

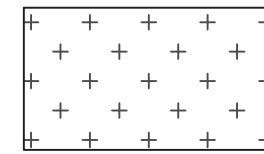
76 Gas Station

Fuel Modification Plans

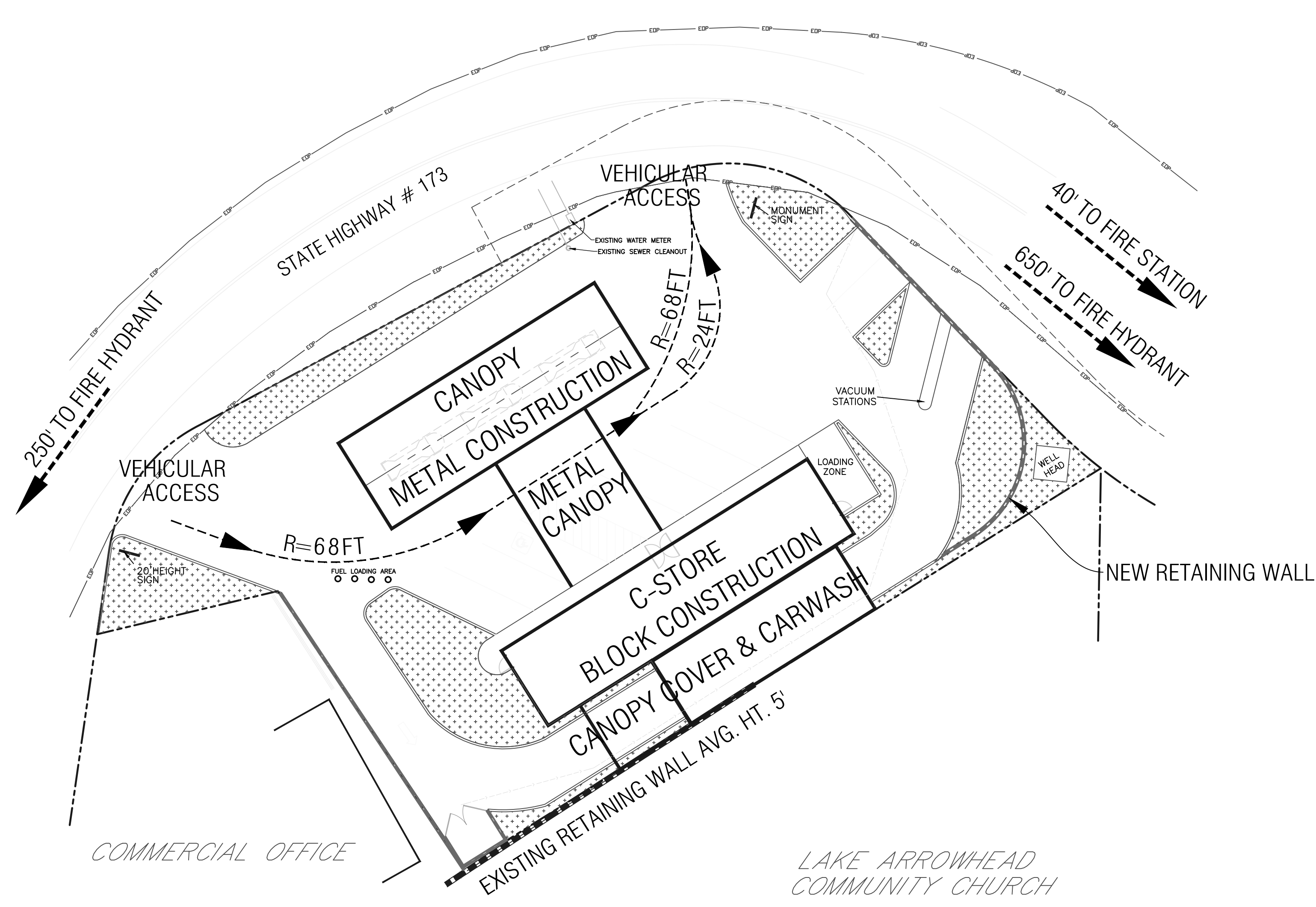
333 State Hwy #173

Lake Arrowhead, CA 92353

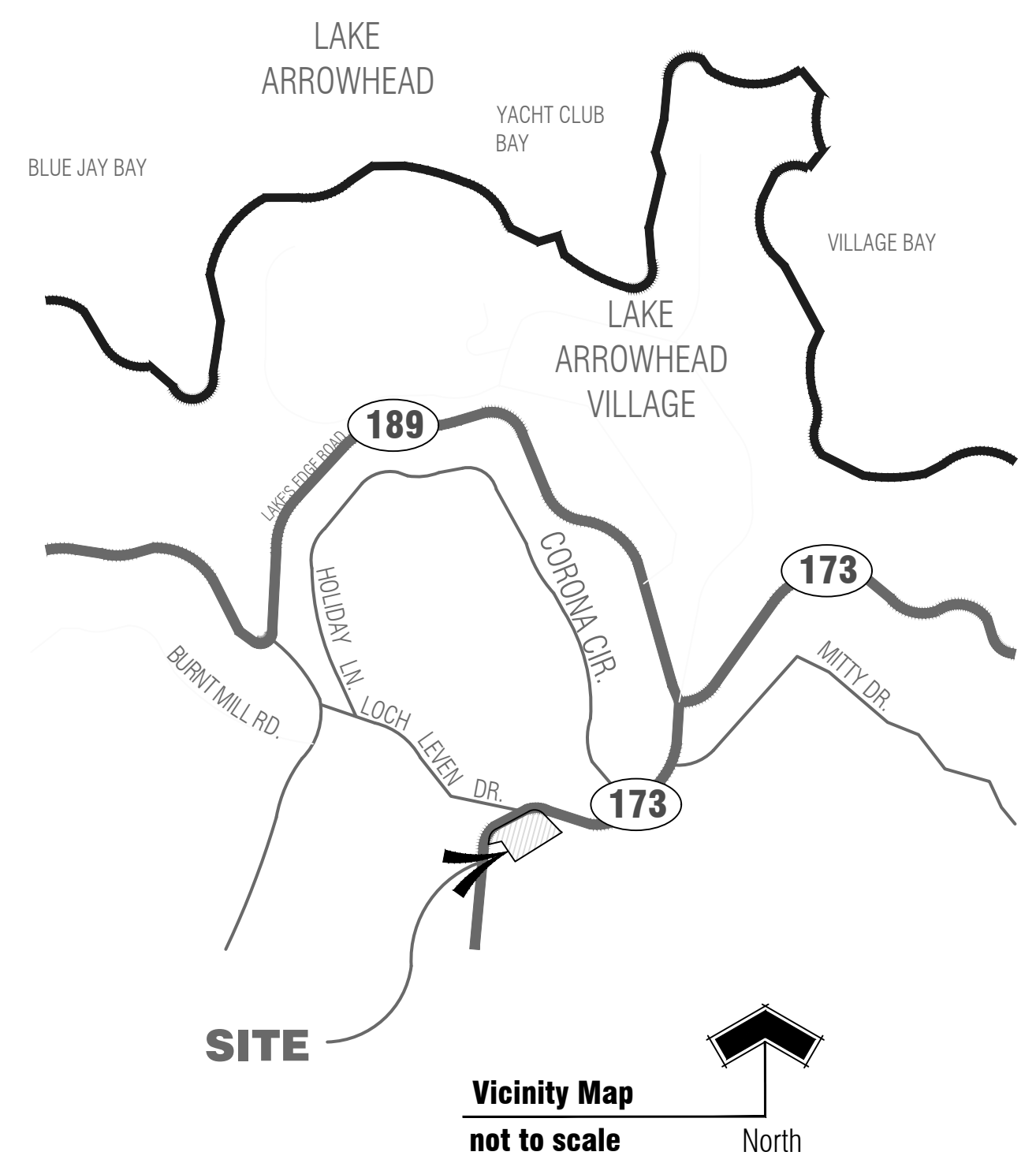
APN: 0335-122-10-0000



Proposed Landscape Area: 3,789 Sq. Ft.



Site Plan
Scale: 1"=20'
North



- THE PROJECT IS A SERVICE STATION, CONVENIENCE STORE AND CAR WASH AND IS LOCATED ON HIGHWAY 173 SOUTHEAST OF LOCH LEVEN ROAD, SECTION 21, TOWNSHIP 2 NORTH AND RANGE 3 WEST OF THE HARRISON MOUNTAIN U.S. GEOLOGICAL SURVEY (USGS) 7.5' TOPOGRAPHIC MAP, SAN BERNARDINO BASELINE AND MERIDIAN.
- THE LOT IS BASICALLY FLAT WITH A SMALL STAND OF APPROXIMATELY 20 MATURE TREES OF VARYING SIZES CONSISTING OF PONDEROSA PINE (PINUS PONDEROSA) SUGAR PINE (PINUS LAMBERTIANA), WHITE FIR (ABIES CONCOLOR), BLACK OAK (QUERCUS KELLOGGII), INCENSE CEDAR (CALOEDRUS DECURRENS) AND CALIFORNIA LAUREL (UMBELLULARIA CALIFORNICA). ALONG THE SOUTHERN BORDER, OPEN HERBACEOUS AND DISTURBED HABITAT THAT MAKES UP THE REST OF THE PROPERTY.
- TREES TO BE RETAINED AND LOW HANGING BRANCHES REMOVED PER PLAN.
- TWO FIRE HYDRANTS EXIST NEAR THE PROPERTY. ONE APPROXIMATELY 250' FROM WESTERLY BOUNDARY ALONG HWY 173 AND THE OTHER APPROXIMATELY 650' FROM THE SE CORNER OF THE PROPERTY ALONG HWY 173.
- SAN BERNARDINO COUNTY FIRE DEPARTMENT STATION 91 IS LOCATED APPROXIMATELY 40' SW ALONG HWY 173.
- PROPOSED BUILDINGS INCLUDE A METAL CANOPY STRUCTURE, A CONCRETE BLOCK CONSTRUCTION CONVENIENCE STORE AND CARWASH STRUCTURE.
- FIRE HYDRANT IS NOT AVAILABLE ON-SITE.

Sheet Index

Title Sheet	L-1
Irrigation Plan	L-2
Planting Plan	L-3
Irrigation Details & Water Calculations	L-4
Planting Details	L-5
Irrigation Specifications	L-6
Planting Specifications	L-7

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Expiration: 02-28-2022

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Contact: Cheryl A. Tubbs
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Email: cheryl@lilburncorp.com

Project:
76 Gas Station
333 State Hwy #173
Lake Arrowhead, California 92352
Landscape Improvement Plans

Sheet Description:
Fuel Modification Plan
Title Sheet

Date: **January 08, 2020**
RF#A Job No.: **19-53**
Drawn by: **LKD CKE**
Revisions:

Sheet:
FM-1
Of: **7**



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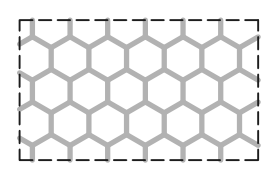
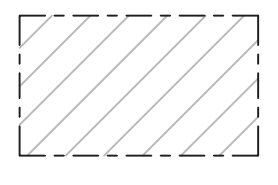
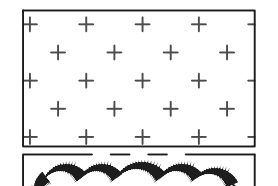
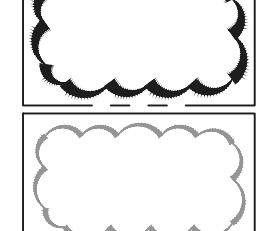
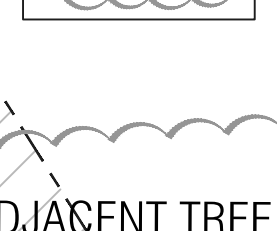
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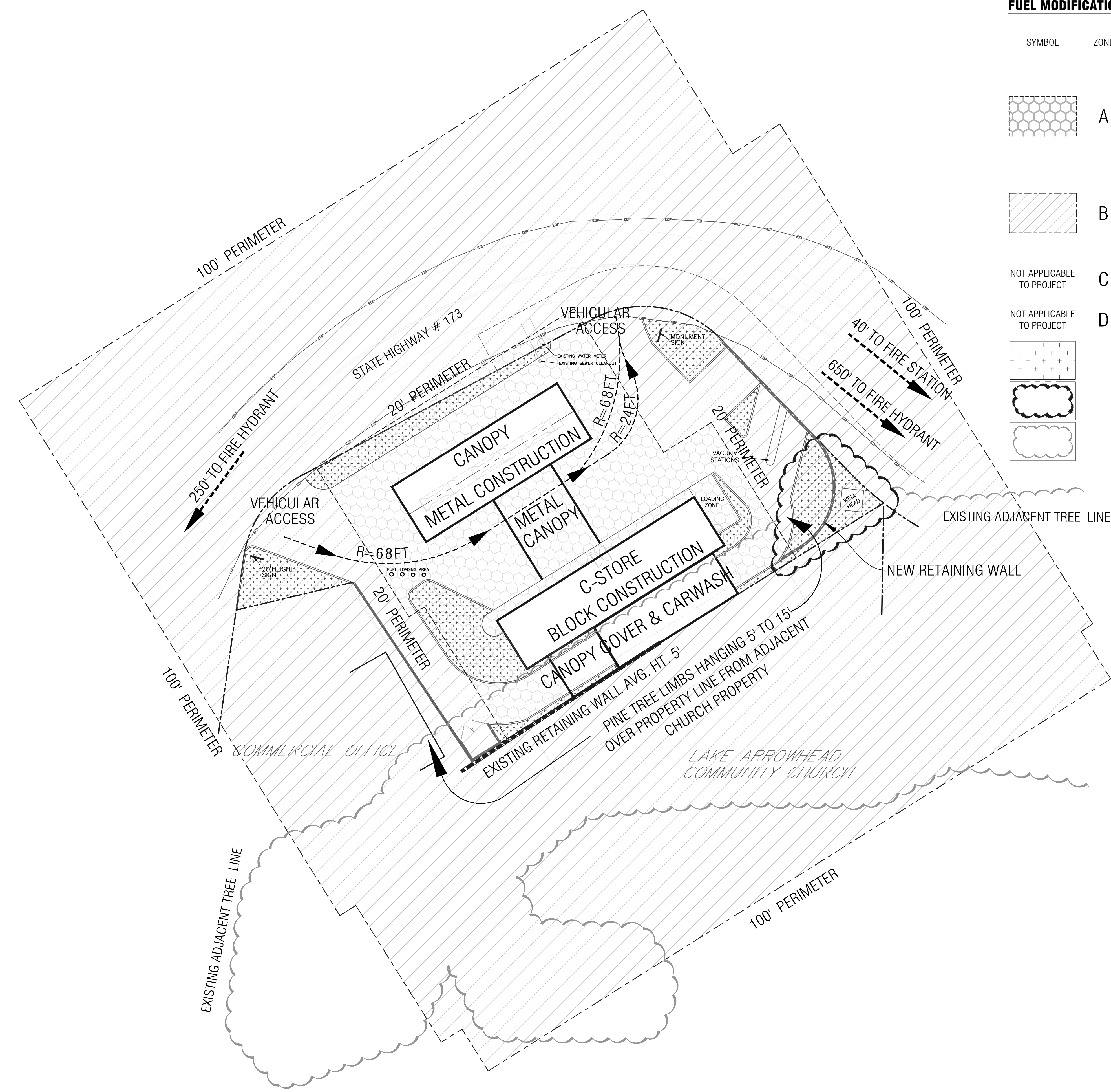
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FM-2
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FUEL MODIFICATION ZONE LEGEND

SYMBOL	ZONE	AREA	WIDTH	DESCRIPTION - SEE SHEET FM-3 FOR MORE INFORMATION
	A	9,626 Sq. Ft. WITH IN LOT BOUNDARY	EXTENDS 20-FOOT FROM STRUCTURES.	20-FOOT WIDE IRRIGATED AREA OF LOW GROWING PLANTS WITH HIGH MOISTURE CONTENT IMMEDIATELY AROUND STRUCTURES KEPT FREE OF FINE RECEPTIVE FUELS WHERE EMBERS CAN IGNITE.
	B	6,556 Sq. Ft. WITH IN LOT BOUNDARY	EXTENDS FROM ZONE A TO 100 FEET FROM STRUCTURES.	MINIMUM 50 FT ZONE OF NATURAL GRADE WITH PERMANENT IRRIGATION. APPROVED PLANTINGS OR 50% OF NATURAL VEGETATION REMOVED.
NOT APPLICABLE TO PROJECT	C		EXTENDS FROM EDGE OF ZONE B TO 200 FEET.	MINIMUM 50 FT NON-IRRIGATED ZONE WITH 50% OF NATURAL VEGETATION REMOVED.
NOT APPLICABLE TO PROJECT	D		EXTENDS FROM EDGE OF ZONE C TO 200 FEET.	MINIMUM 50 FT NON-IRRIGATED ZONE WITH 30% OF NATURAL VEGETATION REMOVED.
			PROPOSED LANDSCAPE AREAS	
			ON-SITE TREE GROUPING TO REMIAN	
			EDGE OF EXISTING NATIVE PINE FOREST - NOT WITH IN LOT BOUNDARY	



Suggested Firewise Plant Legend for Proposed Landscape Areas*

BOTANICAL NAME	COMMON NAME	WUCOLS IV WATER USAGE	INTENDED MATURE SIZE (H x W)
Acer macrophyllum	Big Leafed Maple	High	35' H, Ø 35'
Cercis occidentalis	Western Redbud	Low	15' H, Ø 15'
Liquidambar styraciflua	American Sweetgum	Mod	50' H, Ø 35'
Populus tremuloides	Quaking Aspen	High	30' H, Ø 15'
Sorbus aucuparia	Mountain Ash	High	25' H, Ø 20'
Quercus kelloggii	California Black Oak	Low	40' H, Ø 35'
Arctostaphylos ssp.	Manzanita	Low	5' H, Ø 6'
Cornus stolonifera	Red Stem Dogwood	High	3' H, Ø 3'
Lavandula stoechas	Spanish Lavender	Low	3' H, Ø 3'
Penstemon ssp.	Penstemon	Low	2' H, Ø 2'
Prunus caroliniana 'Bright 'n Tight'	Carolina Cherry Laurel	Mod	12' H, Ø 12'
Symphoricarpos albus	Snowberry	Low	5' H, Ø 5'
Zauschneria californica mexicana	California Fuschia	Low	3' H, Ø 3'

*PACIFIC NORTHWEST FIREWISE EXTENSION PUBLICATION

UNDESIRABLE PLANT SPECIES

PLANTS WITH THESE CHARACTERISTICS SHALL NOT BE PLANTED IN ANY OF THE FUEL MODIFICATION ZONES. SHOULD THESE SPECIES ALREADY EXIST WITHIN THESE AREAS, THEY SHALL BE REMOVED BECAUSE OF THE POTENTIAL THREAT THEY POSE TO ANY STRUCTURES. THEY ARE REFERRED TO AS TARGET SPECIES SINCE THEIR COMPLETE REMOVAL IS A CRITICAL PART OF HAZARD REDUCTION. THESE FIRE-PRONE PLANT SPECIES INCLUDE (BUT ARE NOT LIMITED TO):

BOTANICAL NAME:	COMMON NAME:
Cynara cardunculus	Artichoke Thistle
Ricinus communis	Castor Bean Plant
Cirsium vulgare	Wild Artichoke
Brassica nigra	Black Mustard
Silybum marianum	Milk Thistle
Salsola austails	Russian Thistle
Nicotiana bigelovii	Indian Tobacco
Lactuca serriola	Prickly Lettuce
Conyza canadensis	Horseweed
Heterothaca grandiflora	Telegraph Plant
Anthemix cotula	Mayweed
Urtica urens	Burning Nettle
Cardaria draba	Noary Cress/ Perennial Peppergrass
Brassica rapa	Yellow/ Field Mustard
Adenostoma fasciculatum	Chamise
Adenostoma sparsifolium	Red Shanks
Cortaderia selloana	Pampas Grass
Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Common Buckwheat
Salvia mellifera	Black Sage
Pinus species	Pine
Cupressus species	Cypress
Eucalyptus species	Eucalyptus
Juniperus species	Juniper

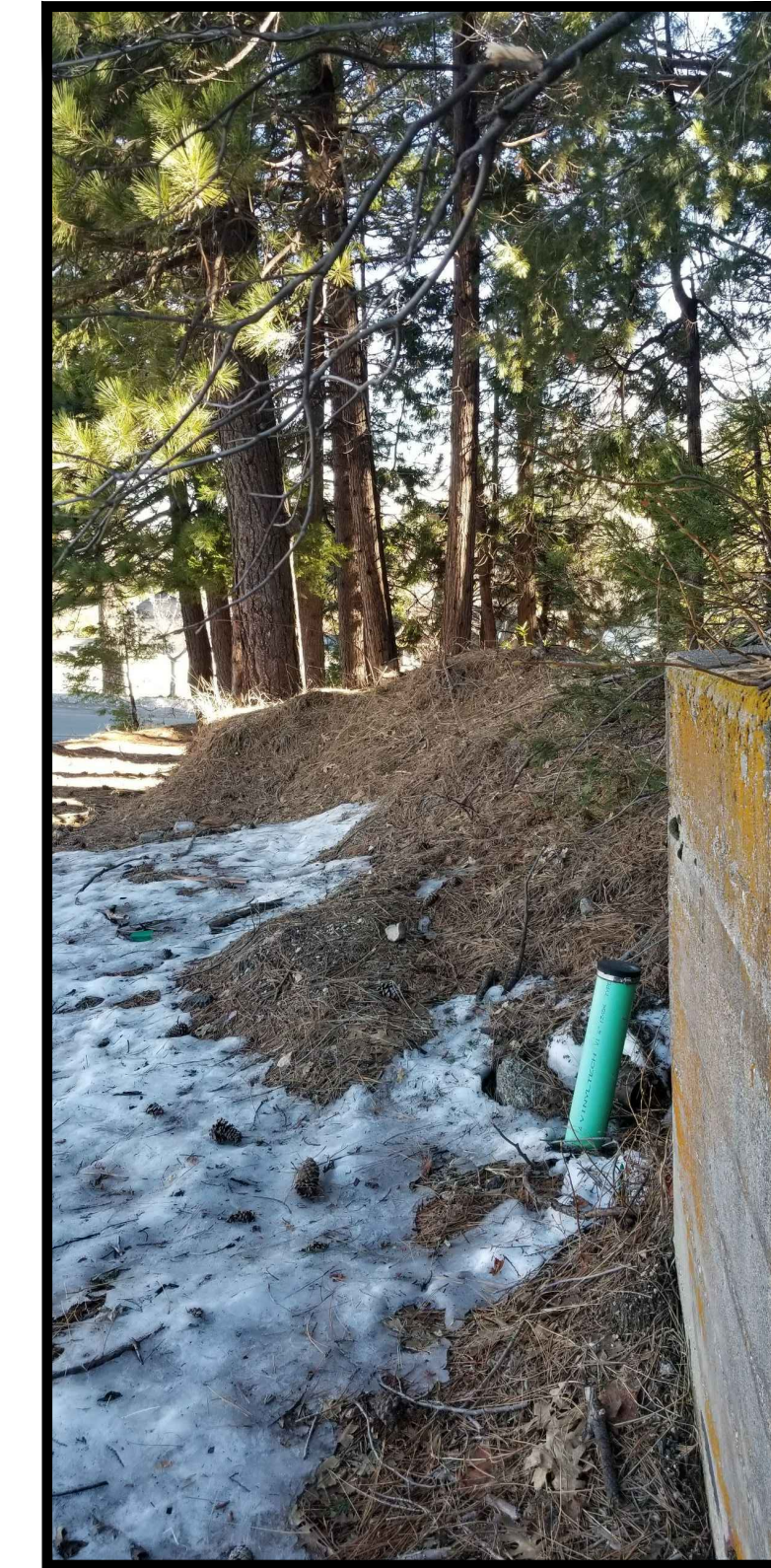
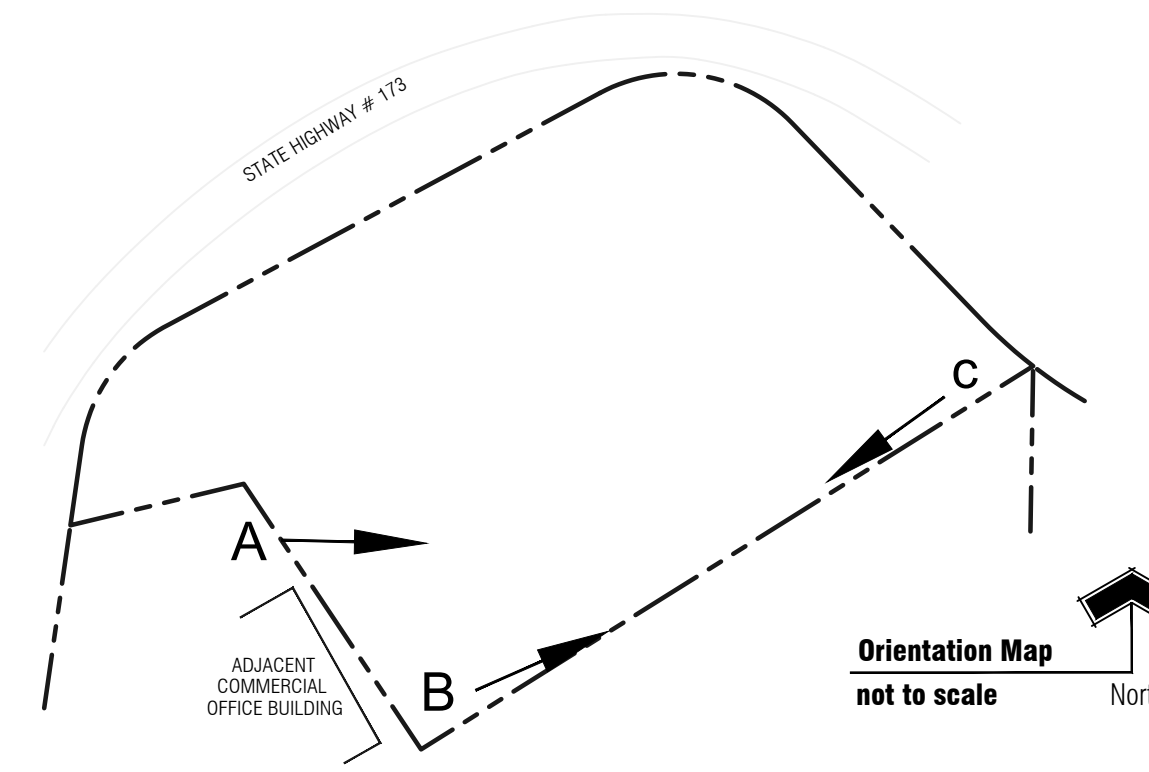
ALSO SEE RANCHO CUCAMONGA LIST OF PROHIBITED PLANTS.

PLANT REMOVAL METHODOLOGY:

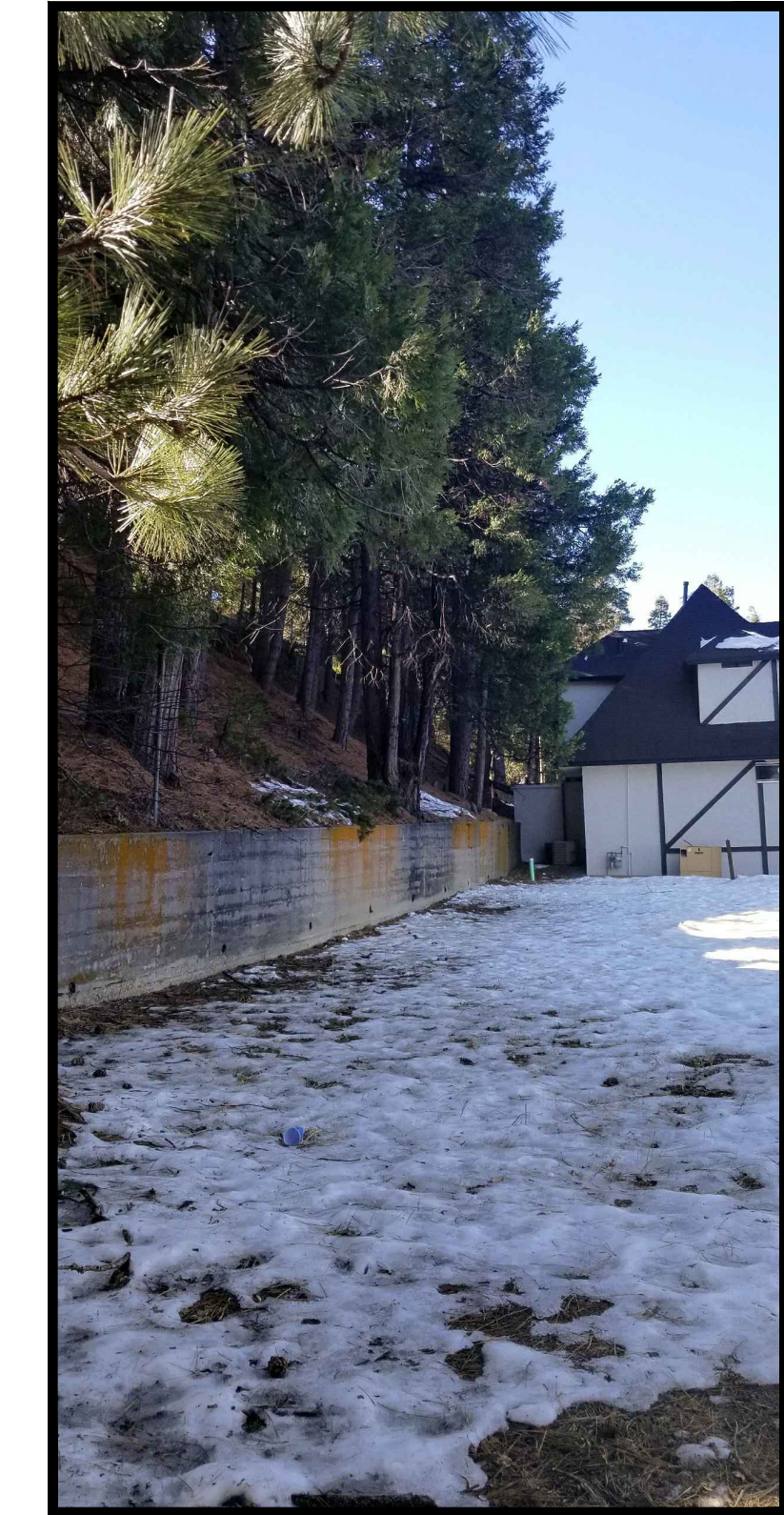
ALL TARGET SPECIES ARE TO BE COMPLETELY REMOVED FROM SITE AND DISPOSED OF PROPERLY. REMOVAL INCLUDES TRUNKS, BRANCHES, LEAVES, FLOWERS, SEED PODS, ROOTBALL AND SURFACE ROOTS. DO NOT USE ANY OF THIS DEBRIS FOR MULCH. CARE SHOULD BE TAKEN NOT TO DISTURB ROOT SYSTEMS OF ANY ADJACENT DESIRABLE PLANTS. WORK IS TO BE DONE MANUALLY AS MUCH AS FEASIBLY POSSIBLE TO AVOID EROSION BY HEAVY EQUIPMENT. AFTER REMOVAL OF SPECIES, LEVEL AND MANUALLY COMPACT SOIL. RE-SEED AREA WITH APPROVED SEED MIX AND MULCH WITH APPROVED MULCH.



VIEW A: FORESTED SLOPE LOOKING SOUTH EAST FROM LOT LINE OF COMMERCIAL OFFICE BUILDING.



VIEW B: FORESTED SLOPE LOOKING EASTERLY ALONG PORTION OF EXISTING RETAINING WALL.



VIEW C: FORESTED SLOPE LOOKING WESTERLY ALONG PORTION OF EXISTING RETAINING WALL.

ZONE A - IRRIGATED STRUCTURE SETBACK ZONE

THE PURPOSE OF THE SETBACK ZONE IS TO PROVIDE A DEFENSIBLE SPACE FOR FIRE SUPPRESSION FORCES AND TO PROTECT STRUCTURES FROM RADIANT AND CONVECTIVE HEAT. **IN NO CASE SHALL ZONE A BE LESS THAN A 20-FOOT MINIMUM WIDTH. THE ENTIRE ZONE IS TO BE LOCATED ON A LEVEL, GRADED AREA AT THE TOP OR BASE OF THE SLOPE.**

IF ZONE A IS LOCATED WITHIN THE LOT CONTAINING THE PROTECTED STRUCTURE AND ANOTHER ENTITY IS MAINTAINING THE B-D ZONES, IT SHALL BE LOCATED AT THE MOST DISTAL LEVEL 20 FEET PRIOR TO THE BEGINNING OF THE SLOPE. IF ZONE A IS LOCATED OUTSIDE OF THE LOT CONTAINING THE PROTECTED STRUCTURE, IT SHALL BEGIN AT THE LOT PROPERTY LINE. THE LATTER CONDITION IS PREFERRED AS IT ALLOWS FOR COMBUSTIBLE CONSTRUCTION WITHIN PRIVATELY OWNED INDIVIDUAL LOTS. TYPICALLY, ZONE A WILL NOT BE APPROVED WHEN PROPOSED MORE THAN 100 FEET FROM THE PROTECTED STRUCTURE. ZONE A MAY INCORPORATE TRAILS, ROADWAYS, AND OTHER LEVEL NONCOMBUSTIBLE SURFACES THAT CREATE DEFENSIBLE SPACE FOR FIRE CREWS HEAT REDUCTION BETWEEN THE PROTECTED STRUCTURE AND THE FIRE.

ZONE A - SPECIFIC MAINTENANCE REQUIREMENTS:

- AUTOMATIC IRRIGATION SYSTEMS TO MAINTAIN HEALTHY VEGETATION WITH HIGH MOISTURE CONTENT AND BE REGULARLY IRRIGATED.
- PRUNING OF FOLIAGE TO REDUCE FUEL LOAD, MAINTAIN VERTICAL CONTINUITY, AND REMOVAL OF PLANT LITTER AND DEAD WOOD IN ACCORDANCE WITH TREE AND TREE-FORM SHRUB PRUNING DETAIL.
- COMPLETE REMOVAL OF UNDESIRABLE PLANT SPECIES. THERE IS ALSO MINIMAL ALLOWANCE FOR RETENTION OF SELECTED NATIVE VEGETATION.
- PLANTS IN THIS ZONE SHALL BE HIGHLY FIRE RESISTANT AND SELECTED FROM THE SBCF APPROVED PLANT LIST FOR THE SETBACK ZONE AND GIVEN GEOGRAPHICAL AREA.
- TREE SPECIES WITHIN ZONE A ARE NOT ALLOWED WITHIN 10 FEET OF COMBUSTIBLE STRUCTURES (MEASURED FROM THE EDGE OF A FULL GROWTH CROWN).
- MAINTENANCE INCLUDES THINNING AND REMOVAL OF OVER-GROWTH, REPLACEMENT OF DEAD/ DYING FIRE RESISTANT PLANTINGS, AND MAINTENANCE OF THE OPERATION OF THE IRRIGATION SYSTEM.
- DEVICES THAT BURN SOLID FUELS ARE NOT PERMITTED IN ANY FUEL MODIFICATION ZONE.
- NO COMBUSTIBLE CONSTRUCTION SHALL BE ALLOWED WITHIN ZONE A.

ZONE B - IRRIGATED ZONE

THIS PORTION OF FUEL MODIFICATION CONSISTS OF IRRIGATED LANDSCAPING. THIS IRRIGATED ZONE IS A MINIMUM OF 50 FEET IN WIDTH AND MAY BE INCREASED AS CONDITIONS WARRANT. THE PLANS DELINEATE THE PORTION OF THE FUEL MODIFICATION AREA THAT WILL BE PERMANENTLY AND REGULARLY IRRIGATED. ALL IRRIGATION SHALL BE KEPT A MINIMUM OF 20 FEET FROM THE DRIP LINE OF ANY EXISTING NATIVE QUERCUS (OAK) SPECIES.

ZONE B SHALL BE CLEARED OF ALL UNDESIRABLE PLANT SPECIES, IRRIGATED, AND PLANTED WITH SPECIES FROM THE SBCF APPROVED PLANT LIST. EXCEPTIONS TO SAVE DESIRABLE SPECIES MAY BE SUBMITTED FOR APPROVAL BY THE SBCF ON A SITE-SPECIFIC BASIS.

ZONE B - SPECIFIC MAINTENANCE REQUIREMENTS:

- GROUND COVER SHALL BE INSTALLED AND MAINTAINED AT A HEIGHT NOT TO EXCEED 2 FEET.
- IN ORDER TO MAINTAIN PROPER COVERAGE, NATIVE GRASSES SHALL BE ALLOWED TO GO TO SEED. NATIVE GRASSES SHALL BE CUT AFTER ANNUAL SEEDING. CUT HEIGHTS SHALL BE APPROXIMATELY 4 INCHES.
- APPLY IRRIGATION RATES TO MAINTAIN HEALTHY VEGETATION WITH HIGH MOISTURE CONTENT BASED ON PLANT SPECIES SPECIFIC NEEDS.
- ALL PLANT SPECIES DESIGNED FOR ZONE B SHALL BE SELECTED FROM THE SBCF APPROVED 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.
- GROUPS OF TREES, TREE-FORM SHRUBS, AND SHRUBS THAT NATURALLY EXCEED 2 FEET IN HEIGHT SHALL BE VERTICALLY PRUNED, AND HORIZONTALLY SPACED IN ACCORDANCE WITH PRUNING AND SPACING DETAIL SHEET.
- REMOVAL OF OVER HANGING TREE LIMBS, DEAD AND DYING VEGETATION AND UNDESIRABLE PLANT SPECIES
- DEVICES THAT BURN SOLID FUELS ARE NOT PERMITTED IN ANY FUEL MODIFICATION ZONE.
- COMBUSTIBLE CONSTRUCTION IS NOT ALLOWED WITHIN ZONE B.

ZONES C & D - NOT APPLICABLE TO PROJECT

A FORESTER SHALL BE CONSULTED AS TO THE RETENTION AND THINNING OF ON-SITE TREES.



TREE AND TREE-FORM SHRUB PRUNING AND SPACING FOR NEW PLANTINGS AND THINNING ZONES

VERTICAL CLEARANCE:

1) Understory Clearance: New and existing trees, shrubs, and tree-form shrubs (naturally reaching over 2' in height), which are being retained with the approval of the agency having jurisdiction, shall be pruned to provide clearance of three times the height of the under-story plant material.

HORIZONTAL SEPARATION:

- Plant Group Canopy Spacing:
 - All shrubs and tree-form shrubs over 2 feet in height shall be single specimens or in a maximum grouping of 3 plants. Groupings shall be separated by a distance of 3 times the height of the tallest specimen in the group or 15 feet, whichever is greater (see figure above). Other grouping arrangements and spacing may be acceptable if approved by the San Bernardino County Fire (SBCF).
 - All Trees shall be single specimens or in a maximum grouping of 3. Groupings shall be separated by a distance of 30 feet (see figure above). Other grouping arrangements and spacing may be acceptable if approved by the SBCF.
 - Plant specimens listed in the SBCF "Approved Plant Palette- Qualification Statements for Select Plant Species" shall comply with plant groupings and spacing requirements specified in those restrictions.
 - Shrubs and tree-form shrubs taller than 2 feet in height shall be no closer than 15 feet from the edge of the tree canopy(s) measured horizontally.

TREE & SHRUB SPACING DETAIL - Not to scale



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