

Refined Orange Heights Project

INITIAL STUDY



Lead Agency:

City of Orange
Community Development Department • Planning Division
300 East Chapman Avenue
Orange, CA 92866-1591
(714) 744-7220
(714) 744-7222 (Fax)
www.cityoforange.org

Prepared by:

T&B Planning Inc.
3200 El Camino Real
Irvine, CA 92602
Contact: Nicole Morse, Esq., Principal
(714) 505-6360

Date: April 16, 2026

TABLE OF CONTENTS

<u>Sections</u>	<u>Page</u>
1.0 INITIAL STUDY.....	3
A. INTRODUCTION AND BACKGROUND	3
B. EXISTING SETTING	10
C. APPROVED SH II PROJECT (2016)	14
D. REFINED ORANGE HEIGHTS PROJECT (2025)	18
E. SUMMARY OF CHANGES TO THE APPROVED SH II PROJECT	25
F. RESPONSIBLE AND TRUSTEE AGENCIES	27
G. CALIFORNIA ENVIRONMENTAL QUALITY ACT	27
2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED	32
3.0 ENVIRONMENTAL IMPACT ISSUES:	34
AESTHETICS.....	34
AGRICULTURE & FOREST RESOURCES.	35
AIR QUALITY.....	38
BIOLOGICAL RESOURCES.....	39
CULTURAL RESOURCES.....	40
ENERGY.....	40
GEOLOGY AND SOILS.....	44
GREENHOUSE GAS EMISSIONS.....	56
HAZARDS AND HAZARDOUS MATERIALS.....	57
HYDROLOGY AND WATER QUALITY.....	65
LAND USE/PLANNING.....	66
MINERAL RESOURCES.....	66
NOISE.....	68
POPULATION AND HOUSING.....	69
PUBLIC SERVICES.....	72
RECREATION.....	78
TRANSPORTATION.....	78
TRIBAL CULTURAL RESOURCES.....	79
UTILITIES/SERVICE SYSTEMS.....	80
WILDFIRE.....	80
MANDATORY FINDINGS OF SIGNIFICANCE.....	81
4.0 REFERENCES	82
5.0 PREPARERS AND PERSON CONSULTED	84
6.0 APPENDICES	85

List of Figures

<u>Figure Number and Title</u>	<u>Page</u>
Figure 1 Regional and Local Vicinity Map.....	5
Figure 2 Aerial Photograph	6
Figure 3 Prior Approval Locations.....	7
Figure 4 Open Space Dedications	9
Figure 5 Existing General Plan Designations.....	12
Figure 6 Existing Zoning Designations.....	13
Figure 7 Approved SH II Project Sector Map.....	15
Figure 8 Approved SH II Project Product Summary	16
Figure 9 Refined Orange Heights Project Sector Map.....	21
Figure 10 Refined Orange Heights Project Product Summary	22
Figure 11 Refined Orange Heights Project Trails Map.....	24
Figure 12 Physical Impact Area	26

List of Tables

<u>Table Number and Title</u>	<u>Page</u>
Table 1 Summary of Prior Approvals	8
Table 2 Approved and Proposed Development Plan by Sector	20

Appendices

Appendix A Geotechnical Report
Appendix B Phase I Environmental Site
Appendix C School Information

1.0 INITIAL STUDY

Project Title:

Refined Orange Heights Project

Reference Application Numbers:

ENT25-0022 – Amended VTTM 17989
ENT25-0023 – Amended VTTM 17987
ENT25-0024 - Amended Design Guidelines
ENT25-0025 - VTTM 17991
ENT25-0026 – Amended VTTM 17995

Lead Agency:

City of Orange
300 East Chapman Avenue
Orange, CA92866

Contact Person and Telephone No.:

Hayden Beckman, Planning Manager
(714) 744 - 7220

Project Applicant and Address:

Irvine Community Development Company LLC
550 Newport Center Drive
Newport Beach, CA 92660

Contact Person and Telephone No.:

Ryan Rasmussen, Vice President
(949) 720-2325

Project Location:

East of Jamboree Road, west of State Route (SR) 241/261, south of Irvine Regional Park, and bisected by Santiago Canyon Road

Existing General Plan Designation:

Low Density Residential (LDR)
Low Medium Density Residential (LMDR)
Medium Density Residential (MDR)
Open Space (OS)

Existing Zoning Classification:

Planned Community (PC)

A. INTRODUCTION AND BACKGROUND

In 1989, the City of Orange approved the East Orange General Plan (EOGP) project, which included, among other development, up to 12,350 homes across an approximately 7,100-acre site. In 2005, the City approved the Santiago Hills II/East Orange Project, which reduced the 1989 EOGP project to include (1) up to 1,746 homes in a 496-acre area called Santiago Hills II and (2) up to 2,300 homes in a 6,335-acre area called East Orange. In 2014, the Irvine Company dedicated more than 90 percent of the 1989 project acreage to the County of Orange for open space and, as a result, eliminated plans for East Orange. In 2016, the City approved a further reduction to the 2005 Santiago Hills II Project from 1,746 to 1,180 residential units, referred to herein as the “Approved SH II Project”. The Project Applicant has proposed further refinements to the Approved SH II Project that would reduce the residential units to 1,058 units and increase parkland and landscaping.

This Initial Study evaluates the impacts of the project with the proposed refinements (referred to herein as the “Refined Orange Heights”) compared to the Approved SH II Project. The Refined Orange Heights Project site (referred to herein as the “Project site”) is generally located in the

central portion of Orange County, at the eastern edge of the City of Orange (refer to Figure 1, *Regional and Local Vicinity Map*). As shown on the aerial photograph provided on Figure 2, the Project site is located on a roughly triangular site bordered by Irvine Regional Park to the north, Jamboree Road to the west, and SR 241/261 to the east. Santiago Canyon Road bisects the Project site. The area to the north of Santiago Canyon Road is referred to herein as “Orange Heights North” and the area to the south of Santiago Canyon Road is referred to herein as “Orange Heights South.”

Prior Approvals

The Refined Orange Heights Project is a portion of a larger planned development that has been reduced significantly in scope since it was originally approved in 1989, as briefly summarized below. Figure 3, *Prior Approval Locations*, shows the project areas associated with prior approvals described in the summaries below.

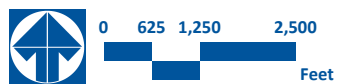
In 1989, the City of Orange approved the EOGP project, which consisted of development of the 7,110-acre EOGP site (including the Santiago Hills II and East Orange sites¹) with 12,350 housing units, employment centers, retail, commercial, mixed use, a resort complex, a golf course, and other public infrastructure.

In 2000, the EOGP was amended, increasing the residential and reducing the non-residential components of the Santiago Hills II site. At that time, Planned Community zoning and Planned Community District Regulations for Santiago Hills II were adopted allowing for a maximum of 1,886 units and 224,000 square feet of non-residential development on 518 acres.

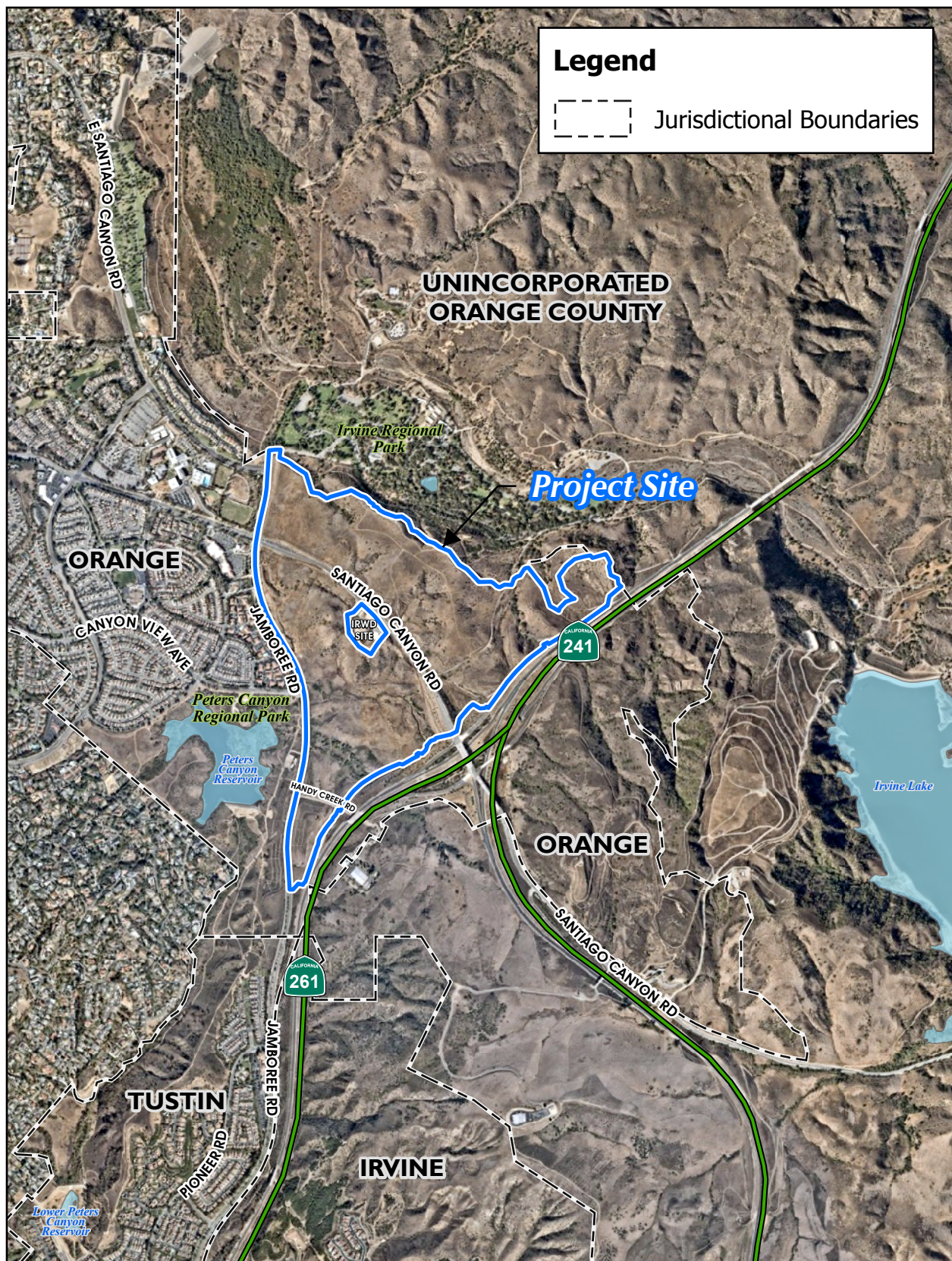
In 2005, the City amended its previous approvals for the Santiago Hills II and East Orange sites, reducing the overall development to up to 4,046 residential units as well as commercial uses, public facilities and infrastructure within 6,831 acres (referred to herein as the “2005 Santiago Hills II/East Orange Project”). This approval established Planned Community zoning for East Orange (including residential development plans for East Orange Areas 1 and 2) and reduced the maximum number of residential units in Santiago Hills II from 1,886 on 518 acres to 1,746 on 496 acres, and the non-residential intensity in Santiago Hills II was eliminated (referred to as the “2005 Santiago Hills II Project”). Relevant to Santiago Hills II, the City also approved a Development Agreement, a General Plan Amendment, amendments to the prior Santiago Hills Planned Community District Regulations text, Design Guidelines, a Runoff Management Plan (ROMP), and Tentative Tract Maps 16201 and 16199.

¹ The 1989 EOGP site comprised of 7,110 acres included two parts: 1) the Santiago Hills II site located west of SR 241/261; and 2) the East Orange site, located east of the SR 241/261.

Figure 1

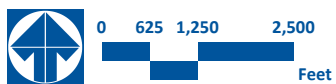


Regional and Local Vicinity Map

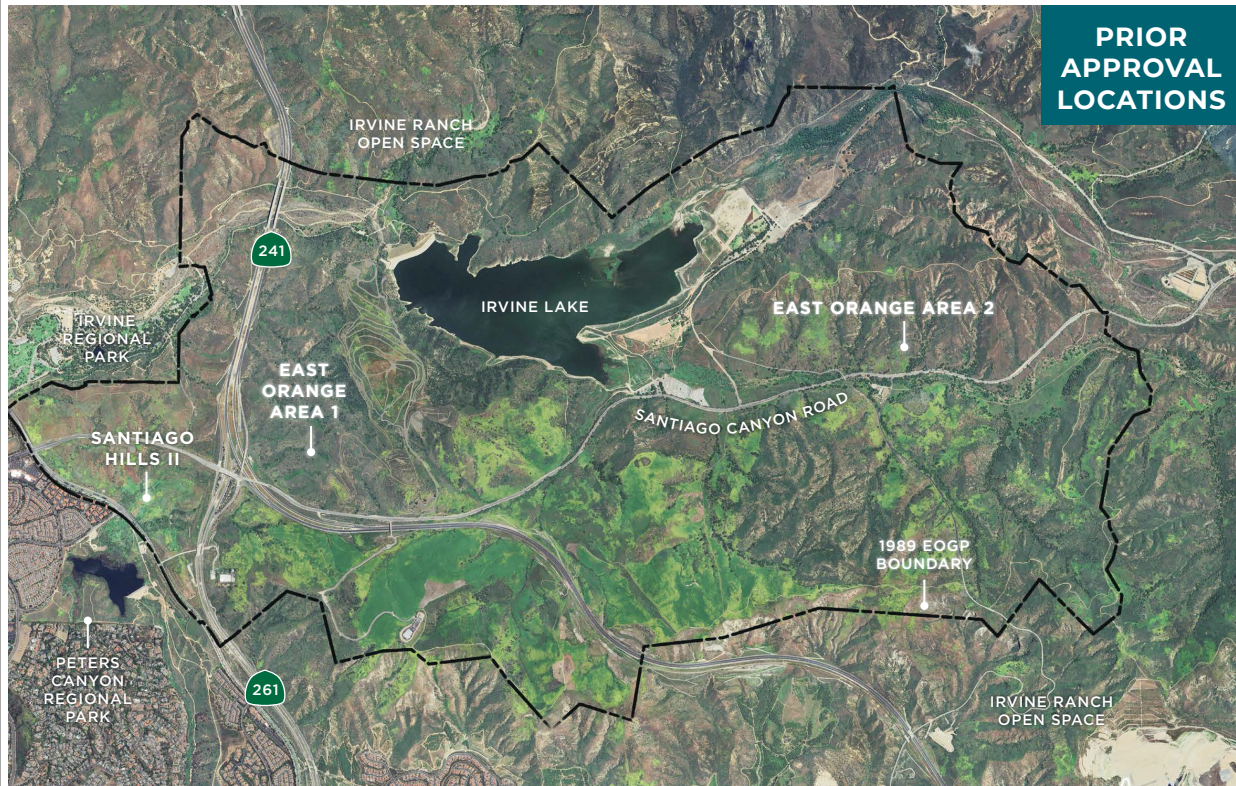


Source(s): Esri, Nearmap Imagery (October 2025), Orange County (2025)

Figure 2



Aerial Photograph



Source(s): Irvine Company (March 2026)

Figure 3



Not to Scale

Prior Approval Locations

As further described below, in 2016, the City approved changes to the 2005 Santiago Hills II/East Orange Project to reflect the Applicant's decision to dedicate the entire East Orange site for open space and to reduce the number of residential units planned in the Santiago Hills II site. The 2016 changes reduced the 2005 Santiago Hills II Project's developable area from approximately 496 acres to approximately 396 acres² and reduced the maximum allowable units from 1,746 to 1,180.

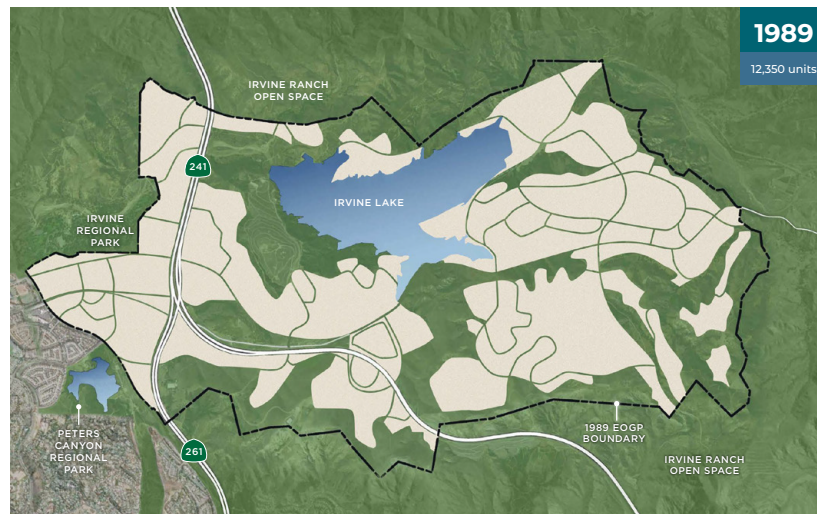
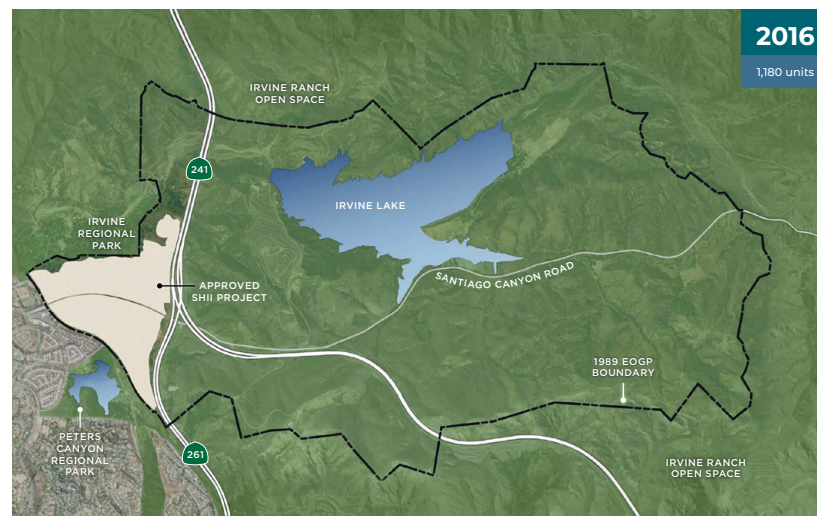
Table 1 below summarizes prior approvals, entitlements, and the associated previous environmental documentation.

Table 1 Summary of Prior Approvals

Prior Approval	Entitlement	Previous Environmental Documentation
1989 East Orange General Plan (EOGP)	General Plan Amendment (GPA) 2-88-A	1989 Program EIR 1278
2000 Amendments to the EOGP	GPA No. 2-00 Zone Change and Pre-Zone Change 1204-00	2000 Supplemental EIR 1278
2005 Santiago Hills II/East Orange Project (2005 Santiago Hills II Project)	GPA No. 2003-0001 Zone Change (ZC) No. 1218 ZC No. 1219 Development Agreement Runoff Management Plans (ROMP) Santiago Hills and East Orange Design Guidelines Tentative Tract Map (TTM) No. 16199 TTM No. 16201 TTM No. 16514 Conditional Use Permit No. 2488-03 Master Plan of Arterial Highways (MPAH) Amendments	2005 Supplemental EIR 1278/EIR 1716 (2005 SEIR/EIR)
Approved SH II Project	Zone Change No. 1281-16 Design Review No. 4847-16 Development Agreement No. 0003-16 Amended ROMP VTTM No. 17995 VTTM No. 17987 VTTM No. 17988 VTTM No. 17989 VTTM No. 17990	2016 Addendum to the 2005 SEIR 1278/EIR 1716 (2016 Addendum)

To date, the Project Applicant has dedicated approximately 6,600 acres (more than 90 percent) of the approved 1989 EOGP site as open space to the County of Orange. The dedicated open space areas are shown on Figure 4, *Open Space Dedications*. The open space areas primarily located north and east of the Project site are included in the County of Orange Central/Coastal Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) Nature Reserve and the Irvine Ranch Land Reserve (IRLR), or other permanent open space areas. The NCCP/HCP is evaluated in the Final Environmental Impact Report/Environmental Impact Statement for the County of Orange Central/Coastal NCCP/HCP certified in 1996 (State Clearinghouse [SCH] No. 93071061).

² The total project site was approximately 421 acres, which included the planned community developable area (approximately 396 acres of planned community zoned area) and 25 acres of adjacent road right-of-way.



Source(s): Irvine Company (March 2026)

Figure 4



Not to Scale

Open Space Dedications

In summary, the currently approved entitlements along with the supporting certified and adopted environmental documents (further discussed below in Section 1.G and referred to herein as the “Previous Environmental Documentation”) allow development of up to 1,180 units and associated infrastructure improvements within the Project site. As further described below, the Refined Orange Heights Project consists of refinements to the Approved SH II Project. The Refined Orange Heights Project would refine previously approved tentative tract maps, reducing the number of housing units compared to the Approved SH II Project from 1,180 to 1,058 units and increasing parkland and landscaping. As with the Approved SH II Project, the Refined Orange Heights Project would include detached homes, parks, landscaping, fuel modification areas, trails, streets, utilities, fencing and walls, signage, lighting, and other infrastructure. The proposed land uses are consistent with the City’s residential and open space General Plan land use designations and Planned-Community (P-C) zoning. The Santiago Hills II Design Guidelines would also be amended as part of the Refined Orange Heights Project. Additionally, the previously approved conceptual fuel modification plan, conceptual landscape plan, and Water Quality Management Plan (WQMP) for Santiago Hills II would also be amended. Roadway and infrastructure improvements included as part of the Approved SH II Project would also be constructed with the Refined Orange Heights Project. No changes to the General Plan land use designations, zoning, and residential development area boundaries are required or proposed.

B. EXISTING SETTING

Project Site

As shown on the aerial photograph provided in Figure 2, the Project site is undeveloped and consists of a series of low-lying hills and valleys. The Project site lies in the foothills of the western Santa Ana Mountains. The Project site is bisected by Santiago Canyon Road, a four-lane roadway between Jamboree Road and SR 241/261. The Project site supports native habitat communities (i.e., riparian, coastal sage scrub, chaparral, and grassland), and non-native habitat communities (i.e., annual grassland and pepper trees). There is an existing Irvine Ranch Water District (IRWD) Zone water storage site adjacent to the south side of Santiago Canyon Road. The existing 54-inch Santiago Aqueduct Commission (SAC) Baker Pipeline line (maintained by IRWD) crosses the western portion of the Project site from Irvine Regional Park to Jamboree Road.

Additionally, Handy Creek Road (a private road) traverses the southern portion of the Project site and provides access to Cox Communication and East Orange Water District facilities, which are located east of SR 261.

Surrounding Land Uses

The land uses surrounding the Project site consist of urban development and open spaces as follows:

North:

The area north of the site consists of the Irvine Regional Park and Santiago Creek, and open space within an unincorporated area of Orange County.

South:

There is undeveloped land in the City of Orange to the south. There is primarily residential development within an unincorporated area of Orange County and the City of Tustin further to the southwest, and undeveloped land within an unincorporated area of Orange County and the City of Irvine to the southeast.

East:

The SR 241/261 right-of-way is located east of the Project site. Undeveloped open space in an unincorporated area of Orange County, and Irvine Lake are located further to the east.

West:

The west boundary is Jamboree Road. Residential tracts, commercial uses, City Fire Station No. 7, the Metropolitan Water District (MWD) Emergency Operations Center, Peters Canyon Regional Park (including the Peters Canyon Reservoir), and Santiago Canyon College in the City of Orange are located to the west of the Project site.

The majority of open space areas adjacent to the Project site, including Irvine Regional Park, Peters Canyon Regional Park and the open space east of SR 241/261 (originally part of the EOGP project area), were dedicated to the County of Orange as open space by the Irvine Company.

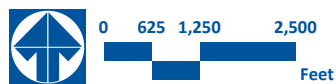
General Plan

As shown in Figure 5, the Project site has the following General Plan land use designations: Low Density Residential (LDR), Low Medium Density Residential (LMDR), Medium Density Residential (MDR), and Open Space (OS). The majority of the Project site is designated Low Density Residential (LDR), which allows for “conventional single-family residential development characterized by individual single-family homes constructed in subdivisions, or by custom units built on individual lots.” The northeastern and southern portions of the Project site are designated as Low Medium Density Residential (LMDR), which allows for “small lot or zero lot line single-family subdivisions, duplexes and mobile home parks, as well as lower intensity apartment and condominium complexes.” Portions of the Project site near SR 241/261 are designated Medium Density Residential, which allows for “apartment and condominium or townhouse units in areas with ready access to major circulation routes, business districts and public open space areas.” The northern edge of the Project site and pocket areas south of Santiago Canyon Road are designated Open Space Lands, which include both privately held open spaces and public lands. (City of Orange, 2015)

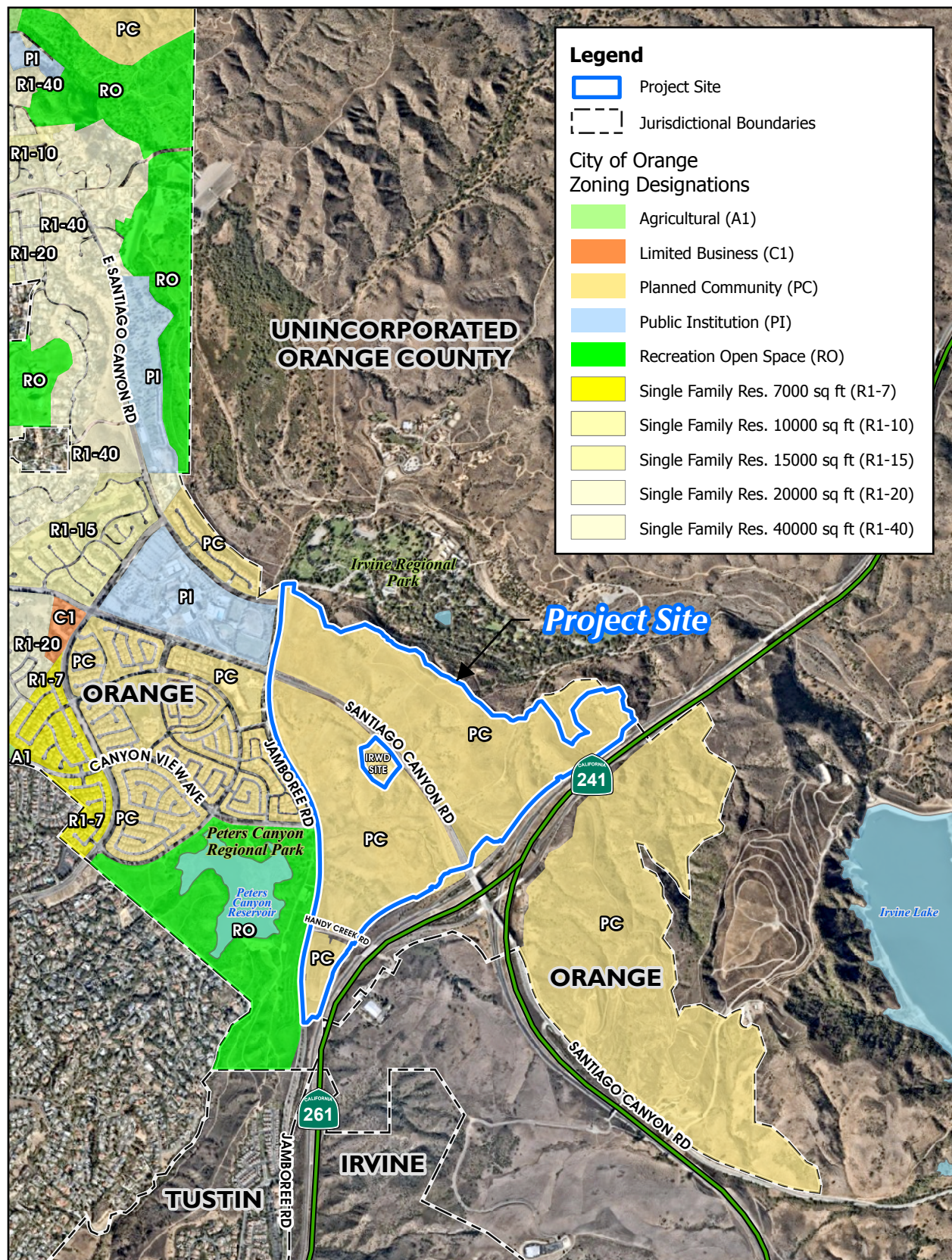
Zoning

As shown in Figure 6, the Project site is zoned Planned-Community (P-C) (City of Orange, 2020). As stated in the City’s Zoning Code, “the Planned Community (PC) district is intended to provide for a more efficient use of land and a better community environment by utilizing more imaginative and innovative planning concepts than would be possible under conventional zoning controls” (City of Orange, 2025). The development standards under the P-C zoning are the approved Santiago Hills Planned Community District Regulations.

Figure 5

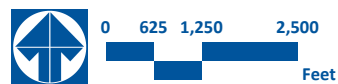


Existing General Plan Designations



Source(s): Esri, Nearmap Imagery (October 2025), Orange County (2025), City of Orange (2022)

Figure 6



Existing Zoning Designations

C. APPROVED SH II PROJECT (2016)

On July 15, 2016, and August 9, 2016, the City approved amendments to the 2005 Santiago Hills Planned Community District Regulations, updated and amended the 2005 Development Agreement, amended the 2005 Santiago Hills II Design Guidelines, amended the 2005 Runoff Management Plan, and approved amended and new Vesting Tentative Tract Maps (VTTMs). Figure 7 presents the sectors³ for the Approved SH II Project. VTTM 17995 was approved for Santiago Hills II north of Santiago Canyon Road, replacing VTTM 16201 approved in 2005. Tract Map 16199 (approved in 2005) remained in place for Santiago Hills II south of Santiago Canyon Road, while VTTMs 17990, 17988, 17989 and 17987 were approved further subdividing the Tract Map 16199 area and establishing individual homeowner lots within Planned Community sectors J-2 and J-3, J-4, J-5 and J-6, respectively. Figure 8 presents a summary of housing types and minimum lot sizes for the Approved SH II Project. Notably, these 2016 amendments reflected the voluntary conservation of the approved East Orange Planned Community area (i.e., development in this area was eliminated), the dedication of portions of the northernmost portion of Santiago Hills II to the County as open space associated with Irvine Regional Park, and the elimination of development areas west of Jamboree Road (now part of Santiago Canyon College) (refer to Figure 3).

In summary, the Approved SH II Project includes the following components.

- **Residential Uses.** Development of a maximum of 1,180 residential units.
- **Open Space.** Approximately 79 acres zoned as open space.
- **Street Improvements.** The Approved SH II Project includes the following on-site and off-site street improvements:
 - Development of on-site “backbone” streets including Street A⁴, B⁵ and Handy Creek Road in the area south of Santiago Canyon Road and Street A, B, C, D, E and F in the area north of Santiago Canyon Road, as well as in tract residential streets to serve 1,180 residential units.
 - Widening of Santiago Canyon Road from 4 to 6 lanes between Jamboree Road and SR 261 and reconstructing the roadway to straighten its alignment and flatten existing grade changes for enhanced safety. With the road work, the existing electrical lines would be undergrounded, and a landscaped median and on-street bike lanes would be added. In addition, a second westbound right-turn lane would be provided at Jamboree Road;

³ Sector is a terminology used under the Santiago Hills Planned Community District Regulations to describe applicable zoning regulations. Each sector is intended for a specific land use type and is subject to associated development standards.

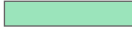
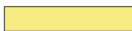
⁴ Street A is also referred to as Shady Trail Drive on recorded Map 16199.

⁵ Street B is also referred to as Leaf Trail Drive on recorded Map 16199.

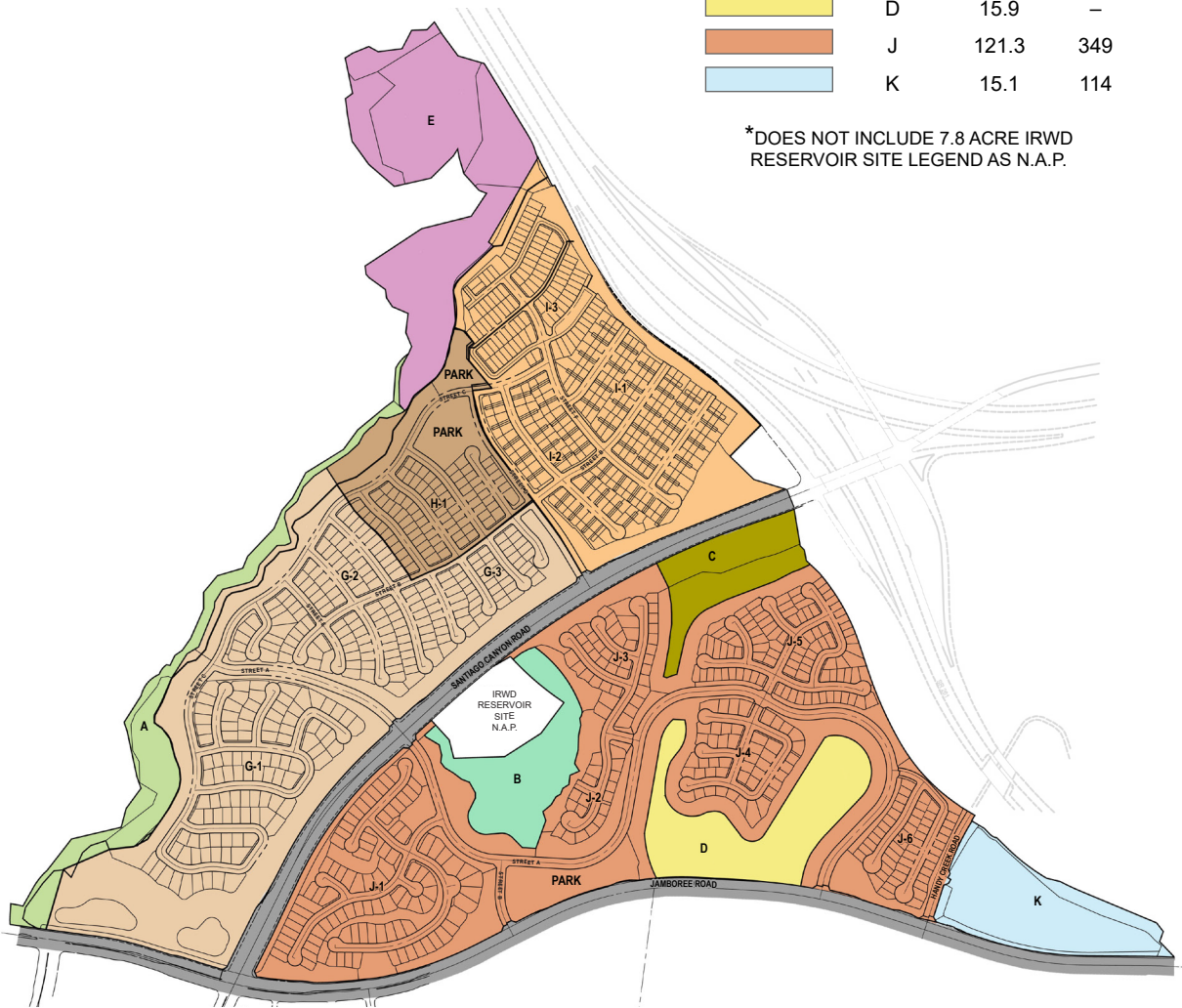
SANTIAGO HILLS II – NORTH 17995

	SECTOR	ACRES	UNITS
	A	11.0	–
	E	31.6	–
	G	95.1	270
	H	22.7	85
	I	62.5	362

SANTIAGO HILLS II – SOUTH 16199

	SECTOR	ACRES	UNITS
	B*	11.1	–
	C	9.2	–
	D	15.9	–
	J	121.3	349
	K	15.1	114

*DOES NOT INCLUDE 7.8 ACRE IRWD RESERVOIR SITE LEGEND AS N.A.P.



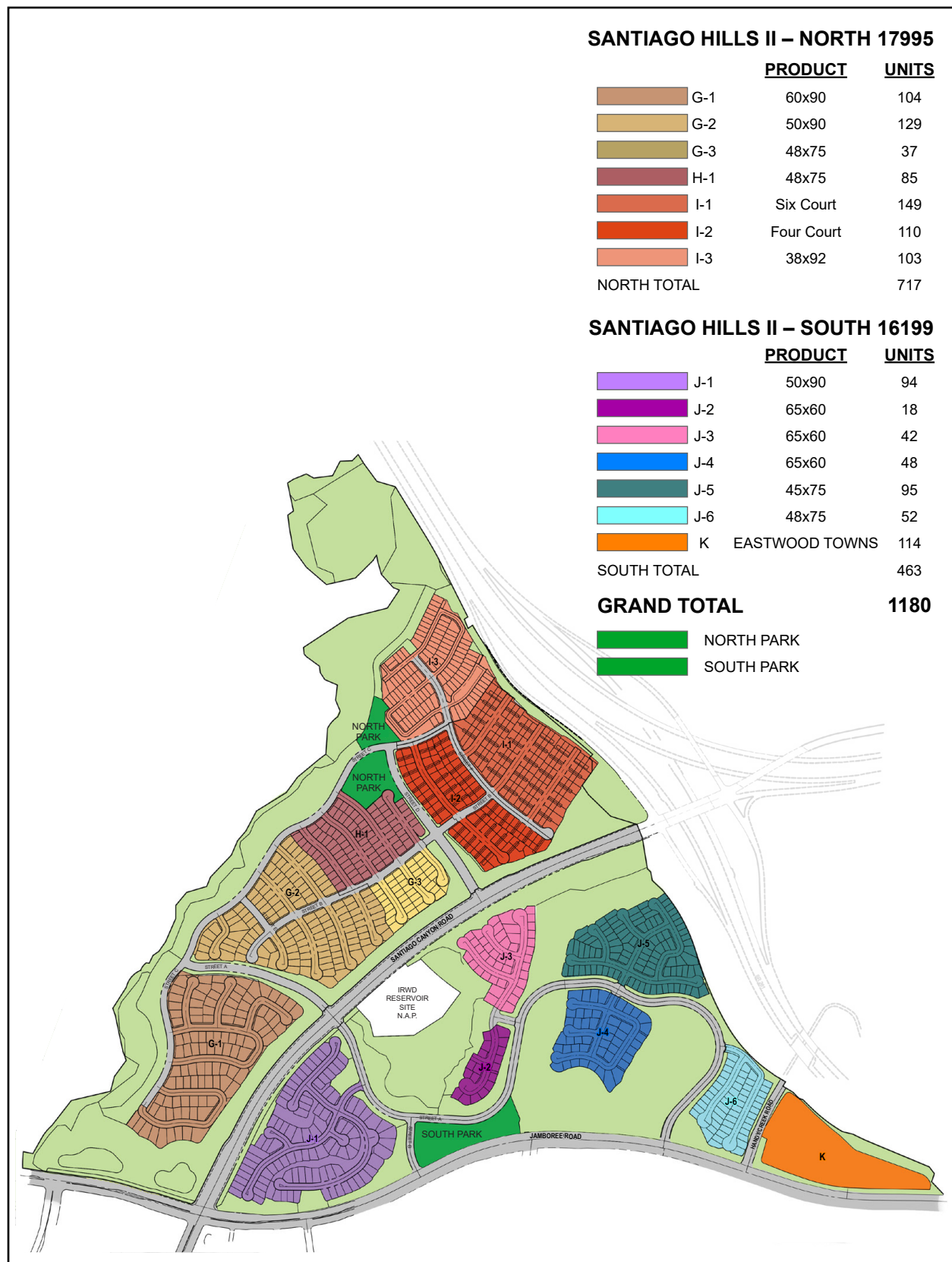
Source(s): Michael Baker International (2016)

Figure 7



Not to Scale

Approved SH II Project Sector Map



Source(s): Michael Baker International (2016)

Figure 8



Not to Scale

Approved SH II Project Product Summary

- Widening of Jamboree Road from 4 to 6 lanes between Canyon View Avenue and the southern boundary of the Santiago Hills II site;
 - Installation of two new traffic signals along Santiago Canyon Road (at Street A and Street D), two new traffic signals along Jamboree Road (at Street A and Handy Creek Road), and a stop-controlled intersection at Jamboree Road (Street B) for right in/right out turns only;
 - A portion of Handy Creek Road, which is currently a private access road, would be re-constructed as a two-lane roadway and dedicated to the City as a public street;
 - Intersection improvements, including modifying lane configurations and upgrading traffic signals, at Jamboree Road at Santiago Canyon Road, Jamboree Road at Chapman Avenue/Santiago Canyon Road, Jamboree Road at Fort Road, and Jamboree Road at Canyon View Avenue; and
 - Installation of infrastructure for synchronization of traffic signals on Jamboree Road and Santiago Canyon Road adjacent to the site.
- **Parks.** The Approved SH II Project includes two neighborhood parks in Sectors H and J (see Figure 7) encompassing approximately 9.5 acres which was an increase of 1.5 acres compared to the previously-approved 2005 Santiago Hills II project.
 - **Trails and Related Amenities.** The Approved SH II Project includes the relocation and reestablishment of the Puma Ridge Trail within the northern portion of the Santiago Hills II site, which would have been eliminated with the 2005 Santiago Hills II/East Orange Project. The Approved SH II Project also includes approximately 2.7 miles of local multi-purpose paved and unpaved trails. This includes a County Regional Riding and Hiking Trail along the east side of Jamboree Road, which will become part of the “Mountains to Sea” regional trail and connects the Irvine Regional and Peters Canyon Regional Parks (the 2005 Santiago Hills II/East Orange Project included the regional trail traversing the residential development). Additionally, the Approved SH II Project includes equestrian trail amenities (split rail fencing, equestrian shy areas, and equestrian-height traffic signal crossing buttons, etc.).
 - **Fuel Modification Plan.** The Approved SH II Project includes implementation of a Fuel Modification Plan to implement then applicable California Fire Code and City Fire Department standards.
 - **Landscape Plans.** The Approved SH II Project includes installation of landscaping, consistent with Landscape Plans that comply with applicable standards, including the City’s Municipal Code and Santiago Hills II Design Guidelines. The approved Conceptual Landscape Plan and plant palette is included in the Santiago Hills II Design Guidelines.
 - **Utilities and Infrastructure.** The Approved SH II Project includes the installation of necessary utility infrastructure, including recycled water (which was not available for the 2005 Santiago Hills II/East Orange Project), and other infrastructure improvements,

including construction of the IRWD Zone 6 reservoir in the northeast portion of the Santiago Hills II site by IRWD (increasing from 600,000 gallons proposed with the 2005 SHI II/East Orange Project to 2.4 million gallons); construction of a new water pump station by IRWD at the existing IRWD site south of Santiago Canyon Road; undergrounding existing electrical lines along Santiago Canyon Road and within the area north of Santiago Canyon Road; relocating a segment of the existing 54-inch Baker Pipeline line; construction of water quality treatment basins throughout the Project site consistent with the approved ROMP and WQMP; installation of the off-site Peters Canyon Outfall structure to move treated storm water from the area south of Santiago Canyon Road to the Peters Canyon Reservoir; and possible construction of cell antennas (where allowed by zoning).

Subsequent to the 2016 approvals, Final Tract Map 16199 was recorded, grading plans were approved, and permits were issued.

D. REFINED ORANGE HEIGHTS PROJECT (2025)

The proposed Refined Orange Heights Project includes the following requested approvals from the City:

- **Amend VTTM 17995 for Orange Heights II North.** The previously approved VTTM 17995 would be amended to change minimum lot sizes in Sector I, and to revise lot layouts, and street designs throughout. Street design modifications mainly consist of converting cul-de-sacs to looped road configurations and modifying street widths consistent with updated Fire Code requirements. Revised VTTM 17995 would reduce the number of residential lots from 717 lots to 626 lots. Additionally, lots along the eastern edge of the approved VTTM 17995 adjacent to SR 241 that were previously proposed for dedication by the California Department of Transportation (Caltrans) would be eliminated and remain in Caltrans ownership. Two additional lots for passive parks would be added within the tract.
- **Amend VTTM 17989 for Sector J-5.** The previously approved VTTM 17989 for Sector J-5 would be amended to change the minimum lot sizes, revise lot layouts, and modify the fuel modification zone within the Project site boundary. Revised VTTM 17989 would reduce the number of residential lots from 95 lots to 77 lots.
- **Amend VTTM 17987 for Sectors J-6.** The previously approved VTTM 17987 for Sector J-6 would be amended to change the minimum lot sizes, revise lot layouts and street designs, and modify the fuel modification zone within the Project site boundary. Revised VTTM 17987 would increase the number of residential lots by one (from 52 lots to 53 lots), and modify the internal in-tract circulation system, mainly converting cul-de-sacs to a looped road configuration.
- **New VTTM 17991 to subdivide Sector K.** The previously approved VTTM 16199 set the outer boundaries of Sector K in the southern portion of the Project site, which was finalized and recorded in 2017. Up to 114 units were identified for Sector K in the Santiago Hills

Planned Community District Regulations, with the final number of units to be determined based on a future subdivision map and associated site plan. These units were previously anticipated to be attached townhomes. New proposed VTTM 17991 includes 101 detached residential units in Sector K subdivided via a condominium map, reducing the unit count by 13 residential units.

- **Lot Line Adjustment to modify lot lines in Sector J-1.** The previously approved VTTM 16199 included Sector J-1 and the final map was approved and recorded in 2017. A Lot Line Adjustment is proposed to modify lot lines in Sector J-1 to increase the landscaped area at the project entry and would result in one less residential lot/unit (from 94 lots to 93 lots) than previously approved.
- **Amend the Santiago Hills II Design Guidelines.** The Santiago Hills II Design Guidelines set forth the guiding principles for overall community design, including neighborhood design, architectural design, home types, and landscape architectural design. Amendments are proposed to the approved Santiago Hills II Design Guidelines (renamed the “Orange Heights Design Guidelines”) to reflect the Refined Orange Heights Project, including updates to architectural design, home types, and landscape design (trails, community fencing, landscape types and plant palette).

The Refined Orange Heights Project is consistent with the City’s residential and open space General Plan land use designations and Planned-Community (P-C) zoning. No changes to the General Plan land use designations, zoning, and residential development area boundaries are required or proposed.

Future actions would include, but are not limited to, City approval of grading-related plans, final subdivision maps, and construction plans and specifications for residential development areas, landscaping, parks, trails, streets, utilities, fencing and walls, signage, lighting, and other infrastructure.

Refined Orange Heights Project Development Characteristics

As with the Approved SH II Project, the requested approvals described above for the Refined Orange Heights Project would involve the development of detached homes, parks, landscaping, fuel modification areas, trails, streets, utilities, fencing and walls, signage, lighting, and other infrastructure. Figure 9 presents the sectors for the Refined Orange Heights Project, and Figure 10 presents the summary of housing types and minimum lot sizes for the Refined Orange Heights Project. Table 2 below provides a comparative statistical summary of the Approved SH II Project and the Refined Orange Heights Project. In summary, the Refined Orange Heights Project includes the following key components:

- **Residential Uses.** Development of a maximum of 1,058 detached residential units. This represents a reduction of 122 residential units compared to the Approved SH II Project which included 1,180 units.

Table 2 Approved and Proposed Development Plan by Sector

Sector	Approved 2016 VTTM No.	Land Use Designation	Approved SH II Project		Refined Orange Heights Project	
			Residential Lots/Units	Sector Gross Acres	Residential Lots/Units	Sector Gross Acres
Orange Heights North (previously Santiago Hills II North)						
A	17995	Open Space	0	11	0	11
E	17995	Open Space	0	31.6	0	31.6
G	17995	Low Density Residential	270	95.1	263	95.1
H ³	17995	Low Medium Density Residential	85	22.7	85	22.1
I ³	17995	Medium Density Residential	362	62.5	278	63.1
Orange Heights South (previously Santiago Hills II South)						
B	16199	Open Space	0	11.1	0	11.1
C	16199	Open Space	0	9.2	0	9.2
D	16199	Open Space	0	15.9	0	15.9
J	-	Low Density Residential	349	121.3	331	121.3
J-1 ¹	16199	Low Density Residential	94	N/A	93	N/A
J-2 ²	17990	Low Density Residential	18		18	
J-3 ²	17990	Low Density Residential	42		42	
J-4 ²	17988	Low Density Residential	48		48	
J-5	17989	Low Density Residential	95		77	
J-6	17987	Low Density Residential	52		53	
K	16199	Low Medium Density Residential	114	15.1	101 ⁴	15.1
TOTAL	-	-	1,180	396 ⁵	1,058 (-122 units)	396 (No change)

¹ VTM 16199, which included Sector J-1, was approved in 2005 with the final map approved and recorded in 2017. The proposed lot line adjustment will result in one less residential lot/unit than previously approved.

² VTMs 17988 and 17990 were approved in 2016 and final maps have been filed with the City. City approval of final maps for these sectors are ministerial actions.

³ The approved and proposed sector boundaries remain the same except for 0.6 acres transferred from Sector H to I. Pursuant to P-C zoning (Section 04.010 General Provisions, No. 7) sector boundaries may be adjusted to a maximum of 10 percent of the receiving sector without amending the P-C zoning.

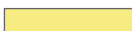
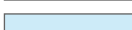
⁴ The 101 units in Sector K under the Refined Orange Heights Project will be detached condominiums.

⁵ Rounded up from 395.5.

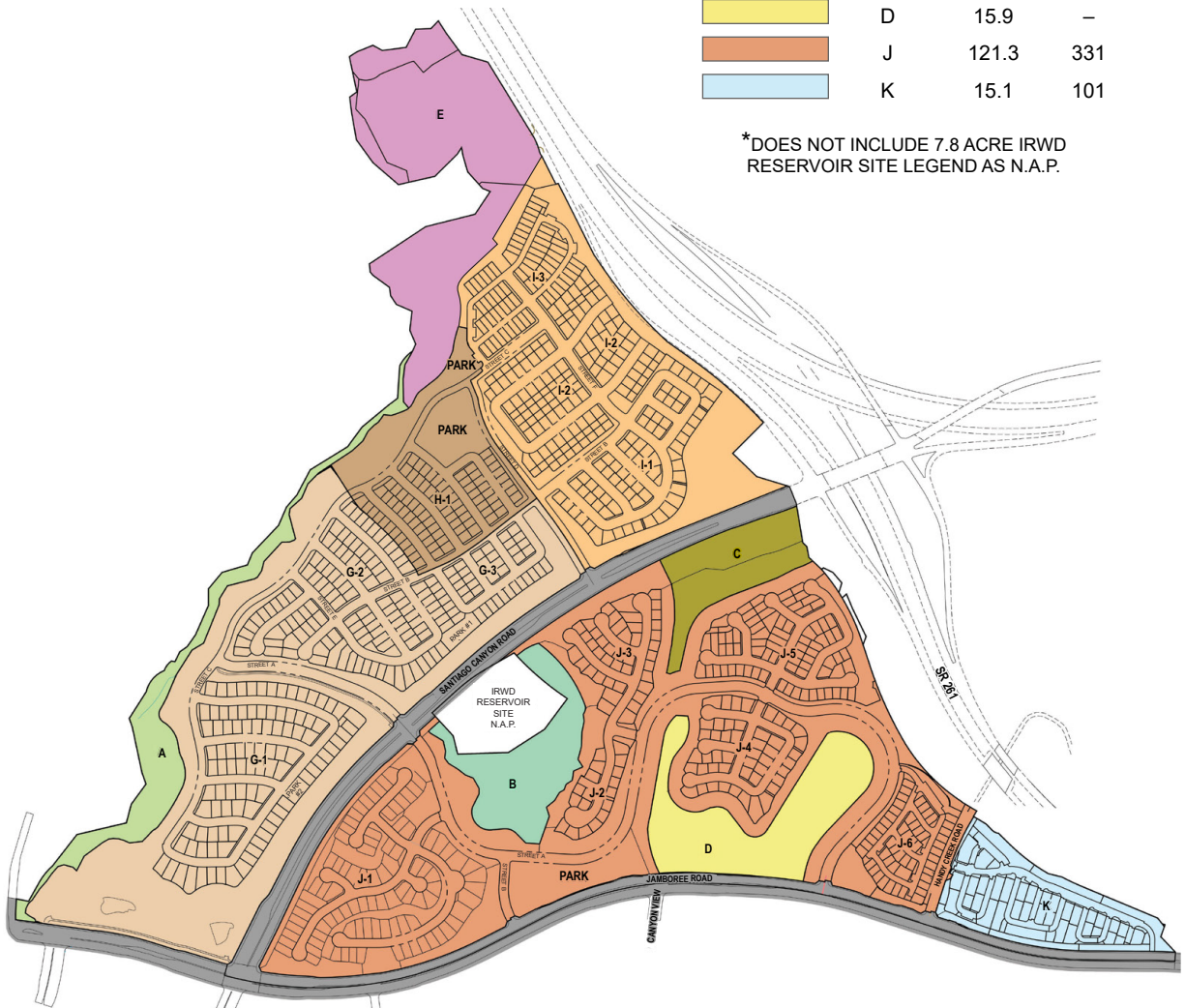
SANTIAGO HILLS II – NORTH 17995

	SECTOR	ACRES	UNITS
	A	11.0	–
	E	31.6	–
	G	95.1	263
	H	22.1	85
	I	63.1	278

SANTIAGO HILLS II – SOUTH 16199

	SECTOR	ACRES	UNITS
	B*	11.1	–
	C	9.2	–
	D	15.9	–
	J	121.3	331
	K	15.1	101

* DOES NOT INCLUDE 7.8 ACRE IRWD RESERVOIR SITE LEGEND AS N.A.P.



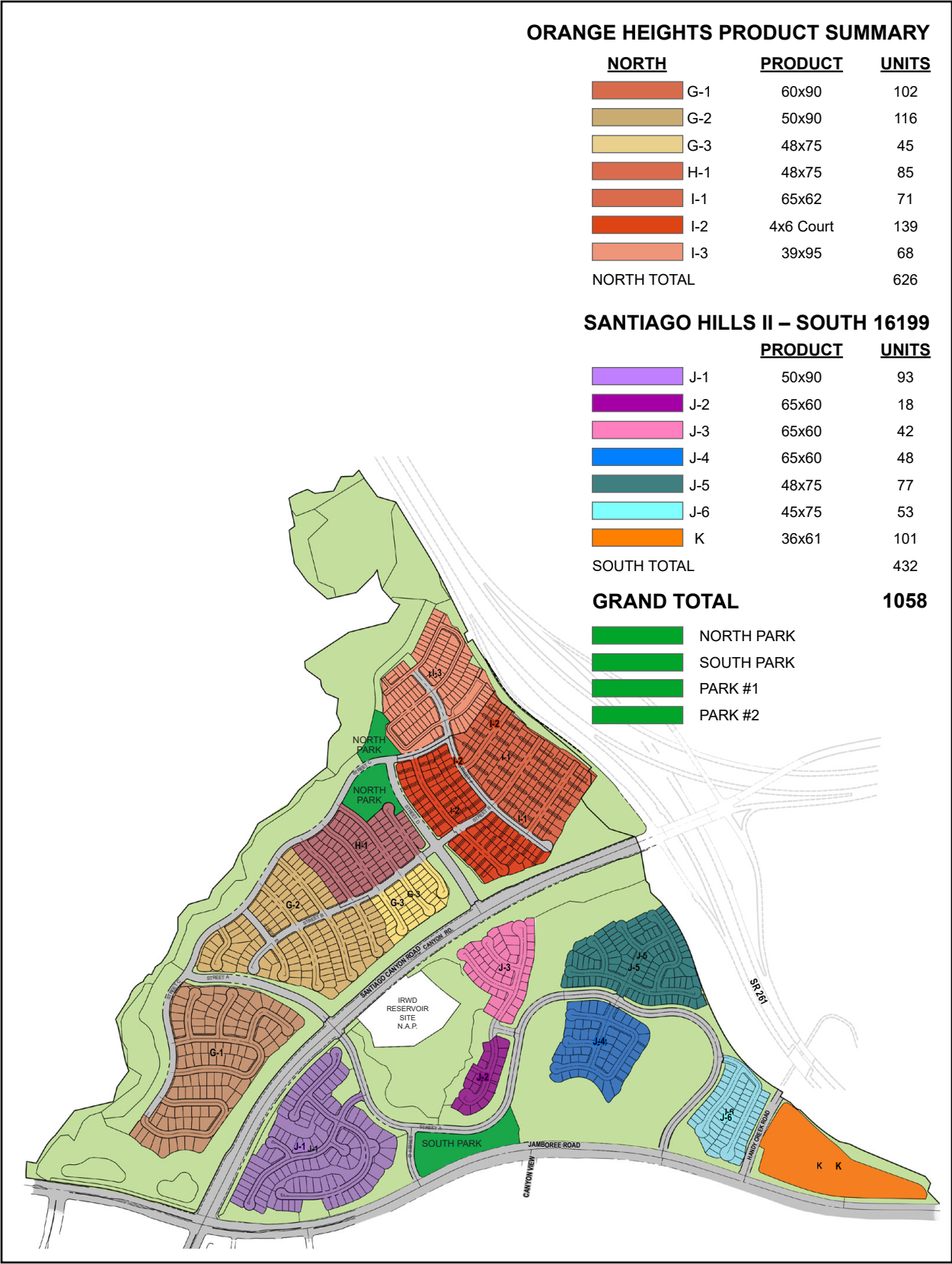
Source(s): Wilson Mikami Corporation (March 2026)

Figure 9



Not to Scale

Refined Orange Heights Project Sector Map



Source(s): Wilson Mikami Corporation (March 2026)

Figure 10



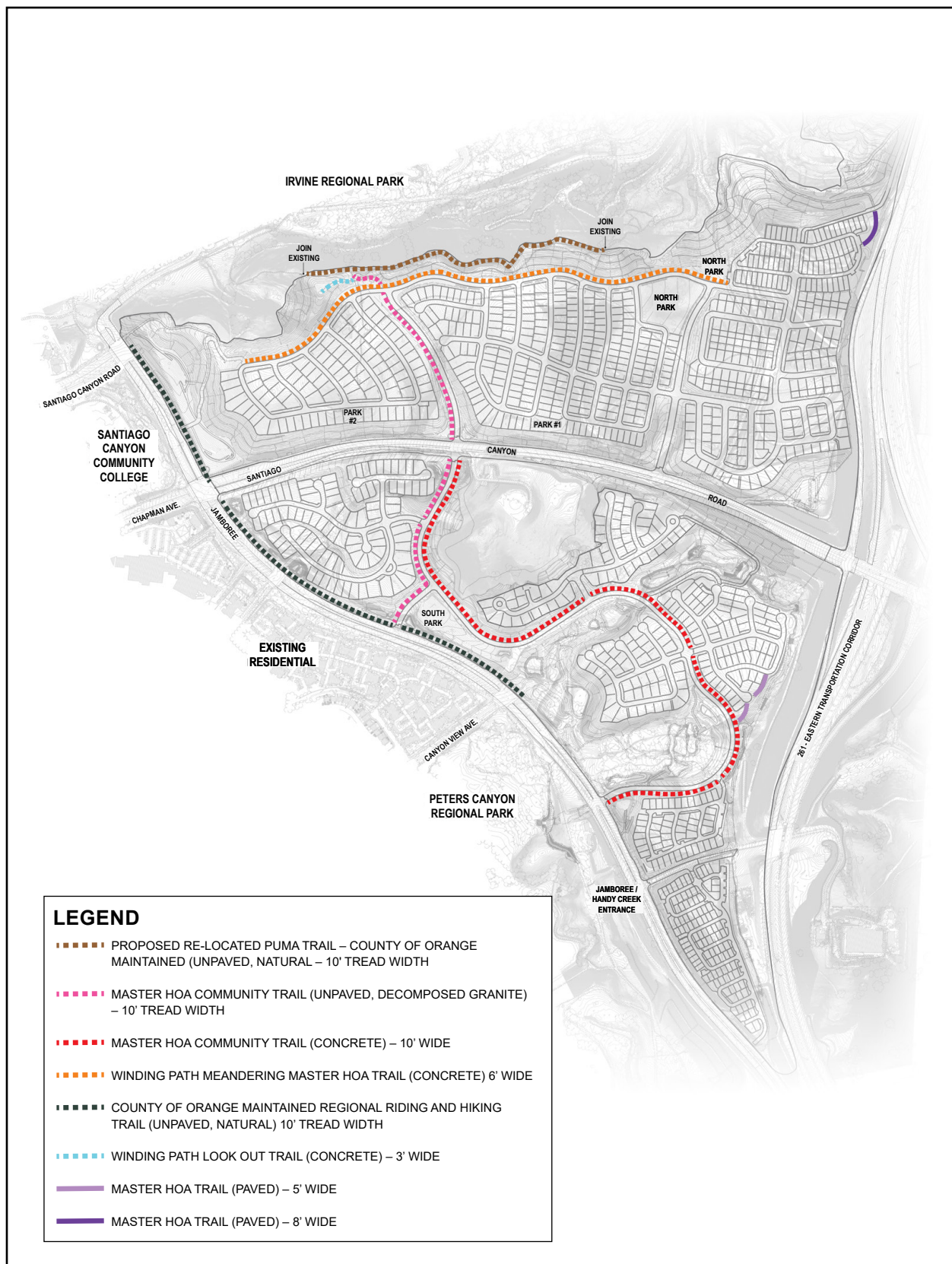
Not to Scale

Refined Orange Heights Project Product Summary

- **Open Space.** As with the Approved SH II Project, approximately 79 acres is zoned open space. The Refined Orange Heights Project does not change these on-site areas designated as open space. Additionally, the Refined Orange Heights Project does not involve any changes to the 6,600 acres of off-site open space dedications that have previously been made.
- **Street Improvements.** The on-site and off-site street improvements described above for the Approved SH II Project would also be implemented with the Refined Orange Heights Project.
- **Parks.** In addition to parks that were previously approved as part of the Approved SH II Project (9.5 acres total), two additional park parcels would be added for a total of 10.6 acres of parks. Tract 17995 would include the 4.8-acre North Park in Sector H and the two new passive parks in Sector G (see Figure 9), consisting of 0.7 acres and 0.4 acres. Tract 16199 includes the 4.7-acre South Park in Sector J.

The on-site parks, open space and landscaped areas would collectively encompass approximately 200 acres, which represents approximately 50 percent of the Refined Orange Heights Project site.

- **Trails and Related Amenities.** The trail system would remain substantially the same as the Approved SH II Project. Amenities would be added at the Puma Ridge Trail entry from Irvine Regional Park within Tract 17995. Within Sector I-3 in Tract 17995 a small trail segment would be relocated from the western edge of the residential development to the eastern edge. In addition, a small trail segment within Sector J-5 in Tract 17989 would be added. The trail cross-sections, improvements, and amenities would remain the same. Figure 11 depicts the trails map for the Refined Orange Heights Project.
- **Fuel Modification Plan.** A portion of the Approved SH II Project was located within the Very High Fire Hazard Severity Zone (VHFHSZ) at the time it was approved. In 2025, the State issued and the City adopted updated Local Responsibility Area (LRA) Fire Maps. The entirety of the Approved SH II Project area is within the VHFHSZ. Fuel modification plans for the Project site would be updated to reflect the Refined Orange Heights Project and to comply with current California Fire Code (CFC) and Orange City Fire Department standards.
- **Landscape Plan.** The Conceptual Landscape Plan and plant palette contained within the Approved Santiago Hills II Design Guidelines would be updated to reflect the Refined Orange Heights Project. Landscape setbacks and tree/shrub spacing would be updated to meet the most recent CFC and Orange City Fire Department requirements. The plant palette would be modified to include additional tree and shrub varieties to expand planting options while meeting applicable requirements.



Source(s): Wilson Mikami Corporation (March 2026)

Figure 11



Refined Orange Heights Project Trails Map

- **Utilities and Infrastructure.** As with the Approved SH II Project, the Refined Orange Heights Project would include the installation of on-site utility infrastructure (domestic and recycled water, sewer, storm drains, water quality treatment, and dry utilities) required to serve the proposed development. Additionally, major on- and off-site infrastructure improvements included as part of the Approved SH II Project would also be completed including the Zone 6 reservoir in the northeast portion of the project site and the water pump station south of Santiago Canyon Road to be constructed by IRWD, undergrounding of electrical lines along and north of Santiago Canyon Road, relocation of the Baker Pipeline, water quality treatment basins, and the Peters Canyon Outfall structure. Cell antennas may also be constructed by others, as allowed by the current zoning. The approved ROMP and WQMP reflect the Approved SH II Project. The WQMP would be amended, as needed, to ensure compliance with current water quality regulations; no change to the ROMP is anticipated to be necessary.

Refined Orange Heights Project Construction Activities and Physical Impact Area

The actual construction schedule would be based on market demand; however, for purposes of this analysis it is conservatively estimated that construction of the Refined Orange Heights Project would be initiated in 2027 and completed in 2031. The Refined Orange Heights Project involves on-site development within the established tract map boundaries (approximately 421 acres) and site-adjacent/off-site improvements (approximately 21 acres). The existing riparian areas on-site would be avoided during construction (approximately 6.8 acres). The physical impact area for on- and off-site improvements is shown on Figure 12, *Physical Impact Area*, and is within the physical impact area anticipated and evaluated in the Previous Environmental Documentation.

E. SUMMARY OF CHANGES TO THE APPROVED SH II PROJECT

In summary, the Refined Orange Heights Project involves limited modifications to the Approved SH II Project. As described in Section 1.D, the proposed Refined Orange Heights Project would involve new and amended VTTMs, amended Design Guidelines, and a lot line adjustment that would result in:

- Reduction of 122 residential units (1,180 to 1,058 units);
- Increase of park land (9.5 acres to 10.6 acres);
- An improved trail system;
- Modified lot and in-tract street layouts, generally changing the on-site circulation from a cul-de-sac to a looped road configuration;
- Updated requirements related to architectural design, home types, and landscape design; and
- Minor reduction of the eastern boundary of the Project site adjacent to SR 241/SR-261 primarily associated with removal of specific improvements within CalTrans right-of-way.



LEGEND

- PROJECT SITE TRACT MAP BOUNDARY
- ONSITE IMPROVEMENTS
- OFFSITE IMPROVEMENTS
- AVOIDED RIPARIAN AREAS- NO GRADING IMPACTS
- OFFSITE STREET INTERSECTION IMPROVEMENTS*

* Offsite improvements at intersections are generally located within street right of way. Final work limits are per street improvement plans to be approved by the City or CalTrans, as applicable.

Source(s): Wilson Mikami Corporation (January 2026)

Figure 12



Physical Impact Area

Additionally, the Refined Orange Heights Project would update the fuel modification plan, WQMP, and landscape plan consistent with current regulations.

F. RESPONSIBLE AND TRUSTEE AGENCIES

State and local agencies other than the City of Orange that may use information contained in the Project-specific California Environmental Quality Act (CEQA) documentation to issue permits or other approvals for implementation of the Refined Orange Heights Project include, but are not limited to, the following:

- California Department of Fish and Wildlife (CDFW)
- California Department of Transportation (Caltrans)
- Santa Ana Regional Water Quality Control Board
- South Coast Air Quality Management District (SCAQMD)
- Irvine Ranch Water District (IRWD)
- County of Orange

G. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Previous Environmental Documentation

The City of Orange, as the lead agency pursuant to CEQA, has prepared and certified or approved the four environmental documents summarized below, which include analysis of the previously approved projects described in Section 1.A, *Introduction and Background*, including the Approved SH II Project. As stated previously, this Initial Study evaluates the impacts of the Refined Orange Heights project compared to the Approved SH II Project. This analysis is primarily based on the information and findings from the 2005 Supplemental EIR 1278/EIR 1716 and the 2016 Addendum, which incorporated relevant information from the prior environmental documents. For context, all of the previous environmental documents are summarized below.

- **1989 Program EIR 1278.** The City of Orange certified the East Orange General Plan (GPA 2-88-A) Final Environmental Impact Report 1278 in 1989 (SCH No. 88110905), which analyzed the environmental impacts resulting from implementation of development within the EOGP site (consisting of the Santiago Hills II and East Orange development areas). As previously discussed, land uses contemplated under the EOGP included 12,350 housing units, employment centers, retail commercial, mixed use, a resort complex, a golf course, and other public infrastructure.
- **2000 Supplemental EIR 1278.** In 2000, a portion of the EOGP was amended for the Santiago Hills II site. At that time, Planned Community zoning and Planned Community District Regulations for Santiago Hills II were adopted allowing for a maximum of 1,886 units and 224,000 square feet of non-residential development on 518 acres, and the Supplement to Final Environmental Impact Report 1278 for the Santiago Hills II Planned Community (2000 SEIR 1278; SCH No. 2000041122) was certified.

- **2005 Supplemental EIR 1278/EIR 1716.** In 2005, the Santiago Hills II and East Orange Planning Communities Final Supplemental EIR 1278/EIR 1716 (2005 SEIR/EIR) was certified by the City. As previously identified, the 2005 City approvals included a General Plan Amendment; amendments to the prior Santiago Hills Planned Community District Regulations; adoption of the East Orange Planned Community Regulations; Design Guidelines for Santiago Hills II and Area 1 of East Orange; Conceptual Design Guidelines for Area 2 of East Orange; a Development Agreement; a Runoff Management Plan; Tentative Tract Maps for Santiago Hills II; a Tentative Tract Map for East Orange Area 1 ; and a Conditional Use Permit for a 128-unit affordable rental housing project for low-income families. This approval reduced the maximum number of residential units in Santiago Hills II from 1,886 on 518 acres to 1,746 on 496 acres, and the non-residential intensity in Santiago Hills II was eliminated.
- **2016 Addendum.** An Addendum to the 2005 SEIR 1278/EIR 1716 was approved by the City in 2016 (2016 Addendum). The 2016 Addendum evaluated the proposed amendments to the approved 2005 Santiago Hills II/East Orange Project, which included amended Santiago Hills Planned Community District Regulations, an updated and amended Development Agreement, amended Design Guidelines, amended Runoff Management Plan, and amended and new Vesting Tentative Tract Maps. As previously discussed, the project approved in 2016, which is the Approved SH II Project, reduced the overall planned community developable acres within the Santiago Hills II site from 496 acres to 396 acres and the overall number of units from 1,746 to 1,180.

In summary, the approved entitlements along with the supporting certified and adopted environmental documents (also referred to herein as the “Previous Environmental Documentation”) allow development of up to 1,180 units on 396 acres of zoned planned community and associated roadways within the Project site.

Subsequent and Supplemental EIRs

Pursuant to PRC Section 21166 and CEQA Guidelines Section 15162:

- A. When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
 - (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
 - (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

- (a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
- (b) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- (d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Pursuant to CEQA Guidelines Section 15163:

- (a) The lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:
 - (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
 - (2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.
- (b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.
- (c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
- (d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.
- (e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

Purpose of this Initial Study

As identified in CEQA Guidelines Section 15063(c), the purposes of an Initial Study, among others are to: provide the lead agency with information to use as the basis for deciding whether to prepare an EIR or a negative declaration; and to assist in the preparation of an EIR, if one is required, by:

- (A) Focusing the EIR on the effects determined to be significant,
- (B) Identifying the effects determined not to be significant,
- (C) Explaining the reasons for determining that potentially significant effects would not be significant, and
- (D) Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects.

Further, pursuant to CEQA Guidelines Section 15063(c)(7), another purpose of an Initial Study is to determine whether a previously prepared EIR could be used with the project.

As described in Section 1.E, the Refined Orange Heights Project represents refinements to the Approved SH II Project. This Initial Study has been prepared to identify the probable environmental effects of the Refined Orange Heights Project as compared to the Approved SH II Project and determine the appropriate scope of additional environmental documentation, if any, to be completed for the Refined Orange Heights Project in light of the analysis in the Previous Environmental Documentation prepared for the Approved SH II Project.

The analysis contained within this Initial Study relies upon and incorporates by reference the Previous Environmental Documentation, which includes all technical studies, analyses, technical reports, and other documents that were included or referenced in the Previous Environmental Documentation. Consistent with the Previous Environmental Documentation, this Initial Study uses the CEQA Guidelines Appendix G environmental checklist questions in the analysis presented below to review the potential environmental effects of the Refined Orange Heights Project for each of the following areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

Consistent with CEQA Guidelines Section 15063(c), based on the information and analysis presented for each topical issue in this Initial Study, the City has determined that additional analysis is required for the following topical issues: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Hazards and Hazardous Materials (wildland fires), Hydrology and Water Quality, Land Use and Planning, Noise, Public Services (fire services), Recreation, Transportation, Tribal Cultural Resources, Utilities and Services Systems, and Wildfire. The required analysis will be provided in a forthcoming Draft Supplemental Environmental Impact Report (SEIR).

Further, based on the analysis presented in this section below, no further analysis for the following topical issues is required in the forthcoming Draft SEIR as these issues were adequately addressed in the Previous Environmental Documentation: Agricultural and Forestry Resources; Energy; Geology and Soils; Mineral Resources; Population and Housing; and thresholds in Hazards and Hazardous Materials and Public Services not related to wildland fires and fire services.

Format and Content of this Initial Study

The following components comprise the Initial Study:

- Section 1.0 provides the Introduction and Background, the Existing Setting, and the description of the Approved SH II Project and Refined Orange Heights Project.
- Section 2.0 identifies the environmental factors potentially affected that will be evaluated in the SEIR and provides the environmental determination for the Refined Orange Heights Project.
- Section 3.0 provides a summary of the conclusions of the Previous Environmental Documentation and the environmental impact analysis for the Refined Orange Heights Project. The City has defined the column headings in this Initial Study as follows:
 - **“Additional Analysis Required”** applies to topical issues that will be evaluated in the forthcoming SEIR.
 - **“Less than Significant Impact or Less than Significant Impact with Incorporation of Previously Adopted MMs or PDFs”** applies where (1) the potential impacts of the Refined Orange Heights Project would not result in any significant effects and the impact is less than significant without the incorporation of the previously adopted mitigation measures (MMs) or project design features (PDFs); or (2) the potential impacts of the Refined Orange Heights Project would be less than significant with incorporation of the applicable previously adopted SEIR/EIR MMs or PDFs and no Project-specific mitigation measures are required
 - **“No Impact”** applies where the Refined Orange Heights Project would result in no potential impact for the identified threshold of significance.
- Section 4.0 provides the list of references used in this Initial Study.
- Section 5.0 provides the list of technical reports presented in this Initial Study to support further the analysis for the Refined Orange Heights Project, and which are attached as appendices:
 - Appendix A – Geotechnical Report
 - Appendix B – Phase I Environmental Site Assessment
 - Appendix C – School Information

2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- | | |
|---|--|
| ☒ Aesthetics | ☐ Mineral Resources |
| ☐ Agriculture & Forestry Resources | ☒ Noise |
| ☒ Air Quality | ☐ Population/Housing |
| ☒ Biological Resources | ☒ Public Services |
| ☒ Cultural Resources | ☒ Recreation |
| ☐ Energy | ☒ Transportation |
| ☒ Geology/Soils | ☒ Tribal Cultural Resources |
| ☒ Greenhouse Gas Emissions | ☒ Utilities/Service Systems |
| ☒ Hazards & Hazardous Materials | ☒ Wildfire |
| ☒ Hydrology/Water Quality | ☒ Mandatory Findings of Significance |
| ☒ Land Use/Planning | |

DETERMINATION. On the basis of this initial evaluation:

1. I find that the proposed project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐
2. I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☐
3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐
4. I find that the proposed project **may have a “potentially significant impact” or “potentially significant unless mitigated impact”** on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐
5. I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

6. I find that the proposed project could have a significant effect on the environment, but at least one effect 1) has been adequately analyzed in an earlier EIR, and 2) has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets. Pursuant to PRC Section 21166 and CEQA Guidelines Sections 15162 and 15163, there may be changes associated with the Project or changes with respect to the circumstances under which the Project will be undertaken that require revisions to the Previous Environmental Documentation. A Supplemental EIR is required, but it must analyze only the effects that have the potential to result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. ☒



Signature

Hayden Beckman, Planning Manager

Name, Title

City of Orange

Lead Agency

4.15.26

Date

3.0 ENVIRONMENTAL IMPACT ISSUES:

1. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs		
		Additional Analysis Required		No Impact
(a)	Have a substantial adverse effect on a scenic vista?	☒	☐	☐
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☒	☐	☐
(c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☒	☐	☐
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that the Approved SH II Project's alteration of the natural environment in an urban setting would result in significant impacts on visual character. These impacts were found to be significant and unavoidable and a statement of overriding considerations was adopted when the 2005 SEIR/EIR was approved. Aesthetic impacts related to state scenic highways, effects on scenic vistas, and light and glare were determined to be less than significant or less than significant with mitigation. Analysis of potential impacts related to aesthetics will be provided in the forthcoming SEIR. The Refined Orange Heights Project's aesthetic impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

2. AGRICULTURE & FOREST RESOURCES.

(In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.) In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.) Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☒
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒
(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒

Summary of Previous Environmental Analysis:

This topic was evaluated in Section 5.4, Effects Found Not to Be Significant, of the 2005 SEIR/EIR. The 2005 SEIR/EIR determined that no impacts related to agricultural resources would occur. No further analysis was required in the 2016 Addendum.

Impact Analysis:

- a) **Would the Refined Orange Heights Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that sixty percent of the East Orange Planned Community project area was in an area designated as Other Land. The remaining areas were classified as Grazing Land, Urban and Built-Up Land, and Water. These categories did not meet the criteria for important farmland. The 2005 SEIR/EIR found that while the site consisted of open space, it did not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). Therefore, because the 2005

Santiago Hills II Project would not convert Farmland to non-agricultural uses, the 2005 SEIR/EIR concluded that no significant impact would occur.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to agricultural resources.

Determination: *No Impact (Consistent with the Previous Environmental Documentation).*

According to the current California Department of Conservation (DOC)'s California Farmland Mapping and Monitoring Program (FMMP), the Project site is classified as "Other Land" (DOC, 2022). There is no designated Farmland within the Project site. Therefore, the Refined Orange Heights Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use and no impacts would occur, consistent with the conclusion of the Previous Environmental Documentation. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

b) Would the Refined Orange Heights Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that portions of the overall project area had been under a Williamson Act contract, but they had been removed (1986 and 1997). Therefore, no portion of the 2005 Santiago Hills II/East Orange Project were subject to any Williamson Act contract restrictions. Therefore, the 2005 SEIR/EIR concluded there would be no conflict with a Williamson Act contract, and no significant impact would occur.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to agricultural resources.

Determination: *No Impact (Consistent with the Previous Environmental Documentation).*

The Project site is zoned Planned-Community (P-C) and does not contain any agriculture uses. Additionally, and as noted by the 2005 SEIR/EIR, there is no land within the Project site that is subject to a Williamson Act contract. Therefore, the Refined Orange Heights Project has no potential to conflict with existing zoning for agricultural use or a Williamson Act contract; and no impacts would occur, consistent with the conclusion of the 2005 SEIR/EIR. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- c) **Would the Refined Orange Heights Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**
- d) **Would the Refined Orange Heights Project result in the loss of forest land or conversion of forest land to non-forest use?**

Approved SH II Project Analysis Summary

These thresholds were not specifically discussed under the 2005 SEIR/EIR or 2016 Addendum as they were not included in the CEQA Guidelines Appendix G checklist when the 2005 SEIR/EIR was prepared. However, the Previous Environmental Documentation described vegetation on-site under the topic of Biological Resources and did not identify any forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) within the Site.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to forestry resources.

Determination: *No Impact.*

According to the City's Zoning Map, there are no lands within the City that are zoned for forest land, timberland, or timberland zoned Timberland Production (City of Orange, 2020). As previously discussed, the Project site is currently zoned Planned-Community (P-C). Therefore, the Refined Orange Heights Project does not have the potential to conflict with existing zoning or rezoning of forest land, timberland, or timberland zoned Timberland Production or result in the loss of forest land or conversion of forest land to a non-forest use. No impacts would occur. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- e) **Would the Refined Orange Heights Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

Approved SH II Project Analysis Summary

This threshold was not specifically addressed under the 2005 SEIR/EIR or 2016 Addendum as it was not included in the CEQA Guidelines Appendix G checklist when the 2005 SEIR/EIR was prepared. However, as discussed above, the 2005 SEIR/EIR concluded that the 2005 Santiago Hills II Project would not convert Farmland to non-agricultural uses and did not identify forest land within the Site.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to agricultural or forestry resources.

Determination: *No Impact.*

As discussed previously, the Project site does not contain Farmland or forest land. Additionally, there is no Farmland in the area surrounding the Project site, and there is no forest land within the Project site or surrounding area. Therefore, the Refined Orange Heights Project would not result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use, and no impacts would occur. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

3. AIR QUALITY.

(Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.) Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs		
		Additional Analysis Required		No Impact
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐
(b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐
(c)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that construction and operational air quality impacts would be significant and unavoidable even with the implementation of required mitigation measures. Impacts to sensitive receptors related to Elevated Carbon Monoxide (CO) Concentrations and odor impacts were determined to be less than significant. Analysis of potential impacts related to air quality will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

4. **BIOLOGICAL RESOURCES.**

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐
(c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that impacts to biological resources would be less than significant with the implementation of required mitigation measures. Since the Previous Environmental Documentation was completed, new species have been listed or proposed for listing under the California Endangered Species Act. Analysis of potential impacts from the Refined Orange Heights Project related to biological resources will be provided in the forthcoming SEIR, including new and updated vegetation mapping, habitat assessments and biological conditions of the Project site. The Refined Orange Height Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project taking into account updated biological conditions.

5. CULTURAL RESOURCES.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☒	☐	☐
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that impacts to cultural resources would be less than significant with the implementation of required mitigation measures. Analysis of potential impacts related to cultural resources will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

6. ENERGY.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☒	☐
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☒	☐

Summary of Previous Environmental Analysis

This topic was evaluated in Section 3M, Public Utilities, of the 2005 SEIR/EIR and the 2016 Addendum. Following is a summary of the impact conclusions and required mitigation measures presented in the Previous Environmental Documentation. The full text of the required mitigation measures as outlined in the 2016 Addendum is provided in the analysis below.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Potential Impact 3M-5. Use Energy in an Inefficient, Wasteful, or Unnecessary Manner	Less than significant with mitigation. MM 3M-1. Develop a Construction Energy Conservation Plan	Less than significant with mitigation. Similar impacts as identified in the 2005 SEIR/EIR and MM 3M-1 applies.

Impact Analysis:

- a) **Would the Refined Orange Heights Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that energy would be expended during construction of the 2005 Santiago Hills II Project and that construction could result in wasteful consumption of energy. However, to mitigate the potential for wasteful energy consumption, the City would require contractors to employ good construction practices and energy management techniques to ensure that nonrenewable resources are not consumed in a wasteful, inefficient, or unnecessary manner. Mitigation Measure MM 3M-1 specifies actions that would reduce construction-related energy impacts to a less than significant level. Operational impacts related to the use of energy were found to be less than significant due to the requirements for energy efficiency in new construction such as Title 24 of the California Code of Regulations and Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24 Energy Standards).

The 2016 Addendum concluded that because the Approved SH II Project (referred to in the 2016 Addendum as the 2016 Modified Project) would involve the development of fewer residential units than the 2005 Santiago Hills II Project, and a slightly smaller development footprint, the potential for wasteful use of energy during construction would also be reduced, but this impact would still be potentially significant. As with the 2005 Santiago Hills II Project, the 2016 Addendum found that operational impacts would be less than significant due to the requirements for energy efficiency in new construction. In addition, the 2016 Addendum found that the requirements of California Green Building Standards Code (CalGreen), which became effective January 1, 2014, after certification of the 2005 SEIR/EIR, would further reduce the impacts related to inefficient, wasteful, or unnecessary energy use. CalGreen saves water and energy and improves public health, safety, and general welfare by enhancing the design and construction of buildings through planning and design, energy efficiency, water efficiency and conservation, materials conservation and resource efficiency, and environmental quality.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: The following adopted mitigation measure is applicable to the Refined Orange Heights Project.

MM 3M-1 **Develop a Construction Energy Conservation Plan.** The Irvine Company will develop a construction energy conservation plan that may include any of the following measures:

- Use energy-efficient equipment and incorporate energy-saving techniques during construction.
- Avoid the unnecessary idling of construction equipment. Consolidate material delivery as much as possible to ensure efficient vehicle utilization.

- Schedule delivery of materials during non-rush hours to maximize vehicle fuel efficiency.
- Encourage construction workers to carpool.
- Maintain equipment and machinery, especially those using gasoline and diesel, in good working condition.

Determination: *Less than Significant with Incorporation of Previously Adopted MM (Consistent with the Previous Environmental Documentation).*

As previously described, the Refined Orange Heights Project would result in a decrease of residential units from 1,180 to 1,058 units compared to the Approved SH II Project (a reduction of 122 units) and other Project components would be similar to the Approved SH II Project.

Implementation of the Refined Orange Heights Project would involve similar construction activities as the Approved SH II Project and would require the use of similar construction equipment. These construction activities are typical of residential development and were anticipated and evaluated in the Previous Environmental Documentation. As with the Approved SH II Project, the Refined Orange Heights Project would be required to comply with applicable regulations addressing energy conservation such as California Air Resources Board (CARB) emission standards. Additionally, Mitigation Measure MM 3M-1 is applicable to the Refined Orange Heights Project and would require the use of best management practices during construction activities. Construction energy consumption would represent a “single-event” demand and would not require ongoing or permanent commitment of energy resources. Therefore, consistent with the conclusions of the Previous Environmental Documentation, with the implementation of Mitigation Measure MM 3M-1, the Refined Orange Heights Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction, resulting in a less than significant impact.

Implementation of the Refined Orange Heights Project would involve operations typical of residential development anticipated and evaluated in the Previous Environmental Documentation for the Approved SH II Project and would be required to comply with applicable regulations addressing energy conservation such as CalGreen and Title 24 Energy Standards. Further, the reduction in units would result in a corresponding reduction in overall energy consumption during operational activities. Title 24 Energy Standards and CalGreen requirements are updated on a regular basis; the approved 2025 updates became effective on January 1, 2026. The Refined Orange Heights Project would be required to adhere to regulations in effect at the time that building permit applications are submitted. Therefore, energy standards applicable to the Refined Orange Heights Project would be more stringent than those anticipated in the energy analysis presented in the Previous Environmental Documentation. Therefore, consistent with the conclusions of the Previous Environmental Documentation, the Refined Orange Heights Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during operation resulting in a less than significant impact.

The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

b) Would the Refined Orange Heights Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Approved SH II Project Analysis Summary

This threshold was not specifically addressed under the 2005 SEIR/EIR or 2016 Addendum as it was not included in the CEQA Guidelines Appendix G checklist when the 2005 SEIR/EIR was prepared. However, as stated above, energy was evaluated in Section 3M, Public Utilities, of the 2005 SEIR/EIR and the 2016 Addendum, including the requirement to comply with Title 24 Energy Standards.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: MM 3M-1 requires development of a construction energy conservation plan.

Determination: *Less than Significant.*

The Refined Orange Heights Project would be required to comply with applicable energy conservation regulations related to construction and operations, as noted above. Many of the regulations regarding energy efficiency are focused on increasing building efficiency and renewable energy generation, promoting sustainability through energy conservation measures, as well as reducing water consumption and vehicle miles traveled (VMT) and increasing use of alternative fuels. The Title 24 Energy Standards include provisions applicable to all buildings, residential and non-residential, which are mandatory requirements for efficiency and design. Further, the Refined Orange Heights Project would comply with the CalGreen code. Therefore, the Refined Orange Heights Project, which would have reduced energy demands as the Approved SH II Project, would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, and impacts would be less than significant. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

7. GEOLOGY AND SOILS.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐
iv) Landslides?	☐	☒	☐
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒
(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐

Summary of Previous Environmental Analysis

This topic was evaluated in Sections 3C and 3G of the 2005 SEIR/EIR and the 2016 Addendum. Following is a summary of the impact conclusions and required mitigation measures presented in the Previous Environmental Documentation. The full text of the required mitigation measures as outlined in the 2016 Addendum is provided in the analysis below.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
<p>Potential Impact 3C-1: Exposure of People or Structures to Potential Substantial Adverse Effects Including the Risk of Loss, Injury, or Death Involving Rupture of a Known Earthquake Fault; Strong Seismic Ground Shaking; Seismic-related Ground Failure, including Liquefaction; or Landslides</p> <p>Potential Impact 3C-2: Location of Structures on a Geologic Unit or Soil that is Unstable, or that Would Become Unstable as a</p>	<p>Less than significant with mitigation.</p> <p>MM G-1. All Grading Subject to City Grading Manual Regulations. MM G-2. Removal of Unsuitable Earth Materials. MM G-4. Detailed Geotechnical and Soil Engineering Reports. MM G-5. All Structures Designed and Constructed in Accordance with Seismic Safety Design Criteria. MM 3C-1. Slopes Will Be Limited to 2:1.</p>	<p>Less than significant with mitigation.</p> <p>Similar impacts as identified in the 2005 SEIR/EIR and MM G-1, MM G-2, MM G-4, MM G-5, MM 3C-1, MM 3C-2, MM 3C-3, MM 3C-4, MM 3C-5 and M 3C-20 apply.</p>

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Result of the Project and Potentially Result in On- and Offsite Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse	MM 3C-2. Slopes Will Be Stabilized. MM 3C-3. Standard Grading Codes Will Be Applied. MM 3C-4. Compressible Soils Will Be Identified. MM 3C-5. Compressible Soils Will Be Mitigated. MM 3C-20. Further Slope Stability Investigations.	
Potential Impact 3C-3: Substantial Soil Erosion or Loss of Topsoil	Less than significant with mitigation. MM 3C-6. Implement Sediment Transport Minimization Measures. MM 3C-7. Revegetation of Exposed Graded Slopes. MM 3C-8. Comply with Corps, CDFG, IRWD, and SCWD Requirements.	Less than significant with mitigation. Similar impacts as identified in the 2005 SEIR/EIR and MM 3C-6 and MM 3C-7 apply.
Potential Impact 3C-4: Location of Structures on Expansive Soils, as Defined in Table 18- 1-B of the Uniform Building Code	Less than significant with mitigation. MM 3C-9. Field Observations and Testing Will Be Conducted. MM 3C-10. Fill Materials Will Be Tested. MM 3C-11. Expansive Soils Will Be Mitigated.	Less than significant with mitigation. Similar impacts as identified in the 2005 SEIR/EIR and MM 3C-9, MM 3C-10, and MM 3C-11 apply
Potential Impact 3G-1. Construction and Development of the Site, Including Infrastructure and Roadways	Less than significant with mitigation. <u>Pregrade Phase</u> MM 3G-1. Retain a Certified Paleontologist to Monitor. MM 3G-2. Certified Paleontologist Will Attend Preconstruction Meeting. MM 3G-3. Certified Paleontologist Will Monitor Earthmoving Activities. MM 3G-4. Project Personnel Will Attend an Environmental Awareness Program. MM 3G-5. Environmental Awareness Note Will Be Added to Grading Plans and Discussed at Meeting. <u>Grading Phase</u> MM 3G-6. Certified Paleontologist Will Have Authority to Stop Construction.	Less than significant with mitigation. Similar or reduced impacts as identified in the 2005 SEIR/EIR and MM 3G-1, MM 3G-2, MM 3G-3, MM 3G-4, MM 3G-5, and MM 3G-6 apply

Impact Analysis:

- a) **Would the Refined Orange Heights Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that the closest designated Alquist-Priolo zone to the project was to the north along the Whittier-Elsinore fault zone, located approximately 5 miles to the site. The 2005 SEIR/EIR determined that the project site was not within a designated earthquake fault zone and impacts were less than significant. The 2016 Addendum determined that impacts would be similar to those identified in the 2005 SEIR/EIR.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to fault rupture.

Determination: *No Impact (Consistent with the Previous Environmental Documentation).*

A Geotechnical Report was prepared for the Refined Orange Heights Project by NMG, Geotechnical, Inc. (*Appendix A* of this Initial Study). Consistent with the conclusion of the Previous Environmental Documentation, the Project site is not located within an Alquist Priolo Fault Rupture Hazard Zone and no active faults are known to transect the Project site. The closest regionally active faults are the Whittier Fault located approximately 6.6 miles to the northeast and the Newport Inglewood Fault 16 miles to the southwest (NMG, 2026). Therefore, consistent with the conclusion of the Previous Environmental Documentation, there would be no risk of fault rupture on the Project site. No impact would result. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- a) **Would the Refined Orange Heights Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- ii. **Strong seismic ground shaking?**
 - iii. **Seismic-related ground failure, including liquefaction?**
 - iv. **Landslides?**
- c) **Would the Refined Orange Heights Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR considered thresholds a and c together and identified that there were inherent seismic impacts associated with urban development in Southern California due to the region's exposure to seismic events and earthquakes. Geologic hazards potentially affecting the project site are related to mass grading of slopes and ridges; slope stability of natural, cut, and fill slopes; earthquake (seismic) activity; and soil conditions. Mass grading would disturb the natural rock and soils, with displacements and compaction causing a change in the morphology and density of the ground surface. Slope stability impacts may be related to the presence of landslides and unstable bedrock formations, and to high cut and fill slopes. Potential earthquake-related effects include strong ground shaking and liquefaction of saturated alluvial materials. Potential soil-related hazards identified were related to expansiveness and fill/natural soil consolidation/settlement. However, the 2005 SEIR/EIR determined that, with the implementation of applicable building code requirements and required Mitigation Measures MM G-1, MM G-2, MM G-4, MM G-5, MM 3C-1 through MM 3C-5, and MM 3C-20, all potential geotechnical impacts would be less than significant.

The 2016 Addendum concluded that although a slightly smaller area would be graded under the Approved SH II Project as compared to the 2005 Santiago Hills II Project, the impacts related to mass grading of slopes and ridges, slope stability, seismic activity, and soil conditions would be the same as those identified in the 2005 SEIR/EIR. With the implementation of applicable building code requirements and required mitigation measures, all potential geotechnical impacts were determined to be less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: The following required MMs are applicable to the Refined Orange Heights Project, as modified herein with text added in underline and text removed in ~~strikeout~~. The minor modification to Mitigation Measure MM 3C-5 is based on current industry standard relative to compaction as presented in the Geotechnical Report included in *Appendix A* of this Initial Study and not due to new or substantially more severe impacts. The status of these MMs is discussed in the Geotechnical Report.

- MM G-1 **All Grading Subject to City Grading Manual Regulations.** All grading for development areas within the project site will be subject to the regulations included in the City Grading Manual.
- MM G-2 **Removal of Unsuitable Earth Materials.** Removal or other remediation of colluvium, alluvium, topsoil, landslide debris, and artificial fill down to an elevation where suitable foundation earth materials exist will be required prior to placement of fill in areas where these deposits occur. Specific grading recommendations for removal depths will be determined as part of future, more detailed geotechnical studies and will be subject to the approval of the City of Orange.
- MM G-4 **Detailed Geotechnical and Soil Engineering Reports.** Detailed geotechnical and soil engineering reports will be prepared subsequent to development of preliminary design

layouts and final grading plans (e.g., at the tentative tract map preparation stages). The reports will provide more detailed measures for treatment of excavation (ripping) difficulties, surficial material removals, cut and fill slopes, expansive soils, and liquefaction hazards, as well as measures to avoid rockfall and mudflows, as appropriate. The geotechnical analyses will be subject to technical review and approval of the City or other agencies, as appropriate.

- MM G-5 **All Structures Designed and Constructed in Accordance with Seismic Safety Design Criteria.** All structures within the project site shall be designed and constructed in accordance with seismic safety design criteria specified in the latest building code or as otherwise recommended by a qualified, registered structural engineer. Building plans will be subject to review and approval by the City Building Department to provide an additional level of safety.
- MM 3C-1 **Slopes Will Be Limited to 2:1.** As part of the grading plans and during grading activities, all cut and fill slopes will not exceed slope ratios of 2:1 (horizontal to vertical).
- MM 3C-2 **Slopes Will Be Stabilized.** As part of the grading plans and during grading activities, cut slopes along the northern boundary of Santiago Hills II Planned Community will be stabilized (through stabilization and/or buttress fills) to avoid the effects of adverse geologic conditions (e.g., out-of-slope bedding or highly erosive materials and landslides).
- MM 3C-3 **Standard Grading Codes Will Be Applied.** The grading plans and grading activities will comply with all standard grading codes, including:
- All graded and natural slopes will have a minimum static factor of safety of 1.5 and a minimum pseudostatic (seismic) factor of safety of 1.1.
 - All temporary construction cut slopes will only be left exposed for as short a time as practical prior to filling to reduce the potential for slope failure.
 - All cut slopes will be evaluated and mapped, as they are graded, by a qualified geologist and geotechnical engineer to identify adverse bedding, weak zones, or other features that could affect the stability. If cut slopes are found to expose adverse geologic conditions, then buttresses will be constructed or the slope geometry modified. If cut slopes are found to expose fractured/faulted bedrock and surficial instability, then stabilization fills will be required.
 - All fill slopes will be evaluated for stability by a qualified engineer and or geologist.
- MM 3C-4 **Compressible Soils Will Be Identified.** Before submission of final grading plans, the developer will retain a qualified geotechnical engineer and engineering geologist. The geologist/engineer will conduct field observations and testing of on-site soils and formations to identify and define the limits of compressible soils. A final report will be prepared and submitted to the City. This report will identify:

- thickness and distribution of the compressible materials,
- anticipated depth of moisture variation,
- anticipated amounts of total and differential settlement,
- tolerance of the structure for displacement, and
- confirmation or modification of mitigation measures for compressible materials.

MM 3C-5 **Compressible Soils Will Be Mitigated.** Following identification and delineation of compressible materials, the engineers will identify the most appropriate methods of mitigation. Mitigation measures will include one or more of the following.

- removal and/or compaction of compressible natural soils (e.g., alluvium, colluvium, and deeply weathered bedrock) and non-compacted fills before placing fill;
- provision of gradual transitions between cuts and fills;
- location of structures away from abrupt transitions;
- location of structures on soils that are relatively uniform;
- compaction of deep fills to at least 93~~95~~ percent relative compaction, and at high moisture content;
- delay of construction for site improvements and buildings until after until settlement has essentially stopped;
- construction of a drainage system that provides complete control of flows and control landscape watering to preclude water from ponding and/or penetrating the deep fills; and
- where required, foundations designed to span across areas of potential differential settlement, or utilize deep foundations that gain support in similar materials below the settlement zones.

MM 3C-20 **Further Slope Stability Investigations.** Further slope stability investigations will be conducted pursuant to required future geotechnical studies for the areas of potential slope instability within the proposed limits of development. The level of detail will vary with the local geologic conditions and planned grading. In most cases, a subsurface geologic investigation will be required to evaluate critical lithologic and structural geological interpretations. In general, conclusions pertaining to slope stability in these preliminary studies should be clearly presented and supported by adequate geologic maps, cross sections, and supporting engineering data. Technical review for adequacy of all such reports should be accomplished in accordance with current practices. Reviewing agencies have found that compliance with Chapter 70 of the Uniform Building Code, which regulates earthwork and grading, is important in the mitigation of slope instability during the actual grading phase of development. Should unfavorable slide conditions be encountered, they may be removed during grading or stabilized by means of buttressing or modification of slope orientation, geometry, or inclination.

Determination: *Less than Significant with Incorporation of Previously Adopted MMs (Consistent with the Previous Environmental Documentation).*

Geologic conditions at the Project site and associated seismic-related hazards and potential for unstable soils have not changed. The following analysis is based on information presented in the Project-specific Geotechnical Report included in *Appendix A* of this Initial Study (NMG, 2026), which presents a summary of the geotechnical conditions and hazards at the Project site as identified in previous geotechnical studies prepared for the Approved SH II Project. The Project-specific Geotechnical Report also includes updated 2025 seismic design criteria and additional updated geophysical survey data and confirms the geotechnical recommendations for design and rough grading, updated as necessary based on the updated design criteria and additional data.

Ground Shaking

As noted above, no active faults are known to transect the Project site. Faulting at the Project site was found in the bedrock units and is considered seismically inactive. Neither the on-site studies nor prior published mapping has encountered evidence of active faults at the site. The closest regionally active faults are the Whittier Fault 6.6 miles to the northeast and the Newport Inglewood Fault approximately 16 miles to the southwest. The Peralta Hills Buried Thrust Fault is located approximately 4 miles northwest of the site and the San Joaquin Hills Blind Thrust Fault is located approximately 10 miles southeast of the site. An earthquake event on these or other regionally active faults could produce strong seismic ground shaking at the site, as with most sites in southern California. The Refined Orange Heights Project would be required to comply with applicable building code requirements including those identified in the City's Municipal Code and California Building Code (CBC). Compliance with the CBC requires proper construction of building footings and foundations so that buildings would withstand the effects of potential ground movement. Additionally, Mitigation Measure MM G-5 would require all structures to be designed in accordance with seismic safety design criteria. Therefore, consistent with the conclusions of the Previous Environmental Documentation, with the implementation of required mitigation measures, the Refined Orange Heights Project would not expose people or structures to substantial adverse effects related to the risk of loss, injury, or death involving strong seismic ground shaking.

Liquefaction and Landslides

State mapping of seismic hazards indicates that the two main east-west trending canyons in the south tract (area south of Santiago Canyon Road) are within zones of earthquake-induced potential liquefaction. The main canyon south of the north-central hillside is subject to 50-foot remedial removals with deep fills planned to replace the alluvium. The majority of the alluvial soils are considered to be cohesive and not considered to be susceptible to liquefaction based on the saturated moisture content compared to their Liquid Limit. In addition, after grading, the groundwater table in the alluvial areas will be approximately 55 to 80 feet deep below the residential areas and roadways. In general, based on the proposed design grades, depth of groundwater, the cohesive nature of the alluvial soils left-in-place and the dense nature of the proposed compacted fill, the potential for post-construction liquefaction and liquefaction-induced settlement is considered low to very low.

The Peters Canyon outfall structure is not located in an area of earthquake-induced liquefaction potential as mapped by the State, but it is close to the mapped zone. The alluvium underlying the outfall structure

may be classified as clayey silt and silty clay. The recommended remedial removals are designed to remove between 5 to 10 feet of alluvium, leaving between 5 and 15 feet of alluvium underlying the structure. In general, based on the proposed design grades, the cohesive nature of the alluvial soils left-in-place and the dense nature of the proposed compacted fill, the potential for post-construction liquefaction and liquefaction induced settlement is considered low.

There is one large ancient landslide mapped in the central portion of Orange Heights South. Prior borings in this landslide indicate the majority of the failure is in competent sandstone and siltstone, and the proposed grading would bury the toe of the landslide providing a gravity buttress. There are three other shallow failures mapped in the upper reach of the canyon in the southern portion of the Project site, just north of Handy Creek Road. These features would be removed during grading.

There are four mapped landslides in Orange Heights North. There is a landslide mapped at the base of the hill below the future Zone 6 IRWD water reservoir that is believed to be bedrock translational block failure. This slide is mostly downhill of the fill slope, which would be provided with a shear key at the toe of slope for stabilization. There is also a small landslide mapped along SR 241, where a small portion of this competent landslide material was left under the fill embankment. During grading, the remainder of this landslide would be covered with compacted fill after removal of unsuitable materials. There is a landslide mapped within the central canyon that was partially removed or filled over during the prior geotechnical observation and testing. The geotechnical map indicates that removals were made to suitable bedrock of undifferentiated Vaqueros/Sespe Formation. The landslide mapped in the southwest portion of Orange Heights North above Santiago Canyon Road would also be removed. Mitigation Measures MM G-1, MM G-2, MM G-4, MM G-5, MM 3C-1 through MM 3C-5, and MM 3C-20 would reduce any potential impacts to a less than significant level. Consistent with the conclusion of the Previous Environmental Documentation for the Approved SH II Project, with the implementation of required mitigation measures, including adherence to recommendations presented in the Project-specific geotechnical reports, the Refined Orange Heights Project would not expose people or structures to substantial adverse effects related to the risk of loss, injury, or death involving seismic-related ground failure (e.g., liquefaction) or landslides.

Settlement and Collapse

There are unsuitable soils subject to settlement and collapse in Orange Heights South and Orange Heights North. The unsuitable soils generally consist of alluvium deposits approximately 60 feet thick in Orange Heights South and much less in Orange Heights North. The alluvium throughout Orange Heights North typically is less than 15 feet deep, except locally near the toe of the fill slope into Irvine Regional Park in the northeast portion of the Project site, where it is over 35 feet deep. The near surface weathered alluvium subject to collapse would be removed during remedial grading. The total static settlement for the deeper design fills and fills underlain by alluvium left-in-place is estimated to be several inches. A large portion of the settlement would likely occur during the grading operations. However, in the areas where alluvium is left in place and in areas of deeper fills, settlement monitoring would be performed after grading to confirm the long-term settlement estimates, prior to issuance of building permits. Mitigation Measures MM G-1, MM G-2, MM G-4, MM G-5, MM 3C-1 through MM 3C-5, and MM 3C-20 would ensure established geotechnical engineering practices are used during construction to reduce potential impacts to settlement and collapse to less than significant levels. Consistent with the findings of the Previous Environmental Documentation for the Approved SH II

Project, with the implementation of required mitigation measures, including adherence to recommendations presented in the Project-specific Geotechnical Report, the Refined Orange Heights Project would not result in a significant impact related to unstable soils.

Overall, consistent with the findings of the Previous Environmental Documentation for the Approved SH II Project, implementation of Mitigation Measures MM G-1, MM G-2, MM G-4, MM G-5, MM 3C-1 through MM 3C-5, and MM 3C-20, including adherence to recommendations presented in the Project-specific Geotechnical Report, would reduce geological impacts to a less than significant level. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

b) Would the Refined Orange Heights Project result in substantial soil erosion or the loss of topsoil?

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that mass grading associated with the 2005 Santiago Hills II Project would require removal of vegetation, stripping of topsoil, and temporary excavations and haul roads to construct stable finished graded areas. Until the project was complete and permanent vegetation and controlled drainage was established, the exposed areas would be subject to runoff and erosion. The 2005 SEIR/EIR concluded that this impact would be reduced to a less than significant level with implementation of the required mitigation measures.

The 2016 Addendum concluded that although the Approved SH II Project would require slightly less grading than the 2005 Santiago Hills II Project, impacts during the construction and revegetation period would be the same and would be reduced to a less than significant level with implementation of required mitigation measures.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: The following required MMs are applicable to the Refined Orange Heights Project. The status of these MMs is discussed in the Geotechnical Report included in *Appendix A* of this Initial Study.

- MM 3C-6 **Implement Sediment Transport Minimization Measures.** Grading and construction activities will utilize standard practices—such as dust control, impoundment dikes, erosion control, and revegetation—to minimize potential for increases in sediment transport. Such measures will be subject to approval of a notice of intent and SWPPP consistent with SWRCB criteria for construction sites.
- MM 3C-7 **Revegetation of Exposed Graded Slopes.** All graded slopes (cut and fill), including roadsides, will undergo permanent revegetation as feasible and appropriate to minimize the potential for erosion and siltation.

Determination: *Less than Significant with Incorporation of Previously Adopted MMs (Consistent with the Previous Environmental Documentation).*

As with the Approved SH II Project, the proposed grading activities associated with the Refined Orange Heights Project would temporarily expose underlying soils to water and air, which would increase erosion susceptibility while the soils are exposed. The Refined Orange Heights Project would be required to comply with the NPDES program's General Construction Permit. This includes development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which specifies best management practices (BMPs) to be used to minimize storm water pollution from Project construction, including erosion and topsoil. Consistent with the findings of the Previous Environmental Documentation for the Approved SH II Project, implementation of Mitigation Measures MM 3C-6 and MM 3C-7 and adherence to regulatory requirements would reduce erosion impacts to a less than significant level. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

d) Would the Refined Orange Heights Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that the expansion potential of soils within 2005 Santiago Hills II Project area, similar to that for surrounding areas, ranges from low to high. These soils can cause distress to structures built directly on them from soil volume change caused by moisture variation, such as seasonal wetting and drying. Expansive rock behavior is similar to that of expansive soils. The 2005 SEIR/EIR concluded that implementation of mitigation measures would reduce the impacts of these soil and rock conditions to less than significant levels.

The 2016 Addendum concluded that the conditions affecting the Approved SH II Project would be the same as identified in the 2005 SEIR/EIR and implementation of required mitigation measures would reduce the impacts of these soil and rock conditions to less than significant levels.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: The following required MMs are applicable to the Refined Orange Heights Project. The status of these MMs is discussed in the Geotechnical Report included in *Appendix A* of this Initial Study.

MM 3C-9 Field Observations and Testing Will Be Conducted. Before submission of final grading plans, the developer will retain a qualified geotechnical engineer and engineering geologist. The geologist/engineer will conduct field observations and testing of on-site soils and formations to identify and define the limits of expansive materials. A final report will be prepared and submitted to the City. This report will include identification of:

- thickness and distribution of the expansive materials,
- anticipated depth of moisture variation,
- expansiveness of the earth materials,
- the tolerance of the structure for displacement, and
- confirmation or modification of mitigation measures for expansive materials.

MM 3C-10 **Fill Materials Will Be Tested.** Upon completion of rough grading and before final grading begins, a qualified geotechnical engineer and/or engineering geologist will:

- obtain representative samples of near-surface soils and formations exposed in cut areas,
- identify expansion potential, and
- locate and define the limits of the expansive soils.

MM 3C-11 **Expansive Soils Will Be Mitigated.** Following identification and delineation of expansive materials, the engineers will identify the most appropriate methods of mitigation. Mitigation measures will include one or more of the following.

- excavation and replacement with nonexpansive fill materials;
- moisture conditioning of the expansive material to a high moisture content to cause preswelling, then capping with nonexpansive fill;
- compliance with the Uniform Building Code, which specifies special foundation/slab design for residential construction on soils having an expansion potential of “low” or greater;
- designing foundations to span across areas of potential differential expansion; and
- submission of special foundation and slab design by the geotechnical and structural engineers and approval of this design by the building official.

Determination: *Less than Significant with Incorporation of Previously Adopted MMs (Consistent with the Previous Environmental Documentation).*

The expansion potential of the on-site soil is predominantly medium. However, consistent with the conclusion of the Previous Environmental Documentation, some claystone beds may be found to be of high to very high expansion potential and sandstone beds are likely to be of very low expansion potential. Although grading and lot capping are likely to blend the near-surface soil so that at the completion of grading most of the near surface subgrade soils are anticipated to be within the medium expansion range, the potential for some areas with expansion potential in the "high" category cannot be ruled out. Consistent with the findings of the Previous Environmental Documentation for the Approved SH II Project, implementation of Mitigation Measures MM 3C-9 through MM 3C-11 would reduce impacts related to expansive soils to a less than significant level. The Refined Orange Heights Project would not

result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation for the Approved SH II Project. No further analysis in the SEIR is required.

- e) Would the Refined Orange Heights Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

Approved SH II Project Analysis Summary

This threshold was not specifically included in the 2005 SEIR/EIR or 2016 Addendum; however, the Previous Environmental Documentation identified that wastewater from the proposed development would enter the municipal sewer system (not septic tanks or alternative waste water disposals systems).

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to this issue.

Determination: *No Impact*

The Project would connect to the existing IRWD sewer line located along Jamboree Road. The Refined Orange Heights Project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur and the Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- f) Would the Refined Orange Heights Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that impacts to paleontological resources would be less than significant with the implementation of required mitigation measures. Analysis of potential impacts related to paleontological resources will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

8. GREENHOUSE GAS EMISSIONS.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐
(b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐

Determination: *Additional Analysis Required.*

At the time of certification of the 2005 SEIR/EIR, the greenhouse gas (GHG) emissions thresholds identified above were not included in the CEQA Guidelines Appendix G. Therefore, GHG emissions were not separately modeled or explicitly discussed. Although not discussed specifically, the topic of GHG emissions and the potential effects of GHGs on climate change were known prior to certification of the 2005 SEIR/EIR, and the information necessary to analyze the 2005 project's impacts with respect to those categories was disclosed in the 2005 SEIR/EIR. The 2016 Addendum included a quantitative analysis of the GHG emissions associated with both full buildout of the 2005 Santiago Hills II/East Orange Project and the Approved SH II Project. The 2016 Addendum determined that GHG emissions resulting from the Approved SH II Project would be reduced compared to the emissions that would have occurred for the 2005 Santiago Hills II/East Orange Project. Analysis of the Refined Orange Heights Project's impacts related to GHG emissions will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

9. HAZARDS AND HAZARDOUS MATERIALS.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☒	☐
(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐
(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☒	☐
(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐
(g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☒	☐	☐

Summary of Previous Environmental Analysis

This topic was evaluated in Section 3O of the 2005 SEIR/EIR and the 2016 Addendum. Following is a summary of the impact conclusions and required mitigation measures presented in the Previous Environmental Documentation. The full text of the required mitigation measures as outlined in the 2016 Addendum is provided in the analysis below.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Potential Impact 3O-1: Hazard from the Routine Transport, Use, or Disposal of Hazardous Materials	Less than significant. No mitigation required.	Less than significant. (Similar impacts.) No mitigation required.
Potential Impact 3O-2: Hazards from Reasonably Foreseeable Upset and Accident Conditions Involving the Likely Release of Hazardous Materials into the Environment	Less than significant. No mitigation required.	Less than significant. (Similar impacts.) No mitigation required.
Potential Impact 3O-3: Emission or Handling of Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School	Less than significant. No mitigation required.	Less than significant. (Similar impacts.) No mitigation required.
Potential Impact 3O-4: Impacts from Hazardous Materials or Hazardous Waste Sites	Less than significant. No mitigation required.	Less than significant. (Similar impacts.) No mitigation required.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Potential Impact 3L-3: Expose noise sensitive land uses to noise levels that would exceed City standards.	Less than significant with mitigation. MM 3L-1. Homeowners' Notification of Aircraft Noise.	Less than significant with mitigation. Similar impact and MM 3L-1 applies.
Potential Impact 3O-5: Conflict with an Adopted Emergency Response Plan or Emergency Evacuation Plan	Less than significant. No mitigation required.	Less than significant. (Similar impacts.) No mitigation required.
Potential Impact 3O-6: Hazards from Wildland Fire	Less than significant. No mitigation required.	Less than significant. (Similar impacts.) No mitigation required.
Potential Impact 3O-7: Risk of Explosion	Less than significant. No mitigation required. PDF O-1. No Blasting in Santiago Hills II Planned Community and East Orange Planned Community Area 1	Less than significant. (Similar impacts.) No mitigation required. PDF O-1 still applies.

Impact Analysis:

- a) **Would the Refined Orange Heights Project create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR concluded that with adherence to local, State and federal regulatory requirements, and with Orange County Fire Authority (OCFA) oversight impacts related to the transport, use, and disposal of hazardous materials during construction would be less than significant. Compliance with the requirements set forth in United States Code and California Health and Safety Code, and under the direct oversight of OCFA, would be verified, or construction activities would be ceased by authority of OCFA. Additionally, these regulations require the developer and project contractors to submit to OCFA for review and approval a hazardous materials inventory reporting form business owner/operator identification page, a hazardous materials inventory statement, and a chemical inventory and business emergency plan. Adherence to these regulatory requirements would reduce construction impacts to a less-than significant level. The 2005 Santiago Hills II Project included land uses (primarily residential) with a low potential for use and disposal of hazardous material. Therefore, the 2005 SEIR/EIR also concluded that operational impacts would be less than significant.

The 2016 Addendum concluded that the impacts related to hazardous materials for the Approved SH II Project would be similar, in that it involved development of residential land uses, which had a low potential for use or disposal of hazardous materials. Furthermore, there would be fewer residential units than evaluated in the 2005 SEIR/EIR. Therefore, consistent with the 2005 SEIR/EIR, the 2016 Addendum concluded that impacts related to the routine transport, use, and disposal of hazardous materials would be less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to this issue.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

The Refined Orange Heights Project would be consistent with the land uses assumed for the Approved SH II Project and evaluated in the Previous Environmental Documentation (although there would be a reduction in the number of units to be constructed), and the construction activities would be similar. As with the Approved SH II Project, heavy equipment that would be used during construction of the Refined Orange Heights Project would be fueled and maintained by substances such as oil, diesel fuel, gasoline, hydraulic fluid, and other liquid materials that would be considered hazardous if improperly stored or handled. In addition, materials such as paints, roofing materials, solvents, and other substances typically used in building construction would be located on the Project site during construction. These materials would not be in such quantities or stored in such a manner as to pose a significant safety hazard to on-site construction workers or the general public. Construction activities would also be short-term or one time in nature and would cease upon completion of the construction phase. Additionally, the use, storage, transport, and disposal of construction-related hazardous materials would be required to comply with existing local, state and federal laws and regulations.

Further, based on the site-specific Phase I Environmental Site Assessment (*Appendix B* of this Initial Study), which included reviews of historical documents and present conditions, there are no recognized environmental conditions (RECs), controlled REC (CRECs), or historical REC (HRECs) on the Project site (AEC, 2026). Therefore, as with the Approved SH II Project, excavation and site preparation activities during construction of the Refined Orange Heights Project are not expected to expose construction workers or the general public to any hazardous conditions.

As with the Approved SH II Project, operations associated with the Refined Orange Heights Project would involve the use of small quantities of hazardous materials for cleaning and maintenance purposes, such as paints, household cleaners, fertilizers, and pesticides. However, these types of materials are not considered acutely hazardous and would be used in limited quantities.

Additionally, as with the Approved SH II Project and identified in the Previous Environmental Documentation, construction and operation of the Refined Orange Heights Project, including the routine transport, use or disposal of hazardous materials, would be conducted in accordance with applicable local, state and federal regulations.

Therefore, consistent with the conclusions of the Previous Environmental Documentation, the Refined Orange Heights Project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- b) Would the Refined Orange Heights Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR concluded that excavation and site preparation activities during construction of the 2005 Santiago Hills II Project were not expected to expose construction workers to any hazardous conditions. No physical evidence of hazardous wastes were encountered during site inspections. Furthermore, the Environmental Data Resources, Inc., report and subsequent Phase I Environmental Site Assessment prepared to support the 2005 SEIR/EIR did not identify any recognized environmental conditions (RECs) within the project area. It was identified that IRWD maintains a pump station along Chapman Avenue (now Santiago Canyon Road) midway between Jamboree Road and SR 241. Although this station was within the project boundaries, it was not located within the developable area and would not be disturbed. Therefore, the 2005 SEIR/EIR determined that impacts would be less than significant, and mitigation would not be required.

The 2005 SEIR/EIR also identified that the proposed development (primarily residential) had a low potential for the release of hazardous materials in comparison to commercial or industrial uses. Therefore, the impacts associated with the risk of upset during operation of the project were determined to be less than significant.

The 2016 Addendum concluded that impacts would be similar to those identified in the 2005 SEIR/EIR and would be less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs applicable to this issue.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

As previously stated, and consistent with the conclusion of the Previous Environmental Documentation, the Phase I Environmental Site Assessment concluded that there are no RECs, CRECs, or HRECs within the Project site (AEC, 2026). The land uses to be developed as part of the Refined Orange Heights Project would be consistent with the land uses to be developed under the Approved SH II Project evaluated in the Previous Environmental Documentation. Construction and operation of the Refined Orange Heights Project would involve the use of common materials that are not acutely hazardous, and that would be used in limited quantities such as household cleaners, solvents, paints, fertilizers, and pesticides. Therefore, consistent with the findings of the Previous Environmental Documentation, compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials during construction would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for release of hazardous materials into the environment. As with the Approved SH II Project, the Refined Orange Heights Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident

conditions involving the release of hazardous materials into the environment and this impact would be less than significant. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- c) Would the Refined Orange Heights Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that the 2005 Santiago Hills II Project site was adjacent to Santiago Community College. The 2005 Santiago Hills II Project also proposed a school site as part of the project (although this component was removed prior to the certification of the 2005 SEIR/EIR). The 2005 SEIR/EIR concluded that construction and operation of the 2005 Santiago Hills II Project would not result in impacts on schools from hazardous emissions or handling of hazardous materials, substances or waste. Construction activities and operation of the 2005 Santiago Hills II Project was determined to not require or entail the use or handling of, or result in the emissions of, any acutely hazardous materials. Impacts were found to be less than significant.

The 2016 Addendum concluded that the impacts would be the same as those evaluated in the 2005 SEIR/EIR as the project location would be the same, the proposed uses would be the same, and there were no school sites included. Impacts were determined to less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related this issue.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

As with the Approved SH II Project, the nearest school to the Refined Orange Heights Project site is the Santiago Community College, which is within 0.25 mile of the Project site (it is located approximately 260 feet to the northeast). Additionally, the Refined Orange Heights Project does not propose a new school and would result in a decrease in residential units from 1,180 to 1,058 units. Consistent with the conclusion of the Previous Environmental Documentation, with adherence to applicable regulations, the Refined Orange Heights Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- d) Would the Refined Orange Heights Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that the subsequent Phase I ESA confirmed there were no hazardous materials sites on or in the vicinity of the 2005 Santiago Hills II Project site, and impacts were determined to be less than significant.

The 2016 Addendum concluded that the Approved SH II Project would be in the same location as the 2005 Santiago Hills II Project, and land uses in the area had not changed since 2005. Therefore, the impacts would be the same as identified in the 2005 SEIR/EIR and would be less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs applicable to this issue.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

Based on review of the list of active hazardous sites compiled pursuant to California Government Code Section 65962.5 (CalEPA, 2025), the Project site is not located on a list of active hazardous sites. This finding is also consistent with review of the database lists conducted during preparation of the site-specific Phase I ESA (AEC, 2026). Consistent with the conclusion of the Previous Environmental Documentation, the Refined Orange Heights Project would not create a significant hazard to the public or the environment. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Refined Orange Heights Project result in a safety hazard or excessive noise for people residing or working in the project area?**

Approved SH II Project Analysis Summary

The potential for hazards associated with airport operations is addressed in Section 3O, Hazards and Hazardous Materials of the 2005 SEIR. The 2005 SEIR/EIR determined that the Santiago Hills II Project site was not located within an Accident Potential Zone under any Airport Environments Land Use Plan and not located within 2 miles of a public or private use airport. Therefore, hazards from aircraft were not analyzed further in the 2005 SEIR/EIR.

Noise from airport operations is addressed in Section 3.L, Land Use, of the 2005 SEIR/EIR and 2016 Addendum. The 2005 SEIR/EIR identified that noise exposure from John Wayne Airport (JWA)

operations would be less than significant. However, it was also acknowledged that aircraft noise can be annoying to some; therefore, Mitigation Measure MM 3L-1 was included in the 2005 SEIR/EIR, requiring homeowners' notification of aircraft noise.

The 2016 Addendum concluded that aircraft noise impacts would be the same as those identified in the 2005 SEIR/EIR. The number of people exposed would be somewhat reduced because fewer houses would be built. Impacts were determined to be less than significant. The issue of safety hazards from airport operations was not analyzed further in the 2016 Addendum.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: Although it is not required to mitigate a potentially significant impact, Mitigation Measure MM 3L-1 is applicable to the Project, as modified herein with text added in underline and text removed in strikeout. Mitigation Measure MM 3L-1 is modified to remove reference to military helicopters that were associated with the former El Toro Marine Corps Air Station, which has since permanently closed. The minor modification is not due to new or substantially more severe impacts resulting from the Refined Orange Heights Project.

MM 3L-1 **Homeowners' Notification of Aircraft Noise.** A buyer/renter notification program shall be incorporated into the project. This program would require that all potential buyers and renters of residences in the project be notified of the fact that aircraft from John Wayne Airport will over fly the site along with military helicopters. The notification should characterize, as best as possible, the future level of aircraft over flights.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

As identified in the Previous Environmental Documentation, the closest airport to the Project site is JWA, located approximately 8.6 miles southwest. The Project site is not within an airport land use plan or within 2 miles of a public airport or public use airport. Additionally, based on review of the Orange County Airport Land Use Commission Airport Environs Plan for JWA, the Project site is not within the 60 CNEL contour for JWA and not within a JWA Airport Safety Zone (OCALUC, 2008). Therefore, consistent with conclusion of the 2005 SEIR/EIR, the Refined Orange Heights Project would not result in excessive noise for people residing at the Project site. Additionally, the Refined Orange Heights Project would not result in a safety hazard. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that the Approved SH II Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts

would be less than significant. Analysis of potential impacts related to emergency response and evacuation will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation identified that the 2005 Santiago Hills II Project and Approved SH II Project are within "high" or "very high" fire hazard zones as designated by the County, and a "wildland fire" area, as designated by the City in the Integrated General Plan. As required, the 2005 Santiago Hills II Project and Approved SH II Project incorporated fuel modification plans, and were designed in accordance with applicable fire codes. The Previous Environmental Documentation determined that with implementation of design features and adherence to the appropriate emergency evacuation plan, impacts related to wildland fires would be less than significant.

Based on review of the 2025 California Department of Forestry and Fire Protection (CAL FIRE) updated Fire Hazard Severity Zone maps, the Project site is located in a Very High Fire Hazard Severity Zone (CAL FIRE, 2025). Analysis of potential impacts related to wildland fires will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

10. HYDROLOGY AND WATER QUALITY.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐
(b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☒	☐	☐
(c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
	(i) result in substantial erosion or siltation on- or off-site;	☒	☐	☐
	(ii) increase the rate or amount of surface runoff in a manner which would result in flooding in- or off-site;	☒	☐	☐
	(iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☒	☐	☐
	(iv) impede or redirect flood flows?	☒	☐	☐
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that hydrology and water quality impacts would be less than significant with the implementation of PDFs. Analysis of potential impacts related to hydrology and water quality will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

11. LAND USE/PLANNING.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Physically divide an established community?	☒	☐	☐
(b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that land use impacts would be less than significant with the implementation of required mitigation measures. Analysis of potential impacts related to land use and planning will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

12. MINERAL RESOURCES.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒
(b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒

Summary of Previous Environmental Analysis

This topic was evaluated in Section 5.4, Effects Found Not to Be Significant, of the 2005 SEIR/EIR. The 2005 SEIR/EIR determined that impacts to mineral resources would be less than significant and no further analysis was required.

Impact Analysis:

- a) Would the Refined Orange Heights Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
- b) Would the Refined Orange Heights Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

Approved SH II Project Analysis Summary

Relevant to the Project site, the 2005 SEIR/EIR identified that the 2005 Santiago Hills II Project site was classified as a mineral resource zone designation of MRZ-3, defined as “areas containing mineral deposits, the significance of which cannot be evaluated from available data.” Due to the limited quantity of potential deposits, it was expected that mineral extraction activities in this area would not be practical. Therefore, implementation of the 2005 Santiago Hills II Project would not result in the loss of any substantial deposit of mineral resources. Additionally, mineral extraction was not taking place and was not expected to take place in the future. The 2005 SEIR/EIR concluded that no impacts to mineral resources would occur, and no further evaluation was provided in the 2016 Addendum.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to mineral resources.

Determination: *No Impact (Consistent with the Previous Environmental Documentation).*

According to the City’s General Plan Natural Resources Element (City of Orange, 2015), mineral resources in the City are primarily limited to sand and gravel resources contained in and along the Santa Ana River and Santiago Creek. The Project site is located approximately 4.8 miles southeast of the Santa Ana River and 2.6 miles southeast of the Santiago Creek. There are no areas within the Project site that are designated as mineral resources zones or as regionally significant mineral deposits, or that can be used for mineral extraction. Additionally, there are no oil or gas wells within the Project site (DOC, 2025). Therefore, consistent with the conclusion of the Previous Environmental Documentation, the Refined Orange Heights Project would have no impact to mineral resources. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation for the Approved SH II Project. No further analysis in the SEIR is required.

13. **NOISE.**

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
	Additional Analysis Required		
(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐
(b) Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐
(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☒	☐

Impact Analysis:

- a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**
- b) **Generation of excessive groundborne vibration or groundborne noise levels?**

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that construction and operational noise impacts would be less than significant with the implementation of required mitigation measures, and that residents would not be exposed to excessive noise from airport operations. Vibration impacts related to blasting during construction were also determined to be less than significant with the implementation of required mitigation measures. Analysis of potential impacts related to noise and vibration will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

- c) **For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

Approved SH II Project Analysis Summary

Noise from airport operations is addressed in Section 3.L, Land Use, of the 2005 SEIR/EIR and 2016 Addendum. The 2005 SEIR/EIR identified that noise exposure from JWA operations would be less than significant. However, it was also acknowledged that aircraft noise can be annoying to some; therefore, Mitigation Measure MM 3L-1 was included in the 2005 SEIR/EIR, requiring homeowners' notification

of aircraft noise. The 2005 SEIR/EIR determined that the 2005 Santiago Hills II/East Orange Project were not located within 2 miles of a public or private use airport.

The 2016 Addendum concluded that aircraft noise impacts would be the same as those identified in the 2005 SEIR/EIR. The number of people exposed would be somewhat reduced because fewer houses would be built. Impacts were determined to be less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: Although it is not required to mitigate a potentially significant impact, Mitigation Measure MM 3L-1, described above under Section 9, Hazards and Hazardous Materials, Threshold e, is applicable to the Project.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

As identified in the Previous Environmental Documentation, the closest airport to the Project site is JWA, located approximately 8.6 miles southwest. The Project site is not within an airport land use plan or within 2 miles of a public airport or public use airport. Additionally, based on review of the Orange County Airport Land Use Commission Airport Environs Plan for JWA, the Project site is not within the 60 CNEL contour for JWA and not within a JWA Airport Safety Zone (OCALUC, 2008). Therefore, consistent with conclusion of the 2005 SEIR/EIR, the Refined Orange Heights Project would not result in excessive noise for people residing at the Project site. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

14. POPULATION AND HOUSING.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

		Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs		
		Additional Analysis Required		No Impact
(a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☒	☐
(b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒

Summary of Previous Environmental Analysis

This topic was evaluated in Section 3F of the 2005 SEIR/EIR and the 2016 Addendum. Following is a summary of the impact conclusions presented in the Previous Environmental Documentation.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Potential Impact 3F-1: Impact on Population Growth	Less than significant. No mitigation is required.	Less than significant. (Similar impacts.) No mitigation is required.

Impact Analysis:

- a) **Would the Refined Orange Heights Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR projected that the population generated by the 2005 Santiago Hills II Project (1,746 units) would be approximately 5,395 residents, with another 7,261 residents in the East Orange Planned Communities at buildout (2,350 units) (based on a housing density factor of 3.09 persons per residence). This amount of population growth was approximately the same as the growth projections anticipated for this part of Orange County (Santiago Hills II had not yet been annexed into the City). The 2005 Santiago Hills II project also included a small amount of employment that would generate new employees. The 2005 SEIR/EIR concluded that impacts related to population growth were less than significant.

The 2016 Addendum concluded that the Approved SH II Project would result in less population growth than the 2005 Santiago Hills II Project. With the number of units in the Approved SH II Project being reduced to 1,180, the resulting population would be 3,646 residents, approximately 32 percent lower than projected for the 2005 Santiago Hills II Project. By eliminating the East Orange portion of the site from development, the population was approximately 72 percent lower than projected in the 2005 SEIR/EIR. Therefore, the 2016 Addendum concludes that impacts related to population growth would be substantially reduced compared to the population growth estimated in the 2005 SEIR/EIR and less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to this issue.

Determination: *Less than Significant (Consistent with the Previous Environmental Documentation).*

The Refined Orange Heights Project would result in a decrease of residential units from 1,180 to 1,058 units, resulting in a population of 3,269 at buildout (a reduction of 377 residents), based on a housing density factor of 3.09 persons per residence used in the 2005 SEIR/EIR.⁶

⁶ This is similar to the persons per residences used in the City's 6th Cycle Housing Element Update (3.08), which would result in a population of 3,259 residents.

Based on Southern California Association of Governments (SCAG)'s Connect SoCal, the City of Orange is projected to have a population of 136,344⁷ in 2035 (SCAG, 2024). The population growth associated with development of the Approved SH II Project is anticipated in regional and local population projections. Therefore, the Refined Orange Heights Project, which would have a reduction in units and associated reduction in population, would be within the regional and local population projections. Additionally, the Refined Orange Heights Project does not involve the installation of any infrastructure or roadways that were not anticipated as part of the Approved SH II Project. Therefore, consistent with the conclusion of the Previous Environmental Documentation, the Refined Orange Heights Project would not induce substantial unplanned population growth in an area, either directly or indirectly beyond that evaluated in the Previous Environmental Documentation. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

b) Would the Refined Orange Heights Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Approved SH II Project Analysis Summary

This threshold was not specifically addressed in the Previous Environmental Documentation; however, it was acknowledged in the Previous Environmental Documentation that the Site was undeveloped. Therefore, there was no displacement of people or housing.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs related to this issue.

Determination: *No Impact.*

The Project site is currently undeveloped and there is no existing housing within the Project site; therefore, the Refined Orange Heights Project would not displace existing people or housing or necessitate the construction of replacement housing. No impacts would occur. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

⁷ See Tables 13 and 14 of Connect SoCal 2024, Demographics and Growth Forecast Technical Report. Table 14 includes population by jurisdiction for 2019. The estimate of future population in the City is derived by calculating the population housing ratio for Orange County from Table 12 (2.76) and applying it to the City's future household growth (49,400 in 2035).

15. PUBLIC SERVICES.

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) <i>Would the Refined Orange Heights Project in comparison to the Approved SH II Project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>			
i) Fire Protection?	☒	☐	☐
ii) Police Protection?	☐	☒	☐
iii) Schools?	☐	☒	☐
iv) Parks?	☒	☐	☐
v) Other public facilities?	☐	☒	☐

Summary of Previous Environmental Analysis

This topic was evaluated in Section 3N of the 2005 SEIR/EIR and the 2016 Addendum. Following is a summary of the impact conclusions and required mitigation measures presented in the Previous Environmental Documentation. The full text of the required mitigation measures as outlined in the 2016 Addendum is provided in the analysis below.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Potential Impact 3N-1: Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically Altered Fire Protective Facilities in Order to Maintain Acceptable Service Ratios, Response Times, or Other Performance Objectives	Less than significant with mitigation. MM PS-1. Participate in Citywide Fire Protection Facilities Fee Program. MM PS-2. Provide Required Fire Flows to Water Mains and Fire Hydrants.	Less than significant with mitigation. Similar impacts and MM PS-1 and MM PS-2 still apply.
Potential Impact 3N-2: Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically Altered Police Protective Facilities in Order to Maintain Acceptable Service Ratios, Response Times or Other Performance Objectives	Less than significant with mitigation. MM PS-4. Consult with Orange Police Department During Project Planning.	Less than significant with mitigation. Similar impacts and MM PS-4 still applies.
Potential Impact 3N-3: Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically Altered School Facilities in Order to Maintain Acceptable School Capacities	Less than significant. No mitigation required.	Less than significant. (Similar impacts) No mitigation required.

Impact	2005 SEIR/EIR Significance Conclusion, PDFs and Mitigation	2016 Addendum Significance Conclusion, PDFs and Mitigation
Potential Impact 3N-4: Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically Altered Library Facilities in Order to Maintain Acceptable Service Standards	Less than significant with mitigation. MM 3N-1. Pay Library Impact Fees.	Less than significant with mitigation. Similar impacts and MM 3N-1 still applies.

Impact Analysis:

- a) **Would the Refined Orange Heights Project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

i. Fire Protection?

Determination: *Additional Analysis Required.*

The Orange Fire Department would provide fire protection services to the Refined Orange Heights Project. The Previous Environmental Documentation determined that public services impacts related to fire protection would be less than significant with the implementation of mitigation measures. Analysis of potential impacts related to fire protection will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

- a) **Would the Refined Orange Heights Project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

ii. Police Protection?

Approved SH II Project Analysis Summary

When the 2005 SEIR/EIR was prepared, police protection services were provided to the 2005 Santiago Hills II Project site by the Orange County Sheriff's Department, and it was identified that upon annexation these services would be provided by the Orange Police Department. The 2005 SEIR/EIR determined that the 2005 Santiago Hills II Project would require the addition of staff and the purchase of new vehicles for the Orange Police Department. However, the provision of new or physically altered police protection facilities to accommodate this additional staff and equipment was determined to not be required. Therefore, impacts were determined to be less than significant. However, Mitigation Measure PS-4 requires coordination with the Orange Police Department.

The 2016 Addendum concluded that the number of units (and resulting population) would be reduced with the Approved SH II Project, but the impacts would be similar to those identified in the 2005 SEIR/EIR for the 2005 Santiago Hills II Project. Because the provision of new or physically altered police protective facilities would not be required to accommodate the needed additional staff and equipment, impacts were determined to be less than significant and Mitigation Measure PS-4 still applied.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: Based on review of the Refined Orange Heights Project by the Orange Police Department, implementation of MM PS-4 is accomplished through compliance with Chapter 15.52, Building Security Standards, of the City's Municipal Code, and implementation of Crime Prevention through Environmental Design (CPTED) techniques as required by the General Plan Safety Element, as discussed below. Therefore, MM PS-4 has been removed from the MMRP.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

The Refined Orange Heights Project would be served by Orange Police Department, which is located at 1107 North Batavia Street. The Refined Orange Heights Project would result in a decrease of residential units from 1,180 to 1,058 units (a reduction of 122 units), resulting in a reduction of approximately 377 residents.⁸

Implementation of the Refined Orange Heights Project would not exceed the number of residential units or increase the City's population beyond that anticipated and evaluated in the Previous Environmental Documentation. Therefore, the Refined Orange Heights Project would not exceed the anticipated increase in demand for police protection services. Additionally, to ensure adequate services are provided and to minimize the demands on police protection services, security and design measures which employ defensible concepts would be utilized throughout the formation of development and construction plans. Notably, as required by the City's Public Safety Element, the Refined Orange Heights Project would implement Crime Prevention Through Environmental Design (CPTED) measures, which promote public safety and physical security and allow residents the ability to monitor activity. CPTED design measures include but are not limited to the placement and orientation of structures; access and visibility of common areas; and placement of doors, windows, addressing, lighting and landscaping. Further, the Refined Orange Heights Project would be required to comply with Chapter 15.52, Building Security Standards, of the City's Municipal Code, which promotes public safety and further minimizes the demands on police services. No mitigation is required due to required compliance with existing regulations.

As with the Approved SH II Project, the Refined Orange Heights Project would not require the construction of new or physically altered police protective facilities and no physical impacts would result. Therefore, consistent with the conclusion of the Previous Environmental Documentation, this impact would be less than significant. The Refined Orange Heights Project would not result in any new

⁸ Based on a housing density factor of 3.09 persons per residence from the 2005 SEIR/EIR.

or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- a) **Would the Refined Orange Heights Project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

iii. Schools?

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that the schools within the vicinity of the 2005 Santiago Hills Project were operating near or above capacity. The 2005 Santiago Hills II Project was estimated to generate 608 new students based on OUSD student generation factors at the time the 2005 SEIR/EIR was prepared. In lieu of payment of school impact fees, the Project Applicant agreed to a mitigation plan which included funding acquisition of 15 acres for a new elementary/middle school site in East Orange and the costs for construction of the elementary/middle school. The Project Applicant also agreed to fund interim facilities to serve the 2005 Santiago Hills II Project-generated students prior to construction of the new elementary/middle school, expansion of Chapman Hills Elementary School, and high school expansion or construction. As the agreed upon mitigation plan exceeded funding amounts otherwise deemed to be full and adequate mitigation of impacts on schools pursuant to applicable statutes, impacts on schools from the 2005 Santiago Hills II Project were determined to be less than significant.

The 2016 Addendum identified that the OUSD projected the 1,180 residential units associated with the Approved SH II Project would generate 516 new students based on OUSD student generation factors (219 elementary, 121 middle school, and 176 high school students). Students would attend Chapman Hills Elementary School, Santiago Middle School, and El Modena High School. No new school facilities were proposed as part of the Approved SH II Project. Two of the schools that would receive students from the Approved SH II Project were over capacity: Chapman Hills Elementary School and El Modena High School. The 2016 Addendum identified that the Approved SH II Project would be subject to payment of applicable school impact fees. Consistent with the conclusion of the 2005 SEIR/EIR, the payment of school fees constituted full and adequate mitigation of impacts on schools from the Approved SH II Project pursuant to applicable statutes. Because the Project Applicant would not be required to construct new or physically altered school facilities, the 2016 Addendum determined that impacts on schools from the Approved SH II Project would be less than significant.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: There are no adopted PDFs or MMs.

Determination: *Less than Significant Impact (Consistent with the Previous Environmental Documentation).*

Students generated by the Refined Orange Heights Project would be served by schools within the OUSD and would attend Chapman Hills Elementary School, Santiago Middle School, and El Modena High School. Per correspondence with OUSD, Chapman Hills Elementary School has a maximum capacity of 450, Santiago Middle School has a maximum capacity of 1,080, and El Modena High School has a maximum capacity of 1,950. Based on the California Department of Education 2024-2025 Enrollment, Chapman Hills Elementary School has an enrollment of 321 students, Santiago Middle School has an enrollment of 1,137 students, and El Modena High School has an enrollment of 1,795 students (JCJ Partners, 2026; *Appendix C* of this Initial Study). Therefore, Chapman Hills Elementary School and El Modena High School are no longer over capacity and currently have excess capacity, and Santiago Middle School is currently over capacity. The Refined Orange Heights Project would result in a decrease of residential units from 1,180 to 1,058 units, a reduction of 122 units compared to the Approved SH II Project. Based on current OUSD student generation factors⁹, it is estimated that the Refined Orange Heights Project would generate approximately 345 new students (179 elementary school students, 55 middle school students, and 111 high school students), which also represents a reduction of 171 students compared to the Approved SH II Project (JCJ Partners, 2026). Therefore, the Refined Orange Heights Project would not exceed the anticipated increase in demand for school services compared to that anticipated and evaluated in the Previous Environmental Documentation for the Approved SH II Project. The Project Applicant would pay applicable school impact fees, which constitutes full and adequate mitigation pursuant to applicable statutes (consistent with the conclusions of Previous Environmental Documentation). As with the Approved SH II Project, the Refined Orange Heights Project would not require the construction of new or physically altered school facilities; therefore, no physical impacts would result. Consistent with the findings of the Previous Environmental Documentation, impacts would be less than significant. The Refined Orange Heights Project would not result in any new or substantially more severe impacts than those already identified and analyzed in the Previous Environmental Documentation. No further analysis in the SEIR is required.

- a) **Would the Refined Orange Heights Project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

iv. Parks?

Determination: *Additional Analysis Required.*

Recreation was discussed under potential impacts 3E-1 and 3E-3 in Section 3E, Recreation, of the 2005 SEIR/EIR and 2016 Addendum. The Previous Environmental Documentation determined that impacts to parks and recreation would be less than significant with a combination of on-site parkland provided and park improvement credit. Analysis of the potential physical impacts associated with construction of the on-site parks will be provided in the forthcoming SEIR. The Refined Orange Heights Project's

⁹ Based on Single-Family Detached Adjusted Districtwide Student Generation Rates per Unit: Elementary School – 0.169; Middle School – 0.052; High School – 0.105

impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

- a) **Would the Refined Orange Heights Project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

v. Other public facilities?

Approved SH II Project Analysis Summary

The 2005 SEIR/EIR identified that the increase in population related to the 2005 Santiago Hills II Project would require 3,542 square feet of new library facilities (based on the Orange Public Library standard of 0.7 sf of library building space per resident). While expansion of the existing library or construction of a new library could result in a physical change in the environment, there was insufficient information at the time to assess the significance of that change. The 2005 SEIR/EIR concluded that the required payment of fees (Mitigation Measure MM 3N-1) would reduce impacts related to library services to a less than significant level.

The 2016 Addendum identified that due to the reduction in residential units, the Approved SH II Project would result in an approximately 32 percent reduction in population compared to that anticipated and evaluated in the 2005 SEIR/EIR for the 2005 Santiago Hills II Project and there would be an associated reduction in demand for library facilities (approximately 2,409 square feet of library facilities). The 2016 Addendum concluded that while expansion of the existing library or construction of a new library could result in a physical change in the environment, there was insufficient information at that time to assess the significance of that change. The 2016 Addendum concluded that the required payment of fees (Mitigation Measure MM 3N-1) would reduce impacts related to library services to a less than significant level.

Analysis of the Refined Orange Heights Project

Applicable PDFs and MMs: The following MM is applicable to the Refined Orange Heights Project.

MM 3N-1 **Pay Library Impact Fees.** As a condition of approval for the project, the applicant will be required to pay library impact fees to fund improvements to the library system for the City of Orange.

Determination: *Less than Significant Impact with Incorporation of Previously Adopted MM (Consistent with the Previous Environmental Documentation).*

The Orange Public Library System would serve the Refined Orange Heights Project, which would result in a decrease of residential units compared to the Approved SH II Project (a reduction of 122 units). Therefore, there would also be an associated reduction in demand for library facilities. Based on the

estimated population of 3,269 residents, and the Orange Public Library System standard of 0.7 sf of library building space per resident identified in the Previous Environmental Documentation, the Refined Orange Heights Project would require approximately 2,288 square feet of library facilities. As with the Approved SH II Project, the Project Applicant would be required to pay applicable fees (Mitigation Measure MM 3N-1), which would reduce impacts related to library services to a less than significant level. Therefore, consistent with the conclusion of the Previous Environmental Documentation, this impact would be less than significant with mitigation. No further analysis in the SEIR is required.

16. RECREATION.

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of 2005 SEIR/EIR MMs or PDFs	No Impact
(a) Would the Refined Orange Heights Project in comparison to the Approved SH II Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐
(b) Does the Refined Orange Heights Project in comparison to the Approved SH II Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that recreation impacts would be less than significant with the implementation of PDFs and required mitigation measures. Analysis of potential impacts related to recreation will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

17. TRANSPORTATION.

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
Would the Refined Orange Heights Project in comparison to the Approved SH II Project:			
(a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☒	☐	☐
(b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☒	☐	☐
(c) Substantially increase hazards due to a geometric design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐
(d) Result in inadequate emergency access?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that transportation impacts would be significant and unavoidable even with the implementation of PDFs and required mitigation measures. Analysis of potential impacts related to transportation will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

18. TRIBAL CULTURAL RESOURCES.

		<p>Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs</p> <p>Additional Analysis Required No Impact</p>		
<p><i>Would the Refined Orange Heights Project in comparison to the Approved SH II Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:</i></p>				
(i)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☒	☐	☐
(ii)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that impacts to tribal cultural resources would be less than significant with the implementation of required mitigation measures. Analysis of potential impacts related to tribal cultural resources will be provided in the forthcoming SEIR. Pursuant to Assembly Bill (AB) 52, the City of Orange will provide notification of the Refined Orange Heights Project to tribes that have previously requested notification of projects in the City and/or tribes identified by the Native American Heritage Commission (NAHC), and will consult with tribes regarding the project, if requested. A summary of the results of the Native American consultation process will be included in the forthcoming SEIR.

19. UTILITIES/SERVICE SYSTEMS.

Would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐
(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☒	☐	☐
(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐
(d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☒	☐	☐
(e) Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes?	☒	☐	☐

Determination: *Additional Analysis Required.*

The Previous Environmental Documentation determined that impacts to utilities and service systems would be less than significant with the implementation of required mitigation measures. Analysis of potential impacts related to utilities and service systems will be provided in the forthcoming SEIR. The Refined Orange Heights Project's impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

20. WILDFIRE.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Refined Orange Heights Project in comparison to the Approved SH II Project:

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐
(b) Due to slope prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☒	☐	☐
(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☒	☐	☐
(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☒	☐	☐

Determination: *Additional Analysis Required.*

Wildfire was discussed under potential impacts 3O-6 and 3N.4.3.1 of the 2005 SEIR/EIR. The Previous Environmental Documentation identified that the 2005 Santiago Hills II Project and Approved SH II Project are within “high” or “very high” fire hazard zones as designated by the County, and a “wildland fire” area, as designated by the City in the Integrated General Plan. The Previous Environmental Documentation determined that with implementation of design features and adherence to the appropriate emergency evacuation plan, impacts related to wildland fires would be less than significant

The Project site is located in a Local Responsibility Area (LRA), meaning that the City of Orange has the primary responsibility for providing fire protection and emergency response services. Based on review of the 2025 CAL FIRE updated Fire Hazard Severity Zone maps, the Project site is located in a Very High Fire Hazard Severity Zone (CAL FIRE, 2025). Analysis of the Refined Orange Heights Project’s impacts related to wildfire will be provided in the forthcoming SEIR. The Refined Orange Heights Project’s impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

21. MANDATORY FINDINGS OF SIGNIFICANCE.

	Additional Analysis Required	Less than Significant Impact or Less than Significant with Incorporation of Previously Adopted MMs or PDFs	No Impact
(a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐
(b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☒	☐	☐
(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐

Determination: *Additional Analysis Required.*

Analysis of potential impacts related to mandatory findings of significance will be provided in the forthcoming SEIR. The Refined Orange Heights Project’s impacts will be evaluated in comparison to those analyzed under the Previous Environmental Documentation for the Approved SH II Project.

4.0 REFERENCES

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Orange County Airport Land Use Commission (OCALUC), 2008. *Land Use Plan for John Wayne Airport*. April 17, 2008. Accessed December 17, 2025. Available: https://files.ocair.com/media/2021-02/JWA_AELUP-April-17-2008.pdf?VersionId=cB0byJjdad9OuY5im7Oaj5aWaT1FS.vD

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5.0 PREPARERS AND PERSON CONSULTED

Lead Agency, Agencies, and Organizations

City of Orange (Lead Agency)

300 E. Chapman Avenue
Orange, CA 92866

Hayden Beckman, Planning Manager

Project Applicant

Irvine Community Development Company LLC (Project Applicant)

550 Newport Center Drive
Newport Beach, CA 92660

Document Preparers

T&B Planning, Inc. (CEQA Consultant)

3200 El Camino Real, Suite 100
Irvine, CA 92602

Nicole Morse, Esq, Principal

Tracy Chu, Project Manager

Jessica Sofian, Environmental Analyst

Cristina Maxey, GIS/Graphics Manager

Rhea Smith, GIS/Graphics Technician

Advanced Environmental Concepts, Inc. (Phase I Environmental Site Assessment Consultant)

220 E. Truxtun Avenue
Bakersfield, CA 93305

Jonathan L. Buck, Principal Geologist

April J. Saceaux, Project Manager

Anthony R. Buck, Project Manager

JCJ Partners, LLC. (School Information)

3090 Bristol Street, Suite 400
Costa Mesa, CA 92626

Olga Bevez, President

NMG Geotechnical, Inc. (Geotechnical Consultant)

17991 Fitch
Irvine, CA 92614

Terri T. Wright, CEG 1342, Principal Geologist

Tom Devine, CEG 2236, Principal Geologist

Ryan Ettinger, RCE 90538, Associate Engineer

6.0 APPENDICES

- Appendix A NMG Geotechnical, Inc. (NMG), 2026. Geotechnical Report for Orange Heights Tracts 16199 and 17995, and Associated Improvements, City of Orange, California. January 12, 2026
- Appendix B Advanced Environmental Concepts, Inc. (AEC), 2026. Phase I Environmental Site Assessment. January 12, 2026
- Appendix C JCJ Partners, LLC (JCJ Partners), 2026. School Planning Assumptions for the Orange Heights Project. March 11, 2026.