

Draft Fire Protection Plan
ISKCON
APN 224-100-84 & 224-100-85
Prepared for the Escondido Fire Department



October 23, 2023

Applicant: ISKCON of Escondido
Dhiru Tantod / Representative: Raab Rydeen
10707 El Caballo Ave.
San Diego CA.

Prepared by: Pete Montgomery

Wildland Fire Associate
Firewise 2000, LLC

Reviewed and Certified by:


Melvin Johnson, Owner
Certified CEQA Wildland Fire Consultant
Firewise 2000, LLC
PO Box 39
Valley Center, CA. 92029 (760) 745-3947

**ISKCON
Fire Protection Plan**

Table of Contents

<u>Headings</u>	<u>Page</u>
EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	2
1.1 PROJECT LOCATION, DESCRIPTION AND ENVIRONMENTAL SETTING	4
1.1.1 Project Location	4
1.1.2 Project Description	5
1.1.3 Environmental Setting	5
1.1.3.1 Dates of Site Inspections/Visits Conducted	5
1.1.3.2 Topography	6
1.1.3.3 Climate	6
1.1.3.4 On and Off-Site Vegetation	7
1.1.3.5 Fire History	8
1.1.3.6 On and Off-Site Land Uses	8
2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE	9
3.0. ANTICIPATED FIRE BEHAVIOR IN THE VICINITY	10
4.0 ANALYSIS OF PROJECT EFFECTS	12
4.1 Adequate Emergency Services	12
4.2 Fire Access	13
4.3 Water Supply	14
4.4 Ignition Resistant Construction & Fire Protection Systems	15
4.4.1 Structure Setbacks from Protected Lands	16
4.4.2 Setbacks from Slopes	16
4.4.3 Setbacks from Property Lines	16
4.5 Defensible Space and Vegetation Management	17
4.5.1 Off-Site Fire Hazard and Risk Assessment	17
4.5.2 On-Site Fire Hazard and Risk Assessment	19
4.6 Vegetative Fuels Assessment/Fire Behavior	22
4.7 Required Fuel Modification Zones for Buildings, Structures and Access Roads	24
4.8 Cumulative Impact Analysis	28
5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS	28
5.1 Construction Standards	29
5.2 Specific Requirements for ISKCON Temple and Single-Family Homes	29
5.3 Fuel Treatment Map	30
6.0 CONCLUSIONS	30

7.0 LIST OF PREPARERS, PERSONS, AND ORGANIZATIONS CONTACTED	30
7.1 List of Preparers	30
7.2 List of Persons Contacted During the Course of This Project	30
8.0 DEFINITIONS	31
9.0 REFERENCES	33

APPENDICES

Recommended Plant List	APPENDIX ‘A’
Prohibited/Invasive Plant List	APPENDIX ‘B’
Fuel Treatment Map	APPENDIX ‘C’
Non-Combustible & Ignition Resistant Building Materials	APPENDIX ‘D’
Ignition Resistant Building Requirements	APPENDIX ‘E’
Zone Marker Detail	APPENDIX ‘F’
Behave Plus Version 6.0 Fire Behavior Calculations	APPENDIX ‘G’
Will Serve Letter, Water Availability	APPENDIX ‘H’
Road Maintenance Agreement	APPENDIX ‘I’
Site Plan	APPENDIX ‘J’

ISKCON
DRAFT FIRE PROTECTION PLAN
APN 224-100-84 & 224-100-85
October 23, 2023

EXECUTIVE SUMMARY

This Fire Protection Plan (FPP) evaluates the proposed 8.1-acre ISKCON religious facility and residential project to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The proposed project includes the construction of a religious temple, a residential hall, free-standing restroom facilities, parking areas, and an outdoor patio area. The FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, fire history, existing site conditions, and current fuel modification activities. It considers existing water supply, access, structure ignitability and fire resistive building materials, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management.

This FPP also lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury or death from wildland fires. Zone 0, the Immediate Zone is the first 5 feet from the exterior wall surface on a horizontal plane. Zone 0 will consist of hardscape or limited fire-resistant plantings approved by the Fire Authority Having Jurisdiction (FAHJ) from the approved County list. Zone 1, the Intermediate Zone, will be an irrigated landscaped zone and is called the Intermediate Zone for fire suppression forces and protects structures from radiant and convective heat. Zone 1 extends out from Zone 0 to 50 feet from the exterior wall surface in a horizontal plane. This landscaped zone is permanently irrigated and consists of fire resistant and maintained plantings. Zone 2, the Extended Zone, is the area beyond Zone 2, and includes manufactured slopes and excludes all prohibited highly combustible native vegetation but permits plantings within specific criteria and reduces the existing native vegetation by 50%. The owners will be responsible to the Escondido Fire Department, Fire Marshal for the completion of all designated Fuel Modifications.

1.0 INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the proposed ISKCON project. 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, fire history, existing site conditions, and current fuel modification activities. The plan addresses existing 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 the property owner(s) will take to reduce the probability of ignition of structures addressed by the plan.

General Information

Project Principles:	Dhiru Tantod, Raab Rydeen
Approving Departments:	
Fire Authority:	Escondido Fire Department
Engineering:	City of Escondido
Water:	City of Escondido, Water Utilities Division

The ISKCON FPP will be submitted to and approved by the Escondido Fire Department and is based upon current requirements, as of the date of this report, of the Escondido Fire Department (EFD) and the County of San Diego regarding Wildland Fire Protection Plans, including: pertinent local Fire Ordinances; the 2021 International Urban-Wildland Interface Code; 2022 California Code of Regulations Title 24, Part 9, and Title 14, section 1280; The 2022 California Fire Code and Local Amendments including Appendices to Chapters 1 & 4 and Appendices B,C, F & H; the 2022 California Building Code Chapter 7A Materials and Construction Methods for Exterior Wildland Exposure; the 2022 California Residential Code; the California State and Local Responsibility Area Fire Hazard Severity Zone Map; California Government Code, sections 51175 through 51189; 2022 NFPA 1140, Standard for Wildland Fire Protection, California Public Resources Codes sections 4201 through 4204, 2022 Guidance to Local Governments to Mitigate Wildfire Risk from Developments in Fire-Prone Areas and the 2023 County of San Diego Consolidated Fire Code.

The ISKCON Fire Protection Plan (FPP) has two main objectives. First, the ISKCON FPP provides fuel treatment guidelines for the property owner(s) and any subsequent owner(s). Second, the FPP provides features for the developer, architect, builder, and the EFD to improve the relative safety of the proposed religious facility and residential developmental buildings from approaching wildfire. Appendices attached to this FPP provide additional information that shall be considered as part of this FPP.

This Fire Protection Plan Includes:

- A wildland fire hazard rating assessment and expected fire behavior of both on-site and off-site native vegetative fuels;
- A long-term perimeter vegetative fuel modification treatment and maintenance plan to minimize the potential loss of any structure due to wildland fires;
- A long-term interior open space fuel modification treatment plan and “Firewise Landscaping” criteria to be utilized around the planned structures;

- “Ignition Resistant Building Features” that will be required for all structures;
- A review of existing structures and building features, community protection systems (e.g., water and access), and specifications to assure these structures, features and systems adequately protect life and property.

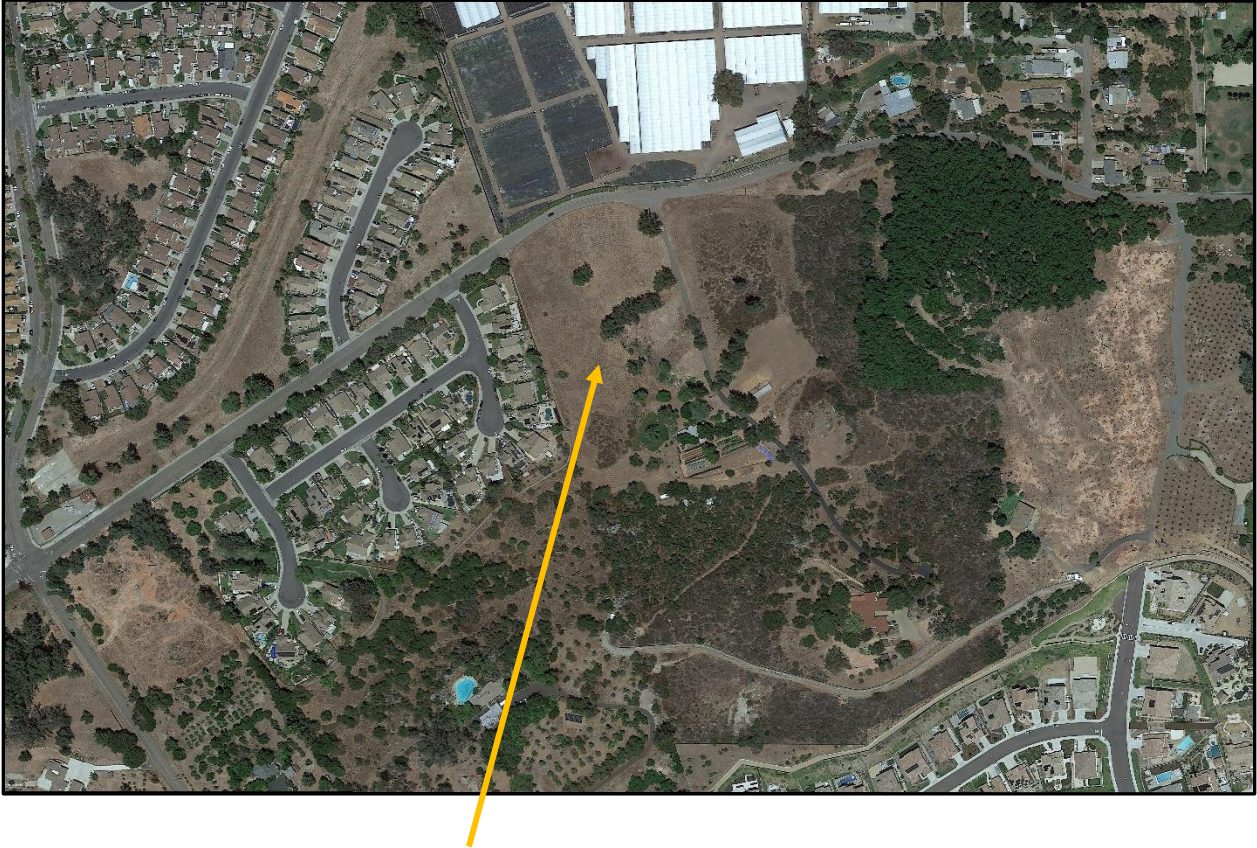


Figure 1 Overhead View of ISKCON Project Site

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

The ISKCON project is located along the northern border of the City of Escondido. Escondido, a city of over 150,000 residents, is within the North County Region of the County of San Diego, approximately 30 miles northeast of the City of San Diego and 20 miles east of the Pacific Ocean. The northern area of Escondido is home to residential developments, flower growing facilities, and rural residential properties.

The ISKCON site is located on Rincon Avenue, approximately one-half mile east of N. Ash Street and 1-mile east of N. Broadway, both major north-south collector roads. Rincon Ave. is renamed W. Country Club Lane at the intersection with N. Broadway.

1.5- miles east of the project site on Rincon/W. Country Club is N. Centre City Parkway (CCP) the old State Highway 395.

1.1.2 Project Description

The ISKCON project site covers approximately 8.1-acres of land on two separate parcels, one parcel has an existing residence and farm enclosures, the second parcel is vacant property. The project requires a Major Use Permit (MUP) to allow for the construction of the following religious facilities:

- Temple 4,700 sq. ft.
- Resident Hall 4,084 sq. ft
- Parking spaces 96 spaces
- Restroom facility, detached
- Outdoor patio
- Access road to parcel 224-100-73

Other major components of the ISKCON project include the construction of 10 single family homes, the realignment of Rincon Ave., the construction of a new residential street and bioretention basins, and the installation of new fire hydrants.

The project site owners currently perform fuel modification within the property, including disking of annual fuels along the access roads, and treatments around the currently occupied structure and ranch facilities on the property.

1.1.3 Environmental Setting

1.1.3.1 Dates of Site Inspections/Visits Conducted

<u>Site Visit & Purpose</u>	<u>Date</u>
#1 Initial Field Visit Evaluate vegetation, topography, road conditions, and fire access	June 18, 2023
#2 Field Visit Meet onsite with Raab Rydeen. evaluate lot layout and primary and secondary access road locations, fire hydrant locations, create a photo log	July 20, 2023

1.1.3.2 Topography

The ISKCON project is located within the northern part of a long north-south running valley which makes up the northern part of the City of Escondido. Reidy Creek, a seasonal creek to the west of ISKCON, flows south through the valley ending in Escondido Creek. Escondido Creek flows into the Pacific Ocean twenty miles west of the project site. North of the Escondido valley are hills and mesas leading to Hidden Meadows and Valley Center at approximately 1600-1700 feet, both unincorporated communities of San Diego County. The topography in the area is part of the Peninsular Range, an uplifted plateau that extends from the tip of Baja California to the San Jacinto Mountains northeast of Escondido.

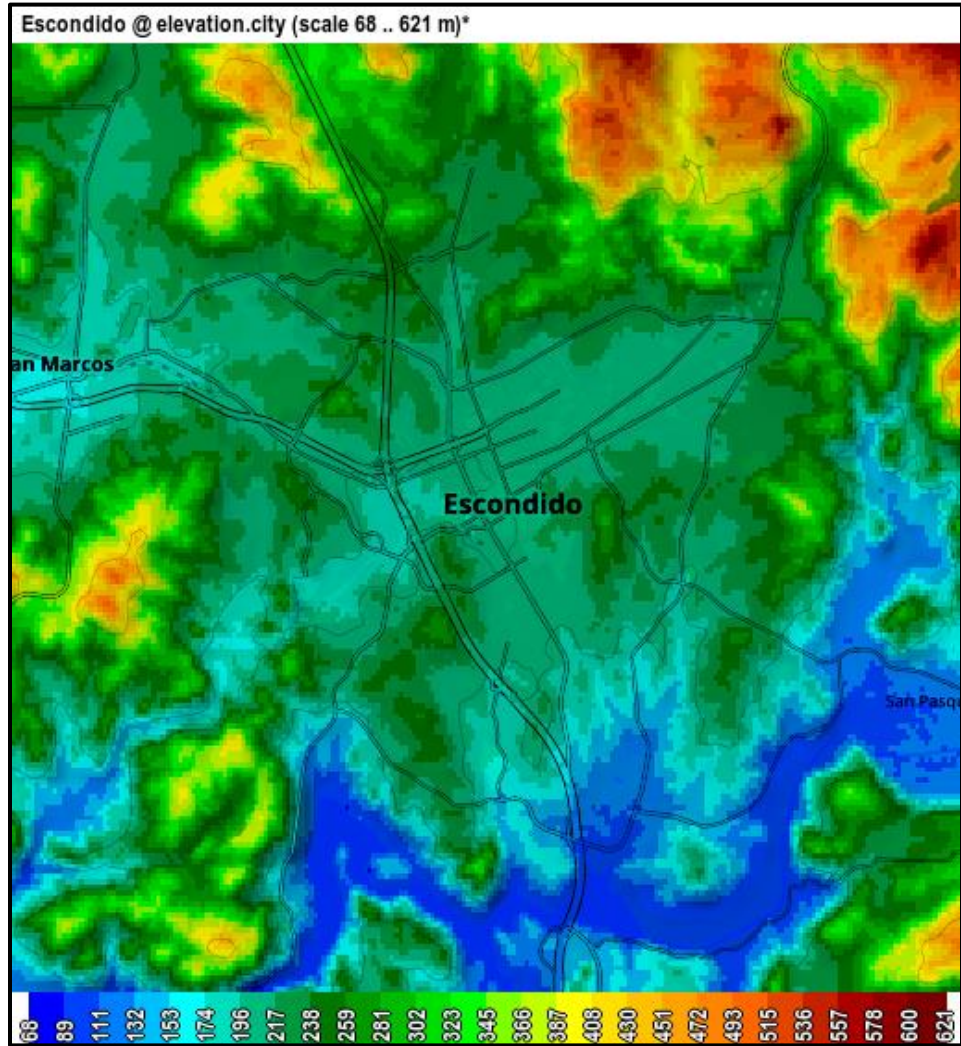


Figure 2 City of Escondido Elevation Map

The topography along Rincon Ave. is relatively flat with an elevation of approximately 773 feet. The topography is broken with short hilltops to the south and east. Immediately south of the site the hilltop is approximately 950' and east of the site along Rincon the hill has a maximum height of 1000'. The slope of the ISKCON site has a northern aspect averaging 12%, while the western facing aspect has a slope of 9%.

ISKCON is located at the base of steep, west facing slopes leading to Daley Ranch. Daley Ranch is a 3,058-acre nature preserve covered with dense chaparral, coastal sage covered hillsides, oak woodlands, and riparian habitat surrounding two ponds. Stanley Peak at 2068-feet and Burnt Mountain at 1928-feet are the two highest peaks in Daley Ranch.

South of the site, the topography is broken by low hills and a seasonal creek that flows down the slopes from Daley Ranch. The highest elevations immediately

south of the site would be Hubbard Hill at approximately 1148' and an unnamed ridge west of Vesta Verde Avenue that exceeds 1130'.

North of the property the topography follows along Reidy Creek, a narrow creek basin with ridgelines to the east and west with heights of 1200' to 1300'. The Reidy Creek drainage begins in the Hidden Meadows community that has elevations ranging from 1300' to 1500' the elevation increasing to 1300' to 1500' in the Hidden Meadows.

1.1.3.3 Climate

The climate based on the Koppen Climate Classification system is a combination of a semi-arid climate (Koppen, Bsh) generally characterized as a Mediterranean type of climate (Koppen, Csa) with hot summers and cool wet winters. Long, hot, and very dry summer seasons frequently occur with occasional, multi-year droughts. August is typically the hottest month of the year in Escondido. Winters are generally mild, with annual precipitation that averages around 15-inches of rain which occurs mainly during the months of January through March. Occasional spring and summer thunderstorms will bring short duration rain showers.

The most critical wind pattern to the project area is an off-shore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (< 15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November) when non-irrigated vegetation is at its lowest moisture content. A San Diego County record 106-MPH wind gust was recorded at the Sill Hill weather station which is located twenty-five miles east of the project site southwest of the Julian area. Wind gusts have been recorded over 90-MPH on several occasions in other areas of San Diego County.

The typical prevailing summer time wind pattern is out of the south or southwest and normally is of a slightly lower velocity 10-15-MPH with occasional gusts to 25-MPH and is associated with higher relative humidity readings (> 30% and frequently more than 60%) due to a moist air on-shore flow from the ocean. However, southwest wind gusts may exceed 40-mph especially during the months of February and March which have the strongest southwest wind conditions.

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

Fire agencies throughout the western United States rely on a sophisticated system of Remote Automated Weather Stations (RAWS) to monitor weather conditions and aid in the forecasting of fire danger. The closest RAWS to the project is the Valley Center RAWS. The data acquired from RAWS is important to modeling wildland fire behavior. **FIREWISE 2000, LLC** determined that the Valley Center RAWS, though located in slightly higher elevation to the ISKCON project site, was most appropriate for use in calculating fire behavior. Another RAWS that was evaluated was the San Pasqual RAWS station. The San Pasqual RAWS is located south of the project site approximately 10-miles and located at a similar elevation.

The Valley Center RAWS site captured significant weather data during the major Southern California fires of October 2007 with winds gust exceeding 40-mph and relative humidities less than 10%. Note: in late October, strong winds and low relative humidity are indicators of a Santa Ana wind event.

1.1.3.4 On and Off-Site Vegetation

There is an insignificant amount of on-site native wildland vegetation in the central portion of the project site, frequent disking of annual fuels has reduced



Photo # 1 On-site Fuels

native ground fuel significantly. The eastern and northern boundaries have small stands of buckwheat, sage with scattered eucalyptus trees.

The immediate off-site vegetation along the property's boundary consists of avocado and citrus trees covering nearby hills to the east and south. Residential homes cover the majority of the area to the north and west. Hillside and slopes further off-site are covered with heavy growth of coastal sage-scrub, chapparal and pockets along streams and creeks covered with oak and sycamore trees. Smaller shrubs, less than 4-feet in height, were found to include both California and Wright's buckwheat, and creeping sage.



Photo # 2 West Boundary Disking of Annual Fuels

1.1.3.5 Fire History

The available data suggests that in the second half of the 20th Century the frequency of small fires increased in Southern California while their average size decreased. This was due primarily to human caused fires and rapid-fire suppression. In San Diego County, this has resulted in an increased rate of burning in low elevation coastal scrubland, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 large fires of over 100-acres in the foothills and mountains from 1910-1999. Recently however, several years of drought have contributed to major fires (in excess of 50,000-acres) that have swept through San Diego County resulting in large losses of property and damaged watersheds.

The Cedar Fire in October of 2003 burned over 273,000 acres, caused the evacuation of over 500,000 people, and caused multiple civilian fatalities and one firefighter fatality. Starting in the San Diego River bottom, an inaccessible area, the fire quickly spread throughout the county eventually threatening over 25 communities.

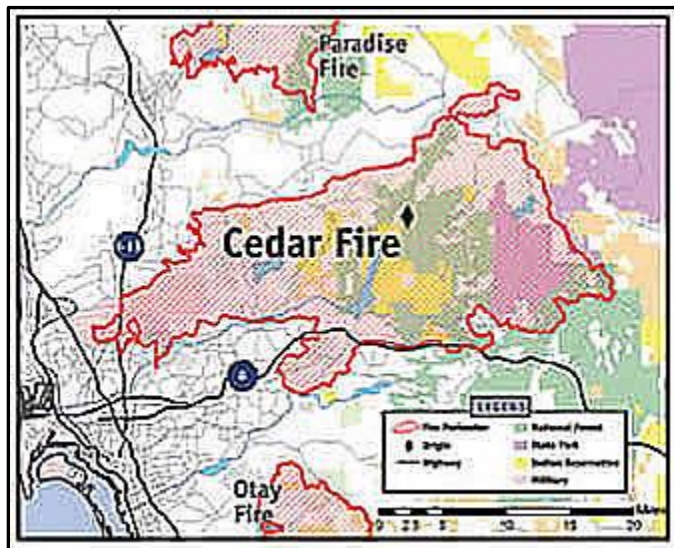


Figure #3 Paradise & Cedar Fire Map 2003

Within six hours of the start of the Cedar Fire, the Paradise fire started, further threatening communities in North San Diego County. The Paradise fire's western progression was stopped on the top of Daley Ranch when Santa Ana winds abated, and crews were able to establish control lines within the preserve.

Other notable vegetation fires within the Escondido area include the 2007 Witch and Guejito Fires and the Jesmond Dene in 2023 and 2022. Both Jesmond Dene fires were located less than 2 miles northeast of the project site.

1.1.3.6 On-site and Off-Site Land Uses

The existing ISKCON on-site usage is limited to a single-family home and farm animals. The remainder of the property is vacant with the exception of an access easement to a home on APN 224-100-73 and the Vista Irrigation water flume which are not a part of the project. Access to the home and flume will be maintained by a realigned access road through the ISKCON property.

Off-site land uses include a large nursery north of the project site across Rincon Ave. Agricultural uses including avocado and citrus ranches are found to the immediate east of the site and further to the south. Further north up the valley, homes on small ranches become the main use of the rural area. Homesites are located on multiple acre parcels within the City and San Diego County. Residential developments are found to the west and south of the site. The Reidy Creek golf course is located less than 1-mile west of the site that is owned by the City of Escondido. Interstate 15 is approximately 2 miles west of the ISKCON site.

Daley Ranch, a 3,058-acre, historic ranch property owned by the City of Escondido is located less than 1 mile east of the site. Maintained as a nature preserve, the ranch is open for hiking, biking and horseback riding on over 20-miles of trails.

2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

The ISKCON FPP evaluates the potential adverse environmental effects that the planned ISKCON project may have on wildland fire and proposes appropriate mitigations for any adverse impacts to ensure that the site does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard wildland fire. The following guidelines for the determination of significance are used:

1. Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The ISKCON MUP project is partially bordered by existing residential and agricultural businesses including avocado and citrus groves and a large, commercial nursery. In addition, small areas of native wildland fuels are close to the project site. Through implementation of the planned fuel modification activities, and additional requirements outlined in this FPP, ISKCON reduces the exposure of people or structures to a less than significant risk of loss, injury or death involving wildland fires.

2. Would the project result in inadequate emergency access?

The property is located within the City of Escondido, fire services are provided by the Escondido Fire Department. Escondido Fire Station 7 is located 2.1 miles to the south at 1220 N. Ash Street. Access to the project site off of Rincon Avenue is sufficient for the current residential usage but will be improved by straightening and widening Rincon Ave. north of the project site. The entrance to both the Temple site and residential “Street A” will be widened and improved to City standards. A looped access road around the Temple site will reduce delays on egress from the site for visitors and guests and allow easy access for fire department apparatus. “Street A” will be constructed with an approved cul-de-sac built to the design standards of the City. Therefore, the ISKCON MUP project would have a less than significant impact on emergency access.

3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection?

The existing fire facilities located on Ash St. are more than adequate to provide acceptable emergency service and response times. Additional firefighting resources are available throughout the City when required. Therefore, the ISKCON MUP project would have a less than significant impact on response times, service ratios, and/or performance objectives for fire protection.

4. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The ISKCON MUP project has a sufficient water supply available to serve the project when completed according to the design standards required by the City of Escondido Design Standards and Standards Drawings. The existing 12-inch water main will be extended on Rincon Ave. The water main on “Street A” will be a looped system through the Temple site. Water main size in the loop portion will be sized based on the required fire flow required for the project. Fire hydrants and fire sprinkler system connections will be located according to the fire departments design specifications.

3.0 ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

The fire behavior calculations in Table 3.1 predict a maximum rate of spread of 221.2-feet/minute is based on fuel model of SCAL18, Coastal Sage-Buckwheat. Fires burning in fuel model SCAL18, Table 3.2, under the same weather and fuel conditions shows almost identical flame lengths with Santa Ana winds of 60 mph, which are the expected maximum velocity on the property. (See Section 4.6 and Appendix ‘G’ for details of the Fire BEHAVE Modeling) The potential for wildfire exposure to the temple and residential facilities due to ember production, radiant heat and direct flame contact is very high when fires move at a rapid rate of spread through the SCAL18 fuel model. Under the same weather conditions, north or northeast winds and low relative humidities, the same fire will move at a much lower rate of spread when burning through treated fuels. Fireline intensity will be greatly reduced, the rates of spread will be lowered from 221.2-feet/minute fuels, to approximately 41.4-ft/min in treated gr1 fuels, short, patchy dry climate grass. Treating wildland fuels will improve the survivability of the facilities, employees, guests, firefighters, and other emergency responders. Converting the SCAL18 fuels to a much lower intensity host fuel type such as gr1 has increased the safety for guests, employees, and firefighting personnel.

TABLE 3.1
A Comparison of Fire Conditions Under 60 mph Northeast Wind Conditions
East Exposure
Untreated Versus Treated Fuels
SCAL18 vs. gr1

<u>Untreated Fuels SCAL18</u>		<u>After Fuel Treatment gr1</u>	
Rate of Spread	221.2 ft/min	Rate of Spread	41.4 ft/min
Fireline Intensity	16067 BTU/ft/sec	Fireline Intensity	67 BTU/ft/sec
Flame Length	38.7 Feet	Flame Length	3.1Feet

Fires burning on the west facing slopes would be out of alignment with the northeast winds, the wind would be blowing downhill on the west facing slope, limiting the preheating of downslope fuels which would present less of a fire hazard. The wildland fuel treatments required in SCAL18 would be removal of dead and down ground litter, and reducing the fuel loading of native vegetation by preserving only scattered native plants and shrubs. The fuel treatment would also require the removal of ground fuels. Grass would be mowed or trimmed to a height of approximately 2-inches.

TABLE 3.2
A Comparison of Fire Conditions Under 60 mph Northeast Wind Conditions
Southern Slope
Untreated Versus Treated Fuels
SCAL18 vs. gr1

<u>Untreated Fuels SCAL18</u>		<u>After Fuel Treatment gr1</u>	
Rate of Spread	221.7 ft/min	Rate of Spread	41.4 ft/min
Fireline Intensity	16102 BTU/ft/sec	Fireline Intensity	67 BTU/ft/sec
Flame Length	38.8 Feet	Flame Length	3.1 Feet

Fires burning on the southern slope in SCAL18 fuels show nearly identical rates of spread as along the eastern exposure under the same Santa Ana 60 mph wind conditions, 221.7 ft/min on the north facing slope versus 221.2 ft/min on the west facing slope. The north facing slopes are not under full alignment with the wind direction, thereby not combining the critical elements of wind and slope and increasing the fires rate of spread.

Fires burning towards the project site with more typical southwest winds show similar results; lower rates of spread, flame lengths and fire intensity in treated fuel than in the native fuel types that have been untreated. However, based on weather data from the Valley Center RAWS station, Behave calculations indicate that for a short period of time while the Santa Ana winds are breaking down, there is a critical time period with strong, gusty southwest winds that would threaten the site without fuel treatments. Table 3.3 indicates fire behavior under southwest winds conditions during the critical time period where strong winds rapidly change direction, firefighting operations and the threat to life and property reach extreme levels. A fire in the treated areas with reduced fuel volumes in the SCAL 18 fuels will have a much-reduced rate of spread, 41.4-foot/minute as compared to untreated areas, 177.3-foot/minute where the shrub volumes are not reduced through regular treatments. Moving at a rapid rate of spread through the SCAL18 fuel model, the potential for wildfire exposure to the site during the initial southwest wind condition following the strong, east winds associated with the Sana Ana weather

pattern, is much greater than a wildfire burning in Fuel Modification Zones 2 & 3 where the fuels have been treated.

TABLE 3.3
A Comparison of Fire Conditions Under 40 mph Southwest Wind Conditions,
Southern Slope
Untreated Versus Treated Fuels
SCAL18 vs. gr1

<u>Untreated Fuels SCAL18</u>		<u>After Fuel Treatment gr1</u>	
Rate of Spread	208.7 ft/min	Rate of Spread	41.4 ft/min
Fireline Intensity	15078 BTU/ft/sec	Fireline Intensity	67 BTU/ft/sec
Flame Length	37.6 Feet	Flame Length	3.1 Feet

During periods of high fire intensity and strong, dry winds, convective firebrands have the capability of being transported over great distances. Increased fuel treatments within the project site and along access roads, along with “Ignition Resistant Building Materials” will reduce the potential of firebrands entering the structures or catching exterior components on fire. Accordingly, wind driven embers and radiant heat issues are addressed in this FPP.

4.0 ANALYSIS OF PROJECT EFFECTS

The project demonstrates compliance, or offers the “*same practical effect*”, with applicable fire regulations, including but not limited to the California Fire Code, California Code of Regulations, and the Escondido Fire Code.

The comprehensive Fire Protection Plan and the project design are consistent with the City of Escondido Planning and Fire Department recommendations including fuel modification.

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan or offers Same Practical Effect.

4.1 Adequate Emergency Services

The ISKCON MUP project is within the response area of the City of Escondido Fire Department. The nearest fire station is Fire Station 7, located at 1220 N. Ash Street, which is slightly over 2 miles from the project site. The anticipated response time is less than 6-minutes. The next closest engine is located at 1808 N. Nutmeg St. approximately 2.5 west of the site. Anticipated travel time is approximately 6-minutes. Fire Station 2, the next anticipated engine to arrive on scene is 3.4 miles southeast of the site located in the eastern portion of the city. The anticipated travel time of approximately 8-minutes is nearly identical with the anticipated travel time for units responding from Fire Station 1 located at 321 N. Quince St. 3.9 miles southwest of the project site. A Battalion Chief is stationed at Fire Station 1 and would respond to all fire alarms in the vicinity of ISKCON.

Fire Station 7 staffing is three personnel covering Engine 137, a Type 1 ALS engine with full-time employees. A rescue ambulance is also based out of Station 7 for emergency medical response (EMS) and transport of patients. Fire Station 3, the second arriving engine, has three full-time personnel covering Engine 133, a Type 1 ALS engine. A rescue ambulance is also available at Station 3 for EMS

calls for service. Engine personnel also cross-staff a Type 3 brush engine for wildland fire incidents. Fire Station 1 or 2 would provide the third arriving engine company, arrival times are nearly identical, and each engine is staffed with three full-time personnel covering a Type 1 engine. Other firefighting resources available in the city and vicinity include additional engines within the City and resources available through Automatic and Mutual Aid agreements. CAL Fire resources including engines, helicopters, air tankers and hand crews are available for fire responses within the Mutual Threat Zone. Additional mutual aid resources may be available from fire agencies throughout San Diego County, however on high or extreme wildland fire danger days there often may be multiple fire starts with multiple engine companies deployed on other incidents.

Despite the relatively close proximity of the nearest fire station, there is no assurance that Engine 137 will be in its station when a wildfire threatens the ISKCON from an ignition outside the community. Engines may respond from other stations further away or from other incidents. The goal of this FPP therefore is to make the structures, property, infrastructure, employees and guests in the ISKCON Temple and residential area as safe as possible until such time as firefighting equipment arrives and/or residents can be evacuated. With the implementation of the fuel modification, ignition resistant construction measures, and other mitigation measures described in this FPP, the ISKCON MUP Project will be provided with a higher degree of protection from wildfire than a majority of existing facilities in the City of Escondido.

4.2 Fire Access

The existing ISKCON site is accessed via eastbound Rincon Avenue. Four main north-south cross streets provide access to Rincon Ave from the north and south. The first intersection is with Conway Drive, a two-lane city street, which is ¼ mile west of the project site. Rincon Ave then intersects Ash Street, a four-lane main thoroughfare approximately ½ mile west of the site. Ash Street travels through the city and becomes Highway 78/San Pasqual Valley Road which takes travelers east into the Julian Mountains. Further west, Rincon Ave. intersects N. Broadway which runs from the northern boundary of Escondido south through the City and ends in south-central Escondido. The fourth main intersection is with Centre City Parkway (CCP), the old Highway 395, a divided, four-lane road through Escondido (See Appendix 'J' Site Plan).

The onsite road network includes a circular access road around the entire religious facility terminating at the single access point off of Rincon Ave. Road width will be 26-feet wide, narrowing to 20-feet wide in the areas with parking spaces on both sides of the access road. A total of 88 designated parking spaces will be installed along the perimeter of the driveway. Access to the existing structure and to the residence on APN 224-100-73 will be provided with a dedicated utility and residential road easement leading to both sites and the offsite water flume operated by the Vista Irrigation District.

The access road to the ten residential lots will be 36-feet in width with a cul de sac designed with a thirty-eight-foot radius. The road will be maintained to allow for continuation of the current access road easement for utility access. The end of the cul de sac will also have a dedicated access road leading to the primary access to APN 224-100-73 and the Vista Irrigation District flume. This access road, designated as an emergency access driveway, will allow for a looped driveway, providing two access points to the existing residence on site. This driveway will connect with the easement road south of the Temple parking lot which leads directly to APN 224-100-73. A turnaround will be designed at the junction of the two roads providing a safe location for fire apparatus to turn around, reducing the need for extensive backing.

All fire access roads within the development are required to be all-weather approved surfaces capable of supporting not less than 75,000-pounds. There are no roads within the development with slopes that are equal to or greater than 15%, however, if any future roads exceed 15%, a concrete, heavy broom finish to improve road traction shall replace the asphaltic concrete surface. Slopes may not exceed 20% at any time on roads within ISKCON.

The existing overall length of the access roads from Rincon Ave. to the end of the residential cul de sac is 380-feet, the maximum allowable dead end road length is 800-feet for lots less than 1 acre in size. (See Appendix C, On-Site Road Diagram).

Road maintenance within the ISKCON Temple facility shall be the responsibility of the owner(s) of ISKCON or any subsequent owner(s) and will be financially responsible for the upkeep and maintenance of the access road. The emergency access road shall be maintained by the homeowners under a maintenance agreement or by the ISKCON Temple facility. The City of Escondido will be responsible for road maintenance on the proposed Street "A" (See Appendix I).

During construction of the facilities, all access roads will be open, and not blocked with construction materials or equipment and access to all fire hydrants will also be maintained at all times.

An entrance gate will be constructed at the entrance to the Temple site. Currently, no entrance gate has been proposed for Street "A", however the proposed gate at the Temple site entrance and any future gate at Street "A" shall meet the Escondido Fire Department and California Fire Code standards for both the width of the gate and key switch access. Any new gate shall be automatic and equipped with an approved emergency key-operated switch overriding all command functions and opening the gate. The gate shall also be equipped with an emergency strobe light sensor(s) or other devices approved by the Fire Marshal, which will activate the gate on the approach of emergency apparatus. Egress from the site through the gate will be made using a tract control-activating device. A battery back-up or manual mechanical disconnect is required in the event of a power failure. The gate shall allow automatic egress without the use of codes or remote devices (e.g. the use of pressure pads, metal detector or infrared sensors).

Road name signs shall comply with City of Escondido, Public Works Department design standard. Signs, postings, red curbs and white stencils shall conform to the requirements of Section 22500.1 of the California Vehicle Code and shall be maintained in perpetuity. Signs or notices shall be maintained in a clean and legible condition at all times and replaced or repaired when necessary to provide adequate visibility.

4.2.1 Evacuation Plan

An evacuation plan, designed to improve the safe and rapid evacuation of all guests and employees, will be developed prior to the completion of construction and issuance of permits for occupancy. The Primary evacuation routes will be designated, and evacuation signs will be posted leading guests to the designed route. The posting of the evacuation route signs will reduce traffic delays, this is very important at intersecting roads. The evacuation plan will require semi-annual training of employees covering the notification of guests and employees, the primary evacuation routes, and the coordination of traffic exiting the facility.

4.3 Water

The ISKCON water supply will be provided and maintained by the Escondido Water Division. The water system shall be designed and constructed according to the standards set in the City of Escondido's design standards. Currently, a 12-inch water main provides service to project sites along Rincon Ave. The water main directly servicing the Temple site will be a 12-inch looped system traveling around the entire temple site to the connection from the residential area. Water will be distributed through the residential project area through an 8-inch water main. This water 8-inch water main will tie into the 12-inch water main servicing the temple site through a connection between lots 9 and 10 by means of a dedicated 15-foot water easement.

Currently, there are no fire hydrants within the project area. The nearest fire hydrants are located on Rincon Ave. New fire hydrants shall be installed every 350-feet and shall be marked using "Blue dot" markers. The "Blue dot" markers shall be installed on the pavement to indicate the location of each fire hydrant. Fire hydrants shall be accessible to fire department apparatus by roads meeting the requirements of CFC and the Escondido Fire Code. Chapter 11, Article 2, Division 1 in the Escondido Municipal Code, Dec. 7, 2022. Fire sprinkler connections (FDC) with corresponding post indicator valves shall be located within 40-feet of a fire hydrant. Each FDC shall be marked with a label indicating the corresponding building or area served by the FCD.

4.4 Ignition-Resistant Construction and Fire Protection Systems

The Temple, Residential Hall and single-family homes shall comply with the ignition-resistant construction requirements: California Fire Code (CFC) Sections 3103.2, 3104.3, 3103.9, 3013.10.3 and 3103.12.4. The structures must also meet the California Building Code Section 3114B.1.

The dome will be 16-foot high at the center and 68-feet long, the pool deck is 90-feet long. Two (2) exit doors shall be provided in the dome, the doors shall swing in the direction of exit travel. The California Fire Code requires that the force needed to open the doors is no greater than 15lbs. to safely open the doors. When either or both doors are opened, the doors shall be equipped with automatic closing devices. (See Appendix 'J' for further information on pool dome).

The ISKCON owner(s) will be required to maintain the exterior of the property to Zone 0, 1 and 2 Fuel Treatment standards as outlined in Section 4.7 and will keep all roof and rain gutters on Temple Facilities free of leaves, needles and other combustible debris. All firewood and other combustible materials must be properly stored away from all structures so that burning embers falling on or near the structures have no suitable host. The Temple owners must keep all doors and windows in the structures tightly closed whenever a wildland fire is reported in the near vicinity.

4.4.1 Structure Setbacks from Protected Land – Minimum setback from property lines abutting national forests, open space preserves, and designated riparian areas is 100 feet. There are no national forest lands, open space or riparian habitat adjoining the perimeter of the ISKCON property. However several easements have access through the site including an easement to the water flume maintained by the Vista Irrigation District.

4.4.2 Setbacks from Slopes – All single-story structures shall have a minimum setback of 15-feet, measured horizontally, from the top of slopes to the farthest projection of the roof. Single-story structures shall be less than 12-feet above grade. Any two-story structures shall have a minimum setback of 30-feet, measured horizontally, from the top of slopes to the furthest projection of the roof. Structures greater than two-stories in height may be

required to have a greater slope setback to be determined by the Escondido Fire Department Fire Marshal.

4.4.3 Structure Setbacks from Property Lines – The minimum setback for buildings and structures from property lines and biological open space easements is 30-feet. When the property line abuts a roadway, the setback will be measured from the centerline of the roadway. Based on the wildland fire threat to the area, the following mitigation measures should provide a high degree of fire protection for the structures where setbacks of less than 30-feet are found:

- The entire project site will be covered by a robust Fuel Treatment Plan with treatment areas throughout the Temple site and residential areas. Rincon Ave., the main access road to the site from N. Ash Street and N. Broadway, will be treated on the south side of the road twenty feet, and any new or existing trees shall be limbed to provide a vertical clearance of 13’6”.
- All homes are fully sprinklered
- The Temple and Residence Hall are fully sprinklered with three new fire hydrants installed around the facility
- Access will be provided on all sites of the Temple facilities to meet the fire department’s hose pull distance requirement

4.5 Defensible Space and Vegetation Management

4.5.1 Off-Site Fire Hazard and Risk Assessment

Plant succession and the climax plant communities must be assessed when considering the wildland fire hazard of a particular property. The vegetation described in section 3.0 is the most likely climax plant community that will exist without human intervention and the one utilized for planning purposes.

Currently, local off-site fuels have been modified due to the impacts of residential construction, ranching, agricultural and recreation uses. Agricultural uses such as citrus and avocado groves are frequently found to the south and east of the site. Nursery fields and shade shelters are located due north of the ISKCON site across Rincon Ave. Several small horse ranches are found along Rincon Ave. east and further north of the site (See Appendix ‘J’ Site Plan).

Northern Boundary:

The wildland area immediately to the northeast is primarily vegetated with native brush along the west facing slope. Several seasonal creeks dominate the lower elevations with oak and sycamore trees and annual grasses and shrubs along the creek beds. Several structures are interspersed in the wildland intermix area situation on multiple acre parcels. Several of these sites have horses and other farm animals.

Due north of the site is a large commercial nursery that features the propagation of various plants and trees. Further north, several small residential areas are found in San Diego County areas

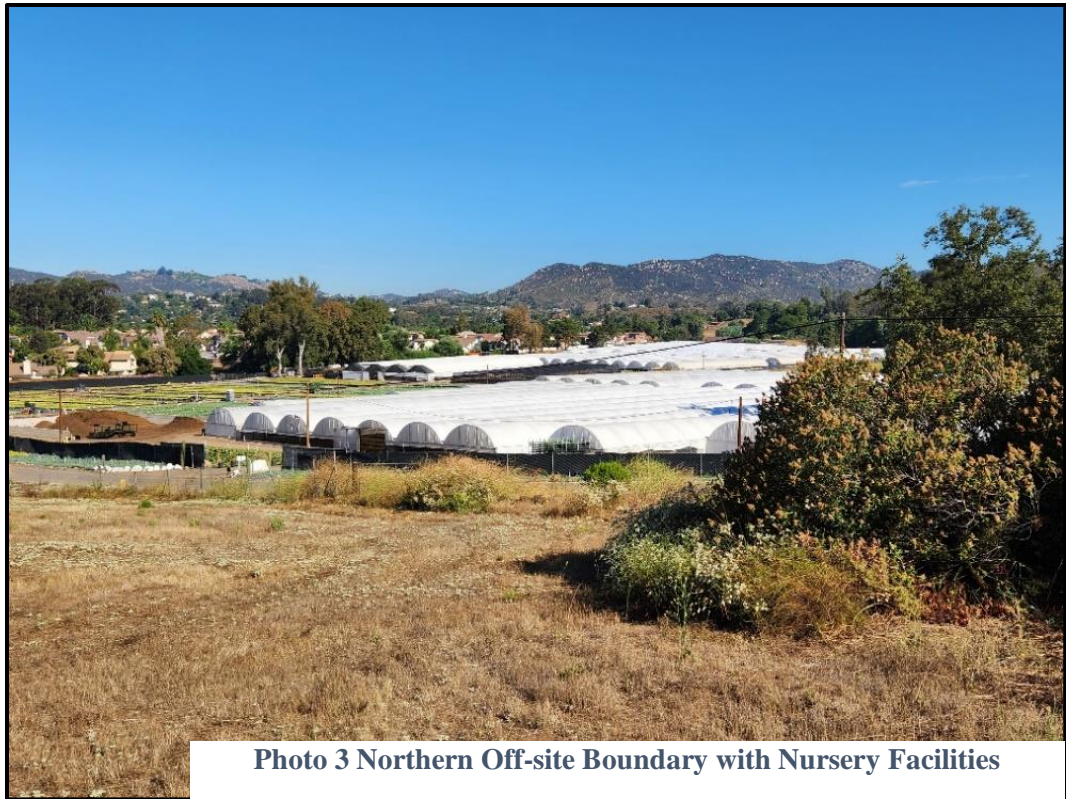


Photo 3 Northern Off-site Boundary with Nursery Facilities



Photo # 4 Eastern Boundary Off-site SCAL18 Fuels

Nearby slopes and ridges are covered with native Coastal Sage Scrub, a fuel type composed of black and white sage, California buckwheat, California Sagebrush, Toyon, Lemonade Berry, these shrubs have adapted to the semi-arid Mediterranean climate of Southern California. Cacti, succulents and yucca are also found throughout the area. A large accumulation of dead and down fuels is common throughout the area as major wildfires have not occurred in many years in the area.

Eastern Boundary:

The eastern boundary is dominated by steep slopes and drainages that begin in the Daley Ranch conservation area. These west facing slopes are covered with native vegetation consisting of fuel model SCAL18, Coastal Sage Scrub, along the slopes with several seasonal creek beds lined with oak and sycamore trees. Fuel loading in Coastal Sage Scrub could exceed four-to-five tons per acre for 1-hour fuels, and less than 0.8tons/acre for 10-hour fuels. The most representative plant community is Coastal Sage Scrub and is commonly referred to as Southern California Fuel Model 18 (SCAL 18- sage/buckwheat) for fire behavior planning purposes. Hills and slopes further east (approximately 1-mile) are covered by small tracts of chapparal with SCAL18 remaining the dominate fuel type. Riparian habitat is found near the ponds on the ranch.

A high percentage of these native plants in SCAL18 have developed an abundance of dead material which is typical of Coastal Sage Scrub, normal low-intensity fire occurrence would remove the accumulation of dead and down material



Photo #5 View from Rincon Ave. Looking East Towards Daley Ranch

Southern Boundary:

The southern off-site boundary is a mix of residential homes, orange groves and scattered Coastal Sage Scrub. Mature non-native eucalyptus tree stands that are found throughout the southern off-site area, have large accumulations of highly flammable dead material that has accumulated for many years. Avocado trees have been allowed to die on slopes to the south and light flashy annual fuels along with limbs and stumps from the trees present a fire hazard to the area.

Western Boundary:

The western off-site boundary consists of several residential housing tracts and a few open areas with annual grasses and eucalyptus trees. A few scattered small horse properties are found immediately to the west of the project site. Wildland fuels are rare and found only in small, isolated areas. Educational facilities including primary and secondary schools, a City owned municipal golf course and religious facilities are found off-site. Further west approximately 1 mile is Interstate 15, a major interstate highway.

4.5.2 On-Site Fire Hazard and Risk Assessment

The ISKCON MUP project site is within the City of Escondido, the site has a residence on the property along with ranching facilities. A few scattered oak and eucalyptus trees are found on the site with a narrow band of coastal sage/scrub found along the eastern boundary. The band of coastal sage/scrub continues easterly off-site along a short ridgeline. Wildland fuels on the remainder of the site have previously been treated by mowing to a 2 to 3-inch height.

The southern boundary is composed of a single residence which will be maintained following construction. Oak and eucalyptus trees shall be limbed away from all existing roofs and buildings south of the residence. Immediately off-site, is a single ranch style home that is not a part of the project. The topography has a slight northern aspect, the slope



Photo #6 Northern Boundary Onsite Wildland Fuels

gradually increases to the south. The water flume managed by the Vista Irrigation District flows along the upper boundary line.

The western boundary abuts a residential development , fuels along the boundary have been regularly mowed and little dead and down material is found. An existing power line in the area will be undergrounded within the site reducing a potential fire hazard during strong Santa Ana winds.

Along the northern boundary, wildland fuels have been regularly treated leaving only native and non-native grasses and low growing shrubs. Continued treatment along Rincon Avenue will reduce the threat of a fire starting along the road and moving onsite.

4.6 Vegetative Fuels Assessment/Fire Behavior

The BEHAVE Plus Fire Behavior Prediction and Fuel Modeling System–Burn Subsystem by Patricia L. Andrews and Collin D. Bevens, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE Plus fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six feet off the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE Plus modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in Fire Protection Planning purposes. Of these three (3) fire behavior projections, flame length is the most critical in determining structure protection requirements. The FIREWISE 2000, LLC evaluation team used the computer based BEHAVE Plus 6.0.0, Fire Behavior Prediction and Fuel Modeling System to make the fire behavior assessments for the ISKCON MUP Modification project.

Comparisons of computer calculations to observed fire behavior by FIREWISE 2000, LLC wildland fire staff has validated the modeling system for use in wildland planning. Key components of this FPP are the projections of expected wildland fire behavior for the existing native and non-native fuels. Below are the fire behavior calculations for the area surrounding the ISKCON MUP Modification project followed by appropriate mitigation measures.

Three (3) fire scenarios are presented in the tables below: two (2) scenarios based on “worst case” Escondido area fire weather assumptions with 60-mph east winds, and one (1) scenario with weather conditions reflecting the immediate wind change following the breakdown of the Santa Ana weather pattern. During this period of time, relative humidity has not yet increased and begun to affect fire behavior and continues to be very erratic and threatens lives and property. Fuel Model SCAL 18 was used in calculating fire behavior during the east wind conditions in untreated fuels, while gr1 was used to calculate treated fuels. (Table 4.6.1 and 4.6.2). Table 4.6.3 reflects fire behavior in southwest wind conditions without relative humidity recover. Each table displays the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second) and Flame Length (expressed in feet) for three (3) separate BEHAVE Plus fire behavior predictions. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel moisture levels typically observed during the local fire season (see Appendix C for actual inputs and outputs).

Table 4.6.1 <u>Fire Scenario # 1</u> (Late Fire Season With 60-MPH Northeast And East Santa Ana Wind Conditions) Fire Approaching from the East	
Fire Behavior Calculation Input Data <ul style="list-style-type: none"> • 9 percent slope • 60 mph 20-foot wind speed • 270° aspect from north • 45° wind direction from north 	Anticipated Fuel Moistures <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of.....2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of.....5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....50%
Expected Fire Behavior Fuel Model SCAL18 Sage/Buckwheat with moderate amounts of grass. Flame length moderate to high.	
Rate of Spread - 349.9 feet/minute	
Fireline Intensity - 16,199 BTU's/foot/second	
Flame Length - 38.9 feet in length	
Expected Fire Behavior in Treated Fuels Fuel Model gr1 – Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	
Rate of Spread - 124.1 feet/minute	
Fireline Intensity - 887 BTU's/foot/second	
Flame Length - 10.2 feet in length	

Table 4.6.2 <u>Fire Scenario # 2</u> (60-MPH Maximum Expected Northeast Wind Conditions) Fire Approaching from the East	
Fire Behavior Calculation Input Data <ul style="list-style-type: none"> • 7 percent slope • 60 mph 20-foot wind speed • 270° aspect from north • 45° wind direction from north 	Anticipated Fuel Moistures <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....50%
Expected Fire Behavior Fuel Model SCAL 18 Sage/Buckwheat with moderate amounts of grass. Flame length moderate to high.	
Rate of Spread - 221.4 feet/minute	
Fireline Intensity - 16081 BTU's/foot/second	
Flame Length - 38.7 feet in length	
Expected Fire Behavior in Treated Fuels Fuel Model gr1 – Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	
Rate of Spread - 41.4 feet/minute	
Fireline Intensity - 67 BTU's/foot/second	
Flame Length - 3.1 feet in length	

Table 4.6.3 Fire Scenario # 3 (Late Fire Season With 50-MPH Southwest Wind Following East Santa Ana Wind Conditions Breakdown) Fire Approaching from the Southwest	
Fire Behavior Calculation Input Data <ul style="list-style-type: none"> • 10 percent slope • 40 mph 20-foot wind speed • 90° aspect from north • 235° wind direction from north 	Anticipated Fuel Moistures <ul style="list-style-type: none"> * 1-Hour Fine Fuel Moisture of.....2% * 10-Hour Fuel Moisture of.....3% * 100-Hour Fuel Moisture of.....5% * Live Herbaceous Fuel Moisture of.....30% * Live Woody Fuel Moisture of.....50%
Expected Fire Behavior Fuel Model SCAL 18 Sage/Buckwheat with moderate amounts of grass. Flame length moderate to high.	
Rate of Spread - 152.7 feet/minute	
Fireline Intensity - 11,093 BTU's/foot/second	
Flame Length - 32.7 feet in length	
Expected Fire Behavior in Treated Fuels Fuel Model gr1 – Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	
Rate of Spread - 41.4 feet/minute	
Fireline Intensity - 67 BTU's/foot/second	
Flame Length - 3.1 feet in length	

The fire behavior calculations in Tables 4.6.1 & 4.6.2 predict a maximum rate of spread greatly reduced under the treated fuel conditions with strong east winds. Table 4.6.3 indicates the danger that occurs in the immediate time following the breakdown of a Santa Ana Wind. The table also shows the effect that fuel treatments have on fire behavior and the need for continual treatments in the campground facility. The maximum expected south, and southwesterly wind conditions based on data from the Valley Center RAWS station indicates that while the winds will not be as strong as during a Santa Ana weather pattern, the southwest winds will present a severe hazard to structures, guests, and emergency personnel in untreated fuels. The other factor shown in Table 4.6.3 is the effect when the slope and the wind direction are no longer in full alignment, the rate of spread, fire intensity and flame length will be much less severe.

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

Projects located in Hazardous Fire Areas shall include fuel treatment within Fuel Modification Zones (FMZ) surrounding all structures that are greater than 250 square feet in size. The City of Escondido Fire Code stipulates that the FMZ's be a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified. (See Appendix "C" Fuel Modification Zone Exhibit).

Fuel Treatment Zone Exceptions:

- Single specimens of trees or other vegetation that are well-pruned and maintained
- Grass and other vegetation located more than 50-feet from the structure and less than 18 inches in height above the ground
- All ornamental landscaping that is consistent with the customized San Diego County Wildland Interface plant list (See APPENDIX 'A')

Maintenance of fuel treatment zones is highly important. Latham (1989) found that ember ignitions of surface fuels were primarily a function of ground fuels, especially litter depth. Also important to ignition of a ground fuel is moisture content, size of the litter material, as well as the mineral content of the dead vegetation. To the benefit of the owners, surface fires burn with less intensity, and spread more slowly than an aerial fuel.

The descriptions and required treatments for FMZ's are described below. All distances in this report are measured horizontally and are depicted on the Fuel Treatment Zone Map included herein (See Appendix "C"). The responsibility for the fuel treatments defined below shall remain with the ISKCON owner and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to the ISKCON will be responsible for such maintenance. Should the property owner not voluntarily maintain the property according to the fuel treatments guidelines in this FPP, the EFD will provide written notice of abatement and require completion of the removal of annual grasses, and dead and down fuels accumulated on the site. Rather than specifying a specific time period, the EFD will require abatement as needed.

There are three basic fuel modification zones required for the ISKCON Temple and residential sites; a non-combustible zone 5-feet from the exterior wall surface with only hardscape and limited plantings, an irrigated zone 5-50-feet in width; and a 50% thinning zone, 50-feet in width, for a total of 100-feet of fuel treatment on these lots. In many cases, the required fuel modification zones are interlinked to adjacent buildings. This results in a total of 100-feet of fuel modification for the developed areas of the Temple and residential structures.

Fuel Modification Zone 0 - Owner Responsibility - (Shown as Clear on the Fuel Modification Zone Map)

Defined:

Zone 0 comprises the first 5-feet around a structure (front, back and side yards) and is commonly called the Immediate Zone. The use of mulch and other combustible materials is prohibited within Zone 0.

Required Landscaping:

- Zone 0 will be composed of hardscaping, either concrete, gravel, rock, or pavers surrounding the perimeter of each structure.
- Limited irrigated fire-resistant plantings approved by the Escondido Fire Marshal may be permitted within the zone.
- All plant material must be selected from an approved drought tolerant, fire-resistant list.

Required Maintenance:

- Maintenance shall be year-round by the building/property owners and any subsequent owner according to the requirements listed in this FPP.
- Any allowed plant material in Zone 0 must be kept trimmed at 6-inches in height.
- Combustible materials such as flammable mulch and firewood shall not be allowed within the zone.
- All branches within 10-feet of any chimney or stovepipe must be removed.
- Existing structures will be modified to remove flammable materials such as dead trees and shrubs, stacked firewood and mulch from Zone 0.

Fuel Modification Zone 1 - Owner Responsibility - (Shown as Green on the Fuel Treatment Map)

Defined:

Zone 1, the Intermediate Zone, is commonly called the defensible space zone for fire suppression forces and protects structures from radiant and convective heat. Zone 1 consists of the area from 5-50' from the exterior wall surface extending out in a horizontal plane.

Required Landscaping:

- Zone 1 planting, low growth, drought tolerant and fire resistive species, from the San Diego County Approved plantings list are permitted. (See Appendix A).
- Landscaping shall be primarily consisting of fire resistant, maintained native or ornamental plantings usually less than 18-inches in height.
- The height of plants shall not be taller than 6" adjacent to Zone 0 to a maximum of 18" at the intersection of Zone 2.
- Newly planted trees shall not exceed 30' in height and be approved by the Escondido Fire Marshal.
- Newly planted materials in this Zone need to be fire resistant and should not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress, or juniper species. Thick, succulent, or leathery leaf species with high moisture content are the most "fire resistant". Refer to APPENDIX 'A' County of San Diego's Desirable Plant List and APPENDIX 'B' for prohibited plants for plant selection.
- Non-flammable concrete patios, driveways, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1.
- All newly planted trees must be sited so that when they reach maturity the tips of their branches are at least 10 feet away from any structure, 20 feet from the crown of an adjacent tree, and must have a minimum of 6 feet of vertical separation from low growing irrigated vegetation beneath the canopy of the tree.

Required Maintenance:

- Shrubs and trees are to be annually maintained free of dead material.
- Existing trees shall be limbed up 5-feet above the roofline and 10-feet away from exterior walls of all existing structures.
- Tree crowns shall be separated by 10-feet on slopes up to 20%, 20-feet or more on slopes from 21 to 40% and 30-feet for slopes over 41% and maintained to keep a separation of 6-feet between the ground fuels (shrubs and groundcovers) and the lower limbs.
- Any newly planted trees shall be irrigated, limbed up to 3 times the height of the understory brush or grasses, or 10-feet, whichever is greater.
- Trees shall be pruned of dead wood, grass understory weed-whipped, and leaf drop removed to prevent large accumulations of dead material under the trees.
- All trees must be maintained to the current ANSI A300 standards [Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)] (www.treecareindustry.org/public/gov_standards_a300.htm).
- Lawns will be irrigated and mowed regularly with clippings removed to prohibit the accumulation of dead grass.
- Firewood shall be neatly stacked and have a minimum of 30-feet of clearance around the firewood storage area.

Fuel Modification Zone 2 - Owner Responsibility - (Shown as Blue on the Fuel Treatment Map)

Defined:

Zone 2, the Extended Zone, is the area beyond Zone 1, from 50'-100' in a horizontal plane and allows the planting of drought tolerant and fire resistive plant species of moderate height and prohibits the planting of highly combustible native vegetation. It is a non-irrigated thinning zone beginning at the outer edge of Zone 1. Thinning zones are utilized to reduce the fuel load of a wildland area, thereby reducing the radiant and convective heat of wildland fires. The intent is to achieve and maintain an overall 50% reduction of the canopy cover spacing and a 50% reduction of the original fuel loading by reducing the fuel in each remaining shrub or tree without substantially decreasing the canopy cover or the removal of tree holding root systems.

Required Landscaping:

- Thinning the native vegetation to a point where 50% open space is created;
- Removal of all dead, woody debris, and exotic flammable vegetation.
- Allowances for the needs of protected species and habitats will be considered in this zone;
- No combustible construction or materials are allowed in Zone 2.

Required Maintenance:

- Maintenance will be ongoing throughout the year as needed.
- Fire codes require that all existing or planted trees located within Zone 2 be pruned to 6-feet above ground level.
- Any newly planted trees shall be irrigated.
- Low growing plants and shrubs will be maintained to preserve vertical and horizontal spacing. This action is necessary to make sure that any wildland fire pushed by high winds toward the project through any trees and shrubs in Zone 2 will unlikely become a crown fire. The removal of understory vegetation will reduce the potential for a ground fire to move from the ground to the shrubs into the tops of trees like a ladder, which will also reduce fire intensity and ember production.
- Native annual and perennial grasses will be allowed to grow and produce seeds during the winter and spring. As grass begins to cure (dry out), they will be cut to 4-inches or less in height.

Access Roads – Owner Responsibility - (Shown as Orange on the Fuel Treatment Map)

Twenty feet on each side of the private roads shall be maintained to Zone 1 criteria as outlined above. Any trees planted along any road within the development will require a vertical clearance of 13 feet 6 inches (See Appendix C).

Bio-retention Basin Treatment Areas - Owner Responsibility - (Shown as Purple on the Fuel Treatment Map)

Defined:

Bio-retention basins use vegetation and soil to promote stormwater treatment through filtration and storage. The process involves the removal of contaminants and sedimentation from stormwater runoff. Bioretention basins reduce nutrient export through plant uptake, filtering and sorption. The vegetation within the basin also improves soil infiltration. These basins are maintained to Zone 2 standards. The bio-retention basin at the intersection of Street 'A' and Rincon Ave, in the residential area will be the responsibility of a future Homeowners Association (HOA) or other designated maintenance agreement with an enforcement mechanism for collection of maintenance fees.

Required Landscaping:

- Thinning of the native vegetation.
- Removal of all dead, woody debris, and exotic flammable vegetation.
- No combustible construction or materials are allowed in the Bio-retention basin areas.

Required Maintenance:

- Maintenance will be ongoing throughout the year as needed.
- Low growing plants and shrubs will be maintained to a height of 18”or less.
- Native annual and perennial grasses will be allowed to grow and produce seeds during the winter and spring. As grass begins to cure (dry out), they will be cut to 4-inches or less in height.

Zone Markers (See Appendix ‘F’)

All exterior boundaries of Fuel Management Zone 2 shall be permanently marked on the ground for guiding annual fuel management maintenance and inspection operations. The most reliable markers are steel fence posts with a baked on painted finish. The upper half of the above ground portion of the fence post is then painted a bright “day glow” orange to improve visibility. These Fuel Treatment Zone markers must be spaced so that the markers on each side of an installed marker can be seen from that marker.

4.8 Cumulative Impact Analysis

The combination of San Diego County’s weather, fuel, and terrain has often contributed to intense, uncontrolled wildland fires. This was evident in the devastating Cedar, Paradise, and Otay Fires of October 2003, the Witch Creek and Rice Fires of November 2007, and most recently, the Lilac Fire in 2017.

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with wildlands. As the population of Escondido and San Diego County increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. The risks associated with this project, the construction of a religious facility and residences within the facility, and the 10 single family homes off of Rincon, will not be significantly increased with the design of the project and improvements to the local infrastructure. A slight increase in visitors to the area during religious services may occur, but the removal of flammable fuels, improved fire hydrant and water systems and realignment of Rincon Ave., should lessen the impacts of the construction. A significant portion of the property will remain undisturbed and help reduce the impact of people in the area.

The approval of this proposal and any future development proposals in the area will increase the concern of wildland fires as the area becomes more urbanized. However, with the Daley Ranch preserve less than 1-mile east of the site, the density of development in the hilly area will remain relatively low. A number of properties within the area have current fuel modification and weed abatement requirements of the City of Escondido.

5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Mitigation measures and design considerations improve the overall safety of the ISKCON Property. The following list describes these mitigation measures.

1. Mitigation measures for the general Temple and residential areas include:
 - Removal of dead trees and shrubs around existing home northeast of Easement 20 2003-164245;
 - Installation of a security gate at the Temple site access road with Knox Box keypad, Opticom strobe light or similar fire department approved access system with required entrance gate width;
 - Maintain all fuel treatment zones within Temple site and residential areas by property owners. Zone 0 shall be a minimum of 5 feet directly surrounding all structures. Zone 1 will be from 5' to 50 feet around each structure. Zone 2 is the area 50 feet to 100 feet around all structures.
 - Maintain and improve, where needed, fuel modification along all access roads, a minimum 20-foot width on both sides of access roads;
 - Limbing of trees, which is the removal of branches from standing trees, from the existing structure on the property site and access roads;
 - Well-planned, effective fuel treatment zones where indicated on the Fuel Treatment Map.
2. Mitigation measures for the north boundary areas include:
 - Well-planned, effective fuel treatment zones where indicated on the Fuel Treatment Map.
 - Realignment of Rincon Avenue to improve Fire Department access and guest, resident and employee egress.
3. Mitigation measures for eastern boundary areas include:
 - Removal of SCAL18 fuels within Zones 1 and 2 on west facing slope;
 - Removal of dead and down material and limbing of trees;
 - Irrigation of manufactured slopes until root systems have been established;
 - Robust fuel treatments zones where indicated on the Fuel Modification Zone Map.
4. Mitigation measures for southern boundary areas include:
 - Trimming trees and shrubs from around site;
 - Removal of dead and down material under eucalyptus trees;
5. Mitigation measures for western bound areas include:
 - Maintenance of existing fuel treatments along Rincon Ave until project construction begins;

5.1 Construction Standards

Any future structures built within the ISKCON MUP area shall be designed and constructed with ignition resistant construction standards and design features as per the current Escondido Building Code. For a summary description of these construction requirements see APPENDIX 'E'.

All new combustible building materials, decks, balconies, patios, covers, gazebos and fences will be permanently prohibited in Zones 0 and 1. These structures may be allowed if constructed with Fire Resistive materials with permission of the Escondido Fire Marshal. The owners are not restricted from having concrete patios, or concrete walkways within these zones. Refer to APPENDIX 'D' for photos and descriptions of non-combustible decks, patio covers, and railings.

5.2 Specific Requirements for ISKCON and Single-Family Homes:

1. No combustible materials may be stored beneath any projection, deck, or overhang exposed to wildland fuels.
2. The owner(s) of the Temple facilities and each single-family home will be responsible to keep the roof areas of all buildings including gutters and downspouts free of combustible debris including leaves, limbs, and similar materials.
3. No dumping of trash, yard waste or trimmings is permitted in the fuel treatment zones.
4. The ISKCON owner(s) will be responsible to the Escondido Fire Department Fire Marshal for the ongoing Fuel Modification treatments. This includes the perpetual management of invasive (exotics) and prohibited plant species in any fuel treatment zone within the development.
5. Upon the sale of the ISKCON facility to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.

5.3 Fuel Treatment Plan Map

Attached to this FPP is the Fuel Treatment Plan Map, which depicts the location of all proposed fuel treatment locations, lot lines, roads, and mitigation measures for the ISKCON MUP. The Fuel Treatment Plan Map is located in Appendix "C".

6.0 CONCLUSION

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

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. Zone 0 consists of the first 5-feet from the outer wall edge and is designed to reduce the potential impact of embers igniting flammable materials along the external walls of structures. Zone 1 consists of the area from the outer edge of Zone 0 (5-feet from structure) to an area 50-feet from the outer edge of the structure. Zone 1 provides the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will be a landscaped zone that is permanently irrigated, where applicable, and consists of fire resistant and maintained plantings. Zone 2 is the next 50-100- feet from a structure, includes all manufactured slopes, and provides removal of 50% of the native vegetation at a minimum, including all prohibited highly combustible native vegetation, but permits plantings with specific criteria.
- The development will have adequate emergency access in terms of access and roads. The Escondido Fire Department will provide fire and emergency medical services to the area. Nearby fire departments and Cal Fire, through boundary drop and mutual aid, will be available to assist with structure and vegetation fires. The following mitigating factors will help than mitigate the fire threat to the planned community:
 - Quick response times.

- Fire sprinklers and fire alarms being provided in all new construction, (fire sprinklers are required by California Codes). Existing structures are currently exempt from the fire sprinkler requirement.
- Improved firefighting water supply throughout the project site.
- Well maintained fuel modification zones throughout the project site.

7.0 LIST OF PREPARERS, PERSONS & ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this Fire Protection Plan is Melvin Johnson, Owner **FIREWISE 2000, LLC**, a San Diego County DPLU Certified Wildland Fire Consultant. Other **FIREWISE 2000, LLC** members contributed to this plan with comments and peer review. These members include Peter Montgomery, Wildland Fire Associate.

7.2 Persons and Organizations Contacted

- | | |
|---------------------|-----------------------------------|
| 1. Raab Rydeen | REC Consultants |
| 2. Phil Martin | Phil Martin Associates |
| 3. Jacob Watson | REC Consultants, Project Engineer |
| 4. William O’Gormon | REC Consultants |
| 5. Phil Martin | Phil Martin & Associates |

8.0 DEFINITIONS

For the purposes of this Fire Protection Plan, the following definitions apply to the terms used in this document. Where terms are not included, common usage of the terms shall apply.

ASPECT - Compass direction toward which a slope faces.

AUTHORITY HAVING JURISDICTION (AHJ) – An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

CLIMAX VEGETATION - The final stage in ecological plant succession in which a relatively constant environment is reached and species composition no longer changes in a directional fashion, but fluctuates about some mean, or average, community composition.

COMBUSTIBLE – Any material that, in the form in which it is used and under the conditions anticipated will ignite and burn or will add appreciable heat to an ambient fire.

COMBUSTIBLE VEGETATION – Means material that in its natural state will readily ignite, burn, and transmit fire from native or landscape plants to any structure or other vegetation. Combustible vegetation Includes dry grass, brush, weeds, litter or other flammable vegetation that creates a fire hazard.

DEFENSIBLE SPACE – Is an area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

EXTREME FIRE BEHAVIOR – "Extreme" implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically, sometimes dangerously.

FIRE BEHAVIOR – The manner in which a fire reacts to the influences of fuel, weather and topography.

FIRE HAZARD SEVERITY ZONES – Are geographical areas designated pursuant to California Public Resources Code sections 4201 through 4204 and classified as Very High, High and Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code sections 51175 through 51189. The California Code of Regulations, Title 14, Section 1280 entitles maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

FIRE RESISTIVE – Construction designed to provide reasonable protection against fire.

FIRE RESISTIVE PLANTS – Plants that do not readily ignite from a flame or other ignition sources. These plants can be damaged or even killed by fire; however, their foliage and stems do not significantly contribute to the fuel and, therefore, the fire's intensity.

FLAME LENGTH – The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

FUEL MOISTURE – The quantity of moisture in vegetative fuels expressed as a percentage of the weight when thoroughly dried at 212 degrees F.

FUEL MODEL – Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified. Fuel models are utilized in the BehavePlus Fire Model to aid in forecasting fire behavior.

FUEL MODIFICATION – Any manipulation or removal of fuels to reduce the likelihood of ignition or the resistance to fire control.

GROUND FUELS - All combustible materials such as grass, duff, loose surface litter, tree or shrub roots, rotting wood, leaves, peat, or sawdust that typically support combustion.

LADDER FUELS – Fuels which provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

LIMBING of TREES – the removal of the branches from either standing or downed trees, removing unwanted limbs from standing trees,

MITIGATION – Action that moderates the severity of a fire hazard or risk.

ONE-HOUR FUEL - 1-hour fuels consist of those portions of vegetation that are < 0.625 cm (0.25 in.) in diameter. 1-hour fuels are the most important for carrying surface fires and their moisture content governs fire behavior.

RADIANT HEAT – Transfer of heat in straight lines through a gas or vacuum other than by heating of the intervening space.

RELATIVE HUMIDITY – A weather term, the amount of moisture in the air as a percentage of the maximum the air will hold at a given temperature. The amount of moisture in a given parcel of air expressed as a percentage of the maximum amount that parcel of air could hold at the same air temperature.

REMOTE AUTOMATED WEATHER STATION – Is a combination of sensors, radios and related electronic equipment installed in wildland areas that are designed to monitor the weather and provide weather data that assists land management agencies with a variety of projects such as monitoring air quality, fire danger rating, and providing information for research applications.

SHALL - Indicates a mandatory requirement.

RISK – The measure of the probability of ignition and severity of adverse effects that result from an exposure to a wildland fire (direction flames, radiant heat, or firebrands (embers).

SLOPE – Is the variation of terrain from the horizontal; the number of feet, rise or fall per 100 feet, measured horizontally, expressed as a percentage.

TEN-HOUR FUELS – 10-hour fuels are those portions of plant material that are between (0.625 - 2.5 cm (0.25 to 1 in.) in diameter. Ten-hour fuels are readily consumed when dead fuel moistures are low.

WILDFIRE – Is any uncontrolled fire spreading through vegetative fuels that threaten to destroy life, property, or resources as defined in Public Resources Code sections 4103 and 4104.

WILDFIRE EXPOSURE – One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

WILDLAND-URBAN INTERFACE – The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

9.0 REFERENCES

1. *Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model*, General Technical Report RMRS-GTR-153. June 2005. Joe H. Scott, Robert E. Burgan, United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.
2. *Behave Plus Fire Modeling System, Version 6.0.0*, General Technical Report RMRS-GRT-106WWW March 26, 2018. Patricia L. Andrews, Collin D. Bevins, Robert Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.
3. California Code of Regulations Title 14 section 1280 and Title 24 Part 9
4. California Public Resources Code Sections 4201 through 4204
5. California Government Code, sections 51175 through 51189
6. 2022 California Fire Code portion of the CBSC, including appendices to Chapters 1 & 4 and Appendices B, F & H and Local Amendments
7. 2022 California Building Code, Section 11B and Chapter 7A- *Materials and Construction Methods for Exterior Fire Exposure*.
8. 2021 International Wildland-Urban Interface Code
9. National Fire Protection Association - NFPA 13 Standard for the Installation of Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes, 13-R & 13-D, 2022 Editions

10. 2022 California Residential Code (CRC) R337
11. *The California State and Local Responsibility Area Fire Hazard Severity Zone Map*
12. City of Escondido Municipal Code *Ordinance 2022-04 & June 2022 Supplement*
13. City of Escondido Weed Abatement *Standards*
14. Escondido Fire Prevention *Requirements*
15. Escondido Wildland/Urban Interface Standard Development *Guidelines*
16. Western Region Climate Center. *Historic Climate Data from Remote Automated Weather Stations*. RAWS USA Climate Archive. Reno, NV. Data for all Remote Automated Weather Stations is available at: <http://www.raws.dri.edu/index.html>
17. <https://www.nwcg.gov/publications/pms437/fuels/surface-fuel-model-descriptions>
18. 2022 California Attorney General Rob Bonta 2022 *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act*
19. 2022 National Fire Protection Association - NFPA 1144 *Standard for Reducing Structure Ignition Hazards from Wildfire*.
20. *County of San Diego. Plant List and Acceptable Plants for a Defensible Space in Fire Prone Areas. Department of Planning and Land Use, December 1998*

APPENDIX 'A'

Recommended Plant List

Appendix A
COUNTY OF SAN DIEGO
ACCEPTABLE PLANTS FOR DEFENSIBLE SPACE
IN FIRE PRONE AREAS

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

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

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

Firewise2000 Note: The plant list which follows was developed using the plants found on the San Diego County approved plant list. This list was then compared to those plants which are suitable for the climatic zone in which the project is located. Only those plants suitable for the project area listed below. The list is therefore shorter than that provided by the County. By providing this custom list, plants that are likely to be killed or seriously damaged by frost or will not perform in hot dry conditions have been eliminated. Firewise 2000 believes that the planting of species suited to the site is essential to fire management goals and is an environmentally sound practice.

San Diego County
Customized Acceptable Plant List
for the ISKCON Project

No.	<u>Type</u>	<u>Genus</u>	<u>Species</u>	<u>Common Name</u>
1	Annual	Lupinus spp.	Nanus	Lupine
2	Groundcover	Achillea	Millefolium	Yarrow
3	Groundcover	Arctostaphylos spp.		Manzanita
4	Groundcover	Cerastium	Tomentosum	Snow-in-Summer
5	Groundcover	Cotoneaster spp.		Redberry
6	Groundcover	Eschscholzia	Californica	California Poppy
7	Groundcover	Euonymus	fortunei 'Carrierei'	Glossy Winter Creeper
8	Groundcover	Euonymus	fortunei 'Coloratata'	Purple-Leaf Winter Creeper
9	Groundcover	Gaillardia	Grandiflora	Blanket Flower
10	Groundcover	Helianthemum spp.		Sunrose
11	Groundcover	Lasthenia	Californica	Common Goldfields
12	Groundcover	Lasthenia	Glabrata	Coastal Goldfields
13	Groundcover	Lupinus spp.		Lupine
14	Groundcover	Pyracantha spp.		Firethorn
15	Groundcover	Rosmarinus	Officinalis	Rosemary
16	Groundcover	Santolina	Chamaecyparissus	Lavender Cotton
17	Groundcover	Santolina	Virens	Santolina
18	Groundcover	Trifolium	Frageriferum	O'Connor's Legume
19	Groundcover	Verbena	Rigida	Verbena
20	Groundcover	Viguiera	Laciniata	San Diego Sunflower
21	Groundcover	Vinca	Major	Periwinkle
22	Groundcover	Vinca	Minor	Dwarf Periwinkle
23	Perennial	Coreopsis	Grandiflora	Coreopsis
24	Perennial	Coreopsis	Maritima	Sea Dahlia
25	Perennial	Coreopsis	Verticillata	Coreopsis
26	Perennial	Iris	Douglasiana	Douglas Iris
27	Perennial	Kniphofia	uvaria	Red-Hot Poker
28	Perennial	Lavandula spp.		Lavender
29	Perennial	Penstemon spp.		Penstemon
30	Perennial	Satureja	Douglasii	Yerba Buena
31	Perennial	Sisyrinchium	Bellum	Blue-Eyed Grass
32	Perennial	Sisyrinchium	Californicum	Golden-Eyed Grass
33	Perennial	Solanum	Xantii	Purple Nightshade
34	Perennial	Zauschneria	'Catalina' ?	Catalina Fuschia
35	Perennial	Zauschneria	Californica	California Fuschia
36	Perennial	Zauschneria	Cana	Hoary California Fuschia
37	Shrub	Agave	Amorpha fruticose	False Indigobush
38	Shrub	Arbutus	Menziesii	Madrone
39	Shrub	Arctostaphylos spp.		Manzanita
40	Shrub	Atriplex	canescens	Hoary Saltbush
41	Shrub	Atriplex	lentiformis	Quail Saltbush
42	Shrub	Baccharis	pilularis	Coyote Bush
43	Shrub	Baccharis	salicifolia	Mule Fat "R"

44	Shrub	Ceanothus spp.		California Lilac
45	Shrub	Cistus spp.		Rockrose
46	Shrub	Comarostaphylis	diversifolia	Summer Holly
47	Shrub	Elaeagnus	pungens	Silverberry
48	Shrub	Encelia	californica	Coast Sunflower
49	Shrub	Eriophyllum	confertiflorum	Golden Yarrow
50	Shrub	Eriophyllum	staechadifolium	Lizard Tail
51	Shrub	Escallonia spp.		Escallonia
52	Shrub	Feijoa	sellowiana	Pineapple Guava
53	Shrub	Fremontodendron	californicum	Flannelbush
54	Shrub	Fremontodendron	mexicanum	Southern Flannelbush
55	Shrub	Galvezia	juncea	Baja Bush-Snapdragon
56	Shrub	Galvezia	speciosa	Island Bush-Snapdragon
57	Shrub	Garrya	elliptica	Coast Silktassel
58	Shrub	Garrya	flavescens	Ashy Silktassel
59	Shrub	Heteromeles	arbutifolia	Toyon
60	Shrub	Lotus	scoparius	Deerweed
61	Shrub	Mahonia spp.		Barberry
	Shrub	Malacothamnus	clementinus	San Clemente Island Bush
62				Mallow
63	Shrub	Malacothamnus	fasciculatus	Mesa Bushmallow
64	Shrub	Mimulus spp.		Monkeyflower
65	Shrub	Nolina	parryi	Parry's Nolina
66	Shrub	Photinia spp.		Photinia
67	Shrub	Prunus	caroliniana	Carolina Laurel Cherry
68	Shrub	Prunus	ilicifolia	Hollyleaf Cherry
69	Shrub	Prunus	lyonii	Catalina Cherry
70	Shrub	Puncia	granatum	Pomegranate
71	Shrub	Pyracantha spp.		Firethorn
72	Shrub	Rhamus	alaternus	Italian Buckthorn
73	Shrub	Rhamus	californica	Coffeeberry
74	Shrub	Rhus	continus	Smoke Tree
75	Shrub	Rhus	trilobata	Squawbush
76	Shrub	Romneya	coulteri	Matilija Poppy
77	Shrub	Rosa	californica	California Wild Rose
78	Shrub	Salvia spp.		Sage
79	Shrub	Sambucus spp.		Elderberry
80	Shrub	Symphoricarpos	mollis	Creeping Snowberry
81	Shrub	Syringa	vulgaris	Lilac
82	Shrub	Teucrium	fruticans	Bush Germander
83	Shrub	Yucca	schidigera	Mojave Yucca
84	Shrub	Yucca	whipplei	Foothill Yucca
85	Tree	Acer	macrophyllum	Big Leaf Maple
86	Tree	Acer	platanooides	Norway Maple
87	Tree	Acer	rubrum	Red Maple
88	Tree	Acer	saccarum	Sugar Maple
89	Tree	Acer	saccharinum	Silver Maple
90	Tree	Alnus	rhombifolia	White Alder "R"
91	Tree	Arbutus	unedo	Strawberry Tree
92	Tree	Cercis	occidentalis	Western Redbud

93	Tree	Cornus	nuttallii	Mountain Dogwood
94	Tree	Cornus	stolonifera	Redtwig Dogwood
95	Tree	Elaeagnus	angustifolia	Russian Olive
96	Tree	Eriobotrya	japonica	Loquat
97	Tree	Ginkgo	biloba "Fairmount"	Fairmount Maidenhair Tree
98	Tree	Gleditsia	triacanthos	Honey Locust
99	Tree	Juglans	hindsii	California Black Walnut
100	Tree	Lagerstroemia	indica	Crape Myrtle
101	Tree	Ligustrum	lucidum	Glossy Privet
102	Tree	Liquidambar	styraciflua	Sweet Gum
103	Tree	Liriodendron	tulipifera	Tulip Tree
104	Tree	Pistacia	chinensis	Chinese Pistache
105	Tree	Pistacia	vera	Pistachio Nut
106	Tree	Platanus	acerifolia	London Plane Tree
107	Tree	Platanus	racemosa	California Sycamore "R"
108	Tree	Populus	alba	White Poplar
109	Tree	Populus	fremontii	Western Cottonwood "R"
110	Tree	Populus	trichocarpa	Black Cottonwood "R"
111	Tree	Prunus	caroliniana	Carolina Laurel Cherry
112	Tree	Prunus	cersifera 'Newport'	Newport Purple-Leaf Plum
113	Tree	Prunus	ilicifolia	Hollyleaf Cherry
114	Tree	Prunus	lyonii	Catalina Cherry
115	Tree	Prunus	serrulata 'Kwanzan'	Flowering Cherry
116	Tree	Prunus	xblireiana	Flowering Plum
117	Tree	Prunus	yedoensis 'Akebono'	Akebono Flowering Cherry
118	Tree	Quercus	agrifolia	Coast Live Oak
119	Tree	Quercus	engelmannii	Engelmann Oak
120	Tree	Quercus	suber	Cork Oak
121	Tree	Salix spp.		Willow "R"
122	Tree	Ulmus	parvifolia	Chinese Elm
123	Tree	Ulmus	pumila	Siberian Elm
124	Tree	Umbellularia	californica	California Bay Laurel "R"
125	Vine	Keckiella	cordifolia	Heart-Leaved Penstemon
126	Vine	Lonicera	japonica 'Halliana'	Hall's Honeysuckle
127	Vine	Lonicera	subspicata	Chaparral Honeysuckle

APPENDIX 'B'

Prohibited/Invasive Plant List

Prohibited/Invasive Plant List

The following species are highly flammable and avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding) may remain as long as the potential for spreading a fire has been reduced or eliminated.

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

** San Diego County native species

APPENDIX 'B' References:

Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards 2020

City of Oceanside, California. 1995. Vegetation Management. Landscape Development Manual. Community Services Department, Engineering Division.

City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

www.bewaterwise.com. 2023. Fire-resistant California Friendly Plants.

www.ucfpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

Rob Bonta, Attorney General, State of California; *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act*

APPENDIX 'C'

Fuel Treatment Map

Fuel Treatment Zone Exhibit

Appendix D

Non-Combustible & Fire-Resistant Building Materials For Balconies, Carports, Decks, Patio Covers and Floors

Examples of non-combustible & fire-resistant building materials for balconies, carports decks, patio covers and floors are as follow:

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



Ultra-Lattice Stand Alone Patio Cover



Ultra-Lattice Attached Patio Cover



Ultra-Lattice Solid Patio Cover



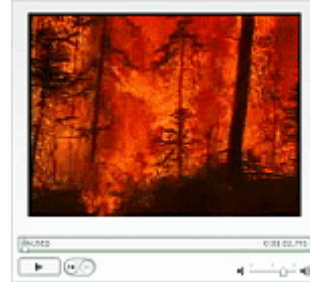
Ultra-Lattice Vs. Wood

I. FRX EXTERIOR FIRE-RETARDANT TREATED WOOD

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

Typical Exterior Uses

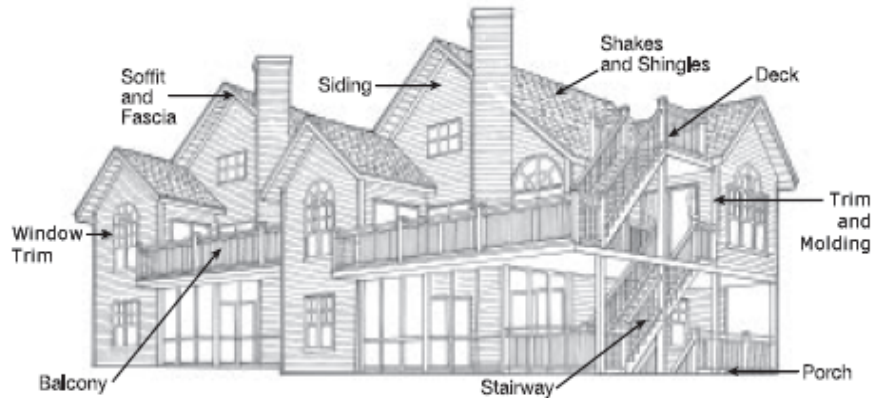
- Wall coverings
- Balconies
- Decks
- Stairways
- Fences
- Sheds
- Gazebos
- Roof coverings
- Open-air roof systems
- Canopies and awnings
- Storefronts and facades
- Eaves, soffits and fascia
- Agricultural buildings and horse stalls
- Scaffolding and scaffold planks
- Construction staging
- Various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



Property owners and Architects: See this [2-minute video](#) and the illustration below.



Typical Residential Uses



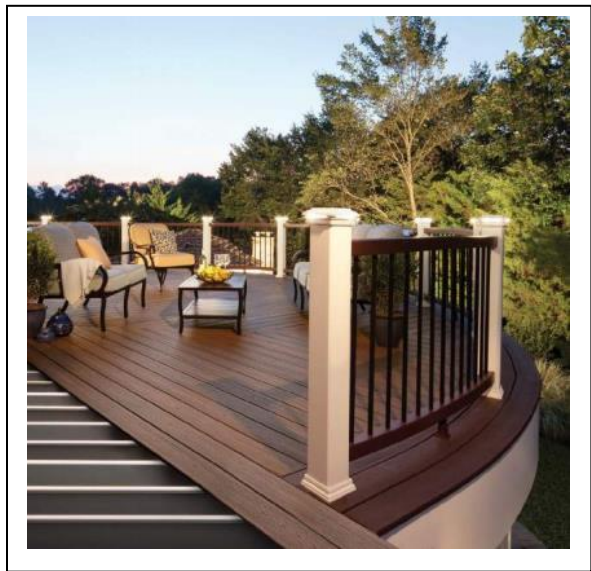
Rising concerns over fire damage and the adoption of urban-wildland interface codes have increased the use of FRT wood in residential structures.

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

III. DECKING MATERIALS

Trex Company, Inc. – “Trex Transcend®, Trex Select® and Trex Enhance® wood and polyethylene composite deck board, nominal ranging in size from 1” x 5-1/2” to 1-3/8” x 5-1/2” installed per manufacturer maximum edge-to-edge gap of 3/16”. All Trex decking products meet or exceed the SFM 12-7A-4A testing protocol.

Trex combines both beauty and fire defense. A few examples of installations are shown below:



IV. SOLID “WOOD” DECKING

Company Name: Various Manufacturers

Product Description: Solid “Wood” decking, when installed over minimum 2” x 6” solid “Douglas Fire” or better joists, space 24” or less on center, and decking and joints comply with American Softwood Lumber Standard PS2o as follows:

Minimum nominal 5/4”thick and nominal 6” wide decking boards with a maximum 3/8” radius edges made of solid wood species “Redwood”, “Western Red Cedar”, “Incense Cedar”, “Port Orford Cedar”, or “Alaska Yellow Cedar” having a Class B Flame Spread rating when tested in accordance with ASTM E84. Lumber grades; construction common, commercial or better grade for Redwood; 3 common, commercial or better grades for Cedars.

V. Vents

CBC, Chapter 7A Regulations for Vents:

Under the code, all ventilation openings for enclosed attics, soffit spaces, rafter spaces, and other openings must be covered with Wildland Urban Interface (WUI) Vents approved and listed by the California State Fire Marshal. This includes gable end, foundation, crawl spaces, garage, eave, soffit, ridge, roof, and dormer vents. Vents listed as CalFire approved must test to ASTM E2886 by complying with all the following requirements:

1. There shall be no flaming ignition of the cotton material during the Ember Intrusion test.
2. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
3. The maximum temperature of the unexposed side of the vent shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).

Examples of Ember Resistant Approved Vents

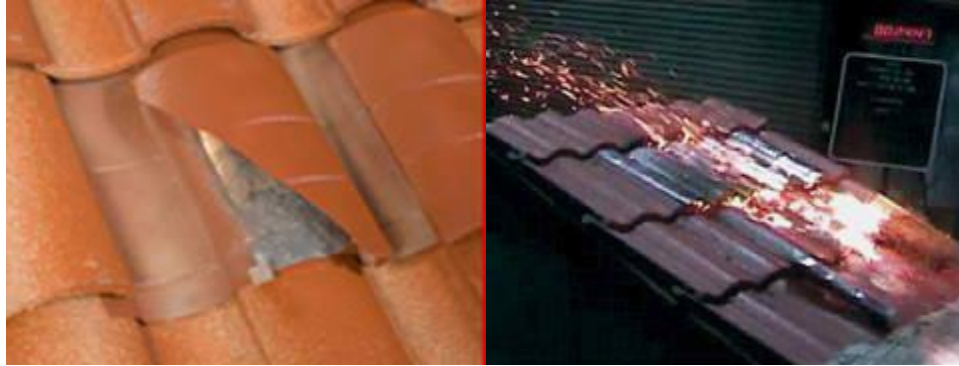
Brandguard



O'Hagin Fire & Ice® Line – Flame and Ember Resistant

An available option for all O'Hagin attic ventilation products, this attic vent not only features all the same design, construction elements and color choices as the O'Hagin Standard Line, but also features

an interior stainless-steel matrix that resists the intrusion of flames and embers. This patent-pending attic vent is accepted for use by many local fire officials for installation in Wildland Urban Interface (WUI) zones.



Vulcan Vents

The founders of Gunter Manufacturing worked closely with the scientists and inventors of Vulcan Technologies to bring to market this incredible product.

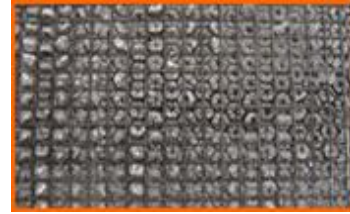
Combining our quality vent products with the fire-stopping honeycomb matrix core designed by Vulcan has produced unique and remarkable results.

New Cal Metals Inc purchased the product design of Vulcan Vents and continued the over 50 years of combined sheet metal manufacturing experience. Special orders are not a problem. Their vent frames are industry standard frames so there is little or no learning curve for installers and contractors. Their stated goal is to provide people with the vents they need to secure their homes with additional safety against wildfires and give them piece of mind from knowing that their home or structure is protected by a product that works!

The core of their fire and ember safe vents are manufactured out of hi-grade aluminum honeycomb and coated with an intumescent coating made by [FireFree Coatings](#). The intumescent coating is designed to quickly swell up and close off when exposed to high heat. The expanded material acts as an insulator to heat, fire, and embers



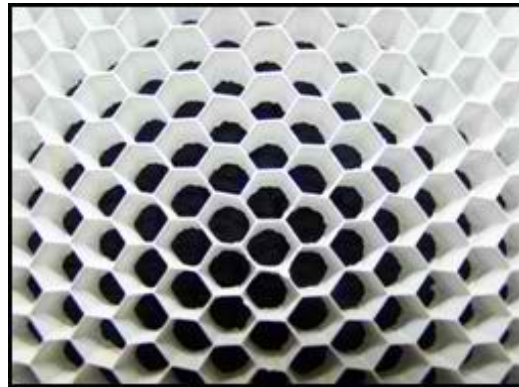
Before



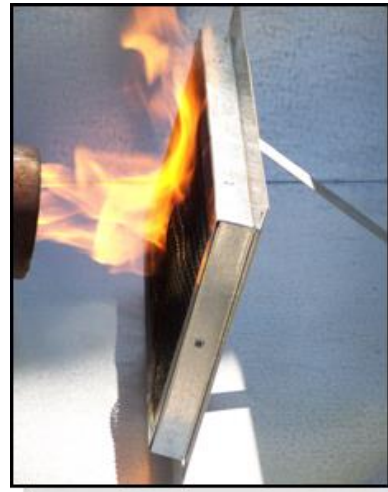
After

After the cells close off, they are extremely well insulated, and fire or embers cannot penetrate.

Even before the cells close off, the vent is designed to protect against flying embers. In many cases embers will attack a structure before fire ever comes near, so this feature is very important.



Close-up of the coated honeycomb matrix.



Fire easily passes through a standard vent, on the left, but stops cold when it comes up against a Vulcan Vent shown on right.

APPENDIX 'E'

Ignition Resistant Construction Requirements

Appendix 'E'

Ignition Resistant Construction

The following is a summary of the current requirements for ignition resistant construction for high fire hazard areas under Chapter 7A of the California Building Code (CBC) 2019 edition. However the requirements listed below are not all inclusive and all exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments must meet the current CBC Chapter 7A ignition resistance requirements, the California Fire Code, and any additional County and/or City codes in effect at the time of building permit application. See the current applicable codes for a detailed description of these requirements and any exceptions.

1. All structures will be built with a Class A Roof Assembly and shall comply with the requirements of Chapter 7A and Chapter 15 of the California Fire Code. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.
2. Roof valley flashings shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72-pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909, at least 36-inch-wide (914 mm) running the full length of the valley.
3. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall be covered with a minimum of 1/16-inch and shall not exceed 1/8-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection.
4. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to resist the intrusion of flames and embers, be fire stopped with approved materials or have one layer of a minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking.
5. Enclosed roof eaves and roof eave soffits with a horizontal underside, sloping rafter tails with an exterior covering applied to the under-side of the rafter tails, shall be protected by one of the following:
 - noncombustible material
 - Ignition-resistant material
 - One layer of ⁵/₈-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit
 - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual

- Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section 707A.10 when tested in accordance with the test procedures set forth in ASTM E2957.
- Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exceptions: The following materials do not require protection:

1. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
2. Fascia and other architectural trim boards.

6. The exposed roof deck on the underside of unenclosed roof eaves shall consist of one of the following:

- Noncombustible material, or
- Ignition-resistant material, or
- One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck, or
- The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association fire Resistance Design Manual.

Exceptions: The following materials do not require protection:

1. Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
2. Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
3. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
4. Fascia and other architectural trim boards.

7. Vents - ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials or other devices that meet one of the following requirements:

A. Vents listed to ASTM E2886 and complying with all the following:

- i. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
- ii. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
- iii. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).

B. Vents shall comply with all of the following:

- i. The dimensions of the openings therein shall be a minimum of 1/16-inch (1.6 mm) and shall not exceed 1/8-inch (3.2 mm).

- ii. The materials used shall be noncombustible.
Exception: Vents located under the roof covering, along the ridge of roofs, with the exposed surface of the vent covered by noncombustible wire mesh, may be of combustible materials.
 - iii. The materials used shall be corrosion resistant.
8. Vents shall not be installed on the underside of eaves and cornices.
Exceptions:
 1. Vents listed to ASTM E2886 and complying with all the following:
 - There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
 - There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
 - The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).
 2. The enforcing agency shall be permitted to accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.
 3. Vents complying with the requirements of Section 706A.2 shall be permitted to be installed on the underside of eaves and cornices in accordance with either one of the following conditions:
 - 3.1. The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or,
 - 3.2. The exterior wall covering, and exposed underside of the eave are of noncombustible materials, or ignition-resistant materials, as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the requirements
9. All chimney, flue or stovepipe openings that will burn solid wood will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, having a heat and corrosion resistance equivalent to 12-gauge wire, 19-gauge galvanized steel or 24-gauge stainless steel, or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks nor block spheres having a diameter less than 3/8 inch (9.55 mm). It shall be installed to be visible for the purposes of inspection and maintenance and removeable to allow for cleaning of the chimney flue.
10. All residential structures will have automatic interior fire sprinklers installed according to the National Fire Protection Association (NFPA) 13D 2019 edition - Standard for the Installation of Sprinkler Systems in One and Two-family Dwellings and Manufactured Homes. Fire sprinklers are not required in unattached non-habitable structures greater than 50 feet from the residence.
11. The exterior wall covering, or wall assembly shall comply with one of the following requirements:
 - Noncombustible material, or

- Ignition resistant material, or
- Heavy timber exterior wall assembly, or
- Log wall construction assembly, or
- Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact expose test set forth in ASTM E2707 with the conditions of acceptance shown in Section 707A.3.1 of the California Building Code, or
- Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.

Exception: Any of the following shall be deemed to meet the assembly performance criteria and intent of this section including;

- One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing, or
- The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Associate Fire Resistance Design Manual.

12. Exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.
13. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris within the gutter that contribute to roof edge ignition.
14. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.
15. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.
16. Deck Surfaces shall be constructed with one of the following materials:
 - Material that complies with the performance requirements of Section 709A.4 when tested in accordance with both ASTM E2632 and ASTM E2726, or
 - Ignition-resistant material that complies with the performance requirements of 704A.3 when tested in accordance with ASTM E84 or UL 723, or
 - Material that complies with the performance requirements of both SFM Standard 12-7A-4 and SFM Standard 12-7A-5, or
 - Exterior fire retardant treated wood, or

- Noncombustible material, or
 - Any material that complies with the performance requirements of SFM Standard 12-7A-4A when the attached exterior wall covering is also composed of noncombustible or ignition-resistant material.
17. Accessory structures attached to buildings with habitable spaces and projections shall be in accordance with the Building Code. When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas and exterior wall construction in accordance with Chapter 7A of the Building Code.
18. Exterior windows, skylights and exterior glazed door assemblies shall comply with one of the following requirements:
- Be constructed of multiplane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
 - Be constructed of glass block units, or
 - Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
 - Be tested to meet the performance requirements of SFM Standard 12-7A-2.
19. All eaves, fascia and soffits will be enclosed (boxed) with non-combustible materials. This shall apply to the entire perimeter of each structure. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.
20. Detached accessory buildings that are less than 120 square feet in floor area and are located more than 30 feet but less than 50 feet from an applicable building shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2 of the California Building Code.
Exception: Accessory structures less than 120 square feet in floor area located at least 30 feet from a building containing a habitable space.
21. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.
22. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustible material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.
23. Exterior garage doors shall resist the intrusion of embers from entering by preventing gaps between doors and door openings, at the bottom, sides and tops

of doors, from exceeding 1/8 inch. Gaps between doors and door openings shall be controlled by one of the methods listed in this section.

- Weather-stripping products made of materials that:
 - (a) have been tested for tensile strength in accordance with ASTM D638 (Standard Test Method for Tensile Properties of Plastics) after exposure to ASTM G155 (Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials) for a period of 2,000 hours, where the maximum allowable difference in tensile strength values between exposed and non-exposed samples does not exceed 10%; and (b) exhibit a V-2 or better flammability rating when tested to UL 94, Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.
- Door overlaps onto jambs and headers.
- Garage door jambs and headers covered with metal flashing.

24. Exterior doors shall comply with one of the following:

1. The exterior surface or cladding shall be of noncombustible material or,
2. The exterior surface or cladding shall be of ignition-resistant material or,
3. The exterior door shall be constructed of solid core wood that complies with the following requirements:
 - 3.1. Stiles and rails shall not be less than 1-3/8 inches thick.
 - 3.2. Panels shall not be less than 1-1/4 inches thick, except for the exterior perimeter of the panel that shall be permitted to taper to a tongue not less than 3/8 inch thick.
4. The exterior door assembly shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252 or,
5. The exterior surface or cladding shall be tested to meet the performance requirements of Section 707A.3.1 when tested in accordance with ASTM E2707 or,
6. The exterior surface or cladding shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

City of Escondido General Requirements

1. All awnings attached to any structure shall meet the 15-foot structure setback requirement and be identified as fire rated. Additionally, the awning shall be contained in a metal, self-enclosing or box-protected cover.
2. Portable awnings shall have UL Approved Fire-Retardant Rating and be no closer than 20 feet from any combustible structures.
3. The following requirements apply to both pool heating and power supply. Solar panels located less than 20 feet to a combustible structure shall have a metal frame, otherwise the size and type of materials of the entire solar panel system will determine the separation distance to combustible structures. All solar panels placed on a roof top shall comply with the Class "A" roof assembly and materials requirements.
4. Trash enclosures or trash can storage shall be located at least 10 feet or more from any structure. Trash enclosure trellis or roof should be non-combustible or made of heavy timber.

5. Small storage buildings shall be located at least 20 feet from any structure.
6. Clearance to combustibles shall be kept a minimum of 10 feet from any propane tanks or containers.

AUXILLARY STRUCTURES: PAVILIONS, TRELLISES, ARBORS, PERGOLAS, CABANAS, PALAPAS, AND PLAYGROUND EQUIPMENT

Auxiliary Structures are evaluated for a fire event (i.e., type of combustible materials, size of structure, distance from house and intended use). In addition, if structure is more than 50% covered, a Class A noncombustible roof is required.

ATTACHED, AUXILLARY STRUCTURE TO HOME; i.e., Overhead covers and decking not enclosed on three sides:

- a. 100-foot Fuel Modification Zone extends from the attached structure perimeter.
- b. Maximize the use of non-combustible material. Columns must be non-combustible masonry and/or stucco or pre-cast concrete.
- c. Nominal timber size requirements (4"x 6") for fire resistive construction will be required.
- d. Attached structure may not extend into the pre-determined, structure setbacks.
- e. Any covered area shall be required to be protected with fire sprinkler system when the dimensions from the wall of the structure to the edge of the covered area exceeds ten feet.

DETACHED, AUXILLARY STRUCTURES LESS THAN 250 SQUARE FEET; i.e., small playground equipment, gazebos, shed, trellis, palapas and arbor:

1. When structure is 250 square feet or less, the 100-foot Fuel Modification Zone extends from the house outwards, not the auxiliary structure.
2. The structures shall be a minimum of 20 feet from other combustible structures.
3. Maximize the use of non-combustible material. Columns must be non-combustible Masonry and/or stucco or pre-cast concrete.
4. Nominal timber size requirements (4"x 6") for fire resistive construction will be required
5. Structure may not extend into the fuel modification setbacks from top of slope.
6. The canvas awnings for playground equipment shall be identified and maintained, annually, as fire retardant.
7. Structures enclosed on three or more sides may require an automatic fire sprinkler system.
8. All palapas with thatched roofs shall be at a minimum 30 feet from any combustible structure. Roofing materials shall be applied with a fire-retardant chemical. Proof of application and UL rating of fire-retardant chemical shall be provided to Fire District prior to installation of palapas.

DETACHED AUXILLARY STRUCTURES GREATER THAN 250 SQUARE FEET; i.e., large playground equipment (*e.g., King Kong Clubhouse*), guesthouse, cabana, palapas and pool house)

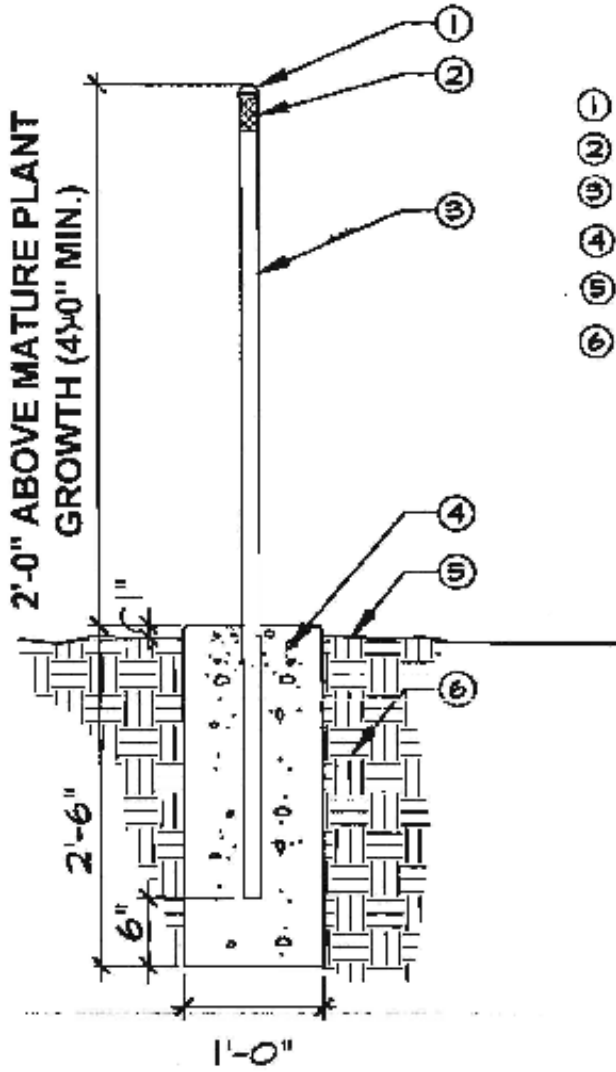
1. When structure is 250 square feet or greater, the 100-foot Fuel Modification Zone extends from the auxiliary structure.
2. The structures shall be a minimum of 30 feet from other combustible structures, unless otherwise permissible by local zoning requirements.
3. Maximize the use of non-combustible material. Columns must be non-combustible Masonry and/or stucco or pre-cast concrete.

4. Nominal timber size requirements (4"x 6") for fire resistive construction will be required.
5. Structure may not extend into the fuel modification setbacks from top of slope.
6. The canvas awnings for playground equipment shall be identified and maintained, annually, as fire retardant.
7. Structures enclosed on three or more sides may require an automatic fire sprinkler system.10-30-2007 – cfh/ms.

APPENDIX 'F'

Zone Marker Detail

ZONE MARKER DETAILS



- ① POST CAP
- ② 2"x8" ZONE INDICATOR
- ③ 1/2" DIA. GALV. POST.
- ④ CONC. FTG. 2500 PSI @ 28 DAYS.
- ⑤ FINISH GRADE.
- ⑥ COMPACTED SUBGRADE

APPENDIX 'G'

Behave Plus 6.0.0 Fire Behavior Calculations



Inputs: SURFACE

Description ISKCON Fire Northeast Wind Untreated, East Exposure

Fuel/Vegetation, Surface/Understory

Fuel Model SCAL18

Fuel Moisture

1-h Fuel Moisture	%	<u>2</u>
10-h Fuel Moisture	%	<u>3</u>
100-h Fuel Moisture	%	<u>5</u>
Live Herbaceous Fuel Moisture	%	<u>30</u>
Live Woody Fuel Moisture	%	<u>50</u>

Weather

20-ft Wind Speed	mi/h	<u>60</u>
Wind Adjustment Factor		<u>.3</u>
Wind Direction (from north)	deg	<u>45</u>

Terrain

Slope Steepness	%	<u>9</u>
Site Aspect	deg	<u>270</u>

Run Option Notes

- Maximum effective wind speed limit IS imposed [SURFACE].
- Fire spread is in the HEADING direction only [SURFACE].
- Wind is in specified directions [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 Fire Rate of Spread (ft/min) [SURFACE]
- Surface Fireline Intensity (Btu/ft/s) [SURFACE]
- Surface Fire Flame Length (ft) [SURFACE]
- Wind Adjustment Factor [SURFACE]

(continued on next page)



ISKCON Fire Northeast Wind Untreated, East Exposure

Head Fire

Surface Fire Rate of Spread	221.2 ft/min
Surface Fireline Intensity	16067 Btu/ft/s
Surface Fire Flame Length	38.7 ft
Wind Adjustment Factor	0.30



Inputs: SURFACE

Description ISKCON Fire Northeast Wind Treated, East Exposure

Fuel/Vegetation, Surface/Understory

Fuel Model gr1

Fuel Moisture

1-h Fuel Moisture % 2

10-h Fuel Moisture % 3

100-h Fuel Moisture % 5

Live Herbaceous Fuel Moisture % 30

Live Woody Fuel Moisture % 50

Weather

20-ft Wind Speed mi/h 60

Wind Adjustment Factor .3

Wind Direction (from north) deg 45

Terrain

Slope Steepness % 9

Site Aspect deg 270

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is in specified directions [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 Fire Rate of Spread (ft/min) [SURFACE]

Surface Fireline Intensity (Btu/ft/s) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Wind Adjustment Factor [SURFACE]

(continued on next page)



ISKCON Fire Northeast Wind Treated, East Exposure

Head Fire

Surface Fire Rate of Spread	41.4 ft/min
Surface Fireline Intensity	67 Btu/ft/s
Surface Fire Flame Length	3.1 ft
Wind Adjustment Factor	0.30

Inputs: SURFACE

Description _____ ISKCON North Wind Untreated, South Slope

Fuel/Vegetation, Surface/Understory

Fuel Model _____ SCAL18 _____

Fuel Moisture

1-h Fuel Moisture % _____ 2 _____

10-h Fuel Moisture % _____ 3 _____

100-h Fuel Moisture % _____ 5 _____

Live Herbaceous Fuel Moisture % _____ 30 _____

Live Woody Fuel Moisture % _____ 50 _____

Weather

20-ft Wind Speed mi/h _____ 60 _____

Wind Adjustment Factor _____ .3 _____

Wind Direction (from north) deg _____ 90 _____

Terrain

Slope Steepness % _____ 9 _____

Site Aspect deg _____ 180 _____

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is in specified directions [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 Fire Rate of Spread (ft/min) [SURFACE]

Surface Fireline Intensity (Btu/ft/s) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Wind Adjustment Factor [SURFACE]

(continued on next page)



ISKCON North Wind Untreated, South Slope

Head Fire

Surface Fire Rate of Spread	221.7 ft/min
Surface Fireline Intensity	16102 Btu/ft/s
Surface Fire Flame Length	38.8 ft
Wind Adjustment Factor	0.30



Inputs: SURFACE

Description _____ ISKCON North Wind Treated, South Slope

Fuel/Vegetation, Surface/Understory

Fuel Model _____ gr1 _____

Fuel Moisture

1-h Fuel Moisture _____ % _____ 2 _____

10-h Fuel Moisture _____ % _____ _____

100-h Fuel Moisture _____ % _____ _____

Live Herbaceous Fuel Moisture _____ % _____ 30 _____

Live Woody Fuel Moisture _____ % _____ 30 _____

Weather

20-ft Wind Speed _____ mi/h _____ 60 _____

Wind Adjustment Factor _____ _____ .3 _____

Wind Direction (from north) _____ deg _____ 90 _____

Terrain

Slope Steepness _____ % _____ 9 _____

Site Aspect _____ deg _____ 180 _____

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is in specified directions [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 Fire Rate of Spread (ft/min) [SURFACE]

Surface Fireline Intensity (Btu/ft/s) [SURFACE] (

Surface Fire Flame Length (ft) [SURFACE]

Wind Adjustment Factor [SURFACE]

(continued on next page)



ISKCON North Wind Treated, South Slope

Head Fire

Surface Fire Rate of Spread	41.4 ft/min
Surface Fireline Intensity	67 Btu/ft/s
Surface Fire Flame Length	3.1 ft
Wind Adjustment Factor	0.30

Inputs: SURFACE

Description ISKCON Southwest Wind Untreated North Facing Slope

Fuel/Vegetation, Surface/Understory

Fuel Model SCAL18

Fuel Moisture

1-h Fuel Moisture % 2

10-h Fuel Moisture % 3

100-h Fuel Moisture % 5

Live Herbaceous Fuel Moisture % 30

Live Woody Fuel Moisture % 60

Weather

20-ft Wind Speed mi/h 40

Wind Adjustment Factor .3

Wind Direction (from north) deg 220

Terrain

Slope Steepness % 9

Site Aspect deg 180

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is in specified directions [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 Fire Rate of Spread (ft/min) [SURFACE]

Surface Fireline Intensity (Btu/ft/s) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Wind Adjustment Factor [SURFACE]

(continued on next page)



ISKCON Southwest Wind Untreated North Facing Slope

Head Fire

Surface Fire Rate of Spread	144.6 ft/min
Surface Fireline Intensity	10451 Btu/ft/s
Surface Fire Flame Length	31.8 ft
Wind Adjustment Factor	0.30

Inputs: SURFACE

Description _____ ISKCON Southwest Wind Treated North Facing Slope

Fuel/Vegetation, Surface/Understory

Fuel Model _____ gr1 _____

Fuel Moisture

1-h Fuel Moisture _____ % 2 _____

10-h Fuel Moisture _____ % 3 _____

100-h Fuel Moisture _____ % 5 _____

Live Herbaceous Fuel Moisture _____ % 30 _____

Live Woody Fuel Moisture _____ % 60 _____

Weather

20-ft Wind Speed _____ mi/h 40 _____

Wind Adjustment Factor _____ .3 _____

Wind Direction (from north) _____ deg 220 _____

Terrain

Slope Steepness _____ % 9 _____

Site Aspect _____ deg 180 _____

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is in specified directions [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 Fire Rate of Spread (ft/min) [SURFACE]

Surface Fireline Intensity (Btu/ft/s) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON Southwest Wind Treated North Facing Slope Head Fire

Surface Fire Rate of Spread	41.4 ft/min
Surface Fireline Intensity	67 Btu/ft/s
Surface Fire Flame Length	3.1 ft
Wind Adjustment Factor	0.30

APPENDIX 'H'

Will Serve Letter Water Availability

Project Water Availability Letter



Jimmy Nagle
Engineer I
1501 S. Hale Avenue, Escondido, CA 92029
Phone: 760-839-6290 X 7033

August 21, 2023

Dhiru Tantod
10707 El Caballo Ave
San Diego, CA 92127

Subject: Will Serve letter for the ISKCON Temple – Rincon Avenue (APN 224-100-84, 224-100-85)

Dear Sir or Madam:

The City of Escondido (City) received a request for a will-serve letter for the ISKCON Temple (APN 224-100-84, 224-100-85). The project consists of splitting the parcel into 10 lots for single family dwellings with driveway access, and access road and cul-de-sac. The remaining lot is being proposed as a religious temple hall with living area, patio, detached restrooms, parking lot, and driveway. There are existing City public sewer facilities located in streets adjacent to the sites. The following conditions of approval must be satisfied prior to obtaining sewer and water service from the City:

1. The project shall be required to design and construct any onsite and offsite public sewer and water infrastructure necessary to serve the project in accordance with the City of Escondido Design Standards and Standard Drawings.
 - a. Extend public 12" water main and 8" sewer main from existing utility mains located on Rincon Avenue. Manholes will be required and sewer main shall end in a cleanout.
 - b. Proposed water main located on private drive "A" will be required to be looped to proposed Temple site water main. Water mains shall be sized based on fire flow requirements.
 - c. Provide a min 20-foot PUE for future sewer main extension and a private sewer lateral easement outside of the PUE for APN 224-100-73.
2. An all-weather, Vector-truck drivable and accessible public utility easement shall be granted to the City for all proposed public sewer, including manholes. The minimum easement width shall be 20-feet, or the full width of the private easement road, whichever is greater. No private utilities/private infrastructure shall be allowed within the public utility easement.
3. Plans for the proposed public sewer and water systems shall be submitted to the City for review and approval.

If you have any additional questions, please feel free to contact me at (760) 839-6290 X 7033.

Sincerely,

A handwritten signature in black ink, appearing to read "Jimmy Nagle".

Jimmy Nagle
Engineer I

APPENDIX 'I'

Road Maintenance Agreement

Road Maintenance Agreement

Road Maintenance Agreement to be added by Developer

APPENDIX 'I'
Site Plan

Site Plan