

# Orange County Fire Authority

## Community Risk Reduction

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# Vegetation Management Guideline: Technical Design for New Construction Fuel Modification Plans and Maintenance Program



## Guideline C-05

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# Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program

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# Technical Design for New Construction Fuel Modification Plans and Maintenance Program

## INTRODUCTION

During a fire in grass, brush, or ornamental vegetation, embers will be cast into the interior of the development igniting native and ornamental vegetation, manufactured slopes, and private landscaping. Vegetation management has proven to be a major factor in reducing the chances of buildings igniting from wildfires. When combined with special building construction features, the potential for ignition is further reduced.

## PURPOSE

Managing the design and placement of vegetation in and around new structures will reduce the effects of a wildfire. For this reason, codes are adopted that require vegetation management and special construction features. The Fuel Modification Plan is a vegetation management code that requires landscaped areas adjacent to new buildings be dedicated for permanent vegetation management activities.

The Fuel Modification Program brings fire-safe landscaping and construction features together to improve community safety and reduce property loss during wildfire emergencies. This guideline provides you with the information and steps needed to prepare a fuel modification plan and maintain vegetation in fuel modification areas for a successful long-term outcome.

## SCOPE

All new single family homes, multi-family residential, and commercial structures built in, or adjacent to, a wildfire-risk area or such areas designated by the fire code official, requires a fuel modification plan. A fuel modification plan may not be required based on lot size, configuration, or your property's connection and proximity to grass, brush, and ornamental vegetation.

The plan requires permanent vegetation management in dedicated land areas and is used indefinitely to facilitate on-going maintenance requirements. This guideline covers the timing of plans for construction, plan criteria needed for approval, plant lists for the zones, new construction inspection requirements, and introductory maintenance information.

For existing structures that were not developed with a fuel modification plan or condition, maintenance shall be completed as required in the Vegetation Management Maintenance Guideline for Property Owners.

For new structures proposed within the State Responsibility Area (SRA) as defined in the Public Resources Code Section 4126-4127; and the California Code of Regulations, Title 14, Division 1.5, Chapter 7, Article 1 Section 1220-1220.5, also refer to Orange County Fire Authority (OCFA) Guideline B-09a.

## FUEL MODIFICATION PLAN OVERVIEW & SEQUENCING

There are two types of fuel modification plans. Each type is submitted at a different time during the development and construction process.

### 1. TYPES OF FUEL MODIFICATION PLANS

- A. Conceptual (see Section 1 of this guideline)
  - 1) Infrastructure of the zone widths and program
  - 2) Land use restrictions
  - 3) Tract and property line information
  - 4) When to submit
    - a. Concurrent with Environmental Impact Report (EIR) processing
    - b. Prior to tentative tract map, parcel map, or final tract map approval
    - c. Prior to fire master plan submittal
- B. Precise (see Section 2 of this guideline)
  - 1) Approval of planting plans
  - 2) Final details
  - 3) Inspection information
  - 4) When to submit
    - a. Prior to approval of planting plans from other permitting agencies
    - b. Prior to precise grading or building permit issuance, whichever comes first

The fuel modification area is comprised of three zones with specific design criteria. The standard fuel modification area is 170 feet in width, measured out horizontally from the structure on the site (see Attachment 3). Many developments have interior slopes with Special Maintenance Areas (SMA). See below for specific unique requirements for each zone.

### 2. THREE TYPES OF FUEL MODIFICATION ZONES (FMZ)

- A. Zone "A" (20-foot minimum width)
  - 1) Flat level ground requirement
  - 2) Building foundation setback (no design alternatives allowed)
  - 3) Zone "A" (20 feet wide – measured from the structure out)
    - a. Setback from the slope nearest the foundation
    - b. No combustible construction allowed in setback
    - c. Automatic irrigation systems to maintain healthy vegetation with high moisture content and be regularly irrigated
    - d. Plants in this zone shall be highly fire resistant and selected from Attachment 8 (refer to Attachment 8 and Section 3)
    - e. If all Zones "A-D" are to be maintained by the structure owner, then Zone "A" shall begin at the wall of the structure
- B. Zone "B" (50 -150 feet in width): Slope design requires a minimum 50-foot irrigated zone
 

**Note: A dry Zone "B" may be used if the plants and design are appropriate.**

  - 1) Required at the nearest slope adjoining Zone "A"
  - 2) Irrigated and planted per Attachment 6

- 3) Could replace Zones “C/D” when grading plans require larger replanted areas
  - 4) All plant species designed for Zone “B” shall be selected from Attachment 8. Existing fuel modification maintenance programs are limited to the plants listed on the approved plans, unless a revision is requested. Planting and maintenance shall be in accordance with planting restrictions from Attachments 6, 7, and 8.
  - 5) No combustible construction is allowed within Zone “B”
- C. Zone “C/D” (0-100 feet in width)
- 1) One natural vegetation thinning (Zone “C”) or two thinning zones (Zone “C/D”)
  - 2) Planting installation per Attachment 6, if installing plants
  - 3) See Section 4 Alternatives
  - 4) Plant species introduced into Zone “C” and “D” shall be selected from Attachment 8. Maintenance shall be in accordance with Attachments 6 and 7 (see Section 3)
  - 5) No combustible construction is allowed within Zone “C” and “D”

### 3. RESIDENTIAL TRACT: TYPES OF INTERIOR SLOPE

- A. SMA interior slopes
- 1) 100 feet maximum width
  - 2) Slopes and common areas interior from the community perimeter (see Section 5)
  - 3) Located in commonly owned land areas. Beginning at the property lines of the privately owned lot
  - 4) Design must be irrigated
- B. SMA Roadside protection zones
- 1) 50 feet maximum width
  - 2) Can be designed as FMZ or SMA depending on if the road is at the perimeter or interior of the community
  - 3) Streetscape designs that are not community perimeter edges may not be regulated unless a distinct hazard is created
  - 4) Design must be irrigated

When a SMA or Roadway Protection Zone (RPZ) is within 100 feet a structure, the SMA or RPZ will be considered a defensible space area. The defensible space area shall comply with Attachments 2, 6 and 7. Alternative design methods may be approved through the Alternate Materials & Methods process.

## Information Required on Fuel Modification Plans

### Section 1: Conceptual Fuel Modification Plans

Plans shall be prepared by a licensed landscape architect or other design professional with equivalent credentials. First submittal requires only two sets of plans. The final submittal shall include an electronic PDF copy of the plans and three sets of paper plans.

NOTE: Conceptual plans are not required to be submitted, if the designer is prepared to submit Precise Fuel Modification Planting plans. If the designer forgoes the conceptual submittal and submits the precise plan, the required conceptual plan information shall be provided on the precise plan.

#### The following information shall be included on Conceptual Fuel Modification Plans:

- Check each box, after providing the information on your design plans:
- A. Identify the total size of the development by showing all tract boundary lines, property lines, slope contour lines, and structure foundation footprints.
- B. Place descriptive notes of the land uses adjoining the development property on all sides (*i.e., future construction, existing structures, natural vegetation, restoration plans, roads, parks, etc.*).
- C. Ensure all foundations have a minimum 20-foot setback from edge of slope.
- D. Select an on-slope option from the choices of FMZs from page 3. Delineate the width as described.
- E. All plants in fuel mod zones shall be selected from Attachment 8.
- F. Label all interior slopes and all common areas as "Special Maintenance Areas" and "Roadside Protection Zones", *as applicable*. If SMA planting plans are designed, they shall be submitted with the conceptual FMZ plans. If not designed yet, place a note that all planting plans require plan review and approval (see Section 5 for more information). When a SMA or RPZ is within 100 feet of a structure, the SMA or RPZ will be considered a defensible space area. The defensible space area shall comply with Attachments 2, 6 and 7. Alternative design methods may be approved through the Alternate Materials & Methods process.
- G. SMA and RPZ shall not have plants from Attachment 7.
- H. Delineate RPZ with either a maximum irrigated 50-foot wide FMZ "B" when on community perimeter areas or SMA when roads are interior to perimeter.
- I. Each FMZ, SMA, and RPZ shall be symbolized and referenced on the plan and on a distinct legend.
- J. Notate every FMZ, SMA, and RPZ as irrigated or non-irrigated landscaping.

- K. Place a note when an irrigation system shutoff valve is required to separate and isolate non-required irrigation systems beyond the 50-foot wide FMZ “B”.
- L. Provide the name of the entity/entities responsible for maintenance of all FMZ, SMA, and, RPZ.
- M. Show name and location of any existing plant species you are proposing to retain. (If no existing plant species are shown, existing vegetation shall be removed from the site entirely.)
- N. Design dedicated emergency and maintenance access paths on **commonly owned** property, from the street frontage to lettered lots, to facilitate access behind the homes. This requires:
  1. Paths every 500 lineal feet of FMZ or SMA length to have access, with a minimum 7-foot clear **width** and a dedicated **flat** path.
  2. Covenants for FMZ and SMA access and maintenance to be recorded concurrently with all planning maps and referenced in Covenants, Conditions & Restrictions (CC&Rs).
- O. Covenants will be required to be recorded for FMZ, SMA, and RPZ located on private homeowner lots prior to precise fuel modification plan approval (place as a note on plan if applicable).
- P. Copy Attachment 2, 3, 6, and 7 on the plans for on-going maintenance requirements.
- Q. If there are limited areas in which you cannot meet fuel modification distance requirements, follow the plan submittal requirement directions in Section 4.
- R. Copy the following notes 1-6 on the plans:
  1. The developer will obtain planting plan approval from OCFA prior to receiving final approval from all other landscape permitting agencies within FMZ, interior slopes/common area landscaping SMA, and RPZ.
  2. FMZ, SMA, and RPZ land areas were purchased and dedicated for the purposes of wildfire maintenance activities, beautification, and erosion control. Protected plants and habitat identified after fuel modification plan approval through surveys or other biological programs cannot be retrofitted back within the limits of these areas.
  3. The developer is responsible for ensuring that the calculated revenue from homeowner dues is sufficient to cover the cost of future maintenance, based on the originally approved design. After the final landowner has accepted the long term maintenance responsibility, changes to the fuel modification areas or interrupted maintenance activities by the final landowner become the responsibility of the final landowner.
  4. When a required maintenance area is located on commonly owned land, while the required Zone “A” is located on homeowners land, a written disclosure regarding the Zone “A” and vegetation requirement is required to be

signed by the homeowner and the lot number referenced in the CC&Rs.

5. The FMZ, SMA, and RPZ shall be maintained in perpetuity for fire safety purposes, in accordance with recorded covenants, CC&Rs, and property title restrictions.

6. Prior to dropping of lumber, call for a Vegetation Clearance Inspection. The developer/builder shall provide a separation of combustible vegetation for a minimum distance of 100 feet from the location of the structures and lumber stock-pile. An inspection sign-off and/or release letter to the building department is required.

- S. For certain projects, photographs of existing vegetation may be required.
- T. Provide the degree or percentage of slope on the plan at the location of the zone markers to indicate the actual distance. The marker shall be placed when using Attachment 3.



## Section 2: Precise Fuel Modification Plans

Plans shall be prepared by a licensed landscape architect or other design professional with equivalent credentials. First submittal requires only two sets of plans. The **final** plan submittal shall include an electronic PDF copy of the plans and minimum of three sets of paper plans.

### The following information shall be included on the Precise Fuel Modification Plan:

- Check each box, after providing the information on your design plans:
- A. If there was not a Conceptual Fuel Modification Plan approved, the Precise Fuel Modification Plans shall include all criteria required for the Conceptual Fuel Modification Plans (refer back to Section 1).
- B. Show the location of permanent zone markers. *(The goal is to install the lowest number of markers possible to ensure maintenance workers stay within the correct property lines when thinning vegetation. Generally, markers are only required to indicate side property lines and where Zone "D" stops).*
- C. Copy Attachments 4 and 5 on the plans.
- D. Submit written proof that the CC&Rs reference the fuel modification areas and associated maintenance (see Attachment 5).
- E. Irrigation plan sheets shall be submitted to demonstrate the wet zones are irrigated.
- F. The planting plans for FMZ, SMA, and RPZ are required to be reviewed and approved (see Section 5 for more information).
- G. **Plant Palette Legend for FMZ, SMA, RPZ:**  
Provide a separate plant palette legend for each bulleted point below:
  1. Trees
  2. Shrubs
  3. Ground Cover (maximum natural growth height shall be 2 feet)
  4. Grasses
  5. Plants not on the OCFA Attachment 8 list. If proposing plant species not on the plant list in this guideline, you must follow the submittal directions from Section 3B.
- H. **Each legend shall include:**
  1. Plan Symbol (separate symbol for each plant)
  2. Plant Form
  3. Botanical Name
  4. Common Name
  5. Plant # from Attachment 8
  6. Symbol Code from Attachment 8
  7. Expected Max Growth Height

8. Expected Max Growth Width  
 \*See Sample #1: Plant Legend

- I. **Planting Plans:**
  1. On the installation Planting Plans, all plants shall be horizontally and vertically spaced to meet the formula from Attachment 6, using the heights in your legend.
  2. Refer to the Attachment 8 code symbols and qualification statements for design installation before you place plants on the plan.
  3. See Section 3 for plant species not on the OCFA list and follow directions.
  
- J. For alternative proposals that do not meet minimum requirements, see Section 4 and follow the plan submittal requirements.
  
- K. Create a heading titled “Required Inspections,” then copy Attachment 1 on the plans underneath the heading.

**Sample #1: Plant Legend**

**Example Required Plant Legends**

Plant Form	Plan Symbol	Botanical Name	Common Name	Plant # from Attach 8	Symbol Code from Attach 8	Expected Max Growth Height	Expected Max Growth Width
<b>TREES</b>							
Plant Form	Plan Symbol	Botanical Name	Common Name	Plant # from Attach 8	Symbol Code from Attach 8	Expected Max Growth Height	Expected Max Growth Width
<b>SHRUBS</b>							
Plant Form	Plan Symbol	Botanical Name	Common Name	Plant # from Attach 8	Symbol Code from Attach 8	Expected Max Growth Height	Expected Max Growth Width
<b>GROUND COVER</b>							
Plant Form	Plan Symbol	Botanical Name	Common Name	Plant # from Attach 8	Symbol Code from Attach 8	Expected Max Growth Height	Expected Max Growth Width
<b>GRASSES</b>							
<b>SPECIES NOT ON ATTACH 8</b>	Plan Symbol	Botanical Name	Common Name			Expected Max Growth Height	Expected Max Growth Width

### Section 3: Plant Palette Information

A. The plant list from Attachment 8 was approved by various resource agencies responsible for environmental protection. All plants installed shall be selected from Attachment 8 and be grouped and spaced for initial installation in accordance with Attachment 6. Specific installation requirements are included for various plant species (see plant code, legend, and qualification statements in Attachment 8). Retained plants shall be proposed for approval on the conceptual FMZ plans (see above for plant palette legends demonstrated for plan design).

B. Proposing Alternate Species:

If alternate plant species are proposed, the landscape architect shall provide photographs and data on the size, fire resistive characteristics, and invasiveness for installation criteria. A maximum of 10 alternate species can be proposed per project.

Alternative species need to have similar/equal properties to the plants from Attachment 8. OCFA will make a case-by-case determination as to acceptability of the proposed species. Some species that are equal in combustibility to pre-approved species on the list may not be allowed due to the invasiveness of the species. The proposed species must be spaced based on size and characteristics.

If the plant materials are proposed to be planted within 300 feet of reserve lands (except plants on the interior of the tract), concurrence from the permitting resource agencies would be required. If the proposed plants have received previous resource agency approval, no concurrence letter will be required. Contact OCFA prior to your submittal if needed.

## **Section 4: Alternative Materials & Methods, Building Construction Features, and Fire Protection Plans**

If there are limited areas in which you cannot meet fuel modification width distance requirements or if you are proposing a non-irrigated FMZ, follow the performance based design direction below for conceptual FMZ plans:

1. Performance Based Design:
  - A. A detailed technical fire behavior analysis report by a qualified wildland fire behavior professional is required. (Qualifications of the professional must be approved by OCFA prior to their design.) The report shall include BehavePlus fuel modeling outputs at a minimum.
  - B. A one to two page Alternative Materials & Methods (AM&M) request letter to OCFA must be submitted with the detailed technical report. The report and letter shall be drafted by the fire behavior professional and submitted with the plans.
  - C. The applicant shall propose compensating factors to demonstrate equivalency to the distance required (see building construction features and fire protection plans below).
  - D. Locate OCFA Guideline A-01 at [www.ocfa.org](http://www.ocfa.org). Use the sample letter within A-01 as a model for drafting your letter. If an alternative means of protection is approved by the OCFA, an AM&M response letter will be drafted by OCFA. Copy the AM&M request letter and the OCFA response letter onto the plans. You will be required to resubmit the plans again for review and final approval with the letters incorporated into the plans.
2. Building Construction Features and Fire Protection Plans:
  - A. Building Construction Features designed in accordance with Chapter 7A of the California Building Code (CBC)/Residential Code Section 337 are required for all structures.
  - B. Additional compensating factors will also be required. These include but are not limited to: additional building construction features, solid walls or attic sprinklers, increased structure setbacks, special planting designs, rockscapes and plant restrictions, and reduced planting and increased hardscape areas.
3. A Fire Protection Plan (Fee Code PR 146) shall be submitted with or prior to the conceptual FMZ plan and does not take the place of the Fire Master Plan (Fee Code PR 145). Special 7A code section screening forms are available by request from the OCFA Community Wildfire Mitigation section and shall be placed on the plan to indicate which buildings and lots will meet specific 7A code sections. OCFA does not review the architectural plans of one and two family dwellings. Approved Fire Protection Plans are provided to the project architect by the applicant and to the Building Department by OCFA, for design and plan review approval of the construction features.
4. Offsite Landowner Recorded Easements (for extreme cases):
  - A. All fuel modification should be located within the property or tract of the protected structure(s).
  - B. Proper on-site fuel modification design should be set back from the tract or property boundary lines for a distance of 170 feet.
  - C. When the required distance is not within the property, legally recorded

easements shall be signed by the adjoining property owner and integrated into fuel modification plans, giving rights to the beneficiary to maintain the recorded area. The easement shows the distance designed on the plans.

- D. The conceptual FMZ plans will not be approved until the recorded agreements are copied on the plans.

## **Section 5: Special Maintenance Areas and Roadside Protection Zones**

The interior landscaped portions of a community and roadsides may not be standard FMZs, but are subject to planting restrictions, irrigation, and maintenance requirements. This is to ensure structures are reasonably protected from fire continuing into interior areas of the community and from flying embers that may land and start spot fires.

The Planting Plans submitted with the Fuel Modification Plans shall indicate the plant palette and planting density for these areas. The plans will be evaluated to determine if the areas have the potential to increase the hazard to structures or if they will lessen the hazard.

1. The SMA determination will occur during the conceptual fuel modification review. The review will use the following OCFA initial hazard assessment criteria:
  - A. Roadside planting does not sufficiently protect vital main evacuation routes
  - B. There are no proposed planting restrictions on lots
  - C. Proximity between structures and slopes is such that fire travel is probable
  - D. The area/slope is not proposed to be irrigated
  - E. Plant palette contains plant species from the OCFA undesirable plant list
  - F. Plant spacing arrangement creates "Ladder Fuels"
  - G. Slope/area is contiguous with community perimeter FMZs
  - H. Use of special construction features on all structures throughout the community as required in 2019 CBC Chapter 7a and California Residential Code 337
  
2. When it is determined by the OCFA that the design of a SMA may contribute to an increased wildfire risk, the first 100 feet of the SMA, measured from the structure out, is defensible space. The defensible space area shall comply with Attachments 2, 6 and 7.

# ATTACHMENT 1

## New Construction Inspection Requirements

The Builder or Developer shall call OCFA Inspection Scheduling at 714-573-6150 for these 3 new construction inspections:

1. Prior to dropping of lumber: Schedule a Vegetation Clearance Inspection – the developer/builder shall provide a separation of combustible vegetation for a minimum distance of 100 feet from the location of the structures and lumber stock-pile, generators, and fuel tanks/dispensers. An inspection sign-off and/or release letter to the building department is required.
2. Prior to occupancy of the building: Schedule a Final Fuel Modification Inspection – the FMZ, SMA, and RPZ adjacent to structures must be installed, irrigated, and inspected. This includes physical installation of features identified in the approved precise fuel modification plans including, but not limited to, plant establishment, thinning, irrigation, zone markers, and access easements. An OCFA Inspector will provide written approval of completion at the time of this final inspection on the building card. A written disclosure will be requested by the OCFA Inspector indicating that the landowner is aware of the FMZ on their land.
3. Prior to Homeowners Association (HOA) or Landowner Maintenance Acceptance from Developer/Builder: Schedule an Owner Turnover Inspection – This inspection/meeting must happen with OCFA staff prior to accepting the maintenance responsibility from the developer or builder.
  - A. The inspection/meeting must include the following representatives:
    - 1) Landscape architect
    - 2) Property manager or homeowner
    - 3) HOA board member
    - 4) Installing landscape company
    - 5) HOA landscape company
  - B. At the time of turnover, the fuel modification areas shall be maintained by the developer or builder as originally installed and approved.
  - C. The accepting landowner is responsible for ensuring the developer or builder sufficiently calculated the amount of revenue needed to perform the on-going maintenance of the FMZs and any SMAs per the approved plans.
  - D. A copy of the approved plans must be provided to the HOA representatives or homeowner at this time.
  - E. The Landscape Architect must convey ongoing maintenance requirements to HOA representatives or homeowner.
  - F. An OCFA written disclosure will be required to be signed by the HOA representatives or homeowner indicating that the HOA or homeowner is aware of the FMZ on their land and that they are aware of the importance of retaining the plans and the ongoing maintenance.
  - G. The responsibility and necessary language for maintenance must also be stated within the CC&R's (Refer to Attachment 5).

## ATTACHMENT 2

### Introductory Maintenance Information

The FMZ, SMA, RPZ shall be maintained in perpetuity for fire safety purposes, and shall cause a covenant to be recorded and referenced in the CC&Rs or on the property title when there is no HOA involvement.

Emergency access covenants shall be identified on the tract map indicating the reservation and restriction for permanent entry by the HOA or Fire Authority.

Select either Option #1 or #2 below

Option #1 Maintenance Method:

- A. On-going maintenance shall occur to preserve the originally approved design found on the approved plans. Attachment 6 spacing is required and only approved planting species and arrangements on the plans are perpetually preserved.
- B. The property owner is responsible for all maintenance of FMZ, SMA, and RPZ.
- C. **Two maintenance activities** shall be performed each year.
  - The first during middle- to late-Spring and the second in early- to middle-Fall.
- D. Other activities include:
  - Grasses cut to 4 inches after annual seeding
  - Dead and dying, all vegetation litter, and Attachment 7 species removed from the zones
  - Maintenance of irrigation systems
  - Replacement of dead or dying vegetation with approved species (proposed changes shall be approved by OCFA)
  - Removal of trees and shrubs not on the approved plans
- E. If maintained by an HOA, the landscape maintenance company and/or property manager shall inspect the FMZs throughout the year to identify where specific maintenance activities need to take place.
- F. The OCFA may conduct inspections of established fuel modification areas. Ongoing maintenance shall be conducted a minimum of twice each year regardless of the dates of these inspections.
- G. The property owner shall retain all approved fuel modification plans. The design and information on the plans shall be used as the basis for maintenance.

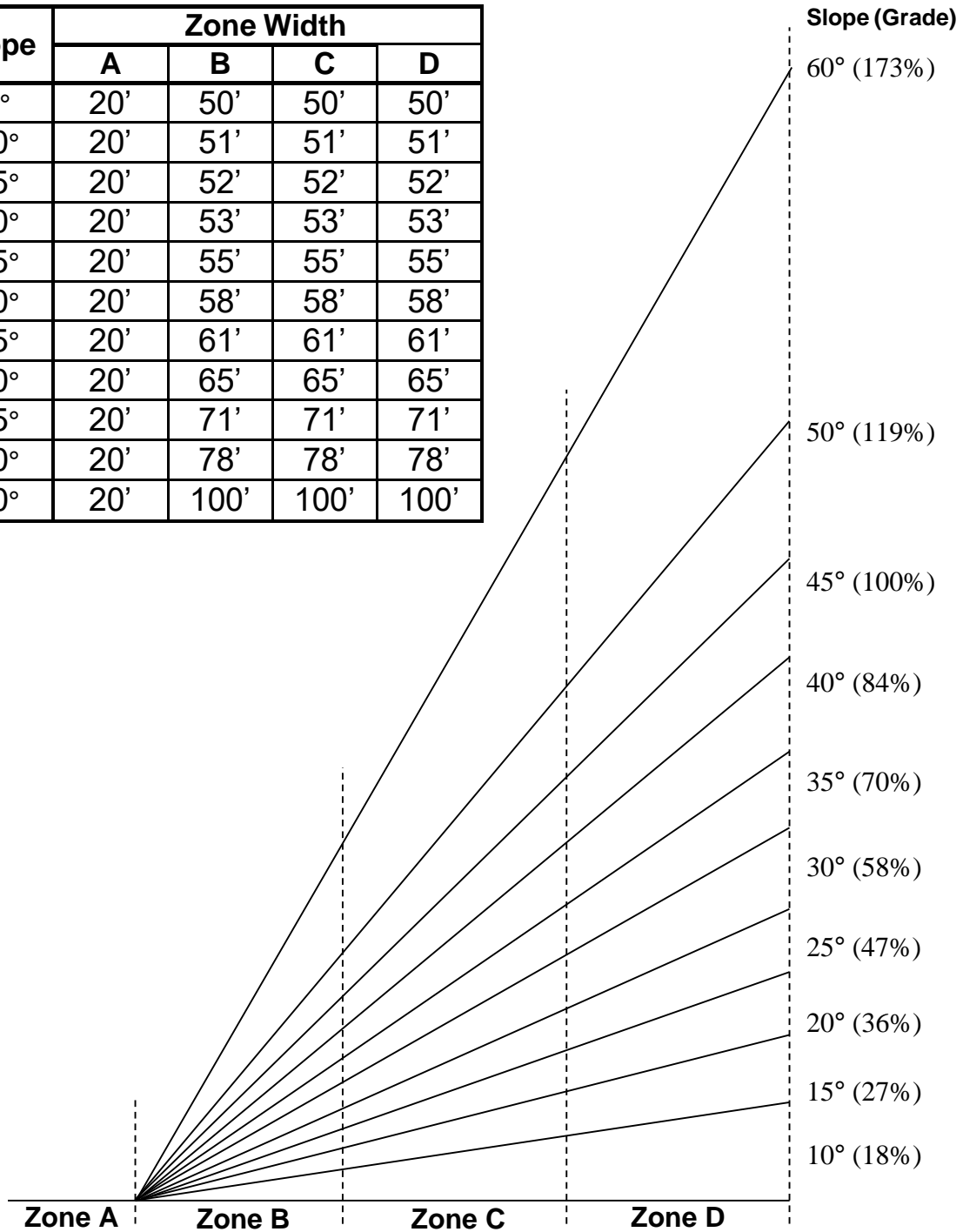
Option #2 Maintenance Method (when approved by OCFA):

Ongoing maintenance shall occur per the current posted OCFA Vegetation Management Maintenance Guidelines at [www.ocfa.org](http://www.ocfa.org). Distances of FMZ, SMA, and RPZ will always remain required and will be specific to approved Fuel Modification Plan.

## Attachment 3

### INCLINE MEASUREMENT FOR SELECTED SLOPES (See Attachment 4)

Slope	Zone Width			
	A	B	C	D
0°	20'	50'	50'	50'
10°	20'	51'	51'	51'
15°	20'	52'	52'	52'
20°	20'	53'	53'	53'
25°	20'	55'	55'	55'
30°	20'	58'	58'	58'
35°	20'	61'	61'	61'
40°	20'	65'	65'	65'
45°	20'	71'	71'	71'
50°	20'	78'	78'	78'
60°	20'	100'	100'	100'

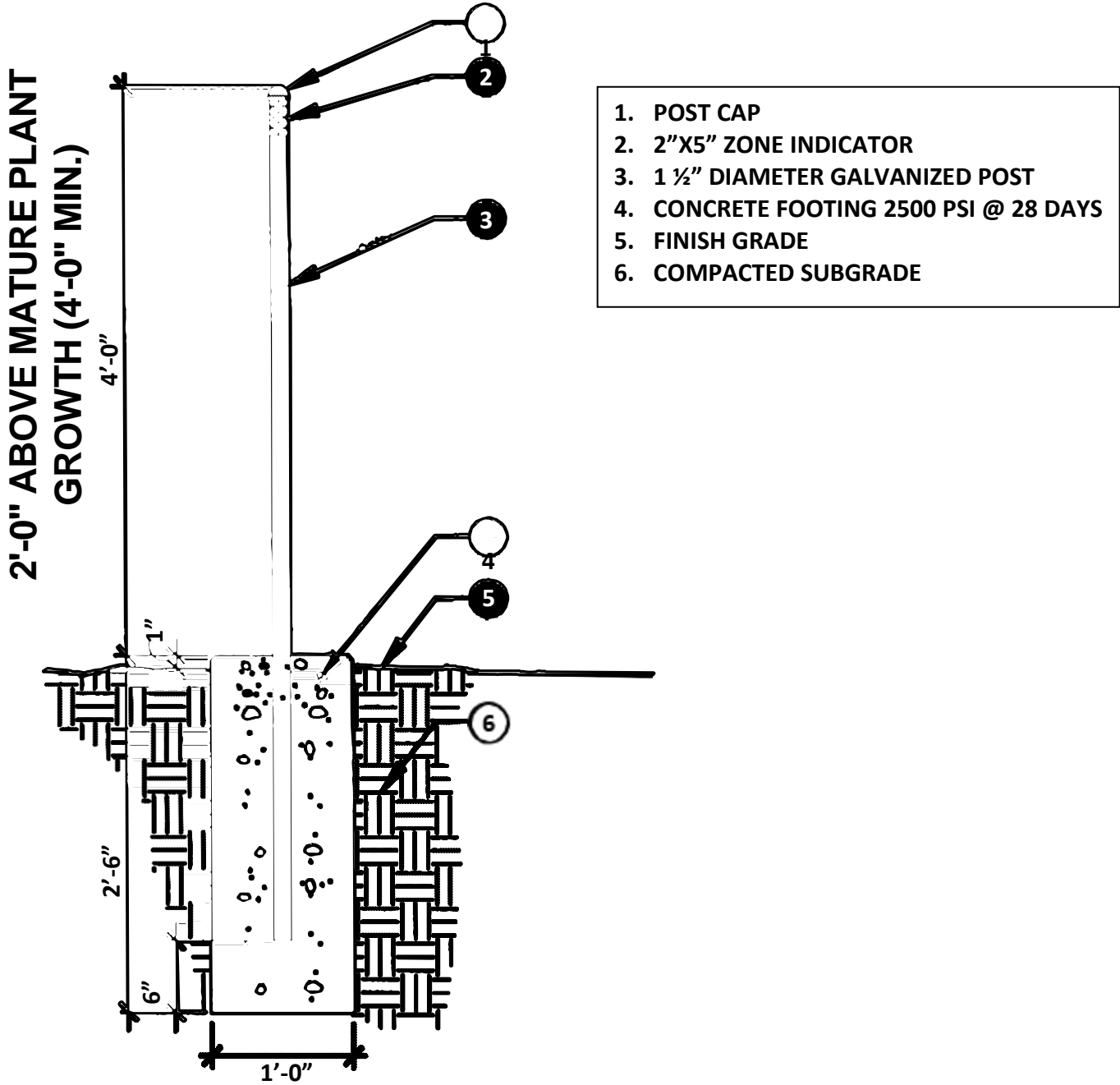




# Attachment 4

## ZONE MARKER DETAILS

(Marker Distances Shall Be Increased on Slopes to Accommodate Incline Measurements in Accordance With Attachment 3)



## **Attachment 5**

### **SAMPLE CC&R MAINTENANCE LANGUAGE**

It is recommended that the following language be included in the CC&Rs recorded for a common interest development:

“The duty of the homeowners’ association to perform ‘Fire Prevention Maintenance’ (as defined below) for all Fuel Modification Zones, Special Maintenance Areas, Roadway Protection Zone, and manufactured interior slopes within the development shall be included as an express obligation in the recorded CC&Rs for the development. Similarly, each Owner whose Lot (or Condominium) is subject to FMZ restrictions (e.g., non-combustible structure setback, etc.) shall be obligated to comply with such restrictions.”

1. The OCFA will be designated as a third party beneficiary of a HOA’s duty to perform “Fire Prevention Maintenance” (as defined below) for all portions of the Association Property or Common Area that constitute FMZs and designated interior/manufactured slopes to be maintained by the H O A , and of any Owner’s duty to comply with any FMZ restrictions applicable to their lot or condominium. Additionally, OCFA shall have the right, but not the obligation, to enforce the HOA’s duty to perform such Fire Prevention Maintenance, and to enforce compliance by any owner with any FMZ restrictions applicable to their lot or condominium. In furtherance of such right, the OCFA shall be entitled to recover its costs of suit, including its actual attorneys’ fees, if it prevails in an enforcement action against an HOA and/or an individual owner. (A sample third party beneficiary provision to be incorporated into the CC&Rs is attached hereto as Addendum "1").
2. As used herein, "Fire Prevention Maintenance" shall mean the following:
  - A. All portions of the Association Property or Common Area that constitute FMZs or designated interior/manufactured slopes shall be regularly maintained by the HOA on a year-round basis in accordance with the fuel modification plan on file with the property manager for the development.
  - B. The irrigation system for FMZs or designated interior/manufactured slopes shall be kept in good condition and proper working order at all times. The irrigation system shall not be turned off except for necessary repairs and maintenance.

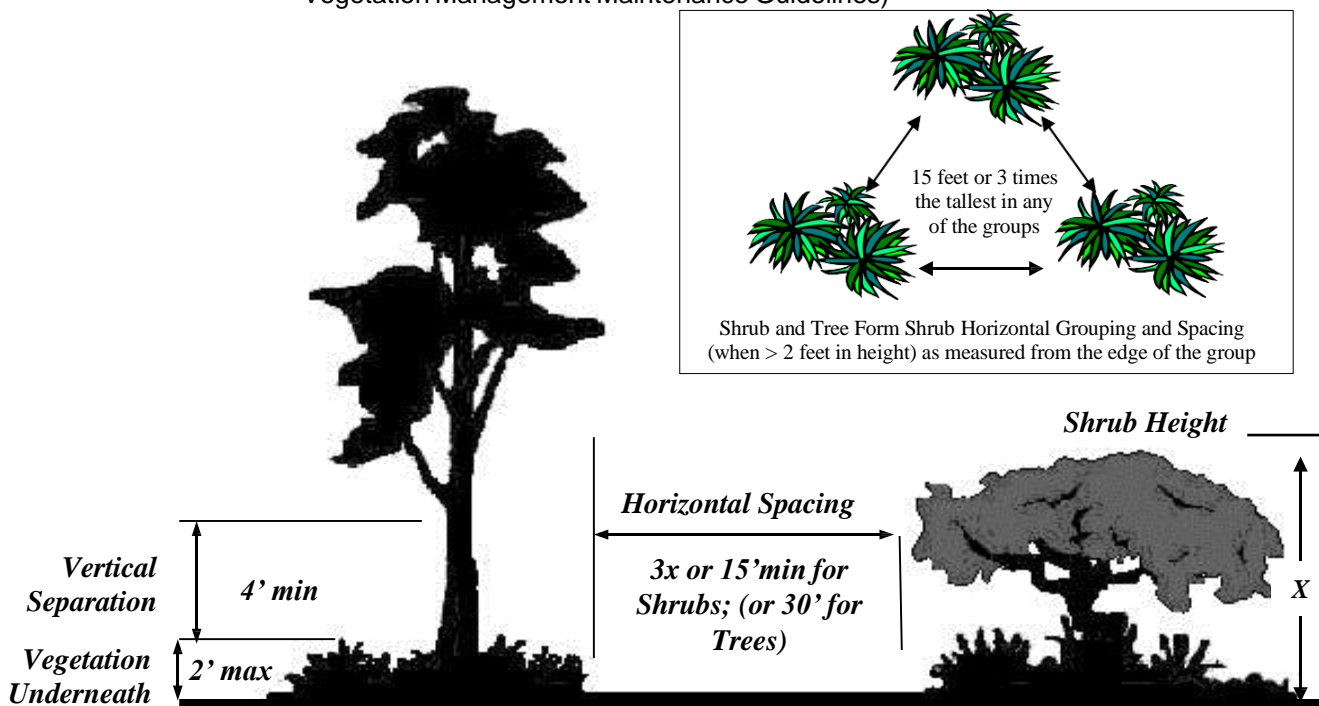
**ADDENDUM “1”**

Enforcement by the Orange County Fire Authority (OCFA): The OCFA is hereby designated as an intended third party beneficiary of the Association’s duties to perform “Fire Prevention Maintenance” for all portions of the Association Property or Common Areas consisting of FMZs or designated interior/manufactured slopes in accordance with the fuel modification plan, and of each owner’s duty to comply with any FMZ or designated interior/manufactured slopes restrictions applicable to their lot or condominium as set forth in the fuel modification plan. In furtherance thereof, the OCFA shall have the right, but not the obligation, to enforce the performance by the association of its duties and any other fire prevention requirements which were imposed by the OCFA or other public agency as a condition of approval for the development (e.g. prohibition of parking in fire lanes, maintenance of the blue reflective markers indicating the location of fire hydrants, etc.). The OCFA shall also have the right, but not the obligation, to enforce compliance by any owner with any FMZ or designated interior/manufactured slopes restrictions applicable to their lot or condominium as set forth in the fuel modification plan. If in its sole discretion, the OCFA shall deem it necessary to take legal action against the association or any owner to enforce such duties or other requirements, and prevails in such action, the OCFA shall be entitled to recover the full costs of said action including its actual attorneys’ fees, and to impose a lien against the association property, or an owner’s lot or condominium, as the case may be, until said costs are paid in full.

# Attachment 6

## Requirements for Planting Installation in Fuel Modification Zones

(For ongoing requirements, see Attachment 2 and the OCFA  
Vegetation Management Maintenance Guidelines)



### Horizontal Spacing

Vegetation Less than 2 Feet in Height:

- No horizontal spacing or vertical separation is required. Ground cover shall not exceed 2 feet in height. In Zone “B” ground cover shall cover the entire ground between groups of shrubs, trees, or grasses and grasses are not considered ground cover. Limited compartments of grasses are acceptable as approved on the planting plans. In Zone “C/D” grasses can cover the entire area.

Shrubs and Trees 2 Feet in Height or Greater:

- Shrub and Tree Group Size:
  - All Shrubs and Trees can be in groups of 3 specimens or less. No horizontal spacing is required inside the group.
- Shrub/Tree-form Shrub Group Spacing:
  - Groups of shrubs shall be spaced by the greater of the following two measurements: A distance of 15 feet minimum (or) 3 times the height of the tallest specimen in any of the groups.
  - No vegetation over 2 feet in height is allowed within 15 feet from the edge of tree canopy(s).
- Tree Group Spacing:
  - Groups of Trees shall be spaced by a distance of 30 feet minimum regardless of height. In Zone “A” full growth tree branches are not allowed within 10 feet of enclosed combustible structures.

### Vertical Separation

Shrubs and Trees Less than 10 Feet in Height:

- When the fuel modification zone is within 30 feet of the structure, a vertical separation of 2 feet minimum is required from the vegetation below. (Not required if shrubs are farther than 30 feet from structure).

Shrubs and Trees 10 Feet in Height or Greater:

- A vertical separation of 4 feet minimum is required to be maintained from the vegetation below
- Trees only: All vegetation located underneath trees, shall be a maximum of 2 feet in

## Attachment 7

### UNDESIRABLE and INVASIVE PLANT SPECIES

Certain plants are considered to be undesirable and invasive due to their physical or chemical characteristics. Physical properties that would contribute to high flammability include large amounts of dead material retained within the plant, rough or peeling bark, and the production of copious amounts of litter. Chemical properties include the presence of volatile substances such as oils, resins, wax, and pitch. Certain native plants are notorious for containing these volatile substances.

Plants with these characteristics shall not be planted in any fuel modification zones or anywhere within the area covered by Alternate Methods & Materials agreements (see Section 4). Should these species already exist within these areas, they shall be removed because of their invasiveness or potential threat they pose to structures.

#### PLANT SPECIES (MANDATORY REMOVAL)

<b>Botanical Name</b>	<b>Common Name</b>
Adenostoma Fasciculatum	Chamise
Adenostoma Sparsifolium	Red Shanks
Anthemix Cotula	Mayweed
Artemisia Californica	California Sagebrush
Brassica Nigra	Black Mustard
Brassica Rapa	Wild Turnip, Yellow Mustard, Field Mustard
Cardaria Draba	Noary Cress, Perennial Peppergrass
Cirsium Vulgare	Wild Artichoke
Conyza Canadensis	Horseweed
Cortaderia Selloana	Pampas Grass
Cynara Cardunculus	Artichoke Thistle
Eriogonum Fasciculatum	Common Buckwheat
Heterothaca Grandiflora	Telegraph Plant
Lactuca Serriola	Prickly Lettuce
Nassella/Stipa tenuissima	Mexican Feathergrass
Nicotiana Bigelevil	Indian Tobacco
Nicotiana Glauca	Tree Tobacco
Ricinus Communis	Castor Bean Plant
Sacsola Austails	Russian Thistle/Tumblewood
Salvia Mellifera	Black Sage
Silybum Marianum	Milk Thistle
Urtica Urens	Burning Nettle
<b>Ornamental:</b>	
Arecaceae (all palm species)	Palms
Cortaderia	Pampas Grass
Cupressus sp	Cypress
Eucalyptus sp	Eucalyptus
Juniperus sp	Juniper
Pinus sp	Pine

## Attachment 8

### FUEL MODIFICATION ZONE PLANT LIST

(Note: Legend and Qualification information can be found on pages 28-29)

	Code	Botanical Name	Common Name	Plant Form
1.	W	Abelia x grandiflora	Glossy Abelia	Shrub
2.	n	Acacia redolens desert carpet	Desert Carpet	Ground Cover
3.	<b>o</b>	<b>Acer macrophyllum</b>	<b>Big Leaf Maple</b>	<b>Tree</b>
4.	X	Achillea millefolium	Common Yarrow	Low Shrub
5.	W	Achillea tomentosa	Woolly Yarrow	Low Shrub
6.	X	Aeonium decorum	Aeonium	Ground cover
7.	X	Aeonium simsii	no common name	Ground cover
8.	W	Agave attenuata	Century Plant	Succulent
9.	W	Agave shawii	Shaw's Century Plant	Succulent
10.	N	Agave victoriae-reginae	no common name	Ground Cover
11.	X	Ajuga reptans	Carpet Bugle	Ground Cover
12.	W	Alnus cordata	Italian Alder	Tree
13.	<b>o</b>	<b>Alnus rhombifolia</b>	<b>White Alder</b>	<b>Tree</b>
14.	N	Aloe arborescens	Tree Aloe	Shrub
15.	N	Aloe aristata	no common name	Ground Cover
16.	N	Aloe brevifoli	no common name	Ground Cover
17.	W	Aloe Vera	Medicinal Aloe	Succulent
18.	W	Alogyne huegeii	Blue Hibiscus	Shrub
19.	o	Ambrosia chammissonis	Beach Bur-Sage	Perennial
20.	o	Amorpha fruticosa	Western False Indigobush	Shrub
21.	W	Anigozanthus flavidus	Kangaroo Paw	Perennial/accent
22.	o	Antirrhinum nuttalianum ssp.	no common name	Subshrub
23.	X	Aptenia cordifolia x 'Red Apple'	Red Apple Aptenia	Ground cover
24.	W	Arbutus unedo	Strawberry Tree	Tree
25.	W	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	Ground Cover
26.	W	Arctostaphylos edmundsii	Little Sur Manzanita	Ground Cover
27.	o	Arctostaphylos glandulosa ssp.	Eastwood Manzanita	Shrub
28.	W	Arctostaphylos hookeri 'Monterey Carpet'	Monterey Carpet Manzanita	Low Shrub
29.	N	Arctostaphylos pungens	no common name	Shrub
30.	N	Arctostaphylos refugioensis	Refugio Manzanita	Shrub
31.	W	Arctostaphylos uva-ursi	Bearberry	Ground Cover
32.	W	Arctostaphylos x 'Greensphere'	Greensphere Manzanita	Shrub
33.	N	Artemisia caucasica	Caucasian Artemisia	Ground Cover
34.	X	Artemisia pycnocephala	Beach Sagewort	Perennial

	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
35.	X	Atriplex canescens	Four-Wing Saltbush	Shrub
36.	X	Atriplex lentiformis ssp. breweri	Brewer Saltbush	Shrub
37.	o	Baccharis emoyi	Emory Baccharis	Shrub
38.	W o	Baccharis pilularis ssp. Consanguinea	Chaparral Bloom	Shrub
39.	X	Baccharis pilularis var. pilularis	Twin Peaks #2	Ground Cover
40.	<b>o</b>	<b>Baccharis salicifolia</b>	<b>Mulefat</b>	<b>Shrub</b>
41.	N	Baileya Multiradiata	Desert Marigold	Ground Cover
42.	N n	Bougainvillea spectabilis	Bougainvillea	Shrub
43.	o	Brickellia californica	no common name	Subshrub
44.	W o	Bromus carinatus	California Brome	Grass
45.	o	Camissonia cheiranthifolia	Beach Evening Primrose	Perennial Shrub
46.	N	Carissa macrocarpa	Green Carpet Natal Plum	Ground Cover/Shrub
47.	X	Carpobrotus chilensis	Sea Fig Ice Plant	Ground Cover
48.	W	Ceanothus gloriosus 'Point Reyes'	Point Reyes Ceanothus	Shrub
49.	W	Ceanothus griseus 'Louis Edmunds'	Louis Edmunds Ceanothus	Shrub
50.	W	Ceanothus griseus horizontalis	Yankee Point	Ground Cover
51.	W	Ceanothus griseus var. horizontalis	Carmel Creeper Ceanothus	Shrub
52.	W	Ceanothus griseus var. horizontalis	Yankee Point Ceanothus	Shrub
53.	o	Ceanothus megacarpus	Big Pod Ceanothus	Shrub
54.	W	Ceanothus prostratus	Squaw Carpet Ceanothus	Shrub
55.	o	Ceanothus spinosus	Green Bark Ceanothus	Shrub
56.	W	Ceanothus verrucosus	Wart-Stem Ceanothus	Shrub
57.	W	Cerastium tomentosum	Snow-in-Summer	Ground cover/Shrub
58.	W	Ceratonia siliqua	Carob	Tree
59.	W	Cercis occidentalis	Western Redbud	Shrub/Tree
60.	X	Chrysanthemum leucanthemum	Oxeye Daisy	Ground Cover
61.	W	Cistus Crispus	no common name	Ground Cover
62.	W	Cistus hybridus	White Rockrose	Shrub
63.	W	Cistus incanus	no common name	Shrub
64.	W	Cistus incanus ssp. Corsicus	no common name	Shrub
65.	W	Cistus salviifolius	Sageleaf Rockrose	Shrub
66.	W	Cistus x purpureus	Orchid Rockrose	Shrub
67.	W	Citrus species	Citrus	Tree
68.	o	Clarkia bottae	Showy Fairwell to Spring	Annual
69.	o	Cneoridium dumosum	Bushrue	Shrub
70.	o	Collinsia heterophyllia	Chinese Houses	Annual
71.	W o	Comarostaphylis diversifolia	Summer Holly	Shrub
72.	N	Convolvulus cneorum	Bush Morning Glory	Shrub

	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
73.	W	Coprosma kirkii	Creeping Coprosma	Ground Cover/Shrub
74.	W	Coprosma pumila	Prostrate Coprosma	Low shrub
75.	o	Coreopsis californica	California Coreopsis	Annual
76.	W	Coreopsis lanceolata	Coreopsis	Ground Cover
77.	N	Corea pulchella	Australian Fuschia	Ground Cover
78.	W	Cotoneaster buxifolius	no common name	Shrub
79.	W	Cotoneaster congestus 'Likiang'	Likiang Cotoneaster	Ground Cover/Vine
80.	W	Cotoneaster aprneyi	no common name	Shrub
81.	X	Crassula lactea	no common name	Ground Cover
82.	X	Crassula multicava	no common name	Ground Cover
83.	X	Crassula ovata	Jade Tree	Shrub
84.	X	Crassula tetragona	no common name	Ground Cover
85.	W o	Croton californicus	California Croton	Ground Cover
86.	X	Delosperma 'alba'	White trailing Ice Plant	Ground Cover
87.	o	Dendromecon rigida	Bush Poppy	Shrub
88.	o	Dichelostemma capitatum	Blue Dicks	Herb
89.	N	Distinctis buccinatoria	Blood-Red Trumpet Vine	Vine/Climbing vine
90.	N	Dodonaea viscosa	Hopseed Bush	Shrub
91.	X	Drosanthemum floribundum	Rosea Ice Plant	Ground Cover
92.	X	Drosanthemum hispidum	no common name	Ground Cover
93.	X	Drosanthemum speciosus	Dewflower	Ground Cover
94.	o	Dudleya lanceolata	Lance-leaved Dudleya	Succulent
95.	o	Dudleya pulverulenta	Chalk Dudleya	Succulent
96.	W	Elaeagnus pungens	Silverberry	Shrub
97.	o	Encelia californica	California Encelia	Small Shrub
98.	o *	Epilobium canum [Zauschneria californica]	Hoary California Fuschia	Shrub
99.	o	Eriastrum Sapphirinum	Mojave Woolly Star	Annual
100.	N	Eriobotrya japonica	Loquat	Tree
101.	o	Eriodictyon crassifolium	Thick Leaf Yerba Santa	Shrub
102.	o	Eriodictyon trichocalyx	Yerba Santa	Shrub
103.	W o	Eriophyllum confertiflorum	no common name	Shrub
104.	<b>W</b>	<b>Erythrina species</b>	<b>Coral Tree</b>	<b>Tree</b>
105.	N	Escallonia species	Several varieties	Shrub
106.	W o	Eschscholzia californica	California Poppy	Flower
107.	X	Eschscholzia mexicana	Mexican Poppy	Herb
108.	N	Euonymus fortunei	Winter Creeper Euonymus	Ground Cover
109.	N	Feijoa sellowiana	Pineapple Guava	Shrub/Tree
110.	N	Fragaria chiloensis	Wild Strawberry/Sand Strawberry	Ground Cover



	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
111.	o	<i>Frankenia salina</i>	Alkali Heath	Ground Cover
112.	W	<i>Fremontodendron californicum</i>	California Flannelbush	Shrub
113.	X	<i>Gaillardia x grandiflora</i>	Blanketflower	Ground Cover
114.	W	<i>Galvezia speciosa</i>	Bush Snapdragon	Shrub
115.	W	<i>Garrya ellipta</i>	Silktassel	Shrub
116.	X	<i>Gazania hybrids</i>	South African Daisy	Ground Cover
117.	X	<i>Gazania rigens leucolaena</i>	Training Gazania	Ground Cover
118.	o	<i>Gilia capitata</i>	Globe Gilia	Perennial
119.	W	<i>Gilia leptantha</i>	Showy Gilia	Perennial
120.	W	<i>Gilia tricolor</i>	Bird's Eyes	Perennial
121.	W	<i>Ginkgo biloba</i>	Maidenhair Tree	Tree
122.	o	<i>Gnaphalium californicum</i>	California Everlasting	Annual
123.	W	<i>Grewia occidentalis</i>	Starflower	Shrub
124.	o	<i>Grindelia stricta</i>	Gum Plant	Ground Cover
125.	N n	<i>Hakea suaveolens</i>	Sweet Hakea	Shrub
126.	W	<i>Hardenbergia comptoniana</i>	Lilac Vine	Shrub
127.	N	<i>Heliathemum mutabile</i>	Sunrose	Ground Cover/Shrub
128.	o	<i>Helianthemum scoparium</i>	Rush Rose	Shrub
129.	o	<i>Heliotropium curassavicum</i>	Salt Heliotrope	Ground Cover
130.	X	<i>Helix Canariensis</i>	English Ivy	Ground Cover
131.	W	<i>Hesperaloe parviflora</i>	Red Yucca	Perennial
132.	o n	<i>Heteromeles arbutifolia</i>	Toyon	Shrub
133.	X	<i>Hypericum calycimum</i>	Aaron's Beard	Shrub
134.	N	<i>Iberis sempervirens</i>	Edging Candytuft	Ground Cover
135.	N	<i>Iberis umbellatum</i>	Globe Candytuft	Ground Cover
136.	o	<i>Isocoma menziesii</i>	Coastal Goldenbush	Small Shrub
137.	o	<i>Isomeris arborea</i>	Bladderpod	Shrub
138.	W	<i>Iva hayesiana</i>	Poverty Weed	Ground Cover
139.	N	<i>Juglans californica</i>	California Black Walnut	Tree
140.	o	<i>Juncus acutus</i>	Spiny Rush	Perennial
141.	o	<i>Keckiella antirrhinoides</i>	Yellow Bush Penstemon	Subshrub
142.	o	<i>Keckiella cordifolia</i>	Heart Leaved Penstemon	Subshrub
143.	o	<i>Keckiella ternata</i>	Blue Stemmed Bush Penstemon	Subshrub
144.	W	<i>Kniphofia uvaria</i>	Red Hot Poker	Perennial
145.	W	<i>Lagerstroemia indica</i>	Crape Myrtle	Tree
146.	W	<i>Lagunaria patersonii</i>	Primrose Tree	Tree
147.	X	<i>Lampranthus aurantiacus</i>	Bush Ice Plant	Ground Cover
148.	X	<i>Lampranthus filicaulis</i>	Redondo Creeper	Ground Cover
149.	X	<i>Lampranthus spectabilis</i>	Trailing Ice Plant	Ground Cover

	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
150.	W	Lantana camara cultivars	Yellow Sage	Shrub
151.	W	Lantana montevidensis	Trailing Lantana	Shrub
152.	o	Lasthenia californica	Dwarf Goldfields	Annual
153.	W	Lavandula dentata	French Lavender	Shrub
154.	W	Leptospermum laevigatum	Australian Tea Tree	Shrub
155.	W	Leucophyllum frutescens	Texas Ranger	Shrub
156.	o	Leymus condensatus	Giant Wild Rye	Large Grass
157.	N	Ligustrum japonicum	Texas privet	Shrub
158.	X	Limonium pectinatum	no common name	Ground Cover
159.	X	Limonium perezii	Sea Lavender	Shrub
160.	<b>W n</b>	<b>Liquidambar styraciflua</b>	<b>American Sweet Gum</b>	<b>Tree</b>
161.	W	Liriodendron tulipifera	Tulip Tree	Tree
162.	X	Lonicera japonica 'Halliana'	Hall's Japanese Honeysuckle	Vining Shrub
163.	o	Lonicera subspicata	Wild Honeysuckle	Vining Shrub
164.	X	Lotus corniculatus	Bird's Foot Trefoil	Ground Cover
165.	o	Lotus hermannii	Northern Woolly Lotus	Perennial
166.	o	Lotus scoparius	Deerweed	Shrub
167.	W	Lupinus arizonicus	Desert Lupine	Annual
168.	W	Lupinus benthamii	Spider Lupine	Annual
169.	o	Lupinus bicolor	Sky Lupine	Flowering annual
170.	o	Lupinus sparsiflorus	Loosely Flowered Annual Lupine or Coulter's Lupine	Annual
171.	W	Lyonothamnus floribundus ssp. Asplenifolius	Fernleaf Ironwood	Tree
172.	W	Macadamia integrifolia	Macadamia Nut	Tree
173.	W	Mahonia aquifolium 'Golden Abundance'	Golden Abundance Oregon Grape	Shrub
174.	W	Mahonia nevenii	Nevin Mahonia	Shrub
175.	o	Malacothamnus fasciculatus	Chapparal Mallow	Shrub
176.	X	Malephora luteola	Training Ice Plant	Ground Cover
177.	W	Maytenus boaria	Mayten Tree	Tree
178.	W	Melaleuca nesophila	Pink Melaleuca	Shrub
179.	N	Metrosideros excelsus	New Zealand Christmas Tree	Tree
180.	o *	Mimulus species	Monkeyflower	Flower
181.	o	Mirabilis californica	Wishbone Bush	Perennial
182.	N	Myoporum debile	no common name	Shrub
183.	W	Myoporum insulare	Boobyalla	Shrub
184.	W	Myoporum parvifolium	no common name	Ground Cover
185.	W	Myoporum 'Pacificum'	no common name	Ground Cover
186.	o	Nassella (stipa) lepidra	Foothill Needlegrass	Ground Cover
187.	o	Nassella (stipa) pulchra	Purple Needlegrass	Ground Cover

	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
188.	o	Nemophila menziesii	Baby Blue Eyes	Annual
189.	X	Nerium Oleander	Oleander	Shrub
190.	o	Nolina cismontana	Chapparal Nolina	Shrub
191.	N	Nolina species	Mexican Grasstree	Shrub
192.	W	Oenothera belandieri	Mexican Evening Primrose	Ground Cover
193.	N	Oenothera hookeri	California Evening Primrose	Flower
194.	W	Oenothera speciosa	Show Evening Primrose	Perennial
195.	X	Ophiopogon japonicus	Mondo Grass	Ground Cover
196.	o *	Opuntia littoralis	Prickly Pear	Cactus
197.	o *	Opuntia oricola	Oracle Cactus	Cactus
198.	o *	Opuntia prolifera	Coast Cholla	Cactus
199.	W	Osmanthus fragrans	Sweet Olive	Shrub
200.	X	Osteospermum fruticosum	Training African Daisy	Ground Cover
201.	<b>X</b>	<b><i>Parkinsonia aculeata</i></b>	<b><i>Mexican Palo Verde</i></b>	<b><i>Tree</i></b>
202.	W	Pelargonium peltatum	Ivy Geranium	Ground Cover
203.	X	Penstemon species	Beard Tongue	Shrub
204.	W	Photinia fraseria	no common name	Shrub
205.	W	Pistacia chinensis	Chinese Pistache	Tree
206.	X	Pittosporum undulatum	Victorian Box	Tree
207.	o	Plantago erecta	California Plantain	Annual
208.	**	Plantago insularis	Woolly Plantain	Annual
209.	X	Plantago sempervirens	Evergreen Plantain	Ground Cover
210.	W	Plantanus racemosa	California Sycamore	Tree
211.	W	Plumbago auriculata	Plumbago Cape	Shrub
212.	<b>o</b>	<b><i>Populus fremontii</i></b>	<b><i>Western Cottonwood</i></b>	<b><i>Tree</i></b>
213.	X	Portulacaria afra	Elephant's Food	Shrub
214.	o	Potentilla glandulosa	Sticky Cinquefoil	Subshrub
215.	X	Potentilla tabernaemontanii	Spring Cinquefoil	Ground Cover
216.	X	Prunus caroliniana	Carolina Cherry Laurel	Shrub/Tree
217.	o	Prunus ilicifolia ssp. ilicifolia	Holly Leafed Cherry	Shrub
218.	X	Prunus lyonii	Catalina Cherry	Shrub/Tree
219.	N	Punica granatum	Pomegranate	Shrub/Tree
220.	W	Puya species	Puya	Succulent/Shrub
221.	W	Pyracantha species	Firethorn	Shrub
222.	<b>o</b>	<b><i>Quercus agrifolia</i></b>	<b><i>Coast Live Oak</i></b>	<b><i>Tree</i></b>
223.	o n *	Quercus berberdifolia	California Scrub Oak	Shrub
224.	o n *	Quercus dumosa	Coastal Scrub Oak	Shrub
225.	<b>X</b>	<b><i>Quercus engelmannii</i></b>	<b><i>Engelmann Oak</i></b>	<b><i>Tree</i></b>
226.	<b>X</b>	<b><i>Quercus suber</i></b>	<b><i>Cork Oak</i></b>	<b><i>Tree</i></b>
227.	X	Rhamnus alaternus	Italian Buckthorn	Shrub

	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
228.	o	Rhamnus californica	California Coffee Berry	Shrub
229.	o	Rhamnus crocea	Redberry	Shrub
230.	o	Rhamnus crocea ssp. Illicifolia	Hollyleaf Redberry	Shrub
231.	N	Rhaphiolepis species	Indian Hawthorne	Shrub
232.	o	Rhus integrifolia	Lemonade Berry	Shrub
233.	N	Rhus lancea	African Sumac	Tree
234.	o n	Rhus ovata	Sugar bush	Shrub
235.	o	Ribes aureum	Golden Currant	Shrub
236.	o	Ribes indecorum	White Flowering Currant	Shrub
237.	o	Ribes speciosum	Fuschia Flowering Gooseberry	Shrub
238.	W	Ribes viburnifolium	Evergreen currant	Shrub
239.	o *	Romneya coulteri	Matilija Poppy	Shrub
240.	X	Romneya coulteri 'White Cloud'	White Cloud Matilija Poppy	Shrub
241.	W n	Rosmarinus officinalis	Rosemary	Shrub
242.	W n	Salvia greggii	Autums Sage	Shrub
243.	W n	Salvia sonomensis	Creeping Sage	Ground Cover
244.	o	Sambucus mexicana	Mexican Elderberry	Tree
245.	W	Santolina chamaecyparissus	Lavender Cotton	Ground Cover
246.	W	Santolina virens	Green Lavender Cotton	Shrub
247.	o	Satureja chandleri	San Miguel Savory	Perennial
248.	o	Scirpis scutus	Hard Stem Bulrush	Perennial
249.	o	Scirpus californicus	California Bulrush	Perennial
250.	X	Sedum acre	Goldmoss Sedum	Ground Cover
251.	X	Sedum album	Green Stonecrop	Ground Cover
252.	X	Sedum confusum	no common name	Ground Cover
253.	X	Sedum lineare	no common name	Ground Cover
254.	X	Sedum x rubrotinctum	Pork and Beans	Ground Cover
255.	X	Senecio serpens	no common name	Ground Cover
256.	o	Sisyrinchium bellum	Blue Eyed Grass	Ground Cover
257.	o	Solanum douglasii	Douglas Nightshade	Shrub
258.	o	Solanum xantii	Purple Nightshade	Perennial
259.	W	Stenocarpus sinuatus	Firewheel Tree	Tree
260.	W	Strelitzia nicolai	Giant Bird of Paradise	Perennial
261.	W	Strelitzia reginae	Bird of Paradise	Perennial
262.	o	Symphoricarpos mollis	Creeping Snowberry	Shrub
263.	W	Tecoma stans (Stenolobium stans)	Yellow Bells	Shrub/Small Tree
264.	X	Tecomaria capensis	Cape Honeysuckle	Ground Cover
265.	N	Teucarium chamedrys	Germander	Ground Cover
266.	N	Thymus serpyllum	Lemon Thyme	Ground Cover
267.	N	Trachelospermum jasminoides	Star Jasmine	Shrub

	<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Plant Form</b>
268.	o	Trichostema lanatum	Woolly Blue Curls	Shrub
269.	X	Trifolium hirtum 'Hyron'	Hyron Rose Clover	Ground Cover
270.	X	Trifolium fragerum 'O'Connor's'	O'Connor's Legume	Ground Cover
271.	o	Umbellularia californica	California Laurel	Tree
272.	o	Verbena lasiostachys	Western Vervain	Perennial
273.	N	Verbena peruviana	no common name	Ground Cover
274.	X	Verbena species	Verbena	Ground Cover
275.	X	Vinca minor	Dwarf Periwinkle	Ground Cover
276.	o	Vitis girdiana	Desert Wild Grape	Vine
277.	X	Vulpia myuros 'Zorro'	Zorro Annual Fescue	Grass
278.	W	Westringia fruticosa	no common name	Shrub
279.	W	Xanthorrhoea species	Grass Tree	Perennial, Accent shrub
280.	<b>W</b>	<b><i>Xylosma congestum</i></b>	<b><i>Shiny Xylosma</i></b>	<b><i>Shrub</i></b>
281.	X	Yucca Species	Yucca	Shrub
282.	o	Yucca whipplei	Yucca	Shrub

### Symbol Legend

- X = Plant species prohibited in wet and dry FMZs adjacent to reserve lands. Acceptable on all other fuel modification locations and zones.
- W = Plant species appropriate for use in wet FMZs adjacent to reserve lands. Acceptable in all other wet and irrigated dry (manufactured slopes) fuel modification locations and zones.
- o = Plant species native to Orange County. Acceptable in all fuel modification wet and dry zones in all locations.
- N = Plant species acceptable on a limited basis (maximum 30% of the area) in wet FMZs adjacent to reserve lands. Acceptable on all other FMZs.
- \* = If locally collected.
- \*\* = Not native but can be used in all zones.
- n = Plant species acceptable on a limited use basis. Refer to qualification requirements following plant palette.

Yellow rows = Plant species susceptible to Invasive Shot Hole Borers (ISHB) infestation.

## Approved Plant Palette Qualification Statements for Select Plant Species

- 2. *Acacia redolens* desert carpet:** May be used in the furthest ½ of the “B” FMZ from the structure, and no closer than 25 feet from the edge of the zone nearest the structure. The plants may be planted with a minimum spacing at 10-foot on center, maximum spacing in meandering zones not to exceed a mature width of 24 feet and mature height of 24 inches. If *acacia redolens* desert carpet is used in the roadway protection zone, it shall be maintained a minimum of 25 feet from the curb face. At the time of precise plan review, the mature spacing shall be accounted for.
- 42. *Bougainvillea spectabilis* (procumbent varieties):** Procumbent to mounding varieties may be used in the mid “B” FMZ. The plants may be planted in groups at 6-foot on center spacing not to exceed eight plants per group. Mature spacing between individual plants or groups shall be 30-foot minimum.
- 125. *Hakea suaveolens*:** May be used in the mid “B” FMZ. The plants shall be used as single specimens with mature spacing between plants of 30-foot minimum.
- 132. *Heteromeles arbutifolia*:** May be used in the mid to lower “B” FMZ. The plants may be planted in groups of up to 3 plants per group. Mature spacing between individual plants or groups shall be 30-foot minimum.
- 160. *Liquidambar styraciflua*:** May be used in the mid “B” FMZ. The plant shall be used as single specimens with mature spacing between trees and 30-foot minimum.
- 223. *Quercus berberdifolia*:** Additional information may be required as directed by the OCFA unless approved on the plan as shown.
- 224. *Quercus dumosa*:** May be used in the mid to lower “B” FMZ. The plants may be planted in groups of up to 3 plants per group. Mature spacing between individual plants or groups shall be 30-foot minimum.
- 234. *Rhus ovata*:** May be used in the mid to lower “B” FMZ of inland areas only. The plants may be planted in groups of up to 3 plants per group. Mature spacing between individual plants or groups shall be 30-foot minimum.
- 241. *Rosmarinus officinalis*:** When used as a ground cover, it shall be maintained at 2 feet in height. Additional information may be required as directed by the OCFA.
- 242. *Salvia greggii*:** Additional information may be required as directed by the OCFA unless approved on the plan as shown.
- 243. *Salvia sonomensis*:** May be used in the mid to upper “B” FMZ. The plants may be planted in groups of up to 3 plants per group. Mature spacing between individual plants or groups shall be 15-foot minimum.