

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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Technical Design for New Construction Fuel Modification Plans and Maintenance Program

INTRODUCTION

Vegetation management has proven to be a major factor in reducing the probability 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 structures 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. Furthermore, it 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.

SCOPE

All new single-family homes, multi-family residential, Accessory Dwelling Unit (ADU), utility, and commercial structures built in, or adjacent to, a wildfire-risk area or such areas designated by the fire code official, require a Fuel Modification Plan in conjunction with the 2022 California Fire Code (CFC), Chapter 49. However, a Fuel Modification Plan may or may not be required based on lot size, configuration, or your property's connection and proximity to grass, brush, and ornamental vegetation. For questions regarding the Fuel Modification requirements and your project, contact the OCFA RSG line at (714) 573-6774.

The plan requires permanent vegetation management in dedicated land areas and is used indefinitely to facilitate on-going maintenance requirements. 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 Resource Code Sections 4126-4127 or within the Local Responsibility Area (LRA) - Very High Fire Hazard Severity Zone (VHFHSZ), as defined in the Government Code Section 51175 – 51189, and the California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5, a 30-foot setback from the structures to the property line shall be required.

FUEL MODIFICATION PLAN OVERVIEW & SEQUENCING

There are two types of Fuel Modification Plans, conceptual and precise. Each type is submitted at a different time during the development and construction process.

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

FUEL MODIFICATION ZONES

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 in all directions on the site (see Attachment 3: Incline Measurement for Selected Slopes). Many developments have interior slopes with Special Maintenance Areas (SMA). See below for specific unique requirements for each zone. The fuel modification plan may be altered if conditions change. Any alterations to the fuel modification areas shall have prior approval from the fire code official.

Note: Additional planting restrictions may be required for certain plant species (see Approved Plant Palette Qualification Statements for Select Plant Species on page 31).

1. Zone "A" (20-foot minimum width, with the first 5 feet as the Immediate Zone)
 - a. Flat level ground requirement
 - b. Building foundation setback (no design alternatives allowed)
 - c. Zone "A" (20 feet wide – measured from the structure out)
 - 1) Setback from the slope nearest the foundation
 - 2) No combustible construction is allowed within Zone "A"
 - 3) Automatic irrigation systems to maintain healthy vegetation with high moisture content and to be regularly irrigated
 - 4) Plants in this zone shall be highly fire resistant and selected from Attachment 8: Fuel Modification Zone Plant List (also refer to Section 3: Plant Palette Information)
 - 5) If all Zones "A-D" are to be maintained by the structure owner, then Zone "A" shall begin at the wall of the structure

- d. Immediate Zone (First 5 feet measured from the structure out, in all directions)
 - 1) No combustible bark or mulch
 - 2) Plants in this area to be irrigated, naturally low growing (below 2 feet in height), and non-woody
 - 3) No combustible construction is allowed, fencing, gates, patio covers, etc.
2. 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 plants and design are appropriate

- a. Required at the nearest slope adjoining Zone "A"
 - b. Irrigated and planted per Attachment 6: Requirements for Planting Installation in Fuel Modification Zones
 - c. May replace Zones "C/D" when grading plans require larger replanted areas
 - d. All plant species designed for Zone "B" shall be selected from Attachment 8: Fuel Modification Zone Plant List. 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 Attachment 6: Requirements for Planting Installation in Fuel Modification Zones, Attachment 7: Undesirable and Invasive Plant Species, and Attachment 8: Fuel Modification Zone Plant List.
 - e. No combustible construction is allowed within Zone "B"
3. Zone "C/D" (0-100 feet in width)
 - a. One natural vegetation thinning (Zone "C") or two thinning zones (Zone "C/D")
 - 1) Zone "C" shall be 50% thinning of vegetation
 - 2) Zone "D" shall be 30% thinning of vegetation
 - b. Planting installation per Attachment 6, if installing plants
 - 1) Existing plants that will remain shall be in accordance with Attachment 6: Requirements for Planting Installation in Fuel Modification Zones and Attachment 7: Undesirable and Invasive Plant Species (see Section 3: Plant Palette Information)
 - c. See Section 4: Alternative Material & Methods
 - d. Plant species introduced into Zone "C" and "D" shall be selected from Attachment 8: Fuel Modification Zone Plant List. Maintenance shall be in accordance with Attachment 6: Requirements for Planting Installation in Fuel Modification Zones and Attachment 7: Undesirable and Invasive Plant Species (see Section 3: Plant Palette Information)
 - e. No combustible construction is allowed within Zone "C" and "D"

Note: A clear, brush-free area of 10 ft shall be required around the perimeter of the ground-mounted photovoltaic arrays. A noncombustible base, approved by the fire code official, shall be installed and maintained under the photovoltaic arrays and associated electrical equipment installations, per the 2022 CFC Chapter 1205.5.1.

TYPES OF INTERIOR SLOPES: RESIDENTIAL TRACT

1. SMA Interior Slopes
 - a. 100 feet maximum width
 - b. Slopes and common areas interior from the community perimeter (see Section 5: Special Maintenance Areas and Roadside Protection Zones)
 - c. Located in commonly owned land areas, beginning at the property lines of the privately owned lot
 - d. Areas shall be irrigated
2. Roadside Protection Zones (RPZ)
 - a. 50 feet maximum width measured from the edge of the roadway
 - b. Can be designed as RPZ or SMA, depending if the road is at the perimeter or interior of the community
 - c. Streetscape designs that are not community perimeter edges may not be regulated unless a distinct hazard is created
 - d. Areas shall be irrigated

When an 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 Attachment 2: Introductory Maintenance Information, Attachment 6: Requirements for Planting Installation in Fuel Modification Zones, and Attachment 7: Undesirable and Invasive Plant Species. Alternative design methods may be approved through the Alternate Materials & Methods process.

FUEL MODIFICATION PLANS: REQUIRED INFORMATION

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. Each subsequent submittal shall include an electronic PDF copy of the plan and three sets of paper plans.

Note: If the designer is prepared to submit Precise Fuel Modification Plans with the planting plans, conceptual plans are not required to be submitted. 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 (e.g., future construction, existing structures, natural vegetation, restoration plans, roads, parks, etc.).
- C. Add a note on the plan stating the project is or is not located in a LRA - VHFHSZ or in an SRA.
- D. Add a note stating the structure(s) shall be built to the California Building Code (CBC) Chapter 7A standard if the project is located in a LRA - VHFHSZ or in an SRA area.
- E. Add a note stating combustible fencing is not allowed within any Fuel Modification Zone.
- F. Contour lines shall be provided on the plan to show valleys and hills, and the steepness or gentleness of slopes for all Fuel Modification Zones.
- G. Ensure all foundations have a minimum 20-foot setback from edge of slope.
- H. Select an on-slope option from the choices of Fuel Modification Zones from pages 4 and 5. Delineate the width as described.
- I. All plants in fuel modification zones shall be selected from Attachment 8: Fuel Modification Zone Plant List.
- J. Label all interior slopes and all common areas as “Special Maintenance Areas” and/or “Roadside Protection Zones”, if 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: Special Maintenance Areas and Roadside Protection Zones 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 Attachment 2: Introductory Maintenance Information, Attachment 6: Requirements for Planting Installation in Fuel Modification Zones, and Attachment 7: Undesirable and Invasive Plant Species. Alternative design methods may be approved through the Alternate Materials & Methods process (see Section 4: Alternate Materials & Methods).

- K. SMA and RPZ shall not have plants from Attachment 7: Undesirable and Invasive Plant Species.
- L. Delineate RPZ with either a maximum irrigated 50-foot wide FMZ "B" when located on community perimeter areas or SMA when roads are interior to perimeter.
- M. Each FMZ, SMA, and RPZ shall be symbolized and referenced on the plan clearly and on a distinct legend.
- N. Notate all FMZ, SMA, and RPZ as irrigated or non-irrigated landscaping.
- O. Provide the name of the entity/entities responsible for the maintenance of all FMZ, SMA, and RPZ.
- P. Show the name and location of any existing plant species you are proposing to retain on the plan (If no existing plant species are shown, existing vegetation shall be removed from the plan entirely).
- Q. 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).
- R. 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).
- S. Copy Attachment 1: New Construction Inspection Requirements, Attachment 2: Introductory Maintenance Information, Attachment 3: Incline Measurement for Selected Slopes, Attachment 6: Requirements for Planting Installation in Fuel Modification Zones, and Attachment 7: Undesirable and Invasive Plant Species on the plans for on-going maintenance requirements.

- T.** If there are limited areas in which you cannot meet Fuel Modification distance requirements, follow the plan submittal requirement directions in Section 4: Alternate Materials & Methods.
- U.** If the project has an area within the project boundary or adjacent areas affecting the project which would fall under the restriction of an agency (e.g., Army Corps of Engineers, California Coastal Commission, a Specific Plan, a Habitat Management & Monitoring Plan, etc.), the agency name; along with the maintenance, scope of work and management plan for those restricted areas shall be provided on the plan and documentation to support the management plan and maintenance allowed in the restricted areas provided at the time of submittal. If an area is discovered at any point in the submittal process, which would limit the design and/or maintenance requirements of the plan, the project will need to be re-evaluated to determine whether the limitations will impact the Fuel Modification design. If there are no restricted areas, make a note stating to the fact on the plans.
- V.** The following notes (1-6) shall be copied on the plans:
1. The owner/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 homeowner's 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.
- W.** A copy of the CC&Rs shall be provided to ensure the language regarding maintenance and responsibility is clearly defined, prior to approval of a conceptual plan.
- X.** For certain projects, photographs of existing vegetation may be required.
- Y.** 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: Incline Measurement for Selected Slopes.

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. Subsequent plan submittals 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 to Section 1: Conceptual Fuel Modification Plans).
- 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 performing vegetation management. Generally, markers are only required to indicate side property lines and where zones end).
- C. Copy Attachment 4: Zone Marker Details and Attachment 5: Sample CC&R Maintenance Language on the plans, if applicable.
- D. Submit written proof that the CC&R's reference the fuel modification areas and associated maintenance and restrictions (see Attachment 5: Sample CC&R Maintenance Language), if applicable.
- E. Provide supporting documentation that demonstrates the Fuel Modification Zones, SMA, RPZ, access and maintenance points have been legally recorded on the Tentative Tract Maps.
- F. Irrigation plan sheets shall be submitted to demonstrate the wet zones are irrigated.
- G. The planting plans for FMZ, SMA, and RPZ are required to be reviewed and approved (see Section 5: Special Maintenance Areas and Roadside Protection Zones for more information).
- H. **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 no taller than 2 feet)
 4. Grasses
 5. If proposing plant species not on the Attachment 8: Fuel Modification Zone Plant List, follow the submittal directions from Section 3.B.

I. Each legend shall include:

1. Plant Symbol (separate symbol for each plant)
2. Plant Form
3. Botanical Name
4. Common Name
5. Plant # from Attachment 8: Fuel Modification Zone Plant List
6. Symbol Code from Attachment 8: Fuel Modification Zone Plant List
7. Expected Max Growth Height
8. Expected Max Growth Width
 - a. *See Sample #1: Plant Legend

J. Planting Plans:

1. On the installation Planting Plans, all plants shall be horizontally and vertically spaced to meet the formula from Attachment 6: Requirements for Planting Installation in Fuel Modification Zones of this guideline, using the heights and widths in your legend.
2. Refer to the Attachment 8: Fuel Modification Zone Plant List code symbols and qualification statements for design installation before you place plants on the plan.
3. See Section 3: Plant Palette Information for plant species not on the OCFA list and follow directions.

K. For alternative proposals that do not meet minimum requirements, see Section 4: Alternate Materials & Methods and follow the plan submittal requirements.

L. Create a heading titled “Required Inspections,” then copy Attachment 1: New Construction Inspection Requirements 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
TREES							
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
SHRUBS							
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
GROUND COVER							
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
GRASSES							
SPECIES NOT ON ATTACH 8	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: Fuel Modification Zone Plant List was approved by various resource agencies responsible for environmental protection. All plants installed shall be selected from Attachment 8: Fuel Modification Zone Plant List and be grouped and spaced for initial installation in accordance with Attachment 6: Requirements for Planting Installation in Fuel Modification Zones of this guideline. Specific installation requirements are included for various plant species (see plant code, legend, and qualification statements in Attachment 8: Fuel Modification Zone Plant List). Retained plants shall be proposed for approval on the conceptual FMZ plans or on the precise plan (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 may be proposed per project.

Alternative species need to have similar/equal properties to the plants from Attachment 8: Fuel Modification Zone Plant List. OCFA will make a case-by-case determination as to the 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 shall be required. If the proposed plants have received previous resource-agency approval, no concurrence letter will be required, but supporting documentation shall be provided. Contact OCFA prior to your submittal if needed.

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

If there are limits to 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. Use the information within A-01 as a model for drafting your letter. If an alternative means of protection is approved by the OCFA, copy the OCFA signed AM&M request 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 block wall or block wall with tempered glass measuring a minimum of 6 feet on both sides of the wall, increased structure setbacks, special planting designs, rockscapes and plant restrictions, and reduced planting and increased hardscape areas. If a maintenance/ fire access gate is being shown along a solid block wall or block wall with tempered glass, a gate detail shall be provided on the plan that demonstrates the same applied effect as the solid wall.
3. A Fire Protection Plan (OCFA 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 (OCFA 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 Chapter 7A code sections. OCFA does not review the architectural plans for one- and two-family dwellings. Approved Fire Protection Plans are provided to 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, as a last option, a 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 in perpetuity. The easement shall show the distance designed on the plans.
- d. The conceptual FMZ plans will not be approved until the legally 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 design 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 CBC Chapter 7A and California Residential Code 337
2. When it is determined by the OCFA that the design of an SMA may contribute to an increased wildfire risk, the first 100 feet of the SMA, measured from the structure out, is considered defensible space. The defensible space area shall comply with Attachment 2: Introductory Maintenance Information, Attachment 6: Requirements for Planting Installation in Fuel Modification Zones, Attachment 7: Undesirable and Invasive Plant Species and Attachment 8: Fuel Modification Zone Plant List).

ATTACHMENT 1

New Construction Inspection Requirements

The Builder or Developer shall call OCFA Inspection Scheduling at (714) 573-6150 for the three new construction inspections listed below:

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, special mitigation measures, 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) Community 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 and provide OCFA a document stating the fuel modification has been installed per plan.
 - 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&Rs (Refer to Attachment 5: Sample CC&R Maintenance Language).

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

1. Option #1 Maintenance Method:

- a. On-going maintenance shall occur to preserve the originally approved design found on the approved plans. Attachment 6: Requirements for Planting Installation in Fuel Modification Zones 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.
 - 1) The first during middle- to late-Spring and the second in early- to middle-Fall.
- d. Other activities include:
 - 1) Grasses cut to 4 inches after annual seeding
 - 2) Dead and dying, all vegetation litter, and Attachment 7: Undesirable and Invasive Plant Species removed from all zones
 - 3) Maintenance of irrigation systems
 - 4) Replacement of dead or dying vegetation with approved species (proposed changes shall be approved by OCFA)
 - 5) 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.

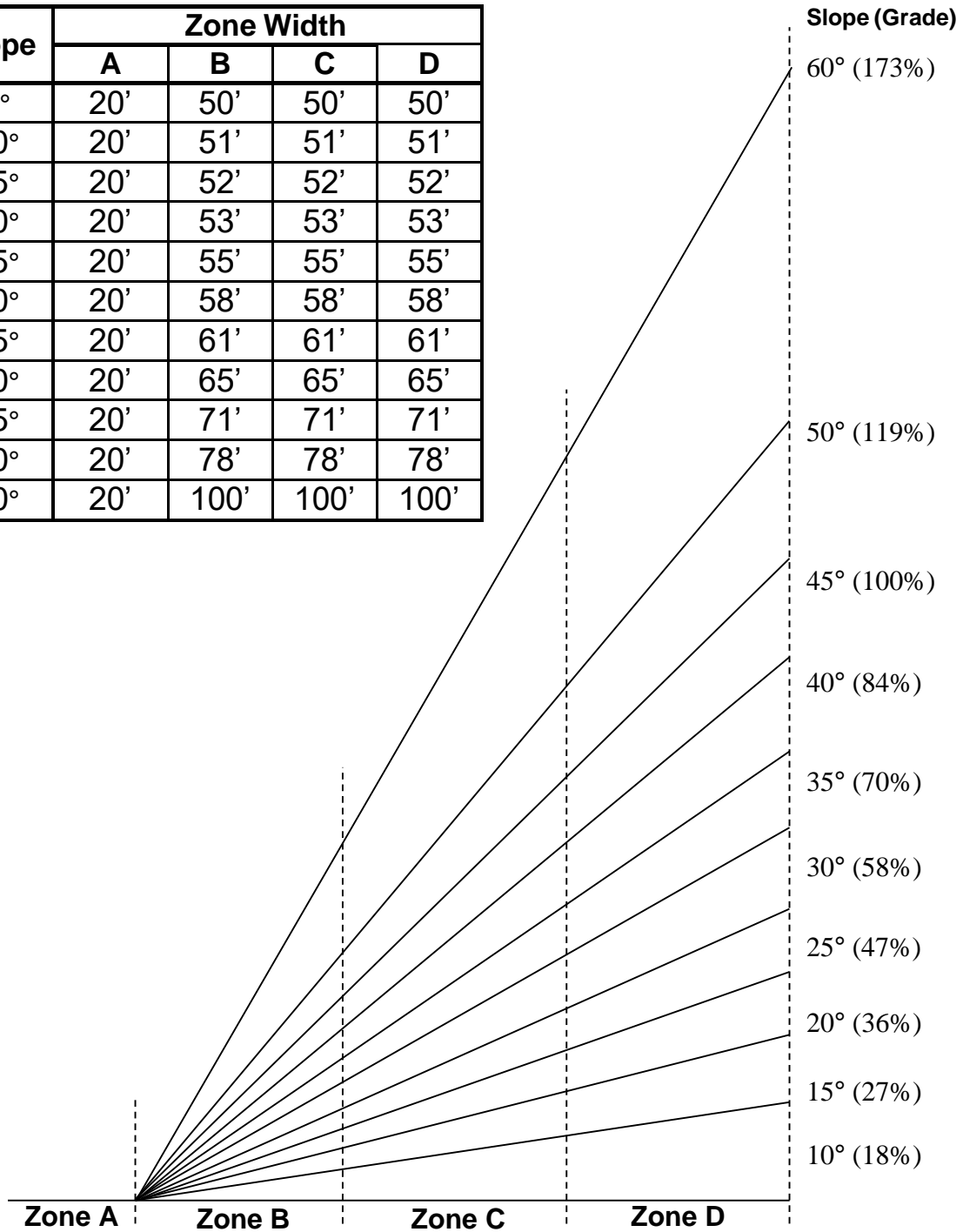
2. Option #2 Maintenance Method (when approved by OCFA):

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

ATTACHMENT 3

Incline Measurement for Selected Slopes (See Attachment 4: Zone Marker Details)

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'

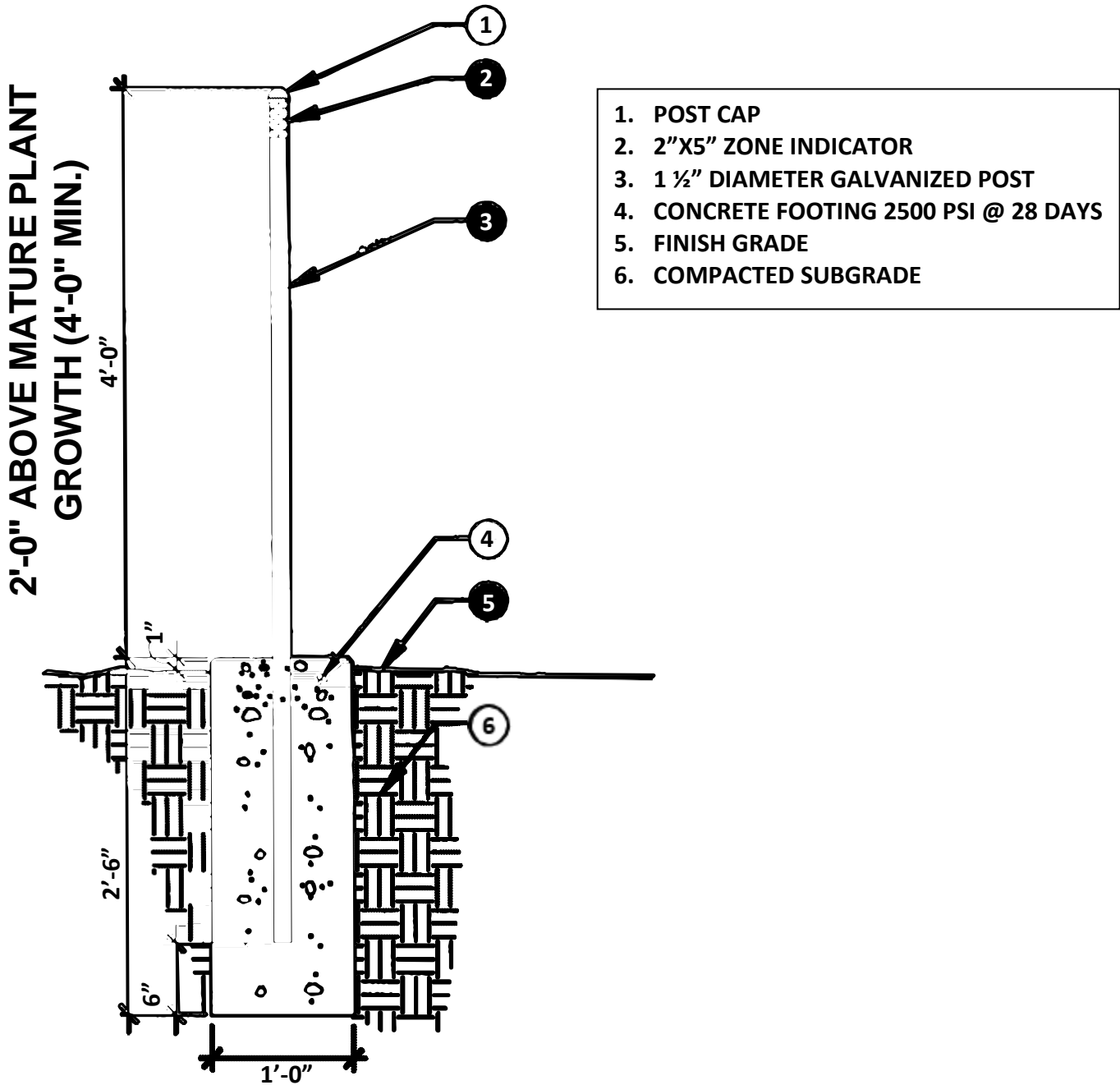


ATTACHMENT 4

Zone Marker Details

(Marker Distances Shall Be Increased on Slopes to Accommodate Incline Measurements in Accordance with Attachment 3: Incline Measurement for Selected Slopes)

Note: An alternate design may be proposed and approved on a case-by-case basis (e.g., using a large boulder, existing fencing, permanent fixtures, etc.).



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 an 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.

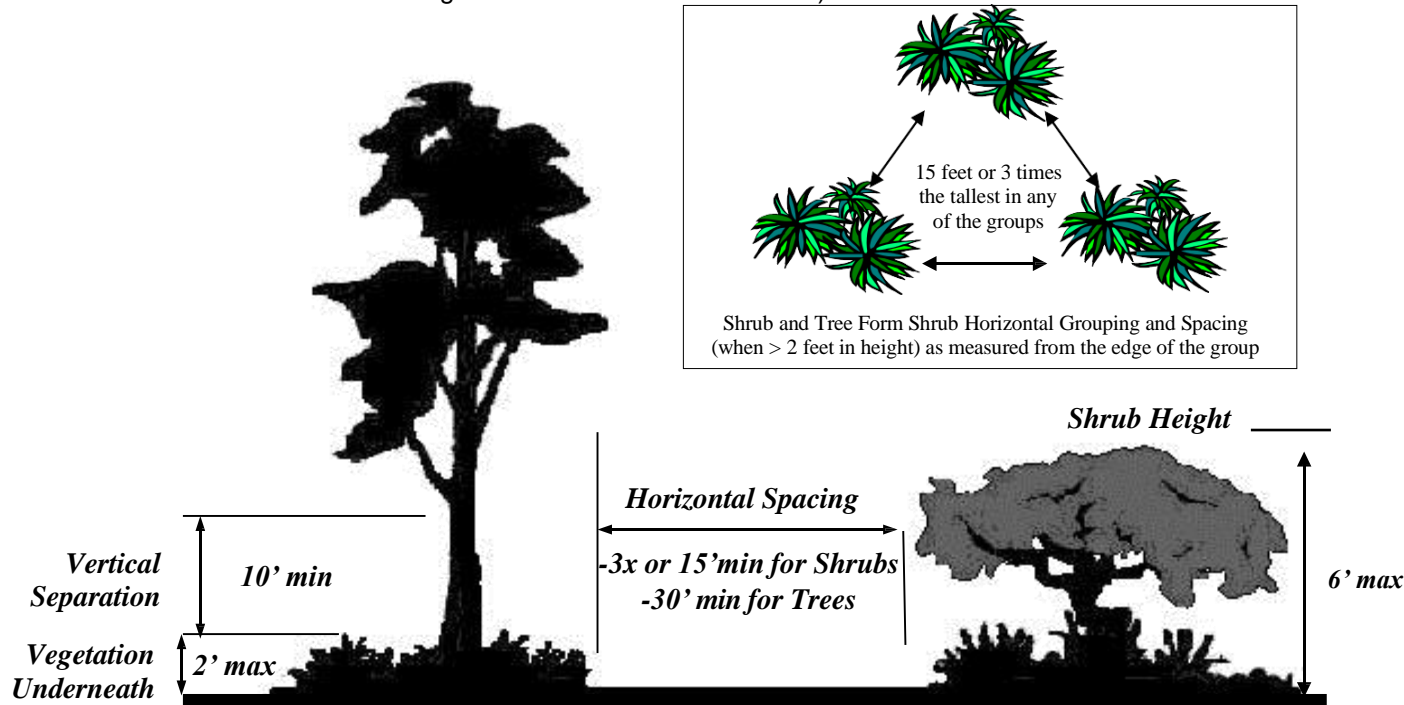
ADDENDUM “1”

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: Introductory Maintenance Information 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.

Vegetation 2 Feet in Height or Greater:

- Shrub Group Size & Spacing:**
 - Shrubs shall not exceed 6ft in height.
 - Groupings of shrubs are limited to a maximum aggregate diameter of 10 feet.
 - Groupings 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.
 - Groupings of shrubs are not allowed within 30 feet of structures. Only single specimen shrubs are allowed, with a minimum 15 feet of separation between each shrub specimen.
 - No shrubs over 2 feet in height are allowed within 5 feet of combustible structures.
 - No vegetation over 2 feet in height is allowed within 15 feet from the edge of tree canopy(s).
- Tree Group Size & Spacing:**
 - Groupings of trees are limited to a maximum number of 3 specimens or less.
 - Groups of trees shall be spaced by a minimum distance of 30 feet regardless of height. In Zone "A," full growth tree branches are not allowed within 10 feet of combustible structures.
 - Horizontal spacing is required inside the group with a minimum 10 feet separation between each tree canopy.

Vertical Separation

Trees Less than 15 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.

Trees 15 Feet in Height or Greater:

- A vertical separation of 10 feet minimum is required to be maintained from the vegetation below.
- All vegetation located underneath trees, shall be a maximum of 2 feet in height.

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: Alternate Materials & Methods). 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)

Botanical Name	Common Name
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	Hoary Cress, Perennial Peppergrass
Cirsium Vulgare	Wild Artichoke
Conyza Canadensis	Horseweed
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
Pennisetum alopecuroides	Fountain Grass
Ricinus Communis	Castor Bean Plant
Sacsola Austails	Russian Thistle/Tumbleweed
Salvia Mellifera	Black Sage
Silybum Marianum	Milk Thistle
Tamarix Ramosissima	Salt Cedar
Urtica Urens	Burning Nettle
Ornamental:	
Arecaceae (all palm species)	Palms
Cycas Revoluta	Sago Palms
Cortaderia	Pampas Grass
Cupressus sp	Cypress
Eucalyptus sp	Eucalyptus
Juniperus sp	Juniper
Pinus sp	Pine

ATTACHMENT 8

Fuel Modification Zone Plant List

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

	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.	o	Acer macrophyllum	Big Leaf Maple	Tree
4.	X	Achillea millefolium	Common Yarrow	Low Shrub
5.	W	Achillea tomentosa	Woolly Yarrow	Low Shrub
6.	X	Aeonium decorum	Aeonium	Ground cover
7.	X	Aeonium simsii	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.	o	Alnus rhombifolia	White Alder	Tree
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

	Code	Botanical Name	Common Name	Plant Form
20.	o	<i>Amorpha fruticosa</i>	Western False Indigobush	Shrub
21.	W	<i>Anigozanthus flavidus</i>	Kangaroo Paw	Perennial/accent
22.	o	<i>Antirrhinum nuttalianum</i> ssp.	no common name	Subshrub
23.	X	<i>Aptenia cordifolia</i> x 'Red Apple'	Red Apple Aptenia	Ground cover
24.	W	<i>Arbutus unedo</i>	Strawberry Tree	Tree
25.	W	<i>Arctostaphylos</i> 'Pacific Mist'	Pacific Mist Manzanita	Ground Cover
26.	W	<i>Arctostaphylos edmundsii</i>	Little Sur Manzanita	Ground Cover
27.	o	<i>Arctostaphylos glandulosa</i> ssp.	Eastwood Manzanita	Shrub
28.	W	<i>Arctostaphylos hookeri</i> 'Monterey Carpet'	Monterey Carpet Manzanita	Low Shrub
29.	N	<i>Arctostaphylos pungens</i>	no common name	Shrub
30.	N	<i>Arctostaphylos refugioensis</i>	Refugio Manzanita	Shrub
31.	W	<i>Arctostaphylos uva-ursi</i>	Bearberry	Ground Cover
32.	W	<i>Arctostaphylos</i> x 'Greensphere'	Greensphere Manzanita	Shrub
33.	N	<i>Artemisia caucasica</i>	Caucasian Artemisia	Ground Cover
34.	X	<i>Artemisia pycnocephala</i>	Beach Sagewort	Perennial
35.	X	<i>Atriplex canescens</i>	Four-Wing Saltbush	Shrub
36.	X	<i>Atriplex lentiformis</i> ssp. <i>breweri</i>	Brewer Saltbush	Shrub
37.	o	<i>Baccharis emoyi</i>	Emory Baccharis	Shrub
38.	W o	<i>Baccharis pilularis</i> ssp. <i>Consanguinea</i>	Chaparral Bloom	Shrub
39.	X	<i>Baccharis pilularis</i> var. <i>pilularis</i>	Twin Peaks #2	Ground Cover
40.	o	<i>Baccharis salicifolia</i>	Mulefat	Shrub
41.	N	<i>Baileya Multiradiata</i>	Desert Marigold	Ground Cover
42.	N n	<i>Bougainvillea spectabilis</i>	Bougainvillea	Shrub
43.	o	<i>Brickellia californica</i>	no common name	Subshrub
44.	W o	<i>Bromus carinatus</i>	California Brome	Grass
45.	o	<i>Camissonia cheiranthifolia</i>	Beach Evening Primrose	Perennial Shrub
46.	N	<i>Carissa macrocarpa</i>	Green Carpet Natal Plum	Ground Cover/Shrub
47.	X	<i>Carpobrotus chilensis</i>	Sea Fig Ice Plant	Ground Cover
48.	W	<i>Ceanothus gloriosus</i> 'Point Reyes'	Point Reyes Ceanothus	Shrub
49.	W	<i>Ceanothus griseus</i> 'Louis Edmunds'	Louis Edmunds Ceanothus	Shrub
50.	W	<i>Ceanothus griseus horizontalis</i>	Yankee Point	Ground Cover
51.	W	<i>Ceanothus griseus</i> var. <i>horizontalis</i>	Carmel Creeper Ceanothus	Shrub
52.	W	<i>Ceanothus griseus</i> var. <i>horizontalis</i>	Yankee Point Ceanothus	Shrub
53.	o	<i>Ceanothus megacarpus</i>	Big Pod Ceanothus	Shrub
54.	W	<i>Ceanothus prostratus</i>	Squaw Carpet Ceanothus	Shrub
55.	o	<i>Ceanothus spinosus</i>	Green Bark Ceanothus	Shrub
56.	W	<i>Ceanothus verrucosus</i>	Wart-Stem Ceanothus	Shrub
57.	W	<i>Cerastium tomentosum</i>	Snow-in-Summer	Ground cover/Shrub
58.	W	<i>Ceratonia siliqua</i>	Carob	Tree
59.	W	<i>Cercis occidentalis</i>	Western Redbud	Shrub/Tree

	Code	Botanical Name	Common Name	Plant Form
60.	X	<i>Chrysanthemum leucanthemum</i>	Oxeye Daisy	Ground Cover
61.	W	<i>Cistus Crispus</i>	no common name	Ground Cover
62.	W	<i>Cistus hybridus</i>	White Rockrose	Shrub
63.	W	<i>Cistus incanus</i>	no common name	Shrub
64.	W	<i>Cistus incanus ssp. Corsicus</i>	no common name	Shrub
65.	W	<i>Cistus salviifolius</i>	Sageleaf Rockrose	Shrub
66.	W	<i>Cistus x purpureus</i>	Orchid Rockrose	Shrub
67.	W	<i>Citrus species</i>	Citrus	Tree
68.	o	<i>Clarkia bottae</i>	Showy Fairwell to Spring	Annual
69.	o	<i>Cneoridium dumosum</i>	Bushrue	Shrub
70.	o	<i>Collinsia heterophyllia</i>	Chinese Houses	Annual
71.	W o	<i>Comarostaphylis diversifolia</i>	Summer Holly	Shrub
72.	N	<i>Convolvulus cneorum</i>	Bush Morning Glory	Shrub
73.	W	<i>Coprosma kirkii</i>	Creeping Coprosma	Ground Cover/Shrub
74.	W	<i>Coprosma pumila</i>	Prostrate Coprosma	Low shrub
75.	o	<i>Coreopsis californica</i>	California Coreopsis	Annual
76.	W	<i>Coreopsis lanceolata</i>	Coreopsis	Ground Cover
77.	N	<i>Corea pulchella</i>	Australian Fuchsia	Ground Cover
78.	W	<i>Cotoneaster buxifolius</i>	no common name	Shrub
79.	W	<i>Cotoneaster congestus 'Likiang'</i>	Likiang Cotoneaster	Ground Cover/Vine
80.	W	<i>Cotoneaster aprneyi</i>	no common name	Shrub
81.	X	<i>Crassula lactea</i>	no common name	Ground Cover
82.	X	<i>Crassula multicaeva</i>	no common name	Ground Cover
83.	X	<i>Crassula ovata</i>	Jade Tree	Shrub
84.	X	<i>Crassula tetragona</i>	no common name	Ground Cover
85.	W o	<i>Croton californicus</i>	California Croton	Ground Cover
86.	X	<i>Delosperma 'alba'</i>	White trailing Ice Plant	Ground Cover
87.	o	<i>Dendromecon rigida</i>	Bush Poppy	Shrub
88.	o	<i>Dichelostemma capitatum</i>	Blue Dicks	Herb
89.	N	<i>Distinctis buccinatoria</i>	Blood-Red Trumpet Vine	Vine/Climbing vine
90.	N	<i>Dodonaea viscosa</i>	Hopseed Bush	Shrub
91.	X	<i>Drosanthemum floribundum</i>	Rosea Ice Plant	Ground Cover
92.	X	<i>Drosanthemum hispidum</i>	no common name	Ground Cover
93.	X	<i>Drosanthemum speciosus</i>	Dewflower	Ground Cover
94.	o	<i>Dudleya lanceolata</i>	Lance-leaved Dudleya	Succulent
95.	o	<i>Dudleya pulverulenta</i>	Chalk Dudleya	Succulent
96.	W	<i>Elaeagnus pungens</i>	Silverberry	Shrub
97.	o	<i>Encelia californica</i>	California Encelia	Small Shrub
98.	o *	<i>Epilobium canum [Zauschneria californica]</i>	Hoary California Fuschia	Shrub
99.	o	<i>Eriastrum Sapphirinum</i>	Mojave Woolly Star	Annual
100.	N	<i>Eriobotrya japonica</i>	Loquat	Tree

	Code	Botanical Name	Common Name	Plant Form
101.	o	Eriodictyon trichocalyx	Yerba Santa	Shrub
102.	W o	Eriophyllum confertiflorum	no common name	Shrub
103.	W	Erythrina species	Coral Tree	Tree
104.	N	Escallonia species	Several varieties	Shrub
105.	W o	Eschscholzia californica	California Poppy	Flower
106.	X	Eschscholzia mexicana	Mexican Poppy	Herb
107.	N	Euonymus fortunei	Winter Creeper Euonymus	Ground Cover
108.	N	Feijoa sellowiana	Pineapple Guava	Shrub/Tree
109.	N	Fragaria chiloensis	Wild Strawberry/Sand Strawberry	Ground Cover
110.	o	Frankenia salina	Alkali Heath	Ground Cover
111.	W	Fremontodendron californicum	California Flannelbush	Shrub
112.	X	Gaillardia x grandiflora	Blanketflower	Ground Cover
113.	W	Galvezia speciosa	Bush Snapdragon	Shrub
114.	W	Garrya ellipta	Silktassel	Shrub
115.	X	Gazania hybrids	South African Daisy	Ground Cover
116.	X	Gazania rigens leucolaena	Training Gazania	Ground Cover
117.	o	Gilia capitata	Globe Gilia	Perennial
118.	W	Gilia leptantha	Showy Gilia	Perennial
119.	W	Gilia tricolor	Bird's Eyes	Perennial
120.	W	Ginkgo biloba	Maidenhair Tree	Tree
121.	o	Gnaphalium californicum	California Everlasting	Annual
122.	W	Grewia occidentalis	Starflower	Shrub
123.	o	Grindelia stricta	Gum Plant	Ground Cover
124.	N n	Hakea suaveolens	Sweet Hakea	Shrub
125.	W	Hardenbergia comptoniana	Lilac Vine	Shrub
126.	N	Heliathemum muutabile	Sunrose	Ground Cover/Shrub
127.	o	Helianthemum scoparium	Rush Rose	Shrub
128.	o	Heliotropium curassavicum	Salt Heliotrope	Ground Cover
129.	X	Helix Canariensis	English Ivy	Ground Cover
130.	W	Hesperaloe parviflora	Red Yucca	Perennial
131.	o n	Heteromeles arbutifolia	Toyon	Shrub
132.	X	Hypericum calycimum	Aaron's Beard	Shrub
133.	N	Iberis sempervirens	Edging Candytuft	Ground Cover
134.	N	Iberis umbellatum	Globe Candytuft	Ground Cover
135.	o	Isocoma menziesii	Coastal Goldenbush	Small Shrub
136.	o	Isomeris arborea	Bladderpod	Shrub
137.	W	Iva hayesiana	Poverty Weed	Ground Cover
138.	N	Juglans californica	California Black Walnut	Tree
139.	o	Juncus acutus	Spiny Rush	Perennial
140.	o	Keckiella antirrhinoides	Yellow Bush Penstemon	Subshrub
141.	o	Keckiella cordifolia	Heart Leaved Penstemon	Subshrub

	Code	Botanical Name	Common Name	Plant Form
142.	o	<i>Keckiella ternata</i>	Blue Stemmed Bush Penstemon	Subshrub
143.	W	<i>Kniphofia uvaria</i>	Red Hot Poker	Perennial
144.	W	<i>Lagerstroemia indica</i>	Crape Myrtle	Tree
145.	W	<i>Lagunaria patersonii</i>	Primrose Tree	Tree
146.	X	<i>Lampranthus aurantiacus</i>	Bush Ice Plant	Ground Cover
147.	X	<i>Lampranthus filicaulis</i>	Redondo Creeper	Ground Cover
148.	X	<i>Lampranthus spectabilis</i>	Trailing Ice Plant	Ground Cover
149.	W	<i>Lantana camara</i> cultivars	Yellow Sage	Shrub
150.	W	<i>Lantana montevidensis</i>	Trailing Lantana	Shrub
151.	o	<i>Lasthenia californica</i>	Dwarf Goldfields	Annual
152.	W	<i>Lavandula dentata</i>	French Lavender	Shrub
152.	W	<i>Leptospermum laevigatum</i>	Australian Tea Tree	Shrub
154.	W	<i>Leucophyllum frutescens</i>	Texas Ranger	Shrub
155.	o	<i>Leymus condensatus</i>	Giant Wild Rye	Large Grass
156.	N	<i>Ligustrum japonicum</i>	Texas privet	Shrub
157.	X	<i>Limonium pectinatum</i>	no common name	Ground Cover
158.	X	<i>Limonium perezii</i>	Sea Lavender	Shrub
159.	W n	<i>Liquidambar styraciflua</i>	American Sweet Gum	Tree
160.	W	<i>Liriodendron tulipifera</i>	Tulip Tree	Tree
161.	X	<i>Lonicera japonica</i> 'Halliana'	Hall's Japanese Honeysuckle	Vining Shrub
162.	o	<i>Lonicera subspicata</i>	Wild Honeysuckle	Vining Shrub
163.	X	<i>Lotus corniculatus</i>	Bird's Foot Trefoil	Ground Cover
164.	o	<i>Lotus hermannii</i>	Northern Woolly Lotus	Perennial
165.	o	<i>Lotus scoparius</i>	Deerweed	Shrub
166.	W	<i>Lupinus arizonicus</i>	Desert Lupine	Annual
167.	W	<i>Lupinus benthamii</i>	Spider Lupine	Annual
168.	o	<i>Lupinus bicolor</i>	Sky Lupine	Flowering annual
169.	o	<i>Lupinus sparsiflorus</i>	Loosely Flowered Annual Lupine or Coulter's Lupine	Annual
170.	W	<i>Lyonothamnus floribundus</i> ssp. <i>Asplenifolius</i>	Fernleaf Ironwood	Tree
171.	W	<i>Macadamia integrifolia</i>	Macadamia Nut	Tree
172.	W	<i>Mahonia aquifolium</i> 'Golden Abundance'	Golden Abundance Oregon Grape	Shrub
173.	W	<i>Mahonia nevenii</i>	Nevin Mahonia	Shrub
174.	o	<i>Malacothamnus fasciculatus</i>	Chapparal Mallow	Shrub
175.	X	<i>Malephora luteola</i>	Training Ice Plant	Ground Cover
176.	W	<i>Maytenus boaria</i>	Mayten Tree	Tree
177.	W	<i>Melaleuca nesophila</i>	Pink Melaleuca	Shrub
178.	N	<i>Metrosideros excelsus</i>	New Zealand Christmas Tree	Tree
179.	o *	<i>Mimulus</i> species	Monkeyflower	Flower
180.	o	<i>Mirabilis californica</i>	Wishbone Bush	Perennial
181.	N	<i>Myoporum debile</i>	no common name	Shrub

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

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

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

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 feet 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 at 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 feet on center spacing not to exceed eight plants per group. Mature spacing between individual plants or groups shall be at a 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 feet 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 at a 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 a 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 at a 30 foot minimum.
234. **Rhus ovata & Rhus integrifolia:** 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 at a 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 at a 15 foot minimum.