

FIRE PROTECTION PLAN

Corona Tract 37760

Corona Fire Department

Corona, CA

County of Riverside



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Prepared For:

**Rancho Paso De Valencia
1253 Enterprise Court
Corona, CA 92882
951-279-4877**

Certified By:

David C. Bacon
David C. Bacon, President
FIREWISE 2000, Inc.
26337 Sky Drive
Escondido, CA 92026
760-745-3947
firewise2000@sbcglobal.net

FIRE PROTECTION PLAN For TRACT 34760



This Fire Protection Plan is based upon those requirements listed in Chapter 47 of the 2007 California Fire Code with references to Chapter 7a of the California Building Code, Urban Wildland Interface (WUI) requirements; International Wildland Urban Interface Code, 2006 addition; City of Corona referenced code Chapter 3.36 of Title 3 Fire Facilities Fee; and, Chapter 15.12 of Title 15 Fire Code.

Future development shall comply with superseding code requirements that may not have been in effect when this plan was developed.

FIRE PROTECTION PLAN

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Fire Protection Plan

1.0 General Description

Tentative Tract Map 34760 is a development being proposed by Rancho Paso De Valencia, owner. The current parcels proposed for development APN 114-040-019, 114-040-020, 275-100-003 and 275-100-004 are approximately 65.4 acres. The site is located just south of the Current Malaga Street end point. The project proposes 34 residential family home sites. Lots will range from 20,033 sq. ft. to 25,549 sq. ft.

The Tract is located entirely within a Very High Fire Hazard Severity Zone as designated and adopted by the City of Corona, California. Prior to any land development within this proposed Tract, a Fire Protection Plan (FPP) must be submitted to and approved by the City of Corona, Fire Department.

The land use is currently avocado grove. The grove will be graded to provide for the residential streets and pads.

Lot G, a lemon grove in the southeast corner, will be retained as open space.

1.1 General Information

The Fire Protection Plan (FPP) assesses the overall (on-site and off-site) wildland fire hazards and risks that may threaten life and property associated with the proposed residential development within the Tract. In addition, the FPP establishes both the short-term and long-term fuel modification actions required to minimize any projected fire hazards and risks, and assigns annual maintenance responsibilities for each of the required fuel modification actions.

The purpose of this FPP is to provide planning and guidance to our client(s) and provide for a safe development that meets the current State of California requirements and the City of Corona requirements. The FPP includes:

- A wildland fire hazard rating assessment and expected fire behavior of off-site and on-site native vegetative fuels.
- A long-term vegetative fuel modification treatment and maintenance plan to minimize any loss to residential structures within the proposed Tract due to a wildland wildfire.
- A long-term fuel modification treatment plan and “*firewise landscaping*” criteria to be deployed around all planned structures.

2.0 Wildland Fire Hazard and Risk Assessment

2.1 Off-site Fire Hazard and Risk Assessment

All lots proposed for development under this FPP are within the 65.4 acre development area, the property is generally hilly and currently vegetated with avocado trees. There exist areas that have grasses and other vegetation. The property is at the current end of Malaga St which will be extended to the project boundary. Directly north is a developed tract. The area is directly south borders on the Cleveland National Forest. To the west is Lot H permanent open space . It is primarily vegetated with a mixture of grasses, weeds and chaparral. There is approximately a 50% cover ratio. The property has minimal threat from a Santa Ana wind driven fire on the eastern boundary however, open space will exist for approximately 1000 ft from the property boundary east.. Firebrand and ember production coming from a fire event located in the Cleveland National Forest is the greatest risk.



Example images provide a pictorial of vegetation type and consistency.

Photo Group 1 Eastern Boundary

Photo 1 Detention Basin at Northeast corner near Malaga Street



Photo 2 Eastern Boundary Cleveland National Forest at top of Photo



Photo Group 2 Northern Boundary

Photo 3 View along parcel line north end of project looking west from Malaga Street



Photo 4 Northwest corner Debris basin at access point off Goddard Way



Photo Group 3 Western Boundary

Photo 5 West boundary of project site Open Space Lot H. Road will be improved and receive Fuel Treatment



Photo 6 View of fuel bed open space lot west boundary of project site.



Photo Group 4 Southern Boundary

Photo 7 View South End of Site Note Fuel Bed



Photo 8 Southeast Near Project Boundary



Any wildfire burning in the undeveloped lands south of this proposed development under down slope wind conditions creates a serious high wildland fire hazard to this development. The down- slope wind condition known as the “Elsinore Effect” (a phenomenon first observed in the Lake Elsinore area) occurs occasionally from May through November during days of record setting high temperatures in the inland valleys.

At the same time, cooler air masses often extend west over the Pacific Ocean on the coast side of the Santa Ana Mountains. These cooler air masses are literally sucked over the top of the Santa Ana Mountains. This phenomenon occurs because of the vacuum created when high temperatures and solar heating warm the valley floor and plains on the eastside of the Santa Ana Mountain Range. As these lands heat up, the warmer air rises very rapidly throughout the morning and into mid-afternoon creating severe instability. The cooler air on the coast side is heavier than the warm air and slides right down the eastern and northern slopes to replace the rising air. It is not uncommon for wind speeds along the ridge tops to exceed 60 mph. As this cooler air slides down the eastern and northern slopes, wind speeds will drop down to 30 to 40 mph as they reach the valley floor. The “Elsinore Effect” occasionally occurs when there is a wildfire burning on the east or north side of the mountains. The downslope winds will push the fire downslope, usually with tragic results causing significant property losses and, over the last 40 years, loss of life. Conversely, Santa Ana winds will pose little threat to this proposed development, as the winds will be blowing any fire burning in the wildland area away from the development.

The implementation of the proposed natural slope Fuel Modification treatments, Zone 1 and 2 “*firewise*” landscaped manufactured slopes, special fire protection design and construction features, as outlined in the Chapter 7A of the 2007 California Building Code (APPENDIX ‘C’), will protect the proposed development from convected heat, embers and firebrands.

2.2 Predicting Wildland Fire Behavior

“Can wildland fire behavior really be predicted? That depends on how accurate you expect the answer to be. The minute-by-minute movement of a wildland fire will probably never be totally predictable—certainly not from weather conditions forecast many hours before the fire. Nevertheless, practice and experienced judgment in assessing the fire environment, coupled with a systematic method of calculating fire behavior, yields surprisingly good results (Rothermel 1983)”.

The BEHAVE: Fire Behavior Prediction and Fuel Modeling System—Burn Subsystem, Part 1 by Patricia L. Andrews, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE fire behavior computer modeling system was developed by USDA—Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts nationwide. “Because the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations is the dead fuel less than one-fourth inch in diameter; these are the

fine fuels that carry the fire. Fuels larger than three (3”) inches in diameter are not included in the calculations at all (Andrews 1986)”.

The BEHAVE fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six (6’) feet of the ground and contiguous to the ground.

Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in fire protection planning purposes. The **FIREWISE 2000, Inc.** evaluation team used the computer based BEHAVE Fire Behavior Prediction Model to make the following fire behavior assessments for the developed area.

2.2.3 Wildland Fire Behavior Calculations for the Off-site Hazardous Vegetative Fuels

Wildland fire behavior calculations have been projected for the hazardous vegetative fuels on the undeveloped sites adjacent to and bordering Tract 34760. These projections were based on the following “worst case” (extreme) City of Corona area fire weather condition assumptions:

Scenario 1 Table 2.2.1

South, Southwest and West Wind Condition Fuel Moisture Assumptions (Elsinore Effect) Area Southern Boundary at Cleveland National Forest/Western Boundary

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

Scenario 2 Table 2.2.1

South, Southwest and West Wind Condition Fuel Moisture Assumptions (Prevailing Afternoon Wind Pattern)

1-Hour Fine Fuel Moisture of.....	3%
10-Hour Fuel Moisture of.....	6%
100-Hour Fuel Moisture of	8%
Live Woody Fuel Moisture of.....	60%

Scenario 3 Table 2.2.3

North, Northeast or East “Santa Ana” Wind Condition Fuel Moisture Assumptions Area east of Project Boundary

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

Tables 2.2.1 through 2.2.2 display 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 separate BEHAVE Fire Behavior Prediction

and Fuel Modeling System Computer Calculations. Table 2.2.3 depicts a landscaped modified zone.

Table 2.2.1 Fire Behavior Analysis Table									
Description of Event: Scenario 1 South, Southwest and West Wind Condition Fuel Moisture Assumptions (Elsinore Effect) Scenario 2 South, Southwest and West Prevailing Wind									
Location:		Cleveland Boundary			Western Boundary				
	Wind MPH	Slope %	Aspect		Fuel Moisture				
Inputs:	15 prevailing	10	North		1 hr	2	Live	50	
	30	10	to		10 hr	3	Dead	30	
	40	10	East		100 hr	5			
Outputs									
Fuel Model	Slope	Adjusted Wind	Flame Length	Rate of Spread (ft. p/min)	Fireline Intensity (BTU /ft./sec)			Remarks	
FM4 South	35% PL to 500ft	6	37.8	250.7	15215	prevailing			
		12	60.4	695.0	42179				
		16	73.1	1053.6	63944				
SoCal 18 West	10% PL to 500ft	6	23.9	77.5	5648	prevailing			
		12	32.5	150.4	10955				
		16	36.8	197.3	14377				

- Slope found using elevation 500 ft. off PL.
- For Cleveland Boundary at PL Fuel Model 4 low slope thinning to So Cal 18.
- Western Boundary mustard and invasives low slope, modeled SoCal 18 as habitat area.

Table 2.2.2 Fire Behavior Analysis Table									
Description of Event: <u>North, Northeast or East "Santa Ana" Wind Condition Fuel Moisture Assumptions</u> Area east of Project Boundary									
Location:		Eastern Boundary							
	Wind MPH	Slope %	Aspect		Fuel Moisture				
Inputs:	0	10	West		1 hr	2	Live	50	
	30	10			10 hr	3	Dead	30	
	60	10			100 hr	5			
Outputs									
Fuel Model	Slope	Adjusted Wind	Flame Length	Rate of Spread (ft. p/min)	Fireline Intensity (BTU /ft./sec)			Remarks	
SH7	10% PL to 500ft	0	6.5	6.8	330				
		12	37.3	303.7	14804				
		24	54	679.3	33118				

●SH5 was used because fuels are typically heavier at PL, this as extends outward, typical flame lengths would probably be less then predicated at PL. 1000ft width of fuel bed extending into the Cleveland to the south.

For this open space are east of project site.

Topography and fuel bed would predict similar to “Elsinore Effect” model results table 2.2.1, in a fire situation exposed to a south to southwest wind.

Table 2.2.3. Depicts on-site fire behavior based on continued maintenance and irrigation.

Table 2.2.2 Expected Fire Behavior for a "Lake Elsinore" Effect Down Slope Wind Condition Within a Typical "Firewise" Landscaped Combined Fuel Model 1-Grass Stubble (70%) and Fuel Model 9-/Tall Hardwoods (30%)	
Rate of Spread	359 feet/minute
Fireline Intensity	844 BTU's/foot/second
Flame Length	10 feet in length
Additional Fire Behavior Calculation Input:	
<ul style="list-style-type: none"> ● 30 mph 20-foot wind speed (12 mph mid-flame wind speed) 	
<p>COMMENTS: The above fire behavior projections are based on grass fuels one-foot tall. Therefore, Rates of Spread, Fireline Intensity and Flame Lengths should be reduced one-third for 4-inch stubble grass fuels, i.e. Rate of Spread = 118 feet/minute Fireline Intensity = 279 BTU's/ft/sec Flame Length = 3.3 feet in length</p>	

3.0 Assessing Structure Ignitions in the Wildland/Urban Interface (Intermix)

Structure ignitions from wildland wildfires basically come from three sources of heat; convective, radiant and firebrands (flying embers). During periods of high fire intensity and strong, dry, winds airborne firebrands have the capability of being transported over great distances (several hundred feet and up to several miles). The likelihood of a structure loss from airborne embers should be of little concern for the developed area, as all homes will be constructed with non-combustible roofing and fire-resistive exterior building materials, and no attic vents or attic ventilation louvers will be installed in eave overhangs or between rafters at eaves.

The above statement is made with the understanding that the eventual homeowner will maintain the property to required fuel modification standards and will keep the roof and any rain gutters free of leaves, needles and other combustible debris and all firewood and other combustible materials are properly stored away from the structure so that burning embers falling on or near the structure have no suitable host. It will be the homeowner’s responsibility to keep all doors and windows tightly closed whenever a wildfire is reported in the near vicinity.

“*Firewise*” landscaping is the act of converting native vegetation from a highly flammable and high intensity state to a more fire resistant and lower intensity condition. The comparisons of the treated and untreated fuels in Table 2.22 demonstrates how thinning substantially reduces flame lengths and fireline intensity to an acceptable level for structure protection. Other than non-combustible roofing and exterior building materials, “*firewise*” landscaping has proven to be the most effective treatment for minimizing structure losses due to wildfire radiant heat.

A USDA-Forest Service research study entitled the “Structure Ignition Assessment Model (SIAM)” by Jack D. Cohen, Intermountain Fire Science Laboratory, Missoula, Montana has helped to validate the distance required to keep structures from igniting due to wildfire radiant heat. Preliminary SIAM results suggest that for reducing structure ignitions from radiant heat, vegetation modification beyond 100 feet distance from a structure has no significant benefit unless there is supporting data justifying more than 100 feet of vegetation modification. In this case, fuel modification measures are more than adequate to protect the structures planned for all lots.

The SIAM Ignition Study indications and the personal experience of the ***FIREWISE 2000, Inc.*** evaluation team helped to establish the fuel modification recommendations found in Section 5.0: Fuel Modification Descriptions, Recommended Treatments and Landscaping & Fuel Treatment Location Map.

3.1 Terminology

Although any plant will burn, wildland fire research has shown over and over that some types of plants, including many natives, are more fire resistant than others. The Recommended Plant List in APPENDIX ‘A’ includes a listing of these low-fuel volume, non-oily, non-resinous plants that are commonly referred to as “*fire resistant*”. This term comes with the proviso that each year these plants are pruned, all dead wood is removed and all grasses or other plant material are removed from beneath their canopies. APPENDIX ‘B’ includes a listing of those native species that are considered very fire-prone (*undesirable from either a biological or wildfire risk perspective*).

4.0 Fire Department Response Times

The development is within the City of Corona Fire Department’s 5-minute initial response time. Fire apparatus from City of Corona Station Six (.5 miles away) located at the intersection of Upper Drive and Main Street would be the first engine to arrive.

5.0 Fuel Modification Descriptions, Recommended Treatments and Fuel Treatment Location Map

5.1 Fuel Modification Descriptions

5.1.2 Fuel Modification Zone 1.

Zone 1 comprises the first 30 feet around a structure and is commonly called the defensible space zone. This zone applies to the entire buildable pad area. This “*firewise*” landscape zone is to be irrigated and consist of fire resistant and maintained plantings usually less than 18 inches in height. Zone 1 may contain occasional fire resistant trees

(separated by ten feet between crown cover at maturity) and single well spaced (separated by 4 feet at maturity) ornamental shrubs up to 48 inches in height, intermixed with lawn, hardscape or ground cover. Plants 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 and juniper species. Thick, succulent or leathery leaf species are the most fire resistant.

Trees must be planted so that when they reach maturity their branches are at least 10 feet away from any structure. All undeveloped lots are to be maintained by the developer, under weed abatement regulations, until sold (Refer to APPENDIX 'A' "FIREWISE" Landscape Planting Considerations & Approved Plant List). Thick, succulent or leathery leaf species are the most fire resistant.

Regular maintenance and continued irrigation is most important in Zone 1. If water for irrigation is limited, use more of the available water in Zone 1 rather than in Zone 2. Plants with high moisture content are less likely to burn. Non-flammable patios, walkways, rock, and gravel can be used to break up fuel continuity within Zone 1.

5.1.3 Fuel Modification Zone 2.

Zone 2 is the area 30 to 100 feet or more, away from any structures. Zone 2 may consist of cleared, irrigated and replanted with firewise landscaping (yard or manufactured slopes), non-irrigated natural slope thinning zones where native vegetation is thinned to 50% of its original fuel loading, and/or mowed (weed-whipped) grasses. This zone may include single or small clusters of trimmed fire resistant native and ornamental shrubs up to 48 inches in height and trimmed native or ornamental trees limbed up to 6 feet from the ground. "Firewise" landscaping criteria are also important in this zone. Irrigation, partial irrigation or non-irrigation will be used in this zone depending upon the plant species selected.

Refer to APPENDIX 'A' Plants that are prohibited in this area.

Mulches, chips and other small multi-cuttings within a Thinning Zone 2 (cut to less than 2 inches in diameter and 4-inches in length) should be evenly spread over the area to prevent grass and weed encroachment within the treated areas. This mulching concept helps to maintain the soil moisture for the designated plants and minimizes any soil erosion. All native grasses or weeds are to be mowed or weed-whipped to a 4 inch stubble height. Refer to APPENDIX 'B' Invasive Plant List for additional plants that are prohibited.

Lot owners will be responsible for maintaining fuel modification Zones 1 and 2 within their lot. Weed abatement regulations will be followed if the lot is not landscaped. In the event a lot/built parcel is repossessed, the Financial Institution holding title to the lot will be responsible for the maintenance. In the interim the HOA will be responsible to ensure that minimum standards are met (See Section 5.5 CC&R requirements).

5.1.4 Manufactured Slopes [Homeowner Maintained (Irrigated Zone 2)].

All manufactured slopes that fall within a lot boundary will be maintained by the homeowner. These manufactured slopes will be cleared of all native vegetation and replanted with shrubs, trees and groundcovers listed in APPENDIX 'A' "FIREWISE" Landscape Planting Considerations & Approved Plant List.

5.1.5 Manufactured Slope [HOA Maintained] (Irrigated Zone 2) . These Manufactured Slopes are either permanently or temporarily irrigated and replanted with fire resistant vegetation and maintained. The Manufactured Slopes will be cleared of all native vegetation and replanted with shrubs, trees and groundcovers listed in APPENDIX 'A' "FIREWISE" Landscape Planting Considerations & Approved Plant List. Long-term maintenance of these manufactured slopes will be the responsibility of the Development HOA or the individual property owner.

5.1.6 Natural Slope Thinning Zone 3 This Natural Slope Zone 3 fuel treatment is necessary to provide fuel treatment between the project boundary and various irrigated zones on the project. This treatment includes the access road along the western boundary. These areas will require removal of highly flammable species as noted in Appendix B. Initial treatment will include removal of 50% of the available fuel in shrub form and the removal of all grasses and invasives by weed whip or mowing.

5.1.7 Fire Protection Non-combustible Wall. A Limited Building Zone will be placed on the east side of Lot 10 at the PL. Additionally, no trees will be planted within 10 feet of the LBZ all vegetation will not exceed 48 inches in height.

5.2 Recommended Treatments and Actions

5.2.1 Lot Side and Back Yards. (*Shown as No-Color on the Fuel Treatment Location Map*). Each individual lot owner will be required to maintain their side and back yards within 15 to 30 feet (depending on structure setback) of their homes with irrigated "firewise" Zone 1 landscaping. Any remaining portion of the backyard lot will be maintained to either an Irrigated Zone 1 or Irrigated Zone 2 criteria, depending upon lot size and choice of the lot owner refer to 5.1.2 for standards.

5.2.2 Manufactured Slopes [Individual Homeowner]. (*Shown as Green on the Fuel Treatment Location Map*). Manufactured slopes located within the lot boundary will be maintained by the lot homeowner. Landscaping and maintenance will be to Zone 1 criteria. These manufactured slopes will be cleared of all native vegetation, irrigated and replanted with ornamental "firewise" landscaping. Long term maintenance will be by that individual homeowner.

5.2.3 Manufactured Slopes [HOA Maintained Common Areas] (*Shown as Green on the Fuel Treatment Exhibit*)

Manufactured slopes designated as HOA property by maintenance easement or some other description will be maintained to Zone 1 Standards. This area must be irrigated plants may come from APPENDIX 'A' or a suitable drought tolerant low water use pallet. Long term maintenance will be by that individual HOA.

5.2.4 Natural Slope Thinning Zone 3 [HOA Maintained]]. (*Shown as Yellow on the Fuel Treatment Location Map*)Maintenance required on an as needed basis in these areas removal of dead and dying native shrubs, continued thinning of new growth and mowing/weed whipping (Refer to section 5.1.6 for Standards).

5.2.5 Lot G [HOA Maintained]. Lot G is primarily a lemon grove. (*Shown as Pink on the Fuel Treatment Location Map*) Maintenance will include initial thinning of the first 50 feet from the development outward, to ensure and maintain a 10 foot separation between crowns. The remainder will kept trimmed up from the ground as currently maintained, integrity of the paths in and around the trees will be kept in tact. They must remain irrigated. Should Lot G land use change the treatment will become at a minimum a Zone 3 Natural Slope Thinning Area per Sec. 5.1.6.

5.2.6 Fire-Resistive Construction for High Hazard Fire Areas is accordance with The California Building Code Chapter 7A as adopted by the City of Corona- APPENDIX 'C'.

5.2.7 Fire Protection Features For All Structures. (Very High Fire Hazard Severity Zones) The following fire construction and design features are required for all lots:

- 1) Class A roof assemblies shall be required on all structures. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be fire stopped to preclude entry of flames or embers.
- 2) Exterior walls in the Wildland/Urban Interface Area shall comply with the provisions of the U.B.C. and with the following additional requirements:
 - a. Wall Surfacing Materials. The exterior wall surface materials shall be non-combustible or an approved alternate. In all construction, exterior walls are required to be protected with 2-inch nominal solid blocking between rafters at all roof overhangs. Wood shingle and shake wall covering shall be prohibited.
 - b. Wood siding of 3/8-inch plywood or 3/4-inch drop siding is permitted but must have an underlayment of 1/2-inch fire-rated gypsum sheathing that is tightly butted or taped and mudded.
- 3) Attic ventilation openings or ventilation louvers shall not be permitted in soffits, rakes, in eave overhangs, between rafters at eaves, or in other similar exterior overhanging areas in the Wildland/Urban Interface Area. In the Wildland/Urban Interface Area, paper-faced insulation shall be prohibited in attics or ventilated spaces.
- 4) Roof vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with 1/4-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall be equipped to allow, one-way direction rotation only; they shall not free spin in both directions.
- 5) Combustible eaves, fascias and soffits shall be enclosed. 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.

- 6) Attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with ¼-inch mesh corrosion-resistant metal screen or other approved material that offers equivalent protection.
- 7) All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections shall be of non-combustible construction, one-hour fire resistive construction on the underside, fire retardant-treated wood or heavy timber construction. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain the fire-resistive integrity of the wall. In lieu of the fire protection outlined above, decks, balconies, and similar projections may be enclosed from floor level to ground level, enclosing the projection to the exterior wall of the building with materials approved for one-hour construction or protected by an approved automatic fire sprinkler system.
- 8) Skylights within one-half mile of the Wildland/Urban Interface Area shall be tempered glass except when the structure is protected with an automatic fire sprinkler system. No skylights will be allowed on the roof assembly facing hazardous vegetation.
- 9) Glass or other transparent, translucent or opaque glazing shall be tempered glass, multi-layered glass panels, glass block, have a fire-protection rating of not less than 20 minutes, or other assemblies approved by the FAHJ. Glazing frames made of vinyl materials shall have welded corners, metal reinforcement in the interlock area, and be certified to ANSI/AAMA/NWDA 101/I.S.2-97 structural requirements.
- 10) Any chimney, flue or stovepipe will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thickness, or other material found satisfactory by the Fire Department, and having 1/2 inch perforations for arresting burning carbon or sparks and installed to be visible for the purposes of inspection and maintenance.
- 11) Rain gutters and downspouts shall be constructed of noncombustible material. Gutters shall be designed to reduce the accumulation of leaf litter and debris that contributes to roof edge ignition.
- 12) Exterior doors shall be approved non-combustible construction, solid core wood not less than 1 ¾ inches thick or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall comply.
- 13) The first five feet of fences and other items attached to a structure shall be constructed of non-combustible material or meet the same fire-resistive standards as the exterior walls of the structure.

- 14) All enhanced homes shall be sprinklered. The Interior Sprinkler System shall meet National Fire Protection Standard NFPA 13D Installation of Sprinkler Systems in Residential Occupancies.
- 15) 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.
- 17) All windows shall be provided with 1/8 inch mesh metal or similar non-combustible screens to prevent embers from entering the structure during high wind conditions.

5.3 Water Supply Hydrants, mains and water pressures have been designed to comply with City of Corona Code requirements.

5.4 Access Roads. All streets and cul-de-sacs have been designed to City of Corona standards. (Refer to Civil Engineering Design Plans).

- Clearance of Brush or Vegetative Growth from Roadways: The area on each side of the improved width of highways and private roads shall comply with the requirements of Fuel Modification Zone 2.

5.5 Requirements for inclusion in the CC&R's:

- The lot/home owner is personally responsible for all required fuel treatment measures within his or her lot.
- The HOA Board has authority for enforcing required fuel treatment measures on all lots and restrictions on combustible structures on all restricted lots.
- The Fuel Treatment Zones, as depicted on the Fuel Treatment Map, will be shown on the CC&Rs and recorded against all lots. The HOA Board will be responsible for enforcing all required fuel modification treatments on all lots.
- All property owners are members of the HOA and will financially support the annual maintenance of all required Areas designated as common area.
- The HOA Board is responsible to the Fire Marshal for the completion of all required Fuel Modification Treatments prior to the annual fire season.
- All individual lot landscaping plans, including construction of primary residence and additional structures (see Section 5.2.2), must be approved by the HOA Board and shall comply with the Fire Protection Plan.
- Any disputes relating to HOA Board approval of individual lot landscaping, with regard to interpretation of the Fire Protection Plan, shall be decided by the Fire Marshal or his designee within the City of Corona Fire Department. The Fire Marshal's decision shall be final and binding on the lot owner.

6.0 Proposed Fuel Treatment Modification Location Map

The following folder contains the FUEL TREATMENT LOCATION MAP depicting the location of all proposed fuel modification and maintenance areas.

APPENDICES:

APPENDIX 'A'

City of Corona Plant Pallet

APPENDIX 'B'

Undesirable Plants

APPENDIX 'C'

Chapter 7a of the California Building Code

APPENDIX 'D'

Approved, Non-combustible Materials

APPENDIX 'A'

FIREWISE PLANTS

RECOMMENDED PLANTS FOR HIGH FIRE HAZARD AREAS

	Code	Botanical Name	Common Name	Plant Form
	Any plant with the abbreviation Ncn in the Common Name column below means that there is No Common Name. The code is found at the bottom of the last page of this list.			
1	W	Abelia x grandiflora	Glossy Abelia	Shrub
2	N□	Acacia redolens desert carpet	Desert Carpet	Shrub
3	□	Acer macrophyllum	Big Leaf Maple	Tree
4	X	Achillea millefolium	Common Yarrow	Low shrub
5	W	Achillea tomentosa	Wooly Yarrow	Low shrub
6	X	Aeonium decorum	Aeonium	Ground cover
7	X	Aeonium simsii	Ncn	Ground cover
8	W	Agaave attenuata	Centruy Plant	Succulent
9	W	Agave shawii	Shaw's Century Plant	Succulent
10	N	Agave victoriae-reginae	Ncn	Ground cover
11	X	Ajuga reptans	Carpet Bugle	Ground cover
12	W	Alnus cordata	Italian Alder	Tree
13	□	Alnus rhombifolia	White Alder	Tree
14	N	Aloe aborescens	Tree Aloe	Shrub
15	N	Aloe aristata	Ncn	Ground cover
16	N	Aloe brevifolia	Ncn	Ground cover
17	W	Aloe vera	Medicinal Aloe	Succulent
18	W	Alyogyne huegelii	Blue Hibiscus	Shrub
19	□	Ambrosia chamissonis	Beach Bur-Sage	Perennial
20	□	Amorpha fruticosa	Western False Indigobush	Shrub
21	W	Anigozanthus flavidus	Kangaroo Paw	Perennial accent
22	□	Antirrhinum nuttalianum ssp. Nuttalianum	Ncn	Subshrub
23	X	Aptenia cordifolia x 'Red Apple'	Red Apple Aptenia	Ground cover
24	W	Arbutus unedo	Strawberry Tree	Tree
25	W	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	Ground cover
26	W	Arctostaphylos edmundsil	Little Sur Manzanita	Ground cover
27	□	Arctostaphylos glandulosa ssp.glandulosa	Eastwood Manzanita	Shrub
28	W	Arctostaphylos hookeri 'Monterey Carpet'	Monterey Carpet Manzanita	Low shrub
29	N	Arctostaphylos pungens	Ncn	Shrub
30	N	Arctostaphylos fefugioensis	Refugio Manzanita	Shrub

31	W	Arctostaphylos uva-ursi	Bearberry	Ground cover
32	W	Arctostaphylos x 'Greensphere'	Greensphere Manzanita	Shrub
33	N	Artemisia caucasica	Caucasian Artemisia	Ground cover
34	X	Artemisia pycnocephala	Beach Sagewort	Perennial
35	X	Atriplex canescens	Four-Wing Saltbush	Shrub
36	X	Atriplex lentiformis ssp. Breweri	Brewer Saltbush	Shrub
37	□	Baccharis emoryi	Emory Baccharis	Shrub
38	W □	Baccharis pilularis ssp. Consanguinea	Chaparral Bloom	Shrub
39	X	Baccharis pilularis var. pilularis "Twin Peaks #2"	Twin Peaks	Ground cover
40	□	Baccharis salicifolia	Mulefat	Shrub
41	N	Baileya multiradiata	Desert Marigold	Ground cover
42	W	Beaucarnea recurvata	Bottle Palm	Shrub/Small tree
43	N □	Bougainvillea spectabilis	Bougainvillea	Shrub
44	N □	Brahea armata	Mexican Blue Palm, Blue Hesper Palm	Palm
45	N □	Brahea brandegeei	San Jose Hesper Palm	Palm
46	N □	Brahea edulis	Guadalupe Palm	Palm
47	□	Brickellia acalifornica		Subshrub
48	W □	Bromus carinatus	California Brome	Grass
49	□	Camissonia cheiranthifolia	Beach Evening Primrose	Perennial subshrub
50	N	Carissa macrocarpa	Green Carpet Natal Plum	Ground cover/Shrub
51	X	Carpobrotus chilensis	Sea Fig Ice Plant	Ground cover
52	W	Ceanothus gloriosus 'Point Reyes'	Point Reyes Ceanothus	Shrub
53	W	Ceanothus griseus "Louise Edmunds"	Louis Edmunds Ceanothus	Shrub
54	W	Ceanothus griseus horizontalis	Yankee Point	Ground Cover
55	W	Ceanothus griseus var. horizontalis	Carmel Creeper Ceanothus	Shrub
56	W	Ceanothus griseus var. horizontalis "Yankee Point"	Yankee Point Ceanothus	Shrub
57	□	Ceanothus megacarpus	Big Pod Ceanothus	Shrub
58	W	Ceanothus prostratus	Squaw carpet ceanothus	Shrub
59	□	Ceanothus spinosus	Green bark ceanothus	Shrub
60	W	Ceanothus verrucosus	Wart-Stem Ceanothus	Shrub
61	W	Cerastium tomentosum	Snow-in-summer	Ground cover/shrub
62	W	Ceratonia siliqua	Carob	Tree

63	W	<i>Cercis occidentalis</i>	Western Redbud	Tree/shrub
64	X	<i>Chrysanthemum leucanthemum</i>	Oxeye Daisy	Groundcover
65	W	<i>Cistus hybridus</i>	White Rockrose	Shrub
66	W	<i>Cistus incanus</i>	Ncn	Shrub
67	W	<i>Cistus incanus</i>	Ncn	Shrub
68	W	<i>Cistus incanus ssp. Corsicus</i>	Ncn	Shrub
69	W	<i>Cistus salviifoliu</i>	Sageleaf Rockrose	Shrub
70	W	<i>Cistus x purpureus</i>	Orchid Rockrose	Shrub
71	W	<i>Citrus species</i>	Citrus	Tree
72	□	<i>Clarkia bottae</i>	Showy Fairwell to Spring	Annual
73	□	<i>Cneoridium dumosum</i>	Bushrue	Shrub
74	□	<i>Collinsia heterophylla</i>	Chinese Houses	Annual
75	W □	<i>Comarostaphylis diversifolia</i>	Summer Holly	Shrub
76	N	<i>Convolvulus cneorum</i>	Bush Morning Glory	Shrub
77	W	<i>Coprosma kirkii</i>	Creeping Coprosma	Ground cover/Shrub
78	W	<i>Coprosma pumila</i>	Prostrate Coprosma	Low Shrub
79	□	<i>Coreopsis californica</i>	California Coreopsis	Annual
80	W	<i>Coreopsis lanceolata</i>	Coreopsis	Ground cover
81	N	<i>Correa pulchella</i>	Australian Fuchsia	Ground cover
82	W	<i>Cotoneaster buxifolius</i>	Ncn	Shrub
83	W	<i>Cotoneaster congestus 'Likiang'</i>	Likiang Cotoneaster	Ground cover/Vine
84	W	<i>Cotoneaster parneyi</i>	Ncn	Shrub
85	X	<i>Crassula lactea</i>	Ncn	Ground cover
86	X	<i>Crassula multicava</i>	Ncn	Ground cover
87	X	<i>Crassula ovata</i>	Jade Tree	Shrub
88	X	<i>Crassula tetragona</i>	Ncn	Ground cover
89	W □	<i>Croton californicus</i>	California Croton	Ground cover
90	X	<i>Delosperma 'alba'</i>	White Trailing Ice Plant	Ground cover
91	□	<i>Dendromecon rigida</i>	Bush Poppy	Shrub
92	□	<i>Dichelostemma capitatum</i>	Blue Dicks	Herb
93	N	<i>Distictis buccinatoria</i>	Blood-Red Trumpet Vine	Vine/Climing vine
94	N	<i>Dodonaea viscosa</i>	Hopseed Bush	Shrub
95	X	<i>Drosanthemum floribundum</i>	Rosea Ice Plant	Ground cover
96	X	<i>Drosanthemum hispidum</i>	Ncn	Ground cover
97	X	<i>Drosanthemum speciosum</i>	Dewflower	Ground cover
98	□	<i>Dudleya lanceolata</i>	Lance-leaved Dudleya	Succulent
99	□	<i>Dudleya pulverulenta</i>	Chalk Dudleya	Succulent
100	W	<i>Elaeagnus pungens</i>	Silberberry	Shrub
101	□	<i>Encelia californica</i>	California Encelia	Small shrub

102	☐ •	Epilobium canum [Zauschneria californica]	Hoary California Fuchsia	Shrub
103	☐	Eriastrum sapphirinum	Mojave Wooly Star	Annual
104	N	Eriobotrya japonica	Loquat	Tree
105	☐	Eriodictyon crassifolium	Thick-Leaf Yerba Santa	Shrub
106	☐	Eriodictyon trichocalyx	Yerba Santa	Shrub
107	W ☐	Eriophyllum confertiflorum	Ncn	Shrub
108	W	Erythrina species	Coral Tree	Tree
109	N	Escallonia species	Several varieties	Shrub
110	W ☐	Eschscholzia californica	California Poppy	Flower
111	X	Eschscholzia mexicana	Mexican Poppy	Herb
112	N	Euonymus fortunei	Winter Creeper Euonymus	Ground cover
113	N	Feijoa sellowiana	Pineapple Guava	Shrub/Tree
114	N	Fragaria chiloensis	Wild Strawberry/ Sand Strawberry	Ground cover
115	☐	Frankenia salina	Alkali Heath	Ground cover
116	W	Fremontodendron californicum	California Flannelbush	Shrub
117	X	Gaillardia x grandiflora	Blanketflower	Ground cover
118	W	Galvezia speciosa	Bush Snapdragon	Shrub
119	W	Garrya ellipta	Silktassel	Shrub
120	X	Gazania hybrids	South African Daisy	Ground cover
121	X	Ggazania rigens leucolaena	Trailing Gazania	Ground cover
122	☐	Gilia capitata	Globe Gilia	Perennial
123	W	Gilia leptantha	Showy Gilia	Perennial
124	W	Gilia tricolor	Bird's Eyes	Perennial
125	W	Ginkgo biloba	Maidenhair Tree	Tree
126	☐	Gnaphalium californicum	California Everlasting	Annual
127	W	Grewia occidentalis	Starflower	Shrub
128	☐	Grindelia stricta	Gum Plant	Ground cover
129	N ☐	Hakea suaveolens	Sweet Hakea	Shrub
130	W	Harde bergia comptoniana	Lilac Vine	Shrub
131	N	Helianthemum mutabile	Sunrose	Ground cover/Shrub
132	☐	Helianthemum scoparium	Rush Rose	Shrub
133	☐	Heliotropium curassavicum	Salt Heliotrope	Ground cover
134	X	Helix canariensis	English Ivy	Ground cover
135	W	Hesperaloe parviflora	Red Yucca	Perennial
136	☐ ☐	Heteromeles arbutifolia	Toyon	Shrub
137	X	Hypericum calycinum	Aaron's-Beard	Shrub
138	N	Iberis sempervirens	Edging Caandytuft	Ground cover
139	N	Iberis umbellatum	Globe Candytuft	Ground cover

140	□	Isocoma menziesii	Coastal Goldenbush	Small shrub
141	□	Isomeris arborea	Bladderpod	Shrub
142	W	Iva hayesiana	Poverty Weed	Ground cover
143	N	Jublans californica	California Black Walnut	Tree
144	□	Juncus acutus	Spiny Rush	Perennial
145	□	Keckiella antirrhinoides	Yellow Bush Penstemon	Subshrub
146	□	Keckiella cordifolia	Heart Leaved Penstemon	Subshrub
147	□	Keckiella ternata	Blue Stemmed Bush Penstemon	Subshrub
148	W	Kniphofia uvaria	Red Hot Poker	Perennial
149	W	Lagerstroemia indica	Crape Myrtel	Tree
150	W	Lagunaria patersonii	Primrose Tree	Tree
151	X	Lampranthus aurantiacus	Bush Ice Plant	Ground cover
152	X	Lampranthus filicaulis	Redondo Creeper	Ground cover
153	X	Lampranthus spectabilis	Trailing Ice Plant	Ground cover
154	W	Lantana camara cultivars	Yellow Sage	Shrub
155	W	Lantana montevidensis	Trailing Lantana	Shrub
156	□	Lasthenia californica	Dwarf Goldfields	Annual
157	W	Lavandula dentataq	French Lavendar	Shrub
158	W	Leptospermum laevigatum	Australian Tea Tree	Shrub
159	W	Leucophyllum frutescens	Texas Ranger	Shrub
160	□	Leymus condensatus	Giant Wild Rye	Large grass
161	N	Ligustrum japonicum	Texas Privet	Shrub
162	X	Limonium pectinatum	Ncn	Ground cover
163	X	Limonium perezii	Sea Lavender	Shrub
164	W □	Liquidambar styraciflua	American Sweet Gum	Tree
165	W	Liriodendron tulipifera	Tulip Tree	Tree
166	X	Lonicera japonica 'Halliana'	Hall's Japanese Honeysuckle	Vining shrub
167	□	Lonicera subspicata	Wild Honeysuckle	Vining shrub
168	X	Lotus corniculatus	Bird's Foot Trefoil	Ground cover
169	□	Lotus heermannii	Northern Woolly Lotus	Perennial
170	□	Lotus scoparius	Deerweed	Shrub
171	W	Lupinus arizonicus	Desert Lupine	Annual
172	W	Lupinus benthamil	Spider Lupine	Annual
173	□	Lupinus bicolor	Sky Lupine	Flowering annual
174	□	Lupinus sparsiflorus	Loosely Flowered Annual Lupini/Coulter's Lupine	Annual
175	W	Lyonothamnus floribundus ssp. Asplenifolius	Fernleaf Ironwood	Tree
176	W	Macadamia Integrifolia	Macadamia Nut	Tree

177	W	Mahonia aquifolium 'Golden Abundance'	Golden Abundance Oregon Grape	Shrub
178	W	Mahonia nevinii	Nevin Mahonia	Shrub
179	□	Malacothamnus fasciculatus	Chaparral Mallow	Shrub
180	X	Malephora luteola	Trailing Ice Plant	Ground cover
181	W	Maytenus boaria	Mayten Tree	Tree
182	W	Melaleuca nesophila	Pink Melaleuca	Shrub
183	N	Metrosideros excelsus	New Zealand Christmas Tree	Tree
184	□ •	Mimulus species	Monkeyflower	Flower
185	□	Mirabilis californica	Wishbone Bush	Perennial
186	N	Myoporum debile	Ncn	Shrub
187	N	Myoporum insulare	Boobyalla	Shrub
188	W	Myoporum parvifolium	Ncn	Ground cover
189	W	Myoporurn 'Pacificum'	Ncn	Shrub
190	□	Nassella [stipa] lepida	Foothill needlegrass	Ground cover
191	□	Nassella [stipa] pulchra	Purple needlegrass	Ground cover
192	□	Nemophila menziesii	Baby Blue Eyes	Annual
193	X	Nerium oleander	Oleander	Shrub
194	□	Oenothera hookeri	California Evening Primrose	Flower
195	W	Oenothera speciosa	Showy Evening Primrose	Perennial
196	X	Ophiopogon japonicus	Mondo Grass	Ground cover
197	□ •	Opuntia littoralis	Prickly Pear	Cactus
198	□ •	Opuntia oricola	Oracle Cactus	Cactus
199	□ •	Opuntia prolifera	Coast Cholla	Cactus
200	W	Osmanthus fragrans	Sweet6 Olive	Shrub
201	X	Osteospermum fruticosum	Trailing African Daisy	Ground cover
202	X	Parkinsonia aculeata	Mexican Palo Verde	Tree
203	W	Pelargonium peltatum	Ivy Geranium	Ground cover
204	X	Penstemon species	Beard Tongue	Shrub
205	W	Photinia fraseri	Ncn	Shrub
206	W	Pistacia chinensis	Chinese Pistache	Tree
207	X	Pittosporum undulatum	Victorian Box	Tree
208	□	Plantago erecta	California Plantain	Annual
209	••	Plantago insularis	Woolly Plantain	Annual
210	X	Plantago sempervirens	Evaergreen Plaintain	Ground cover
211	W	Platanus racemosa	California Sycamore	Tree
212	W	Plumbago auriculata	Plumbago Cape	Shrub
213	□	Populus fremontii	Western Cottonwood	Tree
214	X	Portulacaria afra	Elephant's Food	Shrub
215	□	Potentilla glandulosa	Sticky Cinquefoil	Subshrub
216	X	Potentilla tabernaemontanii	Spring Cinquefoil	Ground cover

217	X	<i>Prunus caroliniana</i>	Carolina Cherry Laurel	Shrub/Tree
218	□	<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	Holly Leaved Cherry	Shrub
219	X	<i>Prunus lyonii</i>	Catalina Cherry	Shrub/Tree
220	N	<i>Punica granatum</i>	Pomegranate	Shrub/Tree
221	W	<i>Puya</i> species	Puya	Succulent/shrub
222	W	<i>Pyraacantha</i> species	Firethorn	Shrub
223	□	<i>Quercus agrifolia</i>	Coast Live Oak	Shrub
224	□□●	<i>Quercus berberdifolia</i>	California Scrub Oak	Shrub
225	□□●	<i>Quercus dumosa</i>	Coastal Scrub Oak	Shrub
226	X	<i>Quercus engelmannii</i>	Engelmann Oak	Tree
227	X	<i>Quercus suber</i>	Cork Oak	Tree
228	X	<i>Rhamnus alaternus</i>	Italian Buckthorn	Shrub
229	□	<i>Rhamnus californica</i>	California Coffee Berry	Shrub
230	□	<i>Rhamnus crocea</i>	Redberry	Shrub
231	□	<i>Rhamnus crocea</i> ssp. <i>ilicifolia</i>	Hollyleaf Redberry	Shrub
232	N	<i>Rhaphiolepis</i> species	Indian Hawthorn	Shrub
233	□	<i>Rhus integrifolia</i>	Lemonade Berry	Shrub
234	N	<i>Rhus lancea</i>	African Sumac	Tree
235	□□	<i>Rhus ovata</i>	Sugarbush	Shrub
236	□	<i>Ribes aureum</i>	Golden Currant	Shrub
237	□	<i>Ribes indecorum</i>	White Flowering Currant	Shrub
238	□	<i>Ribes speciosum</i>	Fuchsia Flowering Gooseberry	Shrub
239	W	<i>Ribes viburnifolium</i>	Evergreen Currant	Shrub
240	□●	<i>Romneya coulteri</i>	Matilija Poppy	Shrub
241	X	<i>Romneya coulteri</i> 'White Cloud'	White Cloud Matilija Poppy	Shrub
242	W□	<i>Rosmarinus officinalis</i>	Rosemary	Shrub
243	W□	<i>Salvia greggii</i>	Autumn Sage	Shrub
244	W□	<i>Salvia sonomensis</i>	Creeping Sage	Ground cover
245	□	<i>Sambucus mexicana</i>	Mexican Elderberry	Tree
246	W	<i>Santolina chamaecyparissus</i>	Lavender Cotton	Ground cover
247	W	<i>Santolina virens</i>	Green Lavender Cotton	Shrub
248	□	<i>Satureja chandleri</i>	San Miguel Savory	Perennial
249	□	<i>Scirpus acutus</i>	Hard-Stem Bulrush	Perennial
250	□	<i>Scirpus californicus</i>	California Bulrush	Perennial
251	X	<i>Sedum acre</i>	Goldmoss Sedum	Ground cover
252	X	<i>Sedum album</i>	Green Stonecrop	Ground cover
253	X	<i>Sedum confusum</i>	Ncn	Ground cover
254	X	<i>Sedum llineare</i>	Ncn	Ground cover
255	X	<i>Sedum x rubrotinctum</i>	Pork and Beans	Ground cover
256	X	<i>Senecio serpens</i>	Ncn	Ground cover

257	□	Sisyrinchium bellum	Blue-Eyed Grass	Ground cover
258	□	Solanum douglasii	Douglas Nightshade	Shrub
259	□	Solanum xantii	Purple Nightshade	Perennial
260	W	Stenocarpus sinuatus	Firewheel Tree	Tree
261	W	Strelitzia nicolai	Giant Bird of Paradise	Perennial
262	W	Strelitzia reginae	Bird of Paradise	Perennial
263	□	Symphoricarpos mollis	Creeping Snowberry	Shrub
264	W	Tecoma stans [Stenolobium stans]	Yellow Bells	Shrub/Small tree
265	X	Tecomaria capensis	Cape Honeysuckle	Ground cover
266	N	Teucrium chamaedrys	Germander	Ground cover
267	N	Thymus serpyllum	Lemon Thyme	Ground cover
268	N	Trachelospermum jasminoides	Star Jasmine	Shrub
269	□	Trichostema lanatum	Woolly Blue-Curls	Shrub
270	X	Trifolium hirtum 'Hyron'	Hyron Rose Clover	Ground cover
271	X	Trifolium fragiferum 'O'Connor's'	O'Connor's Legume	Ground cover
272	□	Umbellularia californica	California Laurel	Tree
273	□	Verbena lasiostachys	Western Vervain	Perennial
274	N	Verbena peruviana	Ncn	Ground cover
275	X	Verbena species	Verbena	Ground cover
276	X	Vinca minor	Dwarf Periwinkle	Ground cover
277	□	Vitis girdiana	Desert Wild Grape	Vine
278	X	Vulpia myuros 'Zorro'	Zorro Annual Fescue	Grass
279	W	Westringia fruticosa		Shrub
280	W	Xanthorrhoea species	Grass Tree	Perennial accent/ Shrub
281	W	Xylosma congestum	Shiny Xylosma	Shrub
282	X	Yucca species	Yucca	Shrub
283	□	Yucca whipplei	Yucca	Shrub

List Based on Orange County Fire Authority and Firewise 2000, Inc.

CODE

- X = Plant species prohibited in wet and dry fuel modification zones adjacent to native open space lands. Acceptable on all other fuel modification locations and zones.
- W = Plant species appropriate for use in wet fuel modification zones adjacent to native open space lands. Acceptable in all other wet and irrigated dry (manufactured slopes) fuel modification locations and zones.
- = Plant species native to San Diego County. Acceptable in all fuel modification (wet or dry zones) in all locations.
- N = Plant species acceptable on a limited basis (maximum 30% of the area at time of planting) in wet fuel modification zones adjacent to native open space reserve lands. Acceptable in all other fuel modification locations and zones. Refer to qualification requirements starting on page 13.
- If seed collected from local seed source.
- Not native plant species but can be used in all fuel modification zones.

APPENDIX 'B'

Not-Approved & Fire Prone Plant Species List

For Fuel Modification Zones in High & Very High Hazard Areas

	Botanical Name	Common Name	Plant Form
1.	Acacia species •	Acacia	Shrub/Tree
2.	Adenostema fasciculatum	Chamise	Shrub
3.	Adenostema sparsifolium	Red Shank	Shrub/Tree
4.	Artemisia californica	California Sagebrush	Shrub
5.	Bamboos	Bamboo	Shrub
6.	Cedrus species	Cedar	Tree
7.	Cupressus species	Cypress	Tree
8.	Cortaderia selloana	Pampas Grass	Tall Grass
9.	Eriogonum fasciculatum	Common Buckwheat	Shrub
10.	Eucalyptus species	Eucalyptus	Shrub/Tree
11.	Juniperus species	Junipers	Succulent
12.	Pennisetum	Fountain Grass	Ground cover
13.	Pinus species	Pines	Tree
14.	Rosmarinus species	Rosemary	Shrub
15.	Salvia species ••	Sage	Shrub
<ul style="list-style-type: none"> • Except: Acacia redolens desert carpet (Desert Carpet ground cover) •• Except: Salvia columbariae (chia) Salvia sonomensis (Creeping Sage) 			

APPENDIX 'C'

Key Information Highlighted.

2007 California Building Code CHAPTER 7A MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE [SFM]

SECTION 701A SCOPE, PURPOSE AND APPLICATION

701A.1 Scope. This chapter applies to building materials, systems and or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area as defined in Section 702A.

701A.2 Purpose. The purpose of this Chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.

701A.3. Application. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after December 1, 2005, shall comply with the following Sections:

1. 704A.1 - Roofing
2. 704A.2 - Attic Ventilation

701A.3.1 Alternates for materials, design, tests, and methods of construction. The enforcing agency is permitted to modify the provisions of this chapter for site-specific conditions in accordance with Appendix Chapter 1, Section 104.10. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted in accordance with the California Fire Code, Chapter 47.

701A.3.2 New Buildings Located in Any Fire Hazard Severity Zone. New buildings located in any Fire Hazard Severity Zone shall comply with one of the following:

1. **State Responsibility Areas.** New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.
2. **Local Agency Very-High Fire Hazard Severity Zone.** New buildings located in any Local Agency Very-High Fire Hazard Severity Zone for which an application for a building permit is submitted on or after July 1, 2008, shall comply with all sections of this chapter.
3. **Wildland-Urban Interface Fire Area designated by the enforcing agency .** New buildings located in any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.

701A.3.2.1 Inspection and certification. Building permit applications and final completion approvals for buildings within the scope and application of this chapter shall comply with the following:

701A.3.2.2 The local building official shall, prior to construction, provide the owner or applicant a certification that the building as proposed to be built complies with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this Chapter.

701A.3.2.3 The local building official shall, upon completion of construction, provide the owner or applicant with a copy of the final inspection report that demonstrates the building was constructed in compliance with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this Chapter.

701A.3.2.4 Prior to building permit final approval the property shall be in compliance with the vegetation clearance requirements prescribed in California Public Resources Code 4291 and California Government Code Section 51182.

SECTION 702A - DEFINITIONS

For the purposes of this chapter, certain terms are defined below:

CDF DIRECTOR means the Director of the California Department of Forestry and Fire Protection.

FIRE PROTECTION PLAN is a document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

The Fire Protection Plan shall be in accordance with this chapter and the California Fire Code, Chapter 47. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission or the Department of Housing and Community Development in accordance with Section 101.8 shall apply.

FIRE HAZARD SEVERITY ZONES are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or 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. See California Fire Code Article 86.

The California Code of Regulations, Title 14, Section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

IGNITION-RESISTANT MATERIAL is any product which, when tested in accordance with ASTM E84 for a period of 30 minutes, shall have a flame spread of not over 25 and show no evidence of progressive combustion. In addition, the flame front shall not progress more than 10½ feet (3200 mm) beyond the centerline of the burner at any time during the test.

Materials shall pass the accelerated weathering test and be identified as Exterior type, in accordance with ASTM D2898 and ASTM D3201. All materials shall bear identification showing the fire performance rating thereof. That identification shall be issued by ICC-ES/ICBO ES or a testing facility recognized by the State Fire Marshal having a service for inspection of materials at the factory.

Fire-Retardant-Treated Wood or noncombustible materials as defined in section 202 shall satisfy the intent of this section.

The enforcing agency may use other definitions of ignition-resistant material that reflect wildfire exposure to building materials and/or their materials performance in resisting ignition.

LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 5118 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.

STATE RESPONSIBILITY AREA means lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.

WILDFIRE is any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code Sections 4103 and 4104.

WILDFIRE EXPOSURE is 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 FIRE AREA is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. See Section 706A for the applicable referenced Sections of the Government Code and the Public Resources Code.

SECTION 703A – STANDARDS OF QUALITY

703A.1 General. Material, systems, and methods of construction used shall be in accordance with this Chapter.

703A.2 Qualification by Testing. Material and material assemblies tested in accordance with the requirements of section 703A shall be accepted for use when the results and

conditions of those tests are met. Testing shall be performed by a testing agency approved by the State Fire Marshal or identified by an ICC-ES/ICBO-ES report.

703A.3 Standards of Quality. The State Fire Marshal standards listed below and as referenced in this Chapter are located in the California Referenced Standards Code, Part 12 and Chapter 35 of this code.

SFM 12-7A-1, Exterior Wall Siding and Sheathing

SFM 12-7A-2, Exterior Window

SFM 12-7A-3, Under Eave

SFM 12-7A-4, Decking

SECTION - 704A - MATERIALS, SYSTEMS AND METHODS OF CONSTRUCTION SECTION 704A.1- ROOFS

704A.1 ROOFING

704A.1.1 General. Roofs shall comply with the requirements of Chapter 7A and Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

704A.1.2 Roof Coverings. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fire-stopped with approved materials or have one layer of No. 72 ASTM cap sheet installed over the combustible decking.

704A.1.3 Roof Valleys. When provided, valley flashings shall be not less than 0.019- inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36 inches (914 mm) wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.

704A.1.5 Roof Gutters. Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter.

704A.2 Attic Ventilation.

704A.2.1 General. When required by Chapter 15, roof and attic vents shall resist the intrusion of flame and embers into the attic area of the structure, or shall be protected by corrosion resistant, non-combustible wire mesh with ¼ inch (6 mm) openings or its equivalent.

704A.2.2 Eave or Cornice Vents. Vents shall not be installed in eaves and cornices.

Exception: Eave and cornice vents may be used provided they resist the intrusion of flame and burning embers into the attic area of the structure.

704A.2.3 Eave Protection. Eaves and soffits shall meet the requirements of SFM 12-7A-3 or shall be protected by ignition-resistant materials or noncombustible construction on the exposed underside.

704A.3 - EXTERIOR WALLS

704A.3.1 General. Exterior walls shall be approved non-combustible or ignition resistant material, heavy timber, or log wall construction or shall provide protection from the intrusion of flames and embers in accordance with standard SFM 12-7A-1.

704A.3.1.1 Exterior wall coverings. Exterior wall coverings shall extend from the top of the foundation to the roof, and terminate at 2 inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.

704A.3.2 Exterior Wall Openings. Exterior wall openings shall be in accordance with this section.

704A.3.2.1 Exterior Wall Vents. Unless otherwise prohibited by other provisions of this code, vent openings in exterior walls shall resist the intrusion of flame and embers into the structure or vents shall be screened with a corrosion-resistant, non-combustible wire mesh with ¼ inch (6 mm) openings or its equivalent.

704A.3.2.2 Exterior Glazing and window walls. Exterior windows, window walls, glazed doors, and glazed openings within exterior doors shall be insulating-glass units with a minimum of one tempered pane, or glass block units, or have a fire resistance rating of not less than 20 minutes,

when tested according to ASTM E 2010, or conform to the performance requirements of SFM 12-7A-2.

704A.3.2.3 Exterior door assemblies. Exterior door assemblies shall conform to the performance requirements of standard SFM 12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 1 3/8 inches thick with interior field panel thickness no less than 1 1/4" thick, or shall have a fire resistance rating of not less than 20 minutes when tested according to ASTM E 2074.

Exception: Noncombustible or exterior fire retardant treated wood vehicle access doors are not required to comply with this chapter.

704A.4 DECKING, FLOORS AND UNDERFLOOR PROTECTION

704A.4.1 Decking.

704A.4.1.1 Decking Surfaces. Decking, surfaces, stair treads, risers, and landings of decks, porches, & balconies where any portion of such surface is within 10 feet (3048 mm) of the primary structure shall comply with one of the following methods:

1. Shall be constructed of Ignition Resistant Materials and pass the performance requirements of SFM 12-7A-4, Parts A and B.

2. Shall be constructed with heavy timber, exterior fire retardant treated wood or approved non-combustible materials.

3. Shall pass the performance requirements of SFM 12-7A-4, Part A, 12-7A-4.7.5.1 only with a net peak heat release rate of 25kW/sq-ft for a 40 minute observation period and:

a. Decking surface material shall pass the accelerated weathering test and be identified as Exterior type, in accordance with ASTM D2898 and ASTM D3201 and;

b. The exterior wall covering to which it the deck is attached and within 10 (3048 mm) feet of the deck shall be constructed of approved noncombustible or ignition resistant material.

Exception: Walls are not required to comply with this sub-section if the decking surface material conforms to ASTM E-84 Class B flame spread.

The use of paints, coatings, stains, or other surface treatments are not an approved method of protection as required in this Chapter.

704A.4.2 Underfloor and Appendages Protection

704A.4.2.1 Underside of Appendages and Floor Projections. The underside of cantilevered and overhanging appendages and floor projections shall maintain the ignition-resistant integrity of exterior walls, or the projection shall be enclosed to the grade.

704A.4.2. Unenclosed Underfloor Protection. Buildings shall have all underfloor areas enclosed to the grade with exterior walls in accordance with section 704A.3.

Exception: The complete enclosure of under floor areas may be omitted where the underside of all exposed floors, exposed structural columns, beams and supporting walls are protected as required with exterior ignition-resistant material construction or be heavy timber.

705A. ANCILLARY BUILDINGS AND STRUCTURES

705A.1 Ancillary Buildings and Structures. When required by the enforcing agency ancillary buildings and structures and detached accessory structures shall comply with the provisions of this Chapter.

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



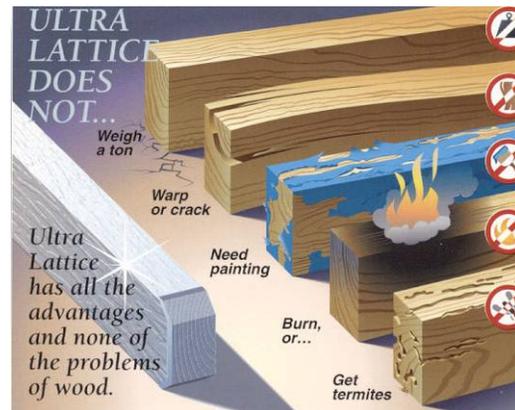
Ultra-Lattice Stand Alone Patio Cover



Ultra-Lattice Attached Patio Cover



Ultra-Lattice Solid Patio Cover



Ultra-Lattice Vs. Wood

II. FRX Exterior Fire-Retardant Treated Wood

Exterior Fire Retardant Treated (FRT) Wood

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

Typical Exterior Uses

- Balconies
- Decks



Homeowners and Residential Architects: See this [2-minute video](#) and the diagram below.



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

Decking (SFM Standard 12-7A-4)

III. FIBERON COMPOSITES, LLC

The screenshot shows the Fiberon website interface. At the top right, there are navigation links: HOME | ABOUT US | CONTACT US | SITE MAP | EN ESPAÑOL | EN FRANÇAIS. Below this is a dark navigation bar with three main categories: WHY FIBERON, OUR PRODUCTS, and LOCATE DEALER. On the left side, there is a vertical menu with links to CONSUMER LITERATURE, BUILDER RESOURCES, PHOTO GALLERY, DECK DESIGNER TOOL, and NEWS. The main content area is titled 'COMPOSITE DECKING' and includes a breadcrumb trail: Location: Home » Our Products » Composite Decking. The text reads: 'Enjoy your deck for years with fiberon® composite decking material. Our decking products offer the beauty of real wood in a low-maintenance composite that resists wear, warping, and rotting for decades of enjoyment.' Three product lines are listed:

Product Name	Description	Colors
fiberon® Professional Decking	HDPE composite decking	Brown Cedar Gray Redwood(<i>special order</i>)
fiberon® Sanctuary Decking	High Performance PVC composite decking	Driftwood Ipe
fiberon® Tropics Decking	High-density polyethylene (HDPE) composite decking	Mahogany Jatoba

At the bottom left of the screenshot, there is a mention of 'fiberon® Tropics™ featured on The Learning'.

IV. EPOCH COMPOSITE PRODUCTS, INC.

The advertisement for CrossTimbers features a background image of a modern deck with a swimming pool and lounge chairs. The text reads: 'CROSSTIMBERS® THE BETTER BUILDING BOARDS™'. Below this, it states: 'For the beauty of a wooden deck with less care and effort than pressure-treated lumber, choose innovative GAF-Elk CrossTimbers™ brand composite building boards.' At the bottom right, there is an image of a software interface titled 'Virtual Home Remodeler' with the text 'Try Our VIRTUAL HOME REMODELER'. A 'CrossTimbers Components' button is located at the bottom left of the advertisement.

V. TREX COMPANY, INC

Trex Accents[®]: Fire Defense[™]

The perfect blend of beauty and brawn.

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



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

VI. EPOCH COMPOSITE PRODUCTS



[EverGrain®](#) is the only compression molded composite decking product, creating a true-to-life, deep lasting grain. It is available in seven beautiful color options.

VII. SOLID “WOOD” DECKING

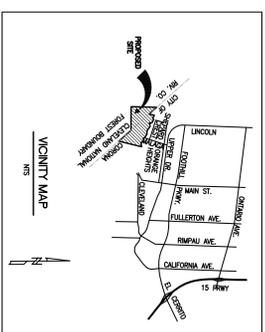
◆Company Name: Various Manufacturers

Product Description: Solid “Wood” decking: “Redwood”, “Western Red Cedar”, “Incense Cedar”, “Port Orford Cedar”, and “Alaska Yellow Cedar”.

Sizes: Minimum nominal 2” thickness (American Softwood Lumber Standard PS 20).

Lumber grades: Construction Common and better grades for Redwood, 3 Common and better grades for Cedars, and commercial decking or better grades for both Redwood and Cedars.

Special instructions: solid wood decking shall be installed over solid wood joists spacing 24” or less on center.



FUEL TREATMENT LOCATION MAP

LEGEND

- No Color
Typical yard, landscaped with fire resistant ornamental ground covers. Criteria as a minimum will conform to Chapter 7a of the California Building Code for High Fire Hazard Areas.
- Zone 1 Irrigated Yard Combustible Free Zone: No combustible (Limited Building Zone) Lot 22 and 34.
- Zone 2 Irrigated Manufactured Slope (HOA Maintained): The Manufactured and trees on (that are drought tolerant) and on the Approved Plant list for the City of Corona.
- Zone 3 Natural Slope HOA Maintained: This zone shall be cleared of all highly flammable native vegetation (sage, buckwheat, cholla and sagebrush, etc.) to 50% of its original fuel loading, all dead and dying plant material shall be removed and all grasses and weeds shall be weed-whipped to a 4-inch stubble height by June 1 of each year.
- Agricultural Use Area Lot G HOA Maintained: In those areas where old grove Lemon trees remain they will be thinned and maintained to Section 52.2X standards. If use changes refer to Section 52.2XX for full modification requirements.
- Maintenance and Fire Access.

Certified and Approved By: _____
David G. Becken
 Dave Becken, President
FIREWISE 2000, Inc.
 26837 Skyway 09026
 Escondido, CA 92026
 Telephone/Fax: 760-745-3947

Date: 1/02/2008

TENTATIVE TRACT NO. 34760
FUEL TREATMENT LOCATION MAP

