



CITY OF IRVINE
Community Development Department
1 Civic Center Plaza
Irvine, California 92606
NEGATIVE DECLARATION
November 12, 2021

Name or Title of Project: City of Irvine General Plan Housing Element 2021–2029 Update

Location: City of Irvine

Entity or Person Undertaking Project: City of Irvine Community Development Department, 1 Civic Center Plaza, Irvine, California 92606

Description of Project: The City of Irvine (City) is proposing to update its General Plan Housing Element for the 2021–2029 6th Cycle planning period. The Housing Element, as part of the Irvine General Plan, establishes housing-related actionable programs intended to guide decision-making related to land use planning and development activities for the 2021–2029 6th Cycle planning period in accordance with the City’s stated housing goals and state law.

Statement of Findings: The City of Irvine Planning Commission has reviewed the Initial Study for the proposed project and has found that no adverse environmental impacts to either the human-made or physical environmental setting would occur, and no mitigation measures would be required. The City does hereby direct staff to file a Notice of Determination, pursuant to the California Environmental Quality Act (CEQA).

Copies of the Draft Negative Declaration are available for your review at the Community Development Department, 1 Civic Center Plaza, Irvine (City Hall), during normal work hours. In addition, the Initial Study/Negative Declaration and other project information is accessible online at www.cityofirvine.org/HEUpdate.

Public Review Period: November 15, 2021, through December 15, 2021

Tentative Public Hearing Date: December 16, 2021

DRAFT

Initial Study and Environmental Evaluation Form

City of Irvine General Plan Housing Element 2021–2029 Update

November 2021

Prepared for:



**City of Irvine
Community Development Department
1 Civic Center Plaza
Irvine, California 92606**

Prepared by:



**22 Executive Park, Suite 200
Irvine, California 92614
Kristin Blackson, PMP, Senior Project Manager**

This page intentionally left blank.

Table of Contents

Acronyms and Abbreviations	iii
Section 1 Project Description	1
1.1 Project Location	1
1.2 Project Overview	1
1.2.1 Regional Housing Needs Assessment	3
1.2.2 Housing Sites Inventory	4
1.2.3 Housing Goals, Objectives, Policies, and Programs	6
1.3 Scope of Environmental Review	6
Section 2 Initial Study Checklist	13
2.1 Project Information	13
2.2 Environmental Factors Potentially Affected	15
2.3 Lead Agency Determination	16
2.4 Evaluation of Environmental Impacts	17
2.4.1 Aesthetics	19
2.4.2 Agriculture and Forestry Resources	22
2.4.3 Air Quality	24
2.4.4 Biological Resources	27
2.4.5 Cultural Resources	31
2.4.6 Energy	34
2.4.7 Geology and Soils	36
2.4.8 Greenhouse Gas Emissions	41
2.4.9 Hazards and Hazardous Materials	43
2.4.10 Hydrology and Water Quality	48
2.4.11 Land Use and Planning	52
2.4.12 Mineral Resources	53
2.4.13 Noise	54
2.4.14 Population and Housing	56
2.4.15 Public Services	58
2.4.16 Recreation	63
2.4.17 Transportation	64
2.4.18 Tribal Cultural Resources	66
2.4.19 Utilities and Service Systems	67
2.4.20 Wildfire	71
2.4.21 Mandatory Findings of Significance	74

Section 3 List of Preparers 77

 3.1 Lead Agency..... 77

 3.2 Consultants..... 77

Section 4 References 79

Figures

Figure 1. Regional Location 7

Figure 2. Project Location 9

Figure 3. Planning Areas 11

Tables

Table 1. Irvine 6th Cycle Regional Housing Needs Assessment Allocation by Household Income (2021–2029)..... 4

Table 2. Capacity Determination..... 5

Acronyms and Abbreviations

AQMP	Air Quality Management Plan
BMP	best management practice
CAAP	Climate Action and Adaptation Plan
CALGreen	California Green Building Standards Code
CBC	California Building Code
CEQA	California Environmental Quality Act
City of Irvine	City of Irvine
EIR	Environmental Impact Report
GHG	greenhouse gas
HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HEU	Housing Element Update
IBC	Irvine Business Complex
IPD	Irvine Police Department
IRWD	Irvine Ranch Water District
LHMP	Local Hazard Mitigation Plan
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer system
NCCP	Natural Communities Conservation Plan
NPDES	National Pollutant Discharge Elimination System
OCFA	Orange County Fire Authority
OCWR	Orange County Waste and Recycling
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SoCAB	South Coast Air Basin
USD	Unified School District
VMT	vehicle miles traveled

This page intentionally left blank.

Section 1 Project Description

1.1 Project Location

The City of Irvine (City or Irvine) and its sphere of influence are within the coastal and foothill region of central Orange County, California. Irvine is approximately nine miles inland from the Pacific Ocean, 40 miles south of the City of Los Angeles, and 80 miles north of the City of San Diego. Irvine is accessible by ground transportation along Interstates 5 and 405. State Routes 55 and 133 also pass through Irvine. State Route 73 travels along the western boundary of the City. Air travel is available at John Wayne Airport, located immediately adjacent to the Irvine Business Complex (IBC).

Irvine encompasses over 66 square miles and is bordered by the cities of Newport Beach and Laguna Woods to the south, cities of Santa Ana and Tustin to the west, City of Orange and unincorporated area of Orange County to the north, and the City of Lake Forest to the east (Figure 1, Regional Location, and Figure 2, Project Location).

Irvine is divided into distinct neighborhoods or villages called Planning Areas, where each Planning Area is designed to serve diverse lifestyles (Figure 3, Planning Areas). Each Planning Area has a unique theme that provides a sense of identity through its design and connection with surrounding retail and other amenities. Existing neighborhoods include retail, office, recreational amenities, and public facilities to support residential development.

1.2 Project Overview

Future development of all land in Irvine is guided primarily by the Irvine General Plan, which last underwent a comprehensive update in 2000. The Irvine General Plan consists of a series of state-mandated, as well as optional, “elements” to direct the City’s physical, social, and economic development, as well as guide conservation. Elements include Land Use, Circulation, Housing, Noise, Public Facilities and Services, Integrated Waste Management, Energy, Safety, Parks and Recreation, Conservation and Open Space, Seismic, Cultural Resources, Growth Management, and Irvine Business Complex.

Since the last comprehensive General Plan Update in 2000, the City has completed several major planning programs. Major General Plan Amendments have been completed for various areas of Irvine, including but not limited to the City’s Northern Sphere Area, the Great Park/Great Park Neighborhoods (Planning Area 51), and the IBC Vision Plan, which has been incorporated into the Irvine General Plan as a separate element. Additionally, the City’s 5th Cycle Housing Element was updated and certified in 2013. Each of these planning programs complied with the California Environmental Quality Act (CEQA) through preparation of a comprehensive Program Environmental Impact Report (EIR) or a Mitigated Negative Declaration. As a result of these

planning programs, a total of 136,613 dwelling units and approximately 142 million square feet of non-residential land uses are currently allowed in Irvine. Residential growth has been concentrated within the central and eastern portions of Irvine, with employment growth concentrated adjacent to regional transportation facilities (i.e., airport, freeways, and train stations) on the western (IBC area [a.k.a. Planning Area 36]) and eastern edges (Spectrum area). The northern and southern hillside areas of Irvine are largely undeveloped lands, which are protected open space areas.

The project proposes to update the Irvine General Plan Housing Element for the 2021–2029 6th Cycle planning period. The Housing Element, as part of the Irvine General Plan, establishes housing-related actionable programs intended to guide decision-making related to land use planning and development activities for the 2021–2029 6th Cycle planning period in accordance with the City’s stated housing goals and state law. State law requires that all cities adopt a Housing Element and update it every eight years. The previous 5th Cycle (2013–2021) Housing Element was adopted by the City Council in 2013 and was certified by the California Department of Housing and Community Development (HCD) 2013.

Pursuant to California Government Code, Section 65583, a Housing Element is required to consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing. Specifically, a Housing Element is required to contain the following:

- An assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs (California Government Code, Section 65583(a)).
- A statement of the community’s goals, quantified objectives, and policies relative to the maintenance, preservation, improvement, and development of housing (California Government Code, Section 65583(b)).
- A program that sets forth a schedule of actions during the planning period, each with a timeline for implementation of the policies and achievement of the goals and objectives of the Housing Element (California Government Code, Section 65583(c)).

The Housing Element identifies and analyzes the City’s existing and projected housing needs and contains a detailed outline and work program of the City’s goals, policies, quantified objectives, and programs for the preservation, improvement, and development of housing for a sustainable future. The Housing Element identifies ways in which the housing needs of all economic segments of the community, including residents and the local workforce, can be met. The overall goal of the Housing Element is to provide safe and decent housing for all economic segments of the community.

The Housing Element Update (HEU) consists of the following major components:

- **Chapter 1, Introduction:** Provides an overview of the purpose, scope, and organization of the Housing Element.
- **Chapter 2, Community Profile and Needs:** Provides a summary of the City’s demographic and housing characteristics, special needs groups, and housing needs.
- **Chapter 3, Review of Previous Housing Element (2013–2021):** Provides an assessment of progress during the 2013–2021 5th Cycle planning period for the Housing Element, including program status, objectives, actions, and appropriateness.
- **Chapter 4, At-Risk Affordable Housing:** Provides information on existing affordable units at risk of converting to market rate and a preservation analysis.
- **Chapter 5, Housing Constraints:** Provides an assessment of the various constraints to housing development and preservation.
- **Chapter 6, Housing Resources and Opportunities:** Provides an inventory of resources available to meet the City’s existing and projected housing needs.
- **Chapter 7, Adequate Sites Inventory Analysis and Methodology:** Provides a detailed description of the methodology used to identify specific housing sites (by Assessor’s Parcel Number), the number of units for each site, the levels of affordability for each site, and the methodology used to ensure that each site meets state law requirements.
- **Chapter 8, Housing Plan:** Outlines the City’s goals, policies, programs, and actions to provide and preserve housing opportunities in the community and quantified objectives for the 2021–2029 6th Cycle planning period.

1.2.1 Regional Housing Needs Assessment

State Housing Element law requires Housing Elements to be updated regularly to reflect a community’s changing housing needs, including preparation of a Regional Housing Needs Allocation (RHNA) Plan (California Government Code, Section 65584(a)). A critical measure of compliance is the ability of a jurisdiction to accommodate its share of the regional housing needs based on an RHNA prepared by the HCD for each council of governments in the state that identifies projected housing units needed for all economic segments based on California Department of Finance population estimates.

The Southern California Association of Governments (SCAG) is the council of governments for the Southern California region and allocates to the six counties and 191 cities their fair share of the total RHNA for each income category. Each local government must demonstrate that it has planned to accommodate its fair share of the RHNA in its Housing Element. The SCAG Board of Directors adopted the RHNA Plan on March 4, 2021. The state requires that 6th Cycle Housing Elements be certified 18 months after that date.

SCAG developed an RHNA based on the HCD determination for the region’s “fair share” of statewide forecasted growth through October 2029. Overall, the region needs to plan for an additional 1,341,827 units. The City’s share of regional future housing needs is 23,610 new units. The RHNA was distributed to jurisdictions in the region using a formula that accounts for access to public transit and employment. This allocation is divided into the various income categories in Table 1, Irvine 6th Cycle Regional Housing Needs Assessment Allocation by Household Income (2021–2029). The RHNA also includes a fair-share adjustment, which allocates future need by each income category in a way that meets the state mandate to reduce the overconcentration of households with lower incomes in one community.

Table 1. Irvine 6th Cycle Regional Housing Needs Assessment Allocation by Household Income (2021–2029)

Income Category	Above Moderate	Moderate	Low	Extremely Low/Very Low	Total
Dwelling Units	8,671	4,308	4,235	6,396	23,610

Source: City of Irvine 2021.

1.2.2 Housing Sites Inventory

State Housing Element law does not require the City to ensure that the number of dwelling units identified in the RHNA is built within the planning period. However, the law requires that the City provide an inventory of land suitably zoned and with available infrastructure and utilities to meet that need. The Sites Inventory is an assessment of the City’s capacity for new housing development, which must demonstrate that the RHNA target of 23,610 housing units, including 10,631 lower-income (extremely low-, very-low-, and low-income) affordable units, can reasonably be achieved under the City’s current land use plans and zoning regulations or with planned amendments thereto. The Sites Inventory was prepared to satisfy state requirements (as detailed later in this document) and is a planning estimate based on a number of factors, including market demand, recent development patterns, and property owner interest. However, the Sites Inventory does not approve any project or guarantee what will be built on a site. Actual housing development is implemented by the development community and will largely depend on market factors that are outside of the City’s control. Housing developers, market trends, and availability of funds are among the constraints that will dictate if and when housing units will be constructed.

Through its Sites Inventory, the City identified 102 sites that are adequate for housing development and that have housing capacity that is reasonably developable within the planning period or will have such a capacity with planned zoning and land use changes. Table 2, Capacity Determination, summarizes the City’s determination that there is sufficient capacity to accommodate the City’s RHNA by income and lists site categories representing land suitable and available for residential development. These sites have capacity for at least 57,656 net housing units under the sites’ existing zoning (or with a proposed zone change in certain circumstances).

Table 2. Capacity Determination

		Income Level				Total
		Very Low	Low	Moderate	Above Moderate	
RHNA from SCAG		6,396	4,235	4,308	8,671	23,610
Alternative Methods to Meet the RHNA (Credits)						
Entitled or Proposed Projects		478	44	36	3,102	3,660
Accessory Dwelling Units		20	34	24	2	80
Preservation of At-Risk Units ¹		518	305	0	0	823
<i>Subtotal</i>		<i>1,016</i>	<i>383</i>	<i>60</i>	<i>3,104</i>	4,563
<i>Net RHNA (after Credits are Applied)</i>		<i>5,380</i>	<i>3,852</i>	<i>4,248</i>	<i>5,567</i>	19,047
#1 – Determination of Adequate Sites (Sites with Existing Zoning to Accommodate RHNA)						
1	Development Reserve	600	400	0	0	1,000
2	Medium Density Residential	0	0	1	1	2
2	Medium-High Density Residential	279	186	155	1,398	2,018
3	Multi-Use	237	158	43	385	823
5	Urban Commercial	204	136	0	0	340
5	LPC Regional Commercial	210	140	126	1,142	1,618
5	IBC Multi-Use	1,349	880	863	7,896	10,988
8	Trails and Transit Oriented Development	1,148	767	701	6,317	8,933
<i>Subtotal</i>		<i>4,027</i>	<i>2,667</i>	<i>1,889</i>	<i>17,139</i>	25,722
<i>RHNA Surplus/(Shortfall) After Step #1</i>		<i>(1,353)</i>	<i>(1,185)</i>	<i>(2,359)</i>	<i>11,572</i>	6,675
#2 – Adequate Sites Program (Sites Requiring Rezoning to Accommodate RHNA)						
1	Exclusive Agriculture	638	425	0	0	1,063
1	Conservation Open Space Reserve	0	0	400	0	400
1	Preservation	285	190	0	0	475
4	Neighborhood Commercial	0	0	27	399	426
4	Community Commercial	0	0	371	3,328	3,699
4	Commercial Recreation	0	0	48	434	482
5	Irvine Center Garden Commercial	0	0	62	547	609
5	General Industrial	0	0	1,990	17,894	19,884
6	Medical and Science	169	112	111	986	1,378
6	Institutional	2,111	1,407	0	0	3,518
<i>Subtotal</i>		<i>3,203</i>	<i>2,134</i>	<i>3,009</i>	<i>23,588</i>	31,934
Total Units from Steps #1 and #2		7,230	4,801	4,898	40,727	57,656
Net Surplus/(Shortfall) (Net RHNA – Total Units from Steps #1 and #2)		1,850	949	—	—	—
<i>No Net Loss Buffer per HCD (15%–30%)²</i>		<i>29%</i>	<i>22%</i>	<i>—</i>	<i>—</i>	<i>—</i>

Notes: IBC = Irvine Business Complex; RHNA = Regional Housing Needs Assessment; SCAG = Southern California Association of Governments

¹ City plans to preserve in accordance with Program PP-D.1 in Chapter 8 of the proposed HEU pursuant to Government Code, Section 65583.1(c)(2)(C).

² The HCD recommends buffer for lower-income (very low and low) sites only to account for no net loss provision.

The HEU does not propose any land use or zoning changes.

1.2.3 Housing Goals, Objectives, Policies, and Programs

California Government Code, Section 65583(c), requires a program that sets forth a schedule of actions during the planning period that the local government is undertaking or intends to undertake to implement the policies and achieve the goals and objectives of the Housing Element. The goals, policies, and programs have been established to address the housing issues in Irvine and to meet state housing law requirements. The City’s overall goal is to provide safe and decent housing for all economic segments of the community.

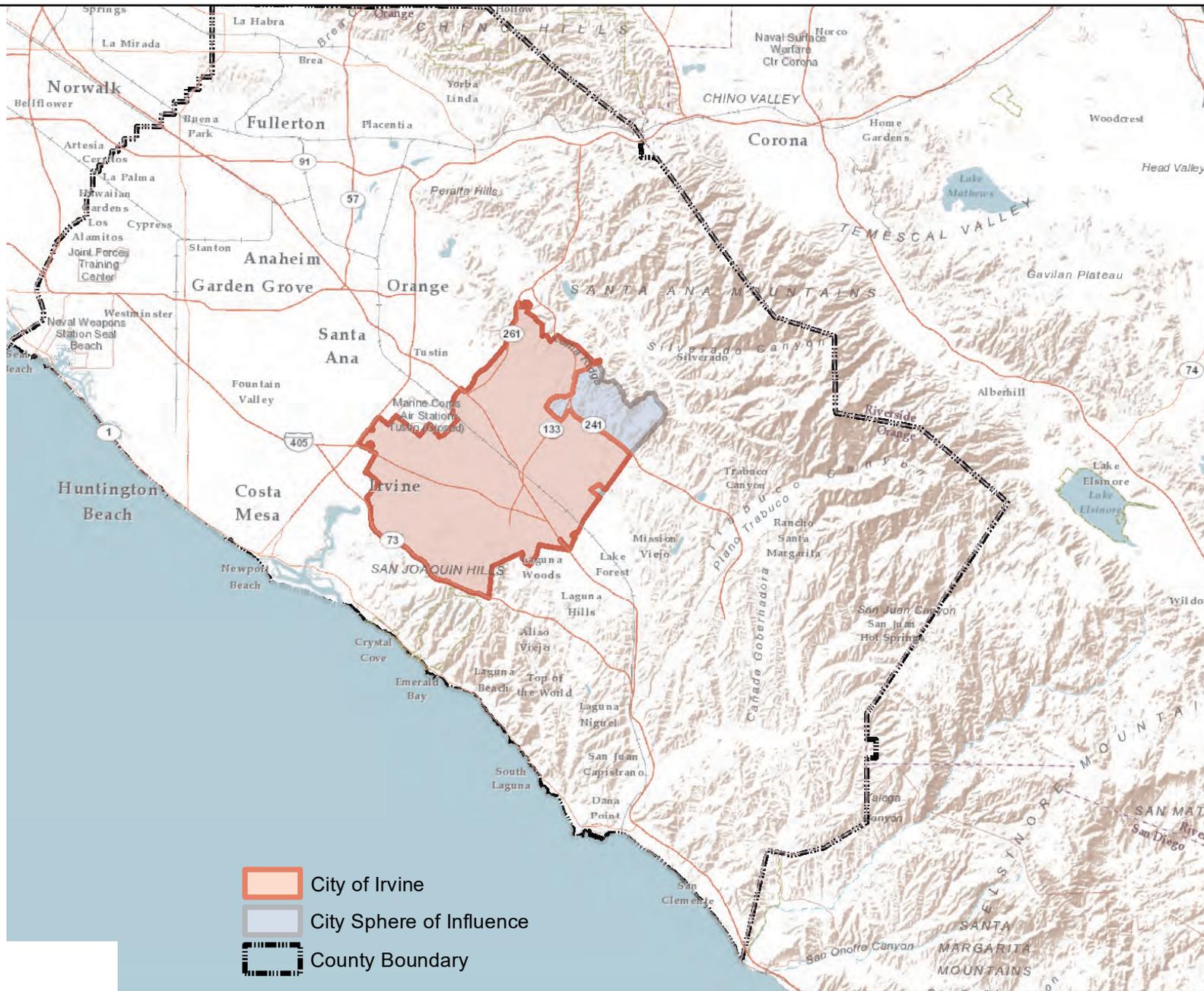
As required by state Housing Element law, the HEU includes a plan to facilitate and encourage the provision of housing consistent with the RHNA. The plan implements strategies and programs intended to address a number of important housing-related issues and to achieve the City’s overarching housing goals, which include the following:

- Provide safe and decent housing for all economic segments of the community
- Maximize land utilization for residential development
- Preserve existing affordable housing
- Encourage more affordable housing units
- Maximize solutions for those experiencing or at risk of homelessness
- Encourage and preserve homeownership
- Affirmatively further fair housing

1.3 Scope of Environmental Review

The HEU requires environmental review in compliance with the CEQA. The HEU is a policy-level document that will not create physical residential growth but identifies available sites for residential development during the 2021–2029 planning period. As shown in Table 2, Capacity Determination, the HEU identifies sites in Irvine with existing zoning to accommodate a total of 25,720 dwelling units. CEQA review has been completed for these sites, and they are currently available for development without any additional CEQA review. In addition, the HEU identifies additional sites that require rezoning before they can be developed. These sites, if rezoning were approved, could accommodate an additional 31,934 dwelling units. To implement the 6th Cycle Housing Element, including the recommended rezoning, the City has initiated a General Plan and Zoning Code Update and associated Program EIR. Since the HEU is a policy-level document that does not create physical residential growth, and the recommended rezonings will not occur as part of this project, the City has determined that a Negative Declaration is the appropriate CEQA document for the HEU.

Path:C:\Users\Randy.Deodati\Desktop\Projects - Clone\City of Mission Viejo\Garden Plaza\Map Docs\Initial Study

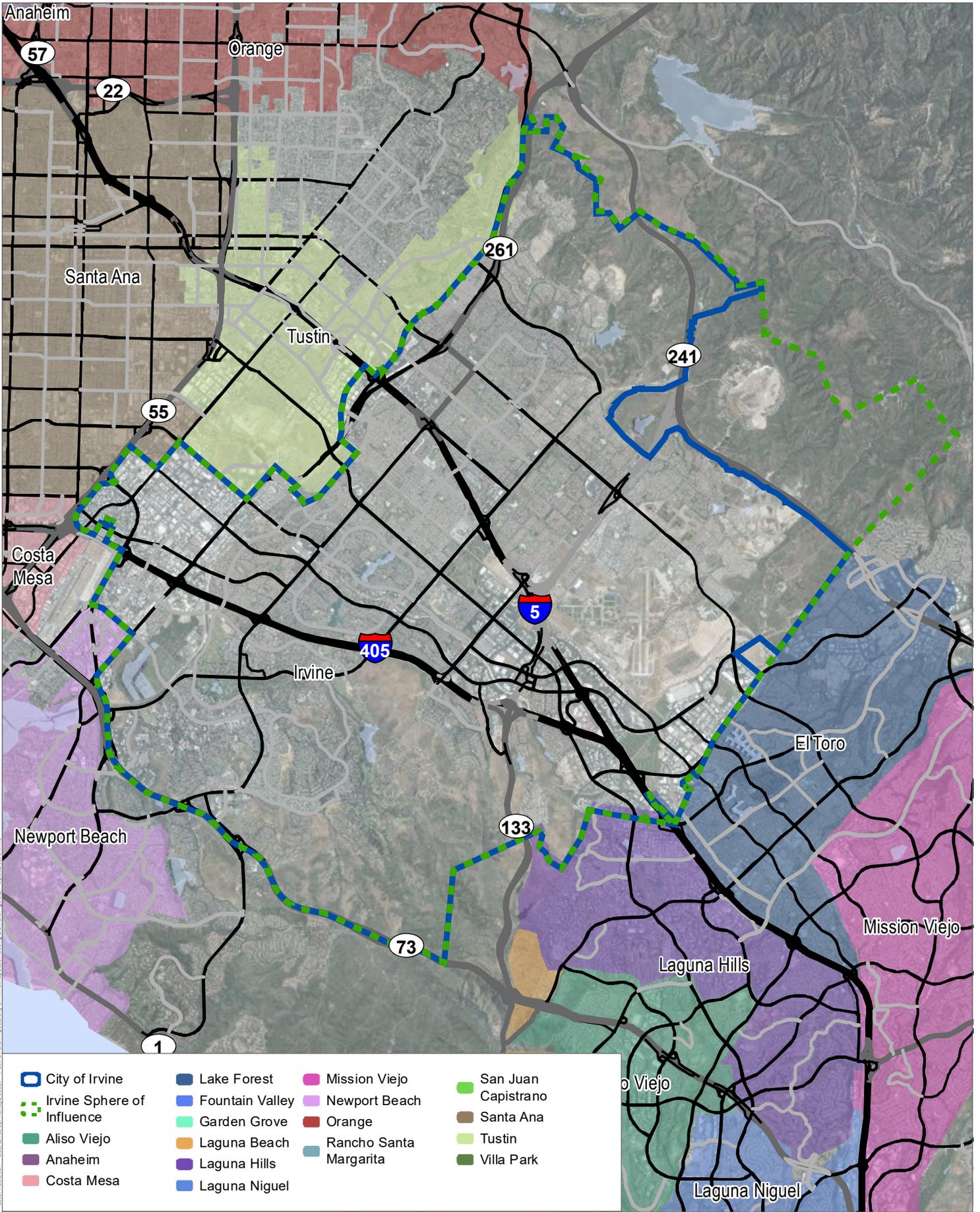


Source: City of Irvine 2019.

Figure 1
Regional Vicinity



This page intentionally left blank.



Source: ESRI 2020.

Figure 2

Project Location

Irvine Housing Element Update



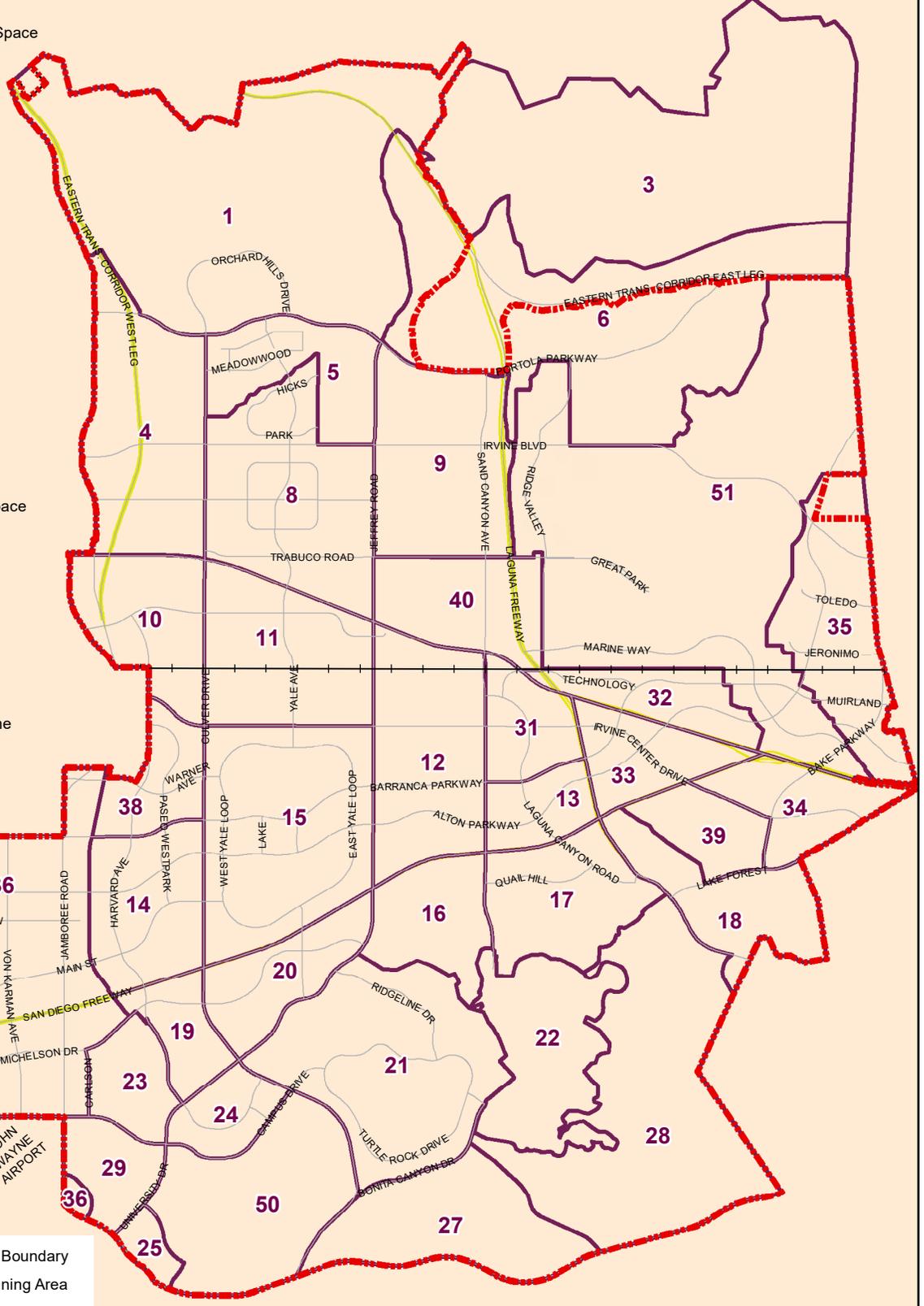
Harris & Associates



This page intentionally left blank.

Path: C:\Users\Randy\Desktop\Projects_C\Irvine\City of Corona\Corona_Recycled_Water\Map Docs\NOP

- PA1 Orchard Hills
- PA3 Limestone Canyon - Open Space
- PA4 Lower Peters Canyon
- PA5 Northwood Point
- PA6 Portola Springs
- PA8 Northwood
- PA9
 - PA9A Woodbury
 - PA9B & C2 Stonegate
 - PA9C1 Woodbury East
- PA10 Walnut
- PA11 El Camino Real
- PA12 Oakcreek
- PA13 Irvine Spectrum 4
- PA14 Westpark
- PA15 Woodbridge
- PA16 PA16
- PA17 Quail Hill
- PA18 Laguna Alta
- PA19 Rancho San Joaquin
- PA20 University Park
- PA21 Turtle Rock
- PA22 Shady Canyon
- PA23 San Joaquin Marsh
- PA24 University Town Center
- PA25 University Research Center
- PA27 Turtle Ridge
- PA28 Bommer Canyon - Open Space
- PA29 UCI - North Campus
- PA30 Orange County Great Park
- PA31 Irvine Spectrum 6
- PA32 Irvine Spectrum 3
- PA33 Irvine Spectrum Center
- PA34 Irvine Spectrum 5
- PA35 Irvine Spectrum 2
- PA36 Irvine Business Complex
- PA38 Westpark II
- PA39 PA39
- PA40 Cypress Village
- PA50 University of California, Irvine
- PA51 Orange County Great Park



	Railroad		City Boundary
	Centerline		Planning Area
	Freeway		Irvine Sphere
	Airport		Airport

Source: City of Irvine 2021.



Figure 3
City of Irvine - Planning Areas

This page intentionally left blank.

Section 2 Initial Study Checklist

The following discussion of potential environmental effects was completed in accordance with Section 15063 of the CEQA Guidelines to determine if the proposed project may have a significant effect on the environment.

2.1 Project Information

1. **Project title:** City of Irvine General Plan Housing Element 2021–2029 Update
2. **Lead agency/project sponsor’s name and address:** City of Irvine
Community Development Department
1 Civic Center Plaza
Irvine, California 92606
3. **Contact person name and phone number:** Melissa Chao, Senior Planner
949-724-6395
mchao@cityofirvine.org
4. **Project location:** Citywide
5. **General plan designation:** Citywide – varies
6. **Zoning:** Citywide – varies
7. **Description of project:** Refer to Section 1, Project Description, of this IS.
8. **Surrounding land uses and setting:** Refer to Section 1 of this IS.
9. **Other public agencies whose approval is required:** State law requires jurisdictions to submit a Draft Housing Element to the HCD for review and that each jurisdiction consider the HCD’s comments before Housing Element adoption. Review of specific development proposals by other governmental agencies may be required before development of new housing anticipated in the Housing Element. Appropriate public agency review will be determined at the time specific development applications are submitted.

10. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The City initiated tribal consultation on February 8, 2021. On February 10, 2021, the Juaneño Band of Mission Indians, Acjachemen Nation, advised that no consultation is required. In addition, on April 8, 2021, the Gabrieleño Band of Mission Indians, Kizh Nation, also advised that no consultation is required.

2.2 Environmental Factors Potentially Affected

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

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

2.3 Lead Agency Determination

On the basis of this initial study and environmental evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- 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, including implementation of the mitigation measures identified herein. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- 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.
- 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.



November 10, 2021

Signature
Marika Poynter, AICP

Date

Principal Planner

City of Irvine

Title

For

2.4 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c) (3)(D). In this case, a brief discussion should identify the following:
 - a. **Earlier Analysis Used.** Identify and state where they are available for review.
 - b. **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. **Mitigation Measures.** For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significance.

2.4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Irvine’s setting between the foothills and ocean, its topography, and its built environment include an array of natural areas, scenic roadways, and structures that are visual resources. Irvine’s topography contains prominent features, such as the Santiago Hills, northern flatlands, central flatlands, and San Joaquin Hills. The ridgelines of these hills are visible from many vantage points throughout Irvine. From their peaks, these ridgelines also offer unparalleled views of the valley plain and the Pacific Ocean. Within these natural areas are unique rock outcroppings of significant visual quality. The Irvine General Plan does not officially designate scenic vistas in Irvine. Development in Irvine has the potential to impact these landforms. Development within a viewer’s line of sight of scenic areas may interfere, either by physically blocking or screening the vista from view or by impeding or blocking access to a formerly available viewing position. These viewers may see the scenic areas before development but would have those views blocked after development (City of Irvine 2015).

The HEU does not propose any development of housing or associated infrastructure. The HEU includes an inventory of sites with the potential to accommodate the housing needs of the City. The HEU identifies potential housing areas to demonstrate compliance with the HCD’s RHNA. Future new residential development pursuant to the HEU would be subject to existing development standards in the Irvine Municipal Code and CEQA designed to protect visual resources. Irvine General Plan Land Use Element Policy A-3(b) requires that proposed development in hillside areas must retain the character and aesthetic value of the natural landform through use of the Hillside

Development Ordinance. This overlay regulates development of areas, which due to topography, require special consideration to maintain natural character, environmental values, and aesthetics. The Hillside Overlay sets forth 10 policies regarding development in hillside areas. Specific review procedures are established for the San Joaquin Hills and the Santiago Hills (City of Irvine 2015). Future residential development consistent with the HEU would be required to comply with City regulations. Therefore, impacts would be less than significant.

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. No state-designated scenic highways are in Irvine. Consequently, future housing development facilitated by the HEU would have no potential to adversely affect, directly or indirectly, scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within a state scenic highway. Implementation of the HEU would not impact scenic resources within a state scenic highway. Therefore, no impact would occur.

c. Would the project, 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 and other regulations governing scenic quality?

Less than Significant Impact. The HEU includes an inventory of sites with the potential to accommodate housing units to satisfy the 6th Cycle RHNA. Future housing development facilitated by the HEU would be consistent with current land use designations that allow for residential development on vacant sites zoned for residential use. The HEU Sites Inventory identifies several sites that are not vacant, as defined by the California Government Code. Non-vacant sites have various existing uses, including retail, office, industrial, and hotels. The City anticipates that these sites have a high likelihood of redeveloping into residential uses during the 6th Cycle Housing Element planning period due to changing demands for commercial development according to commercial market data and may require future land use designation changes. However, the HEU does not propose any of these future changes.

The Irvine General Plan contains goals and policies that address the visual character and quality of new development. The Irvine General Plan Land Use Element includes Objective A-1, which preserves and strengthens Irvine's identity as a diverse and innovative community and supports a community composed of distinct residential neighborhoods, business districts, and employment centers whose urban form reflects the natural environmental setting. This objective is supported by Policies (a), (b), (d), (e), (g), and (h). These policies conserve visual resources along the scenic corridors, use building masses and landscaping to create a sense of unity, and maintain and enhance the physical appearance of Irvine. These policies also distinguish individual Planning Areas in character and physical appearance by considering visual separation, architectural style, and Planning Area edge during design and development of each Planning Area. Finally, these policies

incorporate a mixture of housing types and densities and a variety of public and private facilities, activity nodes, and open space areas. Irvine General Plan Land Use Element Objective A-7, Urban Design, includes several policies to ensure the creation of a visually attractive and efficiently organized City (City of Irvine 2015).

Furthermore, the Irvine Zoning Ordinance also includes Chapter 5-4, Hillside Overlay, designed to regulate scenic quality in Irvine (City of Irvine 2015).

Future residential development consistent with the HEU would be required to comply with these policies; therefore, implementation of the HEU would not conflict with applicable zoning or regulations designed to protect scenic quality. Thus, impacts would be less than significant.

d. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Irvine is relatively urbanized with medium levels of ambient lighting. The HEU does not propose any specific residential development. However, future housing development facilitated by the HEU would result in new sources of light and glare but would be consistent with the ambient light levels from nearby sources. Residential development projects are subject to City regulations, including Irvine Zoning Ordinance Chapter 3-16, Lighting, which includes operational and development standards that would reduce light or glare (City of Irvine 2015). Therefore, impacts would be less than significant.

2.4.2 Agriculture and Forestry Resources

<p>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 Dept. 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. Would the project:</p>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>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?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>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))?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>d. Result in the loss of forest land or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>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?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the 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?**

Less Than Significant Impact. The California Department of Conservation Farmland Mapping and Monitoring Program designates the majority of Irvine as Urban (not Important Farmland). Several small areas of Irvine are designated as Prime Farmland, Important Farmland, and Farmland of Statewide Importance, primarily occurring near the northeastern portions of Irvine (City of Irvine 2015). The HEU does not propose any specific residential development and does not identify any sites that would be subject to urbanization or rezoning from agricultural use to residential use.

Consequently, future housing development would not result in the conversion of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or Grazing to non-agricultural use. Thus, impacts would be less than significant.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. As of 1989, no Williamson Act contracts on any lands have been identified in Irvine (City of Irvine 2015). Therefore, the HEU does not conflict with existing zoning for agricultural use or a Williamson Act Contract. No impact would occur.

c. Would the 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))?

No Impact. In accordance with the forest land classification in California Public Resources Code, Section 12220, portions of Irvine consist of forest land resources, including the Santiago Hills and areas of the northern flatlands, central flatlands, and San Joaquin Hills. Many of these areas occur in areas designated as Eucalyptus Windrows, San Canyon Oak Trees, and Natural Communities Conservation Plan (NCCP) Habitat Reserve. City programs include the Eucalyptus Windrow Maintenance and Protection Plan for Lower Peters Canyon and the Urban Forestry Ordinance (City of Irvine 2015). However, future housing development facilitated by the HEU would allow for residential development on vacant and developed sites that would not conflict with zoning or require the rezoning of forest land. Therefore, no impact would occur.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Future housing development facilitated by the HEU would allow for residential development on vacant and developed sites that do not exist in areas of potential forest resources. Consequently, the implementation of the HEU would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact would occur.

e. Would the 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?

Less Than Significant Impact. The HEU does not propose any specific development. However, future housing development facilitated by the HEU would be in areas with limited classified Farmland and would allow for residential development on vacant and developed sites that are zoned for residential development consistent with the Irvine General Plan. Implementation of the HEU would not result in a zoning change for existing agricultural properties and would not restrict current agricultural uses on these properties. Adoption of the HEU would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. Therefore, impacts would be less than significant.

2.4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. Irvine lies in the South Coast Air Basin (SoCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the agency principally responsible for comprehensive air pollution control in the SoCAB. The air quality plan in effect in the SoCAB is the SCAQMD’s 2016 Air Quality Management Plan (AQMP). The regional emissions inventory for the SoCAB is compiled by the SCAQMD and SCAG. Regional population, housing, and employment projections developed by SCAG, which are based on the land use designations of the Irvine General Plan, form, in part, the foundation for the AQMP emissions inventory. Therefore, projects that are consistent with the growth anticipated by the Irvine General Plan are consistent with AQMP emissions assumptions.

The HEU designates adequate sites for development that could potentially accommodate the RHNA requirement through 2029. The RHNA allocation for the City is 23,610 units, which is based on SCAG population and growth forecasts. Because the housing assessment in the RHNA is determined by SCAG, any future development of vacant and/or developed sites would accommodate increases in population based on SCAG’s demographic projections. The HEU is consistent with the AQMP because it is based on demographic projections for the City from which the SCAQMD creates the regional emissions inventory. Therefore, implementation of the HEU would not conflict with or obstruct implementation of applicable air quality plans. Thus, impacts would be less than significant.

b. Would the project 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)?

Less Than Significant Impact. As discussed previously, the HEU does not propose any changes to land uses or approve any specific development projects. Future housing development facilitated by the HEU would require project-specific environmental evaluation to determine if any potential impacts would be less than significant. Potential air quality-related impacts would be location specific and could not be assessed in a meaningful way until the location of a project site is known. When a development proposal is considered, that project would be subject to the adopted development guidelines and standards, and any impacts identified with the development project would be addressed through mitigation measures specific to the impact. Future projects would be subject to the SCAQMD air quality thresholds and would be required to comply with the SCAQMD CEQA Handbook. Short-term air quality impacts resulting from construction of the sites, such as dust generated by clearing and grading activities, exhaust emissions from gas- and diesel-powered construction equipment, and vehicular emissions associated with the commuting of construction workers, would be subject to the SCAQMD fugitive dust control requirements for construction projects and the rules and regulations in the SCAQMD Rule Book. Therefore, impacts would be less than significant.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The California Air Resources Board's Air Quality and Land Use Handbook (CARB 2005) lists several potential sources of substantial diesel particulate matter emissions, including (1) freeways or urban roads with 100,000 vehicles per day, (2) commercial facilities that require heavy-truck deliveries or include drive-through facilities, (3) extraction operations or cement manufacturing, (4) power plants, (5) recycling and garbage transfer stations, (6) industrial land uses that require heavy-truck trips, (7) farming operations, and (8) dry cleaners using perchloroethylene. The HEU includes an inventory of sites with the potential to accommodate housing units and would not introduce new sources of toxic air contaminants into Irvine. Future housing development facilitated by the HEU would require project-specific environmental evaluation to determine if any potential impacts would be less than significant. Potential air quality-related impacts would be location specific and could not be assessed in a meaningful way until the location of a project site is known. When a development proposal is considered, that project would be subject to adopted development guidelines/standards, and any impacts identified with the development project would be addressed through mitigation measures specific to the impact. Therefore, impacts would be less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. Odors are one of the most obvious forms of air pollution to the public. Although offensive odors seldom cause physical harm, they can be a nuisance to the public. Most people determine an odor to be offensive (objectionable) if it is sensed longer than the duration of a human breath, typically two to five seconds. The SCAQMD CEQA Handbook states that land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Because the HEU involves policy planning for residential uses, it does not involve development of uses associated with odors. Therefore, operational impacts would be less than significant.

Construction activities associated with residential projects consistent with the Irvine General Plan land use designations may generate objectionable odors from heavy-duty equipment exhaust or from paint and asphalt application. New development would be subject to compliance with standards established by the SCAQMD for odor control. Projects would require consistency with SCAQMD Rule 402, Public Nuisance, which prohibits the discharge of air contaminants or other materials (including odors) that can cause injury, detriment, nuisance, or annoyance to any considerable number of people or to the public at large.

The HEU does not propose any specific development. However, construction associated with future housing development facilitated by the HEU could result in minor amounts of odor compounds associated with diesel heavy-equipment exhaust. Yet, because construction equipment would be operating at various locations throughout Irvine, construction would not take place all at once. Because operations near existing receptors would be temporary, impacts associated with odors during construction would be less than significant.

Residential land uses do not typically result in a source of nuisance odors. Because the HEU involves policy planning for residential uses, it does not involve development of uses associated with odors. Therefore, impacts would be less than significant.

2.4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any applicable policies protecting biological resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the project 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 Game or U.S. Fish and Wildlife Service?**

Less Than Significant Impact. Implementation of the HEU may have the potential to result in the removal of habitats that support sensitive plant species. Specific development projects are unknown at this time. Due to the conceptual nature of the future residential development, site-specific proposals would require individual assessments of potential impacts to biological resources, including impacts to endangered, threatened, rare, or locally designated species and their habitats. The Irvine General Plan includes policies designed to promote the preservation of natural communities that support rare, threatened, and/or endangered plants and wildlife species.

Specifically, Conservation and Open Space Element Objective L-2 promotes the maintenance and preservation of areas with significant and diverse biotic communities, and Conservation and Open Space Element Objective L-3 supports the participation in the NCCP/Habitat Conservation Plan (HCP) program to accomplish multi-species and multi-habitat conservation (City of Irvine 2015). Projects would be subject to Irvine General Plan Conservation and Open Space Element policies and project-level environmental review to adequately address and mitigate, if necessary, any impacts to biological resources.

Future projects would be required to comply with federal, state, and local regulations in place to protect special-status wildlife species. Therefore, impacts would be less than significant.

b. Would the project 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 Game or US Fish and Wildlife Service?

Less Than Significant Impact. Implementation of the HEU may have the potential to adversely affect, directly and indirectly, riparian habitat or other sensitive natural communities as identified by state and federal agencies. Specific development projects are unknown at this time. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to sensitive plant species. The Irvine General Plan includes policies designed to promote the preservation of natural communities. Specifically, Conservation and Open Space Element Objective L-2 promotes the maintenance and preservation of areas with significant and diverse biotic communities, and Conservation and Open Space Element Objective L-3 supports the participation in the NCCP/HCP program to accomplish multi-species and multi-habitat conservation (City of Irvine 2015). Projects would be subject to Irvine General Plan Conservation and Open Space Element policies, the City's entitlement review process, and project-level environmental review to adequately address and mitigate, if necessary, any impacts to biological resources.

Future projects would be required to comply with federal, state, and local regulations in place to protect special-status wildlife species. Therefore, impacts would be less than significant.

c. Would the project 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?

Less Than Significant Impact. Isolated wetlands that may be within the jurisdiction of the U.S. Army Corps of Engineers, which regulates compliance with Section 404 of the federal Clean Water Act, are supported in Irvine (City of Irvine 2015). Implementation of future development under the HEU may directly or indirectly affect such wetlands. Specific development projects are unknown at this time. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to sensitive plant species. Any potential impacts to these resources from future projects implemented through the HEU would require consultation with and

permits from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife and potentially require aquatic resources delineations to be performed. Therefore, impacts would be less than significant.

d. Would the project 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?

Less Than Significant Impact. Implementation of future development under the HEU, including road expansion, and increased population may adversely affect the ability of wildlife to move through Irvine and cause habitat fragmentation. Specific development projects are unknown at this time. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to movement of any native resident or migratory fish or wildlife species. The Irvine General Plan includes policies designed to promote the preservation of natural communities. Specifically, Conservation and Open Space Element Objective L-2 promotes the maintenance and preservation of areas with significant and diverse biotic communities, and Conservation and Open Space Element Objective L-3 supports the participation in the NCCP/HCP program to accomplish multi-species and multi-habitat conservation (City of Irvine 2015). Future project would be required to comply with these goals and policies, as well as federal, state, and local regulations in place, to protect species movement. Therefore, impacts would be less than significant.

e. Would the project conflict with any applicable policies protecting biological resources?

Less Than Significant Impact. Projects in Irvine are required to comply with policies protecting biological resources identified in the Conservation and Open Space Element of the Irvine General Plan. In addition, Chapter 8-16 of the Irvine Zoning Ordinance, Open Space Management and Conservation Plan, requires the preparation of such plans for qualified development projects. The Open Space Management and Conservation Plan shall be used as the primary implementation tool for complying with biotic policies identified in Biotic Resources Objectives L-2(a) and L-2(b) of the Conservation and Open Space Element, the timing and phasing of mitigation measures, and the responsibilities for implementation (City of Irvine 2015). Any future residential development consistent with the HEU would be subject to Conservation and Open Space Element policies and Irvine Zoning Ordinance requirements. Therefore, impacts would be less than significant.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?

Less Than Significant Impact. The City is a participant in the Central/Coastal Orange County NCCP/HCP, a habitat restoration and enhancement plan that covers approximately 37,000 acres in Orange County. Of the NCCP/HCP acres in Irvine, 10,587 are designated for inclusion in the Habitat Reserve System, and 813 acres are designated as non-reserve lands called Special Linkages. Portions of Irvine that fall within the NCCP/HCP include 7,708 acres at the northern

edge and 3,692 acres at the southern edge of Irvine. The NCCP/HCP provides regulatory coverage for 39 individual species and four “covered” habitats. The City is required to preserve these open space lands, implement the NCCP/HCP, and review project proposals for consistency with the NCCP/HCP (City of Irvine 2015).

Implementation of the HEU may have the potential to result in the removal of habitats that support sensitive plant species. Specific development projects are unknown at this time. Due to the conceptual nature of the future residential development, site-specific proposals would require individual assessments of potential impacts to biological resources, including impacts to lands covered under the NCCP/HCP. The Irvine General Plan includes a, NCCP Overlay and Reserve Linkage. This area allows for areas protected under the Central/Coastal Orange County NCCP/HCP that are designed to protect sensitive habitat and species (City of Irvine 2015). Future project would be required to comply with the goals and policies identified in the NCCP/HCP. Therefore, impacts would be less than significant.

2.4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact. The California Office of Historic Preservation identifies five significant historical resources in Irvine, including Old Town Irvine, Christ College (i.e., Concordia University Irvine), Buffalo Ranch/Urbanus Square, Irvine Bean and Grain Growers Building, and Irvine Blacksmith Shop. Implementation of the HEU may have the potential to result in the removal of previous recorded or unrecorded historical resources in Irvine. However, the HEU does not propose any specific development. Instead, the HEU identifies action programs that could be implemented to provide additional capacity for future development of dwelling units consistent with state housing law. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to historical resources. Policies that support historical resources include Irvine General Plan Cultural Resources Element Objective E-1, which promotes the identification of the existence and significance of historical sites and encourages land use planning that incorporates this information. Cultural Resources Element Objective E-2 promotes the evaluation of surveyed sites for their present and potential cultural, educational, recreational, and scientific value to the community and the region, and encourages the proper disposition before the approval of any project that could adversely affect them (City of Irvine 2015). Future housing development facilitated by the HEU would be consistent with goals and policies regarding impacts to historical resources and potential mitigation measures to protect them.

In addition, the Irvine Zoning Ordinance includes a Historical District Overlay (Chapter 5-5) that is intended to implement the Irvine General Plan Cultural Resources Element by promoting the conservation, preservation, protection, and enhancement of historical resources identified as significant in the Irvine General Plan (City of Irvine 2015). Future housing development facilitated

by the HEU would be required to comply with applicable policies to protect historical resources. Therefore, impacts would be less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact. The largest concentrations of archaeological sites in Irvine exist in the Upper Newport Bay, Santiago Hills, and San Joaquin Hills. The majority of archaeological resources in Irvine reflect the historical settlements and activities of the Gabrieliño people (also known as the Tongva), who began occupying the area approximately 3,000 years ago. Archaeological resources can be found whenever a proposed project involves ground disturbance in areas that have previously been undisturbed or where ground disturbance would penetrate deeper into the ground than previous work (City of Irvine 2015).

Implementation of the HEU may have the potential to result in impacts to previously known and unknown buried archaeological resources. However, the HEU does not propose any specific development. Instead, the HEU identifies action programs that could be implemented to provide additional capacity for future development of dwelling units consistent with state housing law. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to archaeological resources. Policies that support Irvine General Plan Cultural Resources Element Objective E-1 promote the identification of the existence and significance of archaeological sites and encourages land use planning that incorporates this information. Cultural Resources Element Objective E-2 promotes the evaluation of surveyed sites for their present and potential cultural, educational, recreational, and scientific value to the community and the region, and encourages the proper disposition before the approval of any project that could adversely affect them (City of Irvine 2015). Future housing development facilitated by the HEU would be consistent with current goals and policies regarding impacts to archaeological resources and potential mitigation measures for them. Future housing development facilitated by the HEU would be required to comply with applicable policies to protect archaeological resources. Therefore, impacts would be less than significant.

c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact. Future development consistent with the HEU has the potential to encounter previously buried known and unknown resources. However, the HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to archaeological resources, including human remains. Policies that support Irvine General Plan Cultural Resources Element Objectives E-1 and E-2 are intended to protect cultural resources, including human remains. If human remains are found, those remains would require proper treatment in accordance with applicable laws.

California Public Resources Health and Safety Code, Section 7050.5-7055, describes the general provisions for human remains. Specifically, California Health and Safety Code, Section 7050.5, describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by state law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the California Native American Heritage Commission, and consultation with the individual identified by the California Native American Heritage Commission to be the most likely descendant. If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County Coroner has been called out, the remains have been investigated, and appropriate recommendations have been made for the treatment and disposition of the remains (City of Irvine 2015). Future housing development facilitated by the HEU would be required to comply with federal, state, and local regulations (including Standard Project Condition of Approval 2.5) in place to protect human remains. Therefore, impacts would be less than significant.

2.4.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. Future residential development pursuant to the HEU would be consistent with the Irvine General Plan land use designation and would not result in unplanned regional energy usage. Implementation of the proposed project has the potential to result in impacts to energy supply due to the anticipated development. Energy resources would be consumed during construction of future development under the proposed project. Energy would also be consumed to provide operational lighting, heating, cooling, and transportation for future development. The HEU does not propose any specific development projects that would require energy to operate or an increase in vehicle trips. Future projects proposed as a result of the HEU would require subsequent CEQA review of any adverse impacts to energy to include site-specific compliance with the California Building Code (CBC), California Green Building Standards Code (CALGreen), California Energy Code, and any other requirements included as part of the Irvine Municipal Code and Irvine General Plan. Future development facilitated by the HEU would be required to comply with the current and future updates to the California Energy Code and CALGreen, which would ensure that energy demand associated with growth consistent with the HEU would not be inefficient, wasteful, or unnecessary. In addition, under a separate work effort, the City is currently in the process of preparing its Climate Action and Adaptation Plan (CAAP). Once the CAAP is adopted, future projects implemented through the HEU would be required to be consistent with the CAAP. Therefore, impacts would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The Irvine General Plan Energy Element is the applicable plan for energy efficiency in Irvine. The Energy Element provides a basis for long-range energy planning. The associated state and local objectives, when implemented, would result in efficient energy

consumption by the City and its residents, businesses, and industries. Energy Element Objective I-1 encourages maximizing energy efficiency through land use and transportation planning, including the incorporation of energy-efficient design features and energy conservation measures in residential development projects (City of Irvine 2015). Therefore, because implementation of the HEU would be consistent with the growth assumptions in the Irvine General Plan and would be required to comply with state and local plans for renewable energy and/or energy efficiency, implementation of the HEU would not conflict with the applicable energy efficiency plans. Therefore, impacts would be less than significant.

2.4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the 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.**

No Impact. As with all of Southern California, project sites would be within a seismically active region. No major or active faults are mapped at project sites that could result in surface rupture,

and no sites would be within an Alquist-Priolo Fault Rupture Hazard Zone. The nearest regional active fault to Irvine is the Newport-Inglewood Fault. No known active or potentially active faults cross or project into areas anticipated by the HEU for residential development (City of Irvine 2015). Therefore, no impact would occur.

ii. Strong seismic ground shaking?

Less Than Significant Impact. Residential development consistent the HEU would be located in seismically active Southern California and would be subject to ground shaking from regional earthquake activity. More specifically, Irvine is within Seismic Design Category D as identified by the CBC, which is incorporated into the Irvine Municipal Code. Seismic Design Category D is characterized by stringent requirements for building design (City of Irvine 2015).

Construction of any future housing development anticipated by the HEU would be required to adhere to the CBC and other standards and regulations for building designs. In addition, the Irvine Municipal Code contains provisions that protect the community from geologic and seismic hazards, including grading and excavation regulations intended to protect against geologic hazards (City of Irvine 2015). Impacts resulting from ground shaking would be reduced to a less than significant level through compliance with existing codes and adherence with the recommendations of the project-specific Geotechnical Investigation Report, including engineered site preparation and adequate structural design. Any proposed construction would require the adoption of appropriate engineering design in conformance with the recommended geotechnical standards for construction. Therefore, impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to loose, saturated sand or silt deposits that lose their load-supporting capability when subjected to intense shaking. According to the Irvine General Plan, the potential for liquefaction hazards ranges from very low in the northeastern portion of Irvine to very high in the western portion of Irvine (City of Irvine 2015). Future housing development facilitated by the HEU may have the potential to expose people or structures to substantial adverse effects from liquefaction. The HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review. Future housing development facilitated by the HEU would be required to comply with all relevant federal and state regulations and building standards, including the preparation of a project-specific Geotechnical Investigation Report. Future projects would require the adoption of appropriate engineering designs in conformance with the recommended geotechnical standards for construction. Therefore, impacts would be less than significant.

iv. Landslides?

Less Than Significant Impact. The City is relatively flat, and no significant slopes or hills are within the vicinity of future development sites (City of Irvine 2015). It is anticipated that cut-and-fill grading would be necessary during project development, but no significant slopes are anticipated. The HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review. Future housing development facilitated by the HEU would be required to comply with the CBC and the recommendations of the project-specific Geotechnical Investigation Report, including engineered site preparation and adequate structural design, which would reduce potential adverse impacts from landslides. Therefore, impacts would be less than significant.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The HEU does not propose any specific development plans for new housing units at this time. Therefore, project components, such as the amount of grading, excavation, and vegetation removal, for future housing units are unknown. Future development projects anticipated by the HEU would be required to comply with the Irvine Grading Code and to prepare erosion control plans and/or incorporate best management practices (BMPs) to minimize potential erosion and sedimentation impacts. Construction of any future housing development anticipated by the HEU that requires the disturbance of more than one acre of soil would be required by the state to prepare a Stormwater Pollution Prevention Plan for the project, which would include BMPs for erosion and sedimentation control. BMP examples generally include an effective combination of erosion and sediment controls, which include barriers such as silt fences, hay bales, drain inlet protection, and gravel bags. Existing vegetation should be preserved as much as possible.

Future housing development facilitated by the HEU would be subject to these conditions for a construction permit; therefore, impacts would be less than significant.

c. Would the 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?

Less Than Significant Impact. Development on hillside areas when steep slopes are present can increase rates of erosion and exacerbate landslide hazards, lateral spreading, liquefaction, or collapse, which may threaten structures. Subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement. Subsidence generally occurs in semi-consolidated sand and silt soils, which are not common in Irvine (City of Irvine 2015). The HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review. Any future housing development that is fostered by the HEU would be required to adhere to the CBC and other standards and regulations for building designs. The Irvine

Municipal Code contains provisions that protect the community from geologic hazards. Grading and excavation regulations are intended to protect against geologic hazards. City regulations control excavation, grading and earthwork, and construction, including fills and embankments; establish administrative procedures for issuance of permits and maintenance of property; and provide for approval of plans and inspection of grading construction (City of Irvine 2015). Any proposed construction would require the adoption of appropriate engineering design in conformance with the recommended geotechnical standards for construction. Therefore, impacts would be less than significant.

d. Would the 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?

Less Than Significant Impact. Expansive soils are materials that, when subject to a constant load, are prone to expanding when exposed to water and shrink or swell as the moisture content decreases or increases. Expansion and contraction of soils in response to changes in moisture content could lead to differential and cyclical movements that could cause damage or distress to structures and equipment. Structures built on these soils may experience shifting, cracking, and breaking as soils shrink and subside or expand. Thus, they are less suitable for development than non-expansive soils. Expansive soils are common throughout Irvine (City of Irvine 2015). Future development of housing units consistent with the HEU would have the potential to be adversely impacted by expansive soils. The HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review. Any future housing development that is fostered by the HEU would be required to adhere to the CBC and other standards and regulations for building designs. Impacts resulting from expansive soil would be reduced through compliance with existing codes and adherence to the recommendations of the project-specific Geotechnical Investigation Report, including engineered site preparation and adequate structural design. Any proposed construction would require the adoption of appropriate engineering design in conformance with the recommended geotechnical standards for construction. Therefore, impacts would be less than significant.

e. Would the 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?

No Impact. Any future residential development anticipated by the HEU would connect with the municipal sewer system and would not involve the use of septic systems or alternative wastewater disposal systems. Therefore, no impact would occur.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. Paleontological investigations have shown that Irvine was once a marine environment. Paleontological investigations of the area have shown that the area (primarily

the Santiago Hills and the San Joaquin Hills) is rich in scientifically important resources that include numerous fossil deposits. Overall, Irvine is sensitive for paleontological resources, and such resources may be found in any area, although some areas have higher levels of sensitivity (City of Irvine 2015). Construction activities associated with future residential development that involve ground disturbance have the potential to disturb, destroy, or negatively affect paleontological resources. The City requires a paleontologist and/or archaeologist to be on call during ground-disturbing activities when there is potential for resources to be uncovered. Compliance with City regulations would reduce impacts to a less than significant level.

2.4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Less Than Significant Impact. Future housing development facilitated by the HEU would be designed and constructed in accordance with the provisions of the Irvine Zoning Ordinance and the land use policies of the Irvine General Plan. The HEU does not change any land use policy or any building regulations that would raise or otherwise change development levels that could contribute to an increase in greenhouse gases (GHGs).

The Irvine General Plan identifies goals and policies that would contribute to better air quality and reduced GHG emissions in Irvine. Growth Management Element Objective M-4 provides and encourages the use of a full range of alternative modes of transportation, including transit systems, with the goal of reducing vehicle trips and vehicle miles traveled (VMT). Land Use Element Policy A-1(f) promotes sustainable development through energy and water conservation, reduced reliance on non-renewable resources, and the use of native trees, shrubs, and grasses with low maintenance costs. In addition, Energy Objective I-1(g) promotes the use of alternative modes of transportation by encouraging the use of regional public transportation, the bus system, and public transit and ridesharing.

On August 10, 2021, the City adopted a resolution to be carbon neutral by 2030, known as the Irvine ACHIEVES resolution. This resolution is a key component of the City’s CAAP. Preparation of the CAAP is being completed under a separate work effort.

The HEU does not include any regulations or other policies that would encourage inefficient building practices that could affect the volume of GHG emissions that would otherwise occur under existing Irvine General Plan policies. Additionally, the HEU does not create the ability for any new development to occur that would not otherwise occur and does not authorize any specific development project. As such, implementation of the HEU would not directly generate any GHG emissions. The HEU is specifically intended to facilitate the development of housing as allowed

by existing land use policies and in a manner that encourages improvement of jobs-housing balance, higher density development in proximity to transit, and mixed-use development.

Future residential development in Irvine would be required to comply with Title 24 energy efficiency requirements of the CBC and CALGreen. Compliance with these codes would further increase energy efficiency in new residential buildings, reducing total energy demand and the level of GHG emissions generated from coal, natural gas, and oil-based energy sources. Adherence to such policies and guidelines would reduce potential impacts to a less than significant level. The HEU is consistent with the City's overall efforts for energy and conservation policies to reduce GHGs. Therefore, impacts would be less than significant.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. As stated previously, the HEU does not propose any specific development. As such, its adoption would not directly generate any GHG emissions. However, future housing development facilitated by the HEU would have the potential to generate GHG emissions and would be required to show consistency with the City's applicable GHG emissions reduction plan. Under a separate work effort, the City is currently preparing its CAAP. Once approved, future projects implemented through the HEU would be required to be consistent with the CAAP. Therefore, impacts would be less than significant.

2.4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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, result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The HEU is a policy document and does not propose any specific development. However, construction activities associated with future development under the HEU could involve the use of chemical substances, such as solvents, paints, fuel for equipment, and other potentially hazardous materials. These materials are common to typical construction activities and do not pose a significant hazard to the public or the environment. New residential units may contain household hazardous materials, such as paint, herbicides/pesticides, diesel fuel, and cleaning products, that have the potential to spill. Residential uses typically do not use or store large quantities of hazardous materials. Long-term operation of the future residential land uses would not involve

substantial amounts of hazardous substances during operation. Future development of the sites would be consistent with the type and intensity of surrounding residential development.

Irvine General Plan policies that serve to avoid impacts from hazardous materials include Land Use Element Objective A-6(a), which ensures the public health, safety, and welfare of sensitive receptors/land uses when locating such uses in proximity to land uses that handle, generate, and/or transport hazardous substances (City of Irvine 2015). Adherence to regulations and standard protocols during the storage, transportation, disposal, and use of any hazardous materials, including federal, state, and local regulations, would minimize hazards to the public or the environment. Potential hazards-related impacts would be location specific and could not be assessed in a meaningful way until the location of a project site is known. At such time that a development proposal is considered, that project would be subject to CEQA review, adopted development guidelines/standards, and any impacts identified with the development project would be addressed through mitigation measures. Compliance with City regulations would reduce impacts to a less than significant level.

b. Would the 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?

Less Than Significant Impact. Human exposure to hazardous substances could occur through accidental release. Incidents that result in an accidental release of hazardous substances into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that may be generated. If not cleaned up immediately and completely, hazardous substances can migrate into soil or enter a local stream or channel, causing contamination of soil and water. Human exposure to contaminated soil, soil gas, or water can have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

As stated previously, the HEU does not propose any specific development. However, construction of new residential units facilitated by the HEU may result in accidental releases, such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials that would be used during residential unit construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law, including the California Hazardous Waste Control Act, California Division of Occupational Safety and Health requirements, Resources Conservation and Recovery Act, and the Emergency Planning and Community Right-to-Know Act. In addition, new residential units may

contain household hazardous materials, such as paint, herbicides/pesticides, diesel fuel, and cleaning products, that have the potential to spill.

Long-term operation of future residential units could contain household hazardous materials, such as paint, herbicides/pesticides, diesel fuel, and cleaning products, that have the potential to spill. Residential uses typically do not use or store large quantities of hazardous materials. Adherence to regulations and standard protocols during the storage and use of any hazardous materials, as discussed previously, would minimize and avoid the potential for significant upset and accident condition impacts. Future housing development would require project-specific environmental evaluation to determine if any potential impacts would be less than significant. When a development proposal is considered, the project would be subject to adopted development guidelines and standards, and any impacts identified with the development project would be addressed through mitigation measures specific to the impact. Compliance with City regulations would reduce impacts to a less than significant level.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. Schools are located throughout Irvine. However, future housing development facilitated by the HEU would be strictly residential units. Residential uses typically do not use or store large quantities of hazardous waste. New developments would be subject to planning, zoning, and procedures involved in site plan approvals and land use planning that would typically separate uses that would place a school near a development where hazardous materials may be used. Through the City's environmental review process, future development projects would be evaluated for the potential release of hazardous materials into the environment. Therefore, impacts would be less than significant.

d. Would the 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?

Less Than Significant Impact. The HEU is a policy document and would not propose any specific development. However, future housing development facilitated by the HEU could be located near hazardous materials sites. Through the City's environmental review process, it would be determined if a potential development site is on or within the vicinity of any known hazardous materials sites. If applicable, projects may be required to prepare a Phase I Environmental Site Assessment that would include a database search for existing hazardous materials sites, identify potential violations under federal and/or applicable state and local environmental laws, and provide recommendations for correcting deficiencies or problems. Where appropriate, mitigation measures would be required for specific projects to reduce potential hazards to the public. Therefore, impacts would be less than significant.

- e. Would the project 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, result in a safety hazard or excessive noise for people residing or working in the project area?**

Less Than Significant Impact. John Wayne Airport is along Irvine’s western border just south and west of the IBC. It provides commercial jet service and has a considerable amount of light aircraft traffic. The Airport Environs Land Use Plan for John Wayne Airport is a compatibility plan for the airport to safeguard the general welfare of the inhabitants within its vicinity and to ensure its continued operation (OCALUC 2008). Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and confirm that no structures or activities adversely affect navigable airspace. Safety and compatibility zones depict which land uses are acceptable and unacceptable in various portions of airport environs. The HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review. Through the City’s environmental review process, future development projects would be evaluated for compatibility with the Airport Environs Land Use Plan for John Wayne Airport to ensure a project would not result in a safety hazard or excessive noise for people residing or working on the project site. Therefore, impacts would be less than significant.

- f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Less Than Significant Impact. The City has prepared an Emergency Management Plan to provide guidance for the City’s response to emergencies, such as natural disasters, technological incidents, and national security emergencies. Technological incidents include those ranging from failure of major computer systems managing backbone infrastructure and vital services to spills of hazardous materials used in technology or manufacturing processes (City of Irvine 2015). The City’s Emergency Services Ordinance (Title 4, Division 9, of the Irvine Municipal Code) provides for “the preparation and carrying out of plans for the protection of persons and property . . . in the event of an emergency; the direction of the emergency organization; and the coordination of emergency functions. . . .” Future development of residential uses as a result of the HEU would not interfere with implementation of the current Emergency Management Plan.

In addition, the Irvine General Plan Safety Element identifies actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of disasters. These actions include ensuring developments will be properly served by police and fire service and have adequate emergency ingress and egress (City of Irvine 2015). Finally, in December 2020, the City adopted its Local Hazard Mitigation Plan (LHMP), which assesses hazard vulnerabilities and identifies mitigation actions to reduce the level of injury, property damage, and community disruption that might otherwise result from such events.

Construction activities associated with future residential development associated with the HEU would have the potential to interfere with emergency plans and procedures if authorities are not properly notified or multiple projects are constructed during the same time and multiple roadways used for emergency routes are concurrently blocked. No changes in Irvine’s existing circulation network would be proposed or required under the HEU. However, future housing projects would be subject to site-specific review and to City regulations regarding street design, site access, and internal emergency access. Compliance would prevent multiple roadways used for emergency routes from being concurrently blocked. Therefore, impacts would be less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. According to the Irvine General Plan Safety Element, most of Irvine is in a broad, flat valley between the Santa Ana Mountains and the San Joaquin Hills and is not located in a Fire Hazard Severity Zone. However, Very High Fire Severity Zones are located along Irvine’s periphery, including portions of the San Joaquin Hills, as well as the foothills along the southern boundary of Irvine, as shown on Figure J-2 of the Irvine General Plan (City of Irvine 2015). Future housing development facilitated by the HEU would be subject to design features that would be consistent with the most recent fire and building codes. Future development located within or adjacent to a wild land fire area would be required to prepare and implement a comprehensive fuel modification program in accordance with the City of Irvine and the Orange County Fire Authority (OCFA). The LHMP also requires all new development in Very High, High, and Moderate Fire Hazard Severity Zones to use noncombustible building materials, such as masonry, brick, stucco, concrete, steel, or others, as appropriate, and to establish zones of defensible space around residences in Very High, High, and Moderate Fire Hazard Severity Zones. Therefore, impacts would be less than significant.

2.4.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. Clearing, grading, excavation, and construction activities associated with residential development consistent with the HEU may result in short-term impacts to water quality due to sheet erosion of exposed soils and subsequent deposition of particulates in local drainages. Grading activities lead to exposed areas of loose soil and sediment stockpiles that are susceptible to uncontrolled sheet flow. Future housing development facilitated by the HEU may result in long-term impacts to the quality of stormwater and urban runoff, subsequently impacting downstream water quality, and could potentially create new sources for runoff contamination.

Future housing development facilitated by the HEU would be required to comply with all applicable water quality standards. Any future development in Irvine would be subject to the federal Clean Water Act and the Porter-Cologne Water Quality Control Act, which were established through compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permits. NPDES General Permits, such as the Statewide Construction General Permit, require projects to develop and implement a Stormwater Pollution Prevention Plan, which must list the BMPs that the project applicant will employ to prevent all construction pollutants from contacting stormwater. These BMPs must be developed with the intent of keeping erosion or siltation from moving off site into receiving waters channels. The Stormwater Pollution Prevention Plan must also include a visual monitoring program and a chemical monitoring program for non-visible pollutants. The General Waste Discharge Requirements for Groundwater Discharges to Surface Waters within the Newport Bay Watershed is another General NPDES Permit, which projects would be subject to if proposing to dewater groundwater to surface waters. Requirements would include waste discharge requirements, such as monitoring and reporting.

In addition, the project would be required to comply with the City's NPDES Permit, also referred commonly as a "municipal separate storm sewer system (MS4) permit," as enforced through the Irvine Municipal Code. A Water Quality Management Plan would be required for new development and significant redevelopment projects in Irvine. Project-specific Water Quality Management Plans should explain how future development projects would comply with the post-construction water quality requirements described in the City's NPDES Permit and the City's Local Implementation Plan. Compliance with federal, state, and City regulations would reduce impacts to a less than significant level.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. Future housing development facilitate by the HEU would be consistent with land use designation contained in the Irvine General Plan. Water service in Irvine is currently provided by the Irvine Ranch Water District (IRWD). The City draws 65% of its water from the Orange County Groundwater Basin and local wells, including the Dyer Road Wellfield Project and IRWD's Deep Aquifer Treatment System.

Future housing development facilitated by the HEU would be required to incorporate features that would reduce impervious area, as feasible, and promote water infiltration. Treatment control and hydromodification management facilities would promote retention and infiltration of stormwater. Redevelopment of developed sites would require compliance with water quality standards intended to reduce runoff, increase infiltration, and improve water quality. Compliance with state and local regulations would reduce impacts to a less than significant level.

- c. **Would the project 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. **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?**
 - iii. **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**
 - iv. **Impede or redirect flood flows?**

Less Than Significant Impact. Future housing development facilitated by the HEU could result in the alteration of drainage patterns, including through the alteration of the course of a stream or river or through the addition of impervious surfaces during and after construction activities. Stormwater drainage and system modifications and improvements associated with future housing development would be required to comply with all applicable regulations, including discharge rate controls, and be designed for a 100-year storm event.

In addition, future housing development facilitated by the HEU would be required to adhere to all federal, state, and local requirements to avoid construction and operational impacts that could substantially alter the existing drainage pattern or the course of a stream or river, including NPDES permitting and the Construction General Permit, in compliance with the Irvine Municipal Code. Considering these requirements, future housing development facilitated by the HEU would not substantially alter the existing drainage pattern of the site or area. This includes no alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation on- or off-site, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff or impede or redirect flood flows. Compliance with state and local regulations would reduce impacts to a less than significant level.

- d. **Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

Less Than Significant Impact. A tsunami is a very large ocean wave caused by an underwater earthquake or volcanic eruption. Tsunamis can cause flooding to coastlines and inland areas less than 50 feet above sea level and within one mile of the shoreline. Irvine is located more than approximately eight miles inland from the Pacific Ocean and would not be susceptible to inundation or flooding due to a tsunami.

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water, such as lakes or reservoirs, and are most typically associated with seismic activity. Residential development consistent with the HEU could expose people or structures to risk from inundation by seiche. Several enclosed bodies of water exist in Irvine. Although it is unlikely that anticipated development would be impacted by seiche, any future development would be evaluated on an individual basis.

The Federal Emergency Management Agency prepares and maintains Flood Insurance Rate Maps, which show the extent of Special Flood Hazard Areas and other thematic features related to flood risk, in participating jurisdictions. Irvine General Plan Figure J-3, Flood Hazard Areas, presents the detailed floodplain area for Irvine. Portions of Irvine are within the 100-year flood zone where the potential for private property flooding exists. The 100-year flood (1% annual chance flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. Future development consistent with the HEU would be subject to the City's Floodplain District (Zoning Ordinance Chapter 5-2), an overlay zoning designation designed to limit potential impacts to property, life, and public safety in areas subject to special flood hazards. Future housing development facilitated by the HEU would not result in risks in release of pollutants due to project inundation. Therefore, impacts would be less than significant.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. Irvine is within the Newport Bay Watershed and the jurisdiction of the Santa Ana Regional Water Quality Control Board. The Santa Ana Regional Water Quality Control Board adopted a Water Quality Control Plan that designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. MS4 Permit conformance entails considerations such as receiving water limitations (e.g., Water Quality Control Plan criteria), waste load allocations, and numeric water quality effluent limitations. In addition, Irvine is within the Coastal Plain of the Orange County Groundwater Basin, which is managed by the Orange County Water District.

Future housing development facilitated by the HEU would be required to adhere to all federal, state, and local requirements for avoiding and minimizing construction and operational impacts to prevent conflicts with or obstruction of implementation of a Water Quality Control Plan and a Groundwater Management Plan. Compliance with federal, state, and City regulations would reduce impacts to a less than significant level.

2.4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project physically divide an established community?

Less Than Significant Impact. Projects that divide an established community can involve large-scale linear infrastructure, such as freeways, highways, and drainage facilities, as well as other public health and safety infrastructure buildings and facilities, which bisect an established community or create barriers to movement within that community. The HEU does not propose any development. Future housing development facilitated by the HEU would be subject to discretionary permits and would occur as market conditions allow and at the discretion of the individual property owners. However, the HEU identifies a series of implementing actions that would increase housing capacity. Future housing development would occur in areas zoned or, with consistent City practices, re-zoned for residential use; therefore, an increase in housing capacity would be a consistent land use that would not physically divide the community. Thus, impacts would be less than significant.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. The HEU is a component of the Irvine General Plan that assesses the housing needs of all economic segments of Irvine. In addition, the HEU defines the goals and policies that will guide the City's approach to resolving those needs and recommends a set of programs that will implement policies over the next few years. The HEU is concerned with specifically identifying ways in which the housing needs of existing and future residents can be met. Future projects consistent with the HEU would be subject to the Irvine General Plan and Irvine Zoning Ordinance. These documents and ordinances include policies adopted to avoid or mitigate an environmental impact. Future housing consistent with the HEU would be required to comply with the Irvine General Plan and its implementing policies. Therefore, impacts would be less than significant.

2.4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis

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?

Less Than Significant Impact. Important mineral resource areas are recognized at the federal and state levels through environmental resource management plans and adopted mineral resource mapping; they are recognized at the local level through land use planning documents, such as General Plans, that incorporate such information. The State Mining and Geological Board identifies mineral resources valuable to the state with the Mineral Resource Zone (MRZ) designations. Lands classified as MRZ-2 are of the greatest importance to California. Such areas are underlain by demonstrated mineral resources or are located where data indicates that significant measured or indicated resources are present. MRZ-2 areas are designated by the State Mining and Geological Board as being “regionally significant.” Irvine primarily consists of lands designated MRZ-1 and MRZ-3. No areas in Irvine have been designated MRZ-2 or as regionally significant deposits of minerals. The State of California has not given an MRZ designation to the northern sphere of influence area, north of State Route 241. Future housing development facilitated by the HEU would be consistent with Irvine General Plan land use designations and would not substantially limit the future availability of known mineral resources. Therefore, impacts would be less than significant.

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?

No Impact. No known locally important mineral resource recovery sites are located in Irvine. Therefore, no impact would occur.

2.4.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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, expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the project result in 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?**

Less Than Significant Impact. Future housing development facilitated by the HEU would have the potential to generate both short-term and long-term noise impacts. Short-term noise impacts could occur during grading and construction. Construction activities have the potential to expose adjacent land uses to noise levels that could temporarily exceed the City’s noise standards. The degree of noise impact would depend on the distance between the construction activity and the noise-sensitive receptor. Long-term noise impacts would be associated with vehicular traffic to and from a project site (including residents and visitors), outdoor activities, and stationary mechanical equipment on-site. Traffic associated with future developments consistent with Irvine General Plan land use designations would result in long-term increases in ambient noise levels. However, depending on the size of each development, this increase may be noticeable for some people but may not significantly impact surrounding sensitive uses, if any, and may not generate a substantial increase in ambient noise levels.

However, the HEU does not propose any specific development. Future projects proposed as a result of the HEU would require subsequent CEQA review. Irvine General Plan Noise Element Objective F-1 and associated policies would reduce potential noise impacts from mobile noise, including roadways. Noise Element Objective F-2 and associated policies would reduce potential noise impacts from stationary sources. The Irvine General Plan Noise Element contains a noise/land use compatibility guidelines matrix illustrating which land uses noise levels are normally acceptable and which are not. In addition, the Irvine Municipal Code (Title 6, Division 8, Chapter 2) sets regulations

to control unnecessary, excessive, and annoying noise in Irvine; sets designated noise zones; and establishes base ambient noise standards within the designed noise zones. In addition to these standards, the Irvine Municipal Code has specific noise regulations for construction activities and property maintenance (e.g., leaf blowers) (City of Irvine 2015). Therefore, compliance with the Irvine General Plan Noise Element policies and compatibility matrix and the Irvine Municipal Code noise regulations would reduce potential temporary and permanent noise impacts as a result of future housing under the HEU. Thus, impacts would be less than significant.

b. Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Construction activities from future housing developments facilitated by the HEU could generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude as distance from the source increases. The effect on buildings in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiving buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels, low rumbling sounds and perceptible vibration at moderate levels, and slight damage at the highest levels. Groundborne vibration from construction activities rarely reach levels that damage structures. Operational vibration is not expected from residential development.

The HEU does not propose any specific development. Future projects proposed as a result of the HEU would be subject to project-specific CEQA review and consideration of potential groundborne vibration and groundborne noise impacts. Compliance with the Irvine General Plan Noise Element policies and the Irvine Municipal Code would reduce groundborne noise impacts. Therefore, impacts would be less than significant.

c. Would the project, 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, expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. Portions of Irvine are within the noise contours of John Wayne Airport. Land uses in the area consist primarily of low-scale light industrial and office buildings. Irvine General Plan Noise Element Objective F-1 and associated policies are designed to reduce potential noise impacts from mobile noise, including noise generated from aircraft noise. Specifically, Policy (b) prohibits residential development within the 65-decibel Community Noise Equivalent Level of aircraft noise contours (City of Irvine 2015). Future housing development as a result of the HEU would be required to comply with the Irvine General Plan compatibility policies, reducing the exposure of people residing or working on the project site to excessive noise levels. Therefore, impacts would be less than significant.

2.4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis

- a. **Would the 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)?**

Less Than Significant Impact. The HEU is a component of the Irvine General Plan that assesses the housing needs of all economic segments of Irvine and addresses the City’s ability to meet the regional housing needs determined by the State of California. In addition, the HEU defines the goals and policies that will guide the City’s approach to resolving those needs and recommends a set of programs that will implement policies over the next few years. The HEU does not propose any specific development. Future housing development facilitated by the HEU would be subject to discretionary permits and would occur as market conditions allow and at the discretion of the individual property owners. The HEU is concerned with specifically identifying ways in which the housing needs of existing and future resident residents can be met, as necessary, to meet state housing law requirements. The HEU is a policy-level document that will not create physical residential growth but identifies available sites for residential development during the 2021–2029 planning period. To implement the 6th Cycle Housing Element, including the recommended rezoning, the City has initiated a General Plan and Zoning Code Update and associated Program EIR.

The HEU identifies a series of implementing actions to increase Irvine’s housing capacity. However, future housing development facilitated by the HEU would occur in locations near existing infrastructure (roads, utilities) and served by fire and other emergency responders. Given these conditions and the Irvine’s existing development and housing occupancy patterns, it is not anticipated that future housing development facilitated by the HEU would induce population growth indirectly through extension of roads or other infrastructure. Therefore, implementation of the HEU would not directly or indirectly induce unplanned population growth. Thus, impacts would be less than significant.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The HEU is a component of the Irvine General Plan that assesses the housing needs of all economic segments of Irvine and addresses the City's ability to meet the regional housing needs as determined by the State of California. In addition, the HEU defines the goals and policies that will guide the City's approach to resolving those needs and recommends a set of programs that will implement policies over the next few years. No displacement of existing people or housing is anticipated as a result of the HEU. Therefore, no impact would occur.

2.4.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:**

Fire protection?

Less Than Significant Impact. Fire protection in Irvine is provided by the OCFA, a regional fire service agency that serves 23 cities in Orange County and all unincorporated areas. OCFA reserve firefighters work 10 stations throughout Orange County. The OCFA provides fire protection and emergency medical response to all areas within its jurisdiction. Services include structural fire protection, emergency medical and rescue services, hazard inspections and response, and public education. The OCFA also participates in disaster planning related to emergency operations for high-occupancy areas and school sites (City of Irvine 2015).

Resources are deployed based on a regional service delivery system, assigning personnel and equipment to emergency incidents without regard to jurisdictional boundaries. Due to the diverse makeup of Orange County, the equipment used has the versatility to respond to both urban and wild land emergency conditions (City of Irvine 2015).

The OCFA has established the following goals for the provision of fire protection and emergency medical services (City of Irvine 2015):

- The first engine should reach the emergency scene within five minutes from receipt of call 80% of the time.
- First-in truck companies should arrive on scene to fires within 12 minutes 80% of the time.
- The first paramedic should reach the emergency scene within 10 minutes from receipt of call 90% of the time.

The HEU does not propose any development. Future housing development facilitated by the HEU would be subject to discretionary permits and would occur as market conditions allow and at the discretion of the individual property owners. Future housing development facilitated by the HEU would generate planned population growth, which could incrementally increase the demand for fire protection services.

Future housing facilitate by the HEU would be required to comply with the CBC standards, which include site access requirements and fire safety standards. Future residential development would also be subject to OCFA review to ensure that adequate emergency access and fire safety features are provided as part of the project. Additionally, future projects would be required to enter into a secured fire protection agreement with the OCFA to ensure the availability of adequate fire protection services. The agreements specify a developer's pro rata fair-share funding for capital improvements necessary to establish and maintain adequate fire protection facilities, equipment, and personnel. Compliance with state and local regulations would reduce impacts to a less than significant level.

Police protection?

Less Than Significant Impact. Police protection services for Irvine are provided by the Irvine Police Department (IPD). The IPD is headquartered at the Irvine Civic Center at 1 Civic Center Plaza. The IPD also has a satellite facility in the Irvine Spectrum. The IPD provides all services normally associated with a municipal law enforcement agency, including uniformed patrol, investigations, crime analyses, crime prevention, K-9 patrol, a Special Operations Unit, forensic investigations, accident investigation/traffic enforcement, Drug Abuse Resistance Education, and emergency management/disaster preparedness. The IPD has access to contract helicopter service through the Orange County Sheriff's Department. Mutual aid assistance agreements exist that provide support from other Orange County law enforcement jurisdictions and state and federal agencies (City of Irvine 2015).

The IPD coordinates the City's Emergency Management Program. Focused on disaster preparedness and using the State of California Standardized Emergency Management System model, the IPD maintains a written plan document and a trained citywide liaison group. The IPD

operates a state-of-the-art Emergency Operations Center and a Mobile Command Center to respond to various types of emergencies (City of Irvine 2015).

Primary response to future residential sites would be by patrol vehicles assigned geographically throughout Irvine. Response time to calls for service may vary depending on their location at the time of dispatch. At any given time, a minimum of nine sworn officers are available to respond to calls for service anywhere in Irvine. The IPD's current response goals are as follows (City of Irvine 2015):

- Respond to “emergency” events within six minutes 85% of the time.
- Respond to “crimes in progress” within 10 minutes 85% of the time.
- Respond to “less serious crimes occurring now” events within 20 minutes 90% of the time.
- Respond to “routine calls for service” within 60 minutes 85% of the time.

Current police facilities are adequate to handle the existing personnel who are employed and equipment used by the IPD. A staffing goal ratio is used to generate prospective officer requirements. The City analyzes compliance with response time guidelines in its Strategic Business Plan and allocates resources to police services as appropriate. The current ratio of police officers to population is 0.86 officer per 1,000 residents. In addition to police officers, there are also non-sworn personnel, which currently account for approximately 41% of IPD personnel (City of Irvine 2015).

Implementation of the HEU would not result in a direct increase in residents in Irvine and would be consistent with the projected population growth identified in the Irvine General Plan. Each future development would be subject to CEQA review and evaluation of potential impacts on the IPD and require compliance with Irvine General Plan Public Facilities and Services Element policies. Therefore, impacts would be less than significant.

Schools?

Less Than Significant Impact. Irvine is within the attendance boundaries of four school districts: Irvine Unified School District (USD), Tustin USD, Saddleback Valley USD, and Santa Ana USD. These school districts are under the jurisdiction of the state government and are subject to the regulations of the California Education Code and governance of the California State Board of Education. School facility funds come from state funding, state bonds, local general obligation bonds, developer fees, surplus property sale proceeds, and School Facility Improvement and Community Facilities Districts. Funding is also available for school facilities from the federal government (City of Irvine 2015).

Residential development consistent with the HEU has the potential to increase demand on the existing school facilities. New development would be subject to the City's School Facility Fees. These fees are based on the type of new development (i.e., residential versus commercial) and new or additions to

existing residential units and would offset impacts of new development on the City's schools. Therefore, impacts would be less than significant.

Parks?

Less Than Significant Impact. Irvine features 20 community parks totaling over 387 acres and six special facilities totaling 55.1 acres. There are 39 public neighborhood parks and vistas totaling approximately 178 acres and many private neighborhood parks. Moreover, Irvine has off-street public recreational trails totaling 63 miles. The Irvine Park Code establishes that, for every five acres of residential development per 1,000 people, two acres must be used as community parks, and three acres must be used as neighborhood parks. The code also collects park dedication in-lieu fees prior to issuance of residential building permits. In addition, as identified in the Irvine General Plan, the City also either owns or will own thousands of acres of open space and preservation areas as a result of its phased open space dedication program.

In addition to the City's facilities, the Orange County owns and operates approximately 37,000 acres of parkland and open space, including regional and wilderness parks, nature preserves and recreational trails, historic sites, and harbors and beaches. Two Orange County-operated parks are in or near the City, Mason Regional Park and Laguna Coast Wilderness Park, which is approximately four miles south in the City of Laguna Beach. The Great Park is in Irvine and includes a variety of active and passive recreational amenities, such as a sports park, a botanical garden, and a museum district. Currently, 450 acres are open to the public, with additional acreage in progress.

The HEU does not propose any development. However, the creation of new housing facilitated by the HEU could increase the volume of residents who may use public parks. Future development would be required to comply with Irvine Municipal Code, Section 5-5-1004.E, Park Land and/or Fees, which would offset impacts of new development on the City's parks and recreation facilities. Therefore, impacts would be less than significant.

Other public facilities?

Less Than Significant Impact. The Orange County Public Library provides library services to municipalities and unincorporated parts of Orange County through 33 library branches (including three regional libraries) throughout the service area. The City has three library branches: the Heritage Park Regional Library, the University Park Library, and the Wheeler Branch Library. The existing libraries total approximately 43,376 square feet and 332,536 volumes and are highly used; the Heritage Park Regional Library has one of the highest circulation rates in the Orange County Public Library system (City of Irvine 2015).

Table G-1 in the Irvine General Plan sets library performance standards that require 0.5 square foot of library space and 2.5 volumes per capita to determine the number of book volumes and

floor area needed to service residential communities. The HEU does not propose any development. However, the creation of new housing facilitated by the HEU could increase the volume of residents that may use libraries in Irvine. The City would continue to coordinate with the community to evaluate the need for and location of additional library services as identified in Objective G-1, Policy (v), in the Irvine General Plan Public Facilities and Services Element. Each future development would be subject to CEQA review and evaluation of potential impacts on public facilities. Therefore, impacts would be less than significant.

2.4.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. Would the 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?**

Less Than Significant Impact. Future residential development anticipated during the HEU would rely on existing Irvine General Plan land use designations, which could result in an increase in demand for parks and recreation facilities. The Irvine Park Code, which conforms to the Quimby Act, requires that, for every five required acres per 1,000 people, two acres must be used as community parks, and three acres must be used as neighborhood parks. In addition, the City collects park dedication in-lieu fees for the construction of new or rehabilitation of existing parks or recreational facilities. Future residential development would be required to pay the in-lieu fee and/or dedicate land and/or improvements before the issuance of building permits. Therefore, implementation of the HEU would not result in an increase in 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. Thus, impacts would be less than significant.

- b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

Less Than Significant Impact. The HEU does not specifically include any proposals for future construction or expansion of recreational facilities. A proposed recreational facility would be subject to CEQA review of any adverse physical effects on the environment. Therefore, impacts would be less than significant.

2.4.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The HEU consists of an updated assessment of housing needs in Irvine and changes to the policies and procedures the City uses in addressing those needs. Future development facilitated by the HEU consistent with Irvine General Plan land use designations may result in an increase in vehicle trips that would have the potential to impact the circulation system.

However, the HEU does not propose any programs, policies, or ordinances that are inconsistent with current regulations described in the Irvine General Plan Circulation Element. Future development under the HEU would be required to comply with all goals, policies, and objectives addressing Irvine's circulation system. This includes developing and implementing a vehicular circulation system responding to local and regional access requirements and incorporating specific level of service standards applied to intersections and roadway links within the City's jurisdiction. In addition, the Circulation Element contains goals and policies to plan, provide, and maintain a comprehensive bicycle network, pedestrian circulation system, and transit system (City of Irvine 2015). Due to the conceptual nature of future residential development, proposals would require individual assessments of potential impacts to City policies, plans, or programs supporting transit, roadway, bicycle, and pedestrian facilities. Furthermore, the HEU contains several policies that would reduce transportation impacts from future projects, including promoting infill development (HE-C.1), encouraging infill development that includes capital improvements like sidewalk repair and lighting improvements (HE-L.2), and encouraging development that includes active transportation infrastructure, such as new and wider sidewalks and protected bike lanes (HE-L.3). With compliance with the Irvine General Plan goals and policies and the Irvine Municipal Code, impacts would be less than significant.

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impact. The HEU does not propose any specific development. However, future development facilitated by the HEU consistent with Irvine General Plan land use designations may result in an increase in vehicle miles that would have the potential to impact the circulation system. The City adopted a CEQA Manual, including the VMT Impact Analysis Guidelines, and the related Traffic Study Guidelines Update on June 23, 2020. According to the City's adopted VMT Guidelines, projects that will not require a VMT analysis can be screened using either the daily vehicle trips generated by the project or the project's land use type. The daily vehicle trip threshold for small projects is 250 trips and a net increase of 1,285 or less weekday daily trips (City of Irvine 2020). The HEU does not propose any specific development. Future development projects brought forth would be required to adhere to the City's VMT Guidelines, assess VMT impacts, and require project-specific mitigation measures as applicable. Therefore, impacts would be less than significant.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The HEU does not propose any specific development. Design features of future development would need to be consistent with road design features in Irvine's existing circulation system. Through the City's environmental review process, future development projects would be evaluated for potential safety impacts due to a geometric design feature or incompatible use. Therefore, impacts would be less than significant.

d. Would the project result in inadequate emergency access?

Less Than Significant Impact. Construction activities associated with future residential development associated with the HEU would have the potential to interfere with emergency access and procedures if authorities are not properly notified or multiple projects are constructed during the same time and multiple roadways used for emergency routes are concurrently blocked. However, the HEU does not propose any programs, policies, or ordinances that are inconsistent with current policies described in the Irvine General Plan Circulation Element, which includes changes to Irvine's existing circulation network. However, future housing projects would be subject to site-specific review and would be subject to City regulations regarding street design, site access, and internal emergency access. Compliance would prevent multiple roadways used for emergency routes from being concurrently blocked. Therefore, impacts associated with inadequate emergency access would be less than significant.

2.4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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. 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), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the 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. **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), or**
- 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.**

Less Than Significant Impact. The project proposes the adoption of the HEU. The City initiated consultation on February 8, 2021, for the proposed project. On February 10, 2021, the Juaneño Band of Mission Indians, Acjachemen Nation, advised that no consultation is required. In addition, on April 8, 2021, the Gabrieleño Band of Mission Indians, Kizh Nation, advised that no consultation is required. Future development projects would require additional consultation with Native American tribes in accordance with Assembly Bill 52.

2.4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	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 telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a. **Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

Less Than Significant Impact. The HEU does not propose any development. Future housing development facilitated by the HEU would be expected to connect to the existing domestic water supply system, wastewater infrastructure, and stormwater infrastructure. Overall, future housing development construction and operation would result in increased water, wastewater treatment, electric power, natural gas, and telecommunications demands and wastewater and solid waste generation, which would require the expansion or construction of utility infrastructure. Specific projects are unknown at this time and would require CEQA review of any adverse effects on the environment. Therefore, impacts would be less than significant.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. The IRWD is the water purveyor for the City. It is a multiservice jurisdictional agency that provides potable and non-potable water supply and wastewater collection, treatment, and disposal services. The IRWD has facilities that include more than 1,500 miles of drinking water pipelines, more than 900 miles of sewer pipes, many reservoirs, and water recycling facilities. The IRWD prepares two planning documents to guide water supply decision-making: (1) a Water Resources Master Plan, a comprehensive document compiling data and analyses that the IRWD considers necessary for its planning needs (primary source for the IRWD for water planning), and (2) an Urban Water Management Plan, a document required by statute (California Water Code, Section 10631 et seq.) (IRWD 2016).

As stated in the 2015 Urban Water Master Plan, the IRWD has adequate water supplies to meet demands during average, single-dry, and multiple-dry years throughout the 25-year planning period. The IRWD will continue aggressive water conservation efforts, increased use of recycled water to offset potable water demand, development of groundwater sources within the district, and participation in new water supply projects with the Municipal Water District of Orange County and the Metropolitan Water District of Southern California to ensure supplies continue to meet current and projected demands (IRWD 2016).

No specific development is proposed as part of the HEU. New residential development would be required to undergo separate environmental review, including analysis of water supply impacts. New residential development would be required to comply with applicable state and local laws and regulations governing conservation of water supply resources. Sufficient water supplies are available to supply the net increase in water demand anticipated as a result of implementation of the HEU. Therefore, impacts would be less than significant.

c. Would the project 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?

Less Than Significant Impact. The City's wastewater conveyance and treatment is provided by the IRWD. The IRWD's sewer collection system stretches approximately 963 miles. Wastewater in Irvine travels through the IRWD's collection system to the Michelson Water Reclamation Plant and Los Alisos Water Recycling Plant, where it is treated for use as recycled water (IRWD 2016). No specific development is proposed as part of the HEU. New residential development would be required to undergo separate environmental review, including analysis of wastewater generation impacts. Therefore, impacts would be less than significant.

d. Would the project 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?

Less Than Significant Impact. Orange County Waste and Recycling (OCWR) is the government agency that owns, regulates, and operates three landfills that serve the solid waste disposal needs of Orange County. The City disposes the majority of its solid wastes at the Frank R. Bowerman Landfill in Irvine. The anticipated closure date of this facility is 2053. The OCWR is in the process of establishing the Bee Canyon Greenery Composting Operation. The City, through Waste Management of Orange County, provides a comprehensive curbside recycling program for glass, household paper products, aluminum and other metals, and green waste. The City's curbside green waste recycling program will be expanded to include food waste for future residential development to enhance conservation efforts and to reduce GHG emissions from landfills.

No specific development is proposed by the HEU. Future residential development consistent with the HEU would generate solid waste. Building and demolition permit applicants must complete a Waste Management Plan form determining the minimum amounts of project debris required to be recycled or otherwise diverted from the landfill before they can obtain permits. It is anticipated that the Frank R. Bowerman Landfill would have sufficient permitted capacity to service solid waste generated by future housing development facilitated by the HEU. Therefore, impacts would be less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. The OCWR is the government agency that owns, regulates, and operates three landfills to serve the solid waste disposal needs of Orange County. The City disposes the majority of its solid wastes at the Frank R. Bowerman Landfill in Irvine. The anticipated closure date of this facility is 2053. The OCWR is in the process of establishing the Bee Canyon Greenery Composting Operation.

The City adopted a resolution to support zero waste principles on July 10, 2007. The City encourages many zero waste practices through residential curbside recycling, parks recycling (where City parks are equipped with special recycling receptacles for public use), recycling at City facilities, and the City's purchasing policy to buy recycled products when feasible.

In 2007, the City adopted a Construction and Demolition Debris Recycling Ordinance (07-18). Under this ordinance, projects are required to recycle or reuse 75% of concrete and asphalt and at least 65% of all debris generated. Covered projects include new residential and nonresidential development and most projects involving nonresidential demolition and/or renovation in accordance with requirements of CALGreen. Project applicants are required to submit a Waste

Management Plan to the City before obtaining permits for construction, demolition, or renovation activities covered by the ordinance.

The existing Irvine General Plan include the Integrated Waste Management Element. The goal of the Integrated Waste Management Element is to encourage solid waste reduction and to provide for the efficient recycling and disposal of refuse and solid waste material without deteriorating the environment.

No specific development is proposed by the HEU. Future projects would be required to comply with the City's efforts in reducing solid waste and solid waste regulations at the state level. Therefore, impacts would be less than significant.

2.4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Portions of Irvine are within a Very High Fire Hazard Severity Zone. Future housing development facilitated by the HEU would increase the number of housing units in Irvine, which could result in development in areas of Irvine adjacent to or in a Very High Fire Hazard Severity Zone. In the case of a wildfire evacuation, an increase in housing development would incrementally increase vehicular traffic on evacuation routes. The Irvine General Plan Safety Element identifies actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of disasters. These actions include ensuring developments will be properly served by police and fire service and have adequate emergency ingress and egress. The City's LHMP assesses hazard vulnerabilities and identifies mitigation actions to reduce the level of injury, property damage, and community disruption that might otherwise result from such events. The City's LHMP includes a mitigation action to create a rapid response plan from among Irvine's and Orange County's first responders to secure hospital, nursing, and assisted living facilities, especially those located within fire hazard severity zones.

Construction activities related to future residential development associated with the HEU would have the potential to interfere with emergency plans and procedures if authorities are not properly notified or multiple projects are constructed during the same time and multiple roadways used for emergency routes are concurrently blocked. No changes in Irvine's existing circulation network

are proposed or required under the HEU. However, future housing projects would be subject to site-specific review and City regulations regarding street design, site access, and internal emergency access. Compliance would prevent multiple roadways used for emergency routes from being concurrently blocked. Future housing proposed under the HEU would be consistent with the current Irvine General Plan land use designations, and therefore, no changes in Irvine's existing circulation network are proposed or required under the HEU. However, future housing projects would be subject to site-specific review and City regulations regarding street design, site access, and internal emergency access. Compliance would prevent multiple roadways used for emergency routes from being concurrently blocked. Therefore, impacts would be less than significant.

b. Would the project, 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?

Less Than Significant Impact. The HEU does not propose any specific development. However, any development of future residential units on candidate sites in Very High Fire Hazard Severity Zone areas are subject to higher wildfire hazards due to slope and prevailing winds based on location, which would consequently result in higher fire-related risks to people and structures. Development within these zones is regulated through the Uniform Building Code and Uniform Fire Code. Requirements imposed as part of the development review process include fire lanes, fuel modification zones, fire retardant building materials, smoke detectors, and automatic sprinkler systems, depending on the size and type of development. Therefore, impacts would be less than significant.

c. Would the project 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?

Less Than Significant Impact. The HEU does not propose any development. However, future housing development facilitated by the HEU could allow for housing in or near to Very High Fire Hazard Severity Areas. Future housing may require the installation of new water, emergency water, wastewater, stormwater, and natural gas infrastructure and connections to City infrastructure. Any new infrastructure components would be required to comply with applicable CBC and California Fire Code regulations. Therefore, implementation of the HEU would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Thus, impacts would be less than significant.

d. Would the project 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?

Less Than Significant Impact. Any future housing development fostered by the HEU would be required to adhere to the CBC and other standards and regulations for building design, which would minimize any potential risks associated with landslides. In addition, future housing would

be subject to City and state drainage and stormwater quality requirements designed to reduce stormwater runoff from project sites by promoting infiltrating, minimizing impervious surfaces, and requiring a no-net increase in flow. Therefore, future development would not expose people or structures to significant risk associated with post-fire landslides, mudflows, and flooding. Thus, impacts would be less than significant.

2.4.21 Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino,(1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

Impact Analysis

- 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?**

Less Than Significant Impact. The HEU does not propose any specific development. Instead, the HEU identifies action programs that could be implemented to provide additional capacity for future development of dwelling units consistent with state housing law. Implementation of the HEU would not directly remove sensitive vegetation communities or species or eliminate cultural resources because the HEU does not propose specific development projects. Development anticipated by the HEU would be subject to compliance with the regulations and guidelines set forth in the Irvine General Plan, Irvine Municipal Code, and the City’s development review process. Due to the conceptual nature of the future residential development, proposals would require individual assessments of potential impacts to biological and cultural resources. If

necessary, additional mitigation would be required to reduce potential impacts to a less than significant level.

Adoption of the proposed HEU would not significantly 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 wildlife community, reduce the number or restrict the range of a rare or endangered plant or wildlife, or eliminate important examples of the major periods of California history or prehistory. Therefore, the proposed HEU's contribution to adverse impacts on wildlife resources, individually or cumulatively, would be less than significant.

- 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)?**

Less Than Significant Impact. The HEU is a policy document designed to assist the City in future planning. Cumulative impacts associated with residential development consistent with Irvine General Plan land use designations have been evaluated at a program or policy level. In addition, future development facilitated by the HEU would be required to be consistent with many Irvine General Plan policies aimed at reducing cumulative impacts. Furthermore, through the City's environmental review process, future development projects would be evaluated for potential cumulative impacts. Where needed, appropriate mitigation measures would be required to reduce potential impacts. Therefore, the HEU's contribution to cumulative impacts would be less than significant.

- c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

Less Than Significant Impact. The HEU consists of an updated determination of housing needs in Irvine and revisions to policies and procedures the City uses in addressing those needs. The HEU is a policy document designed to assist the City in future planning. The HEU does not propose any specific development. Environmental impacts with potential to adversely affect people that may result from development have been evaluated at a program or policy level. Due to the conceptual nature of the future residential development, proposals would require individual assessments of potential impacts to hazards and hazardous materials, noise, and other environmental topics that would directly or indirectly affect people. Where needed, appropriate mitigation measures would be required to reduce potential impacts. Therefore, impacts would be less than significant.

This page intentionally left blank.

Section 3 List of Preparers

3.1 Lead Agency

City of Irvine
Community Development Department
1 Civic Center Plaza
Irvine, California 92606

Kerwin Lau, Manager of Planning Services
Marika Poynter, Principal Planner
Melissa Chao, Senior Planner
Justin Equina, Senior Planner
Kathleen Haton, Senior Planner (Community Services)
Thomas Lo, Water Quality Administrator
Claudia Landeras-Sobaih, Principal Plan Check Engineer
Tom Polson, Senior Plan Check Engineer
Sona Coffee, Environmental Programs Administrator
Matthew Cuevas, Senior Solid Waste Management Analyst
Robert Simmons, Emergency Management Manager
Bruce Ramm, Security Design Concepts, Inc. (public safety consultant for Irvine)
Robert Distaso, OCFA Fire Safety Engineer
Lisa Thai, Supervising Transportation Analyst

3.2 Consultants

Harris & Associates
22 Executive Park, Suite 200
Irvine, California 92614

William Halligan, Esq., Senior Director/Senior Environmental Counsel
Kristin Blackson, PMP, Project Manager
Esther Daigneault, Senior Environmental Analyst
Lindsey Messner, Technical Editor
Randy Deodat, GIS Analyst

This page intentionally left blank.

Section 4 **References**

CARB (California Air Resource Board). 2005. Air Quality and Land Use Handbook.

City of Irvine. 2015. Irvine General Plan. Accessed November 2021. <https://cityofirvine.org/community-development/current-general-plan>.

City of Irvine. 2020. City of Irvine CEQA Manual. Accessed November 2021. <https://cityofirvine.org/community-development/current-environmental-reviews>.

City of Irvine. 2021. 2021–2029 Housing Element. Draft.

IWRD (Irvine Ranch Water District). 2016. 2015 Urban Water Management Plan. Accessed November 2021. https://irwd.com/images/pdf/doing-business/environmental-documents/UWMP/IRWD_UWMP_2015_rev_01-03-17_FINAL.pdf.

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

This page intentionally left blank.