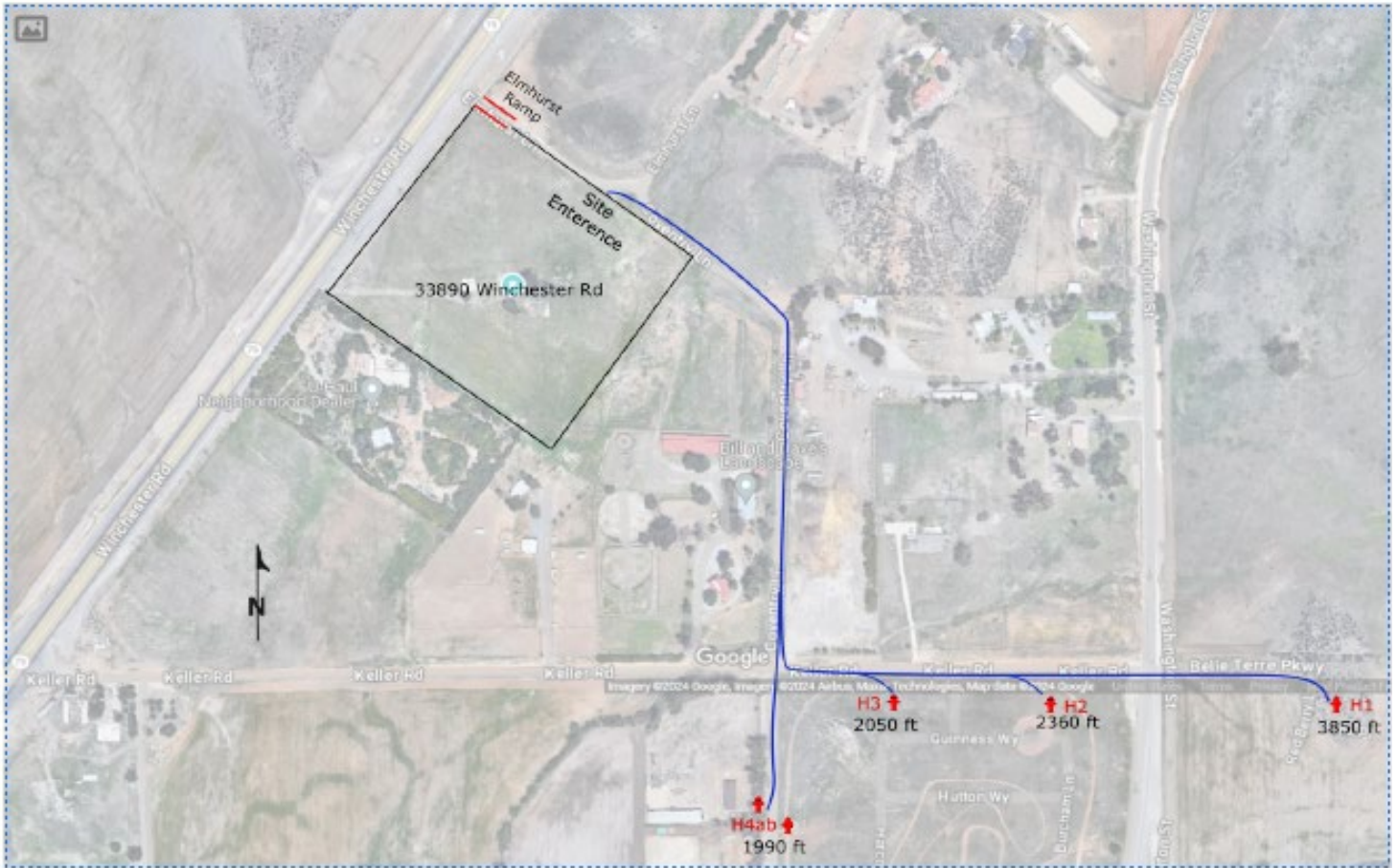


**WILDLAND FIRE PROTECTION PLAN**  
**U-Store-it, Winchester, CA**  
**CUP210126, APN 472-110-038**  
**33890 Winchester Road**



**Revised May 12, 2025**

*Prepared for the County of Riverside on behalf of the Owner,  
U-Store-it, 501 West Broadway, Ste 2020  
San Diego, CA 92101*

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## **EXECUTIVE SUMMARY**

U-Store-it retained Santa Margarita Fire Consulting, LLC, to conduct a Wildland Fire Protection Plan of the approximate 11.1-acre 33890 Winchester Road Project (project) in Winchester, Riverside County, within Assessor's Parcel Number, 472-110-038 on the southeast corner of Winchester Road and Elmhurst Lane. The project is in a Very High Fire Hazard Severity Zone. The project site is currently vacant and will be developed with a combination of self-storage and recreational vehicle (RV) storage. In addition, the portion of Coventry Lane north of the project site will require improvements and is considered an off-site work area and consists of approximately 1.02 acre. The remainder of the project site and off-site work area will be either temporarily or permanently impacted totaling 11.92 acres. The study focuses on both the main project site and the off-site areas that may threaten the site by a wildland fire event.

The property does not have any utilities yet, and no water meter could be located. The 11 acres are mostly covered with non-native grass that has been mowed. The site and most surrounding properties have recently been mowed 25 feet adjacent to the property lines. The center of the property has large eucalyptus trees with lots of dead fuel. The trees will all be cleared when the project starts.

The project is in a Very High Fire Hazard Severity Zone (Cal Fire, 2021) and is infill in nature as there are large Residential Estate homes to the, north, east, and south. The off-site vegetation that is west, north and east of the site poses a moderate wildfire threat. The BEHAVEPLUS Fire Model, under worst case fire weather conditions, predicts flame lengths to be as high as 12.7 feet.

U-Store-It site takes advantage of SR-79 and Elmhurst and Coventry Lane to achieve a 100-foot fuel modification between the storage units and adjacent non-native grass. U-Store-it shall utilize 6-foot-tall masonry or concrete fencing to deflect flames, enhance fuel modification zones and increase fire-resistance.

## **CHAPTER 1. INTRODUCTION**

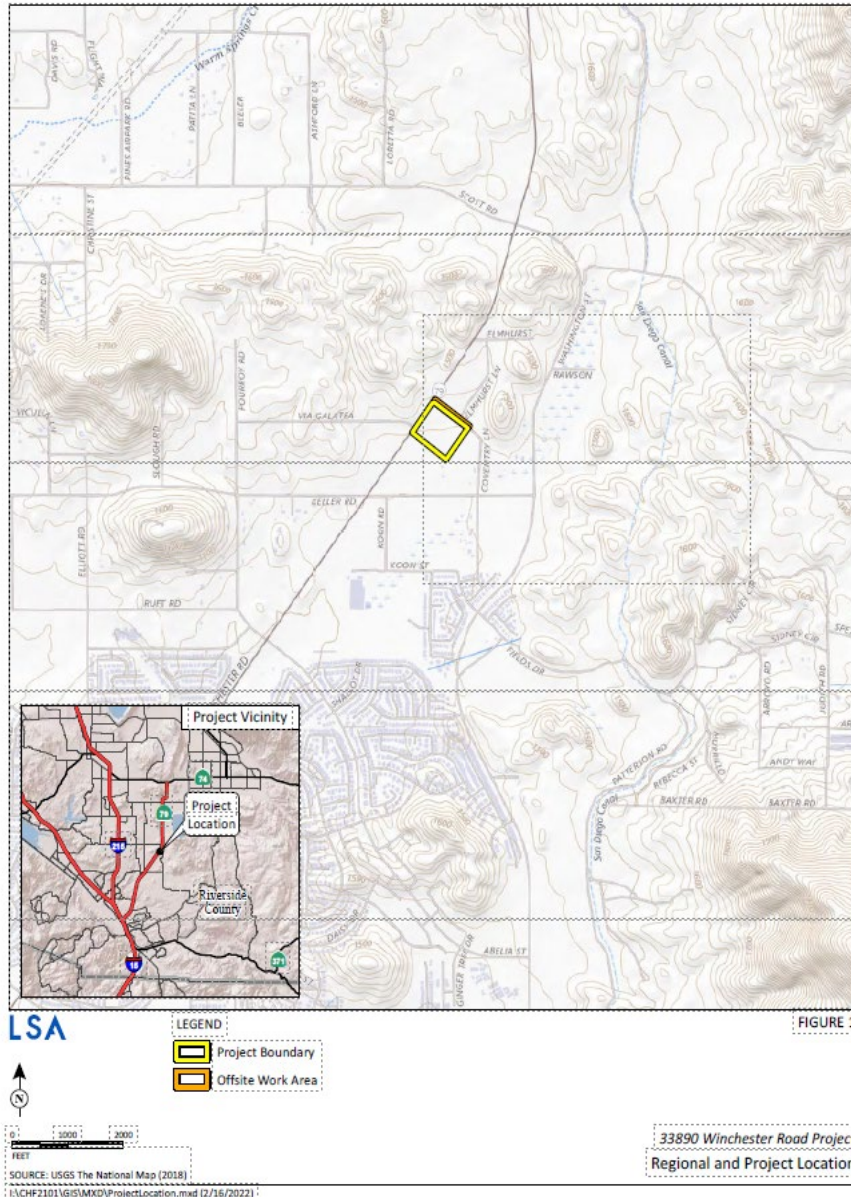
The purpose of a Fire Protection Plan (FPP) is to assess potential impacts resulting from wildland fire hazards and identify measures necessary to adequately mitigate those impacts. This FPP (or plan) has been prepared for the U-Store-It (Project) and, as part of the assessment, has considered the Project location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history of the Project area. The plan addresses water supply, access, structural ignitability and fire resistive building features, fire protection systems and equipment, defensible space, and vegetation management. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one or more at-risk communities and essential infrastructures.

The U-Store-It project requests a reduction in the 100-foot setback and offers Type 1 Masonry Construction and fire-resistant landscaping as mitigation. The project will also bring in municipal water and 6 fire hydrants.

# 1.1 Project Location, Description and Environmental Setting

The project site is located at the southeast corner of Winchester Road and Elmhurst Lane bounded by Winchester Road (State Route 79 [SR-79]) surrounded by undeveloped land to the northwest, undeveloped land and commercial development to the southeast, and residential development to the southwest, see Figure 1.

Figure 1. Project Location, Description and Environmental Setting



(LSA Associates, 2023)

## **1.2 Project Description**

The proposed project site is currently undeveloped. The site contains two concrete slabs from a former single-family residence. The Project site is currently vacant and will be developed with a combination of self-storage (109,450 square feet) and recreational vehicle (RV) storage (132 spaces). A new storage facility is planned that includes nine storage unit buildings along with a bioretention/detention basin and an associated asphalt paved parking lot on the project site. As part of project activities, the portion of Coventry Lane adjacent to the project site will require road improvements and will be converted from a dirt access road to a paved road.

## **1.3 Environmental Review**

The project site is moderately disturbed due to discing in the vicinity of the former single-family residence on the project site. Based on historical aerial imagery, the project site consisted of single-family residential structures through at least 2002, when said structures were razed. Apart from regular discing, the project site has been relatively undeveloped through the present. As a result of regular discing, the vegetation on the project site and off-site work area consists primarily of nonnative grasslands but also includes developed and disturbed areas see Figure 2.

## **1.4 Weather Review**

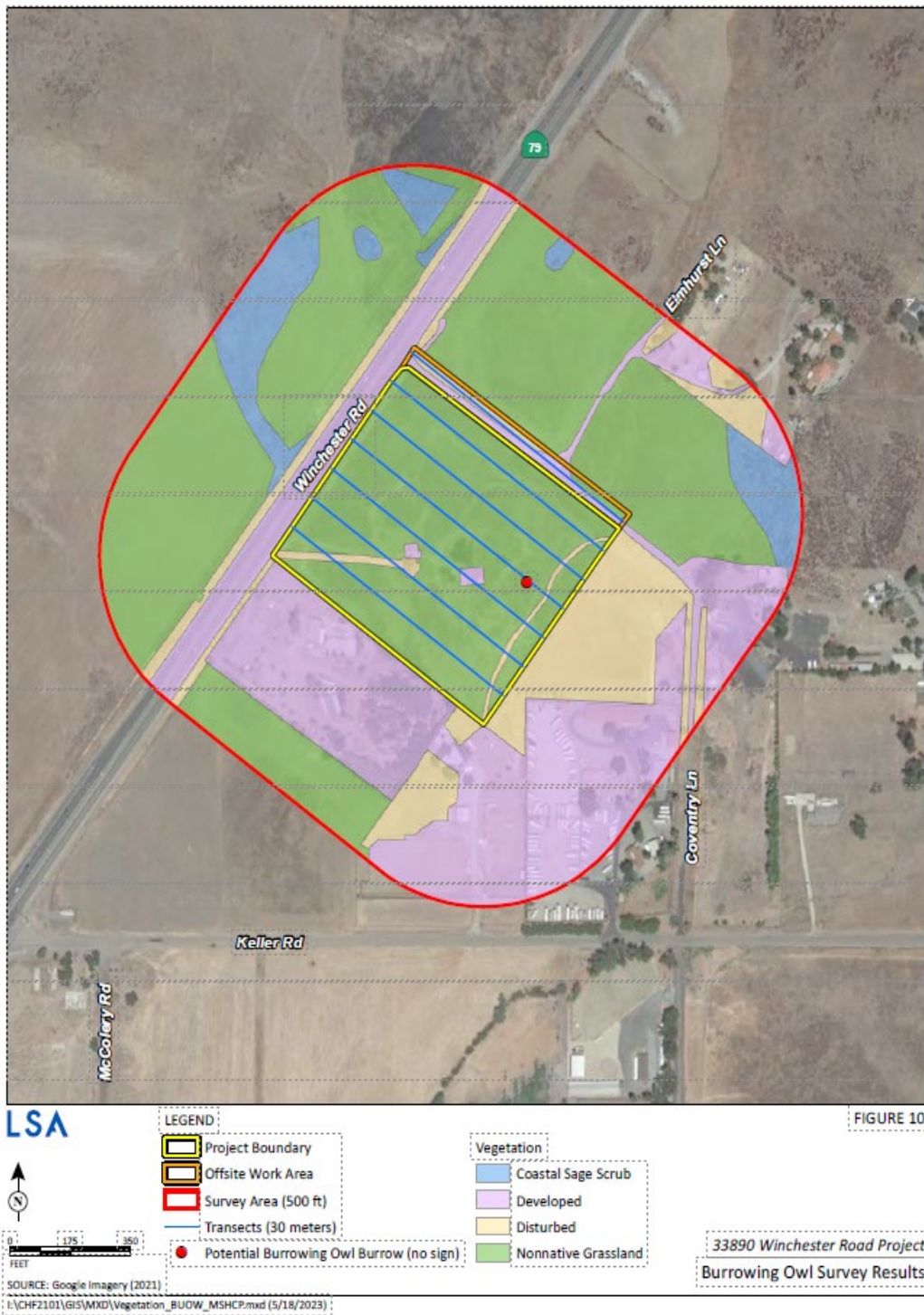
In Winchester, the summers are hot, arid, and mostly clear and the winters are long, cold and partly cloudy. Over the course of the year, the temperature typically varies from 41 degrees Fahrenheit to 93 degrees Fahrenheit and is rarely below 33 degrees Fahrenheit or above 100 degrees Fahrenheit.

The hot season lasts for 3.1 months, from June 18 to September 22, with an average daily high temperature above 87 degrees Fahrenheit. The hottest month of the year in Winchester is August, with an average high of 92 degrees Fahrenheit and low of 65 degrees Fahrenheit.

The cool season lasts for 3.9 months, from November 22 to March 18, with an average daily high temperature below 70 degrees Fahrenheit. The coldest month of the year in Winchester is December, with an average low of 42 degrees Fahrenheit and a high of 65 degrees Fahrenheit. (Weather Spark , 2024)

The most critical weather pattern to the project area is a hot, dry offshore wind, typically called Santa Ana. Such wind conditions are usually associated with strong (>50 MPH), hot dry winds with very low (<15%) relative humidity. Santa Ana winds originate off the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content. As a result of the greater danger presented by Santa Ana wind conditions, Fire Marshals require that worst case scenario Santa Ana weather conditions be used in the fire modeling to try and accurately predict flame lengths associated with a Santa Ana wind driven fire.

Figure 2



(LSA Associates , 2023)

## **CHAPTER 2. ANTICIPATED FIRE BEHAVIOR IN THE VICINITY**

The areas around the project site consist mostly of non-native grasslands, with small areas of protected Coastal Sage. To the northeast, east, and south, these fuels are broken up by large ranch-type properties, and a U-Haul Rental business is located to the south. To the west, the non-native grasslands are interrupted by SR-79. Under Santa Ana wind conditions, the flame lengths could reach up to 12.7 feet at their peak (see Appendix A: Fire BeHave Modeling).

The type of fuels feeding a fire significantly impacts its intensity and rate of spread. While dry grass can ignite and spread rapidly under high winds, extremely intense fires typically develop in dense, dry vegetation areas where treetop canopies can project embers over long distances.

Under normal weather conditions, the non-native grasslands would produce flame lengths of about 6 feet, posing minimal threat to the site. In the event of a fire from the northeast under Santa Ana conditions, the large ranch properties to the north and east would help reduce the fire's intensity, allowing for a safer fire attack. Similarly, SR-79 would provide a barrier against fires approaching from the west.

### **2.1 First Street National Wildfire Model**

The First Street National Wildfire Model is a nationwide, fire-behavior-based wildfire model that shows a specific location's probabilistic risk of wildfire based on vegetation, topography, and likely weather. Built with First Street's fire science partners the Pyrengence Consortium, it leverages decades of peer-reviewed research and forecasts how wildfire risks will change over time due to changes in the environment (First Street , 2024).

The First Street Wildfire Model is a wildfire model based on the physical processes which drive fire behavior across the landscape, which means it considers the real-world conditions that create wildfires and then estimates the likelihood and severity of wildfire at any given location in the contiguous US based on hundreds of millions of simulated possible wildfire events (First Street , 2024).

The process starts by asking: "What would burn if a wildfire were to occur?" The model uses data from the United States Forest Service and the Department of the Interior to identify the type, quantity, age, and condition of the vegetation across the contiguous US that would provide fuel for a potential wildfire. It also includes any measures taken to modify those fuels to reduce risk, such as prescribed burns, thinning of vegetation, cutting of fire breaks, and other forest management practices – as well as the location and severity of previous wildfires that have changed the fuels present and thus impacted the probability of future fires. What sets the First Street Wildfire Model apart are both its property-specific resolution and its incorporation of new fuel estimates within the Wildland Urban Interface (WUI), based on patterns observed in over 500 historic WUI wildfires, enabling estimates of wildfire risk for individual homes in those areas. The

model then considers a wide range of possible weather patterns that impact fuels by making them hotter and drier, as well as wind and weather conditions that may help fires grow and spread. The data used to simulate these conditions are from 10 years of National Oceanic and Atmospheric Administration's (NOAA's) hourly resolution surface weather observations that include wind, air temperature, relative humidity, and precipitation for the contiguous US, providing a realistic representation of the range of surface weather conditions that drive wildfire behavior. The model simulates the possible ignition locations of wildfires based on historic fire locations and a random element to simulate possible lightning strikes. The fire behavior model predicts how wildfires may (or may not) spread given the fuel and fire weather conditions and tracks simulated fires that grow to a sufficient size, noting the location, intensity, and duration of these fires (First Street , 2024).

As with any First Street risk model, incorporating environmental changes that impact future wildfire risk, such as anticipated temperatures and precipitation patterns, is an essential trademark of the First Street Wildfire Model. The model utilizes 10 years of NOAA weather observations from 2011-2021 to establish baseline conditions and analyzes multiple environmental possibilities that forecast temperature and precipitation conditions 30 years into the future that would impact fuel conditions and thus future wildfire risk. This allows the First Street Wildfire Model to project wildfire risk 30 years into the future by focusing on climate change's impacts on the state of the fuels that support wildfire growth while holding vegetation and winds static to simplify the projection. This work has been published in articles that have met the rigorous standard of scientific peer review (First Street , 2024).

To simplify the communication level of wildfire risk, the First Street Wildfire Model also calculates a property's Fire Factor. Simply put, a property's Fire Factor increases as the 30-year cumulative wildfire likelihood increases. A property with a higher Fire Factor has a higher likelihood of being in a wildfire (First Street , 2024).

A home's Fire Factor also considers exposure to embers that may be cast from nearby fires, the flames of which are not likely to reach the property itself. While these homes have a very minor probability of being in a wildfire (less than 0.02%), the presence of burning debris from any nearby fires still presents a risk for the homeowner and is therefore accounted for in the property's Fire Factor (First Street , 2024).

Santa Margarita Fire Consulting ran the project through the First Street Wildfire Model and the results are listed below:

- This property has a <0.1% chance of being in a wildfire this year.
- This property has a <0.1% chance of being affected by wildfire flames this year.
- This property has a <0.1% risk of exposure to flying embers. Regardless of whether this property would have direct exposure to flames, embers cast by a nearby fire could cause the building or fuels within 50 feet of the building to ignite.
- The intensity of a wildfire is largely dependent upon the condition and type of burnable materials that provide fuel for the fire and is measured

by the wildfire's flame length. This property has a **2 feet** average expected flame length of a wildfire reaching it this year. This is considered a **low** fire intensity.

- The intensity of a wildfire is largely dependent upon the condition and type of burnable materials that provide fuel for the fire and is measured by the wildfire's flame length. This property has a **3 feet** maximum expected flame length of a wildfire reaching it this year. This is considered a **medium** fire intensity.
- **This flame length varies from the Fire Behave modeling performed for the project. The difference is we use the extreme Santa Ana Weather conditions to model flame lengths.**

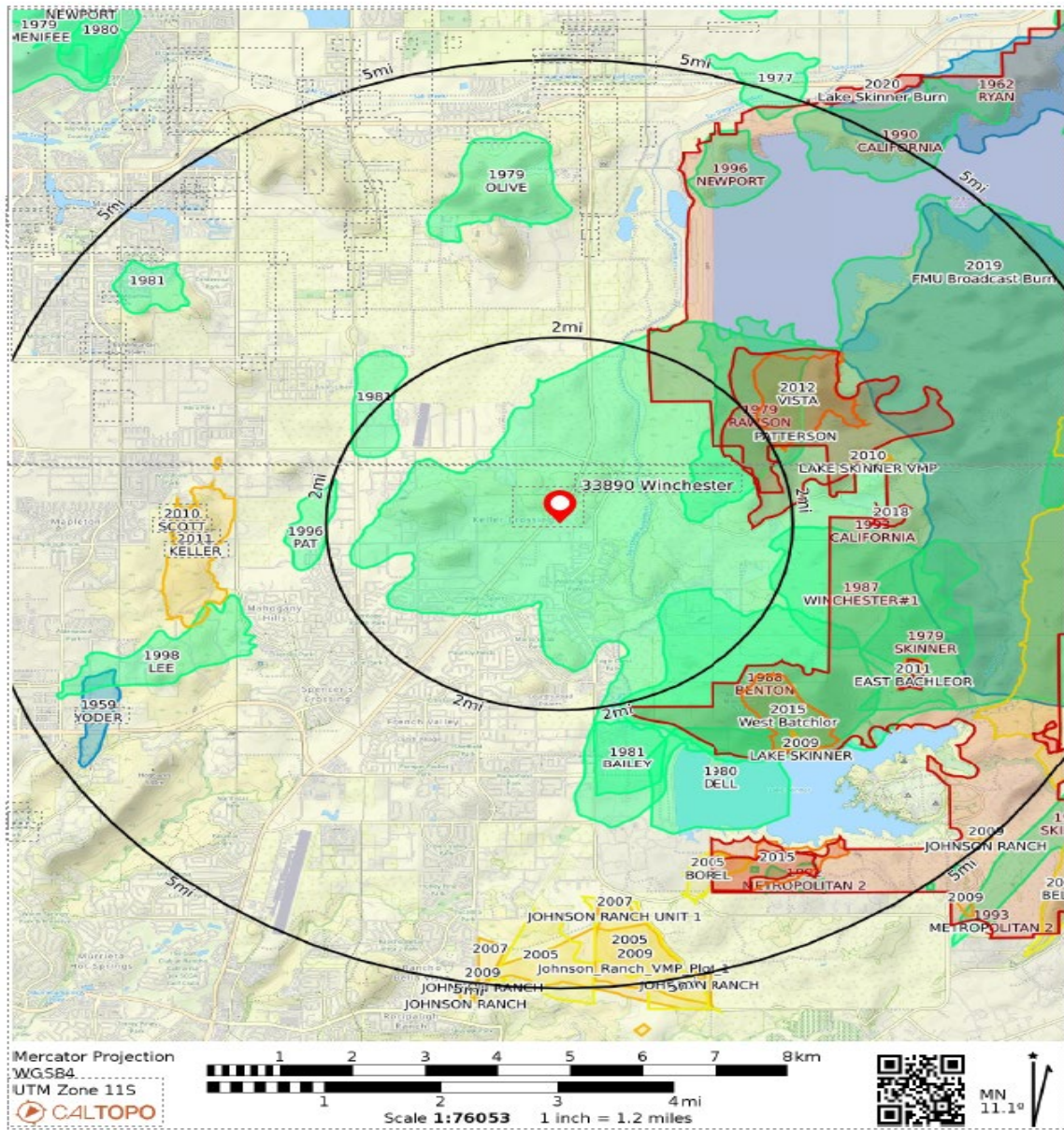
Figure 3

DATE	EVENT	COVERED BY FIRE	MILES FROM PROPERTY
10/1993	California	97 sq mi	0 mi
09/1988	Benton	6 sq mi	1 mi
05/2018	Patterson	5 sq mi	2 mi
10/2003	Mountain	43 sq mi	4 mi
10/1987	Antelope	13 sq mi	6 mi

### CHAPTER 3. FIRE HISTORY

Between 1984 and 2022 there have been **83** wildfire(s) recorded within 20 miles of this property. This includes controlled burns Riverside County is investing in to reduce risk. The biggest wildfire noted that burned over the site was the 1993 Powerline Fire that burned 97 square miles see Figures 3 and 4.

Figure 4 Fire History



## CHAPTER 4. ANALYSIS OF PROJECT EFFECTS

**Section 501.3.3 Of the California Fire Code: *The Owner or Owners authorized agent shall be responsible for the development, implementation and maintenance of an approved written site safety plan in accordance with Section 3303. (California Fire Officials, 2023)***

### 4.1 Fire Access

The entrance to the U-Store-It site comes off Coventry Lane. Coventry Lane will be connected to Elmhurst Lane and as part of project activities, the portion of Coventry Lane adjacent to the project site will require road improvements and will be converted from a dirt access road to a paved road. The access road throughout the project shall be 24 feet wide with an approved paved surface to provide all-weather driving capabilities meeting the 80,000-psi requirement. The 24-foot-wide sections shall be marked “Fire Lane, No Parking”. The access road shall have an unobstructed vertical clearance of 13 feet 6 inches.

Access Inspection – An inspection shall be scheduled with a RVC-OFM inspector to verify that access roads and other access features have been provided for buildings under construction prior to:

- 1) For buildings of Type I through V construction (and non-combustible structures that may have a portion of the exterior walls, façade, or other building elements comprised of wood or other combustible material on-site), the access inspection shall occur prior to Building Permit Issuance.
- 2) The street address of the site shall be prominently posted at each entrance. For projects on streets that do not have a name or street signs posted yet, the sign shall include the project name and tract/lot number.
- 3) Gates through construction fencing shall be equipped with a Knox padlock.
- 4) When required by the RVC-OFM Fire Inspector, fire lanes shall be posted with “Fire Lane—No Parking” signs or no parking areas shall be otherwise identified to maintain them free of obstructions during construction.
- 5) Provisions shall be made to ensure that fire hydrants are not blocked by vehicles or obstructed by construction material or debris. A 3-foot clear space shall be provided around the perimeter of the hydrant and no parking or similar obstructions shall be allowed along the adjacent road within 15 feet of the hydrant. Inoperable hydrants shall be bagged (Riverside County Fire Department, 2024).

**4.2 Gates:** New motorized gates shall be provided with means to be automatically opened remotely by emergency vehicles in accordance with Riverside County Fire Department Standards and Policies.

Existing or proposed gates and barriers crossing fire apparatus access roads must be shown on the plans. Information such as the location, type of gate (e.g., swinging, sliding), dimensions, and method of operation (manual, electric) must also be provided. Note or identify the following on the fire access plan: A. Clear Width – Gated Entries located for egress and ingress of vehicles shall not be less than 24 feet clear width on not less than one side of a center median. The vertical clearance shall not be less than 13 feet 6 inches, including landscaping and/or trees or other obstructions (Riverside County Fire Department, 2024).

### **Electrically Operated Gates and Barriers:**

- 1) Electric gate openers shall comply with UL 325. In the event of loss of normal power to the gate operating mechanism, it shall be automatically transferred to a fail-safe mode allowing the gate to be pushed open by a single firefighter without any other actions, knowledge, or manipulation of the operating mechanism being necessary and without the use of battery back-up power; this shall be noted on the plan. The manufacturer's specification sheet demonstrating compliance with this method of operation during power loss shall be provided or scanned directly onto the plan. Should the gate be too large or heavy for a single firefighter to open manually, a secondary source of power by means of an emergency generator or a capacitor with enough reserve to automatically and immediately open the gate upon loss of primary power shall be provided.
- 2) The gate control for electronic gates shall be operable by a Knox emergency override key switch (with dust cover). The key switch shall be placed between 42" and 48" above the road surface at the right side of the access gate within 2 feet of the edge of the road. The key switch shall be readily visible and unobstructed from the fire lane leading to the gate. The key switch shall be clearly labeled "FIRE DEPT."
- 3) Upon activation of the key switch, the gate shall open and remain open until returned to normal operation by means of the key switch. Where a gate consists of two leaves, the key switch shall open both simultaneously if operation of a single leaf on the ingress side does not provide for the width, turning radii, or setbacks necessary for fire apparatus to navigate the vehicle entry point. Note this requirement on the plan.
- 4) The key switch shall be labeled with a permanent red sign with not less than ½" contrasting letters reading "FIRE DEPT" or with a "Knox" decal. Note this requirement on the plan.
- 5) New motorized gates shall also be equipped with optical receivers to allow emergency response personnel to remotely open the gate when the emergency vehicle approaches the gate. The receiver shall be located to maximize signal reception from an approaching RVC apparatus. Devices shall be compatible with RVC preemption devices. A functional test of the automatic opening equipment, witnessed by RVC-OFM is required prior to final acceptance.

6) Gate and Barrier Locks - Gate or barrier locks shall be reviewed and approved prior to their installation on any new and/or existing access gate or barrier (Riverside County Fire Department, 2024).

**Setbacks from the Street** - Gates and barriers shall be located at a minimum of 46 feet from any major street. If existing conditions prevent installation of the minimum setback, documentation supporting an acceptable alternative shall be provided. The alternative solution must facilitate emergency ingress without endangering emergency response personnel, emergency apparatus, and the public. The alternative shall be subject to review and approval (Riverside County Fire Department, 2024).

**4.3 Fire Lane:** Fire Lane identification will be required when it is necessary to restrict parking of vehicles to maintain the required width of fire access roads for emergency vehicle use. Unlawful use of fire lanes will be enforced by the property owner and local law enforcement agency in accordance with the California Vehicle Code (CVC).

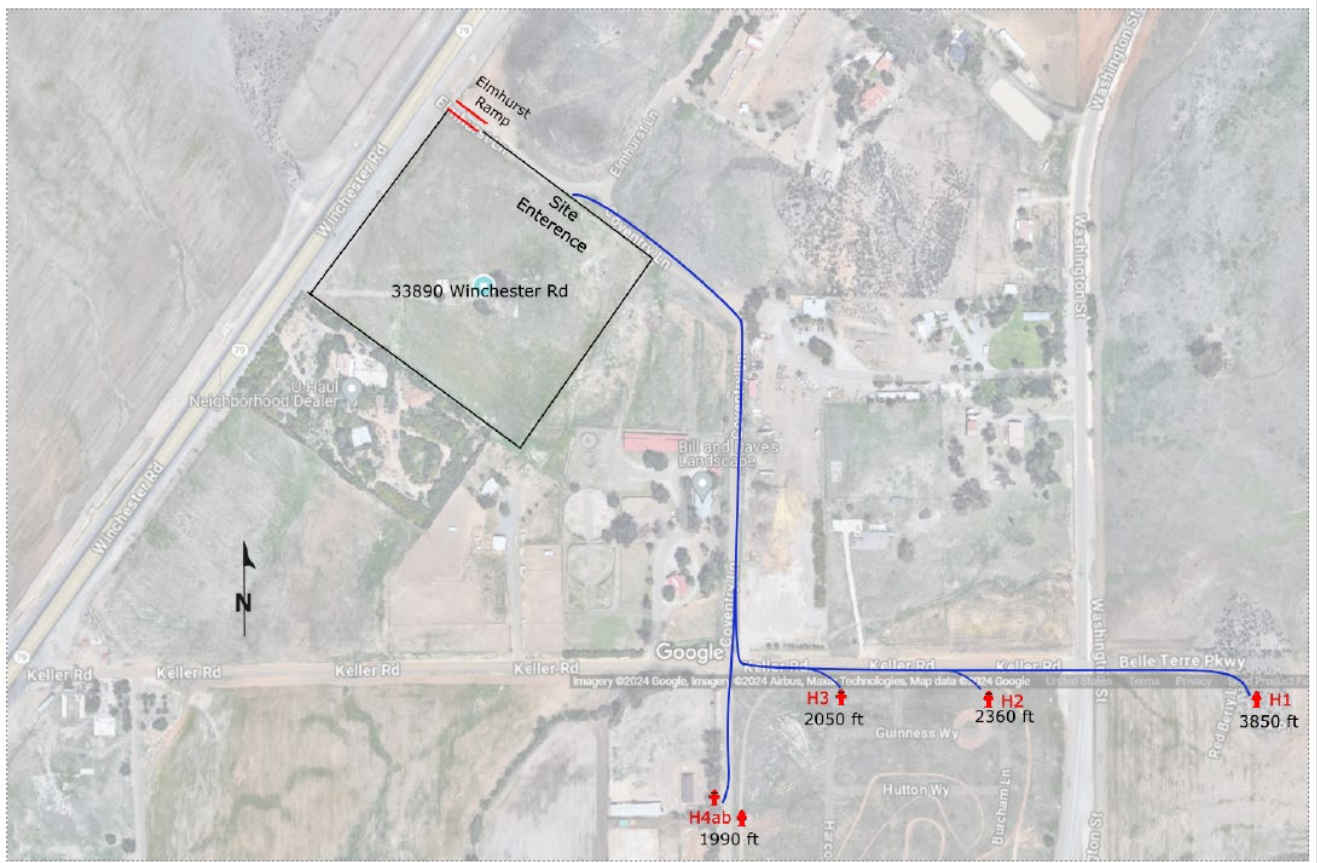
**Sign and Curb Marking Options** - Areas designated as a fire lane require an acceptable method of marking that shall be approved prior to installation. See Appendix A OFM Requirements (Riverside County Fire Department, 2024),

“Fire Lane—No Parking” signs meeting Riverside County requirements shall be posted immediately adjacent to each designated fire lane and at intervals not to exceed 75 feet (Riverside County Fire Department, 2024).

**4.4 Address Numbers:** Approved numbers or addresses shall be placed on the front elevation of all new or existing buildings in such a position that is plainly visible and legible from the street or road on which the property is addressed. Addresses shall not be located where they have the potential of being obstructed by signs, awnings, vegetation, or other building/site elements. An address monument at the vehicle entrance or other location clearly visible and legible from the public road may be provided in lieu of an address on the structure where only a single building with a single street address is present and no other structures are accessible from the fire apparatus access road serving that structure. CBC 501.2, CFC 505.1 (Riverside County Fire Department, 2024).

**4.5 Water Supply:** The closest fire hydrant to the site is 1,990 feet away. A water purveyor shall be hired to bring in water supply to the project and the fire hydrant size and outlets shall be determined by the fire code official. See Figure 5, Fire Hydrants Off-site.

Figure 5. Fire Hydrants, Off-Site



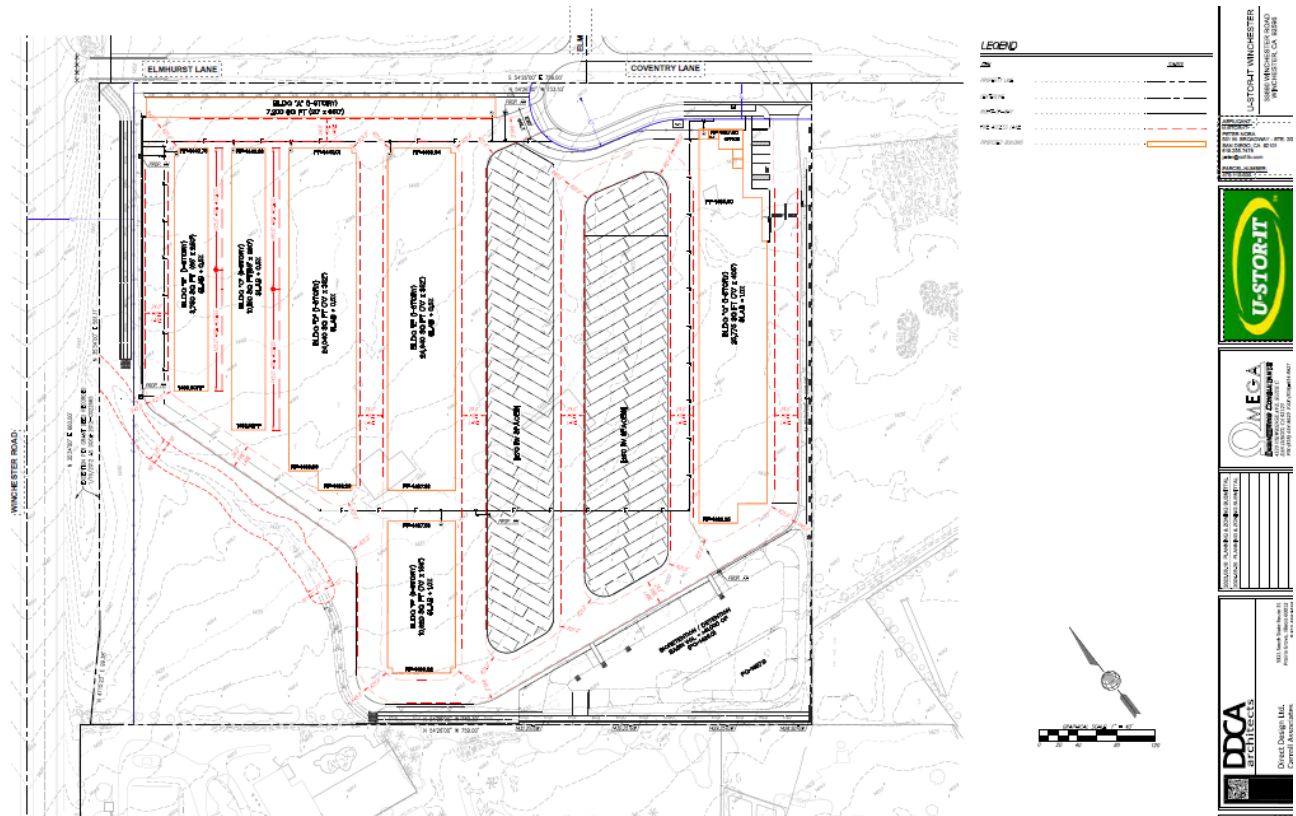
Overview map of area including H1, H2, H3, and H4

**Fire hydrant size and outlets.** As determined by the fire code official, fire hydrant sizes and outlets shall be based on the following:

1. Residential Standard - one (1) four (4) inch outlet and one (1) two and one-half (2½) inch outlet.
2. Super Hydrant Standard - one (1) four (4) inch outlet and two (2) two and one-half (2½) inch outlet.
3. Super Hydrant Enhanced - two (2) four (4) inch outlet and one (1) two and one-half (2½) inch outlet (Riverside County Fire Department, 2024).

A new Section 507.5.8 is added to Section 507 of the California Fire Code to read as follows:  
**Fire hydrant street marker.** Fire hydrant locations shall be visually indicated in accordance with Riverside County Fire Department Technical Policy 06-11. There are 5 proposed fire hydrants for the project, see Figure 6, and a 6<sup>th</sup> hydrant (not shown on plan) shall be installed at the beginning of the radius on the north side of Coventry Lane or as required by the fire code official (Riverside County Fire Department, 2024).

Figure 6 Proposed Fire Hydrant Locations



#### 4.6 Ignition Resistant Construction and Fire Protection Systems

The County of Riverside has adopted the 2022 California Fire Code with the following amendment. **In all new buildings and structures which are 3,600 square feet or greater, an approved automatic sprinkler system shall be provided regardless of occupancy classification. Where the Sections 903.2.1-903.2.21 of the California Fire Code require more restrictive requirements than those listed below, the more restrictive requirement shall take precedence.**

The proposed storage buildings shall be built with Masonry construction and light gauge steel. The roofs will be metal and there will be no use of wood in any of the construction.

#### 4.7 Fuel Modification Zones and Required Treatments

##### 4.7.1 Fencing

Complete fencing shall surround the property. All fencing shall be fire resistant, either

masonry, concrete fencing or rod iron. Instead of live plant for screening, U-Store-It may use NFPA 701 Method 2 Fire Resistant Certified Hedges.

<https://geraniumstreet.com/blog/fire-safe-foilage-why-nfpa-701-method-2-certified-artificial-boxwood-hedges-are-the-future-of-fencing-in-fire-prone-areas/> The National Fire Protection Association (NFPA) 701 test is a benchmark for evaluating the fire resistance of textiles and films, including those used in artificial foliage. Method 2 of this test is specifically designed for natural materials that are free-hanging and more likely to be exposed to higher levels of heat and flames – conditions like those found in outdoor settings. Beyond their fire-resistant qualities, NFPA 701 certified artificial boxwood hedges offer several benefits over traditional wood fences and live plants.

- **Duability:** Unlike wood, which can rot, warp or succumb to pest infestations, artificial hedges maintain their appearance and integrity over time, requiring minimal maintenance.
- **Aesthetic Appeal:** These hedges provide a lush, green look throughout the year, enhancing the visual appeal of any property without the need for constant watering, trimming or fertilization.
- **Privacy and Noise Reduction:** Just like their natural counterparts, artificial hedges can create a sense of privacy and reduce noise pollution, making them a functional as well as an attractive fencing option.
- **Eco-Friendly:** By eliminating the need for water and pesticides, artificial boxwood hedges contribute to water conservation and reduce the use of harmful chemicals in landscaping. (Geranium Street, 2024)

#### 4.7.2 Multiple Species Habitat Conservation Plan

There is a Multiple Species Habitat Conservation Plan (MSHCP) and biological report of the site that states, “Therefore, conservation of the project parcel is not warranted. In a letter dated September 29, 2021, from the Riverside County Planning Department, it was confirmed that MSHCP criteria do not describe conservation for the project site, (Riverside County Planning Department 2021) (LSA Associates , 2023)

A bioretention/detention basin will be installed and maintained in the southern portion of the project site and has been designed to prevent the release of toxins, chemicals, petroleum products or exotic plant materials that may originate from the project site. Therefore, the project is not anticipated to affect land described for conservation in the MSHCP Conservation Area due to drainage. (LSA Associates , 2023)

In the southwest corner is an area determined to be the waters of the US (WOTUS). This area will be able to adhere to the fuel modification zones listed below and the WOTUS drainage is considered a non-wetland drainage and will allow maintenance of the landscaping in the area.

#### 4.7.3 Fuel Modification Zones

At the northeast of the property the site borders Elmhurst Lane. Landscaping and trees are proposed between the building and Elmhurst Lane. The Landscaping plan including

street trees and plants shall meet the requirements of the fuel modification zones and acceptable plants as listed below. Street Trees and plants to be reviewed and approved by Riverside County Fire Department in the construction documentation phase of the project. To the east there is over 200 feet of gravel and paved parking for RV storage. To the south there will be a bio retention basin built and it borders the RV parking area. Continuing west along the property, there will be a landscaped area with required drainage features.

The Fuel Modification zones are based on the Office of the State Fire Marshals defensible space guidelines and include the Immediate Zone: 0 to 5 feet around the buildings, the Intermediate Zone 5 to 30 feet, and the Extended Zone 30 to 100 feet.

#### Zone 0 - "Immediate Zone", 0 to 5'

Meaning from exterior wall surface or patio, deck or attachment to building or structure, extending 5 feet on a horizontal plane.

This zone shall be constructed of continuous hardscape or non-combustible materials. Removal of combustible materials surrounding the exterior wall area and maintaining the area free and clear of combustible materials. The use of mulch and other combustible materials is prohibited.

#### Zone 1 – "Intermediate Zone" 5' to 30'

Means from the immediate edge of Zone 0 extending out in a horizontal plane. This zone shall consist of planting low growth, drought tolerant and fire-resistant plant species. The height of the plants in this zone starts at 6 inches, adjacent to Zone 0 and extends in a linear fashion up to a maximum of 18 inches at intersection of Zone 2. Vegetation in this zone shall be irrigated and not exceed 6 feet in height and be moderate in nature meeting the following requirements. All new plantings of shrubs planted in Zone 1 and Zone 2 shall comply with the following:

- Shrubs shall not exceed 6 feet in height.
  - Groupings of shrubs are limited to a maximum aggregate diameter of 10 feet.
  - Shrub groupings shall be separated from other groupings a minimum of 15 feet.
  - Shrub groupings shall be separated from structures a minimum of 30 feet.
  - Where shrubs are located below or within a tree's drip line, the lowest tree branch shall be a minimum of three times the height of the understory shrubs or 10 feet, whichever is greater.
  - Ornamental grass shall be planted a minimum of 5 feet from any structure.
- Trees:** New trees not classified as fire resistant vegetation, such as conifers (including Junipers and Cypress), palms with fibrous tissues, pepper trees, acacia species, bamboo species and eucalyptus species, and other species deemed highly flammable shall not be permitted in any of the zones.

#### Zone 2 "Extended Zone" from 30' to 100'

Zone 2 begins from the immediate edge of Zone 1, (30 feet from the structure) extending out in a horizontal plane. This zone consists of planting drought tolerant and fire-resistant plant species of moderate height. Brush and plants shall be limbed up off the ground, so the lowest branches are 1/3<sup>rd</sup> the height of brush/tree/plant or up to 6 feet off the ground on mature trees.

#### Zone 2 “Extended Zone” continued.

New trees not classified as fire resistant vegetation, such as conifers (including Junipers and Cypress), palms with fibrous tissues, pepper trees, acacia species, bamboo species and eucalyptus species, and other species deemed highly flammable by the Riverside County Fire Department shall not be permitted in any of the zones.

Limit planting of large unbroken masses, especially trees and large shrubs. Groups should be 2-3 trees or shrubs maximum, with mature foliage of any group separated horizontally by at least 10 feet, if planted on less than 20% slope and 20 feet, if planted on greater than 20% slope. If shrubs are located underneath a tree’s drip line, the lowest branch should be at least three times as high as the understory shrubs or 10 feet, whichever is greater.

**SR- 79 Landscape Improvements.** The developer shall provide landscape improvements along SR-79 that shall meet the requirements as listed above.

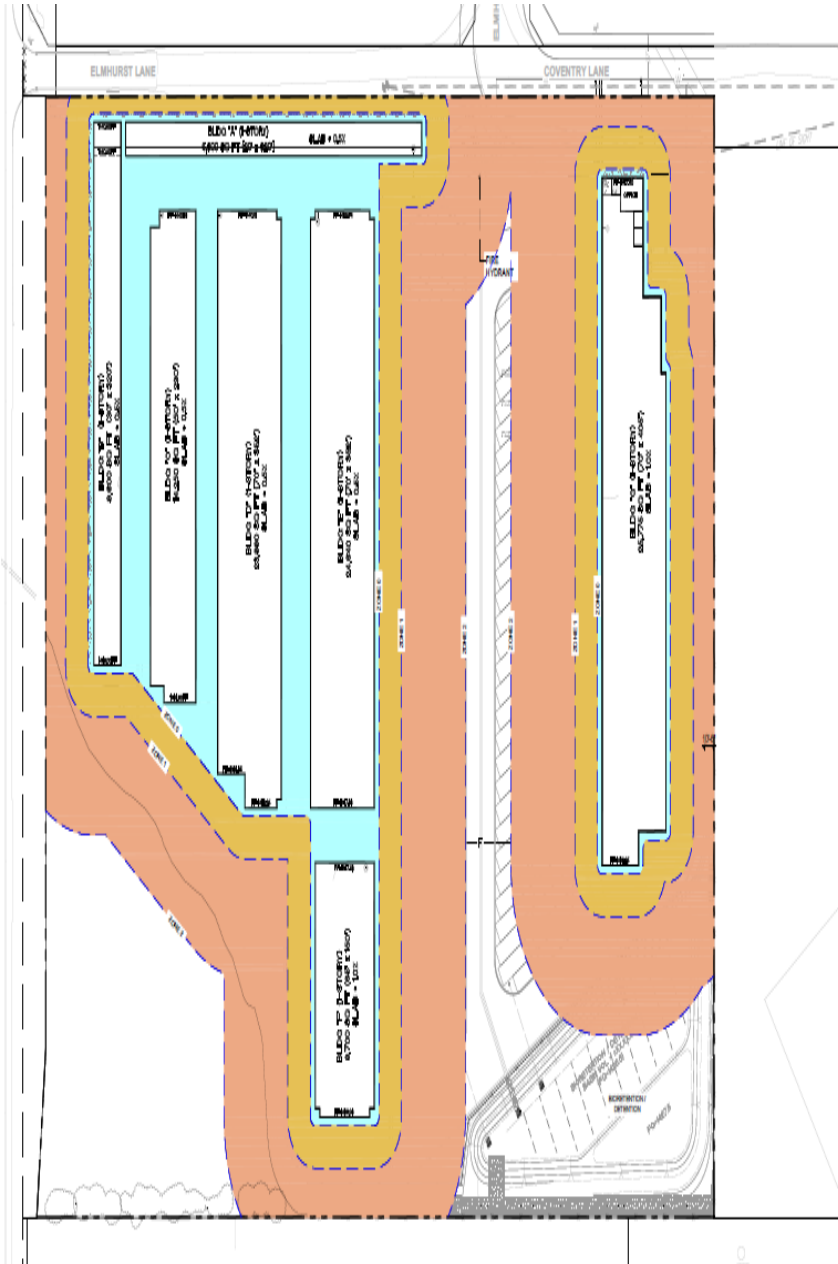
#### **4.8 Maintenance of Landscaping**

The landscaping will adhere to the specified fire-resistant guidelines, ensuring safety and aesthetic appeal. Regular maintenance will include trimming, irrigation, and monitoring plant health to sustain desired appearance while complying with fire protection standards. The commitment to proper upkeep ensures a visually appealing environment that complements the functionality of the U-Store-It facility.

#### **4.9 Landscaping Plan**

The landscaping plan is below and depicts the Fuel Modification Zones, irrigated and non-irrigated areas as well as the plant locations, types, and size of the plants and maturity. Sid Morel of Santa Margarita Fire Consulting, LLC used The City of Rancho Cucamonga’s Undesirable Plant list to perform the landscaping plan check. (See Appendix C, Undesirable plant list). Sid Morel approves the landscaping plan as meeting the requirements of the County of Riverside and this Fire Protection Plan requirements.

The Plan emphasizes fire-resistant vegetation and carefully considers plant spacing to reduce fire risk while maintaining aesthetic value. This approach aligns with the overall fire protection strategy for the property, ensuring the potential hazards are minimized through meticulous planning and adherence to established safety standards.



**FUEL MODIFICATION ZONES**

AT THE NORTHEAST OF THE PROPERTY THE SITE BORDERS ELMHURST LANE. LANDSCAPING AND TREES ARE PROPOSED BETWEEN THE BUILDING AND ELMHURST LANE. THE LANDSCAPING PLAN INCLUDING STREET TREES AND PLANTS SHALL MEET THE REQUIREMENTS OF THE FUEL MODIFICATION ZONES AND ACCEPTABLE PLANTS AS LISTED BELOW. STREET TREES AND PLANTS TO BE REVIEWED AND APPROVED BY REVERSHO COUNTY FIRE DEPARTMENT IN THE CONSTRUCTION DOCUMENTATION PHASE OF THE PROJECT. TO THE EAST THERE IS OVER 200 FEET OF GRAVEL AND PAVED PARKING FOR RV STORAGE. TO THE SOUTH THERE WILL BE A BIG RETENTION BASIN BUILT AND IT BORDERS THE RV PARKING AREA. CONTINUING WEST ALONG THE PROPERTY, THERE WILL BE A LANDSCAPED AREA WITH REQUIRED DRAINAGE FEATURES.

THE FUEL MODIFICATION ZONES ARE BASED ON THE OFFICE OF THE STATE FIRE MARSHALS DEFENSIBLE SPACE GUIDELINES AND INCLUDE THE IMMEDIATE ZONE 0 TO 5 FEET AROUND THE BUILDING, THE INTERMEDIATE ZONE 5 TO 30 FEET, AND THE EXTENDED ZONE 30 TO 100 FEET.

**ZONE 0 - "IMMEDIATE ZONE" 0 TO 5'**

MEANS FROM EXTERIOR WALL SURFACE OR PATIO, DECK OR ATTACHMENT TO BUILDING OR STRUCTURE, EXTENDING 5 FEET ON A HORIZONTAL PLANE.

THIS ZONE SHALL BE CONSTRUCTED OF CONTINUOUS HARDSCAPE OR NON-COMBUSTIBLE MATERIALS. REMOVAL OF COMBUSTIBLE MATERIALS SURROUNDING THE EXTERIOR WALL AREA AND MAINTAINING THE AREA FREE AND CLEAR OF COMBUSTIBLE MATERIALS. THE USE OF MULCH AND OTHER COMBUSTIBLE MATERIALS IS PROHIBITED.

**ZONE 1 - "INTERMEDIATE ZONE" 5' TO 30'**

MEANS FROM THE IMMEDIATE EDGE OF ZONE 0 EXTENDING OUT IN A HORIZONTAL PLANE. THIS ZONE SHALL CONSIST OF PLANTING LOW GROWTH, DROUGHT TOLERANT AND FIRE-RESISTANT PLANT SPECIES. THE HEIGHT OF THE PLANTS IN THIS ZONE STARTS AT 6 INCHES ADJACENT TO ZONE 0 AND EXTENDS IN A LINEAR FASHION UP TO A MAXIMUM OF 18 INCHES AT INTERSECTION OF ZONE 2. VEGETATION IN THIS ZONE SHALL BE IRRIGATED AND NOT EXCEED 6 FEET IN HEIGHT AND BE MODERATE IN NATURE MEETING THE FOLLOWING REQUIREMENTS. ALL NEW PLANTINGS OF SHRUBS PLANTED IN ZONE 1 AND ZONE 2 SHALL COMPLY WITH THE FOLLOWING:

- SHRUBS SHALL NOT EXCEED 6 FEET IN HEIGHT.
- GROUPINGS OF SHRUBS ARE LIMITED TO A MAXIMUM AGGREGATE DIAMETER OF 10 FEET.
- SHRUB GROUPINGS SHALL BE SEPARATED FROM OTHER GROUPINGS A MINIMUM OF 15 FEET.
- SHRUB GROUPINGS SHALL BE SEPARATED FROM STRUCTURES A MINIMUM OF 30 FEET.
- WHERE SHRUBS ARE LOCATED BELOW OR WITHIN A TREE'S DRIP LINE, THE LOWEST TREE BRANCH SHALL BE A MINIMUM OF THREE TIMES THE HEIGHT OF THE UNDERSTORY SHRUBS OR 10 FEET, WHICHEVER IS GREATER.
- ORNAMENTAL GRASSES SHALL BE PLANTED A MINIMUM OF 5 FEET FROM ANY STRUCTURE.

TREES - NEW TREES NOT CLASSIFIED AS FIRE RESISTANT VEGETATION, SUCH AS CONIFERS (INCLUDING JUNIPERS AND CYPRESS), PALMS WITH FIBROUS TISSUES, PEPPER TREES, ACACIA SPECIES, BAMBOO SPECIES AND EUCALYPTUS SPECIES, AND OTHER SPECIES DEEMED HIGHLY FLAMMABLE SHALL NOT BE PERMITTED IN ANY OF THE ZONES.

**ZONE 2 "EXTENDED ZONE" FROM 30 TO 100'**

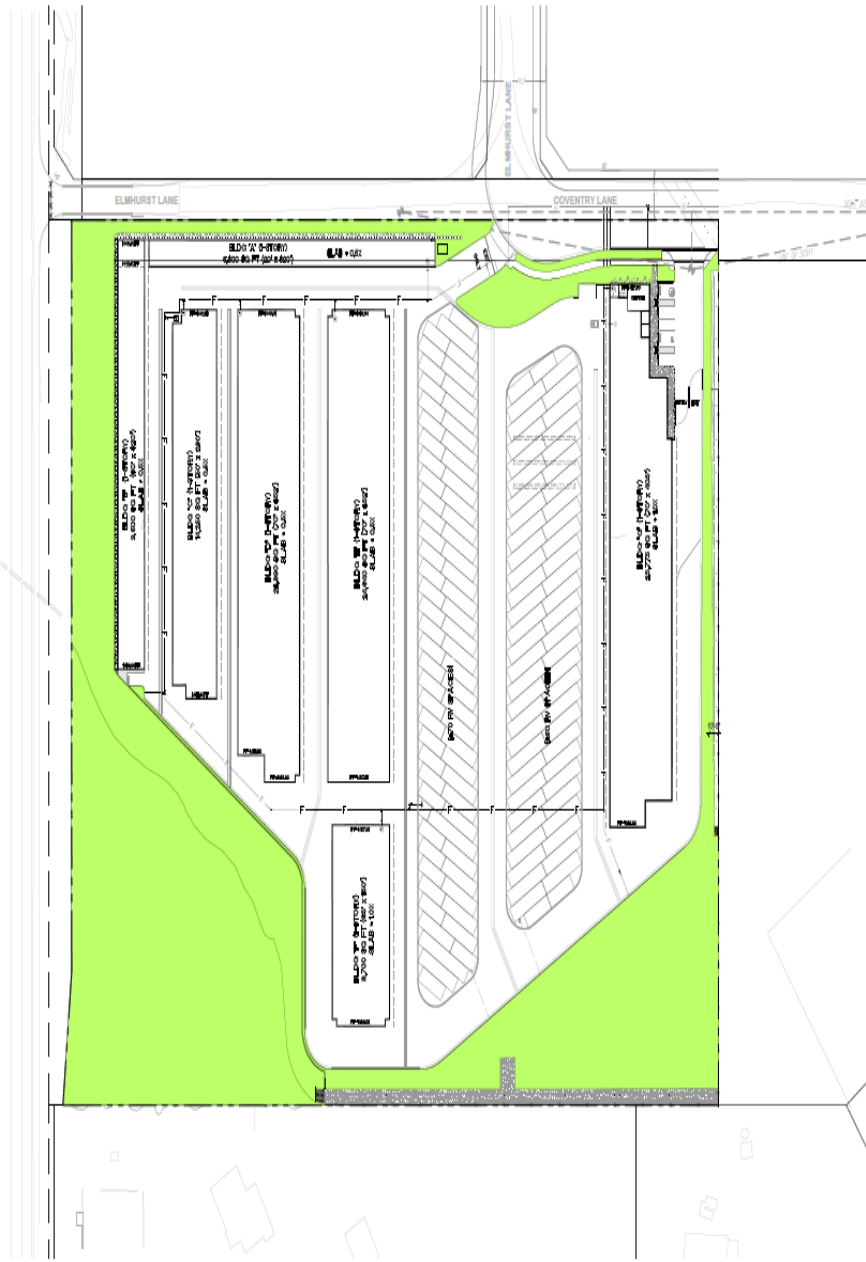
ZONE 2 BEGINS FROM THE IMMEDIATE EDGE OF ZONE 1, (30 FEET FROM THE STRUCTURE) EXTENDING OUT IN A HORIZONTAL PLANE. THIS ZONE CONSISTS OF PLANTING DROUGHT TOLERANT AND FIRE-RESISTANT PLANT SPECIES OF MODERATE HEIGHT. BRUSH AND PLANTS SHALL BE LIMBED UP OFF THE GROUND, SO THE LOWEST BRANCHES ARE 10-12'. THE HEIGHT OF BRUSH/TREES/PLANT OR UP TO 4 FEET OFF THE GROUND ON MATURE TREES.

ZONE 2 "EXTENDED ZONE" CONTINUED.

NEW TREES NOT CLASSIFIED AS FIRE RESISTANT VEGETATION, SUCH AS CONIFERS (INCLUDING JUNIPERS AND CYPRESS), PALMS WITH FIBROUS TISSUES, PEPPER TREES, ACACIA SPECIES, BAMBOO SPECIES AND EUCALYPTUS SPECIES, AND OTHER SPECIES DEEMED HIGHLY FLAMMABLE BY THE REVERSHO COUNTY FIRE DEPARTMENT SHALL NOT BE PERMITTED IN ANY OF THE ZONES.

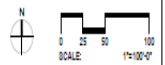
LIMIT PLANTING OF LARGE UNBROKEN MASS, ESPECIALLY TREES AND LARGE SHRUBS GROUPS SHOULD BE 2:1 TREES OR SHRUBS MAXIMUM, WITH MATURE FOLIAGE OF ANY GROUP SEPARATED HORIZONTALLY BY AT LEAST 10 FEET, IF PLANTED ON LESS THAN 20% SLOPE AND 20 FEET, IF PLANTED ON GREATER THAN 20% SLOPE. IF SHRUBS ARE LOCATED UNDERNEATH A TREE'S DRIP LINE, THE LOWEST BRANCH SHOULD BE AT LEAST THREE TIMES AS HIGH AS THE UNDERSTORY SHRUBS OR 10 FEET, WHICHEVER IS GREATER.

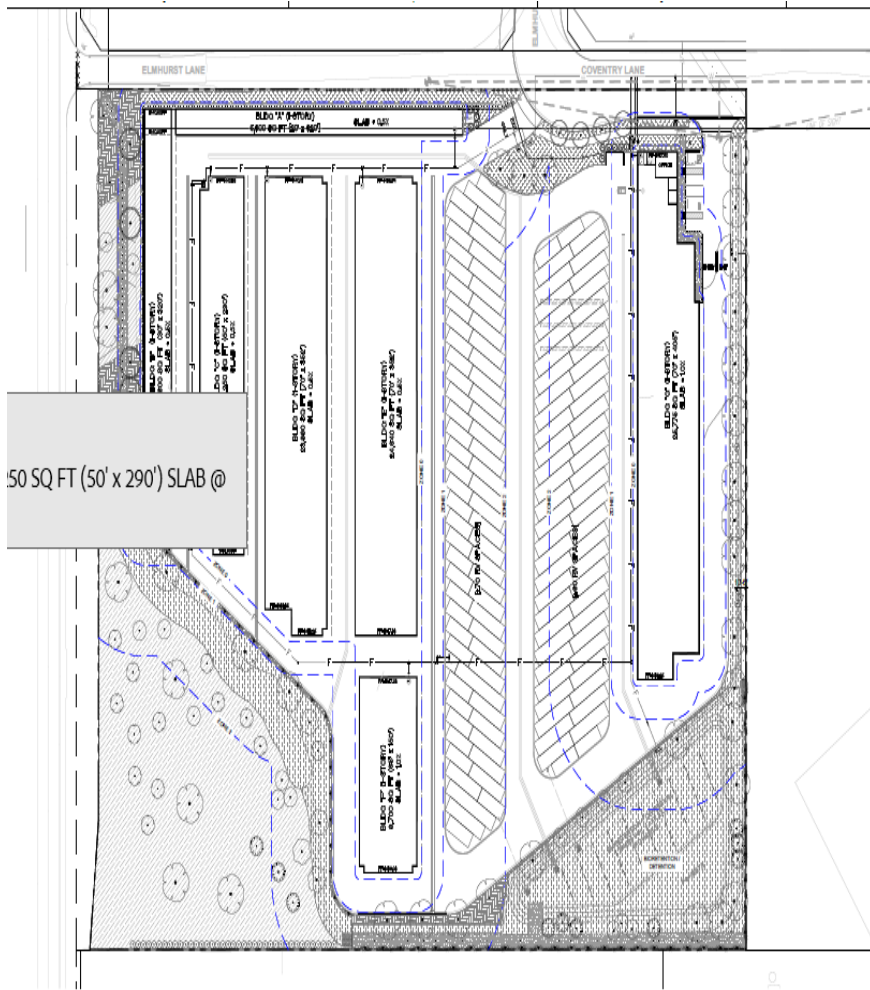
SR - 7% LANDSCAPE IMPROVEMENTS. THE DEVELOPER SHALL PROVIDE LANDSCAPE IMPROVEMENTS ALONG SR 7% THAT SHALL MEET REQUIREMENTS AS LISTED ABOVE.



IRRIGATED VS NON-IRRIGATED ZONES		
SYMBOL	DESCRIPTION	QTY
[Green Box]	IR RATED AND LANDSCAPE	1000 SF

**NOTE:**  
ALL PLANTING AREA WITHIN THE DEFENSIBLE ZONE SHALL BE IRRIGATED.

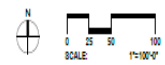




50 SQ FT (50' x 290') SLAB @

**NOTE**  
 PLANT MATERIAL WITHIN THE BIORETENTION BASINS SHALL BE ONLY CA NATIVE SHRUBS AND GRASSES. THEY SHALL NOT BE IN THE PROHIBITED PLANT LIST FOR FIRE DEFENSIBLE ZONES AND/OR ACCEPTABLE WITHIN ADJACENT TO WRM/SCP AREA PER CITY'S RECOMMENDATIONS.  
 REFERENCE DOCUMENT: RANCHO CUCAMONGA FIRE PROTECTION DISTRICT WILDLAND URBAN INTERFACE FIRE AREA UNDESIRABLE PLANTS AND TREES  
 LIMIT PLANTING OF LARGE UNBROKEN MASS, ESPECIALLY TREES AND LARGE SHRUB GROUPS SHOULD BE 2-3 TREES OR SHRUBS MAXIMUM, WITH MATURE FOLIAGE OF ANY GROUP SEPARATED HORIZONTALLY BY AT LEAST 10 FEET. IF PLANTED ON LESS THAN 2% SLOPE AND 20 FEET, IF PLANTED ON GREATER THAN 2% SLOPE, IF SHRUBS ARE LOCATED UNDERNEATH A TREE'S DRIP LINE, THE LOWEST BRANCH SHOULD BE AT LEAST THREE TIMES AS HIGH AS THE UNDERSTORY SHRUBS OR 10 FEET, WHICHEVER IS GREATER.

PLANT SCHEDULE						
SYMBOL	BOTANICAL / COMMON NAME	QTY	CONTAINER	MUCOLS REGION #	MATURE HEIGHT	MATURE WIDTH
<b>TREES</b>						
○	ARBUBUS UNEDO STRAWBERRY TREE MULTI-TRUNK	10	24" BOX	L.02	15'-25FT. HT.	10'-15FT. W.
○	CECIDIUM FLORIDUM BLUE PALM VEED	4	24" BOX	VL.01	15'-25FT. HT.	15'-25FT. W.
○	CECIS OCCIDENTALIS WESTERN REDOUD	15	24" BOX	L.02	10'-15FT. HT.	10'-15FT. W.
○	LACERSTROEMIA INDICA GRAPE MYRTLE	4	24" BOX	L.010	15'-25FT. HT.	15'-25FT. W.
○	LYONOTHAMUS FLORIBUNDUS CALIFORNIA HONEYCUD	13	24" BOX	L.02	25'-40FT. HT.	15'-25FT. W.
○	PLATANUS RACEMOSA CALIFORNIA SYCAMORE MULTI-TRUNK	4	24" BOX	M.05	40'-55FT. HT.	25'-40FT. W.
○	QUERCUS AGRIFOLIA COAST LIVE OAK MULTI-TRUNK	30	24" BOX	L.02	40'-55FT. HT.	25'-40FT. W.
○	QUERCUS LEX HOLLY OAK	1	24" BOX	L.02	40'-55FT. HT.	40'-55FT. W.
<b>SHRUBS</b>						
○	CARPENTERIA CALIFORNICA BUSH ANEMONE	11	15 GAL	L.010	6'-10FT. HT.	3'-8FT. W.
○	HETEROMELES ARBUTIFOLIA TOYON	43	15 GAL	L.02	10'-FT. HT.	6'-10FT. W.
<b>VINES</b>						
—	DIPTERIS BUCCONATORIA BLOOD RED TRUMPET VINE	54	15 GAL	M.040	15'-FT. HT.	15'-FT. W.
<b>SHRUB AREAS</b>						
■	ORNAMENTAL SHRUB MIX 1	4,079 SF				
■	ALOYSIA TRIPHYLLA LEMON BEEBUSH	5 GAL	L.02	3'-8FT. HT.	3'-8FT. W.	
■	AMERICANA DELTOIDEA TRIANGLE-LEAF SURSAGE	5 GAL	L.02	18'-36IN. HT.	1'-3FT. W.	
■	RIBES VIBURNIFOLIUM VIBURNUM CURRANT	5 GAL	L.02	18'-36IN. HT.	3'-8FT. W.	
■	ORNAMENTAL SHRUB MIX 2	10,000 SF				
■	CARPENTERIA CALIFORNICA BUSH ANEMONE	5 GAL	L.02	6'-10FT. HT.	3'-8FT. W.	
■	ENCYLA CALIFORNICA CALIFORNIA ENCYLA	5 GAL	L.020	3'-4FT. HT.	3'-8FT. W.	
■	GALVEZIA SPECIOSA ISLAND SNAPDRAGON	5 GAL	L.02	18'-36IN. HT.	6'-FT. W.	
■	LEUCANDRA ANGLISTIFOLIA 'SANNIT' ANNET ENGLISH LAVENDER	5 GAL	L.02	6'-18IN. HT.	1'-3FT. W.	
■	RIBES SPECIOSUM FUCHSIA FLOWERING GOOSEBERRY	5 GAL	VL-01	3'-8FT. HT.	3'-8FT. W.	
■	BIORETENTION SHRUBS	50,100 SF				
■	ACHILLEA MILEFOLIUM COMMON YARROW	5 GAL	L.02	6'-18IN. HT.	1'-3FT. W.	
■	CAREX OPISSA SAN DIEGO SEDGE	1 GAL	M.040	3'-8FT. HT.	1'-3FT. W.	
■	CAREX TUMULOCOLA FOOTBALL SEDGE	1 GAL	L.02	6'-18IN. HT.	1'-3FT. W.	
■	HETEROMELES ARBUTIFOLIA TOYON	15 GAL	L.02	10'-FT. HT.	6'-10FT. W.	
■	JUNCUS PATENS CALIFORNIA GRAY RUSH	1 GAL	L.02	18'-36IN. HT.	1'-3FT. W.	
■	ROW SHRUB MIX	10,872 SF				
■	GALVEZIA SPECIOSA ISLAND SNAPDRAGON	5 GAL	L.02	18'-36IN. HT.	6'-FT. W.	
■	MYOPORUM PACIFICUM TRAILING MYOPORUM	5 GAL	L.02	6'-18IN. HT.	6'-10FT. W.	
■	OPUNTIA ACICULATA CHENILLE CROCKLY PEAR	15 GAL	VL.01	3'-8FT. HT.	3'-8FT. W.	
■	RIBES AUREUM GOLDEN CURRANT	5 GAL	L.02	3'-8FT. HT.	3'-8FT. W.	
■	TEUCORIUM FRUTICOSUM BUSH GERANIUM	5 GAL	L.02	18'-8FT. HT.	3'-8FT. W.	
■	YUCCA BACCATA SAVANA YUCCA	5 GAL	VL.01	6'-8FT. HT.	1'-8FT. W.	
■	YUCCA FANBERGII GIANT HESPERALOE	5 GAL	L.02	3'-8FT. HT.	3'-8FT. W.	
■	YUCCA WHIPPLEI PARISHII DUI LOPEZ'S CANDLE	5 GAL	L.02	3'-8FT. HT.	4'-8FT. W.	
<b>GROUND COVERS</b>						
■	GROUND COVER	80,000 SF				
■	DALEA GREGGII TRAILING INDIAN BUSH	5 GAL	L.02	6'-18IN. HT.	3'-8FT. W.	
■	MYOPORUM X PACIFICUM PACIFIC MYOPORUM	5 GAL	L.010	18'-36IN. HT.	3'-8FT. W.	
■	GEONOTHERA STUBBEI SALA EVENING PRIMROSE	5 GAL	L.02	4'-1FT. HT.	4'-8FT. W.	
■	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	5 GAL	L.02	18'-1FT. HT.	3'-8FT. W.	
■	VERBENA LILACINA LILAC VERBENA	5 GAL	L.02	18'-36IN. HT.	1'-4FT. W.	
■	JAURCHNERIA CALIFORNICA CALIFORNIA FUCHSIA	5 GAL	L.02	6'-FT. HT.	1'-3FT. W.	



## **CHAPTER 5. PREDICTING WILDLAND FIRE BEHAVIOR**

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

BEHAVEPLUS: Fire Behavior Prediction and Fuel Modeling System by Patricia L. Andrews is one of the best systematic methods for predicting wildland fire behavior. The BEHAVEPLUS fire behavior computer modeling system was developed by USDA– Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts nationwide. “Because the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations is the dead fuel less than one-fourth in diameter; these are the fine fuels that carry the fire. Fuels larger than three inches (3”) in diameter are not included in the calculations at all.” (Andrews, 2011).

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

Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVEPLUS modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in Fire Protection Planning purposes. Santa Margarita Fire Consulting evaluation team used the computer based BEHAVEPLUS Fire Behavior Prediction Model to make the following fire behavior assessments for the Project.

### **Wildland Fire Behavior Calculations for the Off-Site Hazardous Vegetative Fuels**

Wildland fire behavior calculations have been projected for vegetative fuels on the undeveloped areas in proximity to the Project site. The projections are based on scenarios that are “worst-case” Riverside County fire weather assumptions. The scenarios are depicted in Appendix A. The tables display the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second), and Flame Length (expressed in feet) for four separate BEHAVEPLUS–Fire Behavior Prediction and Fuel Modeling System Computer Calculations. The tables also include the calculation inputs used in the BEHAVEPLUS program which were obtained from Project site observations and fuel levels typically observed during the local fire season. The projected flame lengths of typical Southern California Non-native grasses under extreme Santa Ana Wind conditions would be 12.7 feet. (See Appendix A). (Andrews, Patricia L. et al., 2013)

### **On-Site Fire Hazard and Risk Assessment.**

The project will involve removing all wildland fuels within the site due to grading and replacing them with structures and fire-resistant landscaping. The required fuel treatments, ignition-resistant construction, fire resistant fencing, will effectively mitigate any threats from radiant

heat or direct flame impingement.

A fire that starts in one of the storage units would be significantly reduced by the sprinkler system, however; caution should be used in fire attack as what is stored in the units is hard to regulate. The greatest threat of on-site fire may come from an RV or vehicle fire that under a high wind scenario could spread to other stored vehicles. RVs can contain propane bottles, increasing the difficulty of extinguishing them. There are hydrants strategically spaced to allow responding units to attack a RV storage area fire from both sides minimizing the risk.

## **CHAPTER 6. JUSTIFICATION**

The U-Store-It project will always be threatened from Santa Ana wind driven fire from the surrounding area, however; there have been so many fires north and east of the site over the years, (see Fire History. Figure 4) that the vegetation has type converted to non-native grasses. These non-native grasses do not produce significant flame lengths and embers that would threaten the site.

The U-Store-It buildings will be built with Masonry walls, metal roof and lightweight metal studs, making it highly unlikely that the buildings would be able to catch fire from flying embers.

The proposed U-Store-It project is located with large Ranch homes to the northeast, east and a U-Haul rental yard to the south. SR-79 creates a fire break to the northwest and west. These large properties will provide wildfire protection to the U-Store-It site as verified by the Institute for Business and Home Safeties (IBHS) study of the 2007 Witch Creek Fire in San Diego County. IBHS studied fire to determine why homes burned and were the new wildland fire codes adopted in 2004 working. They found that the larger estate parcels where homes are far apart provided greater protection. *“This finding elevates the importance of a community-wide approach to protecting properties against wildfire where the density of homes is high, and it also emphasizes the potential threat posed by neighboring properties. Cluster burning was not witnessed in homes located more than 45 feet apart from each other”* (Institute for Business and Home Safety , 2008).

Most of the site will be paved, the buildings will be masonry with Class A steel roofs and the fencing will be built with masonry or concrete fencing and rod iron. The screen landscaping shall be NFPA 701 Method 2 fire resistant artificial hedging. Along the east side of SR-79, a required irrigated, fire-resistant landscape shall be planted. The additional fire hydrant off Coventry Lane will assist firefighters in battling an off-site wildland fire that may threaten the site from the northeast.

## **CHAPTER 7. LEGALLY BINDING STATEMENTS, Ch. 49 COMPLIANCE**

Fuel modification zones are critical areas designed to reduce the risk of fire spread and enhance the protection of properties. These zones typically involve the alteration of vegetation and landscaping to minimize combustible materials. While these modifications are essential for fire safety, the responsibility for maintaining them can vary based on ownership and legal agreements.

#### Private Ownership and Fuel Modification Zones:

U-Store-it will be a privately owned self-storage facility, and the owners shall be responsible for ensuring that they meet the fuel modification zone requirements outlined in the Fire Protection Plan. This responsibility includes regular maintenance, which might involve trimming vegetation, removing debris, and adhering to specific landscaping guidelines.

#### Responsibilities of Private Owners:

- **Compliance with Fire Protection Plan:** The owners of the U-Store-It shall ensure that the fuel modification zones comply with the specifications and standards set forth in the Fire Protection Plan.
- **Regular Maintenance:** Owners are obligated to perform regular upkeep of these zones to prevent the accumulation of combustible materials.
- **Legal Accountability:** Failure to maintain these zones according to the outlined requirements can result in legal consequences, including fines and penalties.

#### Enforcement of Legal Binding Statements:

- **Regular Inspections:** The owners or other governing bodies may conduct regular inspections to ensure compliance with maintenance requirements.

#### Legal Statement on Community Responsibility:

The community shall not bear any responsibility for the maintenance of fuel modification zones, as there are no community fuel modification zones in place. The U-Store-It facility will be privately owned and managed, excluding it from any communal obligations regarding fuel modification or maintenance.

#### U-Store-It Access Maintenance Agreement:

The U-Store-It facility has been designed with two points of access and agrees to maintain them allowing for equipment and personnel to manage vegetation within the facility. Although there are no designated common areas within the facility, U-Store-It is responsible for ensuring that all landscaping is devoid of flammable vegetation, weeds, and similar hazards. Given the nature of the business, which predominantly comprises masonry buildings, pavement, and gravel parking areas, minimal landscaping is required. U-Store-It shall take all necessary measures to maintain the property in compliance with these standards. This agreement is legally binding and enforceable upon both parties involved.

## **CHAPTER 8: CONCLUSION**

The recommendations provided in this FPP have been designed specifically for the proposed construction of the future U-Store-It buildings that are in a Very High Fire Hazard Severity Zone. The project site's fire protection system includes redundant layering of protection methods that have been shown through post-fire damage assessments to reduce risk of structural ignition and compensate for fuel modification area reduction. Maintenance includes removing all dead and dying materials and maintaining appropriate horizontal and vertical spacing.

The primary objective of this Fire Protection Plan (FPP) is to establish guidelines through code enforcement and specific project requirements to construct structures that are defensible against wildfires. These guidelines aim to ensure that the structures themselves do not significantly contribute to the ignition risk from adjacent non-native habitats. It is important to acknowledge that, under extreme fire conditions, absolute guarantees of structural survival cannot be made. The precautions and mitigating actions outlined in this report are intended to reduce the likelihood of fire impacting the proposed structures. However, it is crucial to recognize that fire occurrences and potential damage to property or harm to individuals cannot be entirely prevented.

The implementation of enhanced construction features, as mandated by applicable codes, along with the installation of an additional off-site fire hydrant and adherence to fuel modification requirements specified in this FPP, are designed to support firefighters in defending these structures. These measures aim to significantly reduce the risks associated with the Wildland-Urban Interface (WUI) location of this project. Ultimately, the goal of this FPP is to enhance the safety and defensibility of the proposed structures against wildfire threats.

The project is infill in nature and the building of this project would result in increased wildland fire resistance to the surrounding homes and neighborhood. The non-native grasslands to the northeast will always pose a wildland fire threat to the project.

In its overall fire hazard assessment of the project and the implementation of the mitigation measures prescribed, it is the expert assessment by *Sid Morel of Santa Margarita Fire Consulting, LLC*, that the U-Store-It project is better than what is prescribed in the California Fire Code in terms of quality, effectiveness, fire resistance, durability and safety.

## CHAPTER 9. LIST OF PREPARERS AND PERSONS CONTACTED

Sid Morel, President Santa Margarita Fire Consulting, LLC

Dave Bacon, Site visit and Fire Behavior calculations.

Ed Jones, provided photos and fire hydrant mapping.

David W. Myers, P.E. Office of the Fire Marshal, Cal Fire, Riverside County

Signature page:

By signing this Fire Protection Plan, the owners agree to adhere to the fuel modification zone requirements as outlined in this plan. This agreement is legally binding and enforceable upon both parties involved.

PREPARED BY:  
Santa Margarita Fire Consulting,  
LLC  
1484 Coneross Point Drive  
Seneca, SC 29678

PROPERTY OWNER:  
Peter Nora, U-Store-It  
  
501 W. Broadway St., Suite 2020  
San Diego, CA 92101

Sid Morel

  
Signature

\_\_\_\_\_  
Signature

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# Appendix A Fire Behave Calculations

7/30/24, 3:34 PM

FM1 SW30 MPH 0 slope

BehavePlus 6.0.0 (Build 626 Beta 3)

**FM1 SW30 MPH 0 slope**

Head Fire

Mon, Jul 29, 2024 at 16:48:45

## Input Worksheet

### Inputs: SURFACE

Input Variables	Units	Input Value(s)
<b>Fuel/Vegetation, Surface/Understory</b>		
Fuel Model		1
<b>Fuel Moisture</b>		
1-h Fuel Moisture	%	05
10-h Fuel Moisture	%	
100-h Fuel Moisture	%	
Live Herbaceous Fuel Moisture	%	
Live Woody Fuel Moisture	%	
<b>Weather</b>		
Midflame Wind Speed (upslope)	mi/h	12
<b>Terrain</b>		
Slope Steepness	%	0
<b>Notes</b>		

## Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

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

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

## Head Fire

### Results

Output Variable	Value	Units
Surface Fire Rate of Spread	327.1	ft/min
Surface Fire Flame Length	7.9	ft

7/30/24, 3:34 PM

FM1 SW30 MPH 0 slope

End

BehavePlus 6.0.0 (Build 626 Beta 3)

**FM1 NE 50 MPH 0 slope**

Head Fire

Mon, Jul 29, 2024 at 16:43:52

**Input Worksheet****Inputs: SURFACE**

Input Variables	Units	Input Value(s)
-----------------	-------	----------------

**Fuel/Vegetation, Surface/Understory**

Fuel Model		1
------------	--	---

**Fuel Moisture**

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	
100-h Fuel Moisture	%	
Live Herbaceous Fuel Moisture	%	
Live Woody Fuel Moisture	%	

**Weather**

Midflame Wind Speed (upslope)	mi/h	20
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**Terrain**

Slope Steepness	%	0
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**Notes****Run Option Notes**

Maximum effective wind speed limit IS imposed [SURFACE].

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

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

**Head Fire****Results**

Output Variable	Value	Units
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Surface Fire Rate of Spread	732.1	ft/min
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Surface Fire Flame Length	12.7	ft
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## Appendix B Photo Log



*Overview from Winchester Rd, Looking Southeast.*



*View of the site from the Elmhurst Ramp, looking south. The buildings and Juniper trees are the adjacent property.*



*View from Elmhurst Ramp, looking SE. The dead tree is near the property center.*



*View from Winchester Rd, from the center of the property edge, looking SE.*



*View from Winchester Rd, from the center of the property edge, looking NE. The Elmhurst ramp in view on left.*



*View of access on Coventry Ln, looking South. The site is out of view, two parcels to the right.*



H1



H2



H3



H4b



H4a

Appendix C



**Rancho Cucamonga Fire Protection District**  
**Wildland Urban Interface Fire Area Undesirable Plants and Trees<sup>A</sup>**

Botanical Name	Common Name	Comment <sup>B</sup>
<b>Trees<sup>C</sup></b>		
<i>Abies species</i>	Fir	F
<i>Acacia species (numerous)</i>	Acacia	F, I
<i>Agonis juniperina</i>	Juniper Myrtle	F
<i>Araucaria species (A. heterophylla, A. araucana, A. bidwillii)</i>	Araucaria (Norfolk Island Pine, Monkey Puzzle Tree, Bunya Bunya)	F
<i>Callistemon species (C. citrinus, C. rosea, C. viminalis)</i>	Bottlebrush (Lemon, Rose, Weeping)	F
<i>Calocedrus decurrens</i>	Incense Cedar	F
<i>Casuarina cunninghamiana</i>	River She-Oak	F
<i>Cedrus species (C. atlantica, C. deodara)</i>	Cedar (Atlas, Deodar)	F
<i>Chamaecyparis species (numerous)</i>	False Cypress	F
<i>Cinnamomum camphora</i>	Camphor	F
<i>Cryptomeria japonica</i>	Japanese Cryptomeria	F
<i>Cupressocyparis leylandii</i>	Leyland Cypress	F
<i>Cupressus species (C. fobesii, C. glabra, C. sempervirens,)</i>	Cypress (Tecate, Arizona, Italian, others)	F
<i>Eucalyptus species (numerous)</i>	Eucalyptus	F, I
<i>Juniperus species (numerous)</i>	Juniper	F
<i>Larix species (L. decidua, L. occidentalis, L. kaempferi)</i>	Larch (European, Japanese, Western)	F
<i>Leptospermum species (L. laevigatum, L. petersonii)</i>	Tea Tree (Australian, Tea)	F
<i>Lithocarpus densiflorus</i>	Tan Oak	F
<i>Melaleuca species (M. linariifolia, M. nesophila, M. quinquenervia)</i>	Melaleuca (Flaxleaf, Pink, Cajeput Tree)	F, I
<i>Metrosideros excelsus</i>	New Zealand Christmas tree	FR
<i>Olea europea</i>	Olive	I
<i>Picea (numerous)</i>	Spruce	F
<i>Palm species (numerous)</i>	Palm	F, I, FR
<i>Pinus species (P. brutia, P. canariensis, P. b. eldarica, P. halepensis, P. pinea, P. radiata, numerous others)</i>	Pine (Calabrian, Canary Island, Mondell, Aleppo, Italian Stone, Monterey)	F
<i>Platycladus orientalis</i>	Oriental Arborvitae	F
<i>Podocarpus species (P. gracilior, P. macrophyllus, P. latifolius)</i>	Fern Pine (Fern, Yew, Podocarpus)	F
<i>Pseudotsuga menziesii</i>	Douglas Fir	F

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## Rancho Cucamonga Fire Protection District Wildland Urban Interface Fire Area Undesirable Plants and Trees<sup>A</sup>

Botanical Name	Common Name	Comment <sup>B</sup>
<i>Schinus species</i> ( <i>S. molle</i> , <i>S. terebenthifolius</i> )	Pepper (California and Brazilian)	F, I
<i>Tamarix species</i> ( <i>T. africana</i> , <i>T. aphylla</i> , <i>T. chinensis</i> , <i>T. parviflora</i> )	Tamarix (Tamarisk, Athel Tree, Salt Cedar, Tamarisk)	F, I
<i>Taxodium species</i> ( <i>T. ascendens</i> , <i>T. distichum</i> , <i>T. mucronatum</i> )	Cypress (Pond, Bald, Monarch, Montezuma)	F
<i>Taxus species</i> ( <i>T. baccata</i> , <i>T. brevifolia</i> , <i>T. cuspidata</i> )	Yew (English, Western, Japanese)	F
<i>Thuja species</i> ( <i>T. occidentalis</i> , <i>T. plicata</i> )	Arborvitae/Red Cedar	F
<i>Tsuga species</i> ( <i>T. heterophylla</i> , <i>T. mertensiana</i> )	Hemlock (Western, Mountain)	F
<b>Groundcovers, Shrubs &amp; Vines</b>		
<i>Acacia species</i>	Acacia	F, I
<i>Adenostoma fasciculatum</i>	Chamise	F
<i>Adenostoma sparsifolium</i>	Red Shanks	F
<i>Aeonium decorum</i>	Aeonium	FR
<i>Aeonium simsii</i>	No common name	FR
<i>Agave attenuata</i>	No common name	FR
<i>Agave victoriae-reginae</i>	No common name	FR
<i>Agropyron repens</i>	Quackgrass	F, I
<i>Alogyne huegeii</i>	Blue Hibiscus	FR
<i>Anthemis cotula</i>	Mayweed	F, I
<i>Arbutus menziesii</i>	Madrone	F
<i>Arctostaphylos species</i>	Manzanita. Also note that Eastwood Manzanita grows to 8 feet.	F
<i>Arundo donax</i>	Giant Reed	F, I
<i>Artemisia species</i> ( <i>A. abrotanum</i> , <i>A. absinthium</i> , <i>A. californica</i> , <i>A. caucasica</i> , <i>A. dracuncululus</i> , <i>A. tridentata</i> , <i>A. pynocephala</i> )	Sagebrush (Southernwood, Wormwood, California, Silver, True tarragon, Big, Sandhill)	F
<i>Atriplex species</i> (numerous)	Saltbush	F, I
<i>Avena fatua</i>	Wild Oat	F
<i>Baccharis pilularis</i>	Coyote Bush	F
<i>Bambusa species</i>	Bamboo	F, I
<i>Bougainvillea species</i>	Bougainvillea	F, I, FR
<i>Brassica species</i> ( <i>B. campestris</i> , <i>B. nigra</i> , <i>B. rapa</i> )	Mustard (Field, Black, Yellow)	F, I
<i>Bromus rubens</i>	Foxtail, Red Brome	F, I



## Rancho Cucamonga Fire Protection District Wildland Urban Interface Fire Area Undesirable Plants and Trees<sup>A</sup>

Botanical Name	Common Name	Comment <sup>B</sup>
<i>Bromus carinatus</i>	California Brome	Grows to 5', Dies if cut
<i>Castanopsis chrysophylla</i>	Giant Chinquapin	F
<i>Cardaria draba</i>	Hoary Cress	I
<i>Carpobrotus species</i>	Ice Plant, Hottentot Fig	I
<i>Carissa macrocarpa</i>	Green Carpet Natal Plum	FR
<i>Ceanothus griseus " Louis Edmunds</i>	Louis Edmunds Ceanothus	Grows higher than 18"
<i>Ceanothus griseus var. horizontalis</i>	Carmel Creeper Ceanothus	Grows higher than 18"
<i>Ceanothus griseus var. horizontalis "yankee point"</i>	Yankee Point Ceanothus	Grows higher than 18"
<i>Ceanothus megacarpus</i>	Big Pod Ceanothus	Grows higher than 18"
<i>Cirsium vulgare</i>	Wild Artichoke	F,I
<i>Conyza bonariensis</i>	Horseweed	F
<i>Coprosma pumila</i>	Prostrate Coprosma	F
<i>Cortaderia selloana</i>	Pampas Grass	F, I
<i>Cynara Cardunculus</i>	Atichoke Thistle	F
<i>Cytisus scoparius</i>	Scotch Broom	F, I
<i>Delosperma "alba"</i>	White Trailing Ice Plant	F
<i>Dodonaea viscosa</i>	Hopseed Bush	F
<i>Drosanthemum Floribundum</i>	Rosea Ice plant	F
<i>Eriodictyon californicum</i>	Yerba Santa	F
<i>Eriogonum species (E. fasciculatum)</i>	Buckwheat (California)	F
<i>Fremontodendron species</i>	Flannel Bush	F
<i>Hakea suaveolens</i>	Sweet Hakea	FR
<i>Hedera species (H. canariensis, H. helix)</i>	Ivy (Algerian, English)	I
<i>Helix Canariensis</i>	English Ivy	F
<i>Heterotheca grandiflora</i>	Telegraph Plant	F
<i>Hordeum leporinum</i>	Wild Barley	F, I
<i>Juniperus species</i>	Juniper	F
<i>Lactuca serriola</i>	Prickly Lettuce	I
<i>Lamprathus aurantiacus</i>	Bush Ice Plant	F
<i>Lamprathus spectabilis</i>	Trailing Ice Plant	F
<i>Larix species (numerous)</i>	Larch	F
<i>Larrea tridentata</i>	Creosote Bush	F
<i>Leymus condensatus</i>	Giant Wild Rye	Grows to 9' tall
<i>Lolium multiflorum</i>	Ryegrass	F, I



## Rancho Cucamonga Fire Protection District

### Wildland Urban Interface Fire Area Undesirable Plants and Trees<sup>A</sup>

Botanical Name	Common Name	Comment <sup>B</sup>
<i>Lonicera japonica</i>	Japanese Honeysuckle	F
<i>Mahonia species</i>	Mahonia	F
<i>Mimulus aurantiacus</i>	Sticky Monkeyflower	F
<i>Miscanthus species</i>	Eulalie Grass	F
<i>Muhlenbergia species</i>	Deer Grass	F
<i>Nassella (stipa)leprida</i>	Foothill Needlegrass	Grows higher than 18"
<i>Nassella (stipa) pulchra</i>	Purple Needlegrass	Grows higher than 18"
<i>Nerium Oleander</i>	Oleander	Toxic
<i>Nicotiana species (N. bigelovii, N. glauca)</i>	Tobacco (Indian, Tree)	F, I
<i>Pennisetum setaceum</i>	Fountain Grass	F, I
<i>Perovskia atroplicifolia</i>	Russian Sage	F
<i>Phoradendron species</i>	Mistletoe	F
<i>Pickeringia montana</i>	Chaparral Pea	F
<i>Rhus (R. diversiloba, R. laurina, R. lentii)</i>	Sumac (Poison oak, Laurel, Pink Flowering)	F
<i>Ricinus communis</i>	Castor Bean	F, I
<i>Rhus Lentii</i>	Pink Flowering Sumac	F
<i>Rosmarinus species</i>	Rosemary ( except dwarf/prostrate variety)	F
<i>Salvia species (numerous)</i>	Sage	F, I
<i>Salsola australis</i>	Russian Thistle	F, I
<i>Senecio serpens</i>	No common name	FR
<i>Solanum Xantii</i>	Purple Nightshade (toxic)	I, Toxic
<i>Solanum Douglasii</i>	Douglas Nightshade	Toxic
<i>Silybum marianum</i>	Milk Thistle	F, I
<i>Strelizia nicolae</i>	Giant Bird of Paradise	FR
<i>Strelizia reginae</i>	Bird of Paradise	FR
<i>Thuja species</i>	Arborvitae	F
<i>Urtica urens</i>	Burning Nettle	F
<i>Vinca major</i>	Periwinkle	I

**See next page for important Notes and Informaion**



## Rancho Cucamonga Fire Protection District Wildland Urban Interface Fire Area Undesirable Plants and Trees<sup>A</sup>

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### Notes:

- A. Use of plants and trees on this list must be specifically approved by the Fire Code Official. Use of the Fire District's 50/50/50 defensible space fire protection provisions are required when any plant(s) and/or tree(s) on this list is/are proposed for landscaping. Plants and trees on this list shall not be located within the 0-50 foot zone (Zone 1). Use of any of the plants or trees on this list is subject to periodic, ongoing inspections by the Fire District to ensure proper maintenance. Inspections may incur fees payable by the property owner. Failure to maintain the plants and trees on this list in accordance with plan approvals could result in the plants and/or trees being ordered to be removed at the expense of the property owner.
- B. F = Flammable, I = Invasive, FR = Freezes.
- C. The Fire District has a list of approved trees that can be used for landscaping and street trees.

### Information:

1. Plants on this list that are considered invasive are a partial list of commonly found plants. There are many other plants considered invasive that should not be planted in a fuel modification zone and they can be found on The California Invasive Plant Council's Website [www.cal-ipc.org/ip/inventory/index.php](http://www.cal-ipc.org/ip/inventory/index.php).
2. For the purpose of using this list as a guide in selecting plant material, it is stipulated that all plant material will burn under various conditions.
3. The absence of a particular plant, shrub, groundcover, or tree from this list does not necessarily mean it is fire resistive and does not imply that a particular plant, shrub, groundcover, or tree will be approved by the Fire Code Official for landscaping in the Wildland Urban Interface Fire Area.
4. All vegetation used in Vegetation Management Zones and elsewhere in the Wildland Urban Interface Fire Area shall be subject to approval of the Fire Code Official.
5. Landscape architects may submit proposals for use of certain vegetation on a project specific basis. They shall also submit justifications as to the fire resistivity of the proposed vegetation.
6. Rancho Cucamonga is in Climate Zones 18 and 19 as defined in the Sunset Western Garden book. Plants, shrubs, groundcover, or trees recommended for the climate zone in which the project is located can be submitted for approval as landscaping.
7. Native and/or drought tolerant plants are encouraged.
8. Notwithstanding the type of plant included or not included on this list, spacing and configuration of plantings, which are critical to stopping fire spread, shall be in accordance with the Fire District's standards.
9. This list was compiled with the assistance of wildland urban interface landscape consultants. It has been reviewed and approved by the Fire District's Fire Code Official and may be revised from time to time.