



West Alton Parcel Development Plan

First Draft | November 3, 2016



TABLE OF CONTENTS

Title Page.....iii

1 Introduction

- 1.1 Project Overview 1-1
- 1.2 Project Setting 1-4
- 1.3 Project Vision 1-6
- 1.4 Land Use Plan & Summary ... 1-8
- 1.5 Purpose and Components of
Development Plan 1-10

2 Design Guidelines

- 2.1 Project Design Goals 2-2
- 2.2 Circulation Design 2-2
- 2.3 Community Landscape 2-6
- 2.4 Infrastructure 2-52
- 2.5 Architecture Guidelines 2-56
- 2.6 Sustainable Guidelines 2-63

3 Development Standards

- 3.1 Introduction 3-1
- 3.2 Definition of Terms 3-1
- 3.3 Land Use Plan 3-2
- 3.4 Maximum Allowable
Development 3-5
- 3.5 Land Uses 3-5
- 3.6 Minimum Building Setbacks
..... 3-8
- 3.7 Setback Encroachments 3-10
- 3.8 Development Standards 3-11
- 3.9 Parking Standards 3-12
- 3.10 Wall and Fence Standards .. 3-14
- 3.11 Project Identification/
Monumentation 3-14
- 3.12 Signage 3-14

- 3.13 Wireless Facility Standards. 3-16
- 3.14 Landscape and Irrigation 3-18

4 Implementation

- 4.1 General Provisions 4-1
- 4.2 Implementation 4-2
- 4.3 Development Review 4-3
- 4.4 Development Plan Modifications
and Amendments 4-9
- 4.5 Certificates of Use and
Occupancy 4-10
- 4.6 Sign Permits Required 4-11
- 4.7 Subdivision Maps 4-11
- 4.8 Ministerial Permits 4-11
- 4.9 Phasing 4-11
- 4.10 Maintenance of Improvements
..... 4-11

Appendix

- A Definitions A-1
- B West Alton Development Plan
Security Code A-5
- C Conceptual Architectural Exhibits
..... A-33
- D Fire Protection Plans A-43
- E Development Requirements
..... A-81
- F Mitigation Monitoring and
Reporting Program (MMRP)
..... A-99

LIST OF EXHIBITS

Exhibit 1.1, Regional Context Map 1-2

Exhibit 1.2, Local Context Map 1-3

Exhibit 1.3, Site Aerial..... 1-5

Exhibit 1.4, Opportunities and Constraints Analysis.....
..... 1-7

Exhibit 1.5, Land Use Plan 1-9

Exhibit 2.1, Circulation Plan..... 2-3

Exhibit 2.2, Section A, Irvine Boulevard Cross Section .
..... 2-4

Exhibit 2.3, Open Space & Recreation Plan 2-7

Exhibit 2.4, Street Tree Hierarchy Plan 2-9

Exhibit 2.5, Section - Primary Entry Drive..... 2-24

Exhibit 2.6, Section - Irvine Boulevard Edge ,
Northern Portion 2-25

Exhibit 2.7, Section - Basin at Northern Portion... 2-26

Exhibit 2.8, Section - Basin at Southern Portion... 2-27

Exhibit 2.9, Section - Landscape Interface at North
Boundary 2-28

Exhibit 2.10, Neighborhood Park A Concept Plan
..... 2-32

Exhibit 2.11, Section - Neighborhood Park A
(Children’s Play Area)..... 2-33

Exhibit 2.12, Section - Neighborhood Park A (Lookout
Point 2-34

Exhibit 2.13, Section - Neighborhood Park A (Open
Space Area)..... 2-35

Exhibit 2.14, Neighborhood Park B Concept Plan. 2-36

Exhibit 2.15, Section - Neighborhood Park B (1 of 2) ..
..... 2-37

Exhibit 2.16, Section - Neighborhood Park B (2 of 2) ..
..... 2-38

Exhibit 2.17, Neighborhood Park C Concept Plan. 2-39

Exhibit 2.18, Section - Neighborhood Park C..... 2-40

Exhibit 2.19, Private Recreational Space A Concept
Plan..... 2-42

Exhibit 2.20, Section - Private Recreation Area A . 2-43

Exhibit 2.21, Private Recreational Area B Concept
Plan..... 2-44

Exhibit 2.22, Section - Private Recreation Area B . 2-45

Exhibit 2.23, Typical Focal Garden Concept Plan.. 2-46

Exhibit 2.24, Typical Pocket Park Concept Plan 2-47

Exhibit 2.25, Water and Sewer Infrastructure 2-53

Exhibit 2.26, Drainage Infrastructure..... 2-55

Exhibit 3.1, Land Use Plan 3-3

Exhibit 3.2, Conceptual Site Plan 3-4

Exhibit 3.3, Minimum Setbacks 3-9

LIST OF TABLES

Table 2.1, Community Plant Palette 2-10

Table 3.1, Land Use Table 3-6

Table 3.2, Development Standards..... 3-11

Table 3.3, Parking Standards 3-12

Table 3.4, Parking Lot Design Standards..... 3-13

Table 3.5, Permitted Sign Matrix 3-15

Table 4.1, Development Review Process 4-3



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WEST ALTON PARCEL DEVELOPMENT PLAN

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Note: All images, graphics and exhibits are provided by the Agency and/or companies listed on this page, unless otherwise noted.

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1

INTRODUCTION

This document is the West Alton Parcel Development Plan (hereafter referred to as “Development Plan”) and serves as the guiding document for the planned development of the County of Orange’s West Alton Parcel located near the northeasterly border of the former Marine Corps Air Station (MCAS) El Toro in Irvine, California (hereafter referred to as “Project”). This Development Plan contains detailed Development Standards and Design Guidelines necessary to ensure a comprehensively planned Project.

1.1 Project Overview

1.1.1 Location

The Project site is located on County-owned property within the City of Irvine near the northeasterly edge of the former MCAS El Toro, northwest of the intersection of Alton Parkway and Irvine Boulevard. The Project is bounded by Irvine Boulevard on the southwest, existing business/industrial buildings and Irvine Ranch Water District (IRWD) facilities on the south and southeast, and property owned by the Federal Bureau of Investigation (FBI), designated as Reserve Area for the Central-Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), to the north. The Project encompasses approximately 32.3 acres.

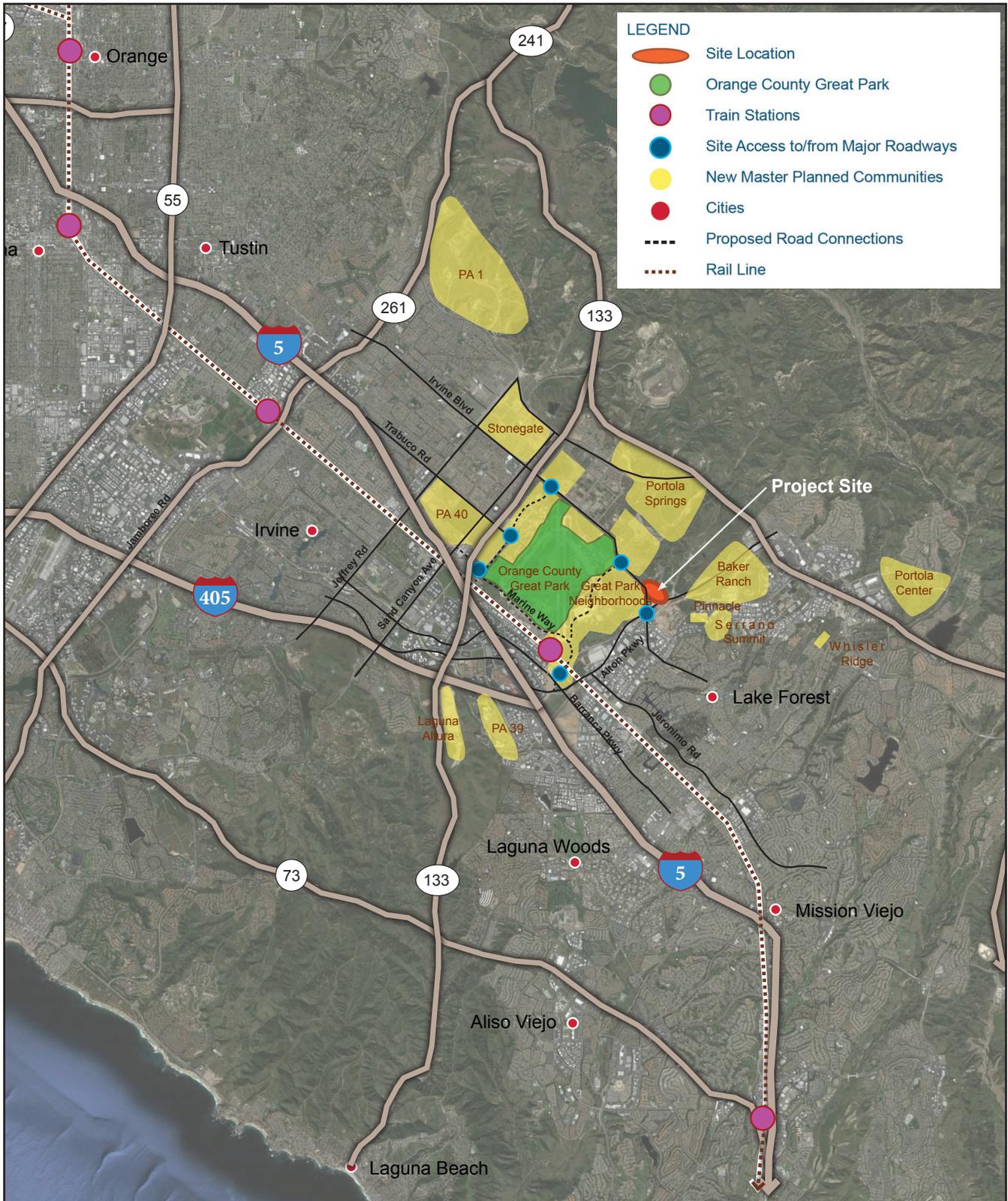
The relationship of the Project site to the surrounding region is depicted in *Exhibit 1.1, Regional Context Map*. *Exhibit 1.2, Local Context Map*, shows the relationship of the site to adjacent land uses.



El Toro MCAS, 1948

Source: OC Parks

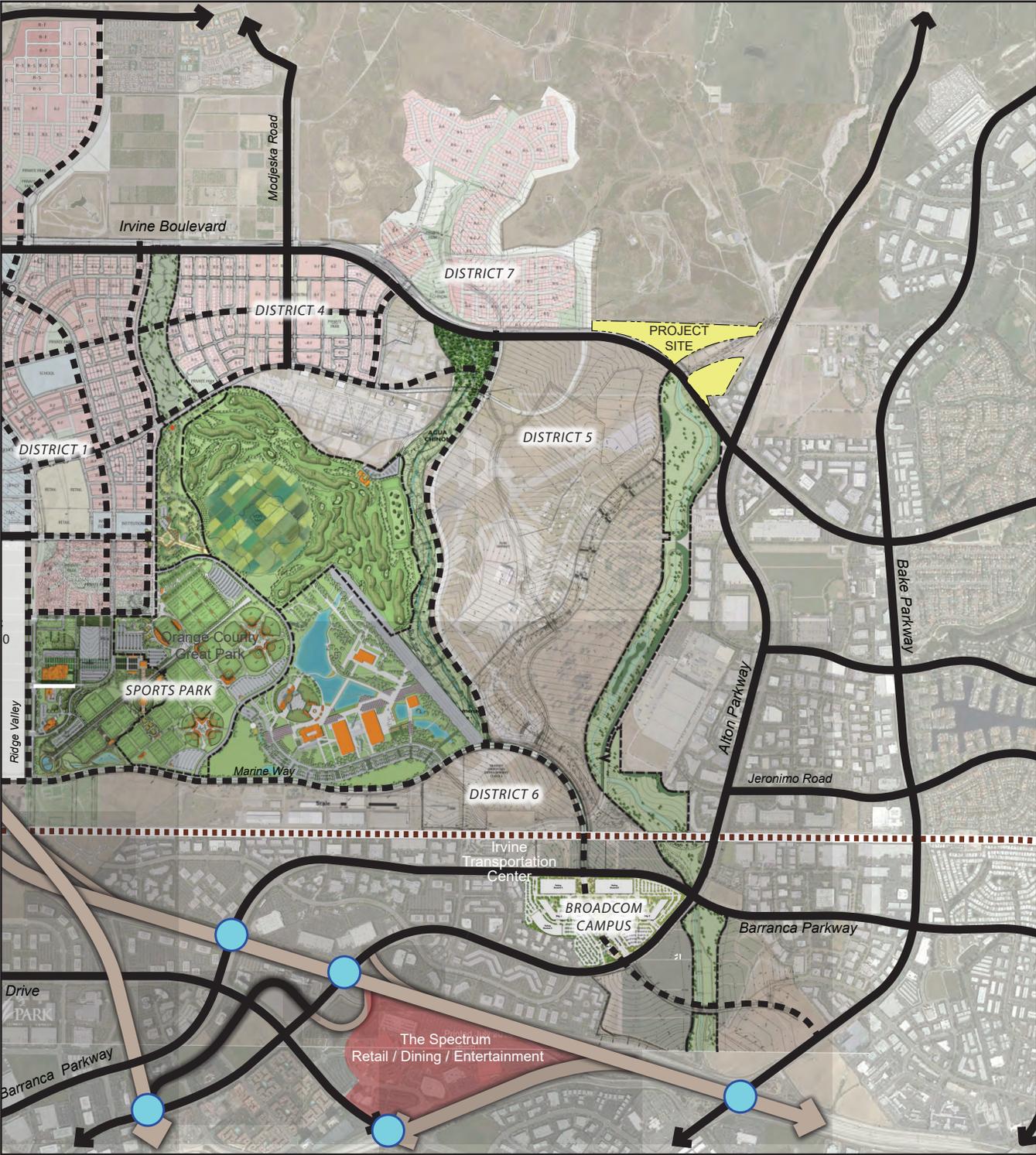
Exhibit 1.1, Regional Context Map



Source: Google Earth, KTG



Exhibit 1.2, Local Context Map



Source: City of Irvine, KTGy

1.1.2 Background & History

MCAS El Toro was commissioned on March 15, 1943 with a primary mission to train replacement pilots and crews for existing squadrons deployed during World War II. After the war, MCAS El Toro was the headquarters of Marine Corps Aviation on the West Coast and was home to over 8,000 Marines. During the Korean and Vietnam Wars, MCAS El Toro was the primary deployment base for Marines headed to Southeast Asia.

The Project site is located in an area of the former MCAS El Toro that was generally devoted to agricultural uses. Until the 1950s, the site was generally vacant. During the 1950s, the subject site was graded for agricultural uses.

In July 1993, the United States Department of the Navy (DoN) designated MCAS El Toro for closure under the Base Realignment and Closure Act. Since then, several plans for reuse of the former MCAS El Toro site were considered. The plan for the Orange County Great Park (OCGP) was approved by voters in the March 2002 initiative (Measure W). Measure W amended the County General Plan to designate the unincorporated land for park, open space and other uses.

On March 4, 2003, the County of Orange, the City of Irvine, and the Irvine Redevelopment Agency entered into a three-party, Property Tax Transfer and Pre-Annexation Agreement (Pre-Annexation Agreement) regarding the annexation and reuse of MCAS El Toro. As part of the Pre-Annexation Agreement, the City

of Irvine agreed that the County of Orange would receive certain lands. The Project site was included in the parcels to be provided to the County as part of the Pre-Annexation Agreement. The Pre-Annexation Agreement also grants the County 'exclusive land use control' over the Project site.

In 2009, 11.8 acres were set aside for the development of a wildlife corridor. This corridor bisects the property into two pieces – a northern portion consisting of 22 acres and a southern portion consisting of 10.3 acres. The wildlife corridor was constructed as a mitigation measure for the recently-completed Alton Parkway extension that extended Alton Parkway between Irvine Boulevard and Towne Centre Drive/Rancho Parkway South to the northeast of the Project site. The corridor is currently maintained by the County of Orange and will ultimately be transferred to the City of Irvine.

1.2 Project Setting

1.2.1 Project Site

The Project site, which is approximately 32.3 acres in size, is located in Planning Area 51 in the City of Irvine. Planning Area 51 generally encompasses the former MCAS El Toro property. The Project site has been disturbed by existing and prior use, but no structures exist on site. A portion of the site is leased to R&S Soils for green waste operations. Magazine Road and an existing access road serve as the only other improvements on the Project site.



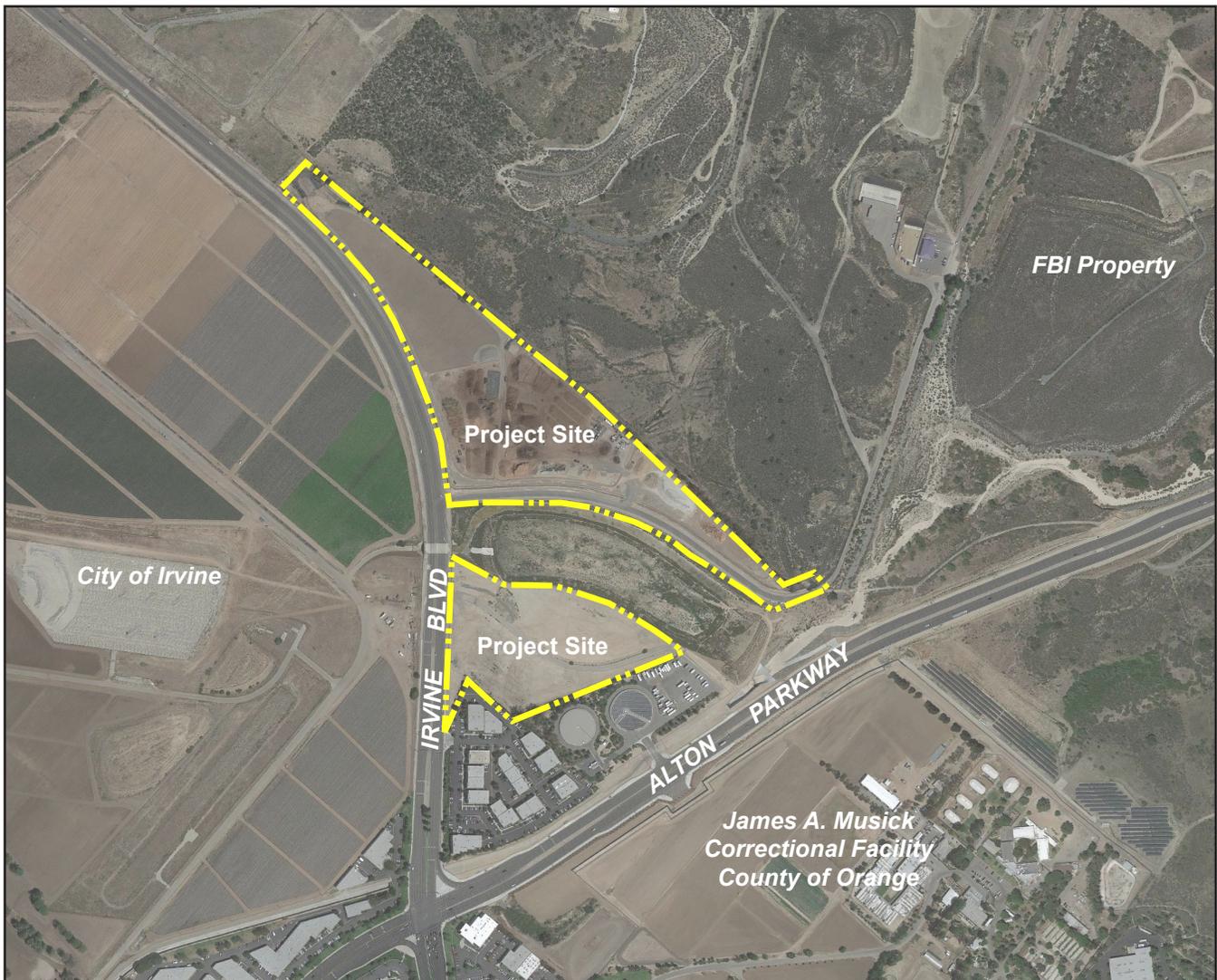
Existing Project Site

1.2.2 Surrounding Land Uses

Surrounding uses include undeveloped portions of Planning Area 51, which are slated for development of Great Park Neighborhood's District 7 to the northwest. Additionally, immediately south and southeast of the Project site are business/industrial uses and IRWD facilities, which includes two large water reservoirs and other facilities. Further to the southeast, across Alton Parkway, is the James A. Musick Jail, a County-run facility. To the northeast is a Federal Bureau of Investigation (FBI) shooting range. Access to the shooting range is via Magazine Road, which runs through the northern portion of the Project site. To the west, across Irvine Boulevard, the Irvine Unified School District constructed the new Portola High School, which opened in fall of 2016.

Directly to the east of the Project site is the Borrego Canyon Wash. This is a natural sandy bottom channel with riprap on some banks and vegetation on other banks. An aerial photograph of the site and surrounding areas is included as *Exhibit 1.3, Site Aerial*.

Exhibit 1.3, Aerial



Source: Google Earth  N. T. S.

1.2.3 Circulation Network

Access to State Route 133 (SR-133) is located just over a 2.5 miles northwest of the Project site via Irvine Boulevard. Access to State Route 241 (SR-241) is located approximately 2.5 miles northeast of the Project site via Alton Parkway, which intersects with Irvine Boulevard approximately 900 feet southeast of the Project site.

Local access to the Project site is currently provided from the existing Irvine Boulevard. Irvine Boulevard is identified as a Major Highway, Six Lanes (*City of Irvine General Plan, 2015*). Irvine Boulevard consists of six (6) lanes abutting the southeasterly portion of the project site and transitions to four (4) lanes continuing to the northwest.

OCTA provides bus transit services throughout the City of Irvine. The nearest OCTA bus stop is located approximately 1,000 feet to the southeast of the Project site at the intersection of Alton Parkway and Irvine Boulevard. From this intersection, riders could travel to the nearby communities of Lake Forest, Laguna Woods, Laguna Hills and Mission Viejo.

1.3 Project Vision

The County of Orange, County Executive Office (CEO) Real Estate/Land Development, in conjunction with Lowe Enterprises and KTGy, conducted an opportunities and constraints analysis and a visioning session for the property. As part of that effort, the team reached out to key stakeholders, including the City of Irvine, Five Point Communities, the Irvine Company and industry professionals, among others, to solicit input on the proposed Project plan.

The vision for the Project is a residential development that offers a variety of product types for the residents of Orange County and to be flexibility to future market conditions. The Project will also respect and protect the wildlife corridor that bisects the Project site. The Vision includes parklets, passive recreation and active recreation intended for the enjoyment of the residents. The Project is also encouraged to take advantage of the natural open space to the north. Many exhibits within this document identify one potential example of a development scenario that conforms to the Project vision established by this Development Plan. The scenario expressly identified in this Development Plan does not limit the County's right to implement different scenarios that are also consistent with this Development Plan.

1.3.1 Opportunities and Constraints Analysis

The Project site includes a number of external influences that will shape the development. These influences include those shown on *Exhibit 1.4, Opportunities and Constraints Analysis*, and described below:

- Natural open space located to the north of the Project site, which consists of a Very High Fire Hazard Severity Zone (VHFHSZ), as defined by CalFire. Additional fuel modification will be required around buildings adjacent to the northerly property line and adjacent to the wildlife corridor to protect the buildings from fire hazards.
- A wildlife corridor located in between the two portions of the Project site. This corridor will be required to be fenced to deter animals and people from entering into the corridor from the Project site.

Exhibit 1.4, Opportunities and Constraints Analysis



- A research and development/light industrial complex, named Allred Center, abutting the southerly portion of the Project site. IRWD reservoirs are also adjacent to the southerly portion of the Project site.
- Borrego Canyon Wash located close to the southeasterly border of the Project site.
- Magazine Road providing access from Irvine Boulevard, through the northerly portion of the Project site to the abutting FBI property. Access to the abutting FBI property must be provided, but may be in the form of an alternative alignment.
- A number of global bio-medical companies, Portola High School, a major University campus (Chapman University's Rinker Health Science Campus) and headquarters for other global corporations are located within approximately a mile of the Project site.
- Revitalize the previously disturbed and presently underutilized Project site.
- Develop the Project in a manner that will materially improve the jobs-housing balance of the area.
- Use an existing County real estate asset to provide the County with a new source of revenue to support County operations and services.
- Develop a project to provide attractive housing opportunities for young professionals to help curtail the trend of young professionals leaving the Orange County area.
- Incorporate housing at a minimum density of 11 dwelling units/acre consistent with State of California guidance regarding the minimum density for facilitating the creation of affordable housing.

1.3.2 Project Objectives

Project objectives have been developed by the County to guide the team through the master planning process. The objectives related to planning and architectural design are identified below:

- Build a project that is compatible with the surrounding existing and planned land uses in the area.
- Create a development that would fully maximize mutual benefits from proximity to the area's employment opportunities and recreational amenities.
- Maximize the potential for use of this County real estate asset to stimulate economic commerce in the City.
- Promote efficient use of land through construction of a medium to high density residential development.
- Take advantage of the ability to develop the Project site without the requirement for the extension of major infrastructure to support the development.

- Provide a project with a range of density, bedroom, and unit types to facilitate the integration of up to one percent of the units as transitional housing for the region's diverse population of homeless or those at risk of becoming homeless.
- Develop a mixed-income project that includes ten percent affordable housing on site in several different product types to help meet the diverse needs of the region's population.

1.4 Land Use Plan & Summary

The Land Use Plan, which reflects one potential development scenario consistent with the Project Vision, is provided as *Exhibit 1-5, Land Use Plan*. The Land Use Plan includes multi-family residential units across two Planning Areas. The density within each Planning Area will not exceed an average of 30 dwelling units to the acre. Each Planning Area will feature a network of parks and open spaces that not only provide recreational opportunities for future residents, but also provide defensible space for wildfires.

Exhibit 1.5, Land Use Plan



1.5 Purpose and Components of the Development Plan

According to Sections 53090–53091 of the California Government Code, counties and cities are exempt from zoning regulations when one entity owns territory within the jurisdiction of another entity. Therefore, the City of Irvine zoning regulations are not applicable to the Project.

The Pre-Annexation Agreement between the City of Irvine and the County designates the County as the land use authority for this Project site. According to Section 7-9-20(i) of the Orange County Zoning Code, land owned or leased to the County is not subject to land use regulations of the County, including the Zoning Code, specific plans, and planned communities. Therefore, this Development Plan identifies permitted land uses, Development Standards, general standards for streets, parking, building types, improvements and landscape, height and density limits for the Project site, and establishes the overall guidance for development, occupancy and use of the Project Site. This Development Plan includes Development Standards and Design Guidelines that are generally consistent with the City of Irvine’s Trails and Transit-Oriented District (TTOD) (8.1) found within the City of Irvine’s Zoning Code. Illustrative renderings and photographic images within this Development Plan are simply a prototypical depiction of possible arrangements of conforming development and not included as requirements for a specific product, mix, use or type of development, or the specific style of design.

This Development Plan establishes the processes by which the County of Orange will evaluate proposals for future development to ensure consistency with the goals, vision, Design Guidelines and requirements of this Development Plan. As future development is proposed for the Project, the County of Orange shall review individual development proposals through review procedures described in *Section 4, Implementation* of this Development Plan.

This Development Plan includes a number of important qualitative objectives. These qualitative objectives are described in *Section 2, Design Guidelines*, and have been prepared to ensure that the vision for the Project is maintained, as the Project is developed over time. The Project review process will ensure that future plans substantially conform to the vision, look, feel and character as referenced in *Section 2, Design Guidelines*. These Design Guidelines are primarily concerned with qualitative guidance and visual inspiration with the purpose of ensuring that all buildings contribute to the sense of place-making and that the streetscapes and open spaces are equally attractive.

The Development Plan includes Development Standards to guide developers, contractors, architects and engineers in designing and developing the Project’s buildings and environment. These Development Standards are specified in *Section 3, Development Standards* of this document. These Development Standards form the basis for evaluation, review and approval of future development parcels. Approvals granted pursuant to *Section 4, Implementation* must be evaluated for consistency with the Development Standards contained in *Section 3, Development Standards*, unless otherwise detailed within this document.

2

DESIGN GUIDELINES

This Section is intended to serve as a supplement to the Development Standards found within *Section 3, Development Standards* to provide a design framework for landscape, streets and buildings and to promote a cohesive community identity.

The strongest level of design intent is specified by the use of terms such as “must,” “shall” and “prohibited.” Preferred design items are designated as a condition which is “encouraged,” “preferred,” “recommended,” “appropriate,” or as one that “should” be included. Preferred design items are considered “voluntary” and need not be included in a proposed development. Items that include one or more criteria or elements that are qualified with “discouraged,” “inappropriate” or “should not” be included, are acceptable, if the Approving Authority finds the proposed design is consistent with the overall design, intent and goals of this Development Plan.

The Design Guidelines are intended to be flexible in nature while establishing basic evaluation criteria for the review of future developments as part of the development review process. With the exception of Design Guidelines indicated as “must,” “shall” or “prohibited,” these Design Guidelines are not regulatory and all proposals shall be reviewed by the appropriate Approving Authority for general consistency with these Design Guidelines. The Approving Authority may find a development consistent with the purpose and intent of this Section without the proposal being consistent with each and every guideline.

2.1 Project Design Goals

As described in *Section 1, Introduction*, compliance with the provisions of this Development Plan will promote the multi-family community that respects and complements its natural setting. The Project design goals listed below have been crafted to implement the Project Vision. Compliance with applicable Design Guidelines and Development Standards will implement the following goals. While all of these goals may not apply to a singular development, future developments should not preclude the implementation of these goals during the build-out of the Project.

While the design goals and Design Guidelines within this Section are not regulatory, all development proposals shall be reviewed by the Approving Authority defined in *Section 4.3.1, Types of Development Review*, for an overall determination of consistency with the applicable Design Guidelines. The Approving Authority may find a future proposal consistent with the purpose and intent of the design goals and Design Guidelines without the proposal being consistent with each and every goal or Design Guideline.

- **Balance Local Employment/Housing Needs.** Due to the concentration of high-quality jobs in the general vicinity and Portola High School, encourage the development of higher-density multi-family housing to provide a diverse housing stock within this area of Irvine and Lake Forest. The housing unit sizes should vary to capture a variety of residents.
- **High Quality Design.** Build upon the platform of quality design, architecture and landscape established by existing and planned residential communities within the area by developing a minimum of two high-quality multi-family neighborhoods.
- **Accessible Recreation Spaces.** Rather than one large park, create multiple smaller parks and parklets linked by trails throughout the Project. Some of these parks may satisfy the recreational needs of the future residents and also be used as defensible space from wildland fires. Parks could

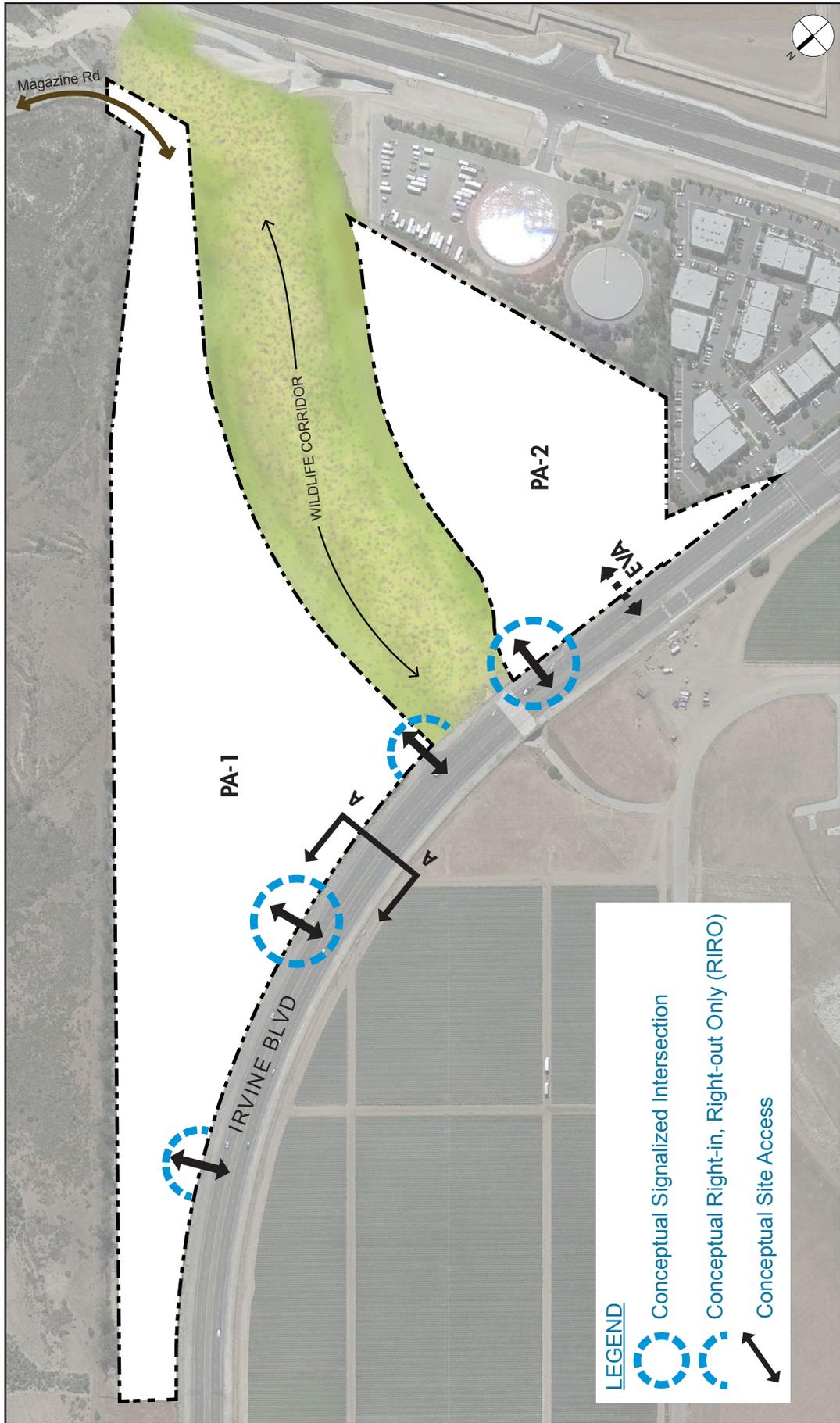
also take advantage of the adjacent natural open spaces to enhance the recreational experience. Each Planning Area should also feature a small active park as the central hub of the neighborhood.

- **Protect Natural Open Spaces.** Future development should be set back from the adjacent natural open spaces to protect these important spaces. Furthermore, the specific design shall minimize disruptions (including, but not limited to, light and glare) to the natural open space areas.
- **Visual Harmony.** Visual harmony should be established between the landscape and architecture of the Project. The architecture should not be dominant to dwarf the landscape, nor should the landscape completely conceal the architecture.
- **Sustainability.** Implement sustainable strategies while encouraging innovative and practical leading-edge technologies to address the design, development, operation and maintenance of the Project. Sustainability should take a market driven approach by focusing on those practices that add value by striking a balance between social, economic, and environmental values.

2.2 Circulation Design

The circulation for the Project is envisioned as two Planning Areas that each offer connections to the City of Irvine's regional multi-modal network. A proposed circulation plan that implements the Vision is shown as *Exhibit 2.1, Circulation Plan*.

Exhibit 2.1, Circulation Plan



Primary access to the Project site is provided by Irvine Boulevard. The City of Irvine classifies Irvine Boulevard as a six-lane Major Arterial Highway. As shown on *Exhibit 2.2, Section A, Irvine Boulevard Cross Section*, the ultimate Irvine Boulevard section consists of three travel lanes in each direction and a Class II bike lane in each direction. The proposed Project accommodates construction of up to two (2) signalized intersections on Irvine Boulevard, as shown on *Exhibit 2.1, Circulation Plan*. Non-signalized, full access intersections and right in, right out only intersections along Irvine Boulevard are also planned at two locations serving the northern portion of the Project site. The southern portion of the Project site includes a secondary emergency access through the adjacent Irvine Ranch Water District (IRWD) facility to Alton Parkway.

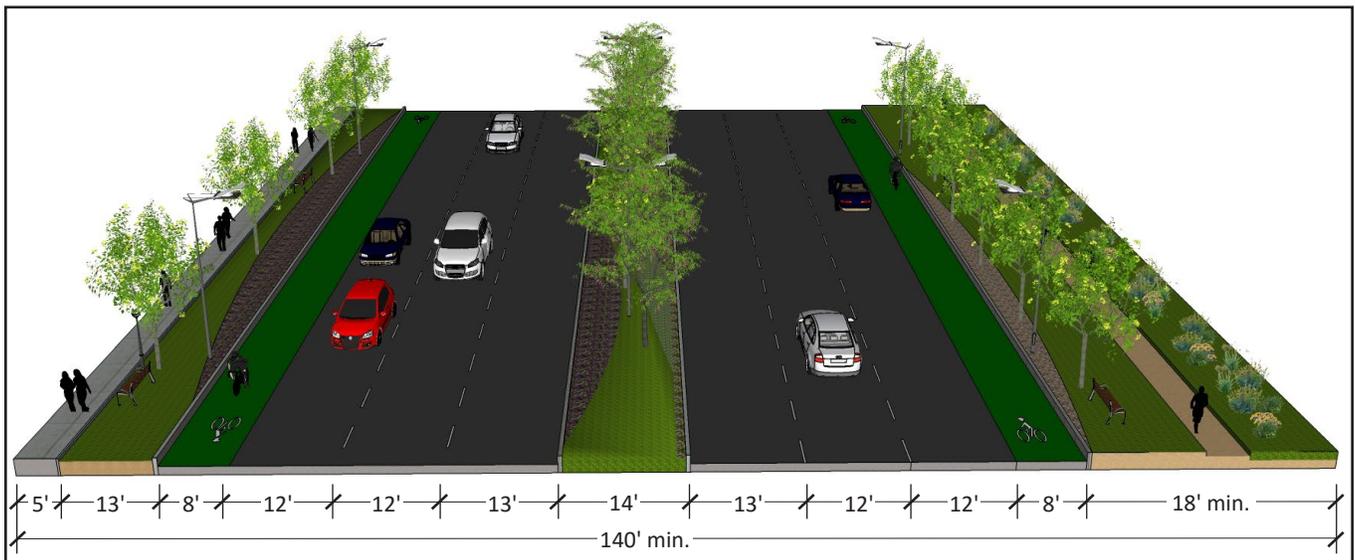
The internal circulation of the Project will typically feature a two-lane drive with on-street parking on at least one side and parkways to encourage a pedestrian-friendly environment. Smaller internal drives, such as alleys, will generally provide access to a small group of dwelling units. The alleys will typically not have on-street parking or parkways. The Design Guidelines and Development Standards include guidance for the internal streets and alleys, which generally follow the City of Irvine regulations. Stop sign-controlled intersections will be included throughout the Project to facilitate safe and efficient traffic flow.

The northern portion of the Project will be designed to include access to the adjacent FBI property. As shown on *Exhibit 2.1, Circulation Plan*, the existing, private service road to the FBI facility, known as Magazine Road, will be partially removed. Access to the FBI property will be redirected through the Project site and will connect to the existing Magazine Road alignment near the northeasterly corner of the Project site.

The following Design Guidelines provide additional design direction to all new development within the Project and are intended to achieve the full vision of the pedestrian-friendly internal circulation system and connections to the City’s regional multi-modal network. The intent is to promote the use of alternative modes of travel (biking, walking and transit) and increase vehicle travel efficiency:

- The Project should promote connections to the Class II bike lane on Irvine Boulevard (refer to *Exhibit 2.2, Irvine Boulevard Cross Section*).
- Incorporate sidewalks on at least one side of all major drives.
- Provide sharrows (a shared vehicle and bike lane) on internal drives.
- Include shade trees on all major drives to provide pedestrian comfort.

Exhibit 2.2, Section A, Irvine Boulevard Cross Section



Source: KTGy, City of Irvine

- Where appropriate, include traffic calming measures such as enhanced crosswalks, bump-outs, chokers, minimum curb radii, and narrow drive widths to reduce vehicle speeds and promote pedestrian and bicycle safety.
- Design bike and pedestrian paths with easy, direct and safe routes for non-vehicular commuting and promote connections to the Orange County Great Park and nearby properties that do not include sensitive biological resources.
- Provide opportunities to connect to off-site public transportation options and accommodate public transportation access within the community.
- Include ample bicycle and pedestrian amenities in strategic locations to make these modes easy, safe, convenient and aesthetically pleasing.
- Encourage providing shared community bicycles, and/or electric bikes.
- Encourage providing fee-based EV charging stations within common parking structures.



Example, Bike Sharing Facility

2.3 Community Landscape

The over-arching vision for the Project site is an interconnected community built upon a dynamic landscape framework that promotes a memorable open space experience. This Development Plan provides for multiple types of residential uses nestled within open space terrain. Through a strong, cohesive design, the landscape character of the Project will reinforce the project design themes while emphasizing community continuity.

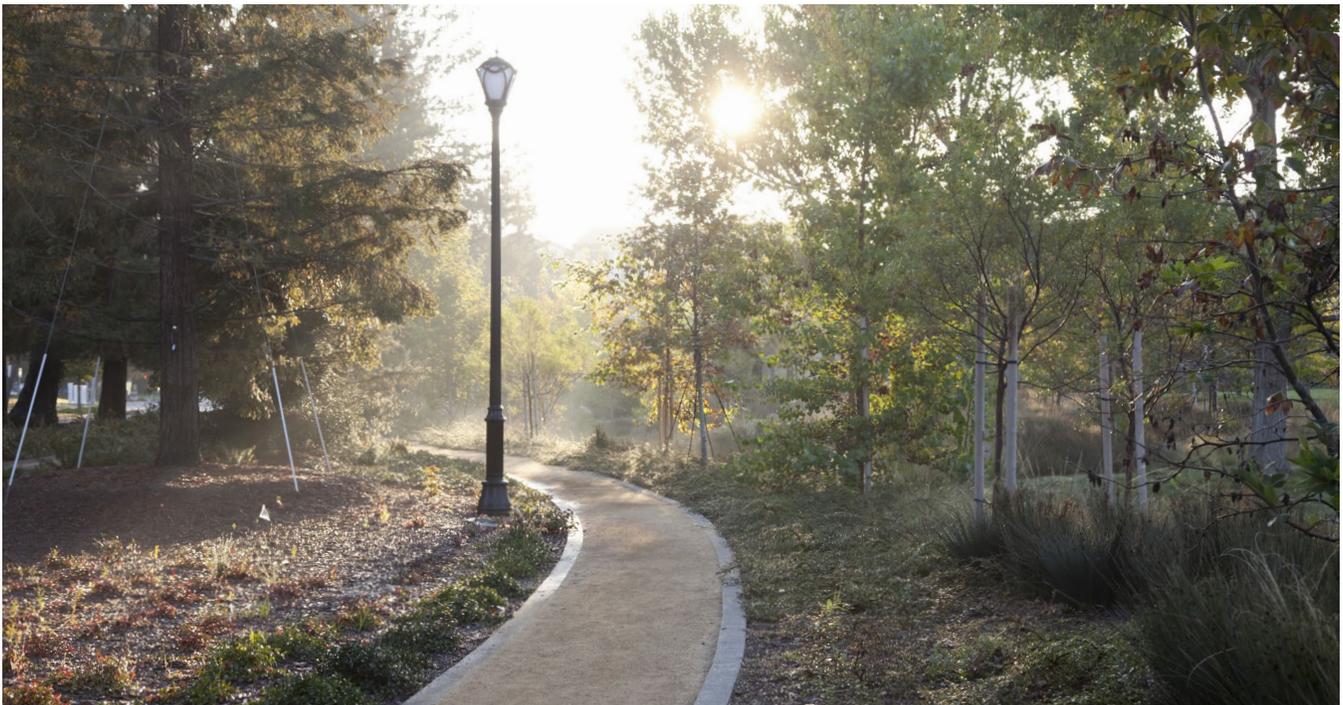
This Subsection includes landscape Design Guidelines that implement the design goals. These Design Guidelines provide an overview of the principles and techniques for creating a community unique to the City of Irvine and the region—a community that embraces the Project’s site context, complements and connects to the regional community at large, and ultimately builds a community landscape framework in which future residents and users can connect with the outdoor environment and open space linkages. The open space network will be comprised of off-street walkways of various types and widths that connect to a variety of outdoor uses (i.e. neighborhood parks, pocket parks, recreational areas and open space trails).

The overall purpose of these Design Guidelines is to ensure a consistent landscape character within the Project through the use of integrated planting schemes, hardscape materials, colors, and character which embrace both planning principles and community architecture. The guidelines will establish community landscape character and significant responsibilities for landscaping within each of the Project’s neighborhoods.

Refer to *Exhibit 2.3, Open Space and Recreation Plan*, for an overall community framework that encompasses planned landscape design elements, sidewalks, trails, focal features and key programming elements.

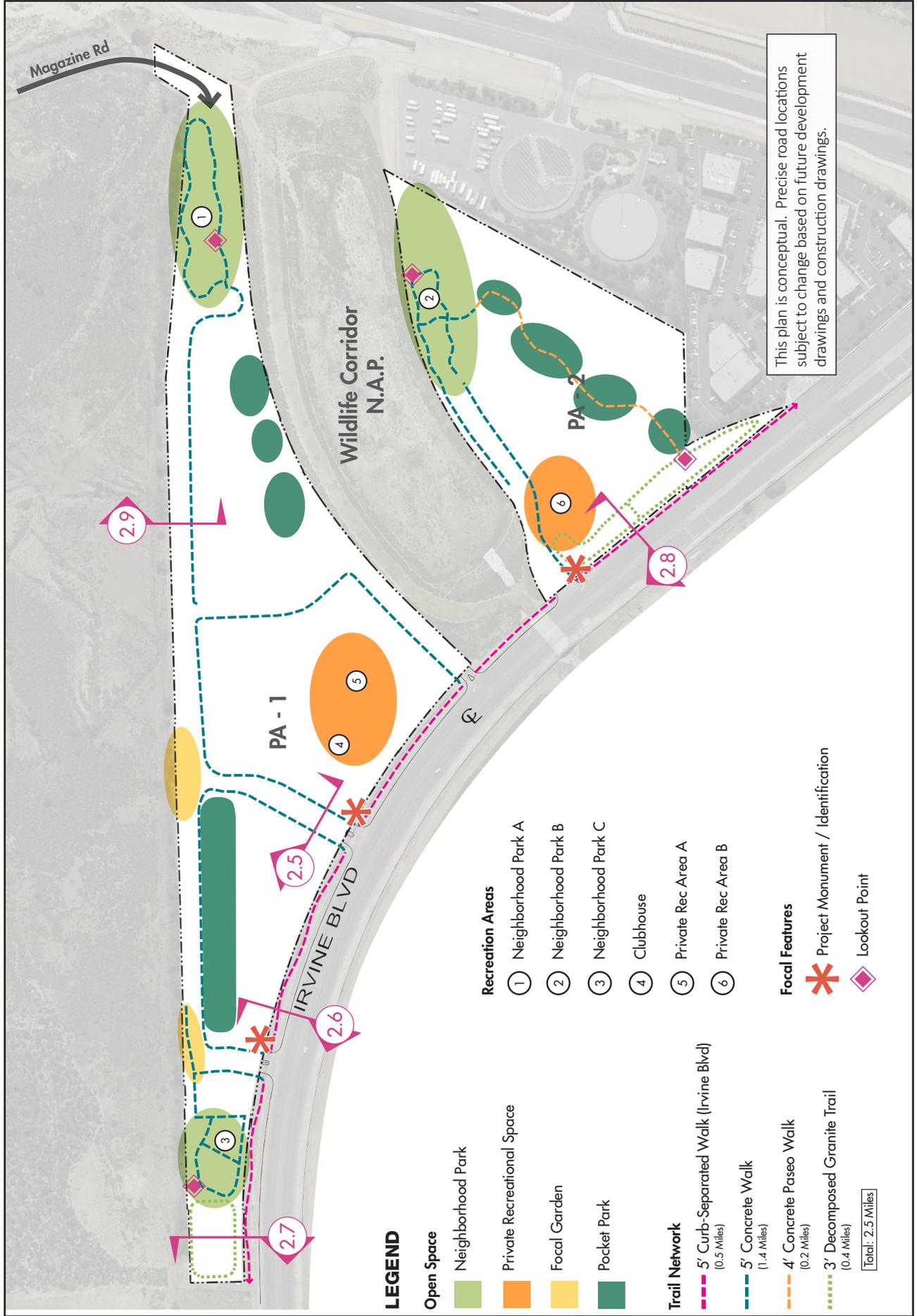
2.3.1 Landscape Character

The landscape character featured within the Project shall be reinforced through neighborhood-based application of both landscape and hardscape materials, as well as thematic planting design. Visual harmony is to be established between the landscape and architectural features of the Project through the introduction of street trees, open space areas, parks and recreational trails. Landscape elements shall



Example, D.G. Trail Nestled within Open Space Landscape

Exhibit 2.3, Open Space & Recreation Plan



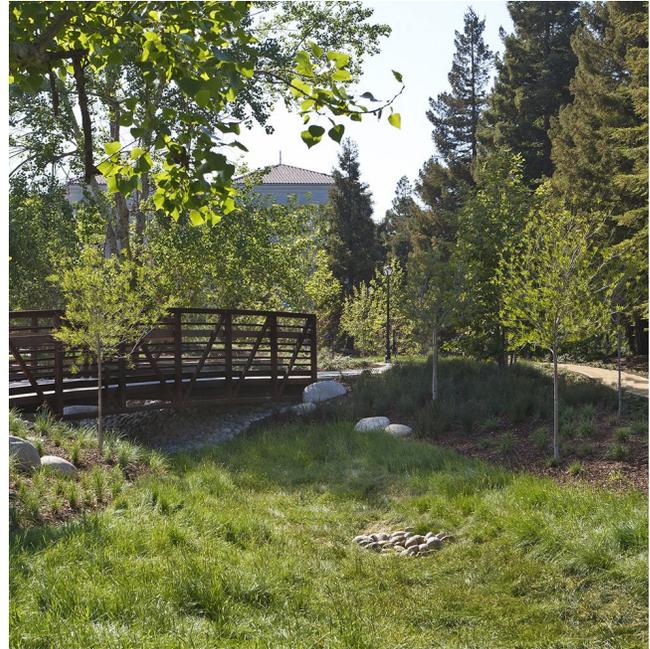
weave in between, through and into buildings to blur indoor-to-outdoor boundaries and promote healthy outdoor living. The goal is to create an intimate, socially interactive and secure neighborhood system. It should encourage active street life and allow for easy access to outdoor amenities, open space trail/walk networks and neighborhood parks.

The hierarchy of neighborhood streets further organizes the community. The streetscene should help establish a sense of neighborhood, location and dwelling. The intent is to create a distinctive streetscape concept that reinforces community character and blends harmoniously with the residential, open space and park land uses.

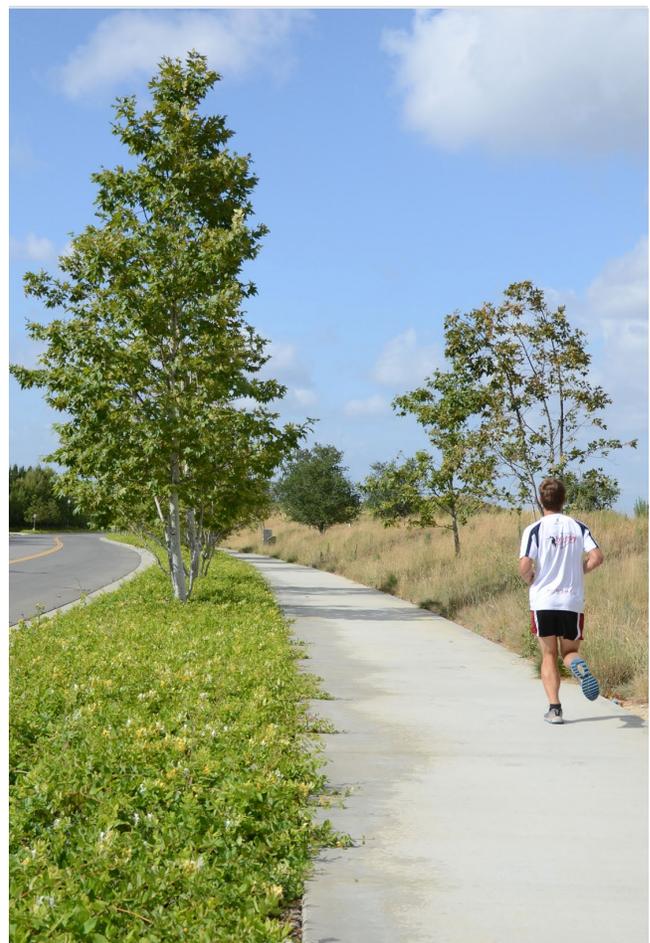
The open space will be developed to create a mixture of recreation, education and programming along with outdoor open space needs for individual residential developments.

Visual and thematic continuity shall be achieved along the Project's streetscapes through neighborhood-based landscape planting. Refer to *Exhibit 2.4, Street Tree Hierarchy Plan*, for an overall scheme for street tree planting throughout the Project site. A variety of deciduous and evergreen street trees shall be planted to define the character of the Project's streets, providing a foundation for a diverse landscape framework within the community. This landscape diversity helps to create an interesting streetscape through contrasting textures and forms. Thoughtful arrangement of plant materials will help create a sense of place, reinforcing Project and neighborhood identities. Thematic application of a diverse palette of shrubs and annual color also greatly contributes to the landscape character of the Project and each of its neighborhoods. Refer to *Table 2.1, Community Plant Palette*, for a comprehensive list of plant material to be used throughout the Project. This palette complies with the requirements identified in *Section 3.14, Landscape and Irrigation*, to allow for a strategic selection of plants that reflects sensitivity to Southern California's climate and promotes water-efficient landscape practices.

Refer to *Exhibit 2.5, Section – Primary Entry Drive*, *Exhibit 2.6, Section – Irvine Boulevard Edge @ Northern Portion*, *Exhibit 2.7, Section - Basin at Northern Portion*, *Exhibit 2.8, Section - Basin at Southern Portion*, *Exhibit 2.9, Section - Landscape Interface at North Boundary*, for section graphics that illustrate various types of landscaped streetscapes throughout the Project.



Living and Recreation Centered around Open Space



Example, Street-Adjacent Pedestrian Trail

Exhibit 2.4, Street Tree Hierarchy Plan

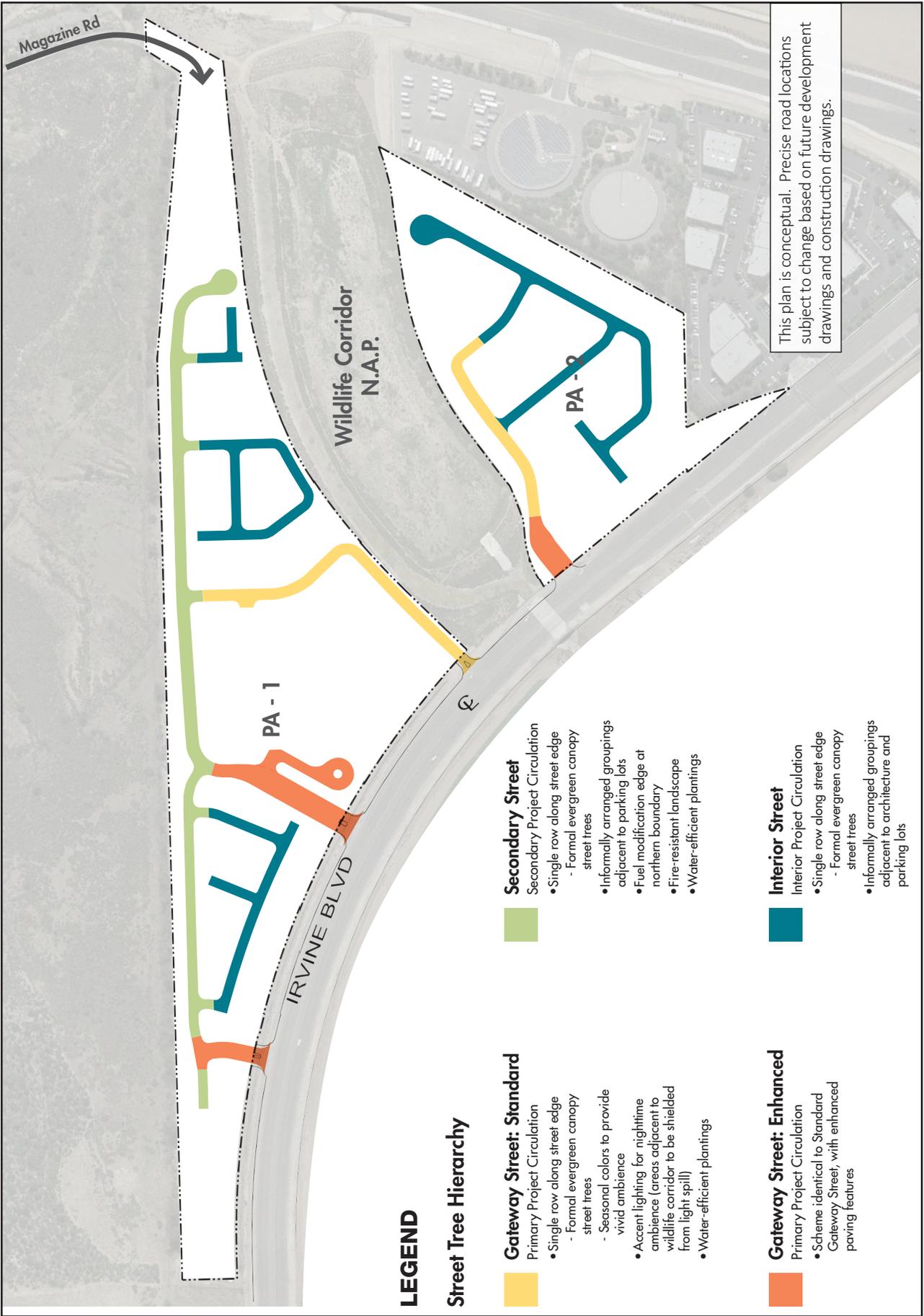


Table 2.1, Community Plant Palette

Very Low Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
TREE (VL)						
	Cercidium ssp.	Palo Verde	D	✓		✓
	Cercidium floridum	Blue Palo Verde	D	✓		✓
	Lyonothamnus floribundus	Catalina Ironwood	E	✓		✓
	Prunus ilicifolia	Hollyleaf Cherry	E	✓		✓
	Prunus ilicifolia 'Lyonii'	Catalina Cherry	E	✓		✓
	Schinus molle	Pepper	E			
SHRUB (VL)						
	Atriplex canescens	Four-Wing Saltbush			✓	✓
	Atriplex lentiformis ssp. Breweri	Brewer Saltbush			✓	✓
	Ceanothus spp.	Wild Lilac			✓	✓
	Ceanothus verrucosus	Wart-stem Ceanothus			✓	✓
	Cercocarpus spp.	Mountain Mahogany				✓
	Cleome isomeris	Bladderpod			✓	✓
	Dendromecon rigida	Bush Poppy			✓	✓
	Encelia californica	California Encelia			✓	✓
	Fremontodendron ssp.	Flannel Bush				✓
	Fremontodendron californicum	California Flannel Bush			✓	✓
	Galvezia juncea	Baja Bush-Snapdragon				✓
	Galvezia speciosa	Island Bush-Snapdragon			✓	✓
	Hakea suaveolens	Sweet Hakea			✓	
	Hesperaloe ssp.	Coahuilan Hesperaloe				
	Hesperaloe parviflora	Red Yucca			✓	
	Juglans californica	California Black Walnut			✓	✓
	Malacothamnus fasciculatus	Chapparal Mallow			✓	✓
	Malosma laurina	Laurel Sumac				✓
	Mirabilis californica	Wishbone Bush			✓	
	Nolina bigelovii	Desert Nolina				✓
	Nolina recurvata	Pony Tail				
	Opuntia ficus-indica	Indian Fig Prickly Pear				
	Opuntia littoralis	Coastal Prickly Pear			✓	✓
	Opuntia oricola	Chaparral Prickly Pear			✓	✓
	Opuntia prolifera	Coastal Cholla			✓	✓
	Opuntia robusta	Prickly Pear				✓
	Rhamnus alaternus	Italian Buckthorn			✓	✓
	Rhamnus californica	California Coffeeberry			✓	✓
	Rhamnus crocea	Redberry			✓	✓
	Rhus integrifolia	Lemonade Berry			✓	✓
	Rhus ovata	Sugar Bush			✓	✓
	Romneya coulteri	Matilija Poppy			✓	✓
	Solanum xantii	Purple Nightshade			✓	✓
	Trichostema lanatum	Woolly Blue Curls			✓	✓
GRASS (VL)						
	Nassella lepida	Foothill Needlegrass			✓	✓
	Nassella pulchra	Purple Needlegrass			✓	✓
GROUNDCOVER (VL)						
	Lampranthus aurantiacus	Bush Ice Plant			✓	
	Lampranthus filicaulis	Redondo Creeper			✓	
	Lampranthus spectabilis	Trailing Ice Plant			✓	
	Malephora luteola	Training Ice Plant			✓	

Table 2.1, Community Plant Palette, cont.

Low Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
<i>TREE (L)</i>						
	Acacia baileyana	Bailey Acacia	E	✓		
	Acacia melanoxylon	Blackwood Acacia	E	✓		
	Acacia stenophylla	Shoestring Acacia	E	✓		
	Arbutus unedo	Strawberry	E		✓	
	Brachychiton acerifolius	Illawarra Flame	SD	✓		
	Brachychiton discolor	Queensland Lace Bark	SD	✓		
	Brachychiton populneus	Bottle	E			
	Brahea armata	Mexican Blue Palm	E			
	Brahea edulis	Guadalupe Palm	E			
	Cedrus deodara	Deodar Cedar	E			
	Ceratonia siliqua	Carob	E		✓	
	Cercis mexicana	Mexican Redbud	D	✓		
	Cercis occidentalis	Western Redbud	D	✓	✓	✓
	Chorisia speciosa	Floss Silk	SD	✓		
	Erythrina coralloides	Naked Coral	D	✓	✓	
	Erythrina caffra	Kaffir Bloom Coral	SD	✓	✓	
	Erythrina crista-galli	Cockspur Coral	D	✓	✓	
	Feijoa sellowiana	Pineapple Guava	E		✓	
	Geijera parviflora	Australian Willow	E			
	Koelreuteria paniculata	Golden Rain	D			
	Lagunaria patersonii	Primrose Tree	E	✓	✓	
	Laurus nobilis	Sweet Bay	E			
	Leptospermum laevigatum	Australian Tea	E	✓		
	Melaleuca armillaris	Drooping Melaleuca	E	✓		
	Melaleuca linariifolia	Flax Leaf Paper Bark	E	✓		
	Melaleuca nesophila	Pink Melaleuca	E	✓	✓	
	Olea europaea	Olive	E			
	Parkinsonia aculeata	Mexican Palo Verde	D	✓	✓	✓
	Phoenix canariensis	Canary Island Date Palm	E			
	Phoenix dactylifera	Date Palm	E			
	Prosopis chilensis	Chilean Mesquite	E			
	Prosopis glandulosa	Honey Mesquite	D			✓
	Prunus lyonii	Catalina Cherry	E	✓		
	Quercus agrifolia	Coast Live Oak	E		✓	✓
	Quercus douglasii	Blue Oak	D			
	Quercus engelmannii	Mesa Oak	E		✓	✓
	Quercus ilex	Holly Oak	E			
	Quercus lobata	Valley Oak	D			✓
	Quercus suber	Cork Oak	E		✓	
	Rhus lancea	African Sumac	E		✓	
	Robinia x ambigua 'Idahoensis'	Idaho Locust	D	✓		
	Robinia x ambigua 'Purple Robe'	Purple Robe Locust	D	✓		
	Robinia pseudoacacia	Black Locust	D	✓		
	Sambucus mexicana	Mexican Elderberry	D	✓	✓	✓
	Yucca spp.	Yucca	E	✓	✓	✓
	Yucca whipplei	Our Lord's Candle	E	✓	✓	✓
	Zelkova serrata	Sawleaf Zelkova	D			

Table 2.1, Community Plant Palette, cont.

Low Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
<i>SHRUB (L)</i>						
	Acacia cultriformis	Knife-leaf Acacia				
	Acacia langifolia	Sydney Golden Wattle				
	Acacia redolens 'Desert Carpet'	Prostrate Acacia			✓	
	Acacia saligna	Orange Wattle				
	Acanthus mollis	Bear's Breech				
	Achillea millefolium	Common Yarrow			✓	
	Achillea tomentosa	Woolly Yarrow			✓	
	Aeonium arboretum	Canary Island Rose				
	Aeonium decorum	Aeonium			✓	
	Aeonium simsii	Aeonium			✓	
	Agave spp.	Agave			✓	
	Aloe spp.	Aloe			✓	
	Alyogyne huegelii	Blue Hibiscus			✓	
	Arctostaphylos glandulosa ssp.	Manzanita			✓	✓
	Arctostaphylos glauca	Big Berry Manzanita				✓
	Arctostaphylos 'Howard McMinn'	Howard McMinn Manzanita				✓
	Arctostaphylos 'John Dourley'	John Dourley Manzanita				✓
	Arctostaphylos pungens	Pointleaf Manzanita			✓	
	Arctostaphylos refugioensis	Refugio Manzanita			✓	
	Arctostaphylos uva-ursi ssp.	Bearberry			✓	✓
	Arctostaphylos x 'Greensphere'	Greensphere Manzanita			✓	✓
	Artemisia arborescens	Shrubby Wormwood				✓
	Artemisia pycnocephala	Beach Sagewort			✓	✓
	Baccharis 'Centennial'	Baccharis centennial				✓
	Baccharis emoryi	Emory Baccharis			✓	✓
	Baccharis pilularis consanguinea	Coyote Bush			✓	✓
	Baccharis pilularis 'Pigeon Point'	Coyote Bush				✓
	Baccharis pilularis 'Twin Peaks'	Coyote Bush Prostrate				✓
	Baccharis pilularis 'Twin Peaks #2'	Dwarf Coyote Bush			✓	✓
	Baccharis salicifolia	Mulefat			✓	✓
	Beaucarnea recurvata	Bottle Palm				
	Bougainvillea spectabilis	Bougainvillea			✓	
	Cassia artemisioides	Feathery Cassia				
	Ceanothus griseus horizontalis	Yankee Point			✓	✓
	Ceanothus g. 'Louis Edmunds'	Louis Edmunds Ceanothus			✓	✓
	Cistus spp.	Rockrose			✓	
	Cistus hybridus	White Rockrose			✓	
	Cistus incanus ssp.	Hairy Rockrose			✓	
	Cistus salvifolius	Sageleaf Rockrose			✓	
	Cistus x purpureus	Orchid Rockrose			✓	
	Clivia miniata	Kaffir Lily				
	Correa alba spp.	Australian Fuschia				
	Correa backhouseana	Australian Fuschia				
	Correa reflexa spp.	Australian Fuschia				

Table 2.1, Community Plant Palette, cont.

Low Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
<i>SHRUB (L)</i>						
	Cotoneaster buxifolius	Boxwood Cotoneaster			✓	
	Cotoneaster parneyi	Milkflower Cotoneaster			✓	
	Cotoneaster salicifolius	Willowleaf Cotoneaster				
	Crassula argentea	Jade Plant			✓	
	Dodonaea viscosa	Hopseed Bush			✓	
	Echeveria spp.	Hens and Chicks				
	Echium fastuosum	Pride of Madeira				
	Echium fastuosum 'Select Blue'	Select Blue Pride of Madeira				
	Elaeagnus pungens	Silverberry			✓	
	Epilobium canum	California Fuschia				✓
	Eriodictyon crassifolium	Thick Leaf Yerba Santa			✓	✓
	Eriodictyon trichocalyx	Yerba Santa			✓	✓
	Eriophyllum confertiflorum	Golden Yarrow			✓	✓
	Euphorbia milii	Crown of Thorns				
	Garrya elliptica	Coast Silktassel			✓	✓
	Gilia capitata	Blue Thimble Flower			✓	✓
	Gilia leptantha	Showy Gilia			✓	✓
	Gilia tricolor	Bird's Eyes			✓	✓
	Gnaphalium californicum	California Everlasting			✓	✓
	Grevillea spp.	Grevillea				
	Heteromeles arbutifolia	Toyon			✓	✓
	Kalanchoe spp.	Kalanchoe				
	Kniphofia uvaria	Red Hot Poker			✓	
	Lantana camara cultivars	Yellow Sage			✓	
	Lantana montevidensis	Lantana			✓	
	Lavandula dentata	French Lavender			✓	
	Lavandula spp.	Lavender				
	Leonotus leonurus	Lion's Tail				
	Leptospermum laevigatum	Australian Tea			✓	
	Leucophyllum frutescens	Texas Ranger			✓	
	Limonium pectinatum	Statice			✓	
	Limonium perezii	Statice			✓	
	Lotus scoparius	Deer Weed				✓
	Lupinus bicolor	Sky Lupine			✓	✓
	Mahonia nevinii	Nevin Mahonia			✓	✓
	Mimulus spp. (Diplacus spp.)	Monkey Flower			✓	✓
	Myoporum insulare	Boobyalla			✓	
	Myoporum laetum 'Carsonii'	Myoporum				
	Myrica californica	Pacific Wax Myrtle				✓
	Myrsine africana	African Boxwood				
	Myrtus communis	True Myrtle				
	Nandina domestica	Heavenly Bamboo				
	Nolina spp.	Mexican Grasstree			✓	
	Nolina cismontana	California Beargrass			✓	✓
	Oenothera hookeri	California Evening Primrose			✓	✓
	Oenothera speciosa	Show Evening Primrose			✓	✓

Table 2.1, Community Plant Palette, cont.

Low Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
SHRUB (L)						
	Phlomis fruticosa	Jerusalem Sage				
	Phormium tenax spp.	New Zealand Flax				
	Portulacaria afra	Elephant's Food			✓	
	Prunus ilicifolia	Holly Leaf Cherry			✓	✓
	Prunus lyonii	Catalina Cherry			✓	✓
	Pyracantha coccinea	Firethorn			✓	
	Pyracantha 'Ruby Mound'	Firethorn			✓	
	Pyracantha 'Tiny Tim'	Firethorn			✓	
	Ribes aureum	Golden Currant			✓	✓
	Ribes indecorum	White Flowering Currant			✓	✓
	Ribes speciosum	Fuchsia Flowering Gooseberry			✓	✓
	Ribes viburnifolium	Evergreen Currant			✓	✓
	Rosmarinus officinalis ssp.	Rosemary			✓	
	Salvia greggii	Autumn Sage			✓	
	Salvia leucantha	Mexican Sage				
	Sambucus racemosa	Red Elderberry				✓
	Santolina chamaecyparissus	Lavender Cotton			✓	
	Santolina virens	Santolina			✓	
	Sedum spp.	Stonecrop				✓
	Sedum acre	Goldmoss Sedum			✓	
	Sedum album	Green Stonecrop			✓	
	Sedum confusum	Lesser Mexican Stonecrop			✓	
	Sedum x rubrotinctum	Pork and Beans			✓	
	Sempervivum tectorum	Hens and Chicks				
	Senecio brasiliensis	Maria Mole				
	Sisyrinchium bellum	Blue-eyed Grass			✓	✓
	Westringia fruticosa	Coast Rosemary			✓	
	Xanthorrhoea spp.	Grass Tree			✓	
	Yucca spp.	Yucca				✓
GROUNDCOVER (L)						
	Agave lechuguilla	Shindagger				
	Agave victoriae-reginae	Agave			✓	
	Aloe aristata	Lace Aloe			✓	
	Aloe brevifolia	Short-lived Aloe			✓	
	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita			✓	✓
	Arctostaphylos edmundsii	Little Sur Manzanita			✓	✓
	Arctostaphylos h. 'Monterey Carpet'	Monterey Carpet Manzanita			✓	✓
	Arctostaphylos uva-ursi ssp.	Bearberry			✓	✓
	Artemisia caucasica	Silver Spreader			✓	✓
	Baccharis spp.	Dwarf Coyote Brush				
	Baileya multiradiata	Desert Marigold			✓	✓
	Carissa grandiflora 'Green Carpet'	Prostrate Natal Plum				
	Coreopsis californica	California Coreopsis			✓	✓
	Coreopsis lanceolata	Coreopsis			✓	✓
	Correa pulchella	Australian Fuschia			✓	
	Correa reflexa 'Cape Carpet'	Australian Fuschia				

Table 2.1, Community Plant Palette, cont.

Low Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
GROUNDCOVER (L)						
	Cotoneaster congestus 'Likiang'	Likiang Cotoneaster			✓	
	Crassula lactea	Taylor's Parches			✓	
	Crassula multicava	Fairy Crassula			✓	
	Crassula tetragona	Miniature Pine Tree			✓	
	Croton californicus	California Croton			✓	✓
	Delosperma 'Alba'	White Trailing Ice Plant			✓	
	Eschscholzia californica	California Poppy			✓	✓
	Eschscholzia mexicana	Mexican Poppy			✓	✓
	Juniperus conferta	Shore Juniper				
	Lobelia erinus	Garden Lobelia				
	Myoporum x 'Pacificum'	Myoporum			✓	
	Myoporum parvifolium	Prostrate Myoporum			✓	
	Myoporum p. 'Putah Creek'	Wide-leaf Myoporum				
	Myoporum 'South Coast'	South Coast Myoporum				
	Oenothera berlandieri	Mexican Evening Primrose			✓	✓
	Oscularia spp.	Oscularia				
	Osteospermum fruticosum	Trailing African Daisy			✓	
	Pyracantha koidzumii 'Santa Cruz'	Firethorn			✓	
	Senecio mandraliscae	Kleinia				
	Senecio serpens	Blue Chalksticks			✓	
	Salvia officinalis	Garden Sage				
	Salvia sonomensis	Creeping Sage			✓	
	Scaevola 'Mauve Clusters'	Scaevola				
	Sutera cordata 'Giant Snowflake'	White Bacopa				
	Teucrium chamaedrys	Germander			✓	
	Teucrium c. 'Prostratum'	Prostrate Germander				
	Teucrium fruticans	Bush Germander				
	Verbena peruviana	Peruvian Verbena			✓	
VINES (L)						
	Bougainvillea ssp.	Bougainvillea			✓	
	Hibbertia scandens	Guinea Gold Vine				
	Lonicera japonica 'Halliana'	Hall's Japanese Honeysuckle			✓	
	Lonicera subspicata	Wild Honeysuckle			✓	
	Macfadyena unguis-cati	Cat's Claw				

Table 2.1, Community Plant Palette, cont.

Moderate Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
<i>TREE (M)</i>						
	Acer macrophyllum	Big Leaf Maple	D		✓	✓
	Albizia julibrissin	Silk	D	✓		
	Alnus cordata	Italian Alder	D		✓	
	Araucaria heterophylla	Norfolk Island Pine	E			
	Bauhinia blakeana	Hong Kong Orchid	SD	✓		
	Bauhinia purpurea	Orchid	SD	✓		
	Bauhinia purpurea 'Candida'	Orchid	SD	✓		
	Bauhinia variegata 'Candida'	Purple Orchid	SD	✓		
	Brachychiton x 'Majestic Beauty'	Majestic Beauty Flame	SD	✓		
	Brahea brandegeei	San Jose Hesper Palm	E			
	Calocedrus decurrens	Incense Cedar	E			✓
	Calodendrum capense	Cape Chestnut	SD	✓		
	Cassia leptophylla	Gold Medallion	SE	✓		
	Cercis canadensis	Eastern Redbud	D	✓		
	Chamaerops humilis	Mediterranean Fan Palm	E			
	Chionanthus retusus	Chinese Fringe	D	✓		
	Cinnamomum camphora	Camphor	E			
	Citrus spp.	Orange, Lemon, etc.	E	✓	✓	
	Cupaniopsis anacardioides	Carrotwood	E			
	Eriobotrya deflexa	Bronze Loquat	E	✓		
	Eriobotrya japonica	Loquat	E	✓	✓	
	Eriobotrya japonica 'Coppertone'	Coppertone Loquat	E	✓	✓	
	Ficus benjamina	Weeping Fig	SD	✓		
	Ficus microcarpa n. 'Green Gem'	Green Gem Fig	E			
	Ficus microcarpa nitida	Indian Laurel Fig	E			
	Ficus rubiginosa	Rusty Leaf Fig	E			
	Ficus rubiginosa 'Florida'	Florida Rusty Leaf Fig	E			
	Fraxinus uhdei	Shamel Ash	SE			
	Fraxinus velutina ssp.	Arizona Ash	D			
	Ginkgo biloba	Maiden Hair	D		✓	
	Jacaranda mimosifolia	Jacaranda	SE	✓		
	Koelreuteria bipinnata	Chinese Flame	D	✓		
	Lagerstroemia x fauriei	Crape Myrtle	D	✓		
	Lagerstroemia indica	Crape Myrtle	D	✓	✓	
	Leptospermum scoparium	New Zealand Tea	E	✓		
	Liquidambar styraciflua	Sweet Gum	D		✓	
	Liriodendron tulipifera	Tulip	D	✓	✓	
	Lophostemon confertus	Brisbane Box	E			
	Lyonothamnus f. ssp. Asplenifolius	Fernleaf Ironwood	E		✓	
	Macadamia integrifolia	Macadamia Nut	E	✓	✓	
	Magnolia grandiflora	Southern Magnolia	E	✓		
	Magnolia g. 'DD Blanchard'	DD Blanchard Magnolia	E	✓		
	Magnolia g. 'Little Gem'	Little Gem Southern Magnolia	E	✓		
	Magnolia g. 'Majestic Beauty'	Majestic Beauty Magnolia	E	✓		
	Magnolia g. 'Russet'	Russet Magnolia	E	✓		
	Magnolia g. 'Samuel Sommer'	Samuel S. Southern Magnolia	E	✓		
	Magnolia g. 'St. Mary's'	St. Mary's Southern Magnolia	E	✓		
	Magnolia soulangeana	Saucer Magnolia	D	✓		
	Magnolia stellata	Star Magnolia	D	✓		
	Maytenus boaria	Mayten	E		✓	
	Melaleuca quinquenervia	Cajeput	E	✓		
	Metrosideros excelsa	New Zealand Christmas	E	✓	✓	

Table 2.1, Community Plant Palette, cont.

Moderate Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
TREE (M)						
	<i>Pistacia chinensis</i>	Chinese Pistache	D		✓	
	<i>Pittosporum undulatum</i>	Victorian Box	E		✓	
	<i>Pittosporum viridiflorum</i>	Cape Pittosporum	E			
	<i>Platanus acerifolia</i>	London Plane	D			
	<i>Platanus acerifolia</i> 'Bloodgood'	Bloodgood London Plane	D			
	<i>Platanus acerifolia</i> 'Yarwood'	Yarwood London Plane	D			
	<i>Platanus racemosa</i>	California Sycamore	D		✓	✓
	<i>Podocarpus gracilior</i>	Fern Pine	E			
	<i>Podocarpus henkelii</i>	Long Leaf Yellow Wood	E			
	<i>Populus canadensis</i>	Carolina Poplar	D			
	<i>Populus fremontii</i>	Western Poplar	D		✓	✓
	<i>Populus nigra</i> 'Italica'	Lombardy Poplar	D			
	<i>Prunus caroliniana</i>	Carolina Laurel Cherry	E	✓	✓	
	<i>Prunus cerasifera</i> 'Krauter Vesuvius'	Krauter V. Flowering Plum	D	✓		
	<i>Prunus cerasifera</i> 'Thundercloud'	Thundercloud Flowering Plum	D	✓		
	<i>Prunus</i> spp.	Flowering Cherry	E/D	✓		
	<i>Punica granatum</i>	Pomegranate	D	✓	✓	
	<i>Pyrus calleryana</i> spp.	Callery Pear	D	✓		
	<i>Pyrus kawakamii</i>	Evergreen Pear	SE	✓		
	<i>Quercus kelloggii</i>	California Black Oak	D			✓
	<i>Quercus rubra</i>	Northern Red Oak	D			
	<i>Schefflera actinophylla</i>	Queensland Umbrella	E	✓		
	<i>Schinus terebinthifolius</i>	Brazilian Pepper	E			
	<i>Spathodea campanulata</i>	African Tulip	E	✓		
	<i>Stenocarpus sinuatus</i>	Firewheel	E	✓	✓	
	<i>Tabebuia impetiginosa</i>	Pink Trumpet	SE	✓		
	<i>Tipuana tipu</i>	Tipu	D	✓		
	<i>Tristaniopsis laurina</i>	Water Gum	E			
	<i>Ulmus parvifolia</i> ssp.	Chinese Evergreen Elm	SE			
	<i>Umbellularia californica</i>	California Laurel	E		✓	✓
SHRUB (M)						
	<i>Abelia</i> 'Edward Goucher'	Pink Abelia				
	<i>Abelia</i> x <i>grandiflora</i>	Glossy Abelia			✓	
	<i>Agapanthus africanus</i>	Lily-of-the-Nile				
	<i>Anigozanthos flavidus</i>	Kangaroo Paw			✓	
	<i>Antirrhinum nuttalianum</i>	Nuttall's Snapdragon			✓	✓
	<i>Asparagus densiflorus</i> 'Meyers'	Meyers Asparagus				
	<i>Asparagus densiflorus</i> 'Sprengeri'	Sprenger Asparagus				
	<i>Aucuba japonica</i>	Japanese Aucuba				
	<i>Azalea</i> spp.	Azalea				
	<i>Bambusa</i> spp.	Bamboo				
	<i>Bambusa multiplex</i> 'Alphonse Karr'	Alphonse Karr Bamboo				
	<i>Bambusa oldhamii</i>	Oldham Bamboo				
	<i>Brunfelsia pauciflora</i> 'Floribunda'	Yesterday, Today & Tomorrow				
	<i>Brunfelsia</i> p. 'Floribunda Compacta'	Yesterday, Today & Tomorrow				
	<i>Brunfelsia pauciflora</i> 'Macrantha'	Royal Purple Brunfelsia				
	<i>Buxus microphylla japonica</i>	Japanese Boxwood				
	<i>Calliandra eriophylla</i>	Fairy Duster				
	<i>Calliandra haematocephala</i>	Pink Powder Puff				
	<i>Calliandra tweedii</i>	Brazilian Flame Bush				

Table 2.1, Community Plant Palette, cont.

Moderate Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
<i>SHRUB (M)</i>						
	Carissa grandiflora	Natal Plum				
	Carissa grandiflora 'Tuttlei'	Tuttle Natal Plum				
	Carissa macrocarpa	Natal Plum			✓	
	Clarkia bottae	Showy Fairwell to Spring			✓	
	Coleonema pulchrum	Breath of Heaven				
	Collinsia heterophylla	Chinese Houses			✓	
	Comarostaphylis diversifolia	Summer Holly			✓	
	Convolvulus cneorum	Bush Morning Glory			✓	
	Coprosma pumila	Prostrate Coprosma			✓	
	Coprosma repens	Mirror Plant				
	Coprosma repens 'Variegata'	Variegated Mirror Plant				
	Coprosma x kirkii	Creeping Mirror Plant			✓	
	Cordyline australis	Cabbage Tree				
	Cordyline 'Burgundy Spire'	Burgundy Spire Cordyline				
	Cordyline fruticosa	Black Good Luck Plant				
	Cordyline x 'Jurred'	Festival Grass Cordyline				
	Cuphea hyssophylla	False Heather				
	Cyclamen persicum hybrids	Florists' Cyclamen				
	Dietes bicolor	Fortnight Lily				
	Dietes vegeta	Fortnight Lily				
	Dudleya lanceolata	Lance-leaved Dudleya			✓	✓
	Dudleya pulverulenta	Chalk Dudleya			✓	✓
	Escallonia spp.	Escallonia			✓	
	Fatshedera lizei	Botanical Wonder				
	Fatsia japonica	Japanese Aralia				
	Gardenia jasminoides	Cape Jasmine				
	Hebe spp.	Hebe				
	Hebe 'Evansii'	Veronica Rubra				
	Hebe 'Veronica Lake'	Veronica Lake Hebe				
	Helianthemum mutabile	Rock Rose			✓	
	Helianthemum scoparium	Rush Rose			✓	✓
	Hemerocallis spp.	Daylily				
	Hibbertia scandens	Guinea Gold Vine				
	Hibiscus rosa sinensis	Chinese Hibiscus				
	Hydrangea macrophylla	Hydrangea				
	Hydrangea paniculata 'Grandiflora'	Peegee Hydrangea				
	Ilex altaclerensis 'Wilsonii'	Wilson Holly				
	Ilex cornuta 'Burfordii'	Burford Holly				
	Ilex cornuta 'Carissa'	Dwarf Chinese Holly				
	Keckiella antirrhinoides	Yellow Bush Penstemon			✓	
	Keckiella cordifolia	Heart Leaved Penstemon			✓	
	Keckiella ternata	Summer Bush Penstemon			✓	
	Lavatera spp.	Mallow				
	Ligustrum japonicum	Japanese Privet			✓	
	Ligustrum lucidum	Glossy Privet				
	Liriope muscari	Big Blue Lily Turf				
	Lomandra longifolia 'Breeze'	Mat Rush				
	Mahonia a. 'Golden Abundance'	Golden A. Oregon Grape			✓	✓
	Nephrolepis cordifolia	Southern Sword Fern				
	Nerium oleander	Oleander			✓	
	Osmanthus fragrans	Sweet Olive			✓	

Table 2.1, Community Plant Palette, cont.

Moderate Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
SHRUB (M)						
	Penstemon spp.	Beard Tongue			✓	
	Philodendron selloum	Split Leaf Philodendron				
	Phyllostachys aurea spp.	Golden Bamboo				
	Photinia x fraseri	Fraser Photinia			✓	
	Phyllostachys bambusoides	Japanese Timber Bamboo				
	Pittosporum crassifolium	Evergreen Pittosporum				
	Pittosporum tobira	Mock Orange				
	Plumbago auriculata	Cape Plumbago			✓	
	Prunus caroliniana	Carolina Laurel Cherry			✓	
	Psidium littorale	Strawberry Guava				
	Punica granatum 'Nana'	Dwarf Pomegranate			✓	
	Rhaphiolepis indica	Indian Hawthorne			✓	
	Rosa spp.	Rose				
	Schefflera actinophylla	Octopus				
	Solanum rantonnetii	Paraguay Nightshade				
	Sisyrinchium californicum	Golden-eyed Grass				✓
	Strelitzia nicolai	Giant Bird of Paradise			✓	
	Strelitzia reginae	Bird of Paradise			✓	
	Symphoricarpos mollis	Creeping Snowberry			✓	✓
	Tecoma stans	Yellow Bells			✓	
	Tecomaria capensis	Cape Honeysuckle			✓	
	Trachelospermum asiaticum	Asiaticum				
	Trachelospermum jasminoides	Star Jasmine			✓	
	Tulbaghia violacea	Society Garlic				
	Viburnum japonicum	Japanese Viburnum				
	Viburnum opulus	European Cranberry Bush				
	Viburnum plicatum tomentosum	Doublefile Viburnum				
	Viburnum suspensum	Sandanqua Viburnum				
	Viburnum tinus 'Robustum'	Round Laurustinus				
	Viburnum tinus 'Spring Bouquet'	Spring Bouquet Laurustinus				
	Xylosma congestum	Shiny Xylosma			✓	
	Zauschneria californica	Hoary California Fuschia			✓	
GRASS (M)						
	Carex elata 'Bowles Golden'	Bowles Golden Sedge				
	Carex stricta	Sedge				
	Carex texensis	Texas Sedge				✓
	Festuca californica	California Fescue				✓
	Festuca 'Elijah Blue'	Elijah Blue Fescue				
	Festuca glauca	Blue Glow Fescue				
	Festuca mairei	Atlas Fescue				
	Festuca ovina glauca	Blue Fescue				
	Festuca 'Siskyou Blue'	Siskyou Blue Fescue				
	Festuca trachyphylla	Rana Creek Fescue				
	Leymus condensatus	Giant Wild Rye			✓	
	Miscanthus senensis cv.	Japanese Silver Grass				
	Muhlenbergia rigens	Deer Grass				✓
	Nolina bigelovii	Beargrass				✓
	Stipa pulchra	Purple Needle Grass				✓
	Stipa tenuissima	Fine Stem Grass				
	Zoysia tenuifolia	Korean Grass				

Table 2.1, Community Plant Palette, cont.

Moderate Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
GROUNDCOVER (M)						
	Ajuga reptans	Carpet Bugle			✓	
	Aptenia cordifolia x 'Red Apple'	Red Apple Aptenia			✓	
	Armeria maritima	Sea Thrift				✓
	Campanula poscharskyana	Serbian Bellflower				
	Carpobrotus chilensis	Sea Fig Ice Plant			✓	
	Cerastium tomentosum	Snow-in-Summer			✓	
	Cotoneaster congestus 'Likiang'	Cotoneaster				
	Drosanthemum floribundum	Rosea Ice Plant			✓	
	Drosanthemum hispidum	Hairy Dewflower			✓	
	Drosanthemum speciosus	Dewflower			✓	
	Euonymus fortunei	Purple Winter Creeper			✓	
	Festuca californica	California Fescue				✓
	Festuca glauca	Blue Fescue				
	Festuca glauca 'Elijah Blue'	Elijah Blue Fescue				
	Festuca glauca 'Siskyou Blue'	Siskyou Blue Fescue				
	Festuca mairei	Atlas Fescue				
	Fragaria chiloensis	Wild Strawberry			✓	
	Gaillardia x grandiflora	Blanket Flower			✓	✓
	Gelsemium sempervirens	Carolina Jessamine				
	Geranium spp.	Cranesbill				
	Gazania hybrids	South African Daisy			✓	
	Gazania rigens leucolaena	Traning Gazania			✓	
	Heliotropium curassavicum	Salt Heliotrope			✓	
	Herniaria glabra	Green Carpet				
	Heuchera hybrids	Coral Bells				
	Hypericum beanii	St. John's Wort				
	Hypericum calycimum	Aaron's Beard			✓	
	Iberis sempervirens	Evergreen Candytuft			✓	
	Iberis umbellatum	Globe Candytuft			✓	
	Jasminum polyanthum	Pink Jasmine				
	Lobularia maritima	Sweet Alyssum				
	Lotus corniculatus	Bird's Foot Trefoil			✓	
	Lotus hermannii	Northern Woolly Lotus			✓	
	Lotus scoparius	Deerweed			✓	
	Ophiopogon jaburan 'Vittata'	Giant Lily Turf				
	Ophiopogon japonicus	Mondo Grass			✓	
	Ophiopogon p. 'Nigrescens'	Black Mondo Grass				
	Pelargonium peltatum	Ivy Geranium			✓	
	Scaevola 'Mauve Clusters'	Fan Flower				
	Thymus spp.	Thyme				
	Thymus serpyllum	Lemon Thyme			✓	
	Trachelospermum asiaticum	Asian Star Jasmine				
	Trifolium hirtum 'Hyron'	Hyron Rose Clover			✓	
	Trifolium fragerum 'O'Connor's'	O'Connor's Legume			✓	

Table 2.1, Community Plant Palette, cont.

Moderate Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
GROUNDCOVER (M)						
	Verbena b. 'Valley Lavender'	Valley Lavender Verbena				
	Verbena stricta	Hairy Verbena				
	Vinca minor	Common Periwinkle			✓	
	Zinnia acerosa	Desert Zinnia				
	Zinnia angustifolia 'Classic'	Classic Creeping Zinnia				
	Zinnia grandiflora	Prarie Zinnia				
VINE (M)						
	Bignonia violacea	Flame Vine				
	Distictis buccinatoria	Blood Red Trumpet Vine			✓	
	Fatshedera lizei	Fatshedera				
	Ficus pumila	Creeping Fig				
	Ficus repens	Climbing Fig				
	Gelsemium sempervirens	Carolina Jessamine				
	Grewia occidentalis	Lavender Starflower			✓	
	Hardenbergia comptoniana	Lilac Vine			✓	
	Hardenbergia violacea	Lilac Vine				
	Jasminum polyanthum	Pink Jasmine				
	Mandevilla splendens ssp.	Mandevilla				
	Pandorea jasminoides	Bower Vine				
	Parthenocissus tricuspidata	Boston Ivy				
	Passiflora edulis	Passion Fruit Vine				
	Pyrostegia venusta	Flame Vine				
	Rosa Hybrids	Climbing Rose				
	Solanum jasminoides	Potato Vine				
	Trachelospermum jasminoides	Star Jasmine				
	Vitis girdiana	Desert Wild Grape			✓	
	Wisteria sinensis	Chinese Wisteria				

Table 2.1, Community Plant Palette, cont.

High Water Requirement

TYPE	BOTANICAL NAME	COMMON NAME	LEAVES	FLOWER	FUEL	NATIVE
TREE (H)						
	Acer palmatum	Japanese Maple	SD			
	Alnus rhombifolia	White Alder	SD		✓	✓
	Betula nigra	River Birch	SD			
	Betula pendula	European White Birch	SD			
	Salix babylonica	Weeping Willow	SD			
	Salix lasiolepis	Arroyo Willow	SD			✓
SHRUB (H)						
	Cyathea cooperii	Australian Tree Fern				
	Cyperus alternifolius	Umbrella Sedge				
	Cyperus papyrus	Egyptian Paper Reed				
	Dicksonia antarctica	Tasmanian Tree Fern				
	Juncus acutus	Spiny Rush			✓	
	Mimulus spp. (Diplacus)	Monkey Flower			✓	
	Nemophila menziesii	Baby Blue Eyes			✓	✓
GROUNDCOVER (H)						
	Chrysanthemum leucanthemum	Ox-eye Daisy			✓	
	Dichondra micrantha	Dichondra				
	Soleirolia soleirolii	Baby Tears				

Abbreviations:

VL = Very Low Water Requirement
 L = Low Water Requirement
 M = Moderate Water Requirement
 H = High Water Requirement

D = Deciduous Tree
 E = Evergreen Tree
 SD = Semi-Deciduous Tree
 SE = Semi-Evergreen Tree

LEAVES = [Indicated for Trees Only] Tree type according to foliage longevity
 FLOWER = [Indicated for Trees Only] Produces showy flowers
 FUEL = Plant is appropriate for use within fuel modification zone (Per Fire Behavior Analysis Report)
 NATIVE = Plant is native to Southern California



Example, Rest Shelter as Focal Landscape Element



Example, Water Feature as Decorative Focal Element

2.3.2 Identity Features

The over-arching landscape concept for the Project will be centered on a strong open space theme. This should be reflected in the design and construction of various types of community identity features:

1. **Project monuments** that demarcate the main entrances into the Project from Irvine Boulevard.
2. **Focal art features** that provide visually impactful points of interest in key locations within the Project.
3. Strategically located **interpretive signage** that provides educational information and way finding.

These features are visually summarized on *Exhibit 2.3, Open Space and Recreation Plan*.

2.3.2.1 Project Monuments

The main approaches into the Project shall be signified by monuments strategically placed along Irvine Boulevard at major entries into the Project site within its landscape setback. The experience and visual impact of these locations should provide a sense of entry and complement the character of the Project. The scale of these features shall be relatively large and appropriately monumental, complementing the spatial scale of Irvine Boulevard. Landscaped materials such as clusters of large-scale focal trees or annual color should be incorporated to add to the experience and importance of these key Project gateways.

2.3.2.2 Focal Art Features

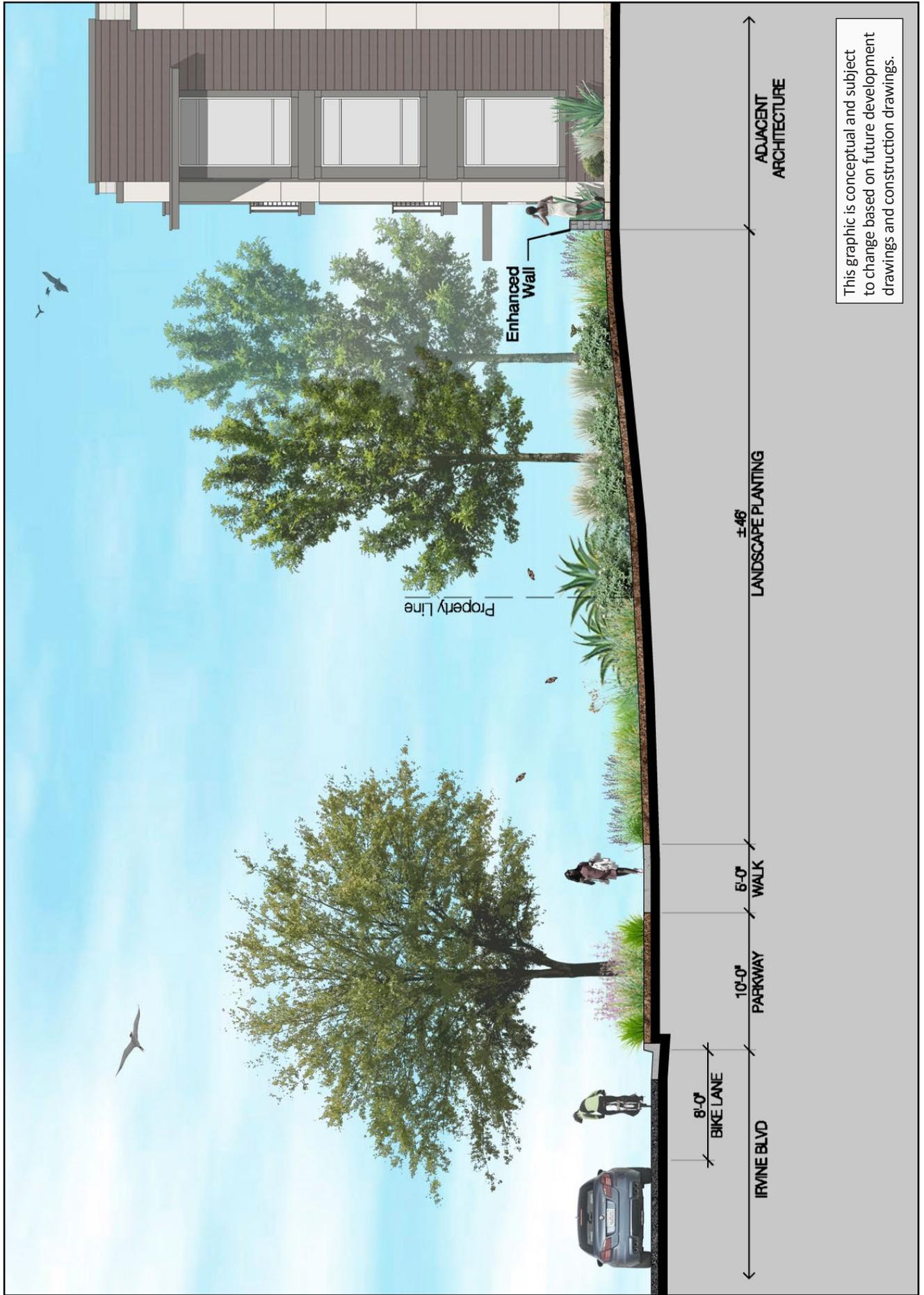
The application of focal art features presents an ideal opportunity to instill unique aesthetic character to each neighborhood within the Project. These features shall take on the form of a wide variety of elements—public art, sculptures, water features, monuments, overhead structures, special lighting and site furnishings. A concerted effort should be made to build focal features which incorporate visual elements and materials that complement the Project’s surrounding context. The installation of interactive features such as sundials, rose compasses and wind chimes especially complement the Project’s strong open space theme by promoting a spirit of exploration and appreciation for the surrounding natural environment.

Focal art features are to be located strategically along the Project’s open space trail network and at key gathering hubs in order to maximize visual impact, public usage and exposure. Many of these features will function as

Exhibit 2.5, Section - Primary Entry Drive



Exhibit 2.6, Section - Irvine Boulevard Edge , Northern Portion



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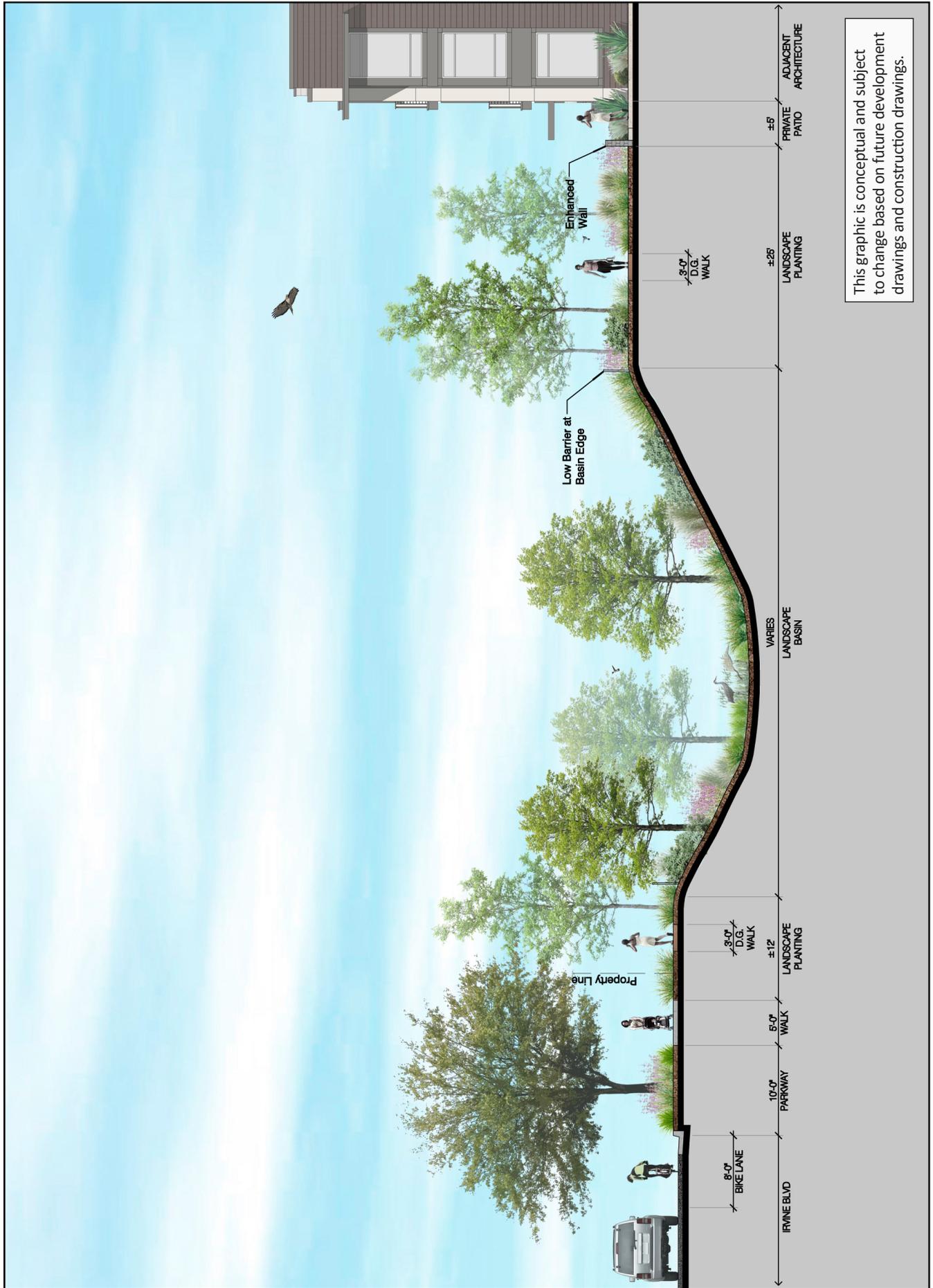
Exhibit 2.7, Section - Basin at Northern Portion



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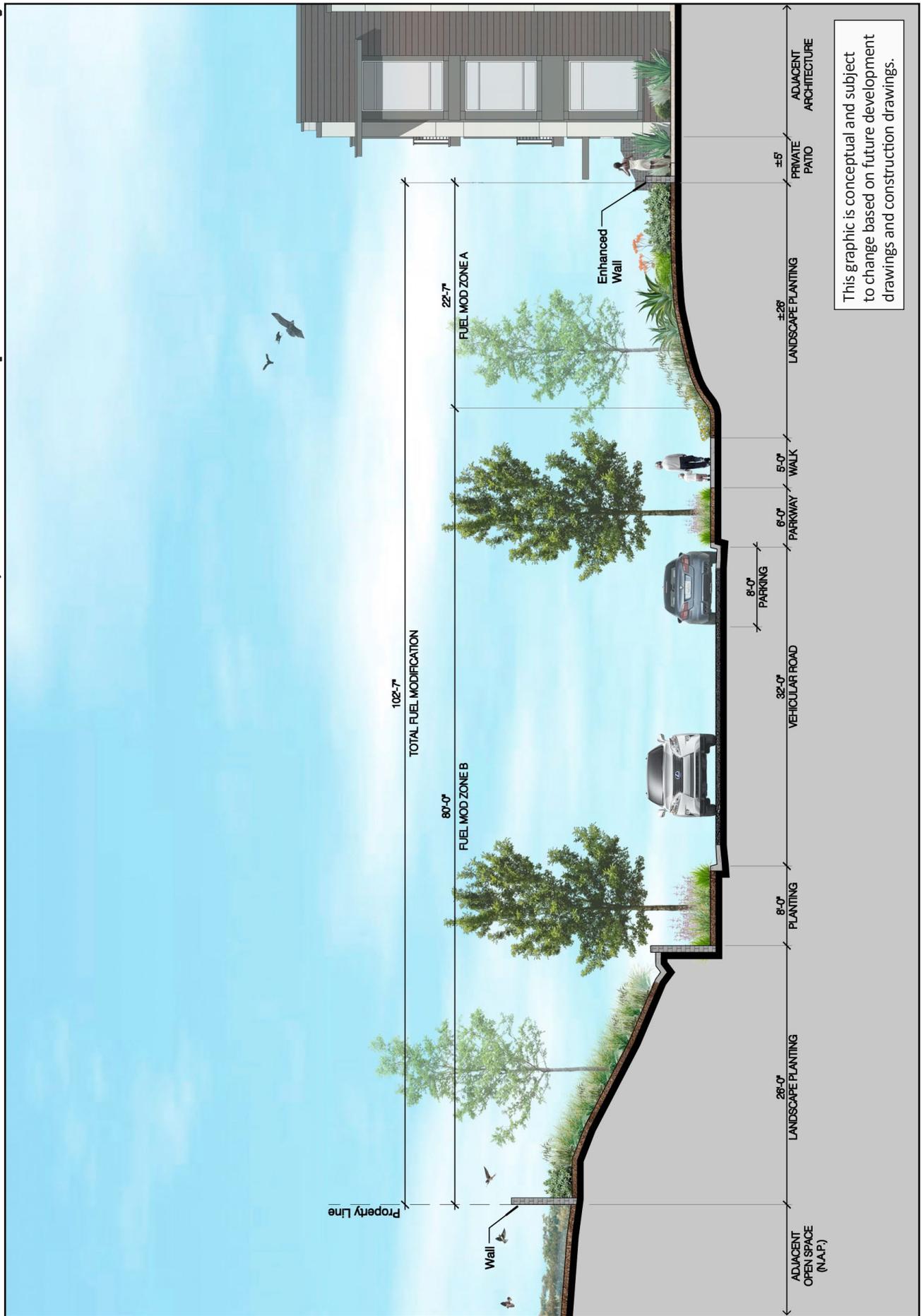


Exhibit 2.8, Section - Basin at Southern Portion



This graphic is conceptual and subject to change based on future development drawings and construction drawings.

Exhibit 2.9, Section - Landscape Interface at North Boundary



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Example, Decorative Park Signage

planned surprises that contribute visual interest and whimsy into the streetscene. They shall occur in places such as corner lots, in median islands, and within eyebrows or tapers within the neighborhoods.

Refer to *Exhibit 2.3, Open Space and Recreation Plan*, for a diagrammatic summary of these features.

2.3.2.3 Interpretive Signage

The Project's community identity and connection to its surrounding environment can be further solidified by incorporating interpretive signage throughout the landscape framework of the Project site. This would also greatly contribute to the Project's open space landscape theme and encourage a spirit of exploration and appreciation for nature. The application of interpretive signage would instill a strong sense of place by providing ideal opportunities to showcase site information, historic background, way finding and miscellaneous fun facts about the Project's surroundings. Illuminating the Project's natural resources and significance would help increase the level of inspiration and environmental stewardship for the community and the public in general.

Refer to *Exhibit 2.3, Open Space and Recreation Plan* for a diagrammatic summary of signage locations.

2.3.3 Parks and Open Space

The Project site presents abundant opportunities for experiencing open space in memorable and interactive ways. A collection of thoughtfully envisioned neighborhood parks, pocket parks and recreational spaces connected by a continuous trail system provides an ideal framework for a residential development that takes full advantage of the Project site's surrounding terrain and natural viewsheds. This framework sets the foundation for building a community that can collectively celebrate the Project site's natural environment, wildlife corridor, native habitat and surrounding open space as valuable resources to experience and draw inspiration from. Community-based park space, trail networks and open space should therefore hold high value and importance throughout the entire development process for the Project.

The landscape design for each neighborhood within the Project should be driven by its relationship to surrounding open space. The site plan concept should place and orient buildings to create usable and/or engaging open spaces in the form of human-scaled



Example, Interpretive Signage for Children

plazas, paseos and/or activity areas. An extensive system of parks and open space will extend into every neighborhood community. Recreational open space will be distributed throughout the Planning Areas, including, but not limited to neighborhood parks, community gathering areas, pocket parks, children’s play areas and private recreation areas. This will allow residents to have proximity and access to various types of open space and live in housing that fronts onto green areas. Open space trails within the Irvine Boulevard setback area and paseos internal to the Project site will provide additional linkages between all neighborhoods.

Conceptual locations for planned neighborhood parks, recreational spaces, sidewalks and trails within the Project site are identified on *Exhibit 2.3, Open Space and Recreation Plan*.

2.3.3.1 Encourage Recreation and Community Open Space

The Project will feature open space that will address outdoor recreational needs for its community. All the neighborhood parks and outdoor plazas featured on site will be part of a network of open space contributing to an overall improvement in the quality of life for its residents. Providing a wide variety of open space program amenities adds to public health and well-being by encouraging a full range of both active and passive recreational activities. This in turn will contribute to the longevity and long-term appeal of the development and all the amenities it can offer to the community.

Open space will specifically address the needs of the local neighborhood community and allow residents close access to small-scale parks in addition to their private recreational amenities. Activity spots, small gardens, children’s play zones, seating areas with scenic views, turf areas for open recreation, and public gathering hubs are among the various types of open space that should be made available at the local neighborhood level.

2.3.3.2 Community Elements and Criteria

The Project site will incorporate parks and open space amenities at various scales and usage types.

Neighborhood parks shall serve as open space for the project residents to use for various levels of outdoor recreational needs. These parks may feature amenities for active outdoor recreation, including but not limited to:



Example, Sweeping Views of Open Space



Example, Open Space for Rest and Social Gathering



Example, Children's Play Area

- Open turf areas suitable for outdoor play, picnics and community events
- Small sport courts
- Outdoor exercise equipment
- Children's play areas, with play equipment for various age levels

Passive program elements may also be included in the parks' designs, such as, but not limited to:

- Paved pedestrian park walks
- Outdoor dining areas with overhead shade structures
- Barbecues
- Game tables
- Bench seating
- Lookout points

Lookout points may be featured in key locations where views to surrounding open space (such as the adjacent wildlife corridor) can be maximized; amenities such as viewing decks, focal shade structures (made of non-combustible materials), and public binoculars for bird-watching and locating features within the wildlife corridor can be provided for visitors to discover and interact with the natural environment.

Refer to *Exhibit 2.10, Neighborhood Park A Concept Plan*, for a conceptual layout of this community open space amenity. Also refer to *Exhibit 2.11, Section - Neighborhood Park A (Children's Play Area)*, *Exhibit 2.12, Section - Neighborhood Park A (Lookout Point)*, *Exhibit 2.13, Section - Neighborhood Park A (Open Space Area)*, *Exhibit 2.14, Neighborhood Park B Concept Plan*, *Exhibit 2.15, Section - Neighborhood Park B (1 of 2)*, *Exhibit 2.16, Section - Neighborhood Park B (2 of 2)*, *Exhibit 2.17, Neighborhood Park C Concept Plan* and *Exhibit 2.18, Section - Neighborhood Park C*.

Private recreational spaces shall provide open space amenities which serve private residential developments. These areas can feature amenities that cater to both active and passive outdoor recreation.

Active program elements may include, but are not limited to:

- Resort-style pool and spa amenities
- Lap pools
- Fitness centers
- Game tables/courts and game rooms
- Multi-purpose rooms capable of supporting a flexible variety of activities



Example, Outdoor Community Dining Space

Exhibit 2.10, Neighborhood Park A Concept Plan

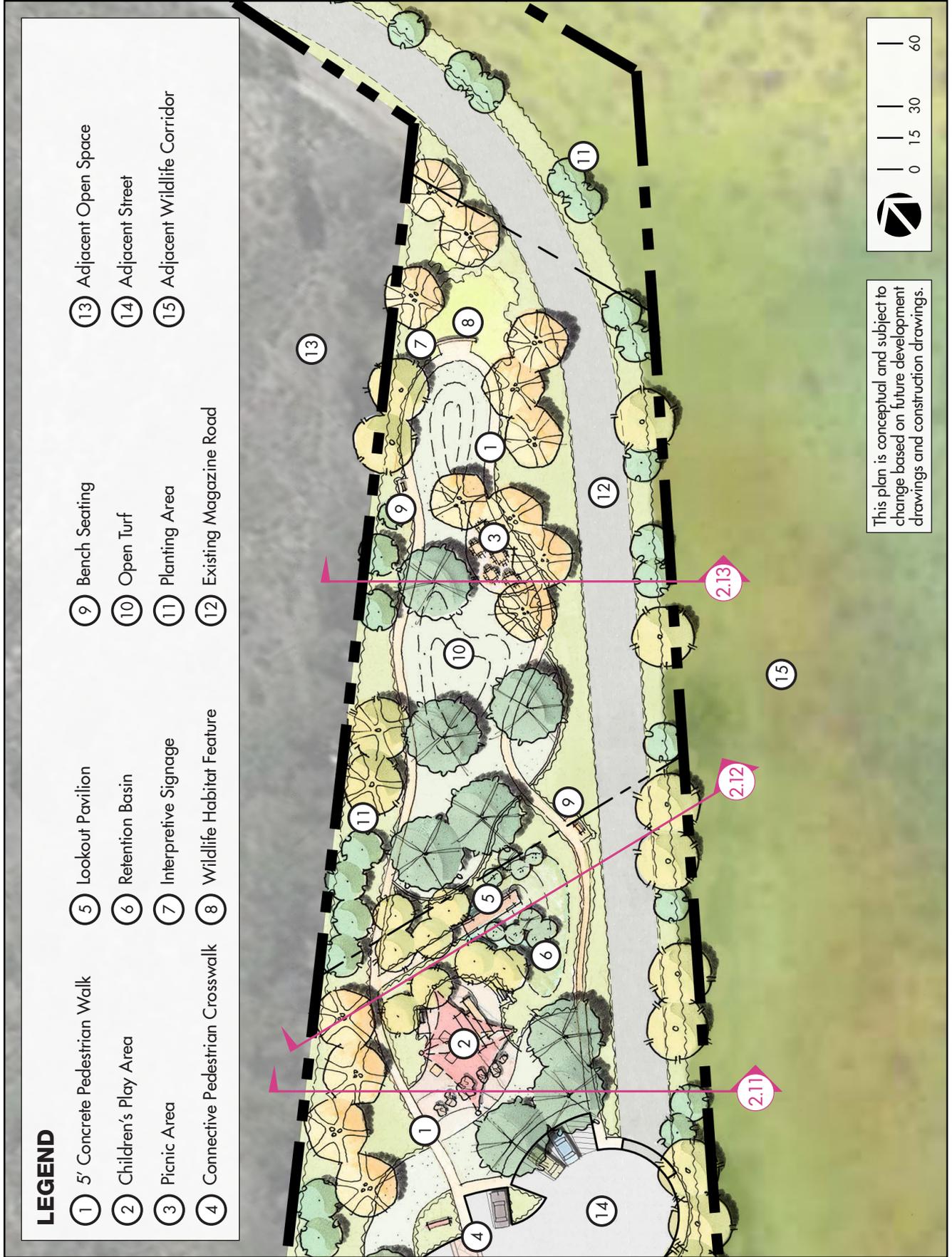


Exhibit 2.11, Section - Neighborhood Park A (Children's Play Area)



Exhibit 2.13, Section - Neighborhood Park A (Open Space Area)

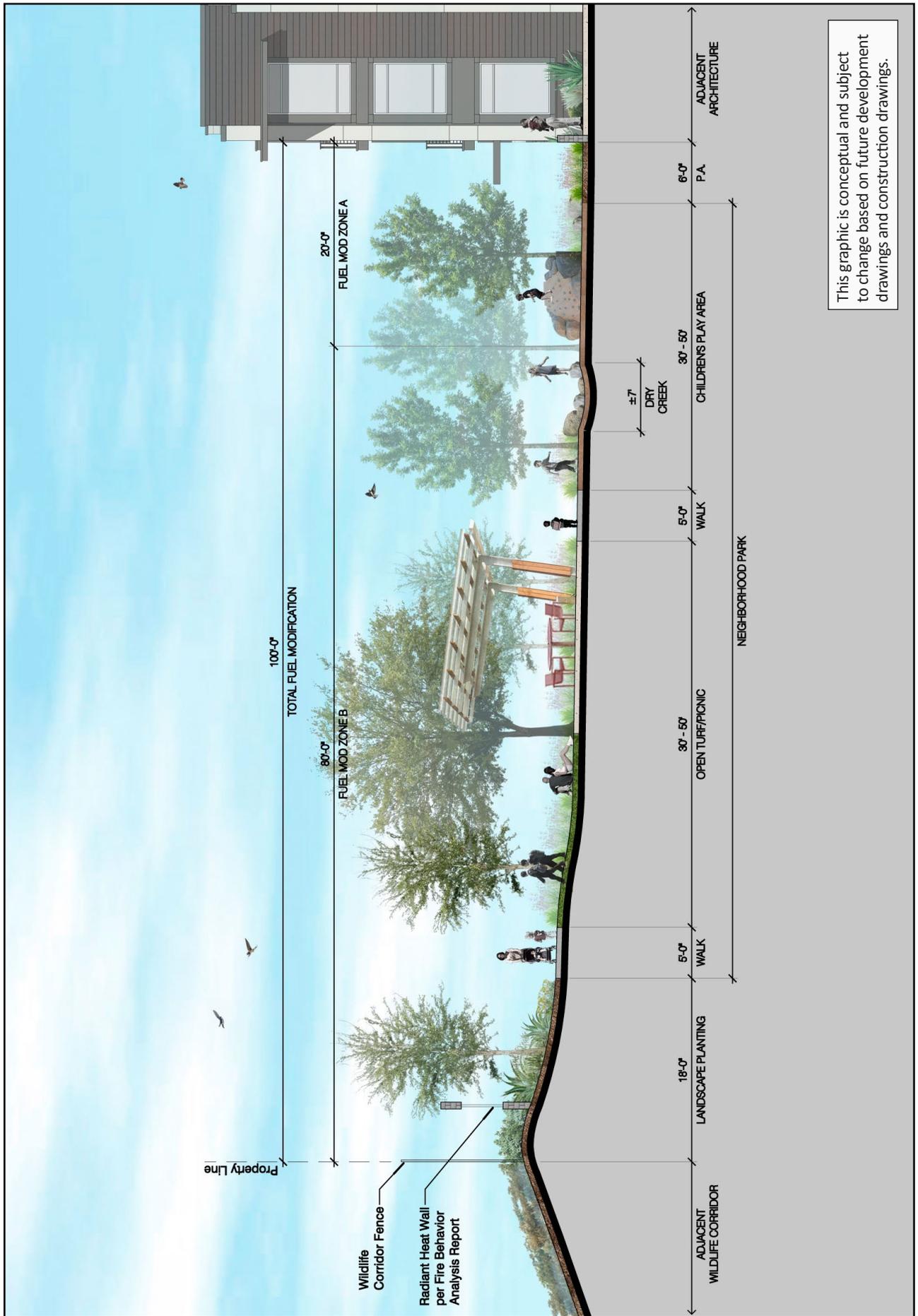


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Exhibit 2.14, Neighborhood Park B Concept Plan



Exhibit 2.15, Section - Neighborhood Park B (1 of 2)



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Exhibit 2.16, Section - Neighborhood Park B (2 of 2)

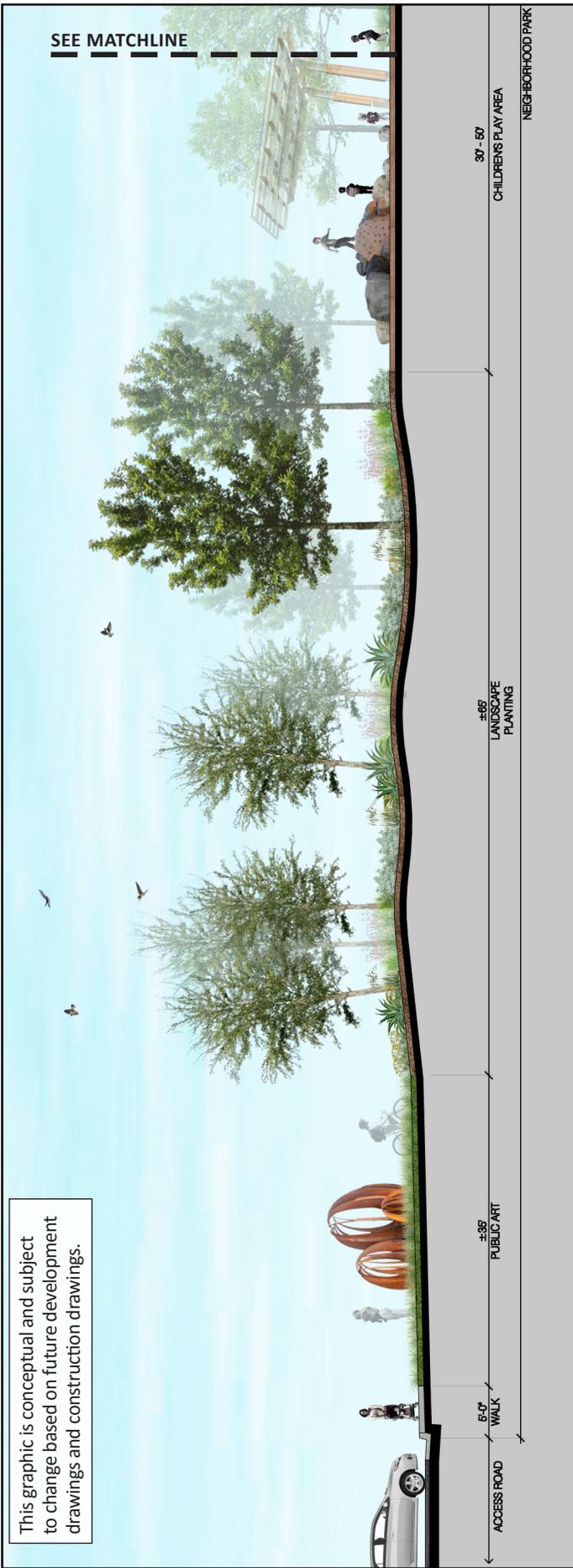
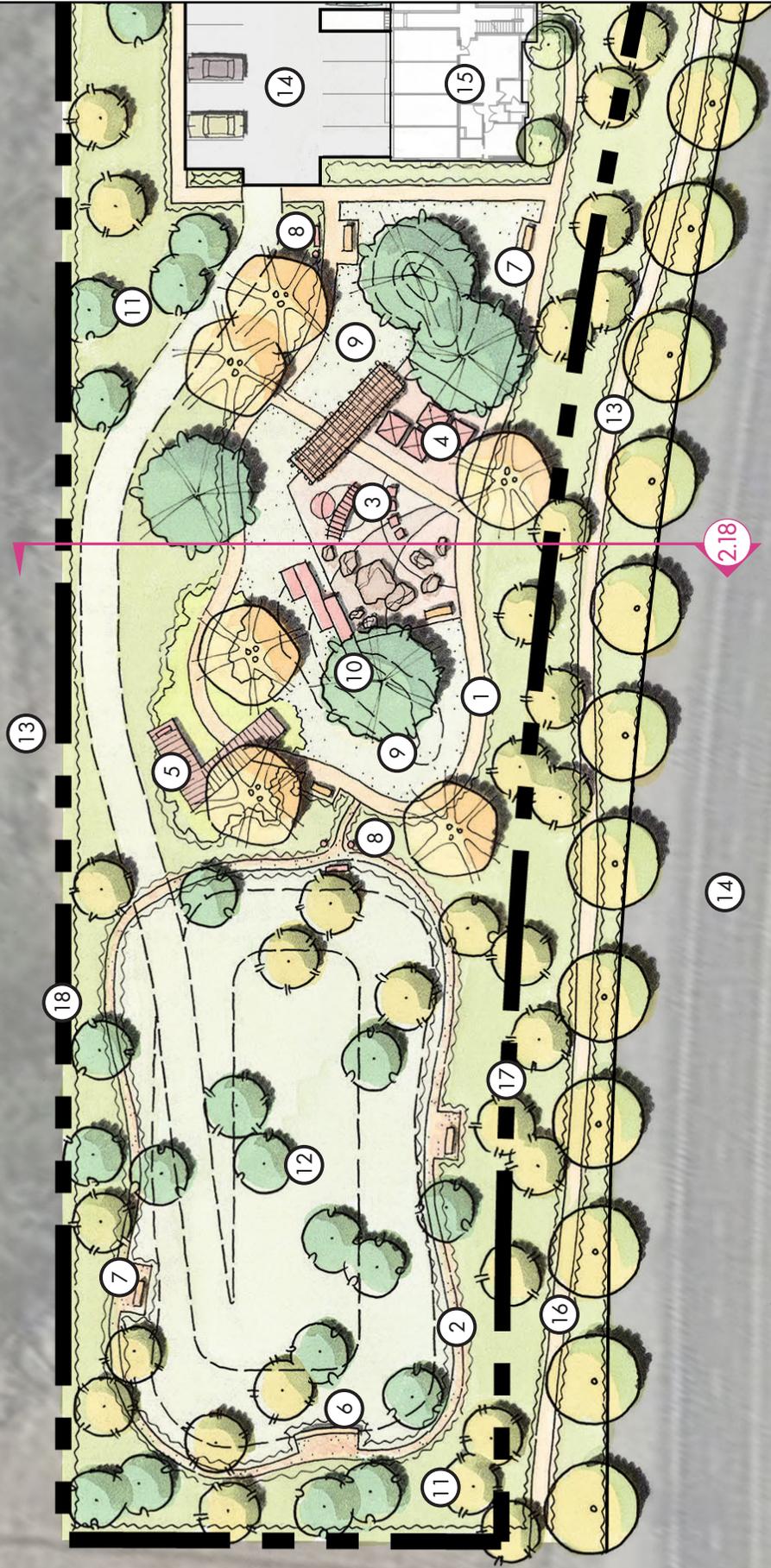


Exhibit 2.17, Neighborhood Park C Concept Plan

LEGEND

- ① 5' Concrete Pedestrian Park Walk
- ② 3' Stabilized D.G. Walk
- ③ Children's Play Area
- ④ Picnic Area
- ⑤ Lookout Point
- ⑥ Wildlife Habitat Feature
- ⑦ Bench Seating
- ⑧ Interpretive Signage
- ⑨ Open Turf
- ⑩ Focal Park Tree
- ⑪ Planting Area
- ⑫ Landscape Basin
- ⑬ Adjacent Open Space
- ⑭ Adjacent Street
- ⑮ Adjacent Architecture
- ⑯ 5' Pkwy-Separated Concrete Walk
- ⑰ Low Barrier
- ⑱ Landscape Wall



This plan is conceptual and subject to change based on future development drawings and construction drawings.



Exhibit 2.18, Section - Neighborhood Park C



This graphic is conceptual and subject to change based on future development drawings and construction drawings.





Example, Outdoor Fireside Lounging Space

Passive program elements may include, but are not limited to:

- Communal dining areas
- Outdoor kitchens
- Barbecues
- Rest/Seating areas
- Fireside lounging
- Shade structures

Refer to *Exhibit 2.19, Private Recreational Space A Concept Plan* for a conceptual layout of this type of private development amenity. Also refer to *Exhibit 2.20, Section – Private Recreation Area A*, *Exhibit 2.21, Private Recreational Space B Concept Plan* and *Exhibit 2.22, Section – Private Recreation Area B*.

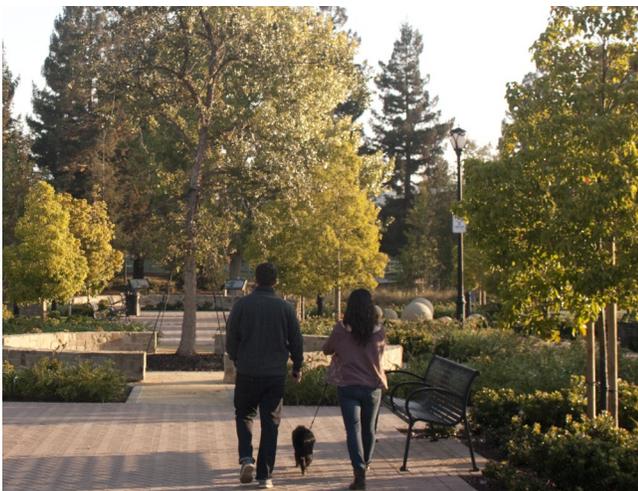


Example, Terraced Garden Rest Area

Focal gardens will be strategically located along the Project’s northern border at the terminal ends of North West Alton Parcel’s gateway streets. This would provide aesthetic points of interest for both vehicular and pedestrian passersby alike. Focal gardens may feature landscapes built upon a backdrop of fire-resistant planting and drought-tolerant accent trees, and can cater to passive outdoor recreation through the provision of elements such as, but not limited to:

- Bench seating areas
- Open turf areas
- Native butterfly gardens
- Succulent gardens

Refer to *Exhibit 2.23, Typical Focal Garden Concept Plan* for a conceptual layout of this landscape design element.



Example, Pocket Park with Pedestrian Paseo

Lastly, small landscaped areas are encouraged throughout the entire site that provide sufficient space for minor outdoor programming may be built as pocket parks, where feasible. These areas can feature small-scaled amenities that supplement the Project’s overall connective paseo system for open space recreation. Design elements may include ,but not be limited to:

- Paved pedestrian paseo walks
- Rest areas with bench seating
- Small and intimate picnic areas
- Open turf areas
- Mini tot lots and children’s play elements

Refer to *Exhibit 2.24, Typical Pocket Park Concept Plan* for a conceptual layout of this type of passive open space amenity.

Exhibit 2.19, Private Recreational Space A Concept Plan

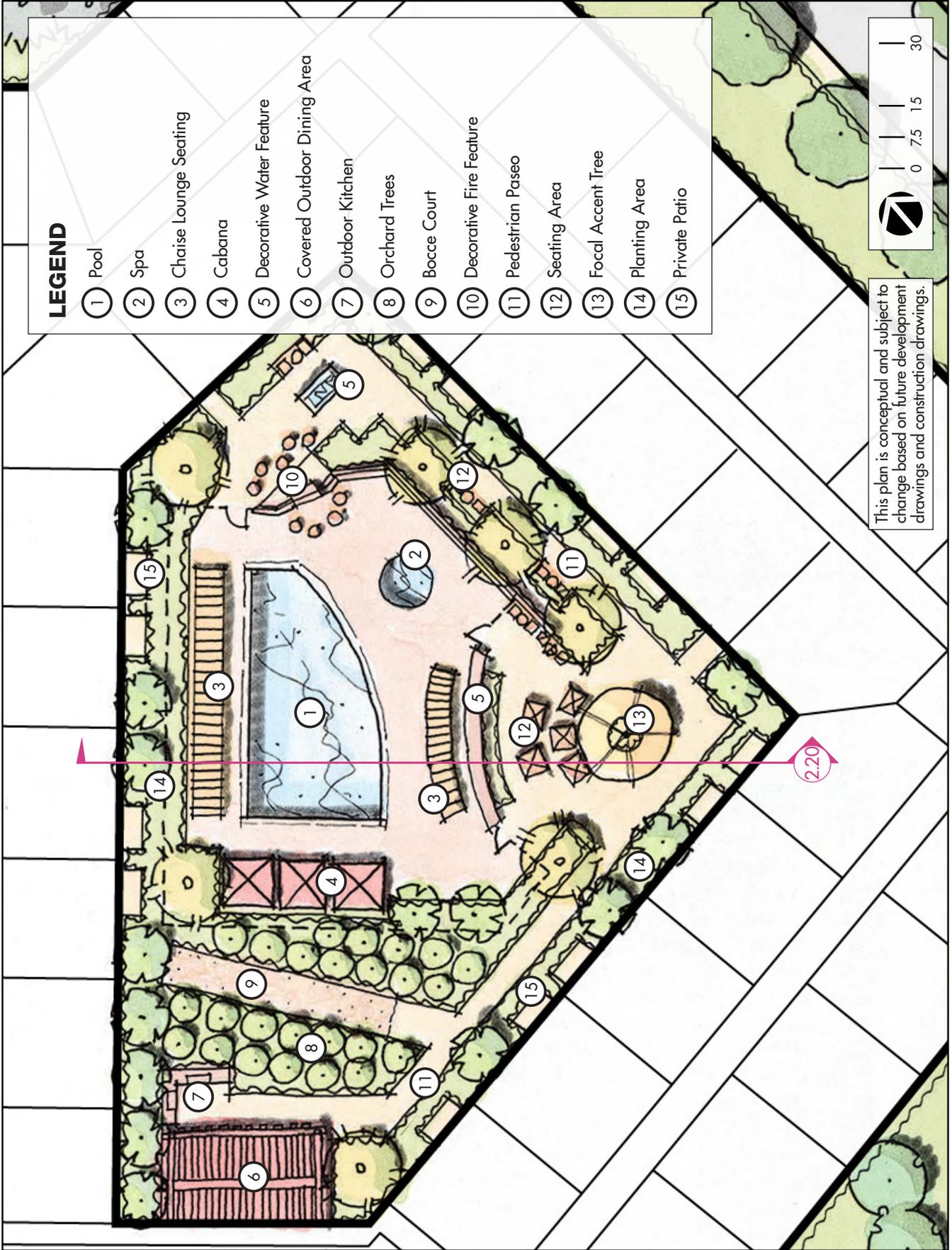


Exhibit 2.20, Section - Private Recreation Area A



This graphic is conceptual and subject to change based on future development drawings and construction drawings.

Exhibit 2.21, Private Recreational Area B Concept Plan

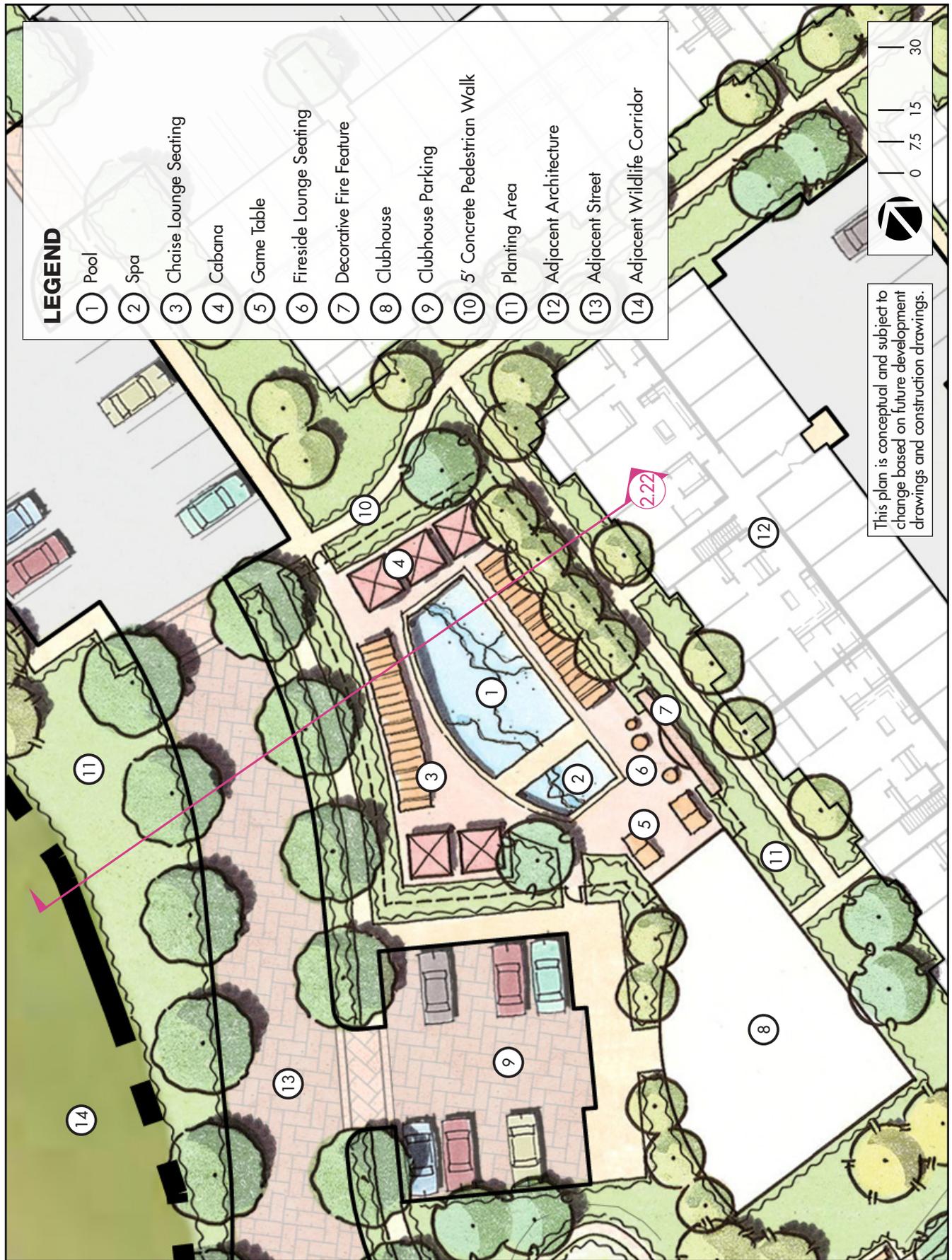


Exhibit 2.22, Section - Private Recreation Area B



This graphic is conceptual and subject to change based on future development drawings and construction drawings.

Exhibit 2.23, Typical Focal Garden Concept Plan



Exhibit 2.24, Typical Pocket Park Concept Plan



All of the above mentioned open space amenities will be connected by a network of outdoor trail systems, creating a comprehensive landscape framework that caters to the community's needs for open space recreation of various levels and types. Refer to *Exhibit 2.3, Open Space and Recreation Plan*, for a diagrammatic representation of this landscape framework.

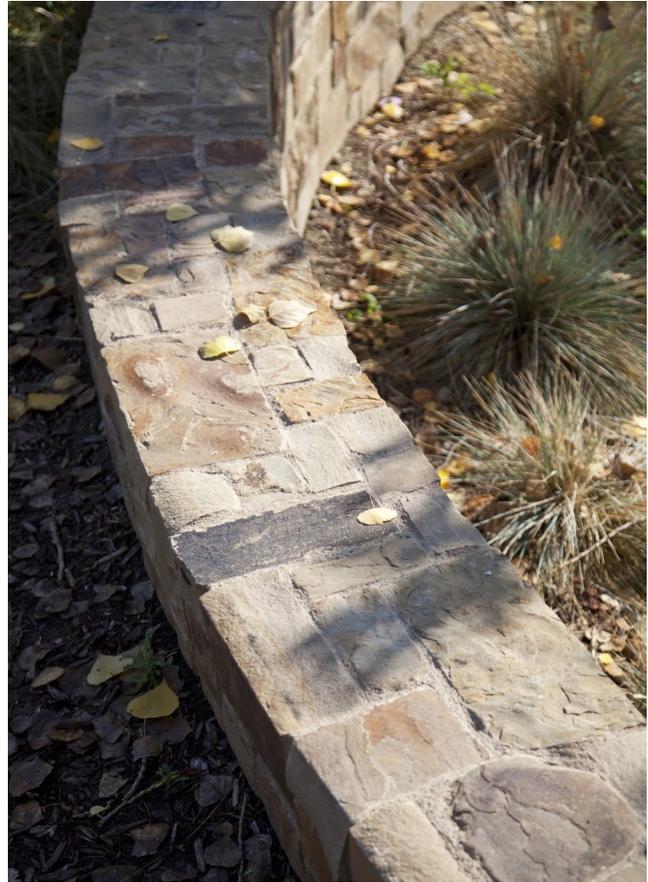
2.3.4 Walls & Fencing

Following a set of guidelines that apply a consistent style for walls and fencing will establish continuity of design elements throughout the Project site. Design continuity and cohesive themes shall be applied throughout each portion of the Project site, and the northern and southern portions of the Project may each feature a distinct style in design and materials selection. Walls and fences shall be designed and constructed with materials that match or complement adjacent architecture. Design details and styles shall also be compatible with the architectural character of each of the Project's neighborhoods.

Walls shall be used throughout the Project primarily for delineating public and private property, as well as for soil retention along steeply sloped planting areas, such as the bordering area adjacent to the FBI property to the north. Retaining walls shall be screened or blend in with existing topography.

The style of fences used throughout the Project shall also be dependent upon each individual neighborhood. One of the primary uses for fences within the Project site will be to delineate public and private property, as well as offering enclosure for recreational pool areas. Fences will also be used to protect and preserve the adjacent wildlife corridor.

Notwithstanding anything contrary elsewhere in this Development Plan, because the Project site is located adjacent to a Very High Fire Hazard Severity Zone, the construction of radiant heat walls will be an important component to the Project's fuel modification plan. Radiant heat walls that feature clear tempered glass atop slumpstone are preferred over block walls in order to preserve views.



Example, Low Wall with Stone Veneer



Example, Blade Wall with Stone Veneer and Cap



Example, Site Lighting for Ambient Effect



Example, Overhead Paseo Lighting

2.3.5 Site Lighting

Site lighting should be selected to contribute to the character and user needs for each individual future development. An established hierarchy of lighting elements should be applied throughout the Project for sake of continuity and organization. This will allow each neighborhood within the Project to hold a sense of place and identity that could be unique from one another while still remaining unified as being part of one overall community setting.

Site lighting that is installed throughout the Project shall include but not be limited to:

- Pedestrian-scaled fixtures (12' to 14' height)
- Lower-scale pedestrian fixtures (i.e. bollards)
- Accent lighting at focal elements/features
- Signage lighting
- Handrail lighting
- Pavement lighting
- Overhead string lights to create ambience
- Miscellaneous decorative lights

Additional Guidelines for lighting include:

- Lighting that is located adjacent to sensitive open space (such as the wildlife corridor) shall be appropriately shielded or screened to minimize light spillage onto sensitive habitat areas.
- Pedestrian-scaled light standards under 25 feet in height are encouraged, and should illuminate all sidewalks and connecting walkways.
- Utilize light fixtures that complement both the architecture and landscape throughout the site.
- Lighting sources shall be shielded, diffused, or indirect in order to avoid glare to pedestrians and motorists.
- Architectural lighting of building facades is encouraged to enhance and emphasize the buildings and to provide identity.
- All exterior lighting shall minimize glare and light spill onto adjacent properties and streets.
- Exterior lighting elements shall preserve nighttime sky by minimizing the amount of light pollution.

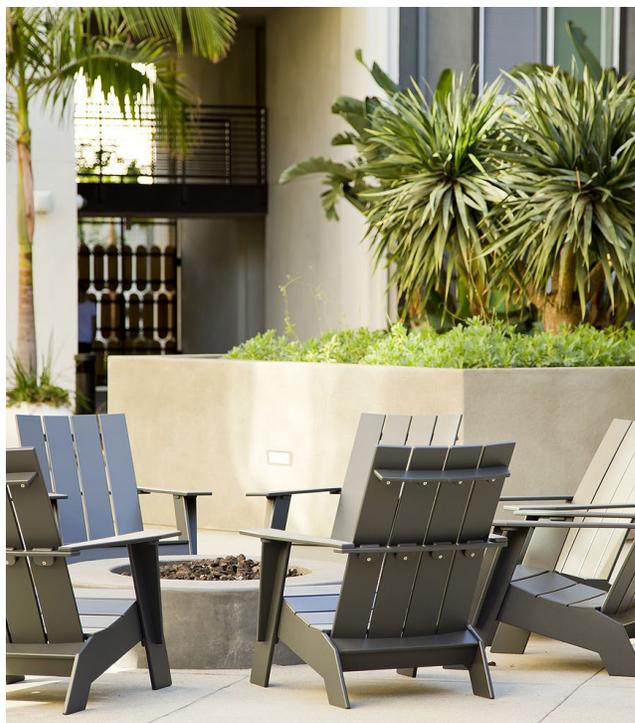
- Lighting elements shall utilize low intensity, indirect light sources to the extent required for safety.
- Exterior site lighting shall be directed onto vegetation or prominent site features.
- Adequate exterior building lighting shall be provided for general illumination, safety and security of entries, patios and outdoor spaces and landscape structures.
- Lighting of plant materials shall be achieved with hidden sources and down lights from above.

2.3.6 Site Furnishings

Site furnishings are to be incorporated in the Project and could help add to the individuality and quality of each neighborhood. Materials used to build the Project’s site furnishings shall remain consistent throughout the entire development to promote cohesiveness and design continuity. Furnishings provided along the Project’s trail system shall be specifically chosen to reinforce the site’s ambience and design concept as a connective open space experience nestled within natural terrain.

Site furnishings that are installed throughout the Project site could include but not be limited to:

- Planter pots
- Tables and chairs
- Activity tables
- Lounge seating
- Bench seating
- Outdoor barbecues
- Shade structures and pavilions
- Bike racks/storage
- Hammocks
- Trash and recycling receptacles
- Doggie bag dispensers
- Kiosks



Example, Firepit with Adirondack Chairs



Example, Umbrella Seating Area

2.3.7 Irrigation Practices & Design

All landscaped areas shall be irrigated with an automatic system. All irrigation systems are to be maintained by future developer(s) and/or project association entities.

Water-sensitive landscape design shall be applied throughout the Project site in order to minimize the amount of landscape irrigation required. Irrigation systems shall provide efficient water coverage and minimize water usage and runoff. Adequate levels of irrigation shall be provided through the use of automated systems to promote optimal plant growth and establishment of a mature landscape. Plant materials shall be grouped according to their water consumption needs. Irrigation systems must be designed and installed to preclude over spray or runoff into or onto adjacent pavements or walls. Use of the latest smart irrigation technology and equipment is encouraged to obtain efficient and water-conscious applications.

2.3.8 Fuel Modification (For Reference Only)

The purpose of fuel modification is to minimize the spread of fires and to protect the Project site from the potential of wildland fires from the adjacent property. "Fuel modification" is a term given by firefighters to the practice of altering natural landscapes to reduce fire hazard. Typically, fuel modification includes thinning, pruning and removal of plant material that might serve as fuel in a fire.

Fuel modification areas for the Project site will be located between wildland areas (wildlife corridor and the natural open space to the north) and habitable structures adjacent to these wildland areas.

Plants within fuel modification zones shall be selected for their resemblance to existing adjacent natural vegetation, as well as, for low water use characteristics in order to conserve water and to avoid excess irrigation run-off. Plants that appear on the Orange County Fire Authority's (OCFA) undesirable list shall not be selected to use within the fuel modification zones. Spacing and maintenance requirements within these zones will follow the applicable guidelines set by the OCFA. Vegetation management for each Planning Area shall be provided by the ground lessee and/or the property owner.

Details regarding fuel modification dimensions, planting criteria, etc. may be found within the Fire Behavior Analysis Report and Fuel Modification Design Criteria for the Project site, included in *Appendix D, Fire Protection Plans* of this Development Plan.

2.4 Infrastructure

The Project includes various on- and off-site infrastructure improvements to facilitate the development. Such infrastructure improvements include, but are not limited to, the installation of potable and recycled water lines, stormwater detention and conveyance systems, electrical, phone, gas and sanitary sewers. An overview of these improvements are provided below. Proposed locations for infrastructure improvements are identified within this Section. However, alternate locations may be implemented. Changes to the proposed infrastructure locations or service providers may be implemented without amending this Development Plan (as discussed in *Section 4, Implementation*).

2.4.1 Potable Water

The Project's potable domestic water will be provided by IRWD. The Project's backbone domestic water network will consist of 8-inch to 12-inch water lines within private rights-of-ways or utility easements with looped connections to an IRWD domestic water line in Irvine Boulevard. The planned potable water lines serving the Project are depicted on *Exhibit 2.25, Water and Sewer Infrastructure*.

The domestic water distribution lines will also be used for fire protection services. Fire hydrants will be installed where required by the OCFA.

A utility easement is required for the IRWD domestic and fire water lines. Guidelines for potable water include:

- Installation of the domestic water line improvements shall be in accordance with IRWD requirements.
- Future developments will be responsible for the installation of the fire protection improvements within each Planning Area, subject to OCFA approval.

2.4.2 Recycled Water

The Project's recycled water will be provided by IRWD. The Project's service will consist of multiple meters to provide recycled water to the Project. Connection points to IRWD's existing recycled water service in Irvine Boulevard are assumed to occur at each roadway intersection along Irvine Boulevard. The planned recycled water meter locations serving the Project are depicted on *Exhibit 2.25, Water and Sewer Infrastructure*.

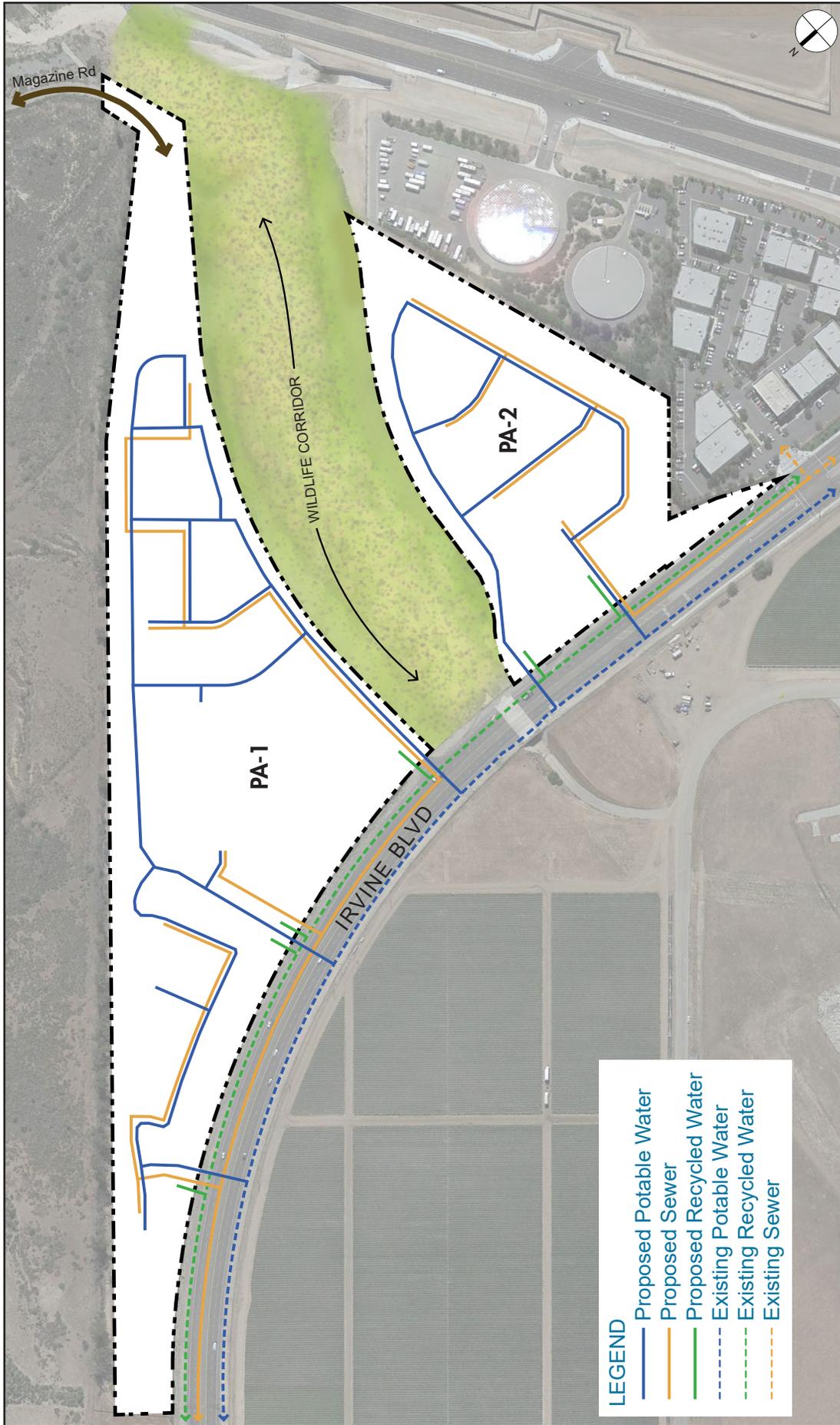
A utility easement is required for the IRWD recycled water line services to the Project site. Installation of the recycled water line improvements on-site shall comply with IRWD installation requirements.

2.4.3 Sanitary Sewers

The Project's sanitary sewer system will be provided by IRWD. The Project's backbone sewer network will consist of sewer lines in the Project's private roadway network and connect to an existing IRWD sewer line. The planned sewer network serving the Project is depicted on *Exhibit 2.25, Water and Sewer Infrastructure*.

A utility easement is required for the IRWD sewer lines on-site. Installation of the sewer improvements shall be accomplished in accordance with IRWD requirements.

Exhibit 2.25, Water and Sewer Infrastructure



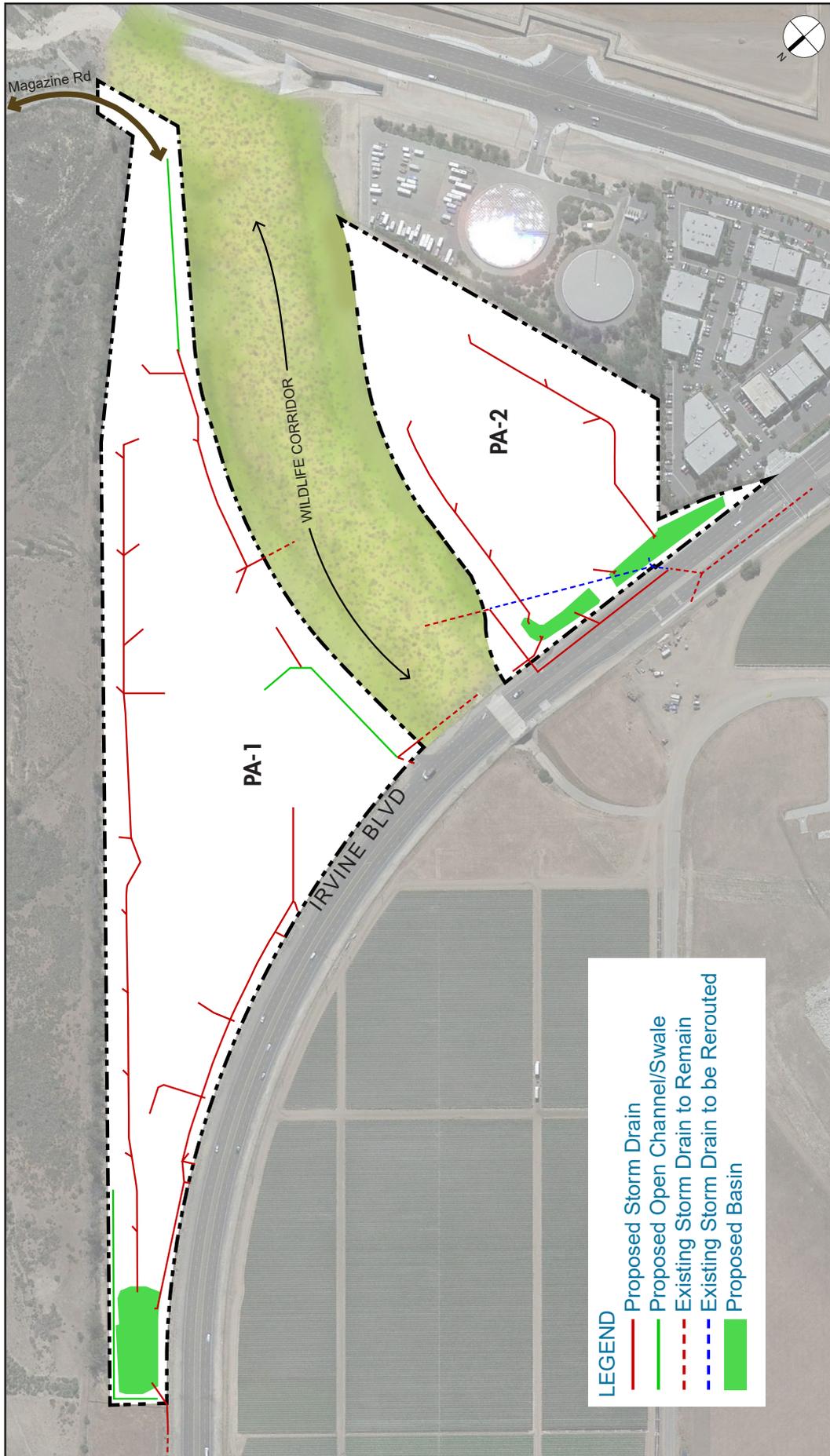
2.4.4 Drainage

The existing Project site drains into two separate San Diego Creek watershed tributary Areas: Agua Chinon Channel and Borrego Canyon Channel. The Project's stormwater run-off will be collected by new drainage facilities within the Project and drain into these tributary areas. On-site drainage infrastructure will be located within the Project's roadway system to connect to existing off-site storm drain facilities. Proposed on-site facilities and off-site connections are depicted on *Exhibit 2.26, Drainage Infrastructure*.

Guidelines for drainage infrastructure include:

- The storm drain system for the Project shall be designed to comply with the County of Orange Local Drainage Manual.
- Where possible, the stormwater infiltration should be incorporated into the design of the Project's on-site stormwater system.
- Site drainage shall be designed to manage post development storm water discharge volume for the 100-year condition, and shall not exceed the storm water discharge for the existing 100-year condition.
- The Project site stormwater systems shall be designed to treat the 2-year, 24-hour stormwater run-off volumes (Design Capture Volume) for pollutants of concern prior to distribution downstream storm drain systems. This treatment system can be coordinated with the on-site detention for the difference between the pre- and post-development stormwater discharge volumes, where applicable to minimize on-site detention and/or retention requirements.
- Development within each Planning Area shall provide 100-year flood protection for all habitable structures.

Exhibit 2.26, Drainage Infrastructure



2.5 Architecture Guidelines

The following Guidelines address the buildings and setback areas. Images in this Section are intended to depict one form of compliance with the implementation of the Design Guidelines. Images labeled “Example” or “Typical” may be used as reference for the design intent specified in the caption.

2.5.1 Placemaking

Successful neighborhood design within the Project site will depend on integrating site planning, architecture and landscape into a unified neighborhood design concept. The Project approach includes “placemaking” to ensure that the community will have distinctive character and “sense of place.” This sense of place will be derived from the natural setting, open space linkages and architecture design compatible with the Project’s surroundings.

2.5.2 Site Planning Guidelines

“Buildings” in this Section refer to all buildings unless a specific building type is referenced.

- Buildings should be arranged to create a variety of outdoor spaces including courtyards, plazas, and/or usable open spaces that encourage human activity. Long rows of buildings is discouraged.
- Common open outdoor spaces between buildings should be designed to be functional and should be programmed with functional amenities so as not to appear empty or barren.
- Focal points and public site entrances should receive special landscape and/or architectural treatment to enhance the streetscape.
- Specialty decorative paving materials is encouraged to be used to enhance and identify building entries, plazas, and seating/patio areas, and to identify transition from Irvine Boulevard and the internal drives.
- Architectural treatments, structures and/or landscape sheltering pedestrian walkways, such as arbors or pergolas, are encouraged.

2.5.2.1 Parking Lots and Garages

Parking garages should be screened from public rights-of-way by residential, landscape and/or other decorative elements. Ingress and egress to and from



Example, Integrated Planning, Architecture and Landscape



Example, Functional and Programmed Common Space



Example, Structure on Pedestrian Walkway



Example, Pedestrian Circulation in Parking Lot



Example, Integrated Utility Screening



Example, Low-Rise Attached Housing Type

parking areas and loading facilities shall be clearly marked with appropriate directional signage and/or pavement markings. Pedestrian routes shall have separate, well-defined and easily discernible routes through parking areas.

2.5.2.2 Mechanical Equipment, Service, Waste and Utility Areas

- Screening of mechanical equipment, waste enclosures, service areas and other service-oriented building necessities should be integrated into the site and building design. The architectural style of the principal building should be reflected in the design of the screening, enclosures and/or service buildings.
- Trash and storage areas shall be screened from view. Trash bins are encouraged to be located within enclosures. Enclosures shall be finished using materials compatible with surrounding architecture and shall be softened with landscape where practical.
- All roof-mounted equipment (excluding roof-mounted solar panels) shall be screened by parapets, screen walls, fencing, equipment wells, structural enclosures or similar features from ground-level views at the closest point of the Irvine Boulevard right-of-way adjacent to the building.
- On-site utilities should be installed underground where feasible and as permitted by the utility companies. Above-ground utilities shall be screened or incorporated into landscape whenever possible.
- Electrical equipment should be screened from public view with walls, berms or landscape.

2.5.3 Types of Residential Products

In order to accommodate the various housing needs, the Project features two different housing types with various products within each type:

- Low-Rise Attached.
- Mid-Rise Attached.

The elements, characteristics and representative images of the proposed home types within the Project are described below.

2.5.3.1 Low-Rise Attached Housing Type

The Low-Rise Attached Housing Type is an attached housing type with units that typically are located side by side. This housing type generally has a density of up to 30 du/ac and are typically up to three (3) stories tall. The various products within this housing type may include, but is not limited to:

- *Townhomes.* In-line, attached single-family homes where the entries face a drive or a street.
- *Attached motor court cluster.* Attached single-family homes clustered around a common stub alley.
- *Attached green court cluster.* Attached single-family homes oriented around a green court.
- *Stacked flats or lofts (or combination thereof).* Attached dwelling units consisting of flats, lofts and/or townhomes.

2.5.3.2 Mid-Rise Attached Housing Type

This housing type features attached homes that are generally up to five (5) stories tall. The various products within this housing type may include, but is not limited to:

- *Wrap Building.* Attached flats, lofts and/or townhomes oriented around a parking structure.
- *Podium Building.* Attached flats, lofts and/or townhomes located above a parking structure and may be oriented around a common open space.

2.5.4 Residential Guidelines

All site planning, architectural design, massing, and colors and materials within each Planning Area should be internally compatible to create a cohesive neighborhood.

2.5.4.1 Building Form and Relief

The following elements and considerations can be used to facilitate the dynamic of light and depth perception of the building.

Architectural Projections

Projections can be used to emphasize design features such as entries, major windows or outdoor spaces. Projections are encouraged on all residential building forms. Projections include, but are not limited to:



Example, Attached Green Court Cluster



Example, Stacked Flats



Example, Wrap Building



Example, Architectural Projections



Example, Tower Elements as Projections



Example, Simple Massing Streetscene with Offsets

- Bermuda shutters.
- Awnings (cloth, metal, wood).
- Balconies.
- Roof overhangs.
- Projecting upper-story elements.
- Tower elements.
- Window/door surrounds.
- Recessed windows.
- Bay windows or dormers.
- Trellis elements.
- Shed roof elements.
- Porch elements.

Offset Massing Forms

Front elevations and elevations facing Irvine Boulevard or a common open space area are encouraged to have offset masses or wall planes (horizontally or vertically) to help break up the overall mass of a building.

- Offset forms include vertical breaks between stories or horizontally between spaces such as recessed entries.
- Offset forms shall include appropriate changes in materials and colors.
- Offsets forms should be consistent with the architectural style of the building and incorporated as a functional element or detail enhancement.
- Streetscenes and/or elevations with multiple, complex massing breaks should be avoided.
- Wrap and podium buildings shall have varied wall planes. Stepped massing and layered wall planes may include:
 - Cantilevered masses or balconies.
 - Recessed masses or inset balconies.
 - Volume spaces.
 - Common open spaces.

Lower Height Elements

Lower height elements are critical to streetscape variety, especially for larger buildings or masses, as they articulate massing to avoid monotonous single planes. The following lower height elements are encouraged on all buildings to establish pedestrian scale and add variety to the streetscene:

- Recessed massing above first floor.
- Porches.
- Entry features.
- Bay windows.
- Courtyards.
- Pergolas.

Balconies

Balconies break up large wall planes, offset floors and create visual interest to the facade. Balconies:

- May be covered or open, recessed into or projecting from the building mass.
- Should be an integral element of, and in scale with, the building mass.
- Are discouraged from being plotted side-by-side at the same massing level (i.e. mirrored second-story balconies).

Podium Courtyards

Courtyards, gardens or plazas, within podium buildings should contribute to the recreational opportunities and needs for open space for building residents. These spaces should optimize daylight access, views and privacy for units facing them.

2.5.4.2 Roof Considerations

Varied roof forms are an important part to the overall architectural character of a building. The below Guidelines apply to roofs.

- Roof form, ridgelines, pitch, ridge heights, roof materials and roof color should be compatible with the architectural style of the building.
- Wrap and podium are encouraged to have pronounced parapet and cornice treatments complementary to the design vocabulary when flat roofs are used.
- Wrap and podium buildings should have at least two (2) distinct parapet or roof heights.

2.5.4.3 Facade Treatment

Special attention is encouraged for the treatment of entries (doors, vestibules, porches, courtyards) using enhanced trim and details to emphasize these are primary focal points. Articulated and unique window



Example, Courtyard



Example, Balconies with Varied Plotting



Example, Podium Courtyard



Example, Varied Roof Heights on Wrap/Podium Building

treatments are also encouraged to further enhance wall surfaces.

Windows

At least one (1) feature window treatment should be present on all front and street-exposed building elevations. Feature windows are trimmed or detailed in a manner that creates visual interest and is consistent with the architectural style of the building. Feature window treatments may include:

- A window of unique size or shape.
- Bay window.
- A substantial surround or recess.
- Decorative iron window grilles (such as wrought iron grilles on Spanish-style buildings).
- Decorative head or sill treatments.
- Grouped windows with complete trim surrounds or unifying head and/or sill trim.
- A Juliet balcony with style-appropriate materials.

Materials and Details

- Application of materials should be compatible with the architectural style of the building.
- Material changes should occur at inside corners.
- Bars and security grills on windows and doors are prohibited.
- Undesirable materials include plywood siding (including T-11) and plywood garage doors.
- White or earth-tone colors are encouraged to be used as the primary base color. Undesirable colors on building exteriors include fluorescent colors, neon colors, bright colors as the primary wall color and primary colors (i.e. red, yellow and blue) as the primary wall color.



Example, Application of Materials

2.5.4.4 Corner Plans

Buildings located on corners will typically function as neighborhood entries and highlight community architecture. Buildings located on corners should include some of the following:

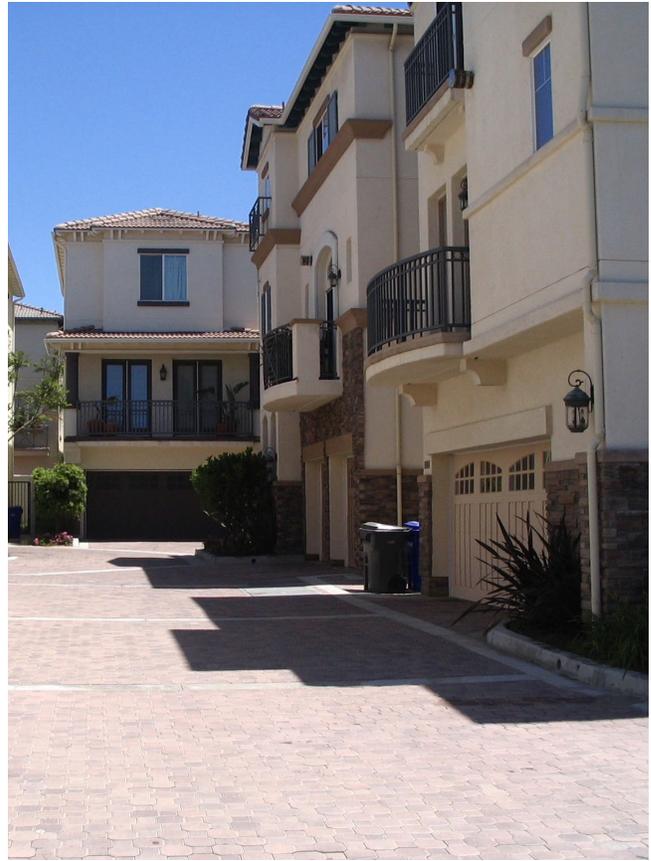
- Front and side facade articulation using materials that wrap around the secondary side of the building.
- Awning on secondary side.

- Feature window on corner side.
- A pop-out side hip, gable or shed form.
- An added single-story element, such as a wrap-around porch or balcony.
- Tower element (for Mid-Rise Attached Housing Types only).
- Recessed stories above the first story.
- Upgraded landscape.

2.5.4.5 Alley Treatments

Design of alleys should address the functional and aesthetic features of the space. At least two (2) of the following should be implemented along the alley:

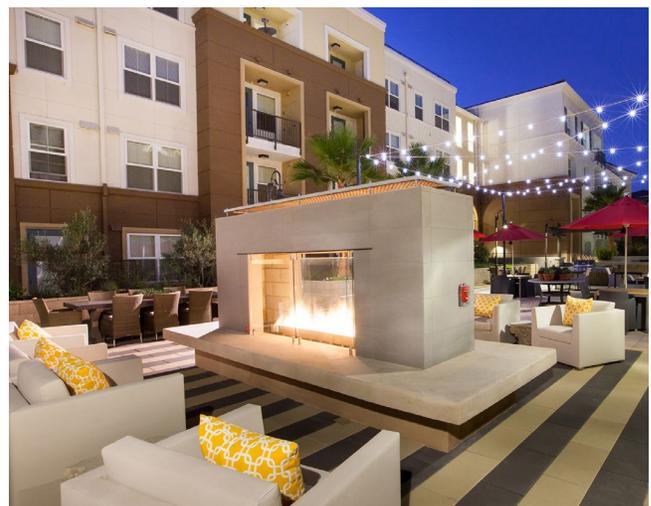
- Stepped massing (recessed or cantilevered) offsets of at least one (1) foot.
- Architectural projections such as balconies and eaves.
- Window trim, colors and appropriate details from the front elevation.
- Rear privacy walls and pedestrian gates designed and located for ease of unit access.
- Enhanced garage door patterns or finishes; garage doors should complement the design vocabulary of the home/neighborhood.
- Planting areas between garages.



Example, Projections and Plantings between Garages

2.5.4.6 Exterior Projecting and Stand-Alone Structures

- Exterior projecting structures, including but not limited to, porches, patio covers and trellises, should reflect the character, color and materials of the building to which they are related to.
- Stairs should be compatible in type and material to the deck and landing.
- Columns and posts should project a substantial and durable image and be constructed of such materials.
- Exposed gutters and downspouts should be colored to complement or match the fascia material or surface to which they are attached.
- Where chimneys are a prominent architectural feature of larger residential buildings, design and placement should be done sensitively to not detract from the general design or appearance of the building.



Example, Exterior Stand-Alone Structure Matching Building Character



Example, Roof-Mounted Solar PV



Example, EV Parking System

2.6 Sustainable Guidelines

The Development Plan provides a sustainability framework that can be implemented through a variety of Project site-specific design solutions. The most appropriate Project site-specific design features will be determined at the individual development approval stage based, in part, upon adding long-term value.

The following recommendations are provided to encourage future developers to explore opportunities for energy efficiency that could add value to the Project:

- Evaluate the cost-benefit of providing Solar Photovoltaic (PV) as an alternative energy source.
- Utilize passive sustainability design strategies where feasible to minimize overall energy consumption needed to heat and cool the building. These strategies include daylighting, natural sources of heating and cooling, operable windows, shading on south facing windows, ceiling fans, well-designed building envelopes with high-U values (insulation rating).
- Encourage coordination with SCE to identify opportunities, optimize energy infrastructure while minimizing cost and avoid barriers that may prevent future entry or expansion of energy efficient systems.
- Explore next generation solutions for enhanced efficiency and reduced operating costs, such as smart-grid, switching controls, communications (including a community dashboard), storage and monitoring in servicing the Project to reduce utility and operating costs.
- Consider designing EV systems to expand over time, since retrofits for EV systems are difficult to accomplish.
- Where feasible, utilize solar thermal to heat water for pool and spas.

2.6.1 Energy Conservation

While solar applications are not required by the Development Plan, the Project provides a number of potential solar sites. In addition to the roof-top solar zones, potential locations for solar PV panels include

expanded solar zones on individual buildings, parking shade structures (atop parking structures or in surface lots), pool shading structures, picnic area shading and trellis features.

If provided, PV panels visible from the street or other prominently visible location shall blend in with the existing building construction in an aesthetic manner.

2.6.2 Lighting

Proper lighting design has many benefits including energy savings, reduced sky-glow, and improved quality of life. Solar-powered lighting and energy efficient lighting can reduce energy consumption, thereby reducing emissions and improving air quality. Proper lighting design promotes safety, eliminates light trespass onto adjacent properties, minimizes the impact to nocturnal animals, and minimizes disruption to human’s circadian rhythms to promote better sleep and healthier communities.

The following includes sustainable lighting Guidelines that should be considered by future developers:

- High-efficacy solid-state light emitting diode (LED) lighting for outdoor applications, including signage.
- Appropriate color spectral distribution to reduce glare and enhance safety and navigation.

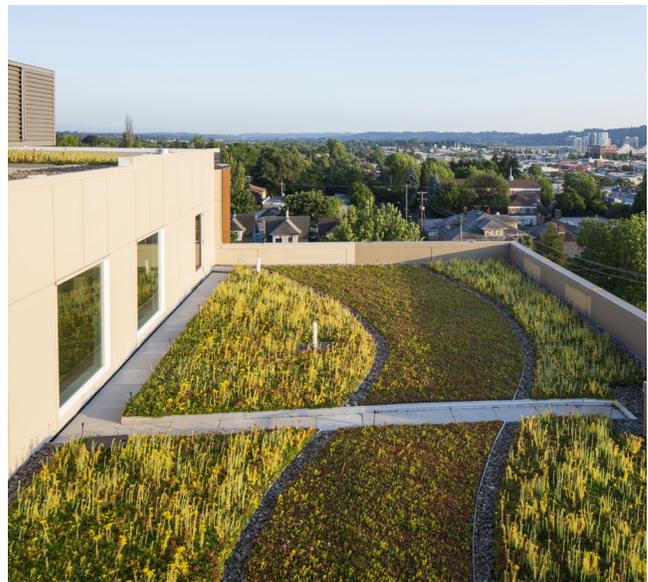
2.6.3 Minimize Heat Island

The Development Plan addresses heat island effect by encouraging the development of a parking structure on Planning Area 1, significantly reducing the amount of paving on-site. Additional Guidelines to reduce the heat island effect include the following.

- For surface parking lots, encourage evergreen canopy trees to be planted to meet the parking lot tree requirements described in *Section 3.9.1, Parking Lot Design Standards*. Trees above the minimum amount required in said Section are also encouraged.
- Encourage the use of low albedo (reflection coefficient) materials in both paving, roofing and building materials to reflect rather than absorb incoming solar radiation.
- Encourage utilizing green roofs.



*Example, Cool Roof Installation
Source: New York City*



Example, Green Roof



Example, Raised Garden Beds



Example, Common Area Garden



*Example, Hydroponic System
Source: Seminole County*



Existing Wildlife Corridor

2.6.4 Access to Local Food

Food grown and harvested on-site reduces the need to travel off site, thus reducing trips and greenhouse gases. The Project is privileged with its proximity to the OCGP, which includes a variety of sustainable food amenities including, but not limited to, the Farm+Food Lab and the Incredible Edible Garden.

Options for producing food on the site include greenhouses, raised beds, patios and rooftops. To further promote access to local food, the following Guidelines are included:

- Consider incorporating planting space on patios, balconies, roof tops, greenhouses and common areas.
- Consider using high-performance water conserving hydroponic systems, which utilize a fraction of the water needed for in ground farms/gardens.
- Consider integrating high-performance growing systems to grow healthy food on-site for residents.

2.6.5 Innovation & Education

- As discussed in *Section 2.3.2.3, Interpretive Signage*, encourage providing interpretive signage about the natural setting of the Project site within both Planning Areas.
- Encourage providing historic and educational signage throughout the community and note their sustainability features (e.g., use of recycled materials, or message of the art installation, etc.).

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3

DEVELOPMENT STANDARDS

3.1 Introduction

The provisions contained herein shall regulate design and development within the Development Plan. The Development Standards identified within this Section establish the minimum standards and requirements for the development of the West Alton Parcel project (Project). Application of the following Development Standards is intended to encourage the most appropriate use of the land, ensure the highest quality of development, and protect the public health, safety, and general welfare. These Development Standards reinforce specific site planning, architectural design, and landscape design guidelines contained in *Section 2, Design Guidelines*, of this document. All architectural and landscape improvements for the Project shall be generally consistent with the Design Guidelines contained in Chapter 2.

As discussed in *Section 1, Introduction*, according to Sections 53090–53091 of the California Government Code, counties and cities are exempt from zoning regulations

when one entity owns territory within the jurisdiction of another entity. Therefore, the City of Irvine zoning regulations are not applicable to the Project.

The pre-annexation agreement between the City of Irvine and the County designates the County as the land use authority for this Project. According to Section 7-9-20(i) of the Orange County Zoning Code, land owned or leased to the County is not subject to land use regulations of the County, including the Zoning Code, specific plans, and planned communities. Therefore, this Section establishes the Development Standards by which the County of Orange will evaluate proposals for future development.

3.2 Definition of Terms

The meaning and definition of words, phrases, titles, and terms in this document shall be the same as provided in the County of Orange Zoning Code, Section 7-9-21, unless specified in *Appendix A (A-1)* of this Development Plan.

3.3 Land Use Plan

Exhibit 3.1, Land Use Plan identifies the permitted use for the Project site – multi-family residential (up to 30 units per gross acre average) for both Planning Areas.

The use considered within this Development Plan has been developed based on the Project Vision and Objectives. The permitted uses for the Development Plan allow flexibility so the Project can respond to changing market conditions over time. *Exhibit 3.2, Conceptual Site Plan* shows one of the many possible development scenarios that would be compatible with this Development Plan.

The land use intensity anticipated for the Project is described in *Section 3.4, Maximum Allowable Development*. Specific permitted and conditionally permitted uses may be developed as identified in *Section 3.5, Land Uses*.

3.3.1 Common Open Space

The Development Plan includes common open space elements intended to complement the adjacent OCGP and provide passive opportunities for residents. The minimum size requirements for common open spaces are defined below. Additional parks beyond those described below may be incorporated into the Project without the need for a Development Plan Amendment.

Design guidelines for these spaces can be found in *Section 2.3, Community Landscape*.

- Each Planning Area shall allocate a minimum of 217.8 square feet of common open space per dwelling unit. If land within the Development Pan area is not available for parkland due to soil remediation, an applicant may provide financial security subject to the satisfaction of the Manager, CEO Real Estate/Land Development, for future development of said parkland.
- Common open spaces may include passive or active recreation uses. Recreation uses may be located indoors.
- Common open spaces that will be considered to meet the above requirement shall have a minimum area of 5,000 square feet. Additionally, areas considered to count towards the open space requirement shall have a maximum average grade of 5 percent.
- Common open spaces may be located within any portion of the Project site, except for the Irvine Boulevard required setback area, as described in *Section 3.6, Minimum Building Setbacks*.

Exhibit 3.1, Land Use Plan

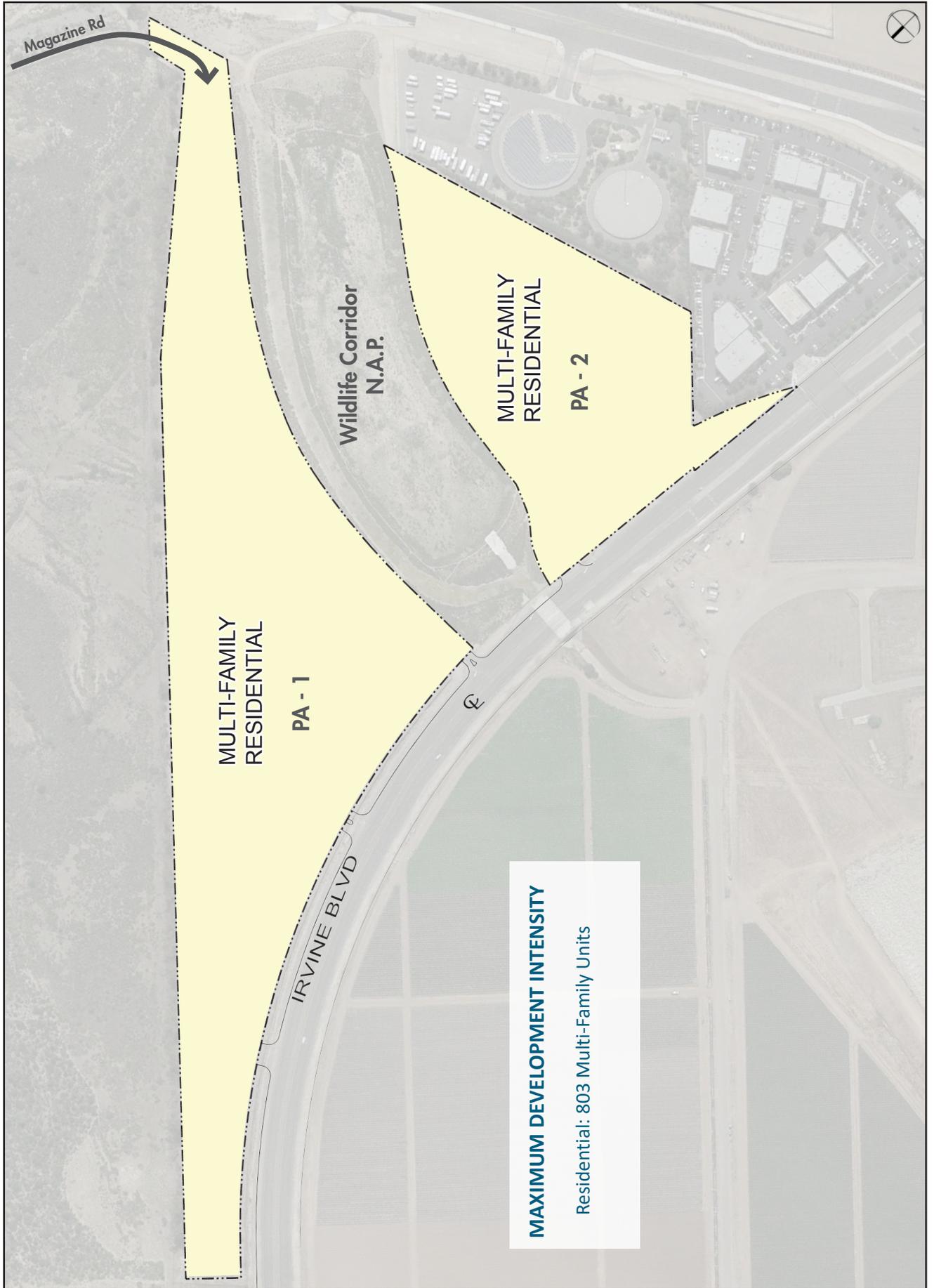


Exhibit 3.2, Conceptual Site Plan



3.4 Maximum Allowable Development

The Development Plan allows for up to 803 multi-family residential units between Planning Areas 1 and 2, provided the density does not exceed 30 units per gross acre in either Planning Area. This Development Plan does not require the owner or developer to build to the maximum aggregate development limits identified herein.

Any residential development within the Development Plan area shall provide a minimum of ten percent (10%) of their total units as affordable units. Additionally, any residential development within the Development Plan area shall provide a minimum of one percent (1%) of their total units as transitional housing units. If a development provides more affordable or transitional housing units than the minimum required, subsequent developments may provide less than the required affordable and transitional housing units, provided that the aggregate affordable and transitional housing units meet the requirements within this section.

3.5 Land Uses

Table 3.1, Land Use Table, indicates the permitted, accessory and special uses allowed within the Development Plan area.

In general, uses omitted within this table are considered prohibited uses. However, the Manager, CEO Real Estate/Land Development, may interpret unlisted uses, subject to *Section 4, Implementation*.

Permitted uses are permitted by right and do not require any type of discretionary action. For additional information on processing or the determination of a certain use, refer to *Section 4, Implementation*.

3.5.1 Accessory Structures

Accessory residential structures are permitted on any site containing a principal residential use. The accessory structure shall meet the following requirements:

1. Accessory structures shall not exceed 10 percent of the area of the principal use.
2. Accessory structures may encroach into any required setback. A maximum of 50 percent of a required setback area may be covered by accessory structures.
3. Accessory structures shall have a maximum height of 20 feet or one story, whichever is less.
4. Accessory structures shall comply with all applicable building codes and this Development Plan.

3.5.2 Accessory Uses

An accessory use is defined as a use that is: (1) clearly incidental and subordinate to the principal use of the land or building; (2) located on the same lot with the principal use; and (3) not a generator of additional vehicle trips, parking needs, or adverse environmental impacts. For this Project, accessory uses may be ancillary retail or restaurant uses that are designed to serve residents of the Project site.

Table 3.1, Land Use Table

Use	Multi-Family Residential Land Use
Accessory uses	P
Agriculture (above-grade)	P
Automobile parking lots and structures, accessory	P
Caretaker's quarters	P
Child care/day care center	I
Churches (and other places of religious worship)	II
Congregate care facility	II
Home care	P
Model home sales complex	P
Nonprofit groups and meeting facility, accessory	P
Outdoor vendor	P
Parks (including parking for recreational uses)	I
Picnic area, accessory	P
Recreation facility (including health and tennis clubs and spas)	P
Residential care facility (under 7 beds)	P
Residential care facility (7 or more beds)	II
Residential shelter	II
Residential, attached	P
School (public or private)	I
Senior housing	I
Sober living facility	II
Transitional housing	P
Utility building and facility	II
Wireless facility, commercial	I

P = Permitted

I = Level I Review Required

II = Level II Review Required

3.5.3 Prohibited Land Uses

The following uses are prohibited within the Development Plan area:

- Adult businesses.
- Agricultural, industrial and/or contractor equipment storage and/or rental facilities.
- Animal hospitals and clinics.
- Apiaries.
- Automobile service stations.
- Automobile/RV storage, repair, repainting and/or wrecking.
- Below-grade agricultural uses (i.e. farming).
- Boarding houses.
- Cemeteries, mausoleums, crematories, funeral homes, mortuaries and the like.
- Commercial dairies.
- Commercial coaches and modular trailers once development of a Planning Area has been completed.
- Commercial uses (except for accessory commercial uses).
- Dump sites and hazardous waste management facilities.
- Fortune telling businesses.
- Hospitality uses.
- Industrial uses.
- Kennels.
- Manufacturing uses.
- Medical marijuana facilities.
- Mining and processing.
- Outdoor storage.
- Retail uses (except for accessory retail uses).
- Single-family detached units.
- Second dwelling units.
- Solid waste transfer stations.
- Stables and corrals.
- Warehouses.

3.5.4 Interim Land Uses

The following interim uses are permitted within all areas of the Development Plan at the discretion of the Manager, CEO Real Estate/Land Development:

- Parking of vehicles and/or recreational vehicles.
- Green power generation.
- Above-grade agriculture.
- Temporary commercial coaches or modular trailers.

- Any accessory or related use to support or complement the uses listed above.
- Any other interim use approved by the Manager, CEO Real Estate/Land Development.

3.5.5 Temporary Land Uses

All temporary structures and uses shall comply with all applicable Orange County Fire Authority (OCFA) standards.

A. *During Construction and Initial Residential Unit Sales/Leasing*

The following temporary buildings, structures and uses shall be permitted during construction and during residential unit sales and/or leasing with the location of such use subject to the approval of the Manager, CEO Real Estate/Land Development.

1. Developer's/Contractor's Offices and/or Storage. Temporary structures including the housing of tools and equipment or structures that contain supervisory offices used in connection with construction activities.
2. Temporary Recycling of Construction Materials. Demolition and storage of materials to be reused as part of the construction process, subject to conditions that may be imposed on individual development approvals.
3. Temporary Tract Sales/Leasing Offices. Temporary tract sales/leasing offices within a commercial mobile home until a model home/unit becomes available for use as a sales office.
4. Model Homes. Model homes/units, temporary real estate offices and model homes/units to be used as a temporary tract sales office.
5. Any other temporary use approved by the Manager, CEO Real Estate/Land Development.

B. *Throughout the Life of the Development*

The following temporary buildings, structures and uses shall be permitted with the location of such use subject to the approval of the Manager, CEO Real Estate/Land Development.

1. Holiday Sales. Temporary holiday sales such as Christmas tree and pumpkin sales.
2. Open Air Festival. The temporary use of premises for promotional or community events, such as a farmer's market, as further defined in the Appendix.

3.5.6 Home Occupations

In addition to the requirements for each residential development, the following Development Standards shall apply to the establishment and operation of home occupations.

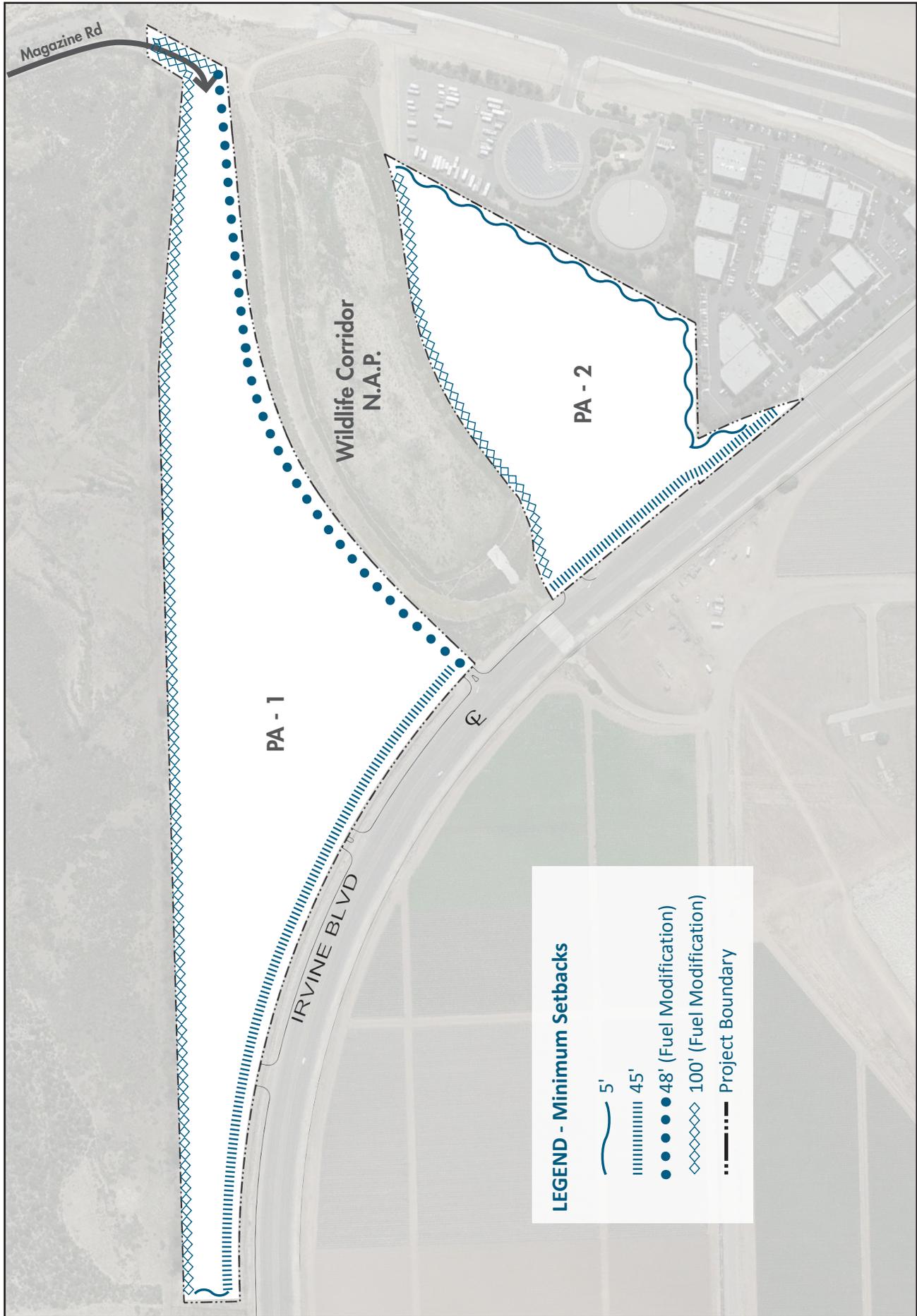
1. Home occupations are permitted when conducted as an accessory use to a residential use.
2. There shall be no exterior evidence of the conduct of a home occupation.
3. A home occupation shall be conducted only within the enclosed living area of the dwelling unit.
4. Electrical or mechanical equipment which creates visible or audible interference in radio or television receivers or causes fluctuations in line voltage outside the dwelling unit shall be prohibited.
5. Only the residents of the dwelling unit may be engaged in the home occupation.
6. The delivery of goods to the dwelling unit intended for resale without material modification by the home occupation business is prohibited.
7. The establishment and conduct of a home occupation shall not change the principal character or use of the dwelling unit involved.
8. Signage is prohibited.
9. Required residential off-street parking shall not be obstructed by the home occupation use.
10. A home occupation shall not create greater vehicular or pedestrian traffic than normal for the Planning Area in which it is located.

3.6 Minimum Building Setbacks

The required minimum building setbacks for the Development Plan area are shown in *Exhibit 3-3, Minimum Setbacks*. The intent of the setback requirements is to create an inviting residential neighborhood while protecting the Project from the potential risk of wildfires and providing a buffer from natural open space areas. Additional setback Standards are indicated below:

1. There shall be a 100-foot setback from the open space to the north of the Project and along the southerly boundary of the wildlife corridor.
2. There shall be a 48-foot setback from the northerly boundary of the wildlife corridor.
3. There shall be a 45-foot setback from Irvine Boulevard.
4. There shall be a 5-foot setback from the adjacent commercial development.
5. At or above-grade entrances to garages and carports shall be set back a minimum of 1.5 feet from any drives. This setback area shall be distinguished from the common drive to prevent cars from blocking garage doors by incorporating concrete, pavers or other type of distinguishing material or method. Living areas above the garage do not need to comply within this garage setback.

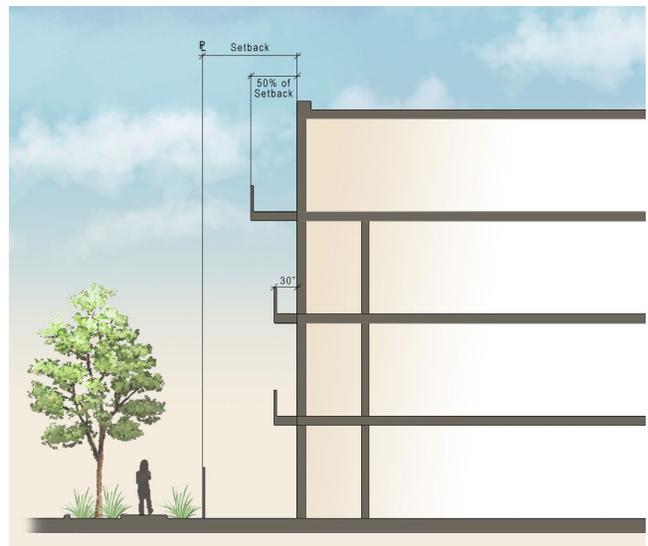
Exhibit 3-3, Minimum Setbacks



3.7 Setback Encroachments

An encroachment is a permitted projection into a setback. These encroachments are intended to allow for architectural variation on façades to create an interesting streetscene. In all cases, all encroachments shall comply with the California Building Code (CBC), as well as, applicable codes and regulations. The permitted encroachments are discussed below.

- Covered porches and upper-floor balconies may encroach up to 30 inches into all non-fuel modification setbacks. Up to 20 percent of the covered porches and balconies on any façade may encroach up to 50 percent of the non-fuel modification setbacks (up to 7 feet). In all cases, covered porches and balconies shall have a minimum 8-foot clearance from the floor below.
 - Basements, underground cisterns and subterranean garages provided there is space for plant material to grow above them (3 feet minimum) may encroach up to 10 feet into any setback.
 - ADA accessible ramps (that may include a trellis or other architectural feature that is integrated into the building and does not exceed the first-floor plate height) and unenclosed stairwells may encroach up to five (5) feet into any non-fuel modification setback.
 - Cornices, eaves, sills, buttresses and other architectural features may encroach up to 30 inches into all non-fuel modification setbacks.
- Awnings, lighting fixtures and canopies may encroach up to three (3) feet into all non-fuel modification setbacks.
 - Monumentation, roads, drives, detention/retention basins, walls, fences and free-standing wireless facilities may encroach into any setback, subject to all applicable OCFA regulations and requirements in *Section 3.10, Wall and Fence Standards* and *Section 3.13, Wireless Facility Standards*.
 - Signs may encroach into any setback, subject to the requirements in *Section 3.12, Signage*.
 - Art may encroach into all setbacks except that they shall in all events be located outside of the “Limited Use Area,” as defined in *Section 3.10.1, Intersection Sight Line Standards*.



Example of Balcony Encroachments

3.8 Development Standards

The Development Standards for the Project establish the minimum criteria for the development of individual lots within the Development Plan area. Specific Standards are described on *Table 3.2, Development Standards*. Deviations from these Standards require a Level II or Level III Review (refer to *Section 4.3, Discretionary Actions*).

Additional Standards include:

- Storage areas and equipment shall not be located in any required setback area or side yard except for utility equipment installed by the utilities.
- Screening shall be provided so that materials stored in the area and/or equipment at grade or on the roof are screened from ground-level view from all adjacent streets and properties at the same grade. Solar energy systems are exempt from this regulation.
- Developments shall comply with all applicable *Development Plan Security Code* regulations, found within *Appendix B* of this Development Plan.

Table 3.2, Development Standards

Standard	Residential Developments
Maximum gross density	30 du/ac per Planning Area
Maximum net floor area ratio (FAR)	N/A
Minimum site size	1 acre
Maximum site coverage	75%
Maximum building height	90' 5 stories (not including parking structures)
Minimum site landscaping	15%
Minimum residential open space*	A minimum of 60 square feet of open space per unit (either private or common)
Building separation	6'

**Private balconies shall have a minimum dimension of 5 feet and private patios shall have a minimum dimension of 7 feet to count towards the open space requirement. Common open space areas shall have a minimum dimension of 20 feet to count towards this requirement. These are in addition to the required common open space identified in Section 3.3.1, Common Open Space.*

3.9 Parking Standards

Off-street parking shall be provided for both vehicles and bicycles per the requirements of this Development Plan.

- Off-street parking facilities are to be provided as shown on *Table 3.3, Parking Standards* of this Development Plan. This table assumes gross floor area.
- Parking requirements for uses not indicated in *Table 3.3, Parking Standards*, shall be reviewed and approved by the Manager, CEO Real Estate/Land Development. Uses not specified shall be

compared to a similar use or uses that could satisfy the minimum parking demand. When there is no similar use in *Table 3.3, Parking Standards*, a parking study prepared by a firm acceptable to the Manager, CEO Real Estate/Land Development shall be submitted that provides justification, and data supporting the proposed minimum parking requirement.

- Where applicable, parking on all internal drives count towards the required residential visitor parking requirements.

Table 3.3, Parking Standards

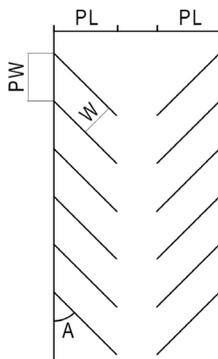
Use	Vehicular Parking Required	Bicycle Parking Required
Attached residential	Studios: 1.25 spaces/unit (1 covered) 1 bedrooms: 1.65 spaces/unit (1 covered) 2 bedrooms: 1.85 spaces/unit (1 covered) 3+ bedrooms: 2.25 spaces/unit (1 covered)	None
Nursery	1 space per 300 square feet of retail area plus 1 space per 1,000 square feet of outdoor display and storage	None
Schools	0.8 spaces per instructor and employees and 1 space per 4 students	None
Convalescent and nursing homes	1 space per 4 beds	None
Athletic courts	2.4 spaces per court	None
Auditoriums, places of worship and places of public assembly	1 space per 3.5 seats or 1 space per 40 square feet	None
Child care, preschool nursery schools	1 space per employee plus 1 space for 7 children	None
Christmas tree, pumpkin sales, fruit and vegetable stands	1 spaces per 500 square feet of display and walkway areas	None
Residential shelters	1 space per 4 beds plus 1 space per employee	None
Parks	Planning Area A: 6 spaces minimum Planning Area B: 2 spaces minimum No parking spaces are required for Planning Areas C through I	5 spaces
Community Center	1 space per 240 square feet plus 1 space per 700 square feet of pool water surface area	1 space per 33 automobile spaces required

- Parking may be provided on a different site than the use is located on, subject to the entrance of the parking area being within 600 feet of the entrance of a residential unit or building. Where off-site parking is proposed, a reciprocal access/parking agreement between the users and/or owners of the two properties shall be provided to the Manager, CEO Real Estate/Land Development.

3.9.1 Parking Lot Design Standards

All parking lots and/or structures shall be governed by the below standards:

- All angled, perpendicular and tandem parking spaces shall comply with the minimum parking dimensions indicated in *Table 3.4, Parking Lot Design Standards*.
- All parallel parking spaces shall have a minimum width of 8 feet and a minimum depth of 22 feet.
- Excluding garages accommodating up to four (4) cars, when a parking space parallels a building, fence, support column or other obstruction, the space shall be a minimum of one (1) foot wider than otherwise required.
- Overhangs up to two (2) feet may be included as part of the required parking space dimension as long as the overhang is not part of a pedestrian walkway or parking space.
- One-way driveways and aisles shall have a minimum width of 12 feet. Two-way driveways and aisles with or without parallel parking shall have a minimum width of 20 feet. Two way aisles with angled or perpendicular parking shall have a minimum width of 24 feet.



Parking Lot Design Exhibit

- All designated fire access ways shall comply with OCFA requirements.
- Parking circulation shall be designed so that any vehicle can leave the parking area and enter onto Irvine Boulevard traveling in a forward direction.
- Turnaround areas shall be provided on all dead-end aisles containing 10 or more parking spaces.
- At-grade parking lots shall provide a minimum of one (1) 15-gallon canopy tree for every four uncovered parking spaces.
- All landscape planters with trees shall have a minimum internal dimension of 4.5 feet (back of curb to back of curb).
- At-grade, off-street parking lots shall be screened from view from properties and streets outside of the Project boundary using walls, berms and/or evergreen landscaping. This screening shall have an eventual height of 3.5 feet.
- The perimeter of parking structures shall be landscaped at ground level with a minimum of one tree (15-gallon) for every 20 feet on average. Portions of a parking structure with a building or structure separating said parking structure from a drive, landscape area and/or adjacent property do not need to comply with this requirement.

3.9.2 Tandem Parking

Tandem parking of up to two (2) cars in depth may be counted towards the required off-street parking identified in *Table 3.3, Parking Standards*, where the spaces are assigned to the same unit.

Table 3.4, Parking Lot Design Standards

Parking Angle (A)	Projected Width of Stall (PW)	Width of Stall (W)	Projected Length of Stall (PL)
45	12.73'	9.00'	19.09'
60	10.39'	9.00'	20.09'
90	9.00'	9.00'	18.00'

3.10 Wall and Fence Standards

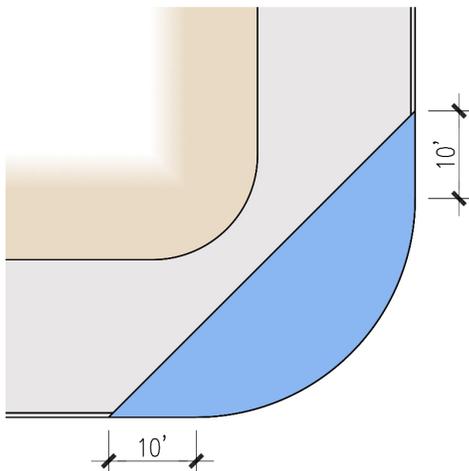
3.10.1 Intersection Sight Line Standards

- A “Limited Use Area” shall be provided at every corner of a street and/or drive. The Limited Use Area is defined as an area bounded by the curb line and a diagonal line connecting a point ten (10) feet from the beginning and the end of a curb radius (see image below).
- To preserve visibility, landscape, gateways, walls and fences are permitted within the setback areas, provided physical features shall not encroach into the “Limited Use Area.” Within the “Limited Use Area,” trees are permitted when the lowest branch height is higher than nine (9) feet from the ground. Light standards are allowed within the “Limited Use Area.”

3.10.2 General Wall and Fence Standards

Walls and fences may encroach into all setbacks, be located on a side or rear property line, except that they shall in all events be located outside of the “Limited Use Area,” as defined in *Section 3.10.1, Intersection Sight Line Standards*.

- If a retaining wall is combined with a fence or wall, the total combined height of the exposed wall may reach a maximum of 10 feet above grade.
- Fences and walls intended to restrict unauthorized entry into pools, spas and recreational facilities may reach a maximum height of eight (8) feet.
- Barbed wire, wire (including razor wire),



“Limited Use Area” Graphic (not to scale)

electronically charged fences, plain exposed concrete block, plastic materials, chain link and grape stakes are prohibited materials for fences and walls. However, chain link may be used on a temporary basis at construction sites and for agricultural sales uses. The temporary fencing shall be removed upon completion of construction.

3.11 Project Identification/ Monumentation

Project identity markers such as monuments are permitted to provide locational cues and identification for visitors. Monuments shall be located within the Irvine Boulevard setback area and not within the right-of-way (unless an encroachment permit or other applicable approval is obtained). The location of these monuments shall be located outside of the “Limited Use Area,” as defined in *Section 3.10.1, Intersection Sight Line Standards* and be in compliance with *Section 2.4.2, Identity Features*.

3.12 Signage

Table 3.5, Permitted Sign Matrix, identifies the permitted signs for the Project site. The Development Standards governing signage within the Development Plan area shall be as provided within this Section.

3.12.1 Exempted Signs

The following permitted signs and/or sign structures are exempt from any sign permit requirement within this Development Plan; provided, however, that such signs shall comply to all other applicable requirements of the Development Plan.

1. *Directional Signs in Parking Areas.* Permanent ground sign located in parking lots to provide direction to drivers up to 6 feet in height and 6 feet in width.
2. *Residential Wall Signs.* One (1) permanent wall sign per residence to identify the residence up to two (2) square feet in area.
3. *Temporary Political Signs.* Temporary ground-mounted sign related to an upcoming political campaign up to 3 square feet in area if within 150 feet of an intersection, or up to 6 feet in height and 12 square feet in area if greater than 150 feet of an intersection. Signs shall be removed within 10 days of an election.

Table 3.5, Permitted Sign Matrix

Sign Type	Number of Permitted Signs	Max. Sign Area Per Sign Face	Min. Setback (Freestanding)	Max. Height	Other Requirements
Major & Minor Identification					
Residential Monument	1 per project entry. 1 additional allowed for entry leading to leasing office.	36 SF (4' max. height)	2' from back of sidewalk	6' for sign structure	May not be used with a "Residential Project Wall Sign" on same street frontage. Must be 100' from another monument sign unless separated by a driveway/road.
Residential Project Wall Sign	1 per elevation if "Residential Monument" does not occur on same frontage	36 SF (4' max. height)	N/A	24" for symbols, 18" for letters	Must be parallel to wall.
Directional Signage					
Parking Entry	No Limit	3 SF per linear foot of garage frontage	N/A	N/A	Every garage structure entrance used for public parking may have a parking entry sign.
Project Directories with Maps	One per street, parking area and/or pedestrian frontage	32 SF	Outside of "Limited Use Area"	8'	Characters shall not exceed 8" in height.

SF = square feet

4. *Temporary Construction Signs.* One (1) temporary sign per site which identifies the developer, designers and contractors, up to 32 square feet in area.
5. *Public Notices and Signs.* Public notices posted pursuant to law, signs erected by governmental agencies and public utilities and warning or information signs required by law for public health and safety.
6. *No Trespassing Signs.* Signs such as "no trespassing" that do not exceed six (6) square feet in area and which do not advertise merchandise or services.
7. *Portable Signs.* Bi-faced, free-standing signs (sandwich boards), not to exceed four (4) feet in height if such signs may be readily removed from public view at the end of each business day and if such signs are not placed upon any public right-of-way, in any on-site parking space or in any landscaped planter area.
8. *Temporary Decorations.* Temporary graphics and decorations for a holiday season which do not advertise merchandise or services, provided that such graphics and decorations are installed not more than thirty (30) days before the holiday or holiday season and removed not later than two (2) weeks after the holiday or a holiday season.
9. *Flags.* National, state or other governmental flags, or flags depicting logos of, and displayed by, public institutions or nonprofit service organizations. Additionally, flags may be displayed in the same circumstances that string pennants may be displayed. All flags shall be maintained in a non-deteriorated condition. Notwithstanding this Section, flag poles are not exempted from a Building Permit.

3.12.2 Future Facility Sign

Signs include those indicating “future facilities” and developments and “builder product identification,” which is specific signage used by the developer to market the sales and/or leases of their dwelling units. At least one (1) future facility sign is permitted as part of any Level I Review approval, with the intent to allow one future facility sign for each separate development.

3.12.3 General Sign Standards

The following Standards shall apply to signs within the Development Plan:

1. *Design and Location.* Sign design shall be in compliance with *Chapter 2, Community Design Guidelines.*
2. *Projecting Signs Clearance.* A minimum eight (8) feet vertical clearance is required from the bottom of a projecting sign, marquee, blade or awning to the sidewalk or grade immediately below the sign.
3. *Moving or Animated Signs.* Unless otherwise permitted by this Section, signs consisting of any moving, swinging, rotating, flashing, blinking, scintillating, fluctuating or animated light, including temporary lighting, such as, but not limited to, search, flood fluorescent gel or laser lights, are prohibited.
4. *Encroachment.* Signs are permitted to encroach a maximum of three (3) feet into all setbacks, unless otherwise specified in this Section.
5. *Sign Illumination.* All signs may be internally or externally illuminated but such spotlight devices shall not shine directly upon any right-of-way or neighboring property. Neon wall signs and exposed raceways are prohibited. Temporary lighting such as search or flood lights that are used on a permanent basis are prohibited.

3.12.4 Specific Sign Standards

Along with *Table 3.5, Permitted Sign Matrix*, the following Standards shall apply to each sign type and shall require a Sign Permit from the County of Orange:

1. *Wall Signs.* Only individual letters of a business name or individual letters and adjacent logo (with or without text). Cabinet signs, can signs, and cloud signs are not allowed. A business logo or

symbol is also allowed. Wall signs shall be limited to the business name and identification of the future residential development.

2. *Apartment Leasing Ground Signs.* One ground-mounted sign per street frontage (maximum of two per site) that provide apartment leasing information is permitted up to 12 square feet per sign panel with a maximum character height of 8 inches. The leasing sign structure may have a maximum height of 10 feet. These signs shall be separate by a minimum of 100 feet, unless if they are separated by a driveway/road. No illumination is permitted for this sign type. Wood, steel and pre-punched galvanized U-posts are not acceptable. No balloons, streamers, or other temporary attachments are permitted.

3.13 Wireless Facility Standards

Commercial wireless facilities, satellite dishes, antennae and accessory wireless equipment are an essential component of wireless communications technology applications. As such, their location, number, size, and design may have a significant influence on the overall visual environment of the Project. Commercial wireless facilities should be visually compatible with their surroundings while effectively serving the communication needs of the community. All wireless communication facilities, satellite dish antennae, and other forms of antennae shall comply with the following Standards.

These Standards comply with the Communications Act of 1934, as amended by the Telecommunications Act of 1996, applicable regulations of the Federal Communications Commission, and state law. These Standards do not unduly restrict the development of necessary wireless communications facilities and encourage managed development of communications infrastructure while providing a review process to ensure a balance between public concerns and private interest in establishing such facilities.

3.13.1 Commercial Wireless Facilities

All commercial wireless facilities shall employ camouflaging techniques to minimize visual impacts and provide appropriate screening. Such techniques shall be employed to make the installation, operation and appearance of the facility as visually inconspicuous as possible. Depending on the proposed site and

surroundings, certain camouflage techniques may be ineffective or inappropriate and alternative techniques may be necessary. Commercial wireless facilities may be mounted onto a building or parking structure, a free-standing installation or co-located with an existing commercial wireless facility. All commercial wireless facilities, including co-locations, shall require a Level I Review.

3.13.1.1 Building-Mounted Facilities

Wireless facilities mounted onto a building or parking structure are known as “building-mounted facilities.” Building-mounted facilities are permitted on all buildings and parking structures. The building-mounted facility shall comply with the maximum height indicated in *Table 3.2, Development Standards*.

- All components of this type of facility, including all antenna panels, shall be mounted either inside the structure or behind the proposed screening elements. In no case shall any equipment be mounted on the exterior face of the structure without being screened.
- Accessory wireless equipment for building-mounted facilities shall be located underground, inside the building, or on the roof of the building that the facility is mounted on, provided that the equipment is screened from view and screening materials are painted the color of the building, roof and/or surroundings.
- Screening materials and any potentially visible accessory equipment shall be matched in color, size, proportion, style and quality with the exterior design and architectural character of the structure and the surrounding visual environment.

3.13.1.2 Monopole Facilities

Monopole facilities are free-standing commercial wireless facilities where antennas are typically mounted onto a tower. Monopoles are only permitted within the 100-foot Fuel Modification setback as indicated on *Exhibit 3.3, Minimum Setback* and shall be subject to all applicable OCFA requirements for construction within a radiant heat zone.

- Monopoles shall be located a minimum of 50 feet from any habitable building.

- The maximum height for a monopole structure shall be 75 feet.
- Monopoles shall be completely screened and designed as artwork. Examples of include, but is not limited to, a water tower, icon sign, clock tower or architectural spire. Monopoles may also be designed as trees as long as minimum of four (4) 15-gallon trees (or equivalent) are planted to further camouflage the wireless facility. Monopoles designed as trees that are not permitted within fuel modification zone (i.e. palms, pines, eucalyptus, cypress) shall be prohibited.
- There shall be a minimum separation of 300 feet between two monopole facilities.
- All monopole facilities shall be designed to prevent climbing within the first 12 feet from the ground.
- All antenna support equipment shall be concealed within the monopole facility, be located underground, be located within a structure, or completely screened by landscape. If screened by landscape, the support equipment may be further concealed by a wall not to exceed six (6) feet in height. In this instance, no portion of the accessory equipment shall exceed the height of the wall. The gate entering into equipment area shall be decorative. Walls alone are prohibited as a screening treatment.

3.13.1.3 Antennae Co-locations

Antenna co-locations are commercial wireless facilities that are mounted onto an existing building or monopole that already contains an existing commercial wireless facility. These facilities shall use the screening methods similar to those used of the existing commercial wireless facility.

3.13.1.4 Accessory Wireless Equipment

All accessory wireless equipment associated with the operation of any commercial wireless facility shall be screened. All accessory wireless equipment shall be placed and mounted in the least visually obtrusive location possible.

- On all new commercial wireless facilities and modifications, all cables, jumpers, conduits and other connections between transmission equipment and/or associated structures shall be

either completely enclosed or placed underground to the maximum extent feasible.

- At all times, all commercial wireless facilities shall comply with all applicable rules and regulations related to public health and safety, including, without limitation, all applicable rules and regulations related to human exposure to electromagnetic radio frequency emissions.
- Unless the County explicitly allows otherwise on a case-by-case basis, no sign shall be attached to the facility, except signs that identify the wireless communications facility owner and/or operator, and are required to comply with State or Federal law.
- Unless the County explicitly allows otherwise on a case-by-case basis, exterior lighting of commercial wireless facility shall be prohibited unless otherwise required under Federal Aviation Administration (“FAA”) regulations. Lighting for the equipment area shall not spill beyond the equipment area.

3.13.2 Satellite Dish Antennae

The following satellite dish antennae are exempt from the Standards in this section:

- Satellite dish antennae which are two meters or less in diameter.
- Satellite dish antennae that are exempt by federal law.

All non-exempt satellite dish antennae should comply with the following Standards:

- A roof-mounted satellite dish antenna shall be screened from all adjacent streets and properties.
- Ground-mounted satellite dish antenna are not encouraged. If a ground-mounted antenna is proposed, it shall be screened from all adjacent streets and properties to the maximum extent possible. The screening material utilized shall be architecturally compatible in color, texture, and quality with the development prevailing in the installation location.

- A satellite dish antenna shall not encroach into any required building setback.
- A satellite dish antenna shall have no type of signage except as may be required by law for warnings, or certification seals or stamps.

3.14 Landscape and Irrigation

This Section shall apply to all planting, irrigation and landscape-related improvements within the Development Plan area.

3.14.1 Applicability

These provisions apply to all of the following landscape improvements in all Planning Areas:

- New landscape installations or landscape rehabilitations by public agencies, private developers or property managers with a landscaped area, including pools or other water features but excluding hardscape, equal to or greater than 2,500 square feet, or which are otherwise subject to an approval of a landscape plan.

3.14.2 Definitions

The same definitions identified in Section 7-133.3 of the County of Orange Zoning Code, as amended, shall apply.

3.14.3 Implementation Procedures and Landscape Documentation Package

- Prior to installation of planting, irrigation and landscape-related improvements, a landscape documentation package shall be submitted to the County of Orange Building Division for review and approval of all landscape improvements subject to the provisions of this Section. Any landscape documentation package submitted to the County shall comply with the provisions of these guidelines.
- The landscape documentation package shall include a certification by a professional appropriately licensed in the State of California, stating that the landscape design and water use calculations have been prepared by or under the supervision of the licensed professional and are

certified to be in compliance with the provisions of this Section and of the guidelines.

- As part of the landscape documentation package, landscape and irrigation system plans shall be prepared by a professional appropriately licensed in the State of California prior to the issuance of building permits. Landscape and irrigation plans shall be submitted to the County for review and approval with appropriate water use calculations and include other requirements as indicated on the application for the landscape document package at the County.
- Verification of compliance of the landscape installation with the approved plans shall be obtained through a certificate of use and occupancy or permit final process, as provided below and in the guidelines.
- Prior to final inspection, closure of a building or grading permit, and issuance of a certificate of use and occupancy, the following must be submitted to demonstrate compliance with this Section:
 - Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape improvement has been installed per the approved landscape documentation package.
 - Documentation of the irrigation scheduling parameters used to set the controller(s).
 - Documentation of the specified landscape and irrigation maintenance schedule.
 - Provisions for landscape maintenance practices that foster long-term landscape water conservation.
 - An irrigation system audit report.

3.14.4 Landscape Water Use Standards

- For applicable landscape installations or rehabilitations subject to *Section 3.14.1, Applicability*, the estimated applied water use allowed for the landscaped area shall not exceed the amount identified in Section 7-9-133.5 of the County of Orange Zoning Code; or the design of

the landscaped area shall otherwise be shown to be equivalently water-efficient in a manner acceptable to the County; as provided in the guidelines.

- Irrigation of all landscaped areas shall be conducted in a manner conforming to the rules and requirements of IRWD and shall be subject to penalties and incentives for water conservation and water waste prevention, as determined and implemented by IRWD, or as mutually agreed by IRWD and the County.

3.14.5 Guidelines

- Detailed guidelines for the application and implementation of this Section, including technical compliance and calculations, are set forth in Appendix A to the County of Orange Landscape Irrigation Code, entitled, "Guidelines for Implementation of the County of Orange Landscape Irrigation Code."
- The guidelines are complementary to the Standards of this Development Plan. If an issue arises between the guidelines and this Development Plan that is not sufficiently clear, the Development Plan shall prevail.

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4

IMPLEMENTATION

4.1 General Provisions

4.1.1 Purpose and Objectives

The Development Standards and procedures established herein shall become the applicable standards for land uses and development within the West Alton Parcel project (Project) area upon approval of the West Alton Parcel Development Plan (Development Plan).

4.1.2 Authority

According to Sections 53090–53091 of the California Government Code, counties and cities are exempt from zoning regulations when one entity owns territory within the jurisdiction of another entity. Therefore, the City of Irvine zoning regulations are not applicable to the Project.

The Pre-Annexation Agreement between the City of Irvine and the County designates the County as the land use authority for this Project. According to Section 7-9-20(i) of the Orange County Zoning Code, land owned or leased to the County is not subject to land use regulations of the County, including the Zoning Code, specific plans, and planned communities.

Therefore, this Development Plan identifies permitted land uses, Development Standards for streets, parking, building types, improvements and landscape, height and density limits for the Project, and establishes the overall guidance for development, occupancy and use of the Project Site. This Development Plan also establishes the processes by which the County of Orange will evaluate proposals for future development to ensure consistency with the goals, vision, design guidelines and requirements of this Development Plan.

All development proposals within the Project area shall be subject to the implementation procedures established herein.

The Development Plan shall be subject to applicable local (County of Orange), state and federal regulations. Furthermore, all development within the Project shall comply with applicable local, state and federal accessibility regulations.

4.1.3 Development Plan Consistency

Once approved, all subsequent and applicable subdivisions, land uses, development reviews, grading permits, local public works projects and building permits shall be consistent with this Development Plan.

4.1.4 Interpretation

Unless otherwise provided, any ambiguity concerning the content or application of the Development Plan shall be resolved by the Manager CEO Real Estate/Land Development, or his/her designee (Manager), in a manner consistent with the goals, policies, purpose and intent established in this Development Plan. Any property owner, applicant or ground lessee within the Project site concerned by such an interpretation may request an interpretation by the Chief Real Estate Officer. If this person is questioning the interpretation of the Chief Real Estate Officer, he/she may appeal to the El Toro Review Board for a final determination.

4.1.5 Severability

If any section, subsection, sentence, clause, phrase, or portion of the Development Plan, or any future amendment(s) or addition(s) hereto, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Development Plan, or any future amendments or additions hereto. The Board of Supervisors hereby declare that it would have adopted these requirements and each sentence, subsection, clause, phrase, or portion or any future amendments or additions thereto, irrespective of the fact that any one or more sections, subsections, clauses, phrases, portions or any future amendments or additions thereto may be declared invalid or unconstitutional.

4.1.6 Parcelization within Planning Areas

Each individual development within a Planning Area may be further parcelized into any number of sub-parcels within said Planning Area. The location of property lines for sub-parcels within each individual development is flexible.

4.2 Implementation

This Section includes methods and procedures for implementation and administration of the Development Plan.

4.2.1 Development Plan Name

“West Alton Parcel Development Plan” refers to this document and support information only. The marketing name of the Project may or may not be related to El Toro or West Alton Parcel and may change as the Project evolves over time. The marketing name chosen by the County and/or future owners/developers of the Project shall have no impact on the implementation and enforcement of this Development Plan.

4.2.2 Compliance with Mitigation Monitoring Plan

Certification of an Environmental Impact Report (EIR) by the Board of Supervisors shall be required prior to approval of the Development Plan. Development within the Project site shall comply with all mitigation measures as described in the Mitigation Monitoring and Reporting Program (MMRP) included as part of the EIR for the Project. All subsequent development review applications submitted for this Project shall include the MMRP table with their application

and indicate which measures are applicable or not applicable to the subsequent development.

4.2.3 Development Review Required

The Development Plan shall be implemented through the Development Review process, managed by the Manager or his/her designee. A Level I, II or III Review process is required prior to the issuance of any building permit. Except as otherwise specified in this Development Plan, a Level I Review is also required for all parks. Exceptions to the Development Review process include:

- Repair or replacement with the same or comparable type of structural element or material to any portion of an existing building.
- Installation of interior improvements within an existing building provided that there is no concurrent exterior alteration or building enlargement and that the addition or alteration meets the requirements specified in *Sections 2 and 3*.
- Modifications to parking facilities and/or structures to bring the site into conformance with State or Federal accessibility requirements. This includes the upgrade of existing handicap parking spaces and their respective loading areas, which may result in the loss of existing non-handicap parking spaces.

The applicant shall submit to the Manager all information required by the Manager to make a determination of whether the above exceptions apply.

4.2.4 Implementation of Development Standards and Design Guidelines

The Design Guidelines in *Section 2* and the Development Standards contained in *Section 3* implement the Vision of the Development Plan. The Design Guidelines are intended to be flexible in nature while establishing basic evaluation criteria for the review of future applications as part of the development review process. The strongest level of design intent is specified by the use of terms such as “must,” “shall” and “prohibited.” Preferred design items are designated as a condition which is “encouraged,” “preferred,” “recommended,” “appropriate,” or as one that “should” be included.

Preferred design items are considered “voluntary” and need not be included in a proposed development. If the approving body finds the proposed design is consistent with the overall design, intent and goals of this Development Plan, statements that include one or more criteria or elements that are qualified with “discouraged,” “inappropriate” or “should not” be included, are acceptable.

If Design Guidelines and Development Standards conflict between *Sections 2 and 3*, *Section 3* shall prevail.

4.3 Development Reviews

This Section provides the procedures and requirements for processing development reviews and the criteria and conditions considered to be necessary so that an appropriate decision regarding each such application may be made by the appropriate approving authority. In unique circumstances, a development review may impose more restrictive Development Standards than stated within this Development Plan in order to make the required findings identified in *Section 4.3.3.6, Findings*.

- *Applicability.* Development reviews are applicable to the subject property and all rights granted by the approval of a development review remain with the property and all conditions and requirements of a development review are passed on to the new property owner and property user(s) when there is a change in the entity owning and/or using the property.
- *Enforceability.* All conditions, requirements and Development Standards, indicated graphically or in writing as part of any approved development

review granted by authority of these Development Standards shall have the same force and effect as the Development Plan. Any use or development established as a result of an approved development review but not in compliance with all such conditions, requirements, and/or Development Standards of the development review shall be in violation of said development review.

4.3.1 Types of Development Review

The review processes for future developments within the Development Plan area are summarized in *Table 4.1, Development Review Process*, and described in further detail below.

4.3.1.1 Level I Review

The purpose of a Level I Review Permit is to provide for the administrative review of detailed plans for a proposed development design and/or use. A Level I Review shall include the following information:

- A description of the use(s) and operating characteristics.
- A plot plan showing the location of all uses.
- Supplementary exhibits, as necessary, to show other information which may be required to make an informed decision such as building elevations, landscaping and grading.
- Conditions of approval.

Table 4.1, Development Review Process

Development Review	Approving Authority	Process Type	Courtesy Review Required?
Level I Review	Manager, CEO Real Estate/ Land Development (or designee)	Administrative	Yes
Level II Review	Chief Real Estate Officer (or designee)	Administrative	Yes
Level III Review	El Toro Review Board	Hearing	Yes

The following proposals shall be subject to a Level I Review:

- New construction resulting in an increase in the number of dwelling units that is consistent with applicable Development Standards in *Section 3, Development Standards* and is in substantial conformance with applicable design guidelines in *Section 2, Design Guidelines*.
- Construction of new parks or significant modifications to existing parks.
- Any special use in *Table 3.1, Land Use Table*, indicating a Level I Review.
- Any other section of this Development Plan indicating a proposal requires a Level I Review.

Level I Reviews shall be processed per *Section 4.3.3.3, Administrative Action*.

Establishment, maintenance and operation of the use or uses proposed by the application shall be in compliance with the information and specifications shown on the approved Level I Review.

4.3.1.2 Level II Review

The purpose of a Level II Review is to provide for a more thorough administrative review of detailed development plans for the proposed development design and/or use. A Level II Review shall include the same elements described above for a Level I Review.

The following proposals shall be subject to a Level II Review:

- Any proposal that is generally consistent with all applicable Development Standards in *Section 3, Development Standards*, but may request a deviation of up to 20 percent from any said Development Standards. This proposal shall also be in substantial conformance with applicable design guidelines in *Section 2, Design Guidelines*, including applicable design goals indicated in *Section 2.2, Project Design Goals*.
- Any special use in *Table 3.1, Land Use Table*, indicating a Level II Review.
- Any other section of this Development Plan indicating a proposal requires a Level II Review.

Level II Reviews shall be processed per *Section 4.3.3.3, Administrative Action*.

Establishment, maintenance and operation of the use or uses proposed by the application shall be in compliance with the information and specifications shown on the approved Level II Review.

4.3.1.3 Level III Review

The purpose of a Level III review is to provide for a hearing process for proposals requesting deviations in excess of 20 percent from applicable Development Standards may be approved for a building site through a Level III Review. All Level III Reviews are processed in compliance with the provisions of *Section 4.3.3.4, Hearings*.

The El Toro Review Board is the approving authority for all Level III Reviews.

Establishment, maintenance and operation of the use or uses proposed by the application shall be in compliance with the information and specifications shown on the approved Level III Review.

4.3.2 Applications

4.3.2.1 Filing Instructions

Each application for a Level I, II or III Reviews shall be filed with the Manager on a form prescribed by, and with all documents and information indicated below.

- Plans (including, but not limited to, site plan, floor plans, elevations, grading plan, landscape plans and other plans as applicable);
- Signage (if applicable);
- Technical studies (if necessary);
- Orange County Fire Authority (OCFA) planning & development service request form;
- Conceptual Water Quality Management Plan (WQMP);
- Development name;
- Planning Area defined on *Exhibit 3.1, Land Use Plan*, on which the proposed development is located;
- Addresses affiliated with each building, if applicable;
- Number of residential units (if applicable) and information regarding the square footage, number of bedrooms and number of bathrooms for the units;

- The cumulative and remaining residential units of remaining development;
- Statement or chart comparing the proposal to each of the applicable development standards; and
- Any additional information the Manager deems necessary.

The Manager shall provide written filing instructions, specifying information and materials required, and all required forms at no charge to any person requesting such instructions. The Manager may elect to use the same form prescribed by the Director, OC Planning.

4.3.2.2 Submittal of Applications

Any property owner, or the lessee of a property, or any other entity that has received a written authorization from the property owner or its designee, or the authorized agent of the same, may submit an application for a development review in compliance with the filing instructions.

4.3.2.3 Acceptance of Applications

No application shall be deemed accepted until a determination has been made by the Manager that the application is complete and in compliance with the filing instructions. The Manager shall determine whether such application is complete and shall transmit such determination to the applicant. In the event the application is determined not to be complete, the Manager’s determination shall specify in writing those parts of the application which are incomplete and shall indicate the manner in which they can be made complete.

4.3.2.4 Withdrawal

At the request of the applicant at any time, the applicant’s development review application shall be withdrawn. Thereafter, such application shall be null and void.

4.3.3 Processing Procedures

All development reviews shall be processed in compliance with the following procedures.

4.3.3.1 Combined Application

At the discretion of the Manager, different types of development reviews may be combined in one application and processed with one application number and one fee so long as all the applicable

processing requirements, including all required findings, are satisfied.

- a. When a development review requiring a public hearing is combined with one not requiring a public hearing, the combined application shall require a public hearing.
- b. Action by the El Toro Review Board on an application shall supersede action by the Manager and the Chief Real Estate Officer.

4.3.3.2 Courtesy Review and Comment Period

Prior to the action of any Level I, II or III Review, the County shall distribute a notice to the applicant, property owner, ground lessee and all persons, groups and organizations on the interested party list at least 15 calendar days prior to final action by the approving authority. Any written comments received within this review and comment period shall be forwarded to approving authority.

4.3.3.3 Administrative Action

Level I and II Reviews processed per this Subsection shall be acted upon administratively. Where the approving authority is not otherwise specified, the Manager (or his/her designee) shall be the approving authority for a Level I Review. The Chief Real Estate Officer (or his/her designee) shall be the approving authority for a Level II Review. A public hearing shall not be required for this action.

4.3.3.4 Hearings

Level III Reviews shall require a hearing before the El Toro Review Board with public notification as required.

- a. *Scheduled Hearings.* A hearing shall be scheduled at the earliest available date, in compliance with State law, County procedures and the provisions of this Section. At the scheduled hearing, the El Toro Review Board may take action on the application, may continue the application to a specified date, or may take the application under submission.

4.3.3.5 El Toro Review Board

- a. *Review Board Members.* The El Toro Review Board shall consist of five (5) members.
- b. *Terms of Membership.* The term of office of each member shall be three (3) years and shall begin on the date of that member’s first meeting. Each

member may be reappointed to the El Toro Review Board so long as the total term of an individual El Toro Review Board member does not exceed three (3) consecutive terms.

- c. *Appointment and Termination.* Members shall be appointed by the Chief Real Estate Officer. The Chief Real Estate Officer may terminate the membership of any person at any time. Failure to attend four (4) consecutive El Toro Review Board meetings shall result in immediate termination of membership.
- d. *Vacancies.* Vacancies in membership occurring prior to the expiration of a term of office shall be filled in the same manner as defined in Subsection c, above. A person appointed to fill a vacancy may be reappointed as long as total services does not exceed three (3) full terms.
- e. *Officers.* The officers of the El Toro Review Board shall be a Chairperson, Vice Chairperson and Recording Secretary. Officers will be elected by the membership of the El Toro Review Board at the first organizational meeting and shall serve until their successors are selected.
- f. *Meetings.* The El Toro Review Board shall hold meetings at a location, date and time to be established by the El Toro Review Board.
- g. *Procedures.* Three (3) members shall constitute a quorum of the El Toro Review Board. No business shall be transacted in the absence of a quorum. Action may be taken by a majority vote of a quorum of the members. Roberts Rules of Order shall govern El Toro Review Board meetings.

4.3.3.6 Findings

For all development reviews, the following findings shall be made by the approving authority prior to the approval of any development review:

- a. *Development Plan Consistency.* The use, activity and/or improvement(s) proposed substantially conforms with the provisions of this Development Plan.

- b. *California Environmental Quality Act (CEQA).* The approval of the application is in compliance with the requirements of the CEQA.

- c. *Compatibility.* The location, size, design and operating characteristics of the proposed use(s) will not create conditions or situations that may be incompatible with other permitted uses within the Development Plan area.

- d. *General Welfare.* The approval of the application will not result in conditions or circumstances contrary to the public health and safety and the general welfare.

For Level III Review Applications. In addition to the findings required by the Subsection above, the following findings shall be made by the approving authority prior to the approval of any Level III Review application:

- a. *Appropriateness.* The requested deviation is appropriate for the proposed location and/or use.

- b. *Enhanced Project.* Approval of the deviation will result in a more desirable development than would be achieved through strict adherence to the Design Guidelines and/or Development Standards.

4.3.3.7 Action by the Approving Authority

The approving authority shall take one of the following actions for each application:

- a. *Approve.* There are no conditions or requirements other than those specified on the application (if applicable). After the date of final determination and after compliance with *Section 4.3.3.8, Revised Plans*, if applicable, the proposed development may be established in compliance with all applicable Development Standards and with the provisions of the approved application.

- b. *Disapprove.*

- c. *Conditionally Approve.* Any application may be approved subject to the performance of, or compliance with, conditions. Conditions may require improvement of property outside of the subject Planning Area, installation of improvements, the posting of financial security to guarantee performance of conditions, and other

conditions necessary to achieve the objectives of this Development Plan. No conditions shall be included that would require dedication or improvements or for other purposes not reasonably related to the use of the property which is the subject of the application. After the date of final determination and after compliance with *Section 4.3.3.8, Revised Plans*, the proposed development may be established in compliance with all applicable Development Standards, with the provisions of the application as approved, and with the provisions and requirements of the conditions of approval.

Action in Writing. The determination on each application, including any required findings and any other reasons that serve to explain the determination, and all conditions of approval, shall be in writing. A copy of the written determination shall be forwarded via email or U.S. Mail to the applicant and to any person, group or organization on the interested party list, following the date of final determination and shall be made available, at cost, to any person desiring a copy of such determination.

Final Determination. The determination of the approving authority shall be effective immediately unless an appeal in accordance with *Section 4.3.4, Appeals* is filed. If an appeal in accordance with *Section 4.3.4, Appeals* is filed, the determination of the approving authority shall be effective immediately upon the Board of Appeals decision.

4.3.3.8 Revised Plans

When the approving authority approves an application for any development review in a manner that is different from that which was presented to them, they may require revised plans to be submitted as a condition of approval. No building or grading permits or certificates of use and occupancy authorized by a development review shall be issued until such revised plans are submitted to the Manager and found by the Manager or his/her designee to substantially conform with the action of the approving authority. If such revision is not submitted within thirty (30) days, or as otherwise specified by the approving authority, after the date of final determination, the development review shall thereafter be null and void. However, prior to the expiration of this period, the Manager may grant one extension of time of any additional period if it is requested and justified by the applicant.

4.3.3.9 Changed Plans

Plans that are changed from that approved by the approving authority (Changed Plan) may be submitted to the Manager. If the Manager determines that the proposed changed plan is a minor amendment of no significant effect, and complies with the spirit and intent of the original approving authority action, the Manager may approve the Changed Plan without further compliance with *Section 4.3, Development Reviews*.

4.3.4 Appeals

Any decision of the Manager or Chief Real Estate Officer regarding the action taken on a development review may be appealed to a Board of Appeals in compliance with the provisions of this Section.

4.3.4.1 Board of Appeals

- a. The Chief Real Estate Officer (or his/her designee), shall constitute the Board of Appeals for decisions by the Manager. The decisions made by the Chief Real Estate Officer on such appeals shall be final.
- b. The El Toro Review Board shall constitute the Board of Appeals for decisions by the Chief Real Estate Officer. Only matters originally acted upon by the Chief Real Estate Officer shall be appealable to the El Toro Review Board. Matters decided by the Chief Real Estate Officer on appeal are not appealable to the El Toro Review Board. The decisions made by the El Toro Review Board in such appeals shall be final.

4.3.4.2 Who May Appeal

The applicant, property owner or ground lessee that submitted a written comment during the courtesy review period, as described in *Section 4.3.3.2, Courtesy Review and Comment Period*, may file an appeal as specified in *Section 4.3.4.1, Board of Appeals*, regarding the action made on a development review, upon submittal of the required documents, information and payment of the required appeal fee.

4.3.4.3 Procedure

- a. *Timeliness.* An appeal shall be filed within 15 calendar days of the date on which the decision described in *Section 4.3.3.7, Action by the Approving Authority* being appealed was rendered. If the 15th day is a non-working day for the County, the appeal period shall be extended to include the next County working day. No appeal shall be accepted after the appeal period has expired.

- b. *Required Documents.* Each appeal shall be accompanied by such other documents and information the Manager deems to be necessary to adequately explain and to provide proper notification for the appeal. Each appeal shall set forth specifically and in detail the grounds for the appeal. The Board of Appeals may refuse to consider issues not raised in the written appeal.
- c. *Time for Action.* Unless the appellant, County and applicant mutually agree otherwise, not later than 60 days from the end of the appeal period, the Board of Appeals shall consider the appeal.
- d. *Forwarding of Records.* When an appeal has been accepted, the Manager shall forward to the Board of Appeals all documents and information on file pertinent to the appeal, together with the minutes or official action of the approving authority, and a report on the basis of the decision and the appropriateness of the appeal.

4.3.4.4 Nature of Decisions

The Board of Appeals shall consider the appeal, including all information and evidence submitted with the original application, and any additional information and evidence the appellant or others may submit which the Board of Appeals finds to be pertinent.

The action of the Board of Appeals shall do one or more of the following in compliance with the same procedures and requirements as were applicable to the approving authority:

- 1. Approve or disapprove the application;
- 2. Add, modify or delete conditions;
- 3. Approve a modified application; or
- 4. Refer the application back to the approving authority with directions for action by the approving authority or for recommendations or reports to the Board of Appeals.

4.3.5 Development Review Reimbursement

Reimbursements from the applicant, property owner, appellant and/or lessor will be required to defray the County’s cost of processing and notifications for each development review and/or appeal.

These reimbursements shall be paid as part of the development review process.

4.3.5.1 Waiver of Fees

The Manager, CEO Real Estate may establish procedures for consideration of requests for waiver of the reimbursement fees.

4.3.5.2 Refund of Fee

The Manager may refund a filing fee in whole upon a determination that the application was erroneously required or filed. He/she may refund a fee pro rata, based on the cost of processing the application, if the application is withdrawn prior to a decision thereon.

4.3.6 Period of validity, establishment, and expiration.

4.3.6.1 Period of Validity

The period of validity shall begin on the date of final determination as set forth in 4.3.3.7, *Action by the Approving Authority*, and shall expire if not established as set forth below.

- a. For all development review approvals: Three years or as stated in the conditions of approval.
- b. If a ministerial permit which was needed to implement the development has been issued during the period of validity described above, then the period of validity shall be extended to coincide with the longer of the period of validity of the development review or that ministerial permit, but only to the extent necessary to implement that ministerial permit.
- c. Notwithstanding Subsections “a” and “b,” the period of validity of a development review is extended for a period equal to the time during which a lawsuit seeking to set aside approval of the permit (or other permits and subdivision maps that are directly related to the same development as the subject permit) is pending in a court of competent jurisdiction. The applicant shall provide documentation to the satisfaction of the Manager of the beginning and ending of the litigation.
- d. Prior to the expiration of the period provided by the Subsections “a,” “b,” and “c,” above, up to three (3) one-year extensions may be granted by the Manager provided that the extension of time

has been requested and adequately justified by the applicant.

4.3.6.2 Establishment

A development review shall be deemed established if, during the period of validity:

- a. In the case of a development review where ministerial permits are required, such ministerial permits are finalized, but only to the extent authorized by such ministerial permits. For purposes of this Development Plan, the term “finalized” means substantial completion of the construction work and approval from the applicable County agency that no further work is needed on the applicable ministerial permit.
- b. In the case of a development review where no ministerial permits are required, the use authorized by the action is actually commenced.
- c. In circumstances where a certificate of use and occupancy is required, such certificate must be issued.

4.3.6.3 Expiration

A development review shall expire and be of no further force or effect if:

- a. The permit is not established during the period of validity; or
- b. After establishment, any approved use requiring a Level I or II Review indicated in *Table 3.1, Land Use Table* is discontinued or abandoned for a period of one (1) year.

4.3.7 Amendments

Any development review may be amended any number of times by the approval of a subsequent application. Amendments may include extensions of time, revised conditions of approval, revisions and refinements of an approved action, and new or additional uses.

All amendments shall be for the same Planning Area of property for which a development review was previously approved. Amendments shall be filed prior to the expiration of the previously approved permit, and they shall be filed in compliance with the filing procedures and payment of the filing fee required for

an original application and shall be processed in the same manner as an original application.

4.3.8 Revocation

4.3.8.1 Grounds for Revocation

Any development review may be revoked by the El Toro Review Board pursuant to the provisions of this Section on any of the following grounds:

- a. Such approval was based on materially inaccurate or misleading information.
- b. The permittee has failed to abide by and faithfully comply with one or more of the conditions upon which the permit was granted or extended.

4.3.8.2 Procedure

Prior to any revocation, the El Toro Review Board shall hold a public hearing. The hearing shall be preceded by notice given in the same manner as was required to be given for consideration of issuance of the permit except that the permittee shall be given not less than 15 days notice. The notice shall state the causes for which revocation is to be considered.

4.3.8.3 Action of Approving Authority

Following the hearing, the El Toro Review Board may revoke the permit, impose additional conditions on the permit, or revoke the permit subject to reinstatement upon compliance with specified conditions.

4.3.9 Additional Fees, Dedications, Etc.

The proposed Project will include development responsibilities for the County and/or master developer, as well as, third party future developers. The County and/or master developer may require certain dedications, concessions, fees, etc. as part of the purchase and/or lease agreement.

4.4 Development Plan Modifications and Amendments

4.4.1 Minor Modifications

The following changes of a minor and technical or informational nature may be made to the requirements of the Development Plan and such changes or new information shall not be considered amendments and shall be made by the Manager. The Manager

shall have the discretion to refer any such request for modification to the Chief Real Estate Officer or the El Toro Review Board.

- a. The addition of new information to the Development Plan, in the form of maps and/or text, for the purpose of clarification that does not change the effect or intent of any requirement and/or Development Standard.
- b. Any details, regulations, standards, procedures, etc. not covered by this Development Plan, the Chief Real Estate Officer may incorporate codified details, regulations, standards, procedures, etc. into this Development Plan to the extent needed to implement the goals, policies, Development Standards and procedures of this Development Plan. The new language incorporated into this Development Plan shall not conflict with any existing Design Guideline and/or Development Standard. If there is a conflict, the proposed details, standard, procedures, etc. shall not apply absent approval of an amendment of the Development Plan pursuant to *Section 4.4.2, Development Plan Amendments*. Language incorporated by the Chief Real Estate Officer may be appealed to the El Toro Review Board.
- c. Change in utility and/or public service provider.
- d. Changes to the Project infrastructure location and/or service providers (such as drainage systems, roads, water and sewer systems, etc.), provided the applicable jurisdiction regulating such infrastructure has approved the changes.
- e. Changes in roadway locations resulting from final road alignments and/or geotechnical or engineering refinements to the plan.
- f. Adjustment of a Planning Area boundary, acreage designated for a Planning Area or combination of more than one Planning Area(s).
- g. Minor changes to landscape materials, wall materials, wall alignment, entry design, and streetscape design which are consistent with the conceptual design set forth in the design guidelines contained within the Development Plan.

- h. Minor changes to the Design Guidelines, which are intended to be flexible in implementation.
- i. Updates to the *Development Plan Security Code*, which is included as *Appendix B* of this Development Plan, provided that the City of Irvine adopted similar changes to the City of Irvine Uniform Security Code.
- j. Updates to *Appendix C, Project Plans, Appendix D, Fire Protection Plans, and Appendix E, Mitigation Monitoring and Reporting Program*, which are included for reference purposes only, to reflect the most recent information.
- k. Other modifications of a similar nature to those listed above, which are deemed minor by the Manager, which are in keeping with the purpose and intent of the approved Development Plan.
- l. Typographical and grammatical errors.

4.4.2 Development Plan Amendments

Amendments to the Development Plan that do not qualify as minor may be requested by the applicant or the County. Those Development Plan amendments shall be processed in the same manner as a Level III Review as described in *Section 4.3.1.3, Level III Review*, except that the approving authority for the amendment shall be the Board of Supervisors. Prior to a hearing for a Development Plan amendment, an advisory hearing shall be held before the El Toro Review Board, where the Review Board shall issue their recommendation to the Board of Supervisors.

4.5 Certificates of Use and Occupancy

4.5.1 Certificate Required

No building hereafter erected, structurally altered or moved in any such zone shall be occupied or used until a certificate of use and occupancy shall have been issued by the Building Official.

4.5.2 Application for Building

Application for a certificate of use and occupancy for a new building or for an existing building which has been altered or moved shall be made in compliance

with the provisions of the California Building Code, as adopted by the Board of Supervisors.

4.5.3 Application for Use

Written application for a certificate of use and occupancy for the use of land or for a change in the character of the use of land, as herein provided shall be made before any such land shall be so occupied or used, except for agricultural or parking purposes.

4.5.4 Administration

No certificate of use and occupancy shall be issued until a finding has been made that the building or proposed use of building or land complies with all applicable Development Standards and with the conditions and requirements of any applicable development review. A record of all certificates of use and occupancy shall be kept on file permanently in the office of the Manager, and copies shall be furnished on request to any person having a proprietary or tenancy interest in the building or land affected.

4.5.5 Filing Fees

Filing fee(s) to defray the cost of processing applications for certificate of use and occupancy shall be paid in accordance with the fee schedule currently in effect as adopted by resolution of the Board of Supervisors.

4.6 Sign Permits Required

A separate ministerial permit shall be required for each sign or set of signs to be installed or altered, unless it is identified in *Section 3.12.1, Exempted Signs*. All signs not exempted and identified in *Table 3-5, Permitted Sign Matrix*, shall be required to obtain a Sign Permit.

Sign Permits shall be reviewed by Manager for compliance with this Development Plan and shall be processed under Section 7-9-144 of the County of Orange Zoning Code, as amended, and/or established procedures through OC Community Development.

4.7 Subdivision Maps

Approval of subdivision maps may occur after the approval of the Development Plan. All tentative and final subdivision maps shall be reviewed and approved pursuant to applicable provisions of the Subdivision Map Act and consistent with the applicable provisions of *Section 2, Design Guidelines* and *Section 3,*

Development Standards adopted as part of this Development Plan.

4.8 Ministerial Permits

Ministerial permits not described within this Development Plan including, but not limited to, wall permits, landscape plans, grading permits, building permits and the like, shall be obtained through established procedures with the County where required.

4.9 Phasing

It is anticipated that development of the Development Plan area will be completed in phases, which could occur simultaneously.

Roads, parks and infill service mains shall be constructed in phases as development proceeds and as required by the applicable agency to support individual phases of development. Some of these improvements may require installation of off-site infrastructure improvements beyond a phase boundary.

4.10 Maintenance of Improvements

Unless otherwise provided in the conditions of approval (for example, to accommodate construction phasing), all improvements, including landscape, shall be completed or otherwise satisfied prior to the issuance of the final Certificate of Use and Occupancy or comparable final approval for the subject property. Thereafter, all improvements shall be maintained in compliance with the approved plans, including the replacement of dead or diseased landscape materials, except when specific improvements are superseded by subsequently approved plans.

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A

APPENDIX

Definitions

Alley

A narrow drive that provides vehicular access to the rear of one or more residential units, parking structure or non-residential building. Alleys are generally less than 150 feet in length and do not typically include sidewalks.

Antenna Co-location

A commercial wireless facility located onto a monopole, building or utility where another commercial wireless facility exists. Antenna co-locations may be separately owned and used by more than one person or entity.

Building

A permanently located structure having a roof (all forms of vehicles excluded).

Building-Mounted Facility

A commercial wireless facility where antennas are mounted onto a building. Equipment associated with the building-mounted facility may be located on the ground, roof or within the building.

Chief Real Estate Officer

The Chief Real Estate Officer of the CEO Real Estate Division or, in the event of a reorganization, the County of Orange agency that provides real estate analysis and counsel, land development services, leasing representation and lease management services to County departments and agencies. This Officer reports directly to the County Chief Operating Officer.

Commercial Wireless Facility

Any structure built for the purpose of supporting any FCC-licensed or authorized antennas including their associated facilities and all transmission equipment, including distributed antenna systems, associated with said structure.

Corner Side Elevation

A side elevation of a building that faces a street or a drive.

Design Guideline

A design rule, requirement or element included in *Section 2, Design Guidelines*. Guidelines that include terms such as “encouraged,” “preferred,” “recommended,” “should,” or “may” are considered voluntary and are not regulatory.

Development Standard

A rule, regulation, requirement or element included in *Section 3, Development Standards*. Unless specifically expressed, compliance with Development Standards is mandatory.

Drive

A private or semi-private way or thoroughfare; typically narrower than a street.

Front Property Line

The property line fronting the street; except if there is more than one street frontage, then the front shall be the narrowest frontage.

Guest/Visitor Parking

A parking space or area that is intended for guests or visitors of a residential area. These spaces may be on- or off-street parking spaces.

Height

The vertical distance measured from the average ground level grade adjacent to the building or structure to:

1. The highest point of the parapet of a flat roof; or
2. The deck line of a mansard roof; or
3. The mean average point between the eaves and ridge of the highest gable, hip, gambrel or other such roof element, provided that the ridge line of the roof shall not exceed four feet above the maximum permitted building height of the District; or
4. The highest point of a structure which is not defined as a building.

Elevators, appropriately screened mechanical units and chimneys which do not exceed ten (10) percent of the roof area, may exceed the height limitation by up to eight (8) feet.

Interested Party List

A list consisting of the City of Irvine, and other individuals or groups with a concern or curiosity about the Project. The list is maintained by the Manager, CEO Real Estate/Land Development and any individual or group may be added to the list by requesting to be added to the list in writing to the Manager, CEO Real Estate/Land Development.

Lot Area, Net

The total area within a lot excluding all street rights-of-way. Parks and open space areas are included within the total net lot area.

Manager

The Manager shall mean the Manager, CEO Real Estate/Land Development or, in the event of a reorganization, the County of Orange agency that manages the entitlement and development processes for the County's major developable land holdings. This Manager reports directly to the Chief Real Estate Officer.

Monopole Installation

A commercial wireless facility where antennas are mounted onto a singular pole or tower built into the ground. Equipment associated with the monopole installation may be located on the ground, underground or within an adjacent building.

Net Density

The number of residential units per net lot area.

Open Air Festival

An organized event or series of events and performances held outdoors, such as a farmer's market or a carnival.

Rear Property Line

A property line which is opposite and most distant from the front property line. For a triangular or multi-sided lot, a line ten (10) feet in length within the lot and farthest removed from, and parallel to the front property line and at right angles to the line comprising the depth of such lot shall be used as the rear property line.

Side Property Line

All other property lines not considered as a "front" or "rear" property line.

Sign Area

The entire area within which a single continuous perimeter of not more than eight (8) straight lines enclose the extreme limits of writing, representation, emblem or any figure of similar character, together with any material or color forming any integral part of the display or used to differentiate such sign from the background against which it is placed, provided that in the case of a sign design with more than one (1) exterior surface, e.g. double face sign, the area shall be computed as including only one display surface. The supports, uprights or structures on which any such sign is supported shall not be included in determining the sign area unless such supports, uprights or structure are or is designed in such a manner as to form an integral background of the display.

Sign Height

The greatest vertical distance measured from the ground level directly beneath the sign to the top of the sign structure. When signs are constructed on hillsides or embankments where the sign supports are at varying lengths, height shall be measured from the horizontal midpoint of the sign.

Site Coverage

The percentage of a site covered by a fully enclosed, habitable building. Above-ground and underground parking structures shall be excluded from this calculation.

Story

The portion of a building included between the surface of any floor and the surface of the floor above it, or if no floor exists above it, the space between such floor and the ceiling above it.

Street

Street shall mean Irvine Boulevard right-of-way.

Structure

Anything constructed or erected, which requires location on the ground, or attached to, something having a location on the ground.

Transitional Housing

Transitional housing is short-term supportive housing that transitions individuals into permanent housing, self-sufficiency, and independent living. In Orange County transitional units are supported through services from a variety of community-based service organizations.

Utility-Mounted Facility

A commercial wireless facility where antennas are mounted onto a utility structure, such as a street light standard. Equipment associated with the utility-mounted facility may be located on the ground or underground.

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B

APPENDIX

West Alton Development Plan Security Code

Sec. B-101. Purpose.

The purpose of this code is to provide minimum standards to safeguard property and public welfare in a similar manner to other developments within the City of Irvine by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of buildings and structures subject to the provisions of this code within the El Toro, 100-Acre Parcel Development Plan (Development Plan), as specified in Section 14051 of the California Penal Code relating to building safety.

Sec. B-102. Scope.

- A. The provisions of this code shall apply only to new constructions and to buildings or structures to which additions, alterations, or repairs are made, except as specifically provided by this code. When additions, alterations, or repairs made within any 12-month period exceed 50 percent of the value of the existing building or structure, such building or structure shall be made to conform to the requirements for new buildings and structures. When additions, alterations, and repairs do not exceed 75 percent or less of the value of an existing building, then only the new construction would have to meet the standards set forth by this code.
- B. Any existing structure which converts from its original occupancy group as designated in the Uniform Building Code, shall comply with the provisions of this code.
- C. Any building, as defined in the Uniform Building Code and Title 24, California

Code of Regulations, requiring special type releasing, latching, or locking devices, other than described herein, shall be exempt from the provisions hereof relating to locking devices of interior and exterior doors.

Sec. B-103. Glossary.

For the purpose of this code, certain terms are defined as follows:

Alley is any roadway not exceeding 25 feet in width which is primarily used for access to the rear or side entrances of abutting property.

Approved means certified as meeting the requirements of this code by the enforcing authority or its authorized agents, or by other officials designated by law to give approval on a particular matter dealt with by the provisions of this code with regard to a given material, mode of construction, piece of equipment or device.

Astragal is a device, either fixed or movable, which eliminates the vertical opening between a pair of doors when in the closed position.

Bolt is a metal bar which, when actuated, is projected (or thrown) either horizontally or vertically into a retaining member, such as a strike plate, to prevent a door or window from moving or opening.

Bolt projection or bolt thrown is the distance from the edge of the door, at the bolt center line, to the farthest point on the bolt in the projected position.

Burglary resistant glazing means those materials as defined in Underwriters' Laboratories Bulletin 972.

Common area is an area of space, a building or portion of a building, which is legally accessible to the users of a multi-tenant property.

Cylinder means the subassembly of a lock containing the cylinder core, tumbler mechanism and the keyway. A double cylinder lock is one, which has a key-actuated cylinder on both the exterior and interior of the door.

Cylinder guard means a tapered or flush metal ring or plate surrounding the otherwise exposed portion of a cylinder lock to resist cutting, drilling, prying, pulling or wrenching with common tools.

Deadbolt is a lock bolt which does not have a spring action. The bolt must be actuated by a key and a knob or thumb-turn, and when projected becomes locked against return by end pressure.

Dead latch or deadlocking latch bolt means a spring-actuated latch bolt having a beveled end and incorporating a plunger which, when depressed, automatically locks the projected latch bolt against return by end pressure.

Double cylinder deadbolt means a deadbolt lock which can be activated only by a key on both the interior and exterior.

Dwelling means a building or portion thereof designed exclusively for residential occupancy, including single-family and multiple-family dwellings.

Enforcing authority is the agency or person having the responsibility for enforcing the provisions of this code.

Flushbolt is a manual, key or turn-operated metal bolt normally used on inactive door(s), and is attached to the top and bottom of the door and engages in the head and threshold of the frame.

Fully tempered glass means those materials meeting or exceeding UCB Standard 24-2 for Safety Glazing.

Glazing is all glass, plastics, and fiberglass utilized as an exterior window, vision panel, light, or pane within any type of door.

Hours of operation shall mean the time period when any activity requires the presence of employees or workers within or about the affected business.

Hours of darkness shall mean any time from one-half hour before sunset and one-half hour after sunrise and any other time when the illumination level is less than the required lighting for uses as designated in this chapter.

Jamb means the vertical members of a door frame to which the door is secured.

Jamb/wall is that component of a door assembly to which a door is attached and secured; the wall and jamb used together are considered a unit.

Latch or latch bolt is a beveled, spring-actuated bolt, which may or may not have a deadlocking device.

Lock (or lockset) is a keyed device (complete with cylinder, latch or deadbolt mechanism, and trim such as knobs, levers, thumb turns, escutcheons, etc) for securing a door in a closed position against forced entry. For the purposes of this code, a lock does not include the strike plate.

Locking device is a part of a window assembly, which is intended to prevent movement of the moveable sash, which may be the sash lock or sash operator.

Luminaire is a complete lighting device consisting of a light source together with its direct appurtenances, such as globe, reflector refractor, housing and such support as is integral with the housing. The pole, post or bracket is not considered a part of the luminaire.

Minimum maintained foot-candles of light is the amount of light falling on that point of a surface with the least illumination, calculated through application of a maintenance factor, which is a multiplier applied to account for aging of the lamp and for dirt build-up on the luminaire during the period for which a lamp is in place.

Multiple-family dwelling means a building or portion thereof designed for occupancy by two or more families living independently of each other, including hotels, motels, apartments, duplexes and townhouses.

Nonresidential means any building, parking lot and associated areas used for any purpose other than a dwelling.

Panic hardware means a latching device on a door assembly for use when emergency egress is required due to fire or other threat to life safety. Devices designed so that they will facilitate the safe egress of people in case of an emergency when a pressure not to exceed 15 pounds is applied to the releasing device in the direction of exit travel. Such releasing devices are bars or panels extending not less than one-half of the width of the door and placed at heights suitable for the service require, not less than 30 nor more than 44 inches above the floor.

Primary locking device means the single locking system on a door or window unit whose primary function is to prevent unauthorized intrusion.

Private or single-family dwelling means a building designed exclusively for occupancy by one family.

Rail means the horizontal member of a window or door. A meeting rail is one which mates with a rail of another sash or a framing member of the door or window frame when the sash is in the closed position. Recreational space means any public or private park, community common open space or paseo, bike trail, community swimming pools and associated sidewalks and parking lots.

Sash is an assembly of stiles, rails, and sometimes, mullions assembled into a single frame, which supports the glazing material. A fixed sash is one which is not intended to be opened. A moveable sash is intended to be opened.

Sill is the lowest horizontal member of a window frame.

Single cylinder deadbolt means a deadbolt lock, which is activated from the outside by a key and from the inside by a knob, thumb-turn, lever, or similar mechanism.

Solid core door means a door composed of solid wood or composed of compressed wood equal in strength to solid wood construction.

Stile is a vertical framing member of a window or door.

Strike is a metal plate attached to or mortised into a door or door jamb to receive and to hold a projected latch bolt and deadbolt in order to secure the door to the jamb.

Swinging door means a door hinged at the stile or at the head and threshold.

Underwriters' Laboratories listed means tested and listed by Underwriters' Laboratory, Inc.

Vandal resistant light fixture has a lens constructed of materials meeting or exceeding U.L. Bulletin 972 (Burglary Resistant Glazing) and a housing meeting or exceeding U.L. Bulletin 1572 (Wet Locations.)

Window assembly is a unit, which includes a window and the anchorage between the window and the wall. Window frame is the part of a window, which surrounds and supports the sashes and is attached to the surrounding wall. The members include side jambs (vertical), head jamb (upper, horizontal), sill and mullions.

Sec. B-104. Enforcement Provisions.

Enforcement of this code shall be the responsibility of the County of Orange Building & Safety Division, County of Orange CEO Real Estate/Land Development and/or the Irvine Police Department. All building officials and administrative authority determinations required by this code shall be made jointly by the responsible representatives of each function charged with administration of this code or individually as charged.

Sec. B-105. Right of Entry.

A. Whenever necessary to make an inspection to enforce any of the provisions of this code, or whenever the Building Official or his authorized representative has reasonable cause to believe that there exists in any building or upon any premises any condition or code violation which makes such building or premises unsafe, dangerous or hazardous, the Building Official or his authorized representative may enter such building or premises at all reasonable times to inspect the same or to perform any duty imposed upon the Building Official by this code, provided that if such building or premises be occupied, he shall first present proper credentials and request entry; and if such building or premises be unoccupied, he shall

first make a reasonable effort to locate the land lessee or other person(s) having charge or control of the building or premises and request entry. If such entry is refused, the Building Official or his authorized representative shall have recourse to every remedy provided by law to secure entry.

- B. When the Building Official or his authorized representative shall have first obtained a proper inspection warrant or other remedy provided by law to secure entry, no land lessee or occupant or any other persons having charge, care of control of any building or premises shall fail or neglect, after proper request is made as herein provided, to promptly permit entry therein by the Building Official or his authorized representative for the purpose of inspection and examination pursuant to this code.

Sec. B-107. Violations and Penalties.

It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, move, improve, convert, or demolish, equip, use, occupy or maintain any building or structure on the Project site or cause same to be done, contrary to or in violation of any of the provisions of this code.

Sec. B-108. Administrative Relief.

- A. In order to prevent or lessen the unnecessary hardship or practical difficulties in exceptional cases where it is difficult or impossible to comply with the strict letter of this code, the land lessee or his designated agent shall have the option to apply for an exemption from any provision of this code to the designated representative of the County of Orange CEO Real Estate/Land Development and the County of Orange Building Official, through a Level I Review application. The reviewing authority shall exercise its powers on these matters in such a way that the public welfare is secured, and substantial justice done most nearly in accord with the intent and purpose of this code.

Sec. B-109. Life Safety Factors.

No portion of this code shall supersede any local, state, or federal law, regulation, or codes dealing with life safety factors.

Sec. B-110. Alternate Materials and Methods of Construction.

- A. The provisions of this code are not intended to prevent the use of any material or method of construction not specifically prescribed by this code, provided any such alternate has been approved by the enforcing authority, nor is it the intention of this code to exclude any sound method of structural design or analysis not specifically provided for in this code. Materials, methods of construction, or structural design limitations provided for in this code are to be adhered to unless an exception is granted by the enforcing authority.
- B. The enforcing authority may approve any such alternate provided they find the proposed design to be satisfactory and the material and method of work is for the purpose intended, at least equivalent to that prescribed in this code in quality, strength, effectiveness, burglary resistance, durability and safety.

Sec. B-111. Keying Requirements.

Upon occupancy by the land lessee or proprietor, each single unit in a tract or commercial development, constructed under the same Level I, II or III Review, shall have locks using combinations which are interchange free from locks used in all other separate dwellings, proprietorships or similar distinct occupancies.

Sec. B-113. Frames; Jambs; Strikes; Hinges.

Installation and construction of frames, jambs, strikes and hinges for exterior swinging doors and door leading from garage into dwelling unit shall be as follows:

- A. Door jambs shall be installed with solid backing in such a manner that no voids exist between the strike side of the jamb and the frame opening for a vertical distance of six inches each side of the strike.
- B. In wood framing, horizontal blocking shall be placed between studs at door lock height for three stud spaces each side of the door openings. Trimmers shall be full length from the header to the floor with solid backing against sole plates.
- C. Door stops on wooden jambs for in-swinging doors shall be of one-piece construction with the jamb. Jambs for all doors shall be constructed or protected so as to prevent violation of the strike.

- D. The strike plate for deadbolts on all wood framed doors shall be constructed of minimum 16 U.S. gauge steel, bronze, or brass, and secured to the jamb by a minimum of two screws, which must penetrate at least two inches into solid backing beyond the surface to which the strike is attached.
 - E. Hinges for out-swinging doors shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins.
 - F. When pairs of doors are utilized in residential structures, a one-piece assembly attached to the full-length edge of the inactive door leaf, incorporating an astragal and flush-bolts for the header and threshold, will be accepted as a strike plate, provided the assembly is constructed of aluminum or steel a minimum of one-eighth inch in thickness.
 - G. All exterior doors equipped with lever-handled locking devices which operate the deadbolt shall have thresholds designed and installed so as to prevent the passing of rigid materials between the door and threshold to the interior.
- B. Aluminum doors shall be a minimum thickness of 0.0215 inches and riveted together a minimum of 18 inches on center along the outside seams. There shall be a full width horizontal beam attached to the main door structure which shall meet the pilot, or pedestrian access, door framing within three inches of the strike area of the pilot or pedestrian access door.
 - C. Fiberglass doors shall have panels a minimum density of six ounces per square foot from the bottom of the door to a height of seven feet. Panels above seven feet and panels in residential structures shall have a density not less than five ounces per square foot.
 - D. Doors utilizing a cylinder lock shall have a minimum five-pin tumbler operation with the locking bar or bolt extending into the receiving guide a minimum of one inch.
 - E. Doors that exceed 16 feet in width shall have two lock receiving points; or, if the door does not exceed 19 feet, a single bolt may be used if placed in the center of the door with the locking point located either at the floor or door frame header; or, torsion spring counterbalance-type hardware may be used.

Sec. B-114. Windows; Sliding Glass Doors.

The following requirements must be met for windows and sliding glass doors:

- A. Except as otherwise specified in this code, all openable exterior windows and sliding glass doors shall comply with the tests as set forth in *Section B-128, Tests*.
- B. Louvered windows shall not be utilized if any portion of it is within eight feet vertically or six feet horizontally from any exterior accessible surface or any adjoining roof, balcony, landing, stair tread, platform or similar structure.

Sec. B-115. Garage-Type Doors; Rolling Overhead, Solid Overhead, Swing, Sliding or Accordion.

The above described doors shall conform to the following standards:

- A. Wood doors shall have panels a minimum of 5/16 inch in thickness with the locking hardware being attached to the support framing.

- F. Except in a residential building, doors secured by electrical operation shall have a keyed-switch to open the door when in a closed position, or by a signal locking device.
- G. Doors with slide bolt assemblies shall have frames a minimum of 0.120 inches in thickness, with a minimum bolt diameter of 1/2 inch and protrude at least one and one-half inches into the receiving guide. A bolt diameter of 3/8 inch may be used in a residential building. The slide bolt shall be attached to the door with non-removable bolts from the outside. Rivets shall not be used to attach slide bolt assemblies.

Sec. B-116. Special Residential Building Provisions.

The provisions of this section shall apply only to multiple-family dwelling units.

- A. Except for vehicular access doors, all exterior swinging doors of any residential building and

garages, including the door leading from the garage area into the dwelling unit shall be equipped as follows:

1. All wood doors shall be of solid core construction with a minimum thickness of 1¾ inches, or with panels not less than 9/16 inch thick.
2. A single or double door shall be equipped with a single cylinder deadbolt lock. The bolt shall have a minimum projection of one inch and be constructed so as to repel cutting tool attack. The deadbolt shall have an embedment of at least¾ inch into the strike receiving the projected bolt. The cylinder shall have a cylinder guard, a minimum of five-pin tumblers, and shall be connected to the inner portion of the lock by connecting screws of at least one-fourth inch in diameter.
3. The inactive leaf of double door(s) shall be equipped with metal flush bolts having a minimum embedment of 5/8 inch into the head and threshold of the door frame.
4. Glazing in exterior doors, or within 40 inches of any locking mechanism, shall be of fully tempered glass or rated burglary resistant glazing.
5. Except where clear vision panels are installed, all front exterior doors shall be equipped with a wide-angle (180 degrees) door viewer.

B. Multiple family buildings shall display a street address number conforming to the following specifications. Dual signage may be required to meet accessibility requirements of the California Building Code including but not limited to mounting height, size, font, Braille, and tactile standards:

1. Each individual unit within the complex shall display a prominent identification number at the main dwelling entry door, but not on the entry door, of a contrasting color to the background to which it is affixed and clearly visible to approaching vehicles and/or pedestrians. Size and design shall conform to the following:

- a. Minimum four inches in height; or
- b. Minimum two inches in height if the entry door is located within a fully enclosed corridor; or
- c. Minimum two inches in height if, from the interior of the building common space area, the sight line to the entry door from any approach does not exceed 50 feet; and,
- d. Numerals shall be in a Sans Serif font with a stroke weight of regular to medium, or an approved equivalent font which is clearly legible.

2. Numerals shall be located within one foot of the door frame and illuminated during the hours of darkness. The numerals and light source shall be contained with a single, weather-resistant fixture. The light source shall be provided with an uninterruptible A.C. power source or controlled only by a photoelectric device. Nothing in this section shall preclude the requirement for circuit protection devices where applicable. An illuminated fixture is not required when the address number can be lighted by area lighting as required in *Section B-116.E* regarding walkways and doors.

3. For buildings containing ten or more units, each side which affords vehicle and/or pedestrian access, the primary address number or range of primary address numbers within the building and range of unit numbers within the building where a multi-building complex has one primary address number shall be displayed. If the building has vehicle or pedestrian access from an adjacent street not associated with the building addressing, then in addition to the address numbers, the addressed street name must also be displayed. Numerals and any lettering shall be a minimum of eight inches in height. The font used shall be Sans Serif with a stroke weight of medium to bold, or an approved equivalent font which is clearly legible. Such numerals and any lettering shall be of contrasting color to the background to which they are attached, and mounted not less than 10 feet nor more

than 20 feet from ground level. Addressing shall be clearly illuminated during the hours of darkness with an uninterruptible A.C. power source or controlled only by a photoelectric device, which may be the common area site lighting. Building landscaping at full maturity shall not obstruct visibility to the numerals.

4. Complexes where all unit address numbers are not visible from the addressed public or private street and with more than one building shall provide vehicle directional signage from point of entry onto the property to each building parking area and/or building entrance and at all decision making locations along walkways. Signs shall display building addresses or unit number range, and be located at the complex entry and at all turning points along the route to a building entrance or parking area. Range of addresses shall note if all numbers are even or odd based upon existing or potential addressing on the opposite side of the addressed street, with the word “even” or “odd” in minimum 1.5 inch high letters. Signs shall contain directional arrows and street name, in minimum 1.5 inch high letters, if the complex has more than one addressed street. Numerals shall be no less than two feet from ground level and not obstructed by building landscaping at full maturity or by parked cars. Numerals shall be at least 3 inches in height using a Sans Serif font with a stroke weight of medium to bold, or an approved equivalent font which is clearly legible.
5. There shall be positioned, at each vehicle entrance of a multiple family dwelling complex with more than two buildings, an illuminated diagrammatic representation of the complex, which depicts the location of the viewer and the unit designations within the complex. The diagram shall be of a size clearly readable from a distance of at least 10 feet. It shall be lighted during the hours of darkness utilizing a light source, constructed of weather and vandal resistant materials, and provided with an uninterruptible A.C. power source or controlled by a photoelectric device. Nothing in this section shall preclude the requirement for circuit protection devices where applicable.
6. There shall be positioned, at each common area pedestrian entrance of a multiple-family dwelling complex having buildings that are at least four stories in height, an illuminated diagrammatic representation of the complex, which depicts the location of the viewer and the unit designations within the complex. The diagram shall be of a size clearly readable from a distance of 5 feet. It shall be lighted during the hours of darkness utilizing a light source, constructed of weather- and vandal-resistant materials, and provided with an uninterruptible A.C. power source or controlled by a photoelectric device. Nothing in this section shall preclude the requirement for circuit protection devices where applicable.
7. Pedestrian directional signage shall be provided to guide persons to dwelling units and amenities within and around buildings, being posted at all decision-making locations, including: entrances, elevators, stair landings, and walkway intersections. Signage shall include the street name if more than one street name applies to the complex and be so positioned such that text and numerals are mounted between 4 and 6 feet in height, clearly illuminated by dedicated or common area lighting, and not obstructed by landscaping at full maturity. Numerals and lettering shall be at least 2 inches in height using a Sans Serif font with a stroke weight of medium to bold, or an approved equivalent font which is clearly legible.
8. A Wayfinding Plan shall be developed indicating the following:
 - a. Location and wording of directional signage for vehicles and pedestrians;
 - b. Location of building address numbers;
 - c. Landscaping details for areas near any signage or address numbers.The plan shall include design drawings or exhibits that clearly illustrate the intent of the Wayfinding Plan.

9. In multiple-family complexes, garages or carports not directly attached to the dwelling unit or placed next to the dwelling unit and discernible as being associated with one addressed dwelling unit shall not use corresponding dwelling unit addresses to identify the garage or carport. Where garages are attached and the dwelling unit number is not adjacent to the garage door, an address number shall be displayed, in a clearly visible location, using an address number a minimum of four inches in height.
 10. Exterior address identification numbers and/or letters shall not be affixed to a surface using two-sided tape or any material not resistant to weather conditions.
 11. An 8.5 inch by 11 inch site plan(s) of the complex shall be provided to the Police and Fire Authority. It shall contain all streets, sidewalks, buildings, including identification numbers and/or descriptions, emergency services access key vaults or key override switches, radio controlled entry system access points, and fire hydrants.
- E. Multiple-family buildings, carports, parking areas, driveways, and walking surfaces shall conform to the following lighting standards:
1. All vehicular drive surfaces, open parking areas and carports shall be illuminated with a minimum maintained one foot-candle of light at ground level during the hours of darkness.
 2. All exterior common area pedestrian walkways and recreation areas shall be illuminated with a minimum maintained 0.25 foot-candle of light at ground level during the hours of darkness.
 3. Open stairways and enclosed common area corridors shall be illuminated with a minimum maintained 0.5 foot-candle of light on all landings and stair treads during the hours of darkness. Enclosed stairways shall be illuminated at all times with a minimum maintained one foot-candle of light on all landings and stair treads.
 4. Cluster mailboxes, trash enclosures/areas, vending machines, and public phones located on the exterior shall be illuminated with a minimum maintained one foot-candle of light, measured within a five-foot radius at ground level, during the hours of darkness.
 5. Recessed areas of building or fences, which have a minimum depth of two feet, a minimum height of five feet, and do not exceed six feet in width and are capable of human concealment, shall be illuminated with a minimum maintained 0.25 foot-candles of light at ground level during the hours of darkness. This requirement applies to defined recessed areas which are within six feet of the edge of designated walking surface with an unobstructed pathway to it, not hindered by walls or hedge row landscaping a minimum of two feet in height.
 6. Accessible luminaires utilized to meet the requirements of this section shall have vandal resistant light fixtures and be not less than three feet in height from the walking surface when used to illuminate walkways and a minimum of 78 inches in height above the driving surface when illuminating surfaces associated with vehicles. Light fixtures shall be deemed accessible if mounted within 15 feet vertically or six feet horizontally from any accessible surface or any adjoining roof, balcony, landing, stair tread, platform or similar structure.
 7. The light source utilized to comply with this section to meet parking and drive surface lighting shall have a rated average bulb life of not less than 10,000 hours.
 8. A site plan shall be provided showing buildings, parking area, walkways, detailed landscaping and a point-by-point photometric calculation of the required light levels. Landscaping shall not be planted so as to obscure required light levels. Foot-candles shall be measured on a horizontal plane and conform to a uniformity ratio of four to one (4:1 maximum/minimum).

9. The light source shall be controlled by a photocell device or a timeclock with an astronomic feature.
- F. Common-area laundry rooms in multiple-family complexes shall be designed and protected as follows:
1. Entry doors shall have:
 - a. A minimum 600 square-inch clear vision panel, in the upper half of the door.
 - b. Automatic, hydraulic door closures.
 - c. Self-locking door locks equipped with a dead-locking latch, allowing exiting by a single motion and openable from the inside without the use of a key or any special knowledge or effort.
 - d. Nonremovable hinge pins for out-swinging doors to preclude removal of the door from the exterior by removing the hinge pins.
 - e. A latch protector consisting of minimum 0.125-inch-thick steel attached to the door's exterior with non-removable bolts from the exterior. It shall be two inches wide and extend a minimum of five inches above and below the strike opening and extend a minimum of one inch beyond the edge of the door. It shall have a metal anti-spread pin a minimum of ½ inch in length.
 2. The laundry room shall be illuminated at all times with a minimum maintained five foot-candles of light at floor level, using a non-interruptible power source. There shall be no light switches inside the room that control light fixtures used to meet the lighting requirement.
 3. Any portion of an openable window which is within eight feet vertically or six feet horizontally from any accessible surface or any adjoining roof, balcony, landing, stair tread, platform, or similar surface, or any climbable pole or tree, or any surface providing a foothold, shall be secured as follows:
 - a. Windows shall not provide an opening greater than 96 square inches: or
 - b. Transom windows opening at the top and hinged at the bottom may be utilized provided the bottom portion is not less than six feet from an exterior accessible surface.
 4. The entire laundry room shall be visible from the exterior along common area walking or driving surfaces. Perimeter windows and interior mirrors may be utilized to meet this requirement.
 5. Laundry rooms are to be located in high activity areas with natural surveillance opportunities, and not in remote or isolated locations.
- F. Mail boxes in multi-family complexes are to be located in highly visible areas adjacent to common area activity amenities.

Sec. B-117. Special Nonresidential Building Provisions.

The provisions of this section shall apply to nonresidential units and structures.

- A. Swinging exterior glass doors, wood or metal doors with glass panels, solid wood or metal doors shall be constructed or protected as follows:
1. Wood doors shall be of solid core construction with a minimum thickness of 1¾ inches. Wood panel doors with panels less than one inch thick shall be covered on the inside with a minimum 16 U.S. gauge sheet steel or its equivalent, which is to be attached with screws on minimum six-inch centers. Hollow steel doors shall be of a minimum 16 U.S. gauge and have sufficient reinforcement to maintain the designated thickness of the door when any locking device is installed; such reinforcement being able to restrict collapsing of the door around any locking device.
 2. Except when double cylinder deadbolts are utilized, any glazing utilized within 40 inches of any door locking mechanism shall be constructed or protected as follows:

- a. Fully tempered glass or rated burglary resistant glazing; or
 - b. Iron or steel grills of at least 1/8-inch material with a minimum two-inch mesh secured on the inside of the glazing may be utilized; or
 - c. The glazing shall be covered with iron bars of at least 1/2 inch round or one-inch by 1/4-inch flat steel material, spaced not more than five inches apart, secured on the inside of the glazing.
 - d. Items b. and c., above, shall not interfere with the operation of opening windows if such windows are required to be openable by the Uniform Building Code.
- B. All swinging exterior wood and steel doors shall be equipped as follows:
- 1. A single or double door shall be equipped with a double or single cylinder deadbolt. The bolt shall have a minimum projection of one inch and be constructed so as to repel a cutting tool attack. The deadbolt shall have an embedment of at least 3/4 inch into the strike receiving the projected bolt. The cylinder shall have a cylinder guard, a minimum of five-pin tumblers, and shall be connected to the inner portion of the lock by connecting screws of at least 1/4 inch in diameter. The provisions of the preceding paragraph do not apply where (1) panic hardware is required, or (2) an equivalent device is approved by the enforcing authority.
 - 2. Double doors shall be equipped as follows:
 - a. The inactive leaf of double door(s) shall be equipped with metal flush bolts having a minimum embedment of 5/8 inch into the head and threshold of the doorframe.
 - b. Double doors shall have an astragal constructed of steel a minimum of 0.125 inch thick, which will cover the opening between the doors. The astragal shall be a minimum of two inches wide, and extend a minimum of one inch beyond the edge of the door to which it is attached. The astragal shall be attached to the outside of the active door by means of welding or with nonremovable bolts spaced apart on not more than ten inches centers. (The door to which such an astragal is attached must be determined by the fire safety codes adopted by the enforcing authority.)
- C. Aluminum frame swinging doors shall be equipped as follows:
- 1. The jamb on all aluminum frame swinging doors shall be so constructed or protected to withstand 1,600 pounds of pressure in both a vertical distance of three inches and a horizontal distance of one inch each side of the strike, so as to prevent violation of the strike.
 - 2. A single or double door shall be equipped with a double cylinder deadbolt with a bolt projection exceeding one inch or a hook-shaped or expanding deadbolt that engages the strike sufficiently to prevent spreading. The deadbolt lock shall have a minimum of five-pin tumblers and a cylinder guard.
- D. Panic hardware, whenever required by the Uniform Building Code or Title 24, California Code of Regulations, shall be installed as follows:
- 1. Panic hardware shall contain a minimum of two locking points on each door; or
 - 2. On single doors, panic hardware may have one locking point, which is not to be located at either the top or bottom rails of the doorframe. The door shall have an astragal constructed of steel 0.125 inch thick, which shall be attached with nonremovable bolts to the outside of the door. The astragal shall extend a minimum of six inches vertically above and below the latch of the panic hardware. The astragal shall be a minimum of two inches wide and extend a minimum of one inch beyond the edge of the door to which it is attached.
 - 3. Double doors containing panic hardware shall have an astragal attached to the doors at their meeting point, which will close the opening

between them, but not interfere with the operation of either door.

- E. Horizontal sliding doors shall be equipped with a metal guide track at top and bottom, and a cylinder lock and/or padlock with a hardened steel shackle which locks at both heel and toe, and a minimum five-pin tumbler operation with nonremovable key when in an unlocked position. The bottom track shall be so designed that the door cannot be lifted from the track when the door is in a locked position.
- F. In office buildings (multiple occupancy), all entrance doors to individual office suites shall meet the construction and locking requirements for exterior doors.
- G. Glazing shall be deemed accessible, if any portion of it is within 40 inches of any door locking mechanism, and shall be constructed of either two part laminated glazing with a 0.60 inch inner layer or burglary resistant glazing.
- H. Roof openings shall be protected as follows if the roof is accessible via an exterior ladder or the roof is less than 20 feet from ground level or if any portion of it is within 12 feet vertically or six feet horizontally from any exterior accessible surface or any adjoining roof, balcony, landing, stair tread or similar structure:
 - 1. All skylights on the roof of any building used for business purposes shall be provided with:
 - a. Rated burglary-resistant glazing; or
 - b. Iron bars of at least one-half inch round or one by ¼ inch flat steel material under the skylight and securely fastened; or
 - c. A steel grill of at least 1/8 inch material with a maximum two-inch mesh under the skylight and securely fastened.
 - 2. All hatchway openings on the roof of any building or premises used for business purposes shall be secured as follows:
 - a. If the hatchway is of wooden material, it shall be covered on the inside with at least 16 U.S. gauge sheet metal, or its equivalent, attached with screws.
 - b. The hatchway shall be secured from the inside with a slide bar or slide bolts.
 - c. Outside hinges on all hatchway openings shall be provided with nonremovable pins when using pin-type hinges.
- I. Exterior mounted ladders are prohibited except:
 - 1. Ladders with a minimum 1/8 inch thick steel plate, securely attached to the ladder edge on each side and extending to within two inches of the wall for a height of ten feet above ground level. A door or cover shall be securely attached to the front of the ladder and be constructed of a minimum 1/8-inch steel, extending from ground level to at least ten feet high. The ladder door shall have nonremovable hinge pins and be locked tight against the side wall by a locking mechanism with a minimum five pin tumbler operation, and attached with nonremovable bolts from the exterior; or
 - 2. Ladders beginning a height of ten feet above ground.
- J. There shall be no exterior phone panels.
- K. Buildings, open parking lots, walkways, and accesses thereto shall conform to the following light standards:
 - 1. All types of exterior doors shall be illuminated during the hours of darkness, with a minimum maintained one foot-candle of light, measured within a five-foot radius on each side of the door at ground level. The light source shall be controlled by a photocell device or a timeclock with an astronomic clock feature and capable of operating during a power outage.
 - 2. Recessed areas of buildings or fences, which have a minimum depth of two feet, a minimum height of five feet, and do not exceed six feet in width and are capable of human concealment, shall be illuminated with a minimum maintained 0.25 foot-candles

of light at ground level during the hours of darkness. This requirement applies to defined recessed areas which are within six feet of the edge of a designated walking surface with an unobstructed pathway to it, not hindered by walls or hedge row landscaping a minimum of two feet in height.

3. Stairways shall be illuminated with a minimum maintained one foot-candle of light on all landings and stair treads, during the hours of operation, including one hour thereafter.
4. All interior or exterior corridors, passageways and walkways in any hotel, motel or inn shall be illuminated at all times with a minimum maintained one foot-candle of light on the walking surface.
5. All exterior pedestrian walkways, interior common corridors, and open parking lots shall be illuminated with a minimum maintained one foot-candle of light on the walking or driving surface during the hours of operation and one hour thereafter.
6. The light source utilized to comply with this section to meet parking and drive surface lighting shall have a rated average bulb life of not less than 10,000 hours.
7. Accessible luminaires utilized to meet the requirements of this section have vandal resistant light fixtures and be not less than three feet in height from ground level when used to illuminate walkways and a minimum of eight feet in height from ground level when illuminating surfaces associated with vehicles. Light fixtures shall be deemed accessible if mounted within fifteen feet vertically or six feet horizontally from any accessible surface or any adjoining roof, balcony, landing, stair tread, platform or similar structure.
8. A site plan shall be provided showing buildings, parking area, walkways, detailed landscaping and a point-by-point photometric calculation of the required light levels. Foot-candles shall be measured on a horizontal plane and conform to a uniformity ratio of 4:1 average/

minimum. Landscaping shall not be planted so as to obscure required light levels.

- L. Addressing for nonresidential buildings shall conform to the following specifications:
 1. Numerals shall be mounted on the wall, be no higher than 30 feet, and face the street on which the building is addressed. Numerals are to be clearly visible from this same street and not obscured by building landscaping at full maturity. Addressing shall be of a color contrasting to the background to which they are affixed. Method of attachment shall not include the use of two-sided tape or any material not resistant to weather conditions.
 2. Where distance or intervening obstructions impair visibility from the street, addressing shall be mounted on all buildings so as to be visible from drive aisles and walkways internal to the site, and each such address, or an encompassing range of addresses, shall be displayed on monument signs visible from each site entrance from all approaching directions. In such cases, directional wayfinding signs shall be provided per No. 5 below.
 3. Numerals shall be no less than six inches in height, if located less than 100 feet from the center line of the addressed street or 12 inches in height if placed further than 100 feet from the center line of the addressed street. The numerals shall be in a Sans Serif font with a stroke weight of medium to bold, or an approved equivalent font which is clearly legible, and illuminated during the hours of darkness using a light source provided with an uninterruptible A.C. power source or controlled only by a photoelectric device, which may be the common area site lighting.
 4. The rear doors of all buildings shall have address numbers not less than six inches in height, using a Sans Serif font with a stroke weight of medium to bold, or an approved equivalent font which is clearly legible, and be of a color contrasting to the background to which they are affixed. Method of attachment shall not include the use of two-sided tape

or any material not resistant to weather conditions.

5. For sites having multiple buildings for which addressing mounted on the building is not clearly visible from the street, or for which drive aisles diverge from a site entrance in a manner such that the direct route to each building is not obvious, vehicle directional signs shall be provided. Vehicle direction signage from the point of site entry to each building entrance shall display building addresses or unit number range, and be located at all turning points along the route to a building entrance. Signs shall be no less than 2 feet from ground level and not obstructed by landscaping at full maturity or parked cars. Numerals shall be at least 3 inches in height using a Sans Serif font with a stroke weight of medium to bold, or an approved equivalent font which is clearly legible.
6. Buildings with a total square footage of at least 10,000 square feet shall have rooftop numbers placed parallel to the addressed street, screened from public view and only visible from the air. The numerals are to be white, block lettered, constructed of weather resistant material, and placed against a black background. Address numbers are to be a minimum of 4 feet in height and 18 inches wide. When more than one street address is assigned to a building, the beginning and ending address numbers are to be placed on the rooftop at opposite ends of the building, reflecting the approximate location of these addresses.

Exceptions:

1. For buildings having white roofing, black lettering shall be used in lieu of white lettering.
2. Buildings providing addressing for a helipad as specified in the California Building Code.

M. Elevators shall be designed as follows:

1. Elevator cabs, the interiors of which are not completely visible when the door is open from a point centered on and 36 inches away from the door, shall have shatter resistant mirrors or other equally reflective material so placed as to make visible the entire elevator cab from this point. The elevator cab shall be illuminated at all times with a minimum maintained two foot-candles of light at floor level.
2. Elevator emergency stop buttons shall be so installed and connected as to activate the elevator alarm when utilized.

Sec. B-118. Special Parking Facilities Provisions.

A structure, garage or covered parking surface intended primarily for the storage of motor vehicles for any period of time, except for residential carports, shall comply with this section.

- A. Remote or detached parking facilities or any other parking surfaces which are constructed as a separate entity shall be assigned a street address number. Addressing for parking structures shall conform to the following specifications:
 1. Numerals shall be mounted on the wall, no higher than 30 feet, and face the street on which the building is addressed. Numerals are to be clearly visible from this same street and not obscured by landscaping at full maturity. The numerals shall be placed in such a location that it is evident the parking structure has this address or, when not visible from the street, numerals are to be located on a corner of the structure and not over the vehicle entrance. If references to the parking structure servicing a particular building are over the entrance, such references are to include wording clearly identifying parking for a particular building so as not to confuse the structure address with the building address. Numbers and any lettering shall be of a color contrasting to the background to which they are affixed. Method of attachment shall not include the use of two-sided tape or any material not resistant to weather conditions.
 2. Numerals shall be no less than 6 inches in height, using a Sans Serif font with a stroke weight of medium to bold, or approved

equivalent font which is clearly legible, and shall be illuminated during the hours of darkness using a light source provided with an uninterruptible A.C. power source or controlled only by a photoelectric device, which may be the common area site lighting.

3. Residential parking structures only shall be provided with rooftop addressing to meet the requirements as specified in *Section B-117.L.5*. Non-residential parking structures shall not have rooftop addressing.
 - B. Restrooms shall not be open to the general public and shall be continuously locked, with access provided only to authorized individuals. They shall be located in an area which is highly visible from the parking attendant kiosk or other area where natural surveillance is afforded.
 - C. Directional signage, including floor designation and section, shall be provided on each level to expedite movement within the facility. Signage shall be a minimum of 12 inches in height and of a contrasting color to the background. It shall be displayed not less than 60 inches from the parking surface and be highly visible from within any portion of the facility.
 - D. Structures or fencing designed to screen trash enclosures from public view shall be designed with no more than three solid walls and an access gate(s). They shall be designed in such a manner as to allow a maximum of six inches clearance between trash bins, walls and gates.
 - E. Bicycle storage units or racks shall be located in high visibility areas.
 - F. If removal of a metal drainage grating being used at grade along the exterior of the facility would provide access into the interior, the grating shall be securely fastened, rendering it non-removable from the exterior.
 - G. Solid perimeter walls shall be either full height floor to ceiling or not exceed 42 inches in height from the parking surface.
 - H. The number of pedestrian and vehicular access points shall be minimized. Except at vehicle and primary pedestrian openings, the structure shall be designed, to the satisfaction of the County, to preclude human entry from any exterior accessible surface to a height of eight feet. Chain link fencing shall not be utilized if visible from a private street. When required, fire authority openings in the form of swing-out gates shall be provided and secured by a padlock with a minimum 3/8-inch diameter shackle and five-pin tumbler operation.
- I. Exterior pedestrian doors which provide access into the parking facility, shall be constructed and equipped as follows:
 1. A minimum 18 gauge steel and equipped with automatic hydraulic closure device.
 2. A minimum 100-square-inch vision panel, with the width not less than five inches, to provide visibility into the area being entered. Vision panels shall meet requirements of the Uniform Building Code.
 3. Vision panels shall preclude manipulation of the interior locking device from the exterior.
 4. No openings within twenty-four inches of the locking device which would allow a piece of metal, 1/16-inch diameter or greater to be inserted and access gained to the interior side of the door.
 5. When panic hardware is required, it shall have a self-locking mechanism and be constructed/equipped as follows:
 - a. Panic hardware on pairs of doors shall contain a minimum of two locking points on each door; or
 - b. On single doors, panic hardware may have one locking point, which is not located at either the top or bottom of the doorframe. When mortise hardware is utilized, a protective astragal consisting of a minimum 0.125 inch thick steel shall be attached to the exterior of the door and rendered nonremovable from the exterior. It shall be two inches wide and extend a minimum of five inches above and below

the strike opening and extend a minimum of one inch beyond the edge of the door.

- c. Double doors containing panic hardware shall have an astragal attached to the doors at their meeting point, which will close the opening between them, but not interfere with the operation of either door. Fire rated astragals, meeting specifications of the Uniform Building Code, shall be utilized when required. Astragals are not required when panic hardware is utilized with push pads offset a minimum of three inches from the door edges.

- 6. Emergency exits not intended, as a primary entrance shall have no exterior handles, knobs, or levers.
- 7. Hinges shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins.

J. Stairways shall be designed as follows:

- 1. Interior doors shall have glazing panels a minimum of five inches wide and 20 inches in height and meet requirements of the Uniform Building Code.
- 2. Areas beneath stairways at or below ground level shall be fully enclosed or access to them restricted.
- 3. Stairways shall be designed to be completely visible from either the interior or exterior or both, unless mandated by the Uniform Building Code to be enclosed.
- 4. Fully enclosed interior or exterior stairways with solid walls, when required, shall have shatter resistant mirrors or other equally reflective material at each level and landing and be designed or placed in such a manner as to provide visibility around corners.

K. Elevator cabs and lobbies shall be designed as follows:

- 1. Elevators which serve more than two floors, above ground level, with at least one shaft wall exposed to the exterior or interior shall have clear glazing installed in one wall to provide visibility into the elevator cab.
- 2. Elevator cabs, the interiors of which are not completely visible when the door is open from a point centered on and 36 inches away from the door, shall have shatter resistant mirrors or other equally reflective material so placed as to make visible the entire elevator cab from this point. The elevator cab shall be illuminated at all times with a minimum maintained two foot-candles of light at floor level.
- 3. Elevator emergency stop buttons shall be so installed and connected as to activate the elevator alarm when utilized.
- 4. Elevator lobbies, if enclosed, shall be constructed of glazing, the maximum amount allowed by the Uniform Building Code.

L. Lighting of driveways, parking areas, walkways and doors shall conform to the following standards:

- 1. All parking, driving, and walking surfaces, except stairways, shall be illuminated at all times with a minimum maintained 1.25 foot-candles of light.

Exception: Parking facilities which have physically precluded pedestrian and vehicle access during nonbusiness hours may provide a minimum maintained 0.25 of light on the parking, walking and driving surfaces.

- 2. Stairways shall be illuminated at all times with a minimum maintained two foot-candles of light on all landings and stair treads.
- 3. All types of exterior doors shall be illuminated, during the hours of darkness, with a minimum maintained one foot-candle of light, measured within a five-foot radius of each side of the door at ground level.
- 4. Recessed areas of buildings or fences, which have a minimum depth of two feet, a minimum height of five feet, and do not

exceed six feet in width and are capable of human concealment, shall be illuminated with a minimum maintained 0.25 foot-candles of light at ground level during the hours of darkness. This requirement applies to defined recessed areas which are within six feet of the edge of a designated walking surface with an unobstructed pathway to it, not hindered by walls or hedge row landscaping a minimum of two feet in height.

5. All luminaires utilized to meet the requirements of this section shall have vandal resistant light fixtures, if on the exterior, with no portion of the fixture placed less than 72 inches above the walking or driving surface.
6. The light source utilized to comply with this section to meet parking and drive surface lighting shall have rated average bulb life of not less than 10,000 hours.
7. A site plan shall be provided showing buildings' parking area, walkways, detailed landscaping and a point-by-point photometric calculation of the required light levels. Foot-candles shall be measured on a horizontal plane and conform to a uniformity ratio of 4:1 average/minimum. Landscaping shall not be planted so as to obscure required light levels.
8. The light source shall be controlled by a photocell device or a timeclock with an astronomic feature and capable of operating during a power failure.

M. Landscaping around the perimeter of the structure shall not provide access to any portion of the structure unless the accessible point is protected as described in *subsection H.* hereinabove.

Sec. B-119. Emergency access.

- A. Private roads and parking areas or parking facilities when controlled by unmanned automated parking gates shall provide for police emergency access utilizing an approved radio controlled entry system and approved key switch device to be installed and designed as follows:
 1. The key switch control shall be installed at a height of 42 inches from finished driveway

grade and a minimum of 15 feet from the entry/exit gate, and be located on the driver's side of the road or driveway. The key switch is to be accessible in such a manner as to not require a person to exit their vehicle to reach it; nor to require any back-up movements in order to enter/exit the gate. The key switch may be installed within a visitor telephone/intercom call box if meeting the above criteria. The control housing shall consist of heavy gauge metal, and be vandal- and weather-resistant and be mounted on a substantial structure such as a steel post, concrete, or masonry pedestal.

2. Key switches shall be secured to the control housing or telephone/intercom call box utilizing tamper resistant screws.
 3. Except for an open surface parking lot with less than 100 parking spaces, a radio controlled entry system shall be installed per City of Irvine and Orange County Fire Authority (OCFA) specifications.
 4. Vehicle gates shall be designed to open in a power failure.
- B. All lockable pedestrian gates or doors to common area walkways and recreation areas/buildings of residential multi-family complexes or tract of homes shall provide for police emergency access utilizing an approved radio controlled entry system and approved key switch device or approved key vault which shall be installed as follows:
1. Pedestrian gates/doors using an electrically automated type lock shall be provided with an approved radio controlled entry system and a key switch within a telephone/intercom console, or installed adjacent to the door inside a wall/door frame, or in a control housing as described in *section (A)(1)* above or in a method approved by the enforcing authority. Key switches shall be secured utilizing tamper resistant screws. The radio controlled receiver shall be visible in order to determine, when activated, if the signal was received by illuminating a light. More than one gate or door which is in close proximity to another may be operated by the radio

controlled entry system if approved by the police department.

control reader utilizing tamper resistant screws.

2. Pedestrian gates or doors utilizing mechanical locks shall be provided with a key vault adjacent to each gate or door, securely attaching it to a fence or wall, mounted 4 feet above finished grade and within 2 feet of the locking device.
 3. Pedestrian gates in perimeter community walls or fencing shall utilize a key switch if using an electronically automated type lock, or if a mechanical lock is used, a key vault, mounted 4 feet above finished grade and within 2 feet of the locking device.
 4. Pool gates shall only utilize a key vault, mounted 4 feet above finished grade and within 2 feet of the locking device.
 5. Elevators with access control systems shall be provided with a key switch adjacent to the access control reader utilizing tamper resistant screws.
- C. Nonresidential multi-tenant buildings with a common area entrance and interior walkway shall provide police emergency access utilizing an approved radio controlled entry system and approved key switch device or approved key vault which shall be installed as follows:
1. All common area doors using an electrically automated type lock shall be provided with a key switch device within the building's exterior telephone/intercom call box or in a control housing as described in *section A.1* above, or in a method approved by the enforcing authority and located within close proximity and in a visible area near the door mounted 4 feet above finished grade. Key switches shall be secured utilizing tamper resistant screws.
 2. Exterior entry common area doors utilizing mechanical door locks shall be provided with a key vault within close proximity and in a visible area near the door mounted 4 feet above finished grade.
 3. Elevators with access control systems shall install a key switch adjacent to the access control reader utilizing tamper resistant screws.
 4. Emergency vehicle access gates shall be designed so as to provide access to the padlock from either side of the gate. A key vault shall be installed on each side of the gate. Land lessee's padlock shall be used to secure the gate.
 5. All key switches, key vaults, and padlocks shall be sub-mastered to an Orange County Fire Authority key for access by the police department. The radio controlled entry system shall be programmed to frequencies approved by the police department and Orange County Fire Authority.
 6. Key switches, key vaults, padlocks, and radio controlled entry system installations shall be identifiable to approaching police personnel in a manner as approved by the police department.
 7. An Emergency Access Plan shall be required when a radio controlled entry system, key switch, or key vault is required to be installed. The plan is to identify the location of each device on a site plan.

Sec. B-120. Special Recreational Spaces Provisions.

The provisions of this section shall apply to all public and private community buildings, parks, open spaces, trails, community swimming pools, recreation centers, and associated sidewalks and parking lots.

- A. Structures shall comply with all provisions of the Uniform Security Code except *Section B-117, Special Nonresidential Building Provisions, subsection K.* regarding lighting standards.
- B. Exterior lighting shall conform to the following standards:
 1. All types of exterior doors shall be illuminated during the hours of darkness with a minimum maintained one foot-candle of light at ground level, measured within a five-foot radius from the center of the door.
 2. Recessed areas of buildings or fences, which have a minimum depth of two feet, a minimum height of five feet, and do not exceed feet in width and are capable of

human concealment, shall be illuminated with a minimum maintained 0.25 foot candles of light at ground level during the hours of darkness. This requirement applies to defined recessed areas which are within six feet of the edge of a designated walking surface with an unobstructed pathway to it, not hindered by walls or hedge or landscaping a minimum of two feet in height.

3. Stairways shall be illuminated with a minimum one foot-candle of light on all landings and stair treads, during the hours of operation, including one hour thereafter.
 4. Parking lots and walkways accessing buildings and parking areas shall be illuminated with a minimum maintained one foot-candle of light on the driving or walking surface during the hours of operation and one hour thereafter.
 5. Bike trails not incorporated in the roadway shall be illuminated with a minimum maintained 0.25 foot-candles of light at ground level during the hours of darkness, except that any bike trail or recreational facility within the designated Natural Community Conservation Plan/Habitat Conservation Plan, Central Coastal Subregion reserve area shall be exempt from the requirements of this subsection.
 6. Paved walkways in open space areas, not directly serving buildings or parking areas, shall be illuminated with a minimum maintained 0.25 foot-candles of light on the walking surface during the hours of operation and one hour thereafter.
 7. Swimming pool decks and other hard surface recreation activity areas shall be illuminated with a minimum maintained one foot-candle of light on the walking surface during the hours of operation and one hour thereafter.
 8. The light source utilized to comply with this section to meet parking and drive surface lighting shall have a rated average bulb life of not less than 10,000 hours.
 9. Luminaires utilized to meet the requirements of this section shall have vandal resistant light fixtures, if accessible, and be not less than eight feet in height from ground level. A luminaire not less than 42 inches may be utilized to illuminate a walkway if adjacent landscaping is of a variety which does not mature higher than two feet, and it does not interfere with the required light distribution for a distance of 16 feet along the walkway. Light fixtures shall be deemed accessible if mounted within 15 feet vertically or six feet horizontally from any accessible surface or any adjoining roof, balcony, landing, stair treads, platform or similar structure.
 10. Activation of the required exterior lighting shall be either by a photocell device or a time clock with an astronomic clock feature.
 11. A site plan shall be provided showing buildings, parking area, walkways, detailed landscaping and a point-by-point photometric calculation of the required light levels. Foot-candles shall be measured on a horizontal plane and conform to a uniformity ratio of 4:1 average/minimum. Landscaping shall not be planted so as to obscure required light levels.
- C. Swimming pools shall be secured as follows:
1. Restroom doors and pool gates shall be equipped with automatic closure devices, dead latches, and a latch protector consisting of minimum 0.125-inch-thick steel, two inches wide and six inches long.
 2. The pool equipment room or enclosure to be secured with either a deadbolt lock or padlock with a minimum five-pin tumbler operation, minimum three-eighths-inch thick shackle, and heel and toe locking.
 3. The on and off switch for the spa is to be keyed.
 4. Perimeter fencing, using either tubular steel or aluminum, is to be installed at a minimum height of six feet. Vertical fence pickets are to be spaced not more than four inches on-center and be designed to discourage climbing.

5. Emergency access to locked gates is to be provided through installation of a Knox box key vault which shall contain a mechanical key for the gate. The vault shall be sub-mastered to the Orange County Fire Authority for access by the police department. The mounting location shall be 4 feet above finish grade and within 2 feet of the locking device.
6. Selection of landscaping is to consider height of plants regarding providing needed visibility into the pool area from adjacent uses, buildings, and streets.
7. Lighting shall conform to *Section B-117.K.7* regarding lighting fixtures.
8. All entrances to private park pools/spas shall have signage indicating it is private property and no trespassing allowed.
9. Address numbers, when assigned, shall be visible from inside and outside the pool, and the numerals shall be at least 4 inches in height using Sans Serif font with a stroke weight of regular to medium, or an approved equivalent font which is clearly legible.

D. Landscaping guidelines are as follows:

1. Plant materials utilized shall take into consideration the need for users of the space to easily view their surroundings as well as police patrols to monitor the area from adjacent streets.
2. Trees shall be positioned to avoid interfering with required lighting levels and take into consideration the height of canopies from ground level regarding surveillance opportunities by users of the space and police patrols.
3. Planting of wide hedge rows and narrow vertical plants adjacent to solid fences is encouraged.

E. Park identification signs shall be provided at parks on Planning Areas A through J as follows:

1. Parks and recreation facilities shall have a park identification sign, with address number, street name and park name. The sign copy size shall be a minimum height of 2 inches for the park title and a minimum of 4 inches for the address number and street name. The sign copy shall be of a color contrasting to the background to which they are affixed. Signs shall be highly visible and placed within 100 feet of the centerline of the addressed street. Sign copy shall be at least 30 inches from ground level.
2. Landscaping in front of the park signage shall be of a variety which grows to no more than 2 feet in height at full maturity.

Sec. B-121. Construction Site and Vacant Property Security.

A. Scope of construction site and vacant property security. The provisions of this section shall apply to residential and nonresidential developments and vacant property as follows:

1. "Construction site" shall mean any site, excluding a single residential lot and additions and alterations to existing nonresidential structures, upon which construction or demolition work is occurring, or upon which such work has commenced but has not been completed. The provisions of this section shall apply from the time raw building materials are placed on the site until the installation of all building fixtures is completed.
2. "Vacant property" shall mean any property more than 20 acres in area where there are buildings or other facilities of any type that have been abandoned or are otherwise not in use for a period of more than 30 calendar days, except that a residential lot shall not be deemed to be a vacant property merely by virtue of the fact that a home on the property is currently unoccupied.
3. The requirements of this ordinance shall apply to all construction sites or projects where building permits are issued more than 30 days from the effective date of this section.

4. The requirements of this section shall not apply to construction projects currently under construction or where building permits have been issued within 30 days of the effective date of this section.

B. Construction site general security requirements.

1. The land lessee of a construction site shall implement those security measures reasonably necessary to control access to the site, and to deter vandalism, theft, and other crime.
2. Access points: The number of access points onto the site shall be minimized and, where feasible, situated in locations that are highly visible from an adjacent street.
3. Perimeter construction site fencing shall be installed adjacent to streets and designed as follows:
 - a. Chain link or other metal fencing and gates, at least six feet in height, covered with green 94 percent minimum blockout heavy duty plastic screening material; and
 - i. Vehicle and pedestrian access gates shall not be covered. Fencing shall not be covered for the first 20 feet in lineal length, or greater where necessary for sight distance control, on each side of a gate.
 - b. All vehicle and pedestrian openings shall have gates secured after hours of operation by a padlock(s) designed to prohibit cutting of the shackle; and
 - i. Coil chain, minimum 30 grade, at least 3/8-inch thick, if used to secure a gate, or
 - ii. Cable at least 5/16-inch thick, if used to secure a gate.
 - c. Perimeter fencing may be removed when there is no longer outside storage of building materials or building fixtures and when there are no remaining

exterior construction activities requiring separation of non-construction related personnel and public from exterior construction activity.

- d. Alternative fencing and protection may be approved by the Manager of CEO Real Estate/Land Development or County of Orange Building Official.
4. Office trailers and temporary buildings shall be secured as follows:
 - a. At a minimum, doors shall have a deadbolt lock per *Section B-117.B.1* and an auxiliary locking device using a hasp or slide bolt with a protective device to prohibit cutting of a padlock, attached with non-removable bolts from the exterior, and locked with a padlock having a minimum ½-inch thick shackle with heel and toe locking; or secured in a manner as approved by the City of Irvine Chief of Police.
 - b. All windows shall be secured from entry using either:
 - i. Steel bars of at least ½-inch round or one-inch by ¼-inch flat steel material, spaced not more than five inches apart, securely attached on the inside of the trailer using bolts that are nonremovable from the exterior; or
 - ii. Steel grate mesh of at least 1/8-thick material, securely attached on the interior or exterior of the trailer using means that are resistant to removal from the exterior.
 5. Storage containers with at least 64 square feet of storage area shall be secured as follows:
 - a. Doors shall be secured using a hasp or slide bolt with a protective device to prohibit cutting of the padlock, attached with nonremovable bolts from the exterior, and locked with a padlock having a minimum ½-inch thick shackle with heel and toe locking; or secured in a manner

- as approved by the City of Irvine Chief of Police.
- b. Exterior hinge pins shall be rendered nonremovable by design or welding.
6. Site lighting shall be installed and designed as follows:
- a. Where lighting required by the provisions of 6.b through 6.e below would impinge on occupied residential properties:
 - i. Motion sensors may be used to control light fixtures.
 - ii. Elements of the lighting provisions 6.b through 6.e below may be modified or not required when approved by the County of Orange Building Official.
 - b. All vehicle gate locations shall be illuminated, during the hours of darkness, with an approximate minimum maintained one foot-candle of light on the ground, within and on all sides of the gated opening for a distance of 15 feet beyond the opening. Outdoor lighting shall be maintained and installed so that direct rays are confined to the site and adjacent properties and streets open to the public are protected from glare.
 - c. All open centralized storage areas for building materials or building fixtures shall be illuminated, during the hours of darkness, with an approximate minimum maintained one foot-candle of light on the ground, within and on all sides of the stored items for a distance of 15 feet beyond the materials or fixtures.
 - d. All trailers, temporary buildings, or containers used as an office or for storage of building materials, or fixtures for buildings, or construction equipment shall be illuminated on all sides with openings, during the hours of darkness, with an approximate minimum maintained one foot-candle of light on the ground for a distance of 15 feet beyond the exterior walls.
- e. Luminaries utilized to meet this section shall be installed at least 18 feet from the ground, have tempered or polycarbonate lenses, and meet or exceed U.L. Bulletin 1572 for wet locations.
7. Forklifts shall be rendered inoperable, when hours of operation are ceased, by removing the key and adding a device to either disable the engine or other measure to prohibit moving it.
8. A record shall be developed and maintained of on-site motorized construction vehicle equipment, which have wheels a minimum of 15 inches in diameter, listing the manufacturer, model, license plate number, vehicle identification number (VIN), and product identification number (PIN).
9. An address sign shall be installed at all perimeter vehicle access points and include the street name and number, using minimum six-inch high letters and numbers, and shall be posted at the top of the perimeter fence or at least five feet from the ground.
10. A "No Trespassing" sign, conforming to the requirements of California Penal Code, Section 602, shall be installed at all perimeter access points, posted at the top of the perimeter fence or at least five feet from the ground.
11. A 24-hour emergency phone number, for management of the site, shall be posted at the main gated entrance and on the exterior of an on-site office trailer or building near the main vehicle entrance.
- C. Construction site security plan.
- 1. A security plan shall be required if the residential construction site has 25 or more dwelling units, or a nonresidential construction site has 50,000 square feet or more of building area.

2. A security plan shall be submitted as part of the normal and customary building permit application and review process for review and approval by the County of Orange Building Official or the Manager of CEO Real Estate/Land Development prior to issuance of building permits.
3. A security plan shall include the requirements in *Section B-121.B* and the following:
 - a. Description of the construction site including: Location, size, boundaries, type of project, overall site plan, access points, office/storage locations, and contact person responsible for implementing the security plan.
 - b. A copy of the approved security plan shall be maintained at the site to show the original location of site security elements and any changes made thereto to adjust to changing field conditions.
 - c. Institute at least one of the following additional security measures:
 - i. Provide color cameras that view all vehicle access points and record vehicle license plates when the hours of operation cease, saving recorded activity for at least 60 days; or
 - ii. Utilize a California State Licensed Security Guard for every 20 acres or portion thereof, to monitor the site when hours of operation cease, recording persons and vehicles entering and leaving it, saving recorded activity for at least 60 days; or
 - iii. Compliance with a construction site security program approved by the Chief of Police that addresses: Identification and marking of equipment and construction materials; inventory of construction equipment; key control; alarm system for trailers/storage containers; materials inventory control procedure; securing tools/equipment; securing vehicles and large pieces of equipment; perimeter security of construction site; lighting; liaison with law enforcement; or
 - d. Develop a written procedure and implement a property identification program approved by the City of Irvine Chief of Police that is designed to readily identify ownership of heavy equipment, building materials where feasible, and building equipment.
4. As part of the security plan review and approval process, the Manager of CEO Real Estate/Land Development or the Building Official may require modifications to the security plan when:
 - a. The plan fails to comply with any of the requirements set forth in the provisions of this chapter in any respect;
 - b. The security measures described in the plan are insufficient to meet the security needs of the particular site; or
 - c. The security personnel are unqualified to meet the security needs of the particular site.

Sec. B-128. Tests.

- A. It shall be the responsibility of the land lessee, or designated agent, of a building or structure falling within the provisions of this code to provide the enforcing authority with a written specification performance test report indicating that the materials utilized meet the minimum requirements.
- B. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that any material or any construction does not conform to the requirements of this code, or in order to substantiate claims for

alternate materials or methods of construction, the enforcing authority may require tests as proof of compliance to be made at the expense of the land lessee or his agent by any agency which is approved by the enforcing authority.

- C. Specimens shall be representative, and the construction shall be verified by assembly drawings and bill of materials. Two complete sets of manufacturer or fabricator installation instructions and full-size or accurate scale templates for all items and hardware shall be included.
- D. Tests for sliding glass doors shall be conducted as follows:
 - 1. The construction and size of the test door assemblies, jambs and headers, and all hardware components shall be representative of that for which acceptance is desired. The door assembly and mounting in the support fixture shall stimulate the rigidity normally provided to a door assembly in a building by the ceiling, floor and walls.
 - 2. Sample doors submitted for testing shall be glazed. Panels shall be closed and locked with the primary locking device only. Doors shall be equipped with interlocking devices to prevent spreading or separation of the meeting stiles.
 - 3. Tests shall be performed on the samples in the following order:

TEST A.

With the panels in the test position, a concentrated load of 800 pounds shall be applied to the vertical pull stile incorporating a locking device, at a point on the stile within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the door. With the load removed, determine if the primary locking device can be unlocked by manipulation, as described in Test H.

TEST B.

- i. With panels in the test position, a concentrated load of 50 pounds shall be applied to the vertical pull stile

incorporating a locking device, at a point on this stile within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the door while, simultaneously, an additional concentrated load of 200 pounds is applied to the same area of the same stile in a direction perpendicular to the plane of glass toward the interior side of the building. With the load applied, determine if the primary locking device can be unlocked by manipulation as described in Test H.

- ii. Repeat Test B(1) above, substituting 800 pounds for the indicated 50 pounds. Perform the manipulation tests with the load removed.

TEST C.

- i. With the panels in the test position, a concentrated load of 50 pounds shall be applied to the vertical pull stile incorporating a locking device, at a point on the stile within six inches of the loading device, in the direction parallel to the plane of the glass that would tend to open the door while simultaneously, an additional concentrated load of 200 pounds is applied to the same stile in the direction perpendicular to the plane of the glass toward the exterior side of the door. With the load applied, determine if the primary locking device can be unlocked by manipulation as described in Text H.
- ii. Repeat Test C (1) above, substituting 800 pounds for the indicated 50 pounds. Perform the manipulation tests with the load removed.

TEST D.

With the movable panel lifted upward to its full limit within the confines of the door frame, a concentrated load of 800 pounds shall be applied separately to each vertical pull stile incorporating a locking device, at a point on the stile within six inches of the

loading device in the direction parallel to the plane of the glass that would tend to open the door. With the load removed, determine if the primary locking device can be unlocked by manipulation, as described in Test H.

TEST E.

- i. With the movable panel lifted upward to its full limit within the confines of the door frame, a concentrated load of fifty pounds shall be applied to the vertical pull stile incorporating a locking device, at a point on the stile within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the door while simultaneously, an additional concentrated load of two hundred pounds is applied to the same area of the same stile in the direction perpendicular to the plane of the glass toward the interior side of the door. With load applied, determine if the primary locking device can be unlocked by manipulation as described in Test H.
- ii. Repeat Test E(1) above, substituting eight hundred pounds for the indicated fifty pounds. Perform the manipulation tests with the load removed.

TEST F.

- i. With the movable panel lifted upward to its full limit within the confines of the door panel, a concentrated load of 50 pounds shall be applied to the vertical stile incorporating a locking device, at a point on the stile within six inches of the locking device, in the direction parallel to the plane of glass that would tend to open the door while, simultaneously, an additional concentrated load of 200 pounds is applied to the same area of the same stile in the direction perpendicular to the plane of the glass toward the exterior side of the door. With the load applied, determine if the primary

locking device can be unlocked by manipulation, as described in Test H.

- ii. Repeat Test F (1) above, substituting 800 pounds for the indicated 50 pounds. Perform the manipulation tests with the load removed.

TEST G.

For inside sliding doors, repeat Test D, while simultaneously applying a concentrated load of 50 pounds at the end of the movable bottom rail near the meeting stiles inward. For outside sliding doors, repeat Test D while applying a concentrated load of 50 pounds at the end of the movable bottom rail near the meeting stiles and outward.

TEST H.

Lift, push, pull, or otherwise manipulate by hand the door relative to the clearances within the frame while attempting to open the door. This test shall be conducted continuously for five minutes.

Examine the assembly and determine a method and position for inserting a tool through the assembly from the outside so as to contact the primary locking device or the latch. Two different tools shall be used: A knife or spatula with a thin blade approximately 1/32 inch thick, not more than one inch wide, and no longer than six inches; and a piece of stiff steel wire with a diameter of approximately 1/16 inch. Determine whether it is possible to insert the wire or manipulate with either of these tools so as to unlock the door within a five-minute time period.

TEST I.

With the following tools:

- i. A knife or spatula with a thin blade approximately 1/32 inch thick, not more than one inch side, and no longer than six inches; and
- ii. A straight or Phillips screwdriver with a maximum six-inch shaft; remove from

the door assembly all screws, glazing beans, or other mechanical fasteners which can be removed readily from the exterior within a time limit of five minutes. Determine if the primary locking device can be unlocked or entry gained by manipulation, as described in Test H.

4. Fixed panels. Fixed panels shall be fastened in accordance with the manufacturer's instructions. Test shall be performed in the following order:

TEST A.

With the panels in the normal position, a concentrated load of 300 pounds shall be applied at midspan of the fixed jamb stile in the direction parallel to the plane of the glass that would tend to remove the fixed panel from the frame jamb pocket. With the load applied, determine if entry can be gained by manipulation, as described in *subsection (d), paragraph (3), Test H*, above.

TEST B.

With the panels in the normal position, a concentrated load of 300 pounds shall be applied at midspan of the fixed jamb stile in the direction parallel to the plane of the glass that would tend to remove the fixed panel from the frame jamb pocket while simultaneously, an additional concentrated load of 150 pounds is applied at midspan of the fixed panel interlock stile in the direction perpendicular to the plane of the glass which would tend to disengage the meeting stiles. With this load applied, determine if entry can be gained by manipulation, as described in *subsection (d), paragraph (3), Test H*, above.

TEST C.

Repeat Test A with the fixed panel lifted upward to its full limit within the confines of the door frame. The lifting force need not exceed 150 pounds at the bottom of the exterior face of the meeting stile. With this load applied, determine if entry can

be gained by manipulation, as described in *subsection (d), paragraph (3), Test H*, above.

5. A sliding door assembly shall fail these tests if at any time during or after the test, the sliding door assembly does not remain engaged, intact, and in the closed and locked position, or by manipulating an exposed component; or if one can enter through displaced or damaged portions.
6. The report shall include the following: Identification of the samples tested; type, size, location, and number of locking devices; type, location and number of anchors; type and thickness of glazing material, and an indication of whether or not the subject passed the test. The report shall also indicate at what point the assembly fails. The report shall be certified to be a true copy by the testing laboratory and shall be forwarded direct from the laboratory to the enforcing authority.
7. After September 1, 1979, all sliding door assemblies utilized under this code, shall have affixed to each a performance label identifying the following:
 - a. Manufacturer of product by name.
 - b. Testing laboratory.
 - c. Certification that the product complies with Section XVI, California Model Building Security Ordinance.
- E. For the purpose of this code, windows are classified as follows:

Type A: Window assemblies incorporate one or more sashes that open by sliding in the plane of the wall in which the window is installed.

Type B: Window assemblies incorporate one or more framed sashes which are hinged at or near two corners of the individual sash and open toward the exterior of the wall.

Type C: Window assemblies incorporate one or more sashes which open toward the interior and are hinged at or near two corners of the sash.

Type D: Window assemblies incorporate one or more sashes which are hinged or pivot near the center so that part of the sash opens into the interior wall and part opens toward the exterior.

1. Window assemblies shall be mounted following the manufacturer's installation instructions. Install the window assembly in a test fixture, which simulates the wall construction required by Chapter 25 of the Uniform Building Code. The unit shall be fully glazed. The sash shall be closed and locked with the primary locking device only.
 - a. Tests for Type A window assemblies shall be performed in the following order:

TEST A.

With the sliding sash in the normal position, a concentrated load of 200 pounds shall be applied separately to each member incorporating a locking device, at a point on the sash member within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the window. With the load removed, apply the manipulation test described in *subsection (d), paragraph (3), Test H, above.*

TEST B.

With the sliding sash in the normal position, a concentrated load of 25 pounds shall be applied separately to each sash member incorporating a locking device, at a point on the sash member within six inches of the locking device in the direction parallel to the plane of the glass that would tend to open the window, while simultaneously, an additional concentrated load of 75 pounds is applied in the same area of the same sash member in the direction perpendicular to the plane of the glass toward the interior side of the window. With the load removed, apply the manipulation test described in *subsection (d), paragraph (3), Test H, above.*

TEST C.

With the sliding sash in the normal position, a concentrated load of 200 pounds shall be applied separately to each sash member incorporating a locking device, at a point on the sash member within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the window, while simultaneously, an additional concentrated load of 75 pounds is applied to the same area of the same sash member in the direction perpendicular to the plane of the glass toward the exterior side of the window. With the load removed, apply the manipulation test described in *subsection (d), paragraph (3), Test H, above.*

TEST D.

With the sliding sash lifted upward to the full limit within the confines of the window frame, a concentrated load of 200 pounds shall be applied separately to each sash member incorporating a locking device, at a point on the sash within six inches of the locking device, in the direction parallel to the plane of glass that would tend to open the window. With the load removed, apply the manipulation test described in *subsection (d), paragraph (3), Test H, above.*

TEST E.

With the sliding sash lifted upward to the full limit within the confines of the window frame, a concentrated load of 200 pounds shall be applied separately to each sash member incorporating a locking device, at a point on the sash within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the window, while simultaneously, an additional concentrated load of 75 pounds is applied to the same areas of the same sash member in the direction perpendicular to the plane of the glass towards the interior side of the window. With the loads removed, apply the manipulation test described in *subsection (d), paragraph (3), Test H, above.*

TEST F.

With the sliding sash lifted upward to the full limit within the confines of the window frame, a concentrated load of 200 pounds shall be applied separately to each sash member incorporating a locking device, at a point on the sash member within six inches of the locking device, in the direction parallel to the plane of the glass that would tend to open the window, while simultaneously, an additional concentrated load of 75 pounds is applied to the same area of the same sash member in the direction perpendicular to the plane of the glass toward the exterior side of the window. With the load removed, apply the manipulation test described in *subsection (d), paragraph (3), Test H*, above.

TEST G.

For inside sliding windows, repeat Test F while simultaneously applying a concentrated load of 25 pounds inward at the end of the movable bottom rail near the meeting stile opposite the lock stile. For outside windows, repeat Test F while simultaneously applying a concentrated load of 25 pounds in the same direction as the perpendicular load inward at the end of the movable bottom rail near the meeting stile opposite the lock outward.

TEST H.

Perform the disassembly and manipulation test as described in *subsection (d), paragraph (3), Test I*, above.

- b. The tests for Types B and C window assemblies shall be performed in the following order:

TEST A.

With the swinging sash in the normal position, apply a concentrated load of 100 pounds within three inches of each end of the rail or stile which is opposite the hinged side, in the direction perpendicular to the plane of the glass that would tend to open the window.

TEST B.

Repeat Test A and simultaneously apply a concentrated load of 100 pounds on the outside within one inch of the end of the stile or rail which is opposite the hinged side, in a direction parallel to the plane of the glazing which would tend to disengage the lock.

TEST C.

With the swinging sash in the normal position, apply a concentrated load of 200 pounds on the rail or stile containing the locking device within six inches of the lock.

TEST D.

Repeat Test B while simultaneously applying Test C. The manipulation test described in *subsection (d), paragraph (3), Test H*, above, shall be applied in Tests A, B, and D to the sash with the load removed.

TEST E.

Perform the disassembly and manipulation test as described in *subsection (d), paragraph (3), Test I*, above.

- c. Tests for Type D window assemblies shall be performed in the following order:

TEST A.

With the sash in the normal position, simultaneously apply a concentrated load of 100 pounds within three inches of the ends of each rail or stile which is perpendicular to the pivot sides in the direction that would tend to open the sash.

TEST B.

With the sash in the normal position, apply a concentrated load of 100 pounds on the rail or stile containing the pivot within one inch of the pivot in a direction parallel to the pivots.

TEST C.

Repeat Test B applying the load to the opposite rail or stile.

TEST D.

With the sash in the normal position, apply a concentrated load of 200 pounds on the rail or stile containing the locking device within six inches of the lock.

TEST E.

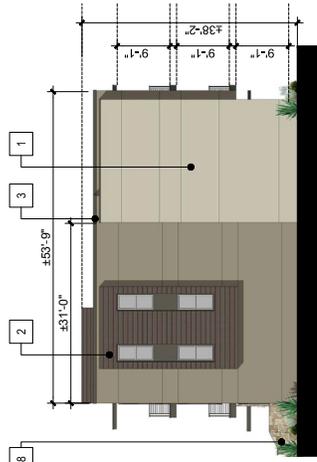
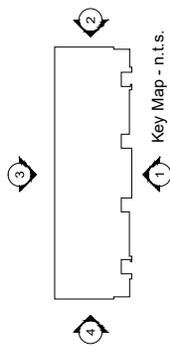
Repeat Test D while simultaneously applying the load specified in Test B. Repeat Test D while simultaneously applying the load specified in Test C above. The manipulation test described in *subsection (d), paragraph (3), Test H,* above, shall be applied in Tests A, B, C and D above to the sash with the load removed.

TEST F.

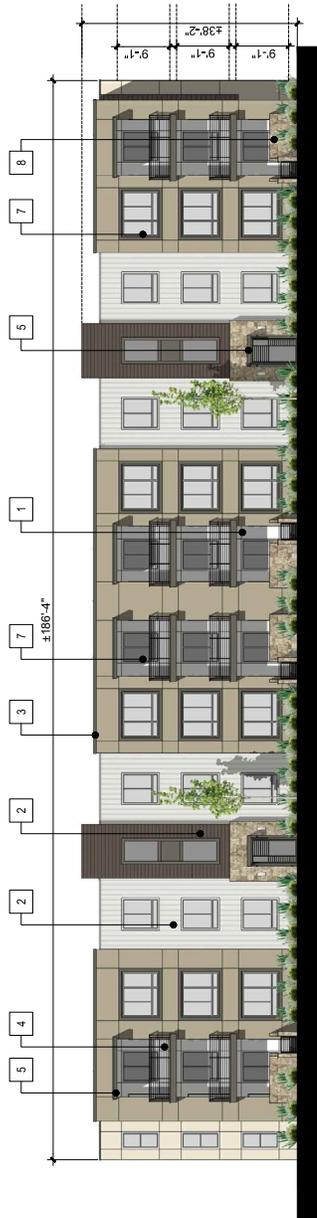
Perform the disassembly and manipulation test as described in *subsection (d), paragraph (3), Test I,* above.

- d. A window assembly shall fail these tests if at any time during or after the tests, the assembly does not remain engaged, intact, and in the closed and locked position, or by manipulating an exposed component; or, if one can enter through displaced or damaged portions.
- e. The report shall contain a description of the results of the test performed in accordance with the test methods above. The report shall include the following: Identification of the samples tested; type, location, and number of anchors; type and thickness of glazing material, and an indication of whether or not the subject passed the test. The report shall also indicate at what point the assembly fails. The test report shall be certified to be a true copy by the testing laboratory and shall be forwarded direct from the laboratory to the enforcing authority.
- f. After September 1, 1979, all window assemblies utilized under this code, shall have affixed to each, a performance label identifying the following:
 - i. Manufacturer of product by name.
 - ii. Testing laboratory.
 - iii. Certification that the product complies With Section XVI, California Model Building Security Ordinance.

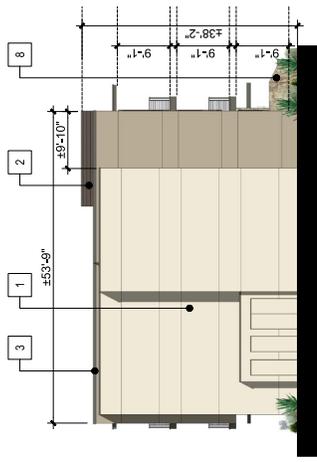
- Material Legend**
- 1. Stucco
 - 2. Wood Siding
 - 3. Trim
 - 4. Metal Railing
 - 5. Metal Awning
 - 6. Sectional Garage Door
 - 7. Vinyl Windows
 - 8. Stone Veneer



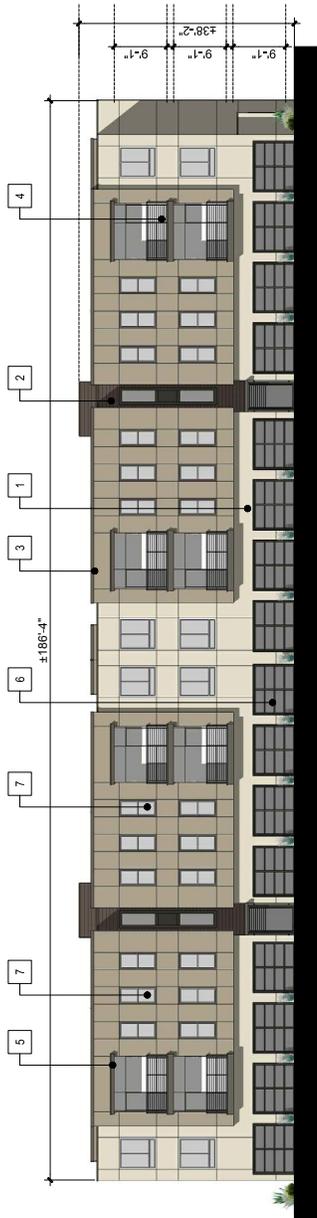
2. Type i - Right Elevation



1. Type i - Front Elevation



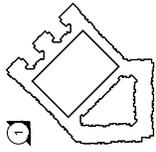
4. Type i - Left Elevation



3. Type i - Rear Elevation



Low-Rise Building Type, Building i Conceptual Elevations



Key Map - n.i.s. ⊕

- Material Legend**
1. Stucco
 2. Wood Siding
 3. Stone Veneer
 4. Trim
 5. Glass Railing
 6. Metal Railing
 7. Metal Awning
 8. Metal Panel
 9. Vinyl Windows
 10. Storefront Windows



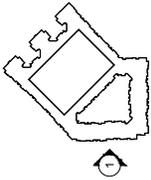
1A. Northwest Elevation - left



1B. Northwest Elevation - right

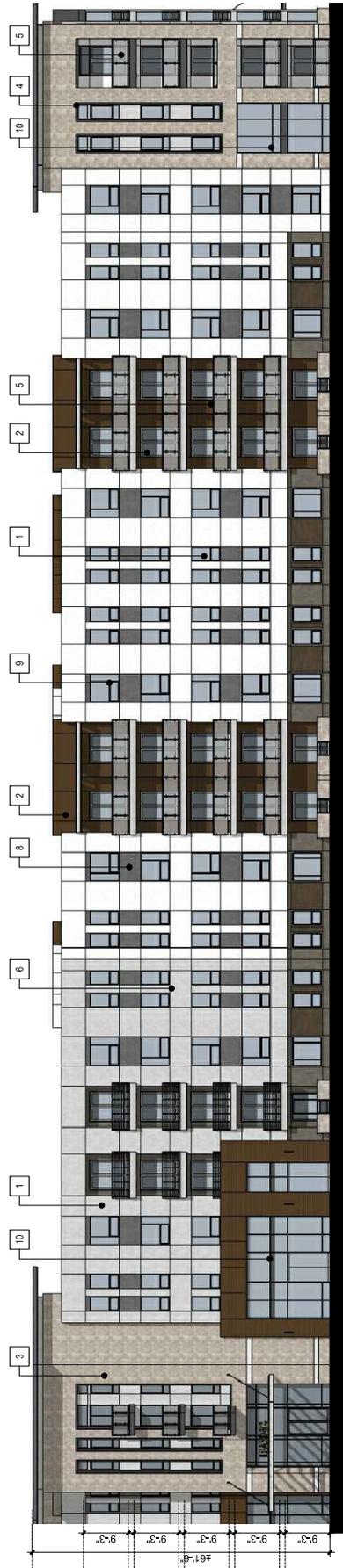


Mid-Rise Building Type, Wrap Building Conceptual Northwest Elevation



Key Map - n.t.s. ⊕

- Material Legend**
- 1. Stone Veneer
 - 2. Wood Siding
 - 3. Stone Veneer
 - 4. Trim
 - 5. Glass Railing
 - 6. Metal Awning
 - 7. Metal Awning
 - 8. Metal Awning
 - 9. Storefront Windows
 - 10. Storefront Windows



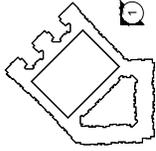
1. West Elevation



2. South Elevation



Mid-Rise Building Type, Wrap Building Conceptual West and South Elevations



Key Map - n.t.s. ⊕

- Material Legend**
1. Stucco
 2. Wood Siding
 3. Stone Veneer
 4. Trim
 5. Glass Railing
 6. Metal Railing
 7. Metal Panel
 8. Vinyl Windows
 10. Storefront Windows



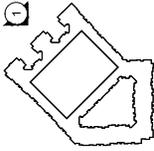
1A. Southeast Elevation - left



1B. Southeast Elevation - right



Mid-Rise Building Type, Wrap Building Conceptual Southeast Elevation

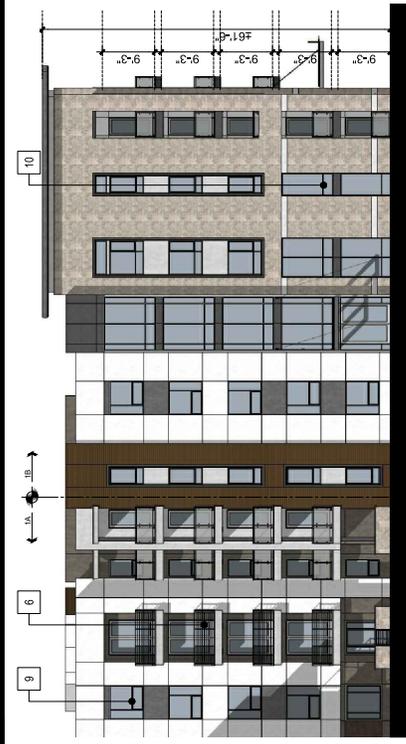


Key Map - n.i.s. ⊕

- Material Legend**
1. Stucco
 2. Wood Siding
 3. Stone Veneer
 4. Trim
 5. Glass Railing
 6. Metal Railing
 7. Metal Awning
 8. Metal Panel
 9. Metal Windows
 10. Storefront Windows



1A. Northeast Elevation - left



1B. Northeast Elevation - right



Mid-Rise Building Type, Wrap Building Conceptual Northeast Elevation



1. Type C - Front Perspective



1. Type C - Rear Perspective

Low-Rise Building Type, Building C Conceptual Front and Rear Perspectives



1. Type i - Front Perspective



1. Type i - Rear Perspective

Low-Rise Building Type, Building i Conceptual Front and Rear Perspectives



Mid-Rise Building Type, Wrap Building Conceptual Entry Perspective



Mid-Rise Building Type, Wrap Building Conceptual Northwest Perspective



Mid-Rise Building Type, Wrap Building Conceptual Southeast Perspective

D

APPENDIX

Fire Protection Plans

Fire Behavior Analysis Report

Fire Behavior Analysis Report Fuel Modification Design Criteria

West Alton Parcel



Prepared for:
County of Orange

Prepared By:



September 10, 2015

Table of Contents

Purpose of Report	3
Geographic Description	3
CAL FIRE Local Responsibility Area Very High Fire Hazard Severity Zone Map.....	4
Fire History	5
Fire Behavior	8
Wildland Interface Fuel Types	8
Fuels Summary	10
Wind Patterns and Weather Inputs	12
BehavePlus Fire Behavior Inputs and Results:	20
Fire Behaviour Summary	24
Fuel Modification Zones/Fire Protection Features	26
Report Summary	29
Appendix A.....	30
Plant Palette	30
Appendix B	41
Site Photos	41
Appendix C	59
Project Site Sections	59
Appendix D.....	62
Behave Reports.....	62

Purpose of Report

Firesafe Planning Solutions performed an assessment of the risks related wildland fire and established the appropriate criteria for the design of a defensible space installation and maintenance program that will reduce the intensity of a wildfire approaching the West Alton Parcel residential community. This report will provide the results of the assessment and provide objective support of the defensible space installation and maintenance program for this community that is equal to or greater than the risk which would be encountered in a worst case scenario. The study takes into consideration existing/future vegetative interface fuels, topography, and weather conditions during a fire. The report provides results of computer calculations that measured the fire intensity from a worst case scenario wildfire in both the extreme (Santa Ana- NE wind) and the predominant (Onshore – Southwest to West wind) conditions. The results of fire behavior calculations have been incorporated into the fire protection design built into the West Alton Parcel development.

Geographic Description

The West Alton Parcel site is located adjacent to a Very High Fire Hazard Severity Zone in the undeveloped area to the north and northeast of the project site. The West Alton Parcel Project proposes to develop a maximum of 803 single-family dwellings on approximately 32.32 acres located within the Irvine City limits but owned by the County of Orange. The proposed dwellings, parks, open space and associated infrastructure would occupy approximately 36.29 acres.



Figure 1

The project is divided into four neighborhoods as described below and shown in Figure 1 on the previous page:

- Neighborhood A (northwesterly-most neighborhood) – 6.8 acres/ 131 dwelling units
- Neighborhood B (Large wrap building) – 7.3 acres/ 347 dwelling units
- Neighborhood C (northeasterly neighborhood) – 5.9 acres/ 95 dwelling units
- Neighborhood D (south of W/L corridor) – 10.34 acres/ 230 dwelling units

The project site is bisected by a wildlife corridor (Figure 1). The wildlife corridor is currently maintained by the County of Orange. However, control will turn over to the City of Irvine and will be maintained by the city’s open space managers. The property to the north is owned by the Federal Bureau of Investigation.

CAL FIRE Local Responsibility Area Very High Fire Hazard Severity Zone Map

As shown in Figure 2 and Figure 3, the project site is in the Local Responsibility Area (SRA) as identified by CAL FIRE per state law and is immediately adjacent to a Very High Fire Hazard Severity Zone of that map.

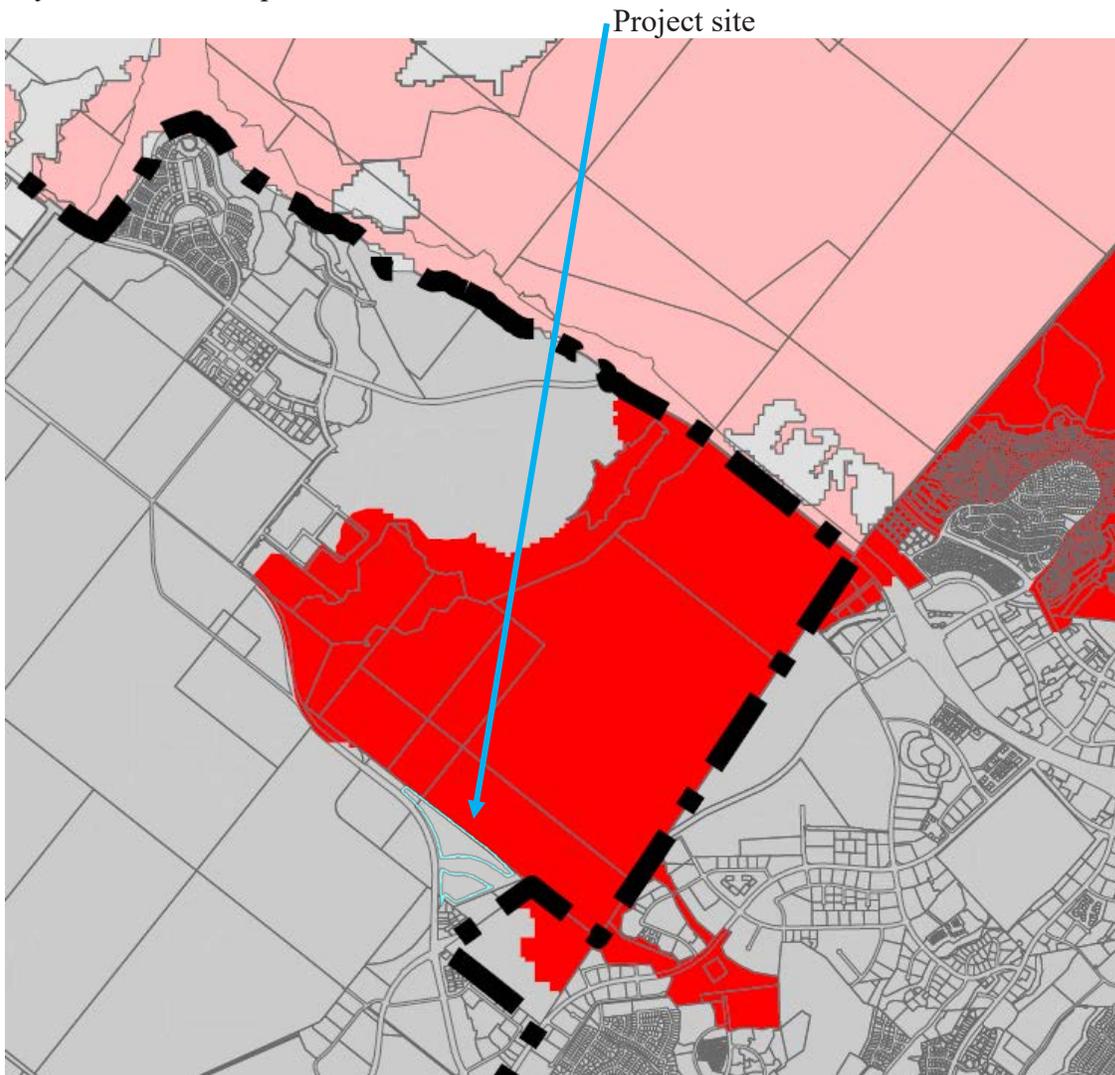


Figure 2 – CalFire Very High Fire Hazard Severity Zone Map

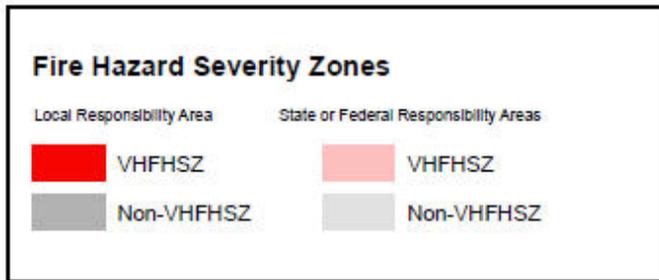
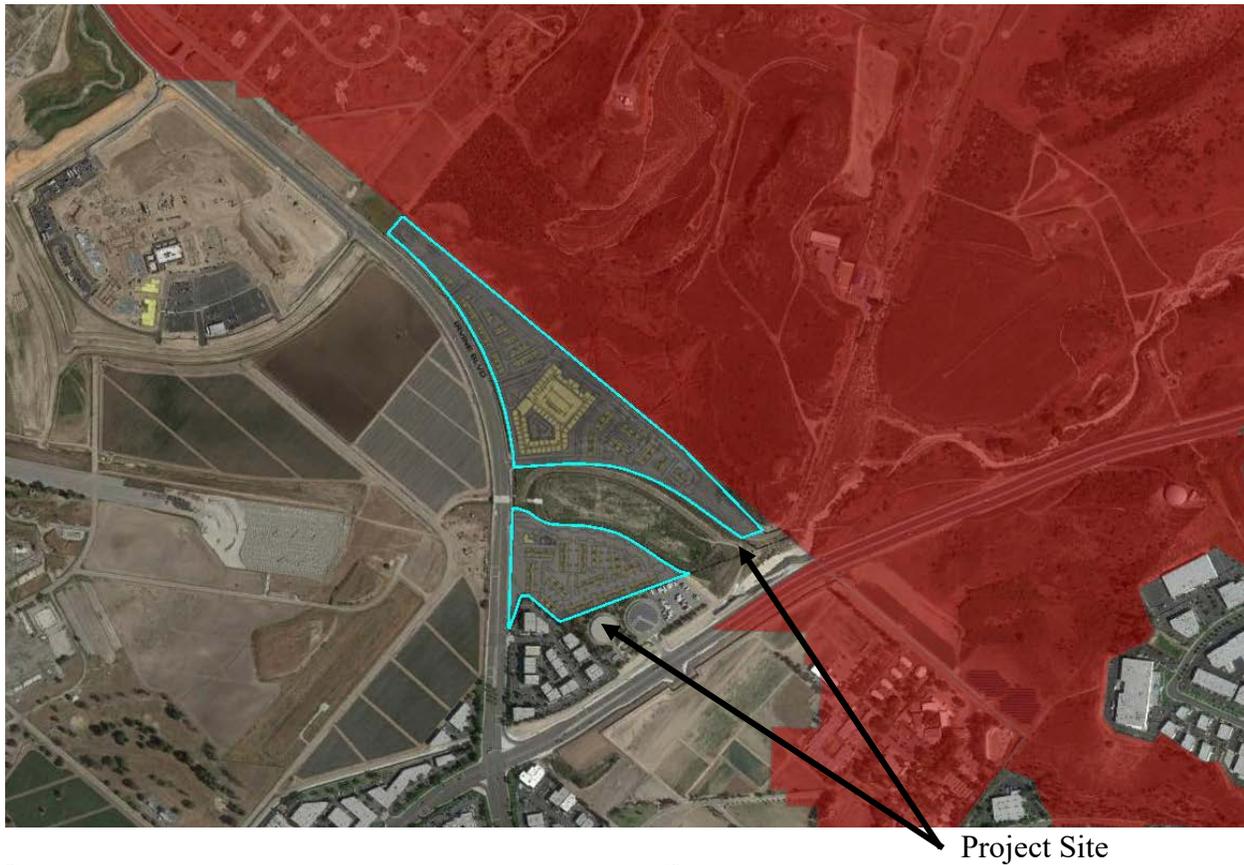


Figure 3 * Fire Hazard Severity Zones Map

The project is immediately adjacent to but not within the Fire Hazard Severity Zone.

Fire History

A historic fire corridor exists to the north and northeast of the project site. Five large fires have burned to within 2 miles of the project site within the CalFire database which has been collecting fire perimeter data since the 1940’s. These fires are as follows:

Year	Name	Acreage	Date Started
1926	No Name Fire	9,934 acres	
1931	No Name Fire	7,760 acres	
1948	Green River	53,080 acres	
1967	Paseo Grande	51,076 acres	10/29/1967
2007	Santiago Fire	28,429 acres	10/21/2007

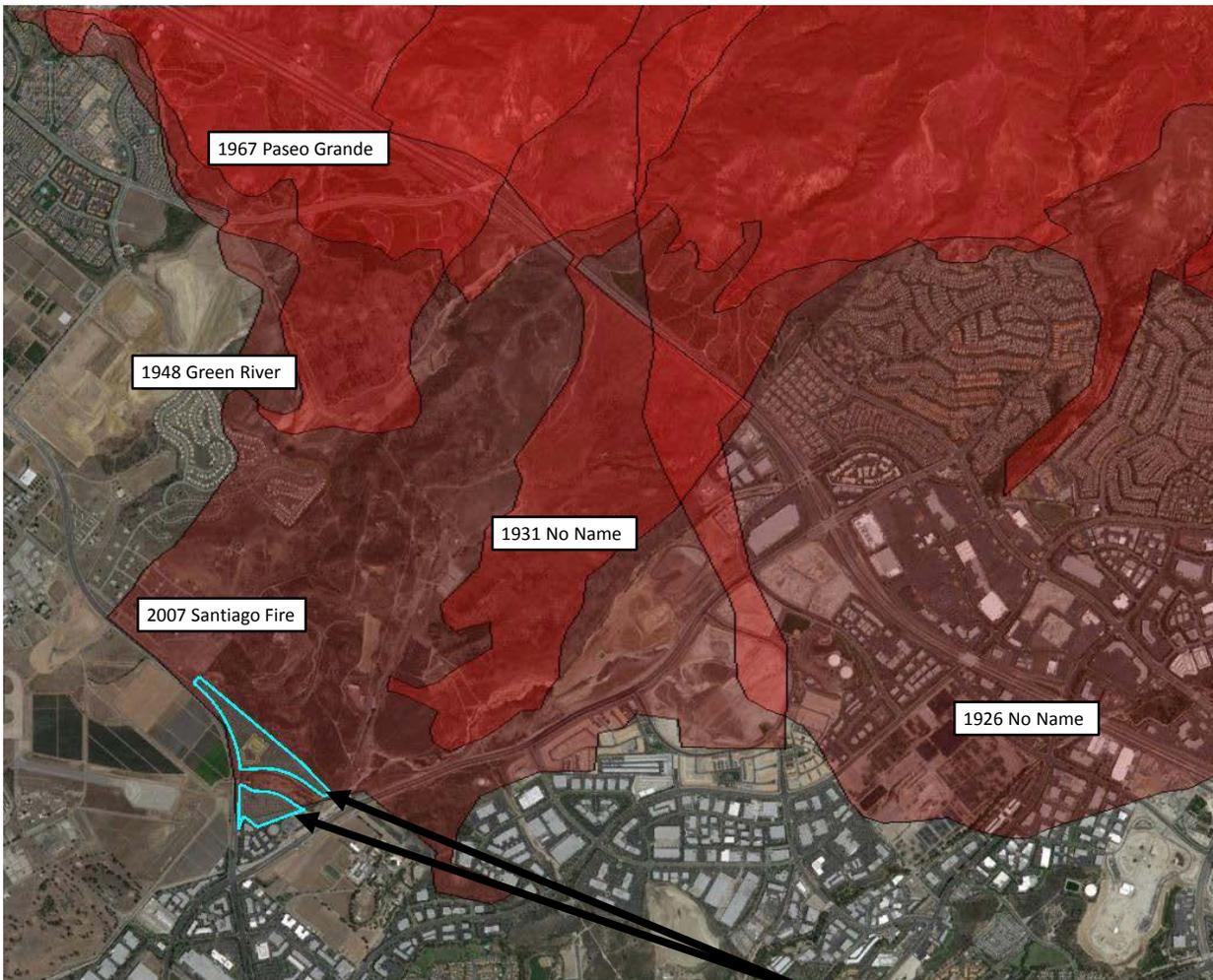


Figure 4 – Fire History Map Project Site

Fire perimeters, as they relate to the project site, are shown in Figure 4 above. Not much is known about the two No Name fires in 1926 and 1931. The other three are fairly well documented.

November 8, 1948; The Green River Fire started along Santa Ana Canyon, about 4.5 miles south of Corona, and burned through 10 miles of mostly open land before the winds picked up (over 50 mph). The fire burned more than 53,000 acres and 22 homes were destroyed.

October 29, 1967; The Paseo Grande Fire, believed to have been started by children playing with matches and fanned by 50-mph winds, scorched 50,000 acres and destroyed 66 homes valued at more than \$2.5 million in the Lemon Heights-Santa Ana Canyon-Cowan Heights area.

October 21, 2007; The Santiago Fire originated near Santiago Canyon Road at the border of Santiago Canyon and Silverado Canyon and burned approximately 28,000 acres. The flames threatened roughly 750 homes located throughout canyons, including Santiago Canyon, Silverado Canyon, Live Oak Canyon, Holy Jim Canyon, Modjeska Canyon, and Trabuco Canyon. Twelve houses were destroyed. In the newer communities of Foothill Ranch, Santiago Canyon Estates, and Portola Hills, the fire reached the back yards of houses, but no homes were destroyed in these neighborhoods due to fuel modification and increase building standards.



Figure 5 – Enlargement of Fire History Map

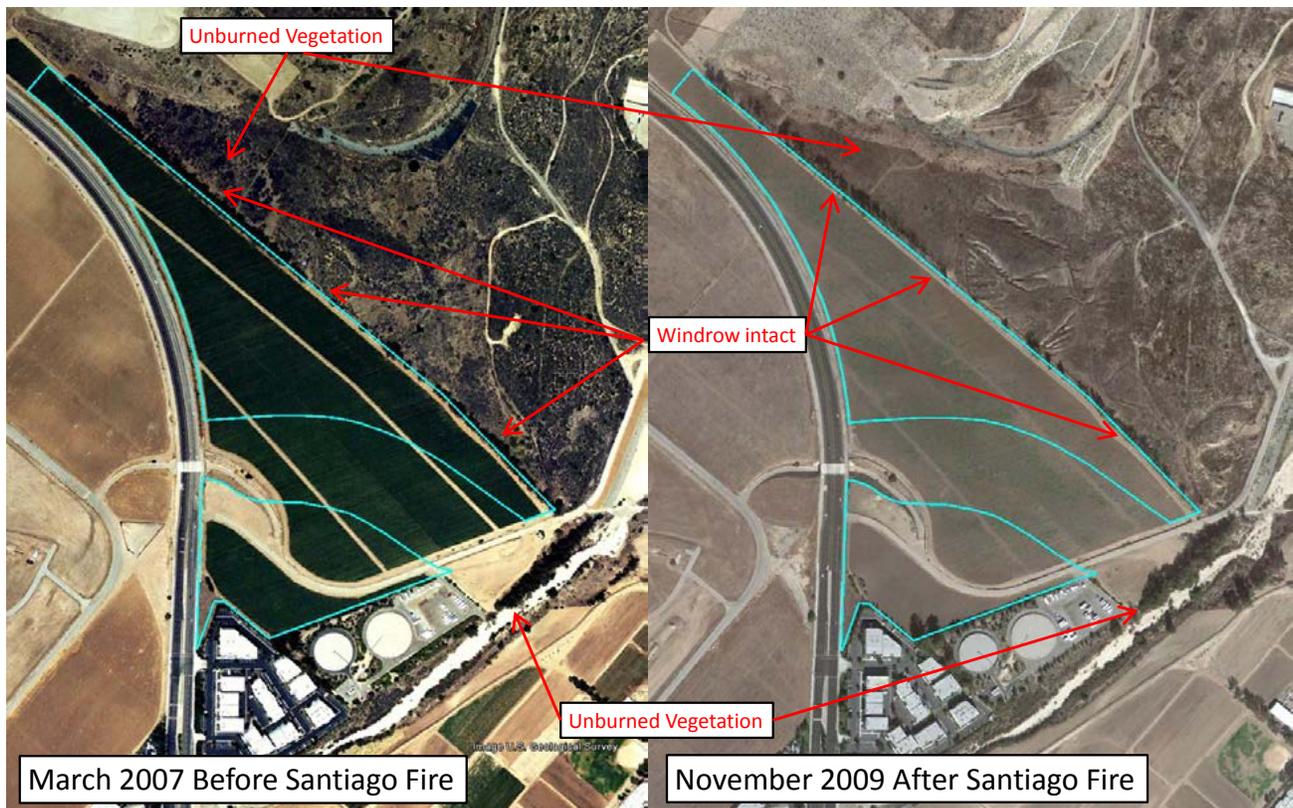


Figure 6 – Vegetation Comparison Before and After Santiago Fire - 2007

While the fire perimeter shown in Figure 5 indicates that the 2007 Santiago Fire burned to Irvine Blvd at this location, Figure 6 clearly shows that this did not occur. The fire may have burned up to the eucalyptus windrow but did not pass over the areas which were in agricultural use at the time (the entire project site). The fire at the project site interface did not consume the windrow and it appears that some of the natural vegetation on the FBI property did not burn either. This fire was running out of fuel, speed and intensity when it interfaced with the project site.

Fire Behavior

Firesafe Planning Solutions used a computer software program titled, “BehavePlus Fire Modeling System 5.0.4” to predict the level of wildfire intensity for a fire approaching West Alton Parcel. BehavePlus, is a fire behavior prediction and fuel modeling system and is one of the most accurate methods for predicting wildland fire behavior. The BehavePlus fire behavior computer modeling system is utilized by wildland fire experts nationwide. Vegetative fuels are recognized as fuel models within the BehavePlus program. The fuel models in the computer program, are also referenced from the book titled, “Aids to Determining Fuel Models for Estimating Fire Behavior”. The fuel models were designed to aid in determining fuel types and are used in calculating and estimating fire behavior. We used BehavePlus to measure the intensity of a fire moving towards this development.

The fire model describes the fire behavior only within the flaming front of the fire. The primary moving force in the fire is dead fuel less than ¼” in diameter. These are the finest fuels that carry the fire. Fuels larger than ¼” contribute to fire intensity, but not necessarily to fire spread as much as the fine fuels. The BehavePlus fire model describes a wildfire spreading through surface fuels, which are the burnable materials within 6’ of the ground and contiguous to the ground.

This type of modeling will demonstrate that the proposed protection is the best fire defense system for West Alton Parcel project. The Modeling will show that the structures are significantly further away than the most extreme flame lengths and intensity that would be produced. Instead of estimating with the exact fuel models for calculating fire behavior, we have used worst case scenario factors and fuel models to ensure a further safety cushion in the computer fire behavior calculations and results analysis.

BehavePlus Related References:

1. Aids to Determining Fuel Models for Estimating Fire Behavior, Hal E. Anderson. General Technical Report INT-122 April 1982. United States Department of Agriculture - Forest Service, Intermountain Station, Ogden, Utah 84401.
2. BehavePlus: Fire Behavior Prediction and Fuel Modeling System - BURN Subsystem. General Technical Report INT-194. Patricia L. Andrews, United States Department of Agriculture - Forest Service, Intermountain Station, Ogden, Utah 84401

Wildland Interface Fuel Types

For the purposes of modeling in the plan, Fuel Models were used:

GR1 (101) Dry Climate Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low. Dynamic. Moisture of extinction is 15%. Fuel bed depth is 0.4 feet.

GR2 (102) Dry Climate - Moderately coarse continuous grass, average depth about 1 foot. Spread rate high; flame length moderate. Dynamic. Moisture of extinction is 15%. Fuel bed depth is 1.0 feet.

GS2 (122) Dry Climate - Shrubs are 1 to 3 feet high, moderate grass load. Spread rate high; flame length moderate. Dynamic. Moisture of extinction is 15%. Fuel bed depth is 1.5 feet.

SH2 (142) Dry Climate - Moderate fuel load (higher than SH1), depth about 1 foot, no grass fuel present. Spread rate low; flame length low. Moisture of extinction is 15%. Fuel bed depth is 1.0 feet.

TL2 (182) Fuelbed not recently burned. Fuelbed composed of broadleaf (hardwood) litter. Low load, compact. Spread rate very low; flame length very low. Moisture of extinction is 25%. Fuel bed depth is 0.2 feet.

TL3 (183) Fuelbed does not include coarse fuels. Moderate load conifer litter. Spread rate very low; flame length low. Moisture of extinction is 20%. Fuel bed depth is 0.3 feet.

SCAL18 is a southern California specific model for coastal sage scrub and Buckwheat OR dominated by coastal sage scrub AND greater than 15 years maturity OR dominated by northern mixed chaparral AND greater than or equal to 3 years maturity AND less than or equal to 12 years maturity. The vegetation has an average fuel depth of 3 feet and a moisture of extinction of 25%.

The map below shows the wildland fuels as provided by the National LANDFIRE Database provided by U.S. Department of the Interior | U.S. Geological Survey

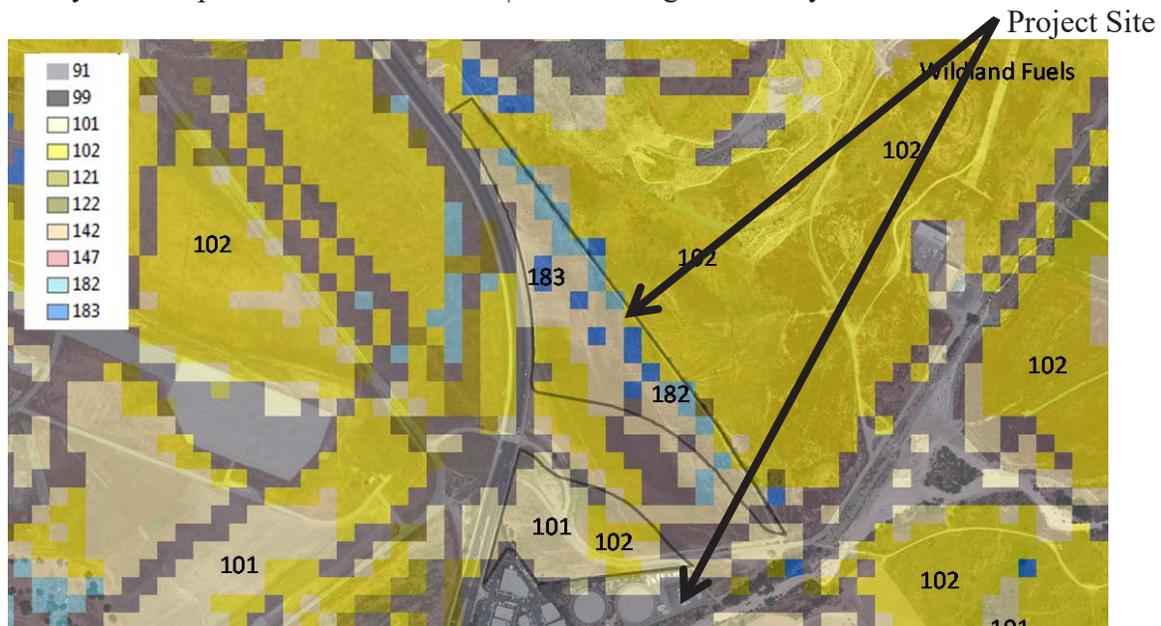


Figure 7 – LANDFIRE Fuels Map

Fuels Summary

The predominant fuels in the project site are grasses, grass/scrub mixtures and riparian areas within the Wildlife Corridor. The only locations which have area of moderate fuels are within the Wildlife Corridor. This area has been provided with supplemental watering for five years to establish the vegetation. This will be removed in the next one to two years depending on the drought situation. Only the bottom channel where water is available most of the year will continue to have moderate fuels. The edges of the corridor (project interface) will not continue to increase in fuel beyond the level of current vegetation due to a lack of water and its exposure to direct sunlight. All of the fuels within the development area will be removed and replaced with plants from the approved palette. A series of photos are used to show the predominant vegetation on the site in Appendix B of this report. The photos below illustrate the typical wildland fuels adjacent to the project site.

Photo 1 – Typical grass and herbaceous fuels



Photo 2 – Typical shrub fuels



Photo 3 – Many areas to the north and northeast have large areas of succulent plant materials



Photo 4 – The Wildlife Corridor has larger growth at the bottom (water channel).



Photo 5 – A eucalyptus windrow was cut down on the Federal property but not removed.



The work on the windrow stopped during the nesting season and is anticipated to continue once that is over.

Wind Patterns and Weather Inputs

After a review of the local weather data, the most extreme wind patterns and speeds relating to wildfires were entered into the modeling programs (BEHAVE and Wind Ninja). All other lesser wind patterns and wind speeds normally produce less fire intensity based on a fire in wildland fuels. Several weather data sites are available in the area of the project but the one closest only has two years of data so one a few miles away has been used. Since the closest data is a PWS (Private Weather Station), data from two sites have been used. First is KCALAKEF2 shown below and the second was John Wayne Airport. Five years of data was used on the PWS and seven years for the airport weather. The summary is shown and graphs are shown on the following page.

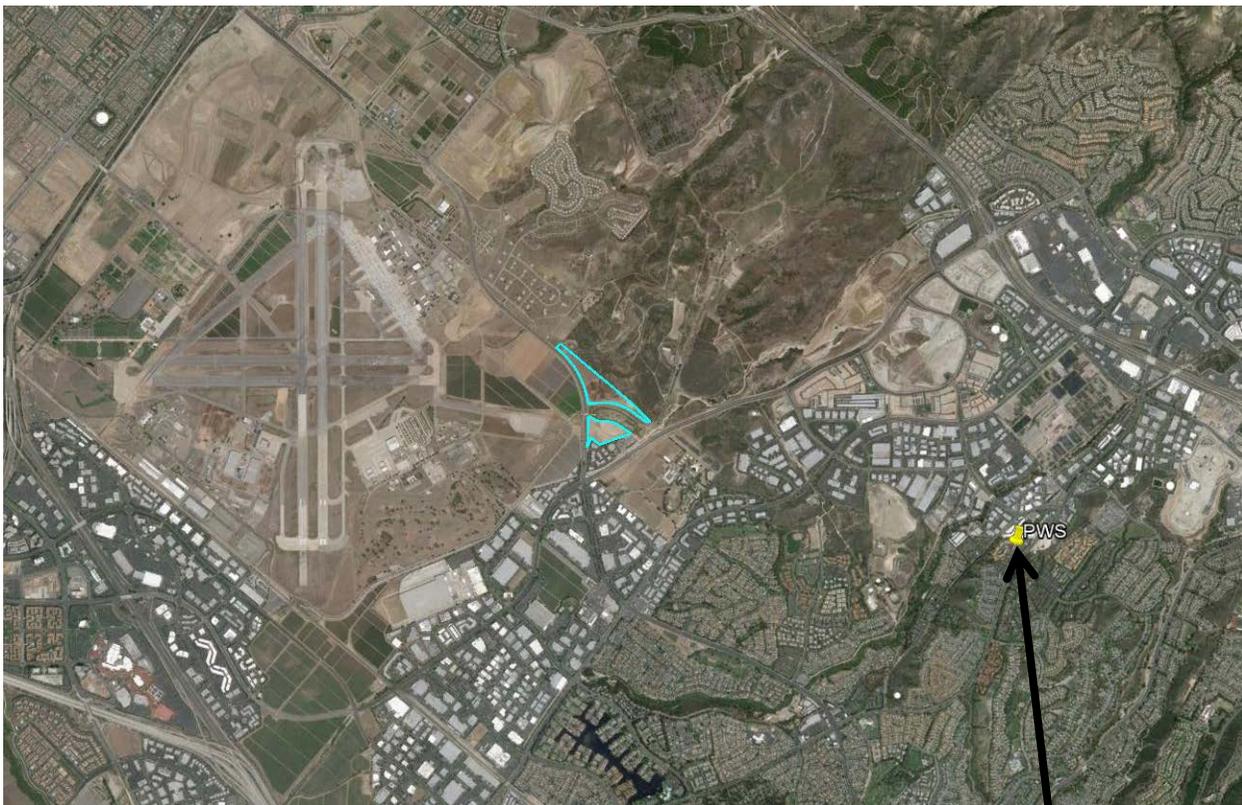


Figure 8 – Location of PWS

The weather data clearly shows the predominant wind direction is from the southwest (airport) and west (PWS). Storms come in from the northwest and the occasionally Santa Ana Wind event brings a north or northeast wind. The strongest wind gusts measured 42 mph at the PWS site and 48 mph for the airport site (2007 Santiago Fire). The lowest relative humidity was 6% but an extreme moisture scenario (3% for one hour fuels; 4% for ten hour fuels and 5% for hundred hour fuels) will be used for the worst case scenario.

Weather History for Lake Forest, CA [KCALAKEF2]

Previous Custom June 11 2009 To June 11 2015 View Next

Summary

June 11, 2009 - June 11, 2015

	High	Low	Average		High	Low	Average
Temperature	105 °F	34.6 °F	64.1 °F	Wind Speed	42 mph	--	0.8 mph
Dew Point	77.8 °F	-5.3 °F	51.3 °F	Wind Gust	42 mph	--	--
Humidity	100%	6%	67.4%	Wind Direction	--	--	WSW
Precipitation	175.46 in	--	--	Pressure	33.32 in	0 in	--

Graphs Table

Weather History Graph

June 11, 2009 - June 11, 2015

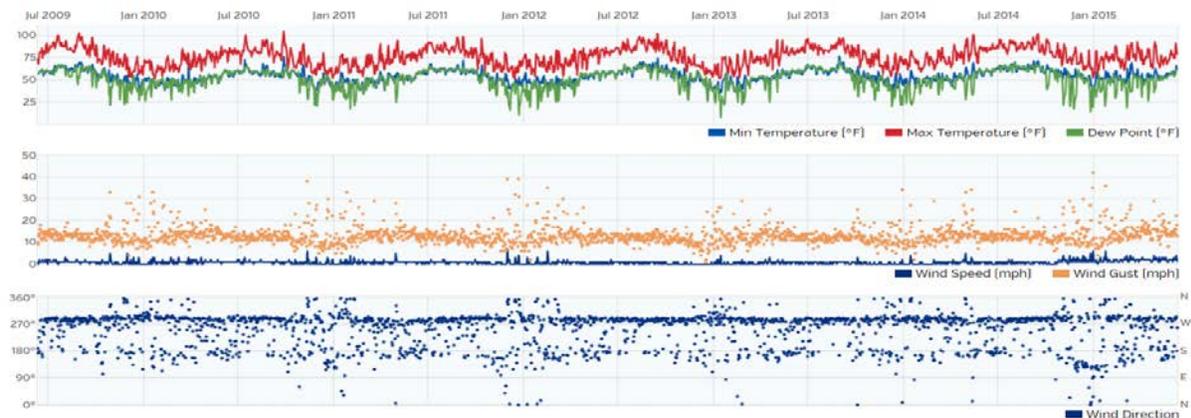


Figure 9 PWS Data (Five Years)

The bottom graph in Figure 9 shows the wind direction. At the PWS the wind comes from the west most days. Note the correlation between the wind direction shifts to the N and NE and increase in wind gust. It is easy to see each of the fall wind pattern on the graph (second from the bottom). In Figure 10 we see a similar pattern at the airport (John Wayne Airport). The bottom graph again with the direction and second to the bottom for the wind speeds. Blue dots are wind gust in this figure. This year of data (in Figure 10) includes the Santiago Fire. At the airport, the predominant wind is more SW than W but the patterns are clearly the same.

The two most extreme wind patterns/wildland fuel alignments are:

- A 50 mph north to northeast Santa Ana wind.
- A rare 30 mph dry west to southwest on-shore, for the normal prevailing wind.

Using the Wind Ninja software, the wind and the relationship to the topography has been determined to NOT be a factor with this development. No wind channeling is achieved on any wind pattern at the project site. The changes in topography at the project site are simply too minor to overcome the wind in any scenario. The predominant wind (from the west to southwest) intersection the project boundaries from developed areas where no significant wildland fuel bed exist.

January 1 2007 December 31 2007

Get History

Daily Weekly Monthly Custom

	Max	Avg	Min	Sum
Temperature				
Max Temperature	99 °F	72 °F	54 °F	
Mean Temperature	87 °F	65 °F	44 °F	
Min Temperature	74 °F	56 °F	33 °F	
Degree Days				
Heating Degree Days (base 65)	22	3	0	1109
Cooling Degree Days (base 65)	22	3	0	955
Growing Degree Days (base 50)	36	14	0	5046
Dew Point				
Dew Point	70 °F	48 °F	-13 °F	
Precipitation				
Precipitation	1.17 in	0.01 in	0.00 in	4.05 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
Wind				
Wind	31 mph	5 mph	0 mph	
Gust Wind	48 mph	20 mph	16 mph	
Sea Level Pressure				
Sea Level Pressure	30.44 in	29.99 in	29.54 in	

Custom Weather History Graph

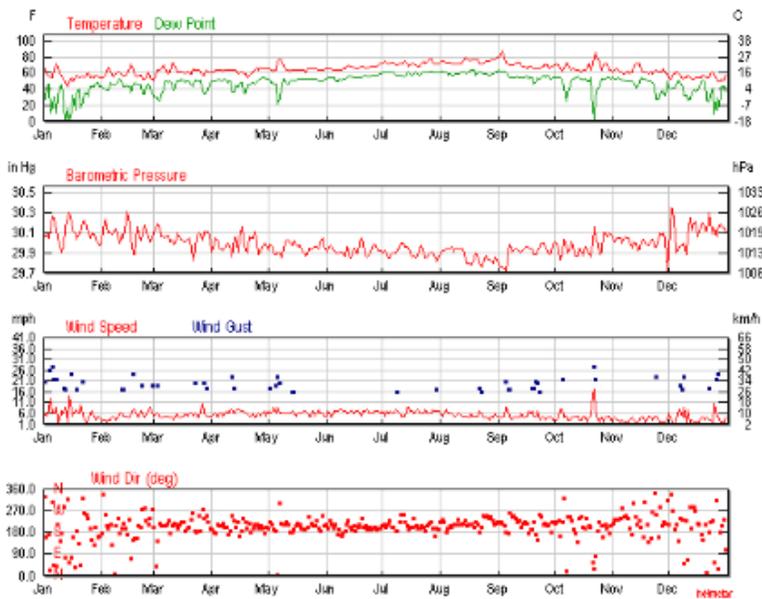


Figure 10 – Weather Data (John Wayne Airport 2007)

The graphics on the following pages show a northeast wind, a north wind, a west wind and a southwest wind. Some ridgeline acceleration (red arrows) occurs away from the development site and above the project site elevation. Some minor wind sheltering (green and blue arrows) occurs at the northern and northeastern development interface but it is minor (one to five mph). Yellow arrows are average wind speed and the modeling showed no extreme acceleration (red arrows) near the project site where structures will be built.

Northeast Wind

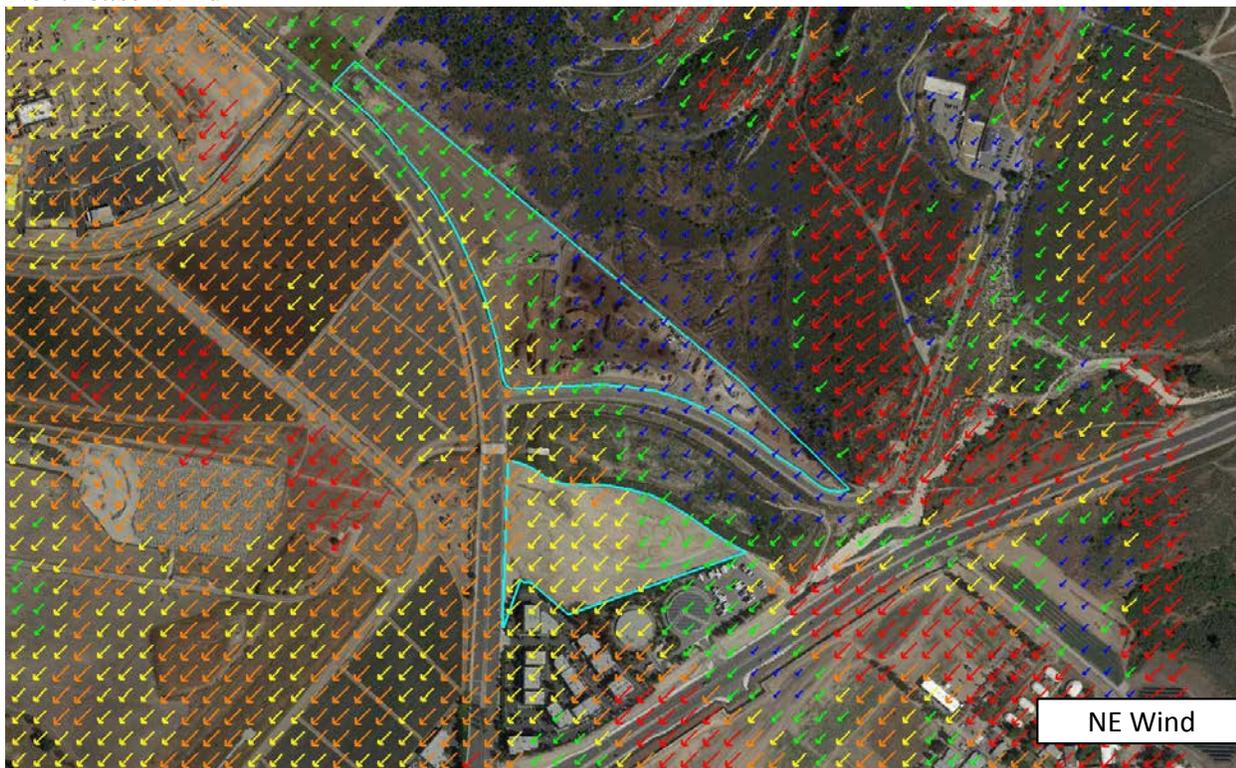


Figure 11 - NE Wind Plan View

Figure 11 shows a plan view of the site whereas Figure 12 provides an oblique the better illustrates the ridgeline acceleration. Finally, Figure 13 is an enlargement of the east end of the northern portion of the project site which shows how the accelerated winds (red arrows) are not impactful to the fuel modification zones or the proposed structures.

A North wind is shown in Figures 14-16. The North wind scenario does have wind acceleration at the interface of the project site but the area adjacent to this interface is a south aspect and lightly vegetated. The impact of this wind has been factored into the fire behavior scenarios. Figures 17-18 are a west wind scenario and Figure 19 is a SW wind. The impacts of each have been considered. The interface to the FBI property as a continuous fuelbed and is capable of being impacted by a “line of fire” and the fuel modification design guideline have taken this into account. The West and SW winds impact the project site from developed areas and not from the wildland. The only impact that these wind have on the project site is the wildlife corridor. A west wind could bring fire along the corridor but will not align on any of the structures (Figure 18). The North, NE and SW winds run across the corridor which limits that amount of fuel that is available to any fire that might start there. More on these impacts in the Fire Behavior section.

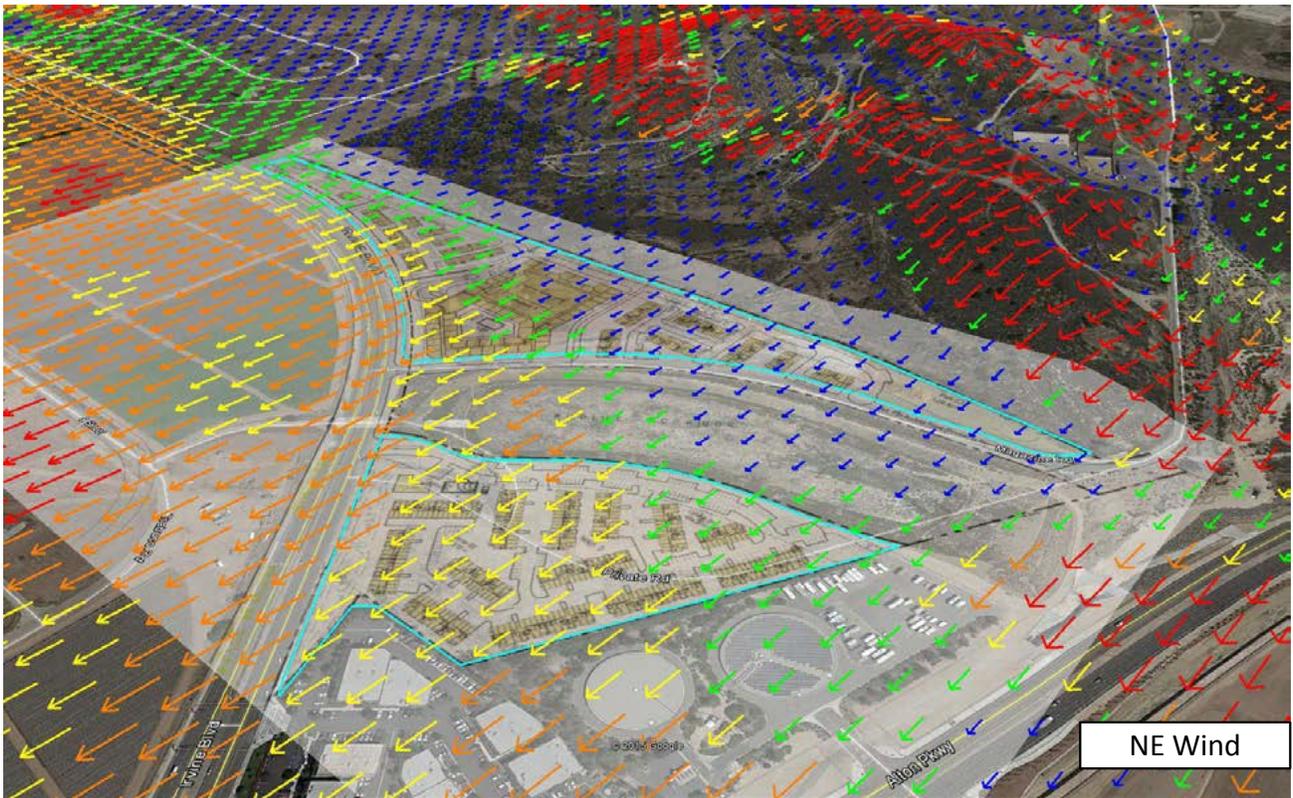


Figure 12 – NE Wind with an Oblique View

Note: No wind acceleration or wind channeling on the project site.

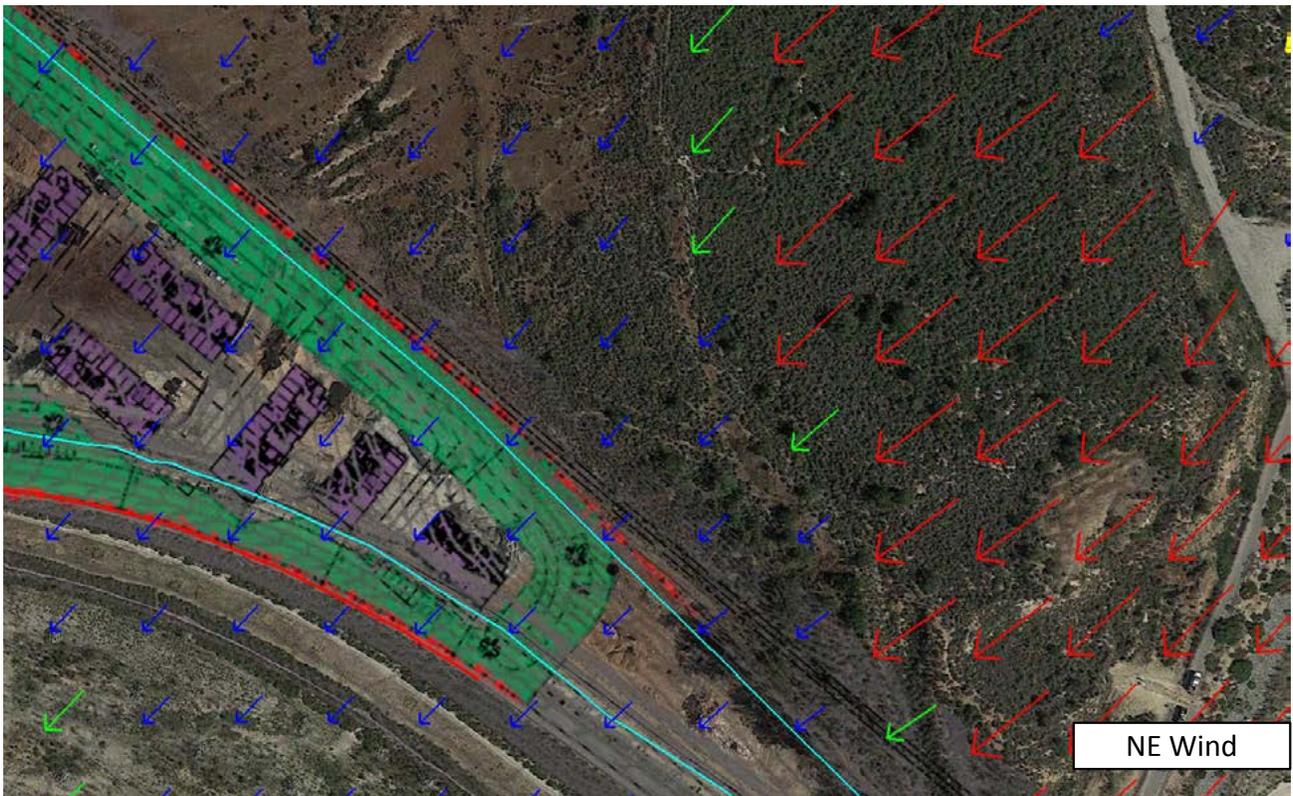


Figure 13 – NE Wind Impacts to East Interface

North Wind

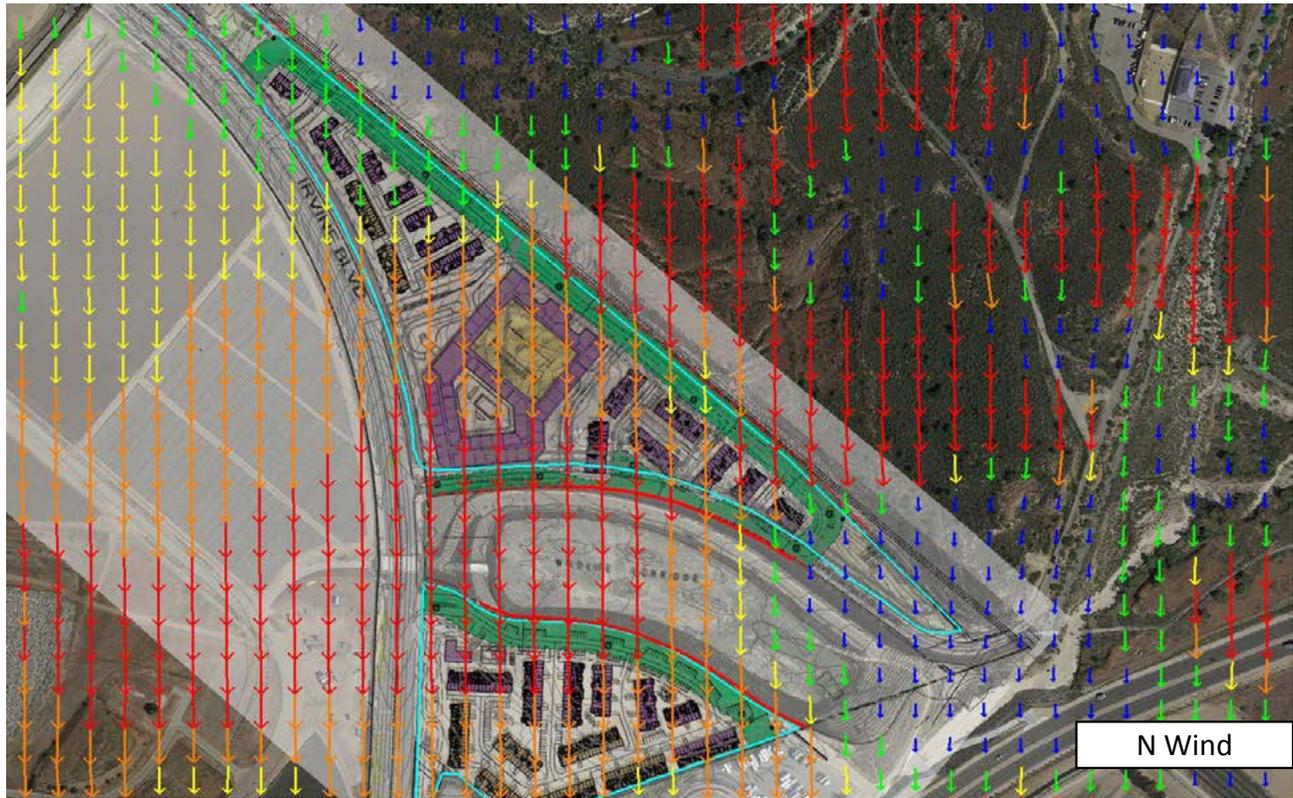


Figure 14 – North Wind

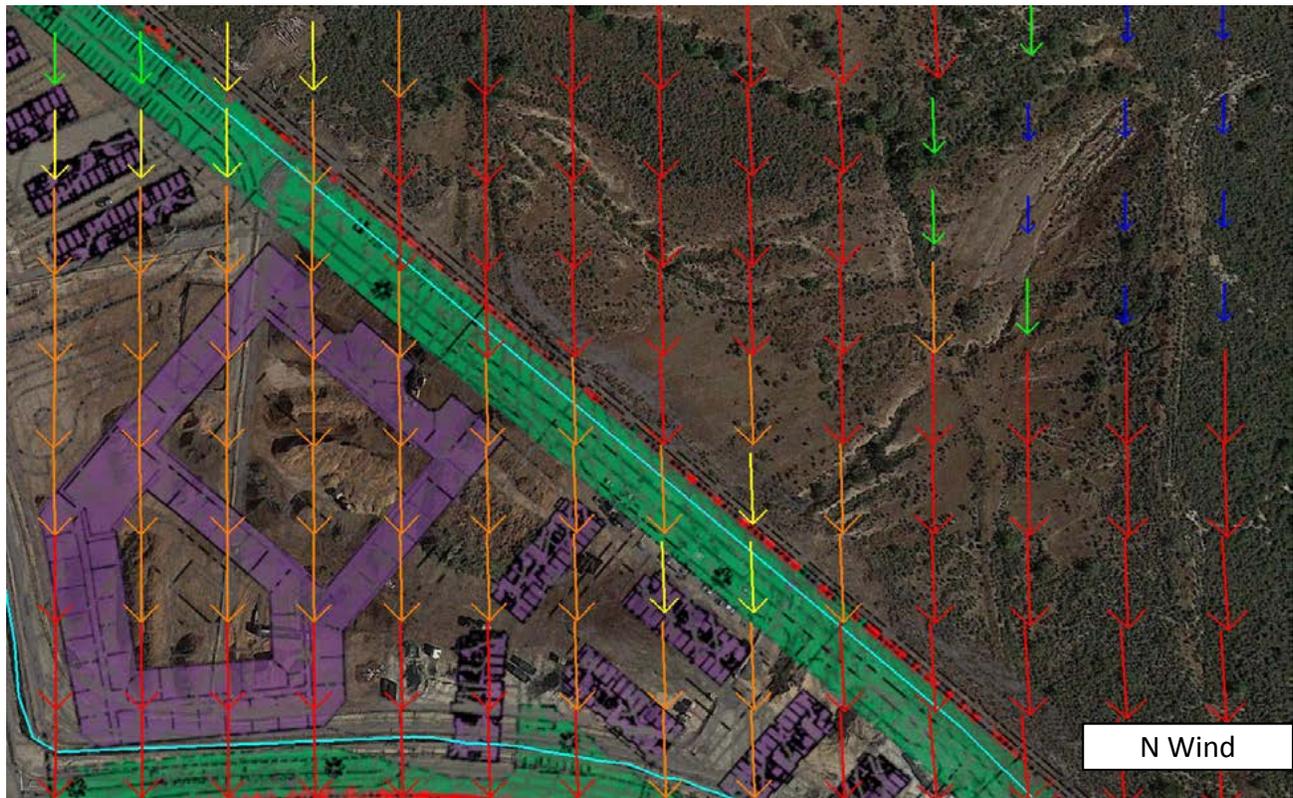


Figure 15 – North Wind Enlargement at Interface

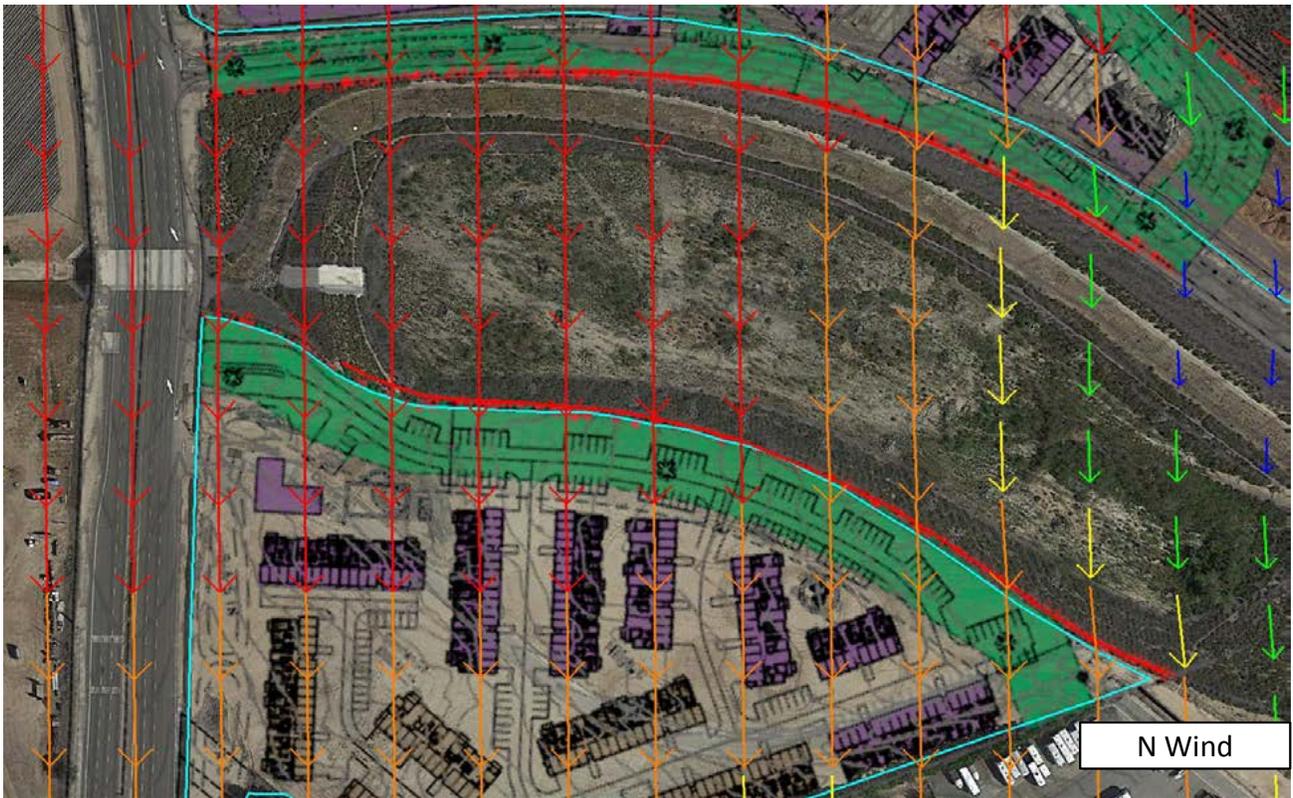


Figure 16 – North Wind at Wildlife Corridor

East Wind

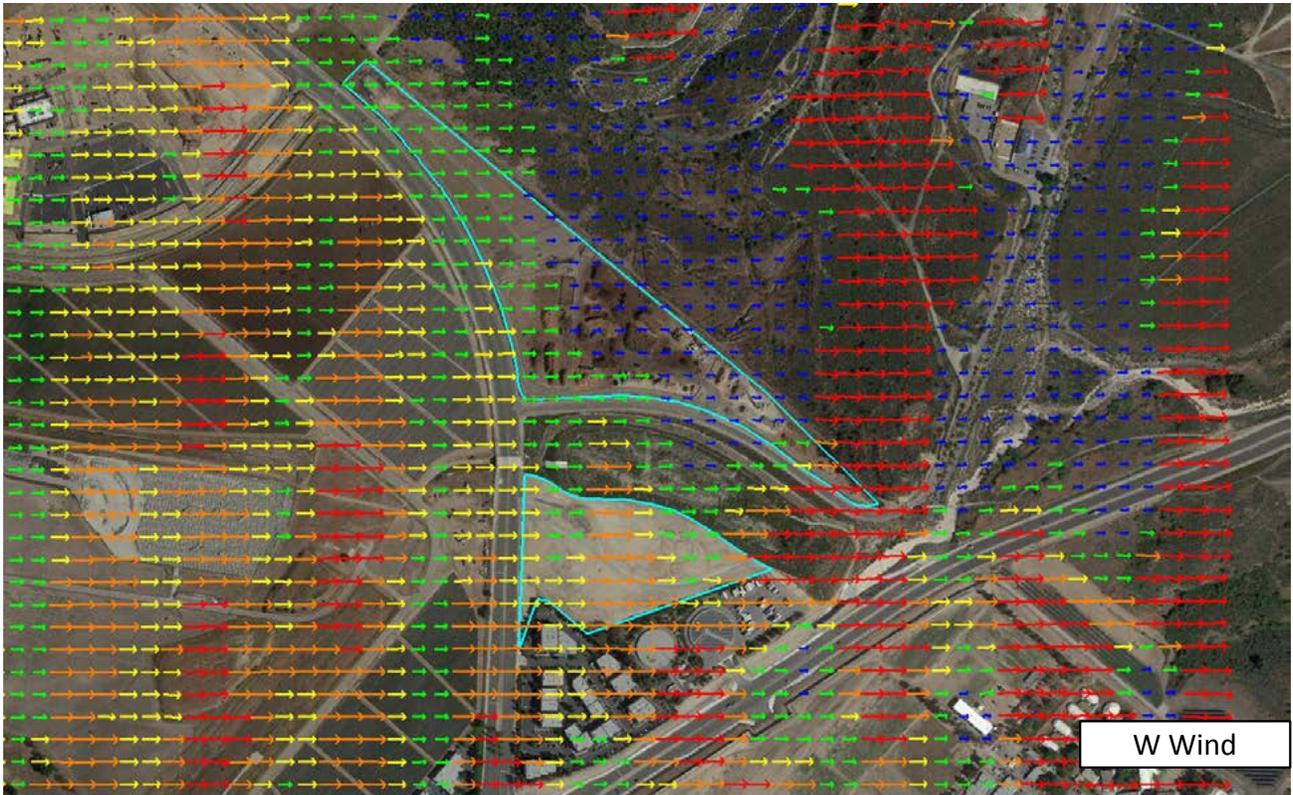


Figure 17 – West Wind



Figure 18– West Wind at Wildlife Corridor

Southwest Wind

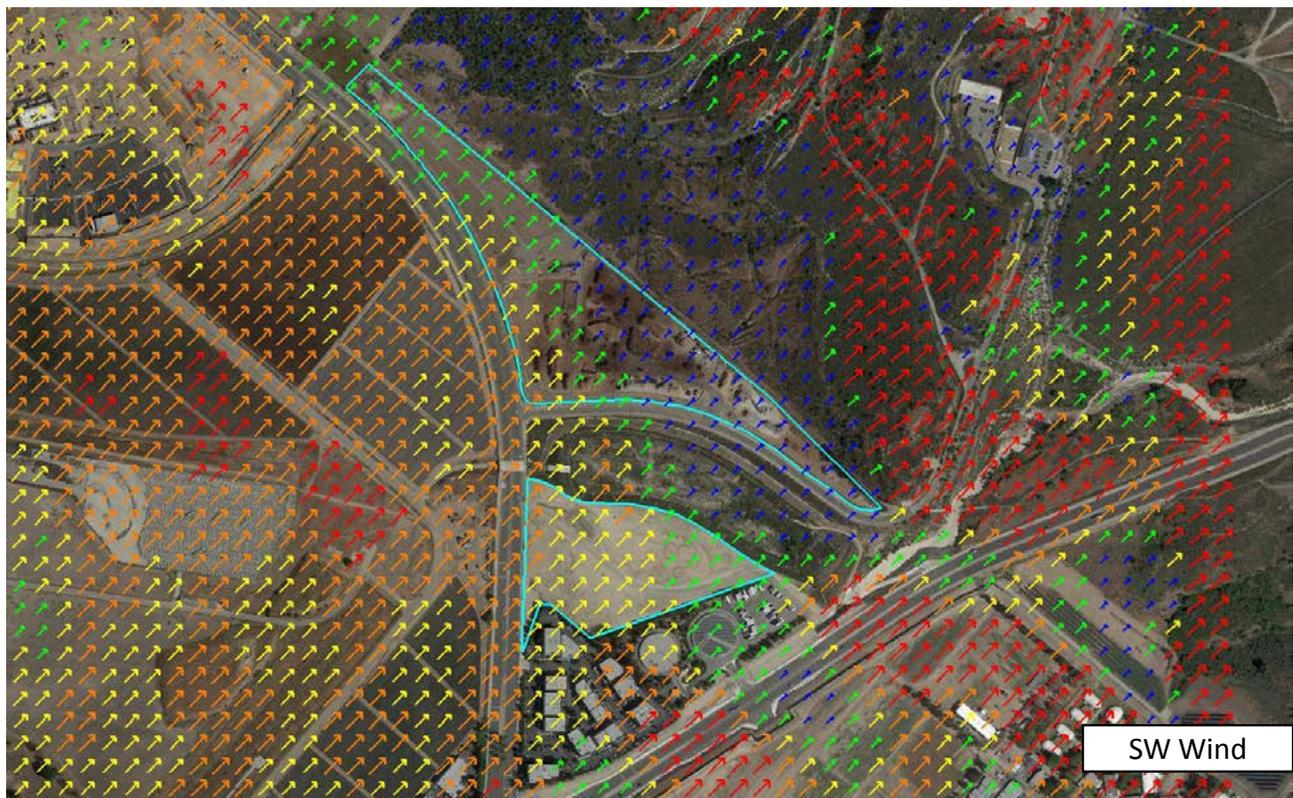


Figure 19 – Southwest Wind

Wind from the east will travel down the two canyons east of the project site as shown above. Any fire within these canyons will be influenced by the wind and by the topography of the canyon. Once again the difference in fuel load on the north and south aspects is clearly visible and it should also be noted that the slope of the northern aspects is also significantly greater.

BehavePlus Fire Behavior Inputs and Results:

Inputs for the Behave Plus Fire Behavior Model were as follows:

Moisture scenarios used are extreme. One-hour fuels at 3%, ten-hour at 4% and hundred-hour at 5%. Herbaceous live fuels are modeled at fully cured (30%) and woody fuels at 50%. Model runs have been completed for various aspects on the two wind scenarios and for an east wind with slope influences. All scenarios assumed a 50% (2:1 slope). Aspects are shown on the model scenario and the spread direction is shown in 15 degree increments to show the slope effect and when and/or if it over powers the wind.

Behave runs have been completed for both the NE Santa Ana wind and the onshore wind (SW and W winds). The moisture scenario are unchanged to simulate the rear dry onshore that can occur when the Santa Ana winds break down and on shore flow is resumed but the air immediately offshore is the dry air that has been pushed out to sea by the NE wind event. This condition is rare and only last for a short period of time as the air further out to sea, will have increased moisture level when then return to the land by the onshore breeze

BehavePlus 5.0.5 Thu, Jun 11, 2015 at 23:42:55 Page 1

Inputs: SURFACE			
Description	West Alton NE 50		
Fuel/Vegetation, Surface/Understory			
Fuel Model	gr2, gs2, sh2, SCAL18		
Fuel Moisture			
1-h Moisture	%	3	
10-h Moisture	%	4	
100-h Moisture	%	5	
Live Herbaceous Moisture	%	30	
Live Woody Moisture	%	50	
Weather			
20-ft Wind Speed	mi/h	50	
Wind Adjustment Factor		0.5	
Wind Direction (from north)	deg	45	
Terrain			
Slope Steepness	%	50	
Aspect	deg	225	
Fire			
Spread Direction (from north)	deg	0, 15, 30, 45, 60, 75, 90, 105, 1	

Figure 20

Fuel Model	
gr2	Low load, dry climate grass (D) (102)
gs2	Moderate load, dry climate grass-shrub (D) (122)
sh2	Moderate load, dry climate shrub (S) (142)
SCAL18	Sage / Buckwheat

While SCAL18 does not exist within the current interface, the federal property to the north cannot be controlled and in a worst case scenario during very wet years, it may be possible for this level of fuel to accumulate in this interface. The current and expected interface will be for a gs2 (grass/shrub fuel with moderate load).

The Behave outputs are attached in the appendixes but have been summarized here for discussion purposes. The fire that has been modeled here is a fast running wind driven fire that burns in an elliptical pattern shown below by the red arrows in Figure 21. To the right are the calculated flame lengths for each of the directions of spread for the worst case scenarios modeled. We find that a maximum flame length for SCAL18 of 40.3feet is possible at the head of the fire, when the fire is running across the slope with a continuous fuel bed that is consistent enough to produce a self-sustaining, self propagating fire. It is important to note that flames only 15 degrees out of the perfect alignment of all the factors are about one-half the size if the flaming point of the fire. Another 15 degrees drops the flame lengths to less than 1/3 of the flaming point. Fire to the flanks and backing fire are small enough to extinguished using handlines.

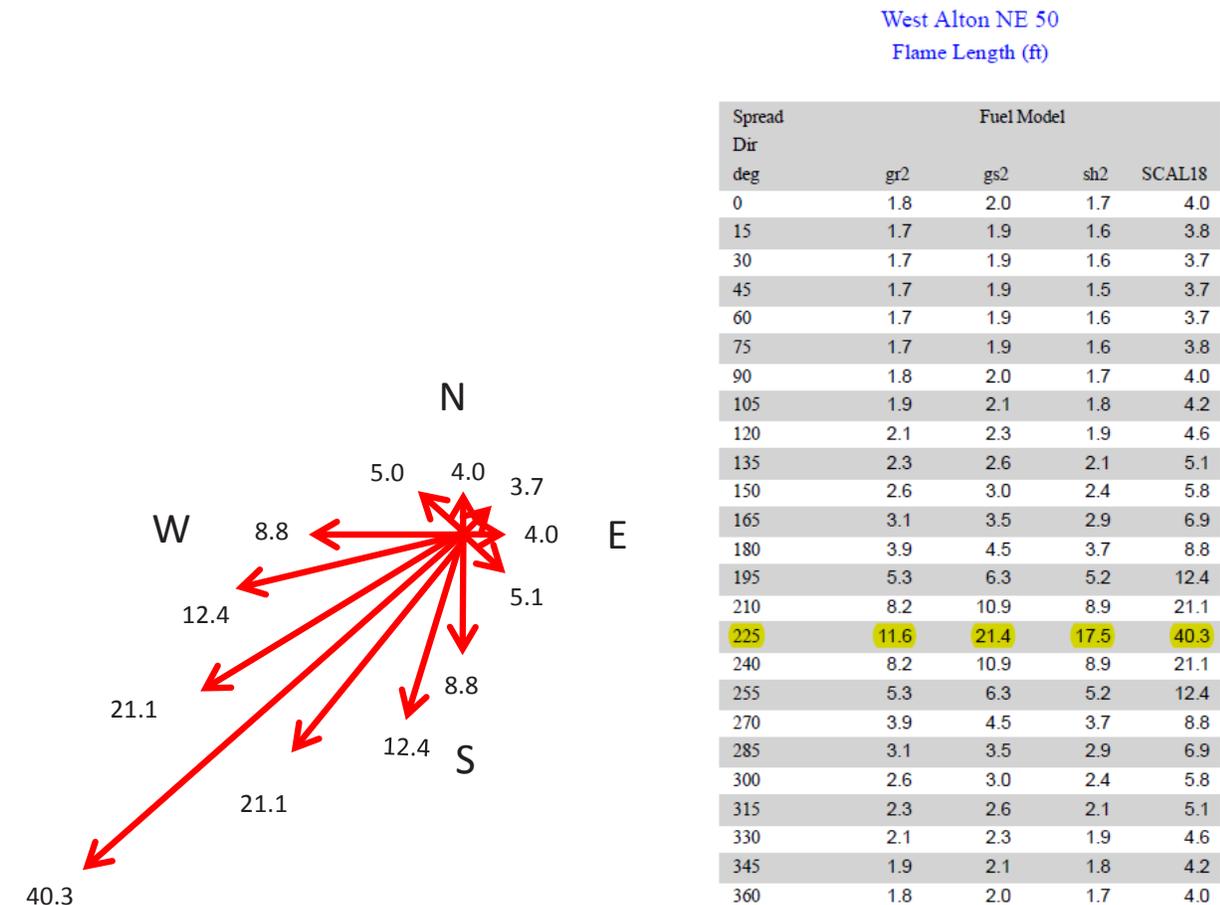


Figure 21 – Worst Case Flame Length (SCAL18)

As shown in the table in Figures 21 and 23, the gs2 has flame length of about half that of the SCAL18. The difference has several factors but in the extreme scenario the two largest factors are total fuel load and surface to volume ratios of the fuel. The gs2 has 2.6 tons of organic material per acre whereas the SCAL18 has 9.65 tons per acres. If this were the only factor, one could expect the difference to be three times rather than two but gs2 has a surface to volume ratio of 2000 for one hour fuels and SCAL18 is 640. In the Behave surface fire spread model, characteristic surface-area-to-volume (SAV) ratio constitutes the fuelbed-average SAV weighted by particle surface area. Surface-area weighting emphasizes fine fuel because finer fuel particles have larger SAV ratios which increase the rate of spread, flame length and overall fireline intensity. This is an important concept when considering the fuels at the edge of the wildlife corridor.

The fuels within the wildlife corridor will be heavier within the center channel after the temporary irrigation is removed. The slope areas on the northern edge of the corridor are south aspects and will take direct sun for the entire day. Fuel moistures will be lower here but so will the amount and size of the vegetation. Below in Figure 22, flame direction and size graphics have been superimposed on the wildlife corridor to show the direction and spread potential. They have been enlarged for visibility (not to scale).

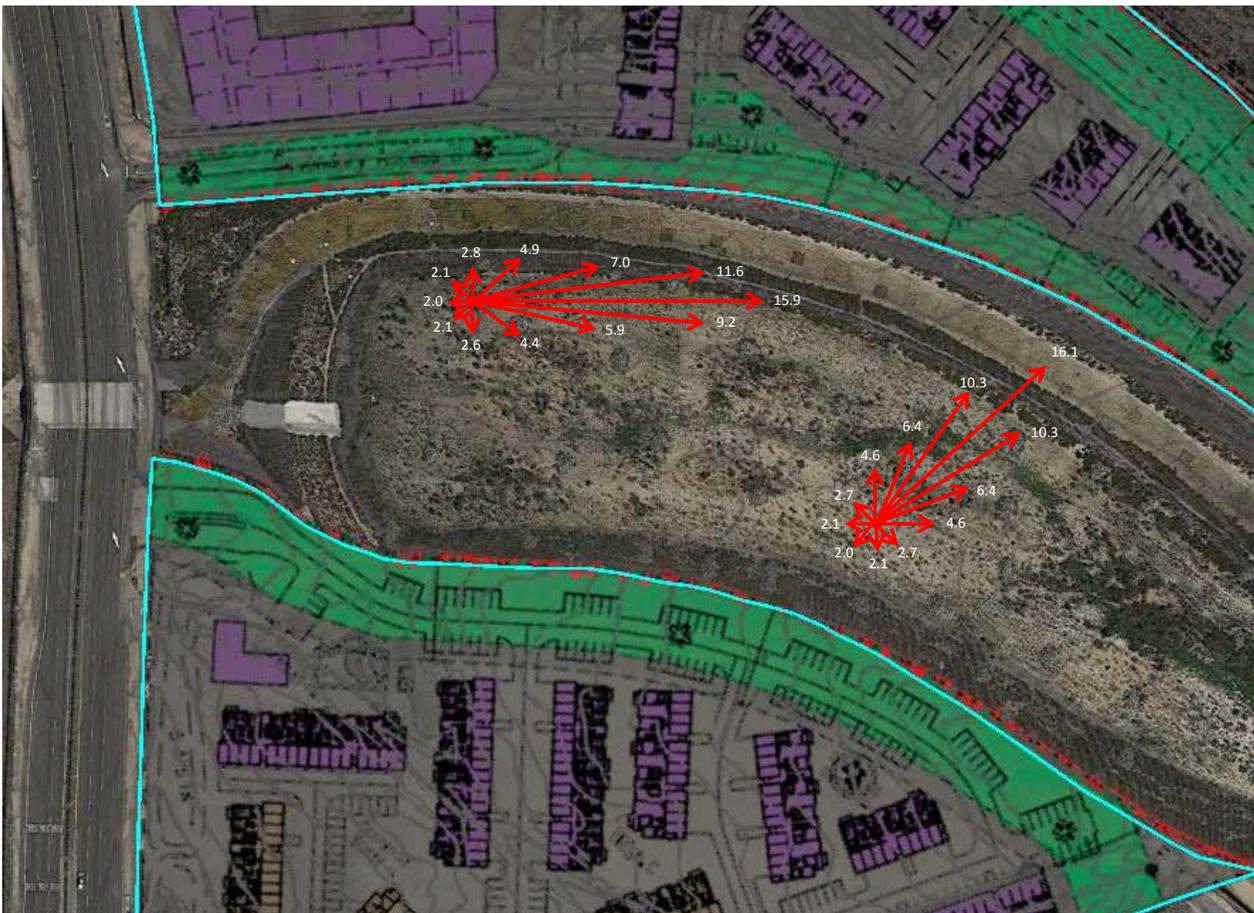


Figure 22

West Alton NE 50
Flame Length (ft)

Spread		Fuel Model			
Dir	deg	gr2	gs2	sh2	SCAL18
	0	1.8	2.0	1.7	4.0
	15	1.7	1.9	1.6	3.8
	30	1.7	1.9	1.6	3.7
	45	1.7	1.9	1.5	3.7
	60	1.7	1.9	1.6	3.7
	75	1.7	1.9	1.6	3.8
	90	1.8	2.0	1.7	4.0
	105	1.9	2.1	1.8	4.2
	120	2.1	2.3	1.9	4.6
	135	2.3	2.6	2.1	5.1
	150	2.6	3.0	2.4	5.8
	165	3.1	3.5	2.9	6.9
	180	3.9	4.5	3.7	8.8
	195	5.3	6.3	5.2	12.4
	210	8.2	10.9	8.9	21.1
	225	11.6	21.4	17.5	40.3
	240	8.2	10.9	8.9	21.1
	255	5.3	6.3	5.2	12.4
	270	3.9	4.5	3.7	8.8
	285	3.1	3.5	2.9	6.9
	300	2.6	3.0	2.4	5.8
	315	2.3	2.6	2.1	5.1
	330	2.1	2.3	1.9	4.6
	345	1.9	2.1	1.8	4.2
	360	1.8	2.0	1.7	4.0

West Alton SW 30
Flame Length (ft)

Spread		Fuel Model			
Dir	deg	gr2	gs2	sh2	SCAL18
	0	3.9	4.6	3.9	9.7
	15	5.3	6.4	5.3	13.5
	30	8.2	10.3	8.6	22.0
	45	11.6	16.1	13.5	35.4
	60	8.2	10.3	8.6	22.0
	75	5.3	6.4	5.3	13.5
	90	3.9	4.6	3.9	9.7
	105	3.1	3.7	3.1	7.7
	120	2.6	3.1	2.6	6.5
	135	2.3	2.7	2.2	5.6
	150	2.1	2.4	2.0	5.1
	165	1.9	2.2	1.9	4.7
	180	1.8	2.1	1.8	4.4
	195	1.7	2.0	1.7	4.3
	210	1.7	2.0	1.6	4.2
	225	1.7	2.0	1.6	4.1
	240	1.7	2.0	1.6	4.2
	255	1.7	2.0	1.7	4.3
	270	1.8	2.1	1.8	4.4
	285	1.9	2.2	1.9	4.7
	300	2.1	2.4	2.0	5.1
	315	2.3	2.7	2.2	5.6
	330	2.6	3.1	2.6	6.5
	345	3.1	3.7	3.1	7.7
	360	3.9	4.6	3.9	9.7

West Alton W 30
Flame Length (ft)

Spread		Fuel Model			
Dir	deg	gr2	gs2	sh2	SCAL18
	15	2.7	3.2	2.7	6.8
	30	3.2	3.8	3.2	8.3
	45	4.1	4.9	4.1	10.7
	60	5.7	7.0	5.9	15.3
	75	9.0	11.6	9.9	26.1
	86	11.6	15.9	13.3	34.9
	87	11.6	15.9	13.3	34.7
	105	7.4	9.2	7.5	18.8
	120	5.0	5.9	4.9	12.3
	135	3.7	4.4	3.6	9.1
	150	3.0	3.5	2.9	7.4
	165	2.5	3.0	2.5	6.3
	180	2.2	2.6	2.2	5.5
	195	2.0	2.4	2.0	5.0
	210	1.9	2.2	1.8	4.7
	225	1.8	2.1	1.7	4.4
	240	1.7	2.0	1.7	4.3
	255	1.7	2.0	1.6	4.2
	270	1.7	2.0	1.6	4.2
	285	1.7	2.0	1.7	4.2
	300	1.7	2.0	1.7	4.3
	315	1.8	2.1	1.8	4.5
	330	1.9	2.3	1.9	4.8
	345	2.1	2.5	2.1	5.3
	360	2.3	2.8	2.3	5.9

Figure 23 – Behave Results for Flame Length

The fire behavior relative to the topography and structures within the project is an important factor in the development of the fire protection system for this development. The largest flame length impacting the fuel modification zone would be 40 feet from a SCAL18 on the FBI property if that were to ever occur but the likely scenario is the current gs2 interface with a maximum flame length of 21.4 feet. These are well within the 2:1 ratio (flame length to distance ratio) needed for protecting the structures with the 100 foot areas provided on the in NE interfaces. In fact, the ration would be more in line with the 4:1 ratio required for a “safety zone” where personnel and equipment would be safe without the use of radiant heat shelters. Protections from the West or SW winds need not be as large. In these cases, the maximum expected flame lengths (from the wildlife corridor) are 16.1 feet; a minimum distance of 35 feet would be acceptable.

The final factor in the determination of adequate protection for this project is to analyze how fire would enter the vegetation adjacent to the structures in this project. This is an important factor. From the SW due to development and a lack of continuous fuels, it is impossible for the fire would burn into the proposed project as a “line of fire”. This is simply not supported by the topography and fuels that are present. But what is likely to occur is the fire will spot from an upwind fire into the vegetation within the project site. This is important because the fire will need to have both time and fuel to accelerate to the levels indicated in the Behave modeling results.

Fire acceleration is fuel dependent but independent of fire behavior. Fire acceleration is defined as the rate of increase in spread rate from the current rate to an equilibrium spread rate under constant environmental conditions. The incorporation of acceleration means that fire spread rates will not immediately adjust to the equilibrium spread rates when conditions change.

The rate of fire acceleration is dependent on a rate factor. The default rate for acceleration to 90% of equilibrium rates after 20 minutes from a point source fire. This timeframe will be less in grass and may be less in the grass/shrub mix. The point for this development is that there is not a large continuous fuel bed in the upwind areas of the project site which can ignite and attain equilibrium to achieve the worst case scenario flame lengths. Project sites without exposure to north and northeast wind and fuels can have fuel modification zones which are smaller.

A fire from the northeast is a different animal. This fire is much more likely to be a “line of fire” impacting large areas at one time and having a large fire front. The head of the fire is a long line rather than a point. The modeling for flame lengths where the fuel is not directly in line with the wind is still valid but the fire is a series of point fires that form this line of flames. As the travels down a drainage or crests a ridgeline, the head fire could be equal to the worst case head fire and has been calculated into the performance base fire protection system for this project.

Fire Behaviour Summary

While the modeling indicates that flame lengths of just over 40 feet are possible under perfect conditions, in the worst case scenario, this is unlikely due to predominant winds that drive wildland fires and arrangement of the slopes and fuel relative to the structures. The fuels are not aligned with the slope and wind and fuels are not continuous enough to drive fire behavior to the level of the equilibrium spread rates used in the modeling in most of the areas adjacent to the fuel modification zones except at the interface to the FBI property and the SCAL18 fuels are not present at this time or in the near future. The 21 foot flame lengths are the maximum to be expected at the property line of the lots within the development or at the base of the fuel modification zones or radiant heat walls from the predominant west wind. In all areas, exceed the 2:1 safety ratio and in most areas the ratio is 4:1 or more.

The Wildlife Corridor presents a possible exposure to the project site but this is mitigated by the lack of wildland fuel on the edges of the corridor. In particular the northern interface of the corridor has a south aspect and is unlikely to retain a large amount of fuel when the irrigation is turned off. The lack of fuels and the direction of the West and SW winds that would drive a fire from the corridor combine to create an interface which will require only 35 foot of fuel modification in this area.

Associated with the fuel modification plan, the Project would incorporate a landscape plan that utilizes a plant palette consisting of fire resistant plants, native and appropriate non-native drought tolerant species in accordance with Orange County Fire Authority guidelines. The Project's fuel modification plan would provide a performance based fire protection system for the project site that is greater than any of the wildland fire hazards that exist.

The technical results provided as part of the Fire Behavior Analysis within this report were obtained using Behave Plus version 5.0.5. and Wind Ninja software.



Gene F. Begnell
Fire Protection Analyst

Fuel Modification Zones/Fire Protection Features



Figure 24

The Project would implement a fire protection plan that would comply with or exceed the Orange County Fire Authority standards for Very High Fire Hazard Severity Zone/Special Fire Protection Areas. Fire protection measures as part of the project would include, but are not limited to, fire-resistant structures adjoining natural open space areas and fuel modification/management to help suppress wildland fires. Several areas of the project site would require fuel modification. Fuel modification would occur within two zones with each zone designed specifically to help suppress a fire in different ways. The zones would include requirements for minimum structure setbacks, permanent irrigation systems, fire resistant plants from an approved plant list by the City/County, landscape and planting maintenance (i.e., thinning and removal of dead plants). Below is a description of the fuel modification zones.

ZONE A - NON-COMBUSTIBLE CONSTRUCTION:

20'-0" setback zone for non-combustible construction only. Zone A shall be maintained by the Homeowners Association.

ZONE B - WET ZONE (100% REMOVAL UNDESIRABLE SHRUBS):

First 28'-0" to 80'-0" from Zone A. Zone B shall be cleared of all undesirable plant species, irrigated, and planted with species from Appendix A. Exceptions to save desirable species may be submitted for approval by the OCFA on a site specific basis.

Three areas within the project site will not be capable of providing a typical 170 foot fuel modification zone. These areas would be protected in an equal but alternative method by increasing the irrigated zone(s) and providing a six foot high radiant heat wall at the edge of the fuel modification zone (indicated by dotted red line).

Radiant Heat Walls

A block wall/radiant heat wall will be constructed when a fuel modification zone is not possible without offsite improvements. The radiant heat wall is at the edge of the irrigated zone and between the structures and the native vegetation

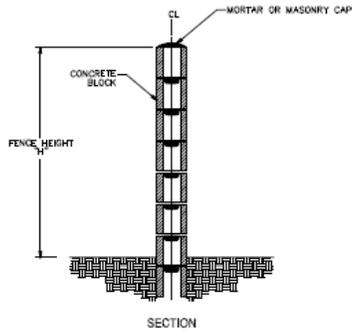
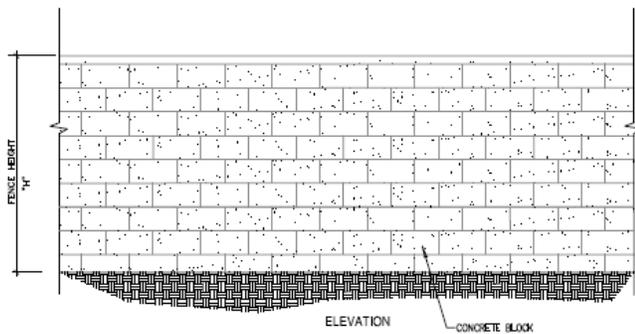
The radiant heat walls are perpendicular to the wind but parallel with the slope. This is shown on the graphic on the previous page (Figure 24) and below (Figure 25) where the radiant heat wall locations are in red. The radiant heat walls are at the property line and will be constructed on what is essentially the native slope that is shown in the graphic.



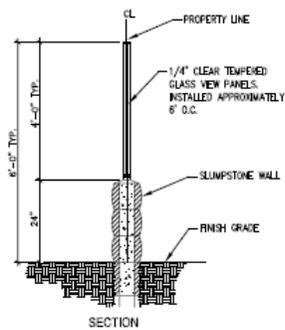
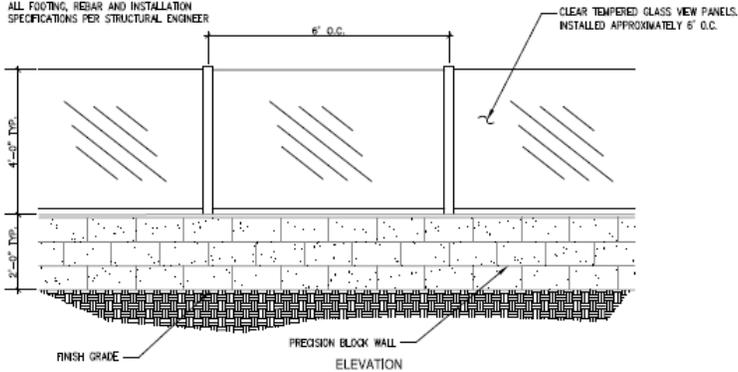
Figure 25

These types of walls are extremely effective when used at the top of the slope in light to moderate fuels. The extreme fire behavior that can be produced by high winds also bends the fire over making it travel more parallel to the ground. The harder the wind, the more the flame angle will be and the more effective the radiant heat wall will become.

These walls will be either block or tempered glass over block similar to those shown below.



6' MASONRY FENCE
(PER INFORMATIONAL BULLETIN 223)
(NO SCALE)



6' COMBINATION VIEW FENCE
(NO SCALE)

Figure 26

Report Summary

The West Alton Parcel project will have a number of features and factors which make the community safer than any other development currently in the area. These include:

- New homes will provide a buffer against the flame front for homes to the west (historic fire comes from the east)
- All homes lost in Freeway Complex in this area were lost to ember intrusion not the flaming fire front but the new project will have a minimum 2:1 ratio of flame length to fuel modification zone. Most areas will be 4:1 ratio.
- All homes will be fully protected by automatic fire sprinklers and are unlikely to produce ember plumes as they will not likely burn to a point of having a downwind ember cast
- Evacuation routes have at least two directions of travel from the project entrance(s) and many options within a relative short distance

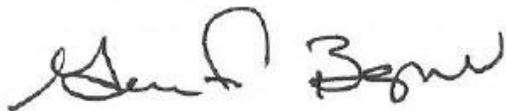
The West Alton Parcel project is has been designed and protected by the most recently adopted codes and practices. Firesafe has used the BEHAVE model to measure the intensity of a fire moving towards this development to design a protection system that will ensure that the project will be safe from wildland fires even without fire department suppression activities. Flame lengths and fire intensity are ultimately reduced by the installation and maintenance of the fuel modification plan through the use of the irrigated Zone A and B and the radiant heat walls surrounding the homes on the perimeter where 170 foot zone cannot be achieved. North and NE interfaces will have 100 foot of fuel modification and the West/SW interface to the wildfire corridor will a minimum of 35 foot or more. All interfaces will have radiant heat walls.

Based on the scientific fire behavior analysis, exterior portions of future structures or attic spaces will not ignite from the exterior fire exposure from a wildland vegetation fire. This is primarily because the greatest fire energy is too far away from the structures due to the low plant densities within the fuel modification zones and the construction feature requirements. As was previously describe, the 2007 Santiago Fire did not consume the agricultural vegetation within the project site, at the project site interface the fire did not consume the windrow and it appears that some of the natural vegetation on the adjoining FBI property did not burn either. This fire was running out of fuel, speed and intensity when it interfaced with the project site

The codes enforced by the Orange County Fire Authority for Fuel Modification were developed to handle the exact type of fuels that are interfacing with this future development.

We recommend approval of this Fire Behavior Report as an accurate and acceptable assessment of the hazard and risk factors for the West Alton Parcel development as they relate to wildland fire protection.

Respectfully;

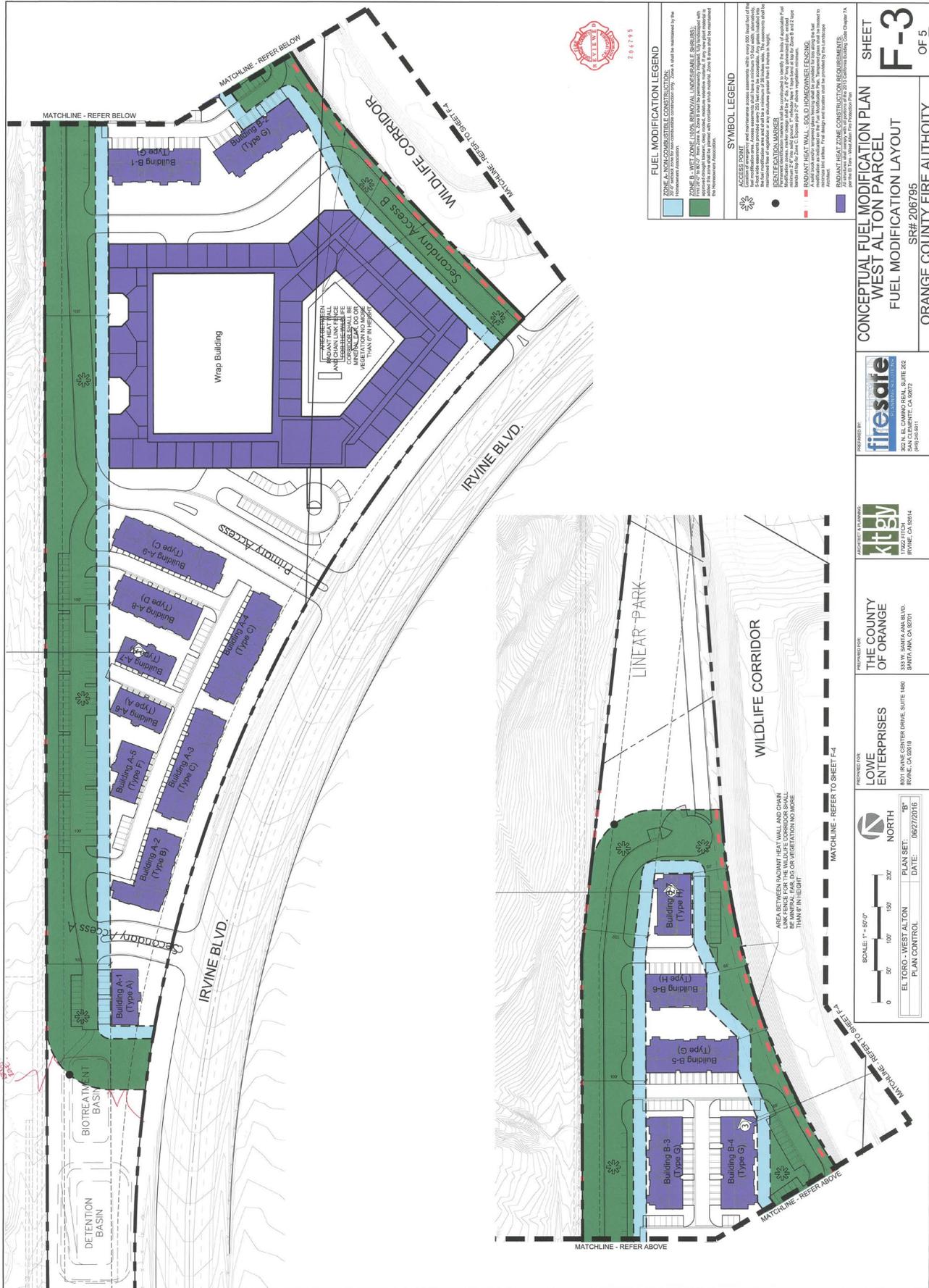


Gene F. Begnell
Fire Protection Analyst

Concurrence;



David Oatis
Principal, Firesafe Planning Solutions



206795

FUEL MODIFICATION LEGEND

	ZONE A - NON-COMBUSTIBLE CONSTRUCTION. Non-combustible construction as defined by the International Building Code.
	ZONE B - WET ZONE (100% REMOVAL UNDESIRABLE SHRUBS). Zone B shall be wet zone (100% removal of undesirable shrubs) as defined by the International Building Code. Zone B shall be wet zone (100% removal of undesirable shrubs) as defined by the International Building Code. Zone B shall be wet zone (100% removal of undesirable shrubs) as defined by the International Building Code.

SYMBOL LEGEND

	ACCESS POINTS Access points and driveways shall be constructed with a minimum 10' clear width and shall be constructed with a minimum 10' clear width and shall be constructed with a minimum 10' clear width.
	WATER TIGHT WALL Water tight wall shall be constructed with a minimum 10' clear width and shall be constructed with a minimum 10' clear width.
	RADIANT HEAT WALL - SOLID HOMEOWNER FENCING. Radiant heat wall shall be constructed with a minimum 10' clear width and shall be constructed with a minimum 10' clear width.
	RADIANT HEAT ZONE CONSTRUCTION REQUIREMENTS. Radiant heat zone construction shall be constructed with a minimum 10' clear width and shall be constructed with a minimum 10' clear width.

CONCEPTUAL FUEL MODIFICATION PLAN
WEST ALTON PARCEL
FUEL MODIFICATION LAYOUT

SR# 206795
ORANGE COUNTY FIRE AUTHORITY

SHEET
F-3
OF 5

PREPARED BY

SAUL CLARKE, P.E.
SAUL CLARKE, P.E.
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THE COUNTY OF ORANGE
125 W. SANTA ANA BLVD.
SANTA ANA, CA 92701

PREPARED BY

LOWE ENTERPRISES
1851 IRVINE GARDEN DRIVE, SUITE 140
IRVINE, CA 92614

THE COUNTY OF ORANGE
125 W. SANTA ANA BLVD.
SANTA ANA, CA 92701

SCALE: 1" = 50'-0"

NORTH

PLAN SET: EL TORO - WEST ALTON PLAN CONTROL
DATE: 08/27/2016



206795

FUEL MODIFICATION LEGEND	
	20' W. FUEL MODIFICATION ZONE (SEE CONSTRUCTION SPECIFICATIONS)
	30' W. FUEL MODIFICATION ZONE (SEE CONSTRUCTION SPECIFICATIONS)
	AREA BETWEEN RADIANT HEAT WALL AND CHAIN LINK FENCE SHALL BE MINERAL LEAN LOG OR VEGETATION NO MORE THAN 6' IN HEIGHT
	AREA BETWEEN RADIANT HEAT WALL AND CHAIN LINK FENCE SHALL BE MINERAL LEAN LOG OR VEGETATION NO MORE THAN 6' IN HEIGHT

SYMBOL LEGEND	
	ACCESS POINT
	IDENTIFICATION MARKER
	RADIANT HEAT WALL - SOLID HOMEGROWN FENCINGS
	LANDSCAPING
	AREA BETWEEN RADIANT HEAT WALL AND CHAIN LINK FENCE SHALL BE MINERAL LEAN LOG OR VEGETATION NO MORE THAN 6' IN HEIGHT

CONCEPTUAL FUEL MODIFICATION PLAN
 WEST ALTON PARCEL
 FUEL MODIFICATION LAYOUT
 SR# 206795
 ORANGE COUNTY FIRE AUTHORITY

PREPARED BY:
firesafe
 302 N. EL CAMINO REAL, SUITE 202
 SAN CLEMENTE, CA 92672
 949.440.4441

ARCHITECT & PLANNER
kit by
 17822 FITCH
 IRVINE, CA 92614

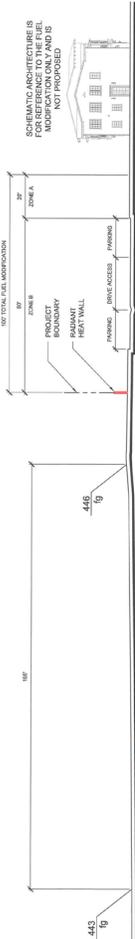
PREPARED FOR:
THE COUNTY OF ORANGE
 313 W. SANTA ANA BLVD.
 SANTA ANA, CA 92701

PREPARED FOR:
LOWE ENTERPRISES
 8901 IRVINE CENTER DRIVE, SUITE 440
 IRVINE, CA 92618

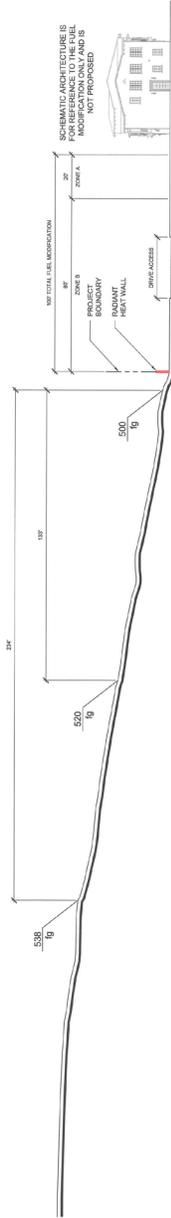
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 NORTH
 EL TORO - WEST ALTON
 PLAN SET: 15
 PLAN CONTROL: DATE: 06/27/2016

SHEET
F-4
 OF 5

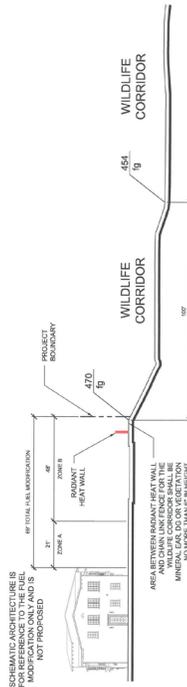
FUEL MODIFICATION SECTIONS



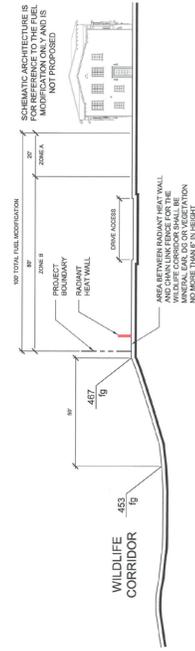
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SECTION 2 - 2
SCALE: 1" = 20'



SECTION 3 - 3
SCALE: 1" = 20'



SECTION 4 - 4
SCALE: 1" = 20'



CONCEPTUAL FUEL MODIFICATION PLAN
WEST ALTON PARCEL
FUEL MODIFICATION SECTIONS
SR# 2016795
ORANGE COUNTY FIRE AUTHORITY



THE COUNTY OF ORANGE
333 W. SANTA ANA BLVD.
SANTA ANA, CA 92701

LOWE ENTERPRISES
8001 IRVINE CENTER DRIVE, SUITE 140
IRVINE, CA 92618

EL TORO - WEST ALTON
PLAN CONTROL
PLAN SET: 16"
DATE: 08/27/2016

This set of plans and specifications shall be returned to the original author for review if they are not prepared and published in accordance with the requirements of the Orange County Fire Authority. The Orange County Fire Authority is not responsible for any errors or omissions in these plans and specifications.

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E

APPENDIX

Development Requirements

This section consists of development requirements that will apply to Level I, II and III Reviews. Not all of these development requirements will apply to a Level I, II or III review. For example, development requirements for grading will not be applicable to a Level I Review for a new restaurant with a “Type 47” ABC license within an existing building.

Aesthetics

DR AES-1 Prior to issuance of any building permit, the County or its designee shall demonstrate that exterior lighting has been designed to be diffused, shielded, and low intensity and located so that direct rays are confined to the Project site in a manner meeting the approval of the Manager of Building & Safety or designee.

DR AES-2 Prior to the approval of final inspection, the County or its designee shall provide a letter from the electrical engineer, licensed landscape architect, or licensed professional designer that a field test has been performed after dark and the light rays are consistent with the Development Plan. Specifically, the County or its designee shall submit a photometric study that demonstrates that lighting levels will not increase over 0.25 foot-candle over ambient conditions at the Project border with the NCCP/HCP Reserve and Wildlife Movement Corridor. The letter shall be submitted to the Manager of Inspection for review and approval. (Note: High voltage lighting requires a licensed electrical engineer stamp.)

Air Quality

DR AQ-1 During construction of the Project, the County or its designee shall comply with South Coast Air Quality Management District (SCAQMD) Rules 402 and 403, in order to minimize short term emissions of dust and particulates. SCAQMD Rule 402 requires that air pollutant emissions not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. This requirement shall be included as notes on the contractor specifications. Table 1 of Rule 403 prescribes the best available control measures that are applicable to all construction projects and is included in Appendix C of the Environmental Impact Report (EIR) for this Project. The County or its designee shall provide the Manager of Building & Safety, or designee, with an SCAQMD-approved Dust Control Plan or other sufficient proof of compliance with Rule 403, prior to issuance of a grading permit.

DR AQ-2 Architectural coatings shall be selected so that the volatile organic compound (VOC) content of the coatings is compliant with SCAQMD Rule 1113. This requirement shall be included as notes on the contractor specifications. The specifications for each project within the Development Plan area shall be reviewed by the Manager of Building & Safety, or designee, for compliance with this requirement prior to issuance of a building permit.

DR AQ-3 Prior to issuance of each grading and building permit, the County or its designee shall provide plans and specifications demonstrating that construction documents require the construction contractors to implement the measure listed below. The contractor shall comply with the identified requirements, and verification that the contractor has complied shall be confirmed by the Manager of Building & Safety, or designee, during construction.

All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions-control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

DR AQ-4 Prior to issuance of each grading and building permit, the County or its designee shall provide plans and specifications demonstrating that construction documents require the construction contractors to implement the following measures or provide information and data that demonstrate that implementation would not be feasible or practicable:

- A. Electricity shall come from power poles rather than diesel- or gasoline-fueled generators, compressors, or similar equipment;
- B. Construction parking shall be configured to minimize traffic interference;
- C. Construction trucks shall be routed away from congested streets and sensitive receptors;
- D. Construction activities that affect traffic flow on the arterial system shall be scheduled to off-peak hours to the extent practicable;
- E. Temporary traffic controls, such as a flag person(s), shall be provided where necessary to maintain smooth traffic flow, as necessary;
- F. Dedicated turn lanes for movement of construction equipment on and off site and signal synchronization shall be provided as necessary to maintain smooth traffic flow;
- G. All construction equipment shall be tuned and maintained in accordance with the manufacturer's specifications;
- H. Diesel truck idling time shall be five minutes or less, both on and off site;

- I. Work crews shall shut off diesel equipment when not in use; and
- J. Contractors and construction workers shall be encouraged to use ride-sharing and commute using Metrolink.

The contractor shall comply with the identified requirements, and verification that the contractor has complied shall be confirmed by the Manager of Building & Safety, or designee, during construction.

DR AQ-5 Fireplaces shall be limited to residential common areas, and none shall be provided in residential units. The specifications for each residential project within the Development Plan area shall be reviewed by the Manager of Building & Safety, or designee, for compliance with this requirement prior to issuance of a building permit.

Biological Resources

DR BIO-1 Per the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), the County or its designee shall ensure that a pre-construction survey for the burrowing owl is conducted by a qualified Biologist no less than 14 days prior to any ground disturbance for development of the Project site. The pre-construction survey will include the Project site plus a 500-foot buffer (if access is available). If no active burrows are found, no further mitigation would be required.

If an active burrow is observed outside the breeding season (September 1 to January 31) and it cannot be avoided, the burrowing owl shall be excluded from the burrow following methods described in CDFG 2012. One-way doors shall be used to exclude owls from the burrows. Once the burrow is unoccupied, as verified by site monitoring and scoping, the burrow shall be closed by a qualified Biologist who shall excavate the burrow by hand. If a burrow will be closed, the County or its designee shall contact CDFW to determine whether compensatory mitigation shall be required for the loss of the active burrow.

If an active burrow is observed outside the breeding season (September 1 to January 31) and it can be avoided, a protective buffer shall be placed around the burrow per CDFG 2012 guidelines. The buffer shall range from 160 feet to 1,640 feet depending on the level of impact and the time of year. The County or its designee shall contact the CDFW to determine whether a reduced buffer can be accommodated without adversely impacting occupied burrows.

If an active burrow is observed during the breeding season (February 1 to August 31), the active burrow shall be protected until nesting activity has ended. A protective buffer shall be placed around the active burrow per CDFG 2012 guidelines. The buffer shall range from 650 to 1,640 feet depending on the level of impact and the

time of year. The County or its designee shall contact CDFW to determine whether a reduced buffer can be accommodated without adversely impacting occupied burrows. Construction shall be allowed to proceed when the qualified Biologist has determined that fledglings have left the nest. Additionally, the County or its designee shall contact CDFW to determine whether compensatory mitigation shall be required for the long-term loss of the nesting burrow due to construction of the Project.

Upon completion of the pre-construction burrowing owl survey, a Letter Report shall be prepared and submitted to the Manager of Building and Safety, or designee for review and approval prior to any ground disturbing activities. If an active burrow is observed, the Letter Report shall include a description of the protective buffer that has been designated and a summary of any correspondence with CDFW.

- DR BIO-2 Prior to issuance of any grading permits for activities within 500 feet of coastal sage scrub habitat, the Manager of Building and Safety, or designee shall verify the Project Applicant is following the Construction-related Minimization Measures that are required by the NCCP/HCP, as identified below.
- A. Prior to the commencement of clearing operations or other activities involving significant soil disturbance, all areas of coastal sage scrub habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities and the locations of any such species will be clearly marked and identified on the construction plans.
 - B. Following the completion of initial clearing activities, all areas of coastal sage scrub habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers that are clearly visible to construction personnel. No construction access, parking, or equipment storage shall be permitted within such marked areas.
 - C. In areas bordering the NCCP Reserve System or Special Linkage/Special Management areas containing significant coastal sage scrub identified in the NCCP/HCP for protection, vehicle transportation routes shall be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble shall not be deposited on adjacent coastal sage scrub identified in the NCCP/HCP for protection. Pre-construction meetings involving the Monitoring Biologist, Construction Supervisors, and Equipment Operators shall be conducted and documented to ensure maximum practicable adherence to these measures.
 - D. Coastal sage scrub identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas will be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring Biologist.

DR BIO-3 In order to avoid impacts on nesting birds and raptors (common or special status), the County or its designee shall ensure that vegetation clearing shall be conducted during the non-breeding season (i.e., generally between September 16 and February 14 for migratory birds; July 1 and January 31 for nesting raptors) to the extent feasible. If Project timing requires that vegetation clearing occur between February 1 and September 15 (incorporating the typical breeding season for migratory birds and raptors), then a pre-construction nesting bird/raptor survey shall be conducted by a qualified Biologist within three days prior to vegetation clearing. If vegetation clearing would occur during the raptor nesting season, the survey shall also include areas within 500 feet of the Project impact area to determine the presence or absence of active raptor nests. If no active nests are found, no further mitigation would be required.

If an active nest is located within or adjacent to the construction area and the Biologist determines that work activities may impact nesting, the Biologist shall determine an appropriate buffer to protect the nest. The size of the buffer shall be based on site features, the sensitivity of the species, and the type of construction activity in order to prevent disruption of nesting activity. No construction activities shall be allowed in the buffer zone until the Biologist determines that nesting activity has ended. Construction may proceed within the buffer once the Biologist determines that nesting activity has ceased and fledglings have left the nest.

Upon completion of the pre-construction nesting bird survey, a Letter Report shall be prepared and submitted to the Manager of Building and Safety, or designee for review and approval prior to any ground disturbing activities. If an active nest is observed, the Letter Report shall include a description of the protective buffer that has been designated.

DR BIO-4 In conjunction with Level I, II, or III reviews, landscape plans shall be reviewed by a qualified Biologist and approved by the Manager of Building and Safety, or designee to ensure that no plants identified on the California Invasive Plant Council's (Cal-IPC's) invasive plant inventory as high or moderate invasive plants are included in the plant palette.

Geology and Soils

DR GEO-1 Prior to the issuance of a grading permit, the County, or its designee, shall submit a geotechnical report to the Manager of Building & Safety, or designee, for approval. The report shall include the information and be in the form as required by the County Grading Manual. All grading proposed on the Project site must be consistent with the OC Grading and Excavation Code.

Greenhouse Gas Emissions

DR GHG-1 Projects shall be designed in accordance with the applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings (*California Code of Regulations* [CCR], Title 24, Part 6). These standards are updated, nominally every three years, to incorporate improved energy efficiency technologies and methods.

DR GHG-2 Projects shall be designed in accordance with the applicable California Green Building Standards (CALGreen) Code (24 CCR 11).

DR GHG-3 The Project shall incorporate renewable energy generation for the entirety of the Project, not on a unit by unit basis, in an amount equivalent to 1.25 kilowatts (kW) per dwelling unit.

DR GHG-4 Low-energy Energy Star®-compliant or equivalent appliances shall be exclusively offered by builders for each appliance that is rated by Energy Star (e.g., refrigerator, clothes washer, dishwasher) or achieves an efficiency that is equivalent to the 2016 Energy Star compliance standard.

Hazards and Hazardous Materials

DR HAZ-1 Prior to initial grading, a site-specific Soils Management Plan will be developed to be implemented during grading and will include measures for monitoring soil conditions for evidence of impacts and contingency measures in the event that impacted soils (including, but not limited to, petroleum-hydrocarbons and other volatile organic compounds [VOCs]) are encountered during grading as evidenced by visual staining, olfactory perception, or field testing. The objective of the Soils Management Plan is to reduce exposures to impacted soils to less than significant levels, as defined by applicable law, for construction and utility workers during grading and construction phases of the Project and for future residents after construction is complete. The Soils Management Plan will include, at a minimum, identification of contaminants through use of field equipment (e.g., PID); sampling and laboratory analyses, if necessary; segregation; temporary stockpiling specifications; and treatment and/or disposal options in accordance with applicable law. This Soils Management Plan will be submitted to the Manager of Building & Safety for review and approval.

DR HAZ-2 During site grading and construction activities, hazardous contaminated soils or other hazardous materials shall be managed in accordance with the requirements of Title 22, Division 4.5 of the *California Code of Regulations*; the U.S. Department of Transportation regulations in the *Code of Federal Regulations* (specifically, Title 49, Hazardous Materials Transportation Act and Title 40, Part 263, Subtitle C of Resource Conservation and Recovery Act); California Department of Transportation (Caltrans) standards; and Occupational Safety and Health Administration (OSHA) standards. Title 22 sets forth the requirements with which hazardous waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storing, labeling, reporting, and generally managing and disposing of hazardous waste, which shall be done in a manner meeting the satisfaction of the Manager, Orange County Health Care Agency (OCHCA)/Hazardous Materials Program prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste such as the requirements for transporting shipments of hazardous waste, manifesting, vehicle registration, and procedures to enact in the case of emergency accidental discharges during transportation. The County shall sign necessary hazardous and nonhazardous waste manifests as "Generator".

DR HAZ-3 If any underground storage tanks (USTs) are encountered during site grading or excavation activities, they shall be removed in accordance with the existing standards and regulations of, and oversight by, the Manager, OCHCA/Hazardous Materials Program, based on compliance authority granted through the *California Code of Regulations* (specifically, Title 23, Division 3, Chapter 16, Underground Tank Regulations). The process for UST removal is detailed in the OCHCA's *Underground Storage Tanks: The Basics* manual. Soil samples from areas where storage tanks have been removed or where soil contamination is suspected shall be analyzed for hydrocarbons, including gasoline and diesel, in accordance with procedures set forth by the OCHCA. If hydrocarbons are identified in the soil, the appropriate response/remedial measures will be implemented as directed by OCHCA with support/review from the Regional Water Quality Control Board (RWQCB) until all specified requirements are satisfied and a Tank Closure Letter is issued. Any aboveground storage tank (AST) in existence at the commencement of site development shall be removed in accordance with all applicable regulations under the oversight of Orange County Fire Authority (OCFA). Compliance requirements relative to the removal/closure of storage tanks are set forth in Sections 25280 through 25299 of the *California Health and Safety Code*.

DR HAZ-4 Prior to issuance of building permits, the Project plans shall reflect a fire protection plan that would comply with or exceed the OCFA standards for Very High Fire Hazard Severity Zone (VHFHSZ)/Special Fire Protection Areas. Fire protection measures as part of the Project shall include, but not be limited to, fire-resistant structures adjoining natural open space areas and fuel modification/management to help suppress wildland fires. Unless an alternative approach is approved by OCFA, the fuel modification shall occur within two zones with requirements for minimum structure setbacks, permanent irrigation systems, fire-resistant plants from an approved plant list by the OCFA/County, and landscape and planting maintenance (i.e., thinning and removal of dead plants) as described below:

- Zone A shall consist of a 20-foot setback consisting of noncombustible construction only.
- Zone B is the first 28 to 80 feet from Zone A. This zone will be cleared of all undesirable plant species, irrigated, and planted with plants as set forth in Appendix A of the Fire Behavior Report.

For those areas within the Project site not capable of providing a typical 170-foot fuel modification zone, an equal but alternative method of providing fire protection shall include increasing the irrigated zone(s) and providing a six-foot-high radiant heat wall at the edge of the fuel modification zone. The radiant heat wall shall be constructed at the edge of Zone B and between the structures and the native vegetation. The radiant heat walls are perpendicular to the wind but parallel with the slope and are extremely effective when used at the top of the slope in light to moderate fuels. (Note: DR BIO-4 pertains to the design of the radiant heat walls. Should the wall design be tempered glass over block wall, the tempered glass shall be textured to minimize the potential for bird strikes.)

Hydrology

DR HWQ-1 **Drainage Study.** Prior to the issuance of any grading permits, the following drainage studies shall be submitted to and approved by the Manager of Building & Safety, or designee:

- A. A drainage study of the Project including off-site areas that drain onto and/or through the Project, and justification of any proposed diversions;
- B. When applicable, a drainage study evidencing that proposed drainage patterns will not overload existing storm drains; and
- C. Detailed drainage studies indicating how the Project grading, in conjunction with the drainage conveyance systems (including applicable swales, channels, street flows, catch basins, storm drains, and flood water retarding) will allow building pads to be safe from inundation from rainfall runoff, which may be expected from all storms up to and including the theoretical 100-year flood.

DR HWQ-2 **Drainage Facilities.** Prior to issuance of grading or building permits, drainage studies that demonstrate the following shall be submitted to and approved by Manager of Building & Safety, or designee:

1. All surface runoff and subsurface drainage directed to the nearest acceptable drainage facility, as determined by the Manager of Building & Safety, or designee.
2. Drainage facilities discharging onto adjacent property shall be designed to imitate the manner in which runoff is currently produced from the site and in a manner meeting the satisfaction of the Manager of Building & Safety, or designee. Alternatively, the County or its designee may obtain a drainage acceptance and maintenance agreement, suitable for recordation, from the owner of said adjacent property. All drainage facilities must be consistent with the County of Orange Grading Ordinance and Local Drainage Manual.

DR HWQ-3 **Drainage Improvements.**

- A. Prior to the issuance of any grading permits, the County or its designee shall do the following in a manner meeting the approval of the Manager, of Building & Safety, or designee:
 1. Design provisions for surface drainage;
 2. Design all necessary storm drain facilities extending to a satisfactory point of disposal for the proper control and disposal of storm runoff; and
- B. Prior to the approval of final inspection, said improvements shall be constructed, or provide evidence of financial security (such as bonding), in a manner meeting the approval of the Manager, OC Inspection.

Water Quality

DR HWQ-4 **Water Quality Management Plan.** Prior to the issuance of any grading or building permits, the County or its designee shall submit for review and approval by the Manager of Building & Safety, or designee, the Final Water Quality Management Plans (WQMP) specifically identifying Best Management Practices (BMPs) that will be used on site to control predictable pollutant runoff. The County or its designee shall utilize the Orange County Drainage Area Management Plan (DAMP), Model WQMP, and Technical Guidance Manual for reference, and the County's WQMP template for submittal. This WQMP shall include the following:

- Detailed site and project description.
- Potential storm water pollutants.
- Post-development drainage characteristics.
- Low Impact Development (LID) BMP selection and analysis.
- Structural and Non-Structural source-control BMPs.
- Site design and drainage plan (BMP Exhibit).
- GIS coordinates for all LID and Treatment Control BMPs.
- Operation and Maintenance (O&M) Plan that (1) describes the long-term operation and maintenance requirements for BMPs identified in the BMP Exhibit; (2) identifies the entity that will be responsible for long-term operation and maintenance of the referenced BMPs; and (3) describes the mechanism for funding the long-term operation and maintenance of the referenced BMPs.

DR HWQ-5 **Compliance with the National Pollutant Discharge Elimination System (NPDES) Implementation Program.** Prior to the issuance of a certificate of use and occupancy, the County or its designee shall demonstrate compliance with the County's NPDES Implementation Program in a manner meeting the satisfaction of the Manager, OC Inspection, including the following:

- Demonstrate that all structural BMPs described in the BMP Exhibit from the Project's approved WQMP have been implemented, constructed, and installed in conformance with approved plans and specifications;
- Demonstrate that the County or its designee has complied with all non-structural BMPs described in the Project's WQMP;
- Submit for review and approval an Operations and Maintenance (O&M) Plan for all structural BMPs (the O&M Plan shall become an attachment to the WQMP);
- Demonstrate that copies of the Project's approved WQMP (with attached O&M Plan) are available for each of the initial occupants;
- Agree to pay for a Special Investigation from the County of Orange for a date 12 months after the issuance of a Certificate of Use and Occupancy for the Project to verify compliance with the approved WQMP and O&M Plan; and
- Demonstrate that the County or its designee has recorded one of the following:
 1. Covenants, Conditions, and Restrictions (CC&Rs), which includes the approved WQMP and O&M Plan;

2. A water quality implementation agreement that has the approved WQMP and O&M Plan attached;
or
3. The final approved WQMP and O&M Plan.

DR HWQ-6 Storm Water Pollution Prevention Plan.

Prior to the issuance of any grading or building permits, the County or its designee shall demonstrate compliance with California's General Permit for Stormwater Discharges Associated with Construction Activity by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) Number or other proof of filing in a manner meeting the satisfaction of the Manager of Building & Safety, or designee. Projects subject to this requirement shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). A copy of the current SWPPP shall be kept at the Project site and be available for County review on request.

DR HWQ-7 Erosion and Sediment Control Plan. Prior to the issuance of any grading or building permit, the County or its designee shall submit an Erosion and Sediment Control Plan (ESCP) in a manner meeting approval of the Manager of Building & Safety, or designee, to demonstrate compliance with the County's NPDES Implementation Program and State water quality regulations for grading and construction activities. The ESCP shall identify how all construction materials, wastes, grading or demolition debris, and stockpiles of soil, aggregates, soil amendments, and other construction materials shall be properly covered, stored, and secured to prevent transport into local drainages or coastal waters by wind, rain, tracking, tidal erosion, or dispersion. The ESCP shall also describe how the County or its designee will ensure that all BMPs will be maintained during construction of any future public rights-of-way. The ESCP shall be updated as needed to address the changing circumstances of the Project site. A copy of the current ESCP shall be kept at the Project site and be available for County review on request.

Noise

DR NOI-1 Construction activities shall be limited to the hours of 7:00 AM to 7:00 PM, Monday through Friday and 9:00 AM and 6:00 PM on Saturday and will not take place on Sundays or federal holidays.

DR NOI-2 Prior to the issuance of any grading permits, the County or designee shall produce evidence acceptable to the Manager of Building & Safety, or designee, that:

- All construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of an occupied dwelling unit shall be equipped with properly operating and maintained mufflers.
- Stockpiling and/or vehicle staging areas shall be located as far as practicable from occupied dwellings.

Notations in the above format, appropriately numbered and included with other notations on the front sheet of the Project's permitted grading plans, will be considered as adequate evidence of compliance with this condition.

Fire Protection

DR FIRE-1 **Fire Alarm and Monitoring Systems.** Prior to the issuance of a building permit which requires the installation of any fire alarm system, the County or its designee shall provide the Manager of Building & Safety, or designee, with a clearance from the Orange County Fire Authority (OCFA) indicating compliance with Guideline D-03 (New and Existing Fire Alarm & Signaling Systems). The fire alarm system shall be operational prior to the final inspection approval.

DR FIRE-2 A. **Fire Master Plan.** Prior to the issuance of a grading permit, the County or its designee must provide the Manager of Building & Safety, or designee, with proof from the OCFA indicating that a Fire Master Plan has been prepared that complies with Chapter 5 of the Fire Code and Guideline B-09 (Fire Master Plans for Commercial & Residential Development).

B. **Site Access.** Prior to the issuance of any grading permit (with the exception of initial mass grading of a large-scale project), the County or its designee shall provide the Manager of Building & Safety, or designee, with proof from the OCFA indicating that a Fire Master Plan has been prepared that complies with Guideline B-09 (Fire Master Plans for Commercial & Residential Development), including identification of access to and in the project area. *Note: refer to the OCFA website to obtain a copy of Guideline B-09 for information regarding the submittal requirements.

C. **Lumber Drop.** Prior to the issuance of a building permit, the County or its designee must provide the Manager of Building & Safety, or designee, with proof from OCFA allowing the introduction of combustible materials into the project area.

- DR FIRE-3 **Automatic Fire Sprinkler Systems.**
- A. Prior to the issuance of a building permit, the County or its designee shall provide the Manager of Building & Safety, or designee, with a copy of the OCFA-approved Fire Master Plan or site plan indicating that an approved automatic fire sprinkler system will be provided.
 - B. Prior to the final inspection approval, the automatic fire sprinkler system shall be operational in a manner meeting the approval of the Fire Chief.

DR FIRE-4 **Traffic Signal Preemption Devices.** Prior to the acceptance of public street improvements requiring installation of a traffic signal, if determined necessary by the Fire Code Official, the County or its designee shall install traffic signal preemption equipment for the surrounding signalized intersections. The clearance of this condition shall be by the Manager of Building & Safety, or designee, based on evidence that an agreement is in place or that the traffic signal preemption equipment has been installed.

DR FIRE-5 **Secured Fire Protection Agreement.** Prior to approval of any building permits for the Project, the County or its designee shall enter into a Secured Fire Protection Agreement with the OCFA.

Recreation

DR REC-1 The County or designee shall provide parkland through an open space system within the Project site in accordance with the *West Alton Parcel Development Plan*.

Traffic/Transportation

- DR TRAN-1 Prior to issuance of building permits, the County or its designee shall pay applicable fees for the Major Thoroughfare and Bridge Fee Program (i.e., Foothill/Eastern Transportation Corridor Zone A) in a manner meeting the approval of the Manager of Building & Safety, or designee.
- DR TRAN-2 Prior to issuance of a grading permit the County or its designee shall design and construct, or provide evidence of an acceptable form of financial security, that improvements (i.e., streets, bus stops, on-road bicycle trails, street names, signs, striping and stenciling) shall be done in accordance with plans and specifications meeting the approval of the Manager of Building & Safety, or designee. Further, all underground traffic signal conduits (e.g., signals, phones, power, loop detectors, etc.) and other appurtenances (e.g., pull boxes, etc.) needed for future traffic signal construction, and for future interconnection with adjacent intersections, shall be constructed all in accordance with plans and specifications meeting the approval of the Manager of Building & Safety, or designee.
- DR TRAN-3 Prior to the issuance of any building permits, the County or its designee shall deliver an irrevocable offer to dedicate a traffic signal maintenance easement to the applicable jurisdiction at the applicable Project site access points along Irvine Boulevard in a manner meeting the approval of the Manager of Building & Safety, or designee.
- DR TRAN-4 Prior to the issuance of any grading permits, the County or its designee shall provide adequate sight distance per Standard Plan 1117 at all street intersections, in a manner meeting the approval of the Manager of Building & Safety, or designee. The Project Applicant shall make all necessary revisions to the plan to meet the sight distance requirement such as removing slopes or other encroachments from the limited use area in a manner meeting the approval of the Manager of Building & Safety, or designee.
- DR TRAN-5 In conjunction with Level I, II, or III reviews, individual development projects under the Development Plan that connect with external roadways shall be evaluated for consistency with applicable design requirements outlined in the City of Irvine *Transportation Design Procedures* or County of Orange equivalency. Consistency with the design requirements shall be in a manner meeting the approval of the Manager of Building & Safety, or designee.
- DR TRAN-6 The County should prepare a construction traffic management plan, in coordination with the adjacent cities, prior to commencement of construction. The plan should address routing, haul hours, provisions for over-sized equipment, and site access. The County or its designee shall submit the final plan to the City of Irvine and monitor implementation throughout the construction process.

Water and Wastewater

DR UTIL-1 Prior to issuance of a grading permit, the County or its designee shall provide evidence acceptable to the Manager of Building & Safety, or designee, that the South Coast Air Quality Management District (SCAQMD)-approved Dust Control Plan utilizes recycled water and not potable water for dust abatement.

Solid Waste

DR UTIL-2 The County or its designee shall comply with the minimum solid waste diversion requirements of Assembly Bill (AB) 939, Senate Bill (SB) 1610, and SB 341 for solid waste generated during demolition, construction, and operation. Construction and demolition solid waste diversion compliance shall be done through the implementation of the OC Waste & Recycling's Construction & Demolition Program or comparable measures to the satisfaction of the Manager of Building & Safety, or designee. Pursuant to the Orange County Code of Ordinances, Title 4, Division 3, Article 2 (Solid Waste Management), Section 4-3-67 Franchise Required for Solid Waste Collection Services, waste diversion and recycling would be the responsibility of the designated franchise waste hauler under contract to the County.

School

DR SCH-1 Pursuant to Section 65995 of the California Government Code, applicable development fees shall be paid to the applicable school district prior to the issuance of building permits.

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APPENDIX

Mitigation Monitoring & Reporting Program

PLACEHOLDER -

To be added for Final Development Plan

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