

Moisture Scenario

d111**Weather**

20-ft Wind Speed

mi/h

21

Wind Adjustment Factor

0.4

Wind Direction (from north)

deg

45, 90**Terrain**

Slope Steepness

%

10

Aspect

deg

0**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**

--

Chinese Bible Church of San Diego - Santa Anna  
Surface Rate of Spread (maximum) (ch/h)

Fuel Model	Wind Direction (from north)	
	deg	
	45	90
gr4	275.5	274.1
SCAL18	88.4	88.0



## Chinese Bible Church of San Diego - Santa Anna

## Flame Length (ft)

Fuel Model	Wind Direction (from north)	
	deg	
	45	90
gr4	16.6	16.6
SCAL18	25.7	25.6





## Discrete Variable Codes Used Chinese Bible Church of San Diego - Santa Anna

### Fuel Model

gr4

Moderate load, dry climate grass (D) (104)

SCAL18

Sage / Buckwheat

### Moisture Scenario

d1l1

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

**Inputs: SURFACE**Description Chinese Bible Church of San Diego - Peak**Fuel/Vegetation, Surface/Understory**Fuel Model gr4, SCAL18**Fuel Moisture**Moisture Scenario d111**Weather**20-ft Wind Speed mi/h 26Wind Adjustment Factor 0.4Wind Direction (from north) deg 45, 90**Terrain**Slope Steepness % 10Aspect deg 0**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**

--



Chinese Bible Church of San Diego - Peak  
Surface Rate of Spread (maximum) (ch/h)

Fuel Model	Wind Direction (from north)	
	deg	
	45	90
gr4	373.6	372.3
SCAL18	107.1	106.6



Chinese Bible Church of San Diego - Peak  
Flame Length (ft)

Fuel Model	Wind Direction (from north)	
	45 deg	90
gr4	19.1	19.1
SCAL18	28.1	28.0



## Discrete Variable Codes Used

### Chinese Bible Church of San Diego - Peak

#### Fuel Model

gr4	Moderate load, dry climate grass (D) (104)
SCAL18	Sage / Buckwheat

#### Moisture Scenario

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

**Inputs: SURFACE**Description Chinese Bible Church of San Diego -Summer**Fuel/Vegetation, Surface/Understory**Fuel Model gr4, SCAL18**Fuel Moisture**Moisture Scenario d111**Weather**20-ft Wind Speed mi/h 19Wind Adjustment Factor 0.4Wind Direction (from north) deg 225**Terrain**Slope Steepness % 10Aspect deg 0**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**

--



## Chinese Bible Church of San Diego -Summer

Fuel Model	ROS (max) ch/h	Flame Length ft
gr4	236.2	15.5
SCAL18	79.9	24.5



## Discrete Variable Codes Used

### Chinese Bible Church of San Diego -Summer

#### Fuel Model

gr4	Moderate load, dry climate grass (D) (104)
SCAL18	Sage / Buckwheat

#### Moisture Scenario

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



# APPENDIX ‘D’

## 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

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION FUEL  
MODIFICATION ZONE PLANT LIST

July 15, 1997

	Code	Botanical Name	Common Name	Plant Form
21	W	Anigozanthus flavidus	Kangaroo Paw	Perennial accent
22		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		Arctostaphylos glandulosa ssp.	Eastwood Manzanita	Shrub
28	W	Arctostaphylos hookeri 'Monterey Carpet'	Monterey carpet Manzanita	Low Shrub
29	<b>N</b>	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	Atriplex lentiformis ssp. breweri	Brewer Saltbush	Shrub
37		Baccharis emoryi	Emory Baccharis	Shrub
38	W	Baccharis pilularis ssp. consanguinea	Chaparral Bloom	Shrub
39	X	Baccharis pilularis var. pilularis 'Twin Peaks#2'	Twin Peaks	Ground cover
40		Baccharis salicifolia	Mulefat	Shrub

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

	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  
July 15, 1997

	Code	Botanical Name	Common Name	Plant Form
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

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

	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

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

	Code	Botanical Name	Common Name	Plant Form
102		Epilobium canum (Zauschneria californica)	Hoary California Fuchsia	Shrub
103		Eriastrum sapphirinum	Mojave Woolly Star	Annual
104	N	Eriobotrya japonica	Loquat	Tree
105		Eriodictyon crassifolium	Thick-Leaf Yerba Santa	Shrub
106		Eriodictyon trichocalyx	Yerba Santa	Shrub
107	w	Eriophyllum confertiflorum	ncn	Shrub
108	W	Erythrina species	Coral Tree	Tree
109	N	Escallonia species	several varieties	Shrub
110	w	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		Frankenia salina	Alkali Heath	Ground cover



116	W	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

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

	Code	Botanical Name	Common Name	Plant Form
122		Gilia capitata	Globe Gilia	Perennial
123	W	Gilia leptantha	Showy Gilia	Perennial
124	W	Gilia tricolor	Bird's Eyes	Perennial
125	W	Ginkgo biloba	Maidenhair Tree	Tree
126		Gnaphalium californicum	California Everlasting	Annual
127	W	Grewia occidentals	Starflower	Shrub
128		Grindelia camporum bracteosum	Gum Plant	Ground cover
129	N	Hakea suaveolens	Sweet Hakea	Shrub
130	W	Hardenbergia comptoniana	Lilac Vine	Shrub
131	N	Helianthemum mutabile	Sunrose	Ground cover /Shrub

132		Helianthemum scoparium	Rush Rose	Shrub
133		Heliotropium curassavicum	Salt Heliotrope	Ground cover
134	X	Helix canariensis	English Ivy	Ground cover
135	W	Hesperaleo parviflora	Red Yucca	Perennial
136		Heteromeles arbutifolia	Toyon	Shrub
137	X	Hypericum calycinum	Aaron's Beard	Shrub
138	N	Iberis Sempervirens	Edging Candytuft	Ground cover
139	N	Iberis Umbellatum	Globe Candytuft	Ground cover
140		Isocoma menziesii	Coastal Goldenbush	Small shrub
141		Isomeris arborea	Bladderpod	Shrub

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

	Code	Botanical Name	Common Name	Plant Form
142	W	Iva hayesiana	Poverty Weed	Ground cover
143	N	Juglans californica	California Black Walnut	Tree
144		Juncus acutus	Yellow Bush Penstemon	Subshrub
145		Keckiella antirrhinoides	Yellow Bush Penstemon	Subshrub
146		Keckiella cordifoila	Heart Leaved Penstemon	Subshrub

147		Keckiella ternata	Blue Stemmed Bush Penstemon	Subshrub
148	W	Kniphofia uvaria	Red Hot Poker	Perennial
149	W	Lagerstroemia indica	Crape Myrtle	Tree
150	W	Lagunaria patersonii	Primrose Tree	Tree
151	X	Lampranthus aurantiacus	Bush Ice Plant	Ground cover
152	X	Lampranthus filicaulis	Redondo Creeper	Ground cover
153	X	Lampranthus spectabilis	Trailing Ice Plant	Ground cover
154	W	Lantana camara cultivars	Yellow Sage	Shrub
155	W	Lantana montevidensis	Trailing Lantana	Shrub
156		Lasthenia californica	Dwarf Goldfields	Annual
157	W	Lavandula dentata	French Lavendar	Shrub
158	W	Leptospermum laevigatum	Australian Tea Tree	Shrub
159	W	Leucophyllum frutescens	Texas Ranger	Shrub
160		Leymus condensatus	Giant Wild Rye	Large grass
161	N	Ligustrum japonicum	Texas Privet	Shrub

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

	Code	Botanical Name	Common Name	Plant Form
162	X	Limonium pectinatum	ncn	Ground cover
163	X	Limonium perezii	Sea Lavender	Shrub
164	w	Liquidambar styraciflua	American Sweet Gum	Tree

165	W	Liriodendron tulipifera	Tulip Tree	Tree
166	X	Lonicera japonica 'Halliana'	Hall's Japanese Honeysuckle	Vining shrub
167		Lonicera subspicata	Wild Honeysuckle	Vining shrub
168	X	Lotus corniculatus	Bird's Foot Trefoil	Ground cover
169		Lotus heermannii	Northern Woolly Lotus	Perennial
170		Lotus scoparius	Deerweed	Shrub
171	W	Lupinus arizonicus	Desert Lupine	Annual
172	W	Lupinus benthamii	Spider Lupine	Annual
173		Lupinus bicolor	Sku Lupine	Flowering annual
174		Lupinus sparsiflorus	Lupini/Coulter's Lupine	Annual
175	W	Lyonothammus florbundus ssp. asplenifollus	Fernleaf Ironwood	Tree
176	W	Macadamia integrifolia	Golden Abundance Oregon	Shrub
177	W	Mahonia aquifolium 'Golden Abundance'	Golden Abundance Oregon Grape	Shrub
178	W	Mahonia nevinii	Nevin Mahonia	Shrub
179		Malacothamnus fasciculatus	Chaparral Mallow	Shrub
180	X	Malephora luteola	Trailing Ice Plant	Ground cover
181	W	Maytenus boaria	Mayten Tree	Tree

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

	Code	Botanical Name	Common Name	Plant Form
182	W	Melaleuca nesophila	Pink Melaleuca	Shrub

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

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

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

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION  
FUEL MODIFICATION ZONE PLANT LIST



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

SAN DIEGO COUNTY FIRE CHIEF'S ASSOCIATION

	Code	Botanical Name	Common Name	Plant Form
242	W	Ribes viburnifolium	Evergreen Currant	Shrub
243	*	Romneya coulteri	Matilija Poppy	Shrub
244	X	Romneya coulteri 'white cloud'	White Cloud Matilija Poppy	Shrub
245	w	Rosmarinus officinalis	Rosemary	Shrub
246	w	Salvia greggii	Autumn Sage	Shrub
247	w	Salvia sonomensis	Creeping Sage	Ground cover
248		Sambucus mexicana	Mexican Elderberry	Tree
249	W	Santolina chamaecyparissus	Lavender Cotton	Ground cover
250	W	Santolina virens	Green Lavender Cotton	Shrub
251		Satureja chandleri	San Miquel Savory	Perennial
252		Scirpus acutus	Hard-Stem Bulrush	Perennial
253		Scirpus californicus	California Bulrush	Perennial
254	X	Sedum acre	Goldmoss Sedum	Ground cover
255	X	Sedum album	Green Stonecrop	Ground cover
256	X	Sedum confusum	ncn	Ground cover
257	X	Sedum ilineare	ncn	Ground cover
258	X	Sedum x rubrotinctum	Pork and Beans	Ground cover
259	X	Senecio serpens	ncn	Ground cover
260		Sisyrinchium bellum	Blue-Eyed Grass	Ground cover
261		Solanum douglasii	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
262		<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		<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		<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		<i>Umbellularia californica</i>	California Laurel	Tree
276		<i>Verbena lasiostachys</i>	Western Vervain	Perennial
277	N	<i>Verbena peruviana</i>	ncn	Ground cover
278	X	<i>Verbena species</i>	Verbena	Ground cover
279	X	<i>Vinca minor</i>	Dwarf Periwinkle	Ground cover
280		<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
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		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.

## 1. UNDESIRABLE PLANTS AND WEEDS

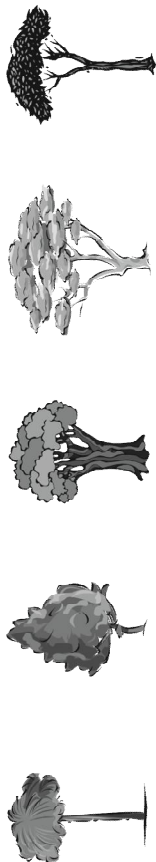
Within Fuel Modification Zone

**BOTANIC NAME**

**COMMON NAME**

Adenostoma fasciculatum  
Adenostoma sparsifolium

Chamise  
Red Shanks



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](http://www.qbgardens.com)

"Select Tree" tree selection guidelines for California:  
<http://selecttree.calpoly.edu>



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-resistant
3	May be damaged by frost	15	Dead fronds or leaves need to be removed to maintain fire-resistant 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.



B. edulis	Guadalupe Palm	30'	10'	C, IV, D	L, VL	E	6, 15
-----------	----------------	-----	-----	----------	-------	---	-------

Botanical Name (Alphabetical)	Common Name	(In Feet) Height	(Spread) In Feet	Geograph- ical Area	NeedsWater	D/E	Comment Codes Other
Acer macrophyllum	Bigleaf Maple	30-95'	30-95'	C, IV	M	D	12, 23
A. negundo	Box Elder	<60'	<50'	IV, D	M, L	D	12, 23
A. palmatum	Japanese Maple	<20'	<20'	C, IV	M	D	6
A. saccharinum	Silver Maple	40-100'	40-100'	C, IV, D	M	D	22
Agonis flexuosa	Peppermint Tree	25-35'	25-35'	C, IV	M, L	E	3, 22
Albizia julibrissin	Silk Tree	<40'	>40'	C, IV, D	M	D	7, 10, 22
Alnus cordata	Italian Alder	40'	25'	C, IV, D	M	D	22
A. rhombifolia	White Alder	50-90'	40'	IV	H, M	D	12, 21, 23
Arbutus Marina	Arbutus	<40'	<40'	C, IV, D	M, L	E	5, 7, 10, 11, 23
A. unedo	Strawberry Tree	12-35'	20-35'	C, IV, D	M, L	E	5, 7, 10, 11, 23, 24
Archontophoenix alexandrae	Alexandria Palm	50'	10-15'	C, IV	M	E	3, 10, 15
A. cunningham	King Palm	50'	10-15'	C, IV	M	E	3, 10, 15
Avocado species	Avocado	varies	varies	C, IV	M	E	
Bauhinia blakeana	Hong Kong Orchid Tree	20-25'	20-25'	C, IV	L	D	4, 10
B. variegata	Purple Orchid Tree	20-35'	35'	C, IV	M	D/E	4, 10
Betula pendula	European White Birch	30-40'	30'	C, IV, D	M	D	6, 22
Brachychiton acerifolius	Flame Tree	60'	45-50'	C, IV, D	L	D	10, 22
B. populneus	Kuajong Boile Tree	30-50'	30'	C, IV, D	L	E	10, 22
Brahea armata	Blue Hesper Palm	40'	10'	C, IV, D	L, VL	E	6, 10, 15
B. brandegeei	San Jose Hesper Palm	<125'	10'	C, IV	L, VL	E	15



<i>Calodendrum capense</i>	Cape Chestnut	30'	25-40'	C, IV	M	D	7, 10
<i>Carya i noensis</i>	Pecan	70'	70'	C, IV, D	M, L	D	6, 11
<i>Cassia leptophy a</i>	Gold Meda ion Tree	20-25'	10'	C, IV	L, M	E	10, 16, 17, 22
<i>Ceratonia siligua</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>	Medite anean 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>	Ca ot 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 se owiana</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>	Foothi 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>	Montebe o Ash	20-40'	20-40'	C, IV, D	M, L	D	12, 22, 23
<i>Geijera parviflora</i>	Austrailian Wi ow	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>Grevi ea 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'	IV	L	D	5, 6, 12, 23

11. Rancho Santa Fe Fire Protection District Desirable Tree List

Botanical Name (Alphabetical)	Common Name	(In Feet Height)	(Spread In Feet)	Geographi- cal Area	NeedsWater	D/E	Comment Codes Other
K. paniculata	Golden Rain Tree	20-35'	<40'	IV, D	M, L	D	20, 22, 24
Lagerstroemia indica	Crape Myrtle	<30'	<20'	IV, D	M, L	D	10, 22, 24
Lagunaria paterson	Primrose Tree	20-40'	30'	C, IV	M	E	
Liquidambar formosana	Chinese Sweet Gum	40-60'	25'	C, IV, D	M	D	7
L. styraciflua	American Sweet Gum	60'	<25'	C, IV, D	M	D	8
Liriodendron tulipifera	Tulip Tree	60-80'	40'	C, IV, D	M	D	22
Lithocarpus densiflorus	Tanbark Oak	<60'	<40'	C, IV	L	E	6, 12, 23
Magnolia species	Magnolia	varies	varies	C, IV, D	M	E/D	6, 7, 8, 9, 10, 22, 24
Metrosideros excelsus	New Zealand Christmas	<30'	<30'	C, IV	L, VI	E	5, 6, 7, 10
Morus alba	White Mulberry	20-60'	30-50'	IV, D	M, L	D	11, 16
Olea europea	Olive	<35'	20-30'	C, IV, D	L, VI	E	11, 16, 20
Phoenix canariensis	Canary Island Date Palm	<60'	50'	C, IV	L, M	E	15
P. dactylifera	Date Palm	<80'	30'	IV	L, M	E	15
P. reclinata	Senegal Date Palm	20-30'	20'	C, IV	L, M	E	15
P. roebeleni	Pigmy Date Palm	6'	10'	C, IV	L, M	E	15
Pistacia chinensis	Chinese Pistache	<60'	<50'	C, IV, D	M, L	D	22
Pi osporum phillyraeoides	Wio Pi osporum	15-25'	10-15'	C, IV, D	L	E	10
P. rhombifolium	Queensland Pi osporum	15-35'	<25'	C, IV, D	M	E	22
P. undulatum	Victorian Box	<25'	<25'	C, IV	M	E	22
Platanus acerifolia	London Plane Tree	40-80'	30-40'	C, IV, D	L	D	22
P. racemosa	California Sycamore	50-100'	50-100'	C, IV, D	L	D	12, 21, 22, 23
Podocarpus gracilior	Fern Pine	<60'	<60'	C, IV, D	M	E	16, 22
P. macrophytus	Yew Pine	<50'	<45'	C, IV, D	M	E	16, 22
Populus fremontii	Fremont Cottonwood	40-60'	40-60'	C, IV, D	M	D	12, 21, 22, 23
P. nigra 'Italica'	Lombardy Popular	40-100'	10-20'	C, IV	M	D	22
Prunus caroliniana	Carolina Cherry Laurel	35-40'	30-40'	C, IV	L, M	E	-
P. ilicifolia	Hollyleaf Cherry	15-30'	15-30'	C, IV, D	L, VI	E	7, 11, 12, 16, 23
P. lyonii	Catalina Cherry	20-45'	>30'	C, IV, D	L, VI	E	7, 11, 12, 16, 23
P. species & 'cultivars'	Cherry	varies	varies	C, IV, D	varies	E/D	7, 8, 10, 11, 16, 24
Punica granatum	Pomegranate	12-18'	<20'	C, IV, D	L	D	7, 11, 20, 24
Pyrus kawakamii	Evergreen Pear	<30'	20-30'	C, IV	L, M	E	
Quercus agrifolia	Coast Live Oak	30-70'	>70'	C, IV, D	L, VI	E	6, 12, 23
Q. chrysolepis	Canyon Live Oak	30-60'	20-60'	C, IV	M, L	E	6, 12, 36
Q. douglasii	Blue Oak	50'	>50'	C, IV, D	M	D	6, 12, 23
Q. engelmannii	Engelmann Oak	60'	>60'	IV, D	L	E	6, 12, 23
Q. ilex	Holly Oak	40-70'	40-70'	C, IV, D	M	E	6, 23
Q. palustris	Pin Oak	50-80'	50-70'	C, IV, D	H, M	D	6, 22, 23
Q. rubra	Red Oak	<90'	90'	C, IV	H, M	D	6, 23
Q. suber	Cork Oak	70-100'	<100'	C, IV, D	M	E	6, 23
Q. virginiana	Southern Live Oak	60'	100'	C, IV, D	M, H	E/D	22
Rhus lancea	African Sumac	20-30'	20-30'	C, IV, D	L	E	20, 22, 24
Robina ambigua	Locust	30-50'	<30'	IV, D	M, L	D	1, 7, 10, 22
R. pseudoacacia	Black Locust	75'	30-40'	IV, D	L	D	1, 5, 7, 10, 22
Scheuchzeria palustris	Queensland Umbrella Tree	>20'	>20'	C	H, M	E	3, 8, 18
S. pueckleri	Tupidanthus	>20'	>20'	C	H, M	E	3, 8, 18
Stenocarpus sinuatus	Firewheel Tree	30'	10-20'	C, IV	L	E	
Syagrus romanzoffiana	Queen Palm	50'	20'	C, IV	L, M	E	
Tabebuia chrysotricha	Golden Trumpet Tree	25-30'	<30'	C, IV	M	E	6, 10, 22, 24

T. impetiginosa	Pink Trumpet Tree	35'	<30'	C, IV	M	E	6, 10, 22
Tipuana tipu	Tipu Tree	<50'	<50'	C, IV	M	D	10, 22
Trachycarpus fortunei	Windmi Palm	<30'	<6'	C, IV, D	M	E	15
Tristania conferta	Brisbane Box	30-60'	<40'	C, IV	L, VL	E	22
Umbe ularia californica	California Bay	30-75'	30-75'	C, IV, D	L, VL	E	5, 12, 23
Ulmus parvifolia	Chinese Elm	40-60'	50-70'	C, IV	L, M	D/E	22
Washingtonia filifera	California Fan Palm	<60'	10-15'	C, IV	L, M	E	15
W. robusta	Mexican Fan Palm	100'	10-15'	C, IV	L, M	E	
Zelkova se ata	Sawleaf Zelkova	60'	60'	IV, D	M	D	22
Ziziphus jujuba	Chinese Jujube	20-30'	20-30'	C, IV, D	M, L	D	11, 20, 22

PO Box 410 ~ 16936 El Fuego, Rancho Santa Fe, CA 92067 <sup>6</sup> Non-emergencies: (858)

Botanical Name (Alphabetical)	Common Name	(In Feet Height)	(Spread In Feet)	Geographi- cal Area	NeedsWater	D/E	Comment Codes Other
K. paniculata	Golden Rain Tree	20-35'	<40'	IV, D	M, L	D	20, 22, 24
Lagerstroemia indica	Crape Myrtle	<30'	<20'	IV, D	M, L	D	10, 22, 24
Lagunaria paterson	Primrose Tree	20-40'	30'	C, IV	M	E	
Liquidambar formosana	Chinese Sweet Gum	40-60'	25'	C, IV, D	M	D	7
L. styraciflua	American Sweet Gum	60'	<25'	C, IV, D		D	8
Liriodendron tulipifera	Tulip Tree	60-80'	40'	C, IV, D	M	D	22
Lithocarpus densiflorus	Tanbark Oak	<60'	<40'	C, IV	L	E	6, 12, 23
Magnolia species	Magnolia	varies	varies	C, IV, D	M	E/D	6, 7, 8, 9, 10, 22, 24
Metrosideros excelsus	New Zealand Christmas	<30'	<30'	C, IV	L, VI	E	5, 6, 7, 10
Morus alba	White Mulberry	20-60'	30-50'	IV, D	M, L	D	11, 16
Olea europea	Olive	<35'	20-30'	C, IV, D	L, VL	E	11, 16, 20
Phoenix canariensis	Canary Island Date Palm	<60'	50'	C, IV	L, M	E	15
P. dactylifera	Date Palm	<80'	30'	IV	L, M	E	15
P. reclinata	Sinegal Date Palm	20-30'	20'	C, IV	L, M	E	15
P. roebelen	Pigmy Date Palm	6'	10'	C, IV	L, M	E	15
Pistacia chinensis	Chinese Pistache	<60'	<50'	C, IV, D	M, L	D	22
Pi osporum phi yraeoides	Wi ow Pi osporum	15-25'	10-15'	C, IV, D	L	E	10
P. rhombifolium	Queensland Pi osporum	15-35'	<25'	C, IV, D	M	E	22
P. undulatum	Victorian Box	<25'	<25'	C, IV	M	E	22
Platanus acerifolia	London Plane Tree	40-80'	30-40'	C, IV, D	L	D	22
P. racemosa	California Sycamore	50-100'	50-100'	C, IV, D	L	D	12, 21, 22, 23
Podocarpus gracior	Fern Pine	<60'	<60'	C, IV, D	M	E	16, 22
P. macrophyus	Yew Pine	<50'	<45'	C, IV, D	M	E	16, 22
Populus fremont	Fremont Cottonwood	40-60'	40-60'	C, IV, D	M	D	12, 21, 22, 23
P. nigra 'Italica'	Lombardy Popular	40-100'	10-20'	C, IV	M	D	22
Prunus caroliniana	Carolina Cherry Laurel	35-40'	30-40'	C, IV	L, M	E	-
P. ilicifolia	Hollyleaf Cherry	15-30'	15-30'	C, IV, D	L, VL	E	7, 11, 12, 16, 23
P. lyon	Catalina Cherry	20-45'	>30'	C, IV, D	L, VL	E	7, 11, 12, 16, 23
P. species & 'cultivars'	Cherry	varies	varies	C, IV, D	varies	E/D	7, 8, 10, 11, 16, 24
Punica granatum	Pomegranate	12-18'	<20'	C, IV, D	L	D	7, 11, 20, 24
Pyrus kawakam	Evergreen Pear	<30'	20-30'	C, IV	L, M	E	
Quercus agrifolia	Coast Live Oak	30-70'	>70'	C, IV, D	L, VL	E	6, 12, 23
Q. chrysolepis	Canyon Live Oak	30-60'	20-60'	C, IV	M, L	E	6, 12, 36
Q. douglas	Blue Oak	50'	>50'	C, IV, D	M	D	6, 12, 23
Q. engelmann	Engelmann Oak	60'	>60'	IV, D	L	E	6, 12, 23
Q. ilex	Holly Oak	40-70'	40-70'	C, IV, D	M	E	6, 23
Q. palustris	Pin Oak	50-80'	50-70'	C, IV, D	H, M	D	6, 22, 23
Q. rubra	Red Oak	<90'	90'	C, IV	H, M	D	6, 23
Q. suber	Cork Oak	70-100'	<100'	C, IV, D	M	E	6, 23
Q. virginia	Southern Live Oak	60'	100'	C, IV, D	M, H	E/D	22
Rhus lancea	African Sumac	20-30'	20-30'	C, IV, D	L	E	20, 22, 24
Robina ambigua	Locust	30-50'	<30'	IV, D	M, L	D	1, 7, 10, 22
R. pseudoacacia	Black Locust	75'	30-40'	IV, D	L	D	1, 5, 7, 10, 22
Scheuchzeria palustris	Queensland Umbrella Tree	>20'	>20'	C	H, M	E	3, 8, 18
S. pueckleri	Tupidanthus	>20'	>20'	C	H, M	E	3, 8, 18
Stenocarpus sinuatus	Firewheel Tree	30'	10-20'	C, IV	L	E	
Syagrus romanorum	Queen Palm	50'	20'	C, IV	L, M	E	
Tabebuia chrysotricha	Golden Trumpet Tree	25-30'	<30'	C, IV	M	E	6, 10, 22, 24

# APPENDIX 'E'

## UNDESIRABLE PLANTS

RSF Fire District: Vegetation Management

Page 2 of

### 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.

Acceptable plants are listed in the approved fuel modification plant list, *Wildland-Urban Interface*

*Standards, June 1997 Revision.*

Additional plants may be added to the landscape Plant Material Palette with

The following plants and weeds have been declared "undesirable" within

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

Contact Us



# **APPENDIX ‘F’**

## **Palm Tree Maintenance Policy Rancho Santa Fe Fire Protection District**





# Palm Trees

Due to the recent 2007 wildfires, it was determined that certain species of palms increased the fire hazard due to tree form and lack of maintenance. The following is the Rancho Santa Fe Fire Protection District requirements for palm trees.

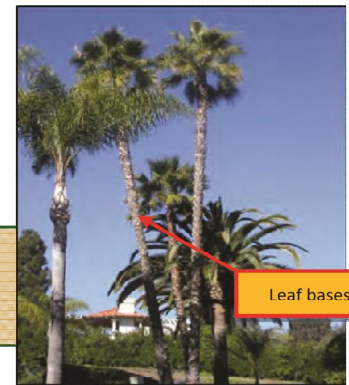
**Palm Tree Requirements (Local Policy).** Palm Trees that have fibrous tissue (Photograph 1) or leaf bases (Photograph 2) on the trunk shall be planted and maintained 30 feet from the tree's drip line to any combustible structure. Some examples of tree species with fibrous tissue are *Chamaerops humilis* (Mediterranean Fan Palm), *Phoenix canariensis* (Canary Island Date Palm), *P. dactylifera* (Date Palm), *P. reclinata* (Senegal Date Palm), *P. roebelenii* (Pygmy Date Palm), and *Trachycarpus fortunei* (Windmill Palm). The *Washingtonia robusta* (Mexican Fan Palm) is an example of a palm tree with leaf bases. All dead palm fronds including older leaves that persist on the tree, forming a "skirt" of brown thatch (Photograph 3) shall be removed annually; this requirement applies to palms within 100 feet of any structure or within 30 feet of a driveway or roadway.

**Exception:** Palms that can be "skinned" or cleaned of the fibrous tissue or leaf bases may be planted 10 feet from the tree's drip line to any portion of a combustible structure. These trees shall be maintained annually.



Photograph 1

Palm with fibrous tissue on the trunk



Photograph 2

Leaf bases on Mexican Fan Palm trunk



Photograph 3

Mexican Fan Palm with palm fronds hanging down.



Photograph 4

Fire envelopes palm tree that was poorly maintained

## **APPENDIX ‘G’**

### **Letter of Approval from Rancho Santa Fe Fire Protection District**

**(Upon approval to be attached)**





**FIRE PROTECTION PLAN  
CHINESE BIBLE CHURCH OF SAN DIEGO**

16919 Four Gee Road  
San Diego, California  
3300 10-037(MUP),  
APN 678-060-27-00, Kiva Project: 09-0117132

Original Report: Aug 22, 2012

Updated Report: May 1, 2015

Prepared by:

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

Robin Church

Robin Church, County Approved Fire Consultant

Peer Review by:

Ronald Woychak

Ronald Woychak  
FIREWISE 2000, Inc.

Prepared For:

County of San Diego  
Planning & Development Services  
5510 Overland Drive  
San Diego, CA 92123  
and  
Harper Communities, Inc.  
8110 El Paseo Grande, Ste 105  
San Diego, CA 92037



Plc 3954

**FIRE MARSHAL**

Rancho Santa Fe Fire Protection District  
Post Office Box 410  
Rancho Santa Fe CA 92067  
(858) 756-5971

**APPROVED**

Date 8-4-16

By Conor Lenehan

Fire Marshal

OBTAIN FIRE AGENCY APPROVAL  
PRIOR TO THE FOLLOWING INSPECTIONS:  
Underground Plumbing \_\_\_\_\_

Final Fire Protection Plan  
Other \_\_\_\_\_

It is unlawful to make any changes or alterations on  
this site plan and specifications.



Zoning:	EXIST	PROP
Use Regulations	SBR	RS
Neighborhood Regs	Q	Q
Density	1	1
Lot Size	0.5 AC	0.5 AC
Building Type	C	C
Maximum Floor Area	-	-
Floor Ratio Area	-	-
Height	Q	J
Coverage	-	-
Setback	C	C
Open Space	-	-
Special Area Regs	-	-

Setbacks
Front = 60'
Interior Side = 15'
Exterior Side = 35'
Rear = 25'

General Plan: Specific Plan Area  
General Plan Regional Category: Semi Rural

Figure 4B Phase II Site Plan

# RESUME:

LEGAL DESCRIPTION:  
REMANDED PARCEL OF PARCEL MAP 18166 IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE MAP THEREOF FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, SEPTEMBER 4, 1988.  
TENTATIVE PARCEL MAP NO.: 18166-001-001  
ASSESSOR'S PARCEL NO.: 076-001-001 & 076-001-002

GENERAL PLANNING REGIONAL CATEGORY: SEMI RURAL  
COMMUNITY PLAN REGIONAL PLAN AREA: SAN DIEGO  
LAND USE DESIGNATION: SPA SANTA FE VALLEY SPECIFIC PLAN  
ASSOCIATED PERMITS: REZONE AND MAJOR USE PERMIT & OPEN SPACE EASEMENT VARIATION  
WATER SOURCE/WATER DIST: RANCHO SANTA FE COMMUNITY SERVICE DISTRICT  
SEWER DISTRICT: RANCHO SANTA FE FIRE PROTECTION DISTRICT  
FIRE DISTRICT: RANCHO SANTA FE FIRE PROTECTION DISTRICT  
SCHOOL DISTRICT: POINT LINDSEY SCHOOL DISTRICT  
EXISTING ZONING: PARCEL 1: SBR

## APPLICANT:

CHINESE BIBLE CHURCH OF SAN DIEGO  
12335 World Trade Dr #2  
San Diego, CA 92168-3703  
TEL: (619) 675-8777  
FAX: (619) 675-8778  
CONTACT: GINA LEE  
gina.lee@cbcsd.com

## OWNER:

CHINESE BIBLE CHURCH OF SAN DIEGO  
12335 World Trade Dr #2  
San Diego, CA 92168-3703  
TEL: (619) 675-8777  
FAX: (619) 675-8778  
CONTACT: GINA LEE  
gina.lee@cbcsd.com

## SITE AREA:

GROSS AREA: 383,403 SF (8.82 AC)  
PRIVATE ROAD EASEMENT: 30,800 SF (0.71 AC)

## NET AREA:

EXCLUSIVE OF ROAD EASEMENT: 352,603 SF (8.12 AC)

## PHASE I BUILDING AREA:

BUILDING A: SANCTUARY & ADMINISTRATION  
SECOND FLOOR: 3,888 SF  
FIRST FLOOR: 28,988 SF  
TOTAL: 32,876 SF

## TOTAL:

BUILDING B: CHRISTIAN ED BUILDING  
SECOND FLOOR: 6,431 SF  
FIRST FLOOR: 1,701 SF  
TOTAL: 8,132 SF

## TOTAL:

BUILDING C: RELIGIOUS MEETING BUILDING  
FIRST FLOOR: 5,802 SF  
TOTAL: 5,802 SF

## TOTAL:

BUILDING D: FELLOWSHIP HALL  
FIRST FLOOR: 13,812 SF  
TOTAL: 13,812 SF

## TOTAL:

TOTAL PHASE I BUILDING AREA: 65,410 SF

## PHASE II BUILDING AREA:

BUILDING A: SANCTUARY & ADMINISTRATION  
SECOND FLOOR: 10,768 SF  
TOTAL: 10,768 SF

## TOTAL:

BUILDING E: FELLOWSHIP LEARNING CENTER  
SECOND FLOOR: 6,388 SF  
FIRST FLOOR: 6,370 SF  
TOTAL: 12,758 SF

## TOTAL:

TOTAL BUILDING AREA: 23,824 SF

## PHASE I

PHASE II BUILDING AREA: 65,410 SF

## TOTAL:

TOTAL PHASE I & II BUILDING AREA: 89,234 SF

## PARKING:

CHURCH PARKING REQUIRED: 1,800 SEATS  
CHURCH SEATING CAPACITY: 61  
PARKING RATIO: 1  
PARKING REQUIRED: 394 SPACES  
STANDARD: 11 SPACES  
ACCESSIBLE: 375 SPACES  
PARKING PROVIDED: 417 SPACES  
TOTAL PARKING PROVIDED: 417 SPACES

## OVER FLOW AREA:

OVER FLOW AREA: 11 SPACES  
DECOMPOSED GRANTE: 11 SPACES  
TOTAL S.F. AREA: 417 SPACES

## TOTAL S.F. AREA:

TOTAL S.F. AREA: 417 SPACES

## CL:

CL: 38,328 S.F.

## Project Number:

3000 10-004 (REV) 3000 10-007 (REV)

## Sheet Title:

Phase II Over-all Site Plan

## Sheet No.:

A2

Phase II Site Plan  
Scale: 1" = 40'-0"

### KEYNOTES:

- 1 MONUMENT SIGN, REFER TO A3
- 2 MASONRY RETAINING WALL
- 3 TRASH ENCLOSURE
- 4 CHURCH VEHICLE OFF HOUR AND OVERNIGHT PARKING, SCREENED WITH WALLS, FENCE AND LANDSCAPING
- 5 VINYL COATED CHAIN LINK FENCE
- 6 WROUGHT IRON FENCE W/ STONE COLUMNS
- 7 WROUGHT IRON FENCE W/ STONE COLUMNS
- 8 VEHICLE LOADING PASSENGERS & SERVICE / DELIVERY VEHICLES LOADING / UNLOADING
- 9 SMALL MONUMENT SIGN, REFER TO A3
- 10 FOUNTAIN
- 11 BICYCLE RACK
- 12 4" WIDE WHITE STRIPE AT FRONT OF PARKING STALLS THIS ASIDE

### LEGEND:

- H ACCESSIBLE PARKING SPACE
- DECOMPOSED GRANTE
- DECOMPOSED GRANTE OVER FLOW AREA

SILLMAN  
WRIGHT  
ARCHITECTS

CHINESE BIBLE CHURCH OF SAN DIEGO  
HARPER COMMUNITIES INC.



## 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  
Nancy C. Hillgren  
Randall Malin  
Tucker Stine  
John C. Tanner

**Fire Chief**  
Tony J. Michel

December 30, 2015

County of San Diego  
Planning & Development Services  
5510 Overland Ave. #110  
San, Diego, CA 92123

RE: Chinese Bible Church- Project Facility Availability Form

To Whom It May Concern,

The Rancho Santa Fe Fire Protection District has reviewed the above mentioned project. This parcel lies within an area that has been determined to be a Very High Fire Hazard area. As such, the project will be required to comply with the 2013 California Fire Code and Rancho Santa Fe Fire Protection District Ordinance #2014-01A. The Fire District will require the following conditions be placed on the project. Detailed information regarding the Fire Districts Ordinances can be found on the Departments web site at: [www.rsf-fire.org](http://www.rsf-fire.org).

1. **ADEQUATE EMERGENCY SERVICES:** The Rancho Santa Fe Fire Station No. 2 is directly across the street from the proposed church's only entrance. The driveway access from the proposed church facilities poses a major impact to emergency responses. The fire district will continue to request that the access to the church project is fully signalized and interconnected to the signal at Camino Del Sur. Additionally, Four Gee Road in front of the fire station shall be provided with proper markings as to not block for emergency access /egress of the adjacent to the fire station. Controlled signal lights shall be installed and shall be activated from within fire station no. 2 and strobe controlled for traffic safety. Roadway striping "Do Not Block" shall also be painted in front of the fire station driveway. Trees/shrubs placed in the private property shall not obstruct line of sight. Line of sights shall be clear from vegetation higher than 36" or any other obstacles. No private signs are permitted in the County right of way. The Fire District's letter dated November 23, 2010 addresses our concern about fire station no. 2 is a regional training facility whereby multiple fire agencies may use it for live fire training exercises which can produce smoke and flames. These exercises which are necessary to maintain operational effectiveness and mandatory certifications may impact the proposed church facility based upon prevailing wind direction (usually onshore) and hour of day.

### 2. ACCESS/ROADWAYS:

The roadways serving this project shall have a minimum improved paved width of 24 feet. Maximum grade is 20 %. Any other roadway features, such as cul-de-sacs, turn-outs, gates, etc. must meet the design criteria of the Fire District. All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches. Fire lanes may be required. The surface material shall be a paved all-weather surface which supports 75,000 lbs including the new proposed porous A.C. The turning radius of a fire apparatus access road shall comply with the County public and private road standards approved by the Board of Supervisors. The turning radius for a private driveway shall be a minimum of 28 feet, as measured on the inside edge of the improvement width or as approved by the fire code official. The proposed cul-de-sac shown on the preliminary grading plan (dated by RSFFPD 2-11-14) is an acceptable design with a minimum paved width of 72 feet and a 36 foot turning radius. The Fire District accepts the off-set design of the cul-de-sac due to the restrictions on the parcel.

### 3. FIRE APPARATUS ACCESS ROADS & HOSE PULL:

Access roads shall be required for every building hereafter constructed when any portion of an exterior wall of the

first story is located more than 150 feet from the closest point of fire department vehicle access. The first layment of asphalt must be in place and serviceable prior to the delivery of combustible construction materials to the site.

5. GATES:

Any proposed gates that cross over fire access roads or hinder access into a facility will require an approved emergency Knox key switch and Knox box with keys to all appropriate doors and/or locked gates.

4. HYDRANTS:

Fire hydrants, together with an adequate water supply, must be installed at locations acceptable to the Fire District according to the type of occupancy. The required fire flow for this project is 2500 gallons per minute at 20-psi residual pressure. Fire Hydrants shall be in place and serviceable prior to the delivery of combustible construction materials to the site.

5. BUILDING MATERIALS:

The building construction shall comply with the requirements in the County of San Diego amendments of Chapter 7A of the California Building Code (current addition when structures are built) and the requirements in the Fire District ordinance #2014-01A (or most current ordinance when structures are built).

6. LANDSCAPE PLAN SUBMITTAL:

Landscape Plans are required for all residential custom homes, production tract homes, multi-family residential, and commercial buildings. Landscape plans shall be submitted and approved by the Fire District prior to the framing inspection. Landscape plan submittals shall include, at a minimum, a readable scale, the delineation of 100-foot fuel modification zone, the existing vegetation, and all irrigated areas, a plant legend with both botanical and common names and identify all plant material symbols.

7. AUTOMATIC FIRE SPRINKLERS AND ALARMS:

The life safety devices shall be installed according to the occupancy and the related codes.

If you have any questions or concerns regarding the above comments please direct them to me at 858-756-6007.

Sincerely,



Renee Hill  
Fire Marshal  
Rancho Santa Fe Fire Protection District